

SESSIONAL PAPERS.

VOL. XIX.—PART II.

FIRST SESSION OF THE SIXTH LEGISLATURE.

OF THE

PROVINCE OF ONTARIO.

SESSION 1887.

Toronto:

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1887.



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ARRANGED ALPHABETICALLY.

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| Accounts (<i>Dominion and Provinces</i>)..... | 60 | <i>Printed.</i> |
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| TITLE. | No. | REMARKS. |
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- No. 3.. Report upon the Lunatic and Idiot Asylums of the Province of Ontario for the year ending 30th September, 1886. (*Printed.*)
- No. 4.. Report upon the Ontario Institution for the Education and Instruction of the Deaf and Dumb, Belleville, for the year ending 30th September, 1886. (*Printed.*)
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- No. 27. . Return of the Municipal Council of the Township of Yarmouth, of money borrowed during the year 1886, under the Act respecting the investments in Tile Drainage. (*Not printed.*)
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- No. 29.. Return to an Address to His Honour the Lieutenant-Governor, praying that he will, in his capacity as visitor of the Western University of London, Ontario, call upon the Senate of said University to furnish a full and accurate account of the property of the University, and the income received therefrom, in order that the same may be laid before the Legislature, as directed by section 5, of 41 Vic., cap. 20. (*Not printed.*)
- No. 30.. Return shewing the total number of Students in University College at the date of the Order ; the number of female students at the same date, and also, the number of students attending lectures in each of the following subjects :— Greek, Latin, Mathematics, Pyhsics, History, Ethnology, English, French, German, Italian, Spanish, Hebrew, Chaldic, Syriac, Logic, Mental and Moral Science, Biology, Chemistry, Mineralogy and Geology. (*Not printed.*)
- No. 31.. Return shewing on a map or plan each timber limit or berth now under license, and each timber limit or berth disposed of at the sale in October last, whether yet under license or not, with the names of the present licensees or owners thereof marked thereon, and the area thereof, and the bonus *per* square mile paid in respect thereof, and the dates when the same were respectively first placed under license. (*Not printed.*)
- No. 32.. Return shewing the names of the persons, firms and companies, indebted to the Province on the first day of January, 1886, 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 and companies, on the first day of January in each year since 1880. The total amount of such indebtedness on the 1st day of January, 1886. (*Not printed.*)
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- No. 34.. Return of copies of all Orders in Council relating to the sale of timber limits, which took place in October last. The names of the purchasers at the sale, the several limits bought by each purchaser, with the area of each of them, and the bonus *per* square mile agreed to be paid for each such limit. The deposit paid by each purchaser, the amount since paid on each purchase, and the nature of the security, if any, given for the residue of the price. The several limits which had been bid off at the sale which took place in October, 1872, and the price *per* square mile at which they were severally bid off at that sale. The names of all purchasers who have failed to comply with the conditions of sale. The names of all purchasers who have transferred their claims to other persons with the names of the transferees and dates of transfers to them respectively. The several limits, if any, put up for sale and not sold and the disposition since made of them and the authority under which such disposition was made. (*Printed.*)
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- No. 43.. Return shewing what application has been made for payments out of the Consolidated Revenue, under the provisions of Sec. 4, cap. 4, 43 Vic., in respect of the dues on pine trees. Also, shewing what is the aggregate sum which, up to the first day of March last, the patentees of lands subject to the provisions of the Act, are entitled to receive out of the dues collected on pine trees cut after date of their Patents. (*Not printed.*)
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- No. 45.. Statement of the Returns forwarded to the office of the Provincial Secretary of all the Fees and Emoluments received by the Registrars of Ontario for the year 1886, made in accordance with the provisions of the R. S. O. Cap. 111, Sec. 97 and 43 Vic., Cap. 3, Sec. 2, with which are contrasted receipts of same nature in 1884 and 1885. (*Printed.*)
- No. 46.. Statement in detail of receipts and expenditures on account of the Mercer Estate for the year 1885. (*Not printed.*)
- No. 47.. Statement in detail of receipts and expenditures on account of the Mercer Estate for the year 1886. (*Not printed.*)
- No. 48.. Copies of all correspondence, papers and reports, between the Department of Education and William S. Summerby and O. Dufort, Inspectors of Public Schools, in the United Counties of Prescott and Russell, during the last year, on the subject of Public Schools in the French Settlements of these Counties. Also, copies of all reports respecting the alleged difficulties between the English and French ratepayers of the town of L'Orignal, or, upon the propriety of establishing a Separate School for Protestant children in that town. (*Printed in part.*)
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- No. 55.. Statement of Cash Transactions on account of Upper Canada College for the year ending 30th June, 1886. (*Printed.*)
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- No. 62... Report of the Secretary and Registrar of the Province for the year 1886. (*Printed.*)
- No. 63 Return shewing when the vacancy in the office of the Clerk of the Division Court at Picton occurred. (*Not printed.*)

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| No. 70.. | Report of the Inspector of Legal Offices. (<i>Printed.</i>) |
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TWELFTH ANNUAL REPORT

OF THE

ONTARIO AGRICULTURAL COLLEGE

AND

EXPERIMENTAL FARM,

1886.

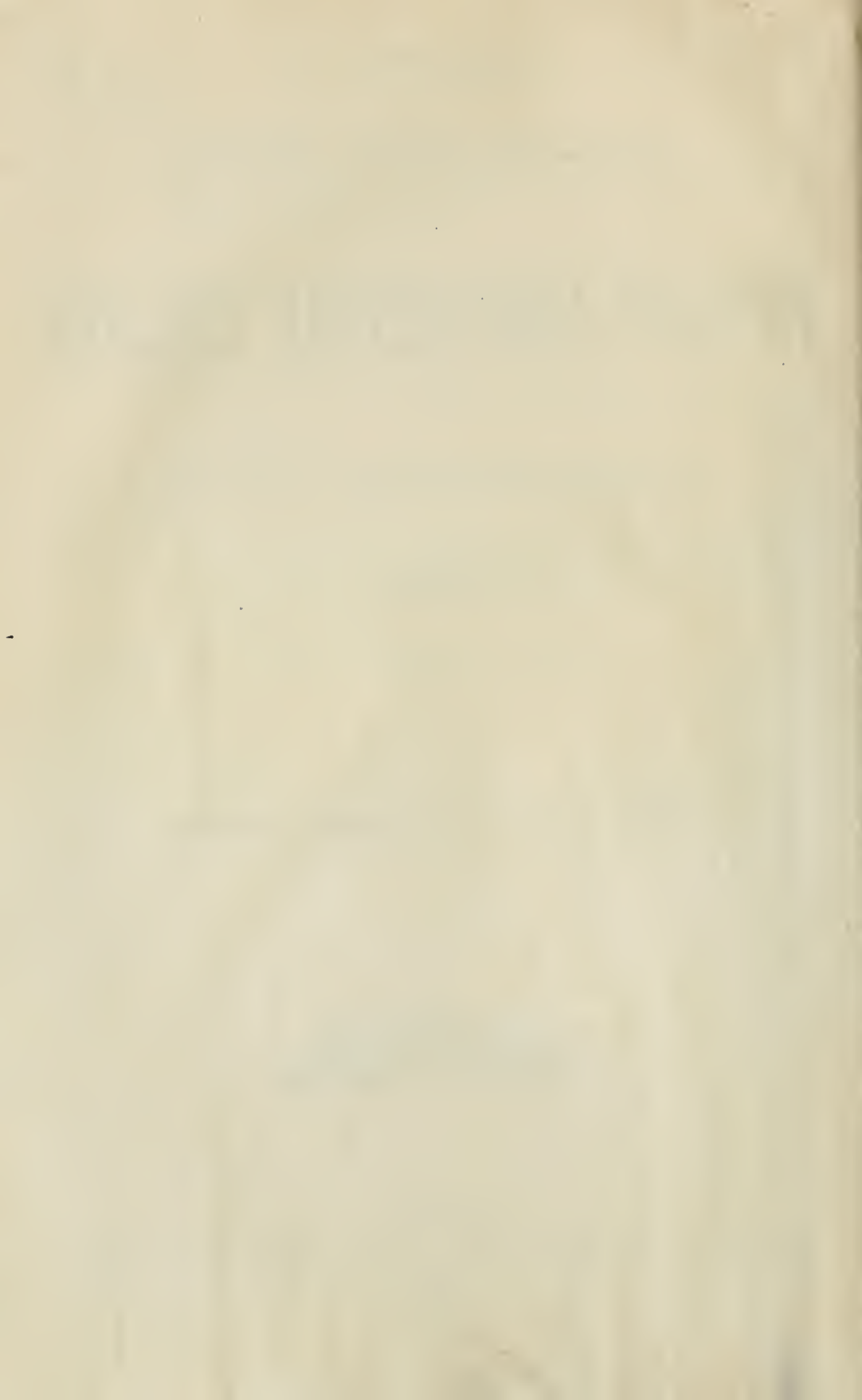
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Toronto :

PRINTED BY WARWICK & SONS, 26 AND 28 FRONT STREET WEST

1887.





REPORT OF THE
ONTARIO AGRICULTURAL COLLEGE

AND EXPERIMENTAL FARM, GUELPH.

FOR THE YEAR COMMENCING THE 1ST JANUARY AND ENDING THE 31ST DECEMBER,

1886.

GUELPH, January 3, 1887.

To the Honourable A. M. Ross,
Commissioner of Agriculture:

DEAR SIR,—I have the honour to submit herewith the Twelfth Annual Report of the Ontario Agricultural College and Experimental Farm.

In this Report we have reviewed briefly the work of the year 1886, under eight heads, as follows:—

- PART I.—THE REPORT OF THE PRESIDENT.
PART II.—THE REPORT OF THE PROFESSOR OF GEOLOGY AND NATURAL HISTORY.
PART III.—THE REPORT OF THE PROFESSOR OF CHEMISTRY.
PART IV.—THE REPORT OF THE PROFESSOR OF VETERINARY SCIENCE.
PART V.—THE REPORT OF THE PHYSICIAN.
PART VI.—THE REPORT OF THE PROFESSOR OF AGRICULTURE.
PART VII.—THE REPORT OF THE FOREMAN OF THE HORTICULTURAL DEPARTMENT.
PART VIII.—THE REPORT OF THE PROFESSOR OF DAIRYING.

I have the honour to be, sir,

Your obedient Servant,

JAMES MILLS,
President.



PART I.

REPORT OF THE PRESIDENT.

INTRODUCTION.

I am pleased to observe a rapidly increasing interest in the work of agricultural education throughout this Province, and, I might say, throughout the whole Dominion. This awakening is, no doubt, due to many causes; such, for instance, as the increased efficiency of our agricultural press, the work of the Ontario Agricultural College, the reading of our reports, and the holding of Farmers' Institutes; but, perhaps, the most potent agency of all has been the simple logic of circumstances, which are forcing thoughtful people to the conclusion that something must be done to make the work of our agriculturists more productive, and secure to the farmers of this country a larger return for the labour and capital annually expended on their farms.

With a view to the accomplishment of this object, I have, for the last four years, persistently urged (1) that all teachers in training at our Normal Schools should have a short course of lectures on agriculture, live stock, dairying, and forestry; (2) that the first principles of agriculture should be taught in all our rural Public Schools; and (3) that there should be established in each of our thirteen agricultural districts, an Agricultural High School, to give young farmers instruction in agriculture, live stock, dairying, veterinary science, chemistry, geology, botany, reading, writing, spelling, arithmetic, English grammar, English literature and composition. Nothing definite has yet been done towards the adoption of any of these suggestions; but I have reason to believe that, before long, some sort of provision will be made for giving a course of lectures on agriculture to the teachers at the Toronto and Ottawa Normal Schools. When this is done, the chief difficulty in the way of introducing the subject into the Public Schools will be removed, and we may then look for brighter days.

The depressing circumstances to which I have incidentally alluded are the diminishing yield and the low price of farm produce. These two results, coming together, have given rise to some anxiety in the minds of those who fully realize that agriculture has been, and must continue to be, the chief source of our wealth and prosperity. It cannot be denied that the agricultural outlook has been somewhat discouraging; but I believe we have passed the crisis and the prospect is becoming brighter every year. Prices are not likely to be much lower than they are now; and there are indications of a larger yield than we have had for some time.

It may be laid down as fundamental, that success in Canadian farming is no longer possible without proper drainage, thorough cultivation of the soil, and the rearing and feeding of live stock enough to furnish a constant and liberal supply of good farm-yard manure. Accepting this statement as unquestionable, we enquire what the farmers of Ontario are doing, and we are pleased to find evidences of progress in the right direction. The returns of the Ontario Bureau of Industries show that the Province is spending a considerable sum of money in under-draining, is importing a larger number of thoroughbred animals from year to year, is raising and feeding more cattle, growing a smaller acreage of wheat, barley, and rye, and a larger acreage of oats, pease, and turnips—all of which goes to prove that our farmers are waking up to the necessity of thorough under-draining and more liberal manuring. Add to this the fact that the dairy industry is making rapid progress among us, and we have reason for hopefulness, rather than dis-

couragement. One thing we need very much, that is, better cultivation of the soil, to keep our land thoroughly clean and get the full benefit of frost, manure, and atmospheric action. There must be a more liberal use of the plow, gang-plow, and cultivator, before we can reasonably hope for anything like the full returns which the farms of this Province are capable of producing. The prevalent custom of plowing stubble ground only once after harvest has produced bad results. Those who follow that system do not and cannot keep their land clean. A large portion of the farm should be plowed twice every fall—ganged immediately after the crop is taken off, and plowed again the ordinary depth sometime before the winter sets in. The farmers who follow this method, who seed much to clover, and use the cultivator in the spring, are making money in spite of the low prices. There are, of course, many other points which need attention under the head of tillage; but this is not the place to discuss them. We merely mention the matter, and express the hope that the growing desire for knowledge among farmers everywhere may soon lead to much needed improvements under this head.

CHANGES AND PROGRESS AT COLLEGE.

In reviewing the events of the year 1886, we find two or three items of information, which may be more interesting to general readers than the ordinary details of College work. The most important of these items are the admission of county students, the appointment of an Advisory College Board, the erection of farm buildings, and the organization of a class for post-graduate work.

At the last session of the Ontario Legislature, two somewhat radical amendments were made in the law which governs the Ontario Agricultural College and Experimental Farm. By one, the Commissioner of Agriculture sought to encourage the attendance of farmers' sons at the College; and, by the other, he made provision for the appointment of an Advisory Board of practical farmers, to assist him in the management of the Institution.

COUNTY STUDENTS.

The first amendment was to the effect that "every County and every Territorial District in the Province shall hereafter have the privilege of having during all College terms, one student in attendance and receiving instruction at the College, without the payment of any entrance or tuition fee. The County Council of each County shall nominate the student entitled to this privilege for the County, and the Advisory Board shall nominate the students for the Territorial Districts. Such student must be the son of a practical farmer resident in the County or District, and have lived on his parent's farm at least two years prior to his admission to the College.

This amendment was received with some disfavor, when it was first proposed in the House; and several supporters of the Government expressed their disapproval in Committee; but it was passed in deference to the opinion of the Commissioner of Agriculture; and I am now in a position to say that it is likely to be a decided benefit to the College. The result is that thirty-two Counties have nominated young men, and twenty-seven of these—all farmers' sons of a good type, are now in attendance. This gives us a larger proportion of farmers' sons and a better class of students than we have had.

The twenty-seven Counties which are now represented by nominated students are as follows:—Brant, Bruce, Carleton, Dufferin, Frontenac, Glengarry, Haldimand, Halliburton, Kent, Leeds, Lennox and Addington, Lincoln, Middlesex, Norfolk, Northumberland and Durham, Ontario, Oxford, Peel, Peterborough, Russell, Stormont, Waterloo, Welland, Wellington, and York.

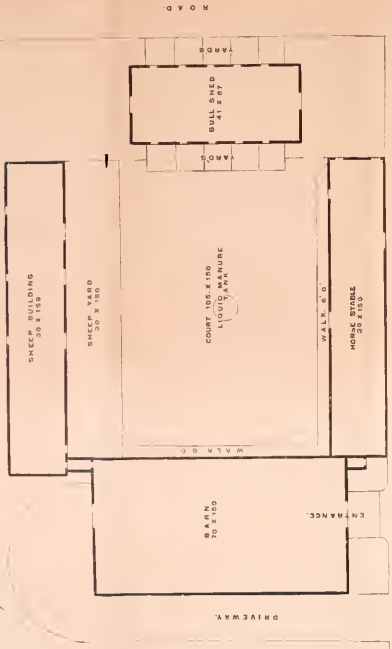
ADVISORY BOARD.

By virtue of the second amendment, an Advisory Board of practical farmers was appointed early last spring, from both political parties, to assist the Commissioner of Agriculture in the management of the different departments of the Institution, but especially the farm, regarding which the judgment of successful farmers from different parts of the Province should have considerable weight.



NEW FARM BUILDINGS.

GROUND PLAN.



NEW FARM BUILDINGS.

View from Bull Shed.

The Board consists of eight members, one *ex-officio*, and seven appointed by the Lieutenant-Governor in Council, as follows :—

A. Blue, Deputy Commissioner of Agriculture, *ex-officio*, Toronto.
 John I. Hobson, Mosboro', County of Wellington.
 John McMillan, Constance, County of Huron.
 Dr. William Saunders, London.
 J. S. Smith, Ailsa Craig, County of Middlesex.
 Edward Jeffs, Bond Head, County of Simcoe.
 G. B. Boyce, Norham, County of Northumberland.
 D. A. Dowling, Appleton, County of Lanark.

Chairman—John I. Hobson ; *Secretary*—A. Blue ; *Executive Committee*—John I. Hobson, John McMillan, and Edward Jeffs.

The Board held two regular meetings during the year ; the Executive Committee met once ; and the Chairman visited us from time to time, as occasion seemed to require. At these meetings the management of the College and farm was carefully looked into, some changes were recommended, and a number of suggestions made, chiefly in the direction of greater economy, better instruction in the outside departments, and more thorough efficiency everywhere. So that, already, we have reason to believe that the Commissioner's second amendment, no less than the first, will be of real service to both College and Farm.

NEW FARM BUILDINGS.

An important step in advance is the erection of new farm buildings. The old buildings, which were large and expensive, but too near the College, and not at all suited to our wants, were burned on the 29th September, 1885. New plans were prepared by Prof. Brown, and modified by Mr. Goff, the architect of the barns lately erected by Wm. Mulock, M.P., near Aurora. These plans were submitted to a special committee composed of the farmers in the Ontario Legislature and two or three others selected by the Commissioner of Agriculture. This Committee, failing to agree, the plans were abandoned ; and Mr. John I. Hobson, of Mosboro', who knows more about the barns of Ontario than any other man in the Province, was requested to prepare a new set of plans. With the assistance of James Laidlaw, M.P.P., and some hints from Professor Brown, Mr. Hobson drew the plans, which were finally adopted. Mr. W. H. Worden, of Port Perry, was selected to prepare the specifications, and the contract was let to Mr. F. Schwendiman, of Drayton.

The work is now completed, and the buildings may be said to reflect credit on Mr. Hobson, Mr. Worden, and Mr. Schwendiman, alike. They consist of a large barn, with root houses and cattle stables beneath ; a good horse stable ; and a long shed with suitable yard and pens for sheep—all compactly arranged, spacious and convenient.

POST-GRADUATE WORK.

It has been felt for a length of time that the Ontario Agricultural College should furnish advanced practical instruction in Chemistry and some other branches, for Associates of the institution who may wish to continue their studies in certain departments for a few months longer than the regular course permits, with a view to preparing themselves more fully for the work of the farm, or for positions as teachers or professors of agriculture. A third year course has been suggested by some, and a special class by others.

Up to the present time, we have not seen our way clear to adopt any of these suggestions. We have considered carefully the various proposals made, and have waited until circumstances would seem to justify an extension in the direction indicated.

At length we have concluded to take the first step towards the adoption of a post-graduate course. We have decided to organize a class, which will commence on the 1st November and continue till the 15th April, or as much longer as may be desired.

The class will be open only to Associates of the College, on approval of the College Staff.

THE TERMS OF ADMISSION TO THIS CLASS ARE AS FOLLOWS :

Tuition—Free.

Board—\$2.50 a week, paid from time to time, four weeks in advance.

Washing—At College rates, paid at the end of each term.

Towels, Sheets and Linen Bag—Provided by Student.

Gas and Chemicals used in Laboratory—\$10 for the session, half on 1st November and half on 23rd January.

A Deposit of \$5 to cover breakage, etc., to be refunded if not required.

Students in this class will be exempt from work in the outside departments, and may, with the approval of the President, confine their attention to any portion or portions of the work prescribed below, provided they put in full time on the work selected.

Students wishing to do so, may remain at work in the College during the Christmas vacation (22nd December to 22nd January.)

OUTLINE OF WORK.

1.—*Chemistry.**Agricultural Chemistry*—

- (1) The reading of works, or portions of works, in the College Library, prescribed from term to term by the Professor of Chemistry.
- (2) Reading and discussion with the Professor of Chemistry of articles in the periodicals furnished by the College.
- (3) Writing of theses on subjects prescribed from time to time, and criticism of same.
- (4) Lectures by Professor of Chemistry, developing more fully such subjects as—
 - (i) Fertilizers.
 - (ii) Soil preservation and renovation.
 - (iii) Foods.
 - (iv) Chemistry of the Dairy.

Laboratory Work—

- (1) Handling of apparatus, chemical manipulation, manufacture of gases, etc.
- (2) Qualitative analysis of water, soils, foods, fertilizers, etc.
- (3) Quantitative analysis, volumetric and gravimetric, of soils, fertilizers, water, foods, and dairy products.
- (4) Use of microscope in determining the composition of milk, butter, etc.
- (5) Blowpipe analysis (if desired.)

2.—*Geology.*

Study of geological formations represented in Canada, and the characteristic fossils found therein ; economic products in Canadian rocks ; agencies at work in the disintegration of rocks and their influence in the formation of soil ; methods of distinguishing minerals.

3.—*Natural History and Horticulture.*

Botany.—Study of fungi, with special reference to those which are most injurious to to fruit and grain ; manipulation of the microscope, and methods of mounting specimens for microscopic examinations ; microscopic study of the structure of plants ; economic plants in addition to those treated of in the work of the second year.

Zoology.—Study of parasitic organisms injurious to farm animals ; further consideration of the vertebrata with special reference to economic birds.

Entomology.—Experiments and insecticides ; insects injurious to vegetation ; study of the life history of certain insects by personal observation and investigation on the part of the student.

The reading of portions of works and reports on this subject, as prescribed by the Professor of Natural History.

Horticulture.—Practical work in the greenhouse, garden and orchard ; discussion of general principles observed in landscape gardening ; investigation of the habits of plants by practical observation.

Special work in dairying, live stock, or veterinary science will be provided, if desired.

The organization of this class was not announced till late in October. Hence we could not expect many to enter it the first session ; but the terms of admission and the work prescribed have received the hearty approval of a number of the most prominent Associates of the College, and three have been regularly at work in the laboratory since the 1st of November.

WORK OF THE COLLEGE.

The work of the College is generally discussed under three heads :—The course of instruction, the boarding house, and the general business.

The routine in each of these varies very little from year to year. The course of instruction remains nearly the same, there is but little change in the buildings, and the general business is subject to slight variation.

I.—THE COURSE OF INSTRUCTION IN THE COLLEGE.

The scholastic year begins on the 1st of October, and ends on the 31st of August. It is divided into two sessions, and each session into two terms.

SESSIONS.

Winter Session, embracing the Fall and Winter Terms—1st October to 16th April, omitting the Christmas vacation.

Summer Session, embracing the Spring and Summer Terms—16th April to 31st August.

TERMS.

Fall Term—1st October to 22nd December.

Winter Term—22nd January to 16th April.

Spring Term—17th April to 30th June.

Summer Term—1st July to 31st August.

SUBJECTS TAUGHT.

The regular course of study extends over a period of two years, and includes the following subjects :—

First Year.—Agriculture, Live Stock, Dairying, Inorganic Chemistry, Organic Chemistry, Geology, Structural Botany, Physiology, Zoology, Veterinary Anatomy and Materia Medica, English Literature and Composition, Book-keeping, Arithmetic and Mensuration.

Second Year.—Agriculture, Live Stock, Dairying, Arboriculture, Agricultural Chemistry, Meteorology, Systematic and Economic Botany, Entomology, Horticulture, Veterinary Pathology and Obstetrics, English Literature, Political Economy, Book-keeping, Mechanics, Levelling and Draining.

METHOD OF INSTRUCTION.

The method of instruction is chiefly by lectures. Authors are read and studied in connection with the lectures on English Literature, Political Economy, and Systematic Botany ; but in the other subjects, text-books are not used in the class-room, except for occasional reference.

THE STAFF.

1. JAMES MILLS, M.A., *President.*

English Literature and Political Economy.

1. WILLIAM BROWN, C.E., P.L.S.

Agriculture, Live Stock, and Arboriculture.

3. C. C. JAMES, B.A.

Inorganic, Organic, Agricultural, and Analytical Chemistry.

4. J. HOYES PANTON, M.A., F.G.S.

Geology, Botany, Zoology, Meteorology, and Horticulture.

5. F. C. GRENSIDE, V.S.

Veterinary Anatomy, Pathology, Materia Medica, and Obstetrics ; Practical Handling and Judging of Horses.

J. W. ROBERTSON.

Dairying.

7. E. L. HUNT, THIRD YEAR UNDERGRADUATE, UNIVERSITY OF TORONTO.

Arithmetic, Mensuration, Mechanics, Levelling, Elementary Surveying, and Book-keeping.

THE YEAR 1886.

In addition to what I have already mentioned, there has been nothing specially noteworthy in the year 1886, unless, perhaps, the change in regard to instruction in the outside departments.

Formerly the foremen of the several departments had no definite time set apart for the instruction of students. They were expected to do what they could at all times, but had no definite instructions regarding that part of their work, and the result was a good deal of complaining about lack of instruction.

At the first meeting of the Advisory Board, held last spring, the question of outside instruction was fully discussed; and the decision arrived at was that the Farm Foreman, the Gardener, and the Carpenter, must each devote every afternoon faithfully to the definite and specific instruction of the students sent to his department, throughout the lecture season, that is, from the 1st October to the 1st July in each scholastic year. Since that time the work has been better attended to ; and it is hoped that there may not hereafter be any ground for complaint under this head.

This latter arrangement does not, of course, interfere with the work of the regular instructor, who spends the afternoons in teaching students how to plow, harrow, and perform other operations on the farm.

CHANGES IN THE STAFF.

In my last report I spoke of the vacancy in the Department of Chemistry, occasioned by the death of Dr. Hare. The department was without a Professor from October to January ; and at the latter date the vacancy was filled by the appointment of C. C. James, M.A., of Napanee.

During the winter, S. M. Barré resigned his position as Professor of Dairying, to undertake similar work in the Province of Manitoba; and J. W. Robertson, of Harriston, was appointed to take his place.

Both these appointments have proved very satisfactory.

ATTENDANCE.

The roll given below contains the names of those who have been in attendance any time during the year, making a total of 149, and representing the following places:—Ontario, 94; England, 26; Quebec, 8; Ireland, 4; Nova Scotia, 4; Scotland, 3; New Brunswick, 3; North-West Territory, 2; Prince Edward Island, 2; Cape Breton, Turkey and the Island of Jersey, 1 each.

Of this number, 91 were in attendance in the Fall Term of 1885; 10 entered in April and 45 in October, 1886.

There are 83 in attendance at the present time—3 associates engaged in post-graduate work, 24 second and 56 first year students.

COLLEGE ROLL FOR 1886.

| NAMES. | P. O. ADDRESS. | COUNTY, ETC. |
|--------------------|----------------------------------|-----------------------|
| Aces, A. | Ottawa | City, Ont. |
| Austin, A. M. | Thornholme, Sunderland | England. |
| Bayne, S. R. | Lee, Kent | England. |
| Birdsall, W. G. | Birdsall | Peterborough, Ont. |
| Bishop, W. R. | Brussels | Huron, Ont. |
| Boyd, W. C. | London | Middlesex, Ont. |
| Bowie, T. M. | Mount Forest | Wellington, Ont. |
| Bradley, G. R. | Manotick | Carleton, Ont. |
| Broome, A. H. | Henley-on-Thames | England. |
| Brown, C. R. | Norwood | Peterborough, Ont. |
| Brown, S. P. | Whitby | Ontario, Ont. |
| Brush, G. H. | Clifton, Bristol | England. |
| Budd, W. | Delhi | Norfolk, Ont. |
| Calvert, S. | Rochdale | England. |
| Carlaw, G. | Warkworth | Northumberland, Ont. |
| Carman, H. D. | Sarnia | Lambton, Ont. |
| Carpenter, W. S. | Simcoe | Norfolk, Ont. |
| Chadsey, W. | Wellington | Prince Edward, Ont. |
| Cleugh, H. H. | Sarginson | Northumberland, Ont. |
| Cobb, C. | London | City, Ont. |
| Cockburn, J. S. | Hamilton | City, Ont. |
| Coutts, W. F. | Glamis | Bruce, Ont. |
| Craig, D. J. | Edinburgh | Scotland. |
| Craig, H. | Carsonby | Carleton, Ont. |
| Craig, J. A. | Russell | Russell, Ont. |
| Creelman, G. C. | Collingwood | Grey, Ont. |
| Culshaw, C. | Ashton on Ribble | England. |
| Davidson, J. F. | Peterborough | Peterborough, Ont. |
| Dean, H. H. | Harley | Brant, Ont. |
| De Mauritz, R. | London, E. C. | England. |
| Denison, D. | Selby | Lennox, Ont. |
| Denton, E. | London | City, Ont. |
| Donald, J. C. | St. George | Brant, Ont. |
| Donaldson, F. N. | Mobarnane, Tipperary | Ireland. |
| Donnelly, P. E. | Montreal | City, Q. |
| Drysdale, W. P. | Liverpool | England. |
| Elton, C. W. | Pincher Creek, near Fort MacLeod | North-West Territory. |
| Elton, R. F. | do do | do do |
| Esplen, J. H. | Burgoyne | Bruce, Ont. |
| Etherington, C. B. | Torquay, Devon | England. |
| Ewing, W. | Mulmur | Dufferin, Ont. |
| Farlinger, T. | Dundee | Quebec. |
| Fee, J. J. | Toronto | City, Ont. |
| Furness, D. | Toronto | City, Ont. |

COLLEGE ROLL—Continued.

| NAMES. | P. O. ADDRESS. | COUNTY, Etc. |
|--------------------|-----------------------------------|-----------------------|
| Gardiner, R. J. | Guelph | City, Ont. |
| Gibant, E. D. | St. Heliers | Jersey. |
| Gilbert, W. J. | Shediac | New Brunswick. |
| Globensky, E. A. | Saint Eustache | Quebec. |
| Graham, G. M. | Penzance, Cornwall | England. |
| Harcourt, G. | St. Ann's | Lincoln, Ont. |
| Harkness, A. D. | Irene | Dundas, Ont. |
| Harrison, R. S. | Stirton, Lincoln, Nottinghamshire | England. |
| Hart, J. A. | Berwick | Nova Scotia. |
| Hart, J. W. | Bridgetown | Nova Scotia. |
| Haslam, G. T. | Dublin | Ireland. |
| Heacock, F. W. | Kettleby | York, Ont. |
| Higinbotham, H. B. | Guelph | City, Ont. |
| Hirsch, J. | Manchester | England. |
| Holtby, R. M. | Manchester | Ontario, Ont. |
| Horrocks, T. J. | Toronto | City, Ont. |
| Howes, J. S. | Harriston | Wellington, Ont. |
| Idington, P. S. | Stratford | Perth, Ont. |
| Jeffrey, J. S. | Toronto | City, Ont. |
| Johnston, J. F. | Ottawa | City, Ont. |
| Kellogg, C. A. | Thamesville | Kent, Ont. |
| Kellogg, W. J. | Thamesville | Kent, Ont. |
| King, R. E. | Decewsville | Haldimand, Ont. |
| Knowlton, S. M. | Newboro' | Leeds, Ont. |
| Lea, H. F. | Toronto | City, Ont. |
| Leavens, D. H. | Belleville | Hastings, Ont. |
| Leadingham, A. M. | Turriff, Aberdeen | Scotland. |
| Leslie, J. P. | Georgetown | Halton, Ont. |
| Lick, E. | Oshawa | Ontario, Ont. |
| Livesey, E. M. | London | England. |
| Lyster, G. R. | Guelph | City, Ont. |
| Macfarlane, A. D. | Wallace | Nova Scotia. |
| Macdonald, P. | Caughnawaga | Quebec. |
| Madge, R. W. | Brucefield | Huron, Ont. |
| March, H. | Rochdale | England. |
| Marsh, G. F. | Thornbury | Grey, Ont. |
| McCallum, E. G. | Mantintown | Glengarry, Ont. |
| McIntosh, W. W. | Toronto | City, Ontario. |
| McKay, J. G. | Underwood | Bruce, Ont. |
| McKenzie, A. G. | Fairview | Oxford, Ont. |
| McLean, R. M. | Ottawa | City, Ont. |
| McNiven, W. | Mountsburg | Wentworth, Ont. |
| Meikle, W. F. | Morrisburg | Dundas, Ont. |
| Menzies, R. M. | Almonte | Lanark, Ont. |
| Mill, J. S. | Maria, Bonaventure | Quebec. |
| Miller, J. R. | Cow Bay | Cape Breton. |
| Moodie, J. W. | Toronto | City, Ont. |
| Morgan, J. H. A. | Kerwood | Middlesex, Ont. |
| Morrison, W. S. | Minden | Haliburton, Ont. |
| Muir, J. B. | North Bruce | Bruce, Ont. |
| Mutton, F. A. | Toronto | City, Ont. |
| Nelles, S. W. | York | Haldimand, Ont. |
| Notman, C. R. | Toronto | City, Ont. |
| Orsman, C. P. | Bathurst | Lanark, Ont. |
| Owen, W. H. | Hull | England. |
| Pady, W. J. | Barstaple, Devon | England. |
| Palmer, W. J. | Charlottetown | Prince Edward Island. |
| Paterson, B. E. | Ottawa | City, Ontario. |
| Patterson, J. W. | Constantinople | Turkey. |
| Poe, J. P. | Callan | Ireland. |
| Power, R. H. | Barrie | Simcoe, Ont. |
| Price, V. | Selby Oak, near Birmingham | England. |
| Rayden, J. S. | Charlottetown | Prince Edward Island. |
| Renfrew, W. C. | Quebec | City, Q. |
| Ritchie, H. | Toronto | City, Ont. |
| Robertson, D. | Kirendbright | Scotland. |
| Robson, J. W. | Liverpool | England. |
| Roome, H. | London | England. |

COLLEGE ROLL—*Concluded.*

| NAMES. | NAMES. | COUNTY, Etc. |
|-------------------|-----------------------|--------------------|
| Ross, J. | Whitechurch | Bruce, Ont. |
| Routhier, J. A. | Ottawa | City, Ont. |
| Rowen, M. B. | Holt | York, Ont. |
| Serson, W. E. | Antrim | Carleton, Ont. |
| Schofield, E. A. | St. John | New Brunswick. |
| Scott, J. A. | Stoke, Devonport. | England. |
| Scrugham, J. G. | Toronto | City, Ont. |
| Shantz, A. | Waterloo. | Waterloo, Ont. |
| Sharman, H. B. | Stratford | Perth, Ont. |
| Shirreffs, G. G. | Clarence | Russell, Ont. |
| Sinclair, J. J. | Ridgetown | Kent, Ont. |
| Sleightholm, F. | Humber | Peel, Ont. |
| Smithers, A. S. | Montreal | City, Q. |
| Somerville, A. R. | Huntingdon | Quebec. |
| Soules, R. M. | South End | Welland, Ont. |
| Stacey, M. W. | Warburton | Leeds, Ont. |
| Stewart, J. B. | Peterborough | Peterborough, Ont. |
| Stewart, R. | Ottawa | City, Ont. |
| Stubbs, H. C. | Liverpool | England. |
| Sturge, E. | Penzance, Cornwall. | England. |
| Sullivan, R. | Dublin | Ireland. |
| Sweet, H. R. | Selby | Lennox, Ont. |
| Taylor, F. O. | Clifton, Bristol | England. |
| Thompson, F. F. | Uxbridge | Ontario, Ont. |
| Valance, R. | Osnabruk Centre. | Stormont, Ont. |
| Van Loven, R. M. | Murvale. | Frontenac, Ont. |
| Walter, J. R. | Wellington, Somerset. | England. |
| Warner, F. C. | Decewsville | Haldimand, Ont. |
| Watts, W. G. | Dockenfield, Surrey. | England. |
| White, S. A. | Ottawa | City, Ont. |
| Wiggins, G. C. | Windsor | Nova Scotia. |
| Willans, T. B. | Leeds | England. |
| Willans, N. | Leeds | England. |
| Williams, J. B. | Guelph | City, Ont. |
| Wilmot, A. B. | Oromocto | New Brunswick. |
| Zavitz, C. A. | Coldstream | Middlesex, Ont. |

ANALYSIS OF ROLL.

| Counties, etc. | Students. | Counties, etc. | Students. |
|----------------|-----------|----------------------|-----------|
| Brant | 2 | Ireland | 4 |
| Bruce | 5 | Island of Jersey | 1 |
| Carleton | 3 | Kent | 3 |
| Cape Breton | 1 | Lambton | 1 |
| Dufferin | 1 | Lanark | 2 |
| Dundas | 2 | Leeds | 1 |
| England | 25 | Lennox | 2 |
| Frontenac | 1 | London | 2 |
| Glengarry | 1 | Lincoln | 1 |
| Grey | 2 | Middlesex | 3 |
| Guelph | 4 | New Brunswick | 3 |
| Haldimand | 3 | Norfolk | 2 |
| Halliburton | 1 | Northumberland | 2 |
| Hamilton | 1 | North-West Territory | 2 |
| Halton | 1 | Nova Scotia | 4 |
| Hastings | 1 | Ontario (County) | 4 |
| Huron | 2 | Ottawa | 7 |

ANALYSIS OF ROLL—*Concluded.*

| Counties, etc. | Students. | Counties, etc. | Students. |
|-----------------------------------|-----------|------------------|-----------|
| Oxford | 1 | Stormont | 1 |
| Peel | 1 | Toronto | 11 |
| Perth | 2 | Turkey | 1 |
| Peterborough | 4 | Waterloo | 1 |
| Prince Edward (County)..... | 1 | Welland | 1 |
| Prince Edward Island | 2 | Wellington | 2 |
| Quebec | 8 | Wentworth | 1 |
| Russell | 3 | York | 2 |
| Scotland | 4 | | |
| Simcoe | 1 | | |
| | | | 149 |
| Ontario Students..... | | | 94 |
| Non-residents | | | 55 |
| Ontario Counties represented..... | | | 36 |

RELIGIOUS DENOMINATIONS.

The College is patronized by members or adherents of nearly all the religious organizations in the Province. Last year there were eleven denominations represented in our class-lists, as follows:—

| | | | |
|--------------------------|----|----------------------|-----|
| Presbyterians | 47 | Roman Catholics..... | 3 |
| Episcopalians | 43 | Bretheren | 2 |
| Methodists | 29 | Friends | 2 |
| Congregationalists | 8 | Menonite..... | 1 |
| Baptists | 7 | | |
| Christians | 4 | Total..... | 149 |
| Protestants | 3 | | |

CLASS-ROOM WORK.

Lectures began, as usual, on the 1st October, 1885, and continued till the 30th June, 1886, which latter date was the end of the scholastic year, 1885-86.

The following syllabus of lectures will convey some idea of the field covered by the several Professors in the nine months just mentioned:—

FIRST YEAR.

Fall Term—1st October to 22nd December.

DEPARTMENT I.—AGRICULTURE.

Introductory.—Ancient and modern agriculture; agricultural literature; different kinds of farming.

Soils.—Natural conditions of soil and plant; examination and classification of soils; physical properties of each kind.

Rotation in Cropping.—Importance and necessity of rotation; principles underlying it; rotations suitable to different kinds of soil; examination and criticism of different system of rotation.

Buildings.—Location of house, barn and stables ; stables for horses, sheep and cattle arrangement of farm buildings.

Miscellaneous.—Roads, lanes, fences.

DEPARTMENT 2.—NATURAL SCIENCE.

Chemical Physics.—Matter ; accessory and essential properties of matter ; attraction ; various kinds of attraction—cohesion, adhesion, capillary, electrical, and chemical ; specific gravity ; weights and measures ; heat, measurement of heat, thermometers, specific and latent heat ; sources, nature and laws of light.

Inorganic Chemistry.—Scope of subject ; elementary and compound substances ; chemical affinity ; symbols ; nomenclature ; combining proportions by weight and by volume ; atomic theory ; atomicity and basicity ; oxygen and hydrogen ; water—its nature, functions, decomposition and impurities ; nitrogen ; the atmosphere—its composition, uses, and impurities ; ammonia—its sources and uses ; nitric acid and its connection with plants.

Human Physiology and Hygiene.—Description of the different tissues in the body ; alimentary system ; circulatory system ; nervous system ; importance of ventilation and the influence of food on the body ; remarks on the proper care of the body and attention to its surroundings in order to keep it in a continual state of health.

Zoology.—Distinctions between animate and inanimate objects ; distinctions between plants and animals ; basis and classification among animals ; leading characters of each sub-kingdom, with special reference to classes of animals connected with agriculture.

DEPARTMENT 3.—VETERINARY SCIENCE.

Anatomy and Physiology of the horse, ox, sheep and pig ; osseous system, muscular system, syndesmology, plantar system and odontology.

DEPARTMENT 4.—ENGLISH.

Composition.—The sentence, paragraph, and period ; capitals and punctuation. Exercises in composition.

English Classics.—Critical study of Coleridge's "Ancient Mariner."

DEPARTMENT 5.—MATHEMATICS.

Arithmetic.—Review of subject, with special reference to farm accounts. Interest, discount, stocks, and partnership.

Mental Arithmetic.—Calculations in simple rules.

Book-keeping.—Subject commenced.

FIRST YEAR—(Continued).

Winter Term—22nd January to 16th April.

DEPARTMENT 1.—AGRICULTURE.

Breeding, rearing and feeding of animals. Points to be considered in deciding what kind of animals to keep.

Cattle.—History and characteristics of {Shorthorns, Herefords, Aberdeen-Angus Polls, Ayrshires, Jerseys, Guernseys, Holsteins, Devons, Galloways, etc. ; grade cattle ; milch cows—points of a good milch cow ; breeding generally ; pedigree.

Sheep.—Breeds of sheep generally considered ; crosses between different breeds compared ; quality, quantity, and uses of different kinds of wool.

DEPARTMENT 2.—NATURAL SCIENCE.

Inorganic Chemistry (Continued).—Carbon ; combustion ; carbonic acid and its relation to the animal and vegetable kingdom ; sulphur and its compounds ; manufacture and uses of sulphuric acid ; phosphorus ; phosphoric acid and its importance in agriculture ; chlorine—its bleaching properties ; bromine ; iodine ; silicon ; potassium ; calcium ; magnesium ; iron, etc.

Organic Chemistry.—Constitution of organic compounds ; alcohols, aldehydes, acids, and their derivatives ; formic, acetic, oxalic, tartaric, citric, lactic, malic, uric and tannic acids. Constitution of oils and fats—saponification ; sugars, starch, cellulose ; albuminoids, or flesh formers and their allies ; essential oils ; alkaloids—morphine and quinine ; classification of organic compounds.

Zoology (Continued).—Sub-kingdoms further described ; detailed account of some injurious parasites, such as “liver fluke,” “taperworm,” “trichina,” etc. ; insects—their influence on plant life ; corals and mollusks as agents in the formation of soil ; vertebrates, with special reference to those of importance in the economy of the farm.

Lectures illustrated by specimens and diagrams.

DEPARTMENT 3.—VETERINARY SCIENCE.

Veterinary Anatomy.—Anatomy and physiology of the horse, ox, sheep, and pig—digestive system, circulatory system, respiratory system, urinary system, nervous system, sensitive system, generative system, tegumental system.

DEPARTMENT 4.—ENGLISH.

Composition.—Exercises continued ; abstracts of speeches and essays ; letter writing.

English Classics.—Committing to memory and critical study of Goldsmith’s “Traveller.”

DEPARTMENT 5.—MATHEMATICS AND BOOK-KEEPING.

Arithmetic.—Equation of payments ; percentage ; profit and loss ; stocks ; partnership ; exchange.

Book-keeping.—Business forms and correspondence ; general farm accounts ; dairy, field and garden accounts.

FIRST YEAR—(Continued).

Spring Term—17th April to 30th June.

DEPARTMENT 1.—AGRICULTURE.

Preparation of Soil.—Modes of preparation for different crops, and various kinds of soil.

Seeds and Sowing.—Testing the quality of seed ; changing seed ; quantity per acre ; methods of sowing.

Improvement of Lands.—Drainage ; ordinary cultivation ; subsoiling ; fallowing ; manuring. Farm-yard manure and management of the same ; the properties, application, and uses of special fertilizers—lime, plaster, salt, bone-dust, superphosphates, etc.

Roots.—Cultivation of roots and tubers—effects of each kind on soil.

Green Fodders.—The cultivation and management most appropriate for each.

Management of pastures ; harvesting and preparing crops for market, or one's own use ; crops for current year examined.

DEPARTMENT 2.—NATURAL SCIENCE.

Geology.—Connection between geology and agriculture ; classification of rocks—their origin and mode of formation, changes which they have undergone after deposition ; fossils—their origin and importance ; geological periods and characteristics of each.

Geology of Canada ; with special reference to the nature and economic value of the rock deposits ; glacial period and its influence on the formation of soil.

Lectures illustrated by numerous specimens and diagrams.

Botany.—Full description of the seed, roots, stem, leaves and flower. Plants are brought into the lecture-room and analyzed before the class so as to render students familiar with the different organs and their use in the plant economy.

Lectures also illustrated by excellent diagrams.

DEPARTMENT 3.—VETERINARY SCIENCE.

Materia Medica.—The preparation, doses, action, and use of about one hundred of the principal medicines used in veterinary practice.

DEPARTMENT 4.—ENGLISH.

English Classics.—Committing to memory and critical study of Wordsworth's "Excursion," Book I.

DEPARTMENT 5.—MATHEMATICS.

Mensuration.—Mensuration of surfaces—the square, rectangle, triangle, trapezoid, regular polygon, circle. Special application to the measurement of lumber. Mensuration of solids ; special application to the measurement of timber, earth, etc.

SECOND YEAR.

Fall Term—1st October to 22nd December.

DEPARTMENT 1.—AGRICULTURE.

Experimental Plots.—The results of last season's experiments with crops and animals ; liability to disease ; effects of various manures on different crops, etc.

Farm Management.—Detailed account of the treatment of each field ; results from different kinds of seed and soil ; effects of manure ; harvesting, storing, and threshing of crops ; fall ploughing, subsoiling, etc.

Stock Feeding.—Value of feeding materials ; estimate for winter keep of live stock ; housing, feeding, and fattening ; points to be observed in selecting animals for fattening ; feeding experiments ; common diseases of animals ; management of animals on pasture ; value of green fodder. Dairy management and cheese-making.

DEPARTMENT 2.—NATURAL SCIENCE.

Agricultural Chemistry.—Connection between chemistry and agriculture ; the various compounds which enter into the composition of the bodies of animals ; the chemical changes which food undergoes during digestion ; chemical changes which occur during the

decomposition of the bodies of animals at death ; the functions of animals and plants contrasted ; food of plants, and whence derived ; origin and nature of soils ; classification of soils ; causes of unproductiveness in soil and how detected ; preservation, development, and renovation of soils ; manures classified ; the chemical action of manures on different soils ; commercial valuation of fertilizers.

Horticulture.—Ontario as a fruit-growing country ; the natural divisions into which it may be divided for growing fruit ; detailed account of the operations, layering, grafting, budding, pruning, etc. ; laying out and cultivation of an orchard ; list of fruits best suited for general purposes, with best methods for their cultivation ; remarks on gardening as a source of profit ; plants best adapted for the purpose of bedding and potting.

Lectures illustrated by practical work in the garden and specimens in the class-room.

DEPARTMENT 3.—VETERINARY SCIENCE.

Pathology.—*Osseous System*—Nature, causes, symptoms, and treatment of diseases of bone, as splint, spavin, ringbone, etc.

Muscular System.—Nature, causes, and treatment of flesh wounds, etc.

Syndesmology.—Nature, causes, symptoms, and treatment of curb, bog-spavin, and other diseases of the joints.

Plantar System.—Nature, causes, symptoms, and treatment of corns, sand-crack, founder, and other diseases of the feet.

Odontology.—Diseases of the teeth and treatment of the same.

DEPARTMENT 4.—ENGLISH.

English Classics.—Critical study of Shakespeare's "Julius Cæsar."

DEPARTMENT 5.—MATHEMATICS.

Dynamics.—Motion, forces producing motion, momentum ; work ; the simple machines, etc.

Drainage.—General principles ; how to lay out a system of drains ; how, where, and when to commence draining ; depth of drains and distances apart ; grades ; cost of draining.

SECOND YEAR—(Continued).

Winter Term—22nd January to 16th April.

DEPARTMENT 1.—AGRICULTURE.

Capital required in farming ; laying out of farms ; general management and economy ; cost of production ; buying, selling and marketing.

Management of cattle, sheep, and other animals in winter ; breeding generally considered ; special management of ewes before, during, and after the season of lambing, treatment of other animals in parturition ; rearing of lambs, calves and pigs ; washing and dipping of sheep, etc., etc.

Arboriculture.—Importance of the subject, and its special application to North America ; what is being done in the conservation and replanting of forests in other countries ; the objects of conserving and replanting—shelter for crops, animals, and dwellings, regulation of temperature and rain-fall, ornament, and profit ; requisite proportions of tree surface to that under agricultural crops ; existing condition of forests in

North America; adaptability of soils and climate to rapid results; what parts of the country should be conserved, and what parts replanted; conservation of indigenous forests generally considered; special attention to the care of young natural forest trees.

DEPARTMENT 2.—NATURAL SCIENCE.

Agricultural Chemistry.—Continuation of the subject from preceding term, as follows: Composition of plants in relation to the soils upon which they grow; rotation of crops; the classification of fodders according to their chemical composition and a general treatment of the science of cattle feeding; relation of feeding to manure; chemistry of the dairy.

Entomology.—Importance of the subject to agriculturists; beneficial and injurious insects—their habits, and the best means of checking the ravages of the latter.

Lectures illustrated by specimens.

Meteorology.—Relation of Meteorology to agriculture; composition and movements of the atmosphere; description of the barometer, different kinds of thermometers, pluviometer, anemometer, and how to read them; temperature, its influence on agriculture; the elements which are to be considered in the discussion of climate; the principles considered in forecasting the weather.

Lectures illustrated by instruments referred to.

DEPARTMENT 3.—VETERINARY SCIENCE.

Digestive System.—Nature, causes, symptoms and treatments of spasmodic and flatulent colic, inflammation of the bowels, acute indigestion, tympanitis in cattle, impaction of the rumen, and many other common diseases.

Circulatory System.—Description of the diseases of the heart and blood.

Respiratory System.—Nature, causes, symptoms and treatment of catarrh, nasal-gleet, roaring, bronchitis; pleurisy and inflammation of the lungs, etc.

Urinary System.—Nature, causes, symptoms, and treatment of inflammation of the kidneys, etc.

Nervous System.—Nature, causes, symptoms, and treatment of lock-jaw, string-halt, etc.

Sensitive System.—Nature, causes, symptoms, and treatment of the diseases of the eye and ear.

Generative System.—Nature, causes, symptoms, and treatment of abortion, milk-fever, etc.

Tegumental System.—Nature, causes, symptoms, and treatment of scratches, sallenders, mallenders, parasites, and other diseases of the skin.

DEPARTMENT 4.—ENGLISH LITERATURE AND POLITICAL ECONOMY.

English Classics.—The critical study of Shakespeare's "King Richard the Second."

Political Economy.—Utility; production of wealth—land, labour, capital; division of labour; distribution of wealth; wages; trades-unions; co-operation; money; credit, credit cycles; functions of government; taxation, etc.

DEPARTMENT 5.—MATHEMATICS.

Statics.—Theory of equilibrium; composition and resolution of forces; parallelogram of forces; moments; centre of gravity, etc.

Hydrostatics.—Transmission of pressure; the hydraulic press; specific gravity; density; pumps, siphons, etc.

Book-keeping.—Review of previous work.

SECOND YEAR—(Continued).

Spring Term—17th April to 30th June.

DEPARTMENT 1.—AGRICULTURE.

Review of past lectures with special drill on outside work. Reasons for management, etc.

DEPARTMENT 2.—NATURAL SCIENCE.

Determination of soils and fertilizers by physical properties.

Analytical Chemistry.—Chemical manipulation, preparation of common gases and reagents; operations in analysis—solution, filtration, precipitation, evaporation, distillation, sublimation, ignition, and the use of the blow-pipe; testing of substances by reagents; impurities in water; adulteration in foods and artificial manures; injurious substances in soils.

Systematic and Economic Botany.—Classification of plants, and characters of the most important orders.

This course is illustrated by a large collection of plants in the college herbarium; and also by analysis of several plants collected in the fields and woods of the farm.

Green-house Plants.—Special study of all the plants grown in our green-houses, and the shrubs, etc., on lawn.

DEPARTMENT 3.—VETERINARY SCIENCE.

Materia Medica.—The preparation, actions, uses, and doses of medicines—continued from the spring term of the first year. Lectures on special subjects, such as pleuro-pneumonia, the rinderpest, tuberculosis, etc.

Veterinary Obstetrics.—Description of fœtal coverings. Phenomena in connection with puberty, œstrum, gestation, sterility, abortion, normal and abnormal parturition. Diseases incidental to pregnant and parturient animals.

DEPARTMENT 4.—ENGLISH.

English Classics.—The critical study of Milton's "L'Allegro" and "Il Penseroso."

DEPARTMENT 5.—MATHEMATICS.

Surveying and Levelling.—Fields surveyed with chain and cross-staff; measurements of heights.

Road Making.—Determination of proper slopes; shape of road bed; drainage of roads; friction on different roads; various road coverings; the maintenance of roads; cost, etc.

FARMERS' INSTITUTES.

This is an age of associations and conventions. People seem to realize more than ever that union is strength and that combination is the most effective means of securing desired results in times of keen competition and aggressive enterprise.

Every trade and profession has some sort of representative organization which meets periodically for an interchange of opinion and for the discussion of matters which affect its rights, privileges, and standing in the community. The lawyers have their society, the doctors their association, and the Knights of Labor their union. These all have definite and specific objects in view, and among the secondary aims and incidental results are social enjoyment, mental improvement, and some advancement in technical knowledge.

Farmers, in this country at least, have never succeeded in forming an association to represent them as a class. The Grange organization was intended to do so; but there

are certain things about it which have made it distasteful to many, and obnoxious to some. Hence it has not received the support of farmers generally, and cannot be said to represent more than a small section of the farming community.

Farmers' Institutes are not intended to be in any way representative of agriculturists as a class. They are merely local groupings of farmers for the purpose of comparing notes, giving the results of experience, and reading and discussing papers on agriculture. live stock, dairying, fruit-growing, forestry, and other topics in which the farmers of each locality are specially interested.

Quite a number of such Institutes were held by the farmers of Ontario last year. The Professors of the College assisted in holding twenty-six; and in every case their efforts seemed to be appreciated and I have no doubt will be productive of much good. The farmers engaged very heartily in the work of preparing and reading papers,—took a leading part in the discussions, and appeared anxious to gain information about the minutest details of successful farming.

The plan on which we proceed is as follows: The farmers themselves organize Institutes according to instructions issued by the Commissioner of Agriculture, and hold at least two meetings in the year; and the Professors of the College assist at these meetings as often as they can do so, during the Christmas vacation, *i. e.*, from the 22nd December to the 22nd January.

Each Institute occupies about a day and a half, commencing at half-past one o'clock the first day and continuing till some time in the afternoon of the second day. In the evening of the first day, there is a public meeting at which the entertainment consists of music and short addresses.

The Government pays the travelling expenses of the Professors; and the locality in which the Institute is held provides a place of meeting and pays for heat, light, and local advertising.

The following list contains the names of the twenty-six places at which we assisted in holding Institutes last year: Newmarket (York), Collingwood (Simcoe), Lindsay (Victoria), Bobcaygeon (Victoria), Almonte (Lanark), Renfrew (Renfrew), Iroquois (Dundas), Gananoque (Leeds), Belleville (Hastings), Picton (Prince Edward), Brighton (Northumberland), Oshawa (Ontario), Georgetown (Halton), Drayton (Wellington), Durham (Grey), Markdale (Grey), Owen Sound (Grey), Brussels (Huron), Seaforth (Huron), Simcoe (Norfolk), St. Thomas (Elgin), Thamesville (Kent), Wanstead (Lambton), London (Middlesex), Brantford (Brant), St. George (Brant).

WINTER TERM, 1886.

23rd January to the 16th April.

The students in attendance were those who had entered at the beginning of the Fall Term in October, 1885, or previous to that date—91 in number; and the work was to a large extent a continuation of the subjects begun at that time.

CLASS-ROOM WORK.

The term was ten weeks and three days long, exclusive of the time spent in the Easter examinations; and the lectures delivered were as follows:—

| | | | |
|--|---|---|------------------------------|
| <i>First Year.</i> —31 lectures, one hour each, on Agriculture and Live Stock. | | | |
| 31 | “ | “ | Chemistry. |
| 20 | “ | “ | Natural History. |
| 21 | “ | “ | Veterinary Anatomy. |
| 20 | “ | “ | English Literature. |
| 10 | “ | “ | English Composition. |
| 29 | “ | “ | Arithmetic and Book-keeping. |

| | | | |
|---|---|---|--|
| <i>Second Year.</i> —15 lectures, one hour each, on Agriculture and Live Stock. | | | |
| 6 | “ | “ | Arboriculture. |
| 31 | “ | “ | Agricultural Chemistry. |
| 11 | “ | “ | Entomology. |
| 21 | “ | “ | Political Economy. |
| 20 | “ | “ | English Literature. |
| 21 | “ | “ | Veterinary Pathology. |
| 21 | “ | “ | Statics, Hydrostatics, and Book-keeping. |
| — | | | |
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Also one hour a week was spent by the second year students in the practical handling and judging of horses, under the supervision of Dr. Grenside, our Veterinary Surgeon.

DEPARTMENT 1.—AGRICULTURE AND LIVE STOCK.

In this department, the first year students devoted three hours a week to the study of the characteristic points and peculiarities of the leading breeds of sheep and horses; and the second year men spent six hours on general agriculture, six hours on arboriculture, and eleven hours in handling, judging, and comparing the different breeds and varieties of sheep and cattle. Under the last head, the method of instruction was the same as usual, and may be described as follows:—

A specimen of some kind, say a Shorthorn steer, is brought into the lecture-room, which is so arranged with galleried seats that every student while in his place taking notes has a full view of the lecturer and all his movements. The different parts of the animal are first pointed out and named, such for example, as the brisket, crops, loins, twist, etc. After this has been several times repeated, the students are called on to point out and name the several parts in presence of their class-mates. The lecturer then criticises the animal more closely, indicating the strong and the weak points, and giving his estimate of it as a whole. Afterwards several animals of different breeds are brought in together, and he proceeds to describe and illustrate what are considered the good points of the animals for beef and milk, comparing and contrasting Shorthorns, Herefords, Polled Angus, Devons, Galloways, Ayrshires, Holsteins, Guernseys, and Jerseys, breed with breed, in regard to shape of frame, quality of flesh, feeding, fattening, milking, hardiness, and other properties. Much the same course is pursued with the different breeds of sheep. Cotswolds, Leicesters, Lincolns, Southdowns, Oxford Downs, Shropshire Downs, Hampshire Downs, and Merinos, are frequently examined in the class-room and compared with one another as regards carcass, constitution, wool, mutton, feeding, hardiness, etc. Thus the instruction in this department is made in the strictest sense definite and practical.

DEPARTMENT 2.—NATURAL SCIENCE.

The work of the Winter Term in the department of Natural Science embraces Inorganic Chemistry, Organic Chemistry, Zoology, Agricultural Chemistry, and Entomology.

In the winter of 1886, our first year students spent a few weeks in completing the Inorganic Chemistry which they had studied throughout the Fall Term, and then took up the more difficult, but no less interesting subject of Organic Chemistry. They had a course of lectures from Professor James on the most important organic compounds, and gave special attention to the nature and sources of starch, sugar, oils, fats, the albuminoids, or flesh-formers, and other substances which have a more or less direct bearing on general agriculture and the feeding of animals. At the same time they attended Professor Panton's lectures on Zoology, to get a general knowledge of the animal kingdom as a whole, and thereby fit themselves for becoming more intelligent and appreciative students of particular parts of that kingdom under the heads of Entomology and Veterinary Science.

The second year men were at the same time engaged in the study of Agricultural Chemistry and Entomology. During the previous term they had learned the relation of

Chemistry to Agriculture and Stock-raising ; and with this knowledge they now proceeded to study the nature and sources of plant food, the origin and properties of the different kinds of soil, their preservation and renovation, the causes of unproductiveness, the properties and uses of various manures, the chemical composition of a number of fodders, and the nutritive value of each. On subjects such as these they spent three hours a week ; and at the same time took a course of lectures delivered by the Professor of Natural History, on the marks, habits, and depredations of the principal insects that infest our crops and fruits, seeking especially to learn the best means of checking and preventing their ravages.

DEPARTMENT 3.—VETERINARY SCIENCE.

As will be seen from the syllabus of lectures given on a previous page, the Winter Term in the Veterinary Department is devoted to the anatomy, physiology, and pathology of the horse, ox, sheep, and pig. The lectures to the first year students were on the anatomy and physiology of these animals, and were illustrated by the complete skeleton of a horse and portions of other skeletons. The second year lectures discussed various diseases and their treatment, especially the common ailments of the horse, as spavin, ringbone, curb, founder, inflammation, and such like ; and, for the purpose of making the instruction as practical as possible, horses were regularly brought into the class-room and examined, first by the professor in the presence of the class, and afterwards by the students themselves. In this way the veterinary surgeon was each day enabled to see whether his lectures were really understood or not by those to whom they were delivered.

See Professor Grenside's report in part IV of this volume.

DEPARTMENT 4.—ENGLISH LITERATURE AND POLITICAL ECONOMY.

We spend no time on any foreign language, and not much on anything which has not a direct bearing on the duties of a Canadian farmer. We give all the subjects of the programme a fair share of attention, but lay most stress on Agriculture, Live Stock, Chemistry, and Veterinary Science. Our primary aim is to make good practical farmers ; but we are not forgetful of the fact that it is no less important to make good citizens—to add some of the graces of a broader culture, and thereby fit our students for filling positions of trust, influence, and responsibility in Church and State.

The kind of an education which enables a man to make the most of his abilities in the social circle, the municipality, or the political arena, is got, not by confining the attention to any single subject, but by reading, writing and conversation, and from the sharpening and refining influence of many studies. At the same time, I think there is nothing else which contributes so much towards that end, and tends so directly to create and foster a taste for reading, as frequent practice in composition and the critical reading of selections from classic authors ; and for this reason we devote all the time we can spare to exercises of this kind.

During the Winter Term of 1886 the first year students spent one hour a week on exercises in composition, and two hours in the critical study of Goldsmith's "Traveller." The second year men read Shakespeare's "Julius Cæsar" and "King Richard the Second," and committed to memory the best passages in each. They also devoted two hours a week to the discussion of such questions as are usually considered under the head of Political Economy—land, labour, capital, the production and distribution of wealth, strikes, lockouts, etc.

DEPARTMENT 5.—MATHEMATICS AND BOOK-KEEPING.

Under this head, we have not undertaken anything beyond Arithmetic, Mensuration, Elementary Mechanics, and the less difficult operations in Levelling and Surveying. Even in these few branches, we lay most stress on what is likely to have frequent application in the ordinary business of a farming community. The Book-keeping also is of a special kind. It might be called Farm Book-keeping—farm, garden, field and dairy accounts.

SPECIAL LIVE STOCK AND VETERINARY CLASS.

A special class was organized in October, 1885, as in the three previous years, for those who wished to devote their whole time during the winter months to the study of live stock and veterinary science.

There were five applicants for this class—one new student and four from the regular course; but only three remained for the examinations at Easter.

Easter Examinations.

The Easter Examinations were, as usual, on the class-room work of the Winter Session (1st October to 16th April). They commenced on the 6th and ended on the 16th April. The questions set in the different subjects will be found in the first part of Appendix 2. Most of the papers were difficult enough to differentiate the best students, while they gave all honest students a chance to pass.

Oral examinations on live stock were conducted as usual. Cattle, sheep, and horses were taken into the Veterinary Class-room on successive days; and the students, being admitted one at a time, were required to handle and judge the animals submitted, as if they were in a show-ring.

EXAMINERS.

The examinations were conducted by the Professors of the College and the following outside gentlemen, to whom we are specially indebted and beg to return our sincere thanks:

| | | |
|---|-------|-----------------------------|
| John Hobson, Esq., Mosboro', Wellington | ..... | Stock-Breeding and Feeding. |
| S. C. Smoke, B.A., Toronto | ..... | English Literature. |
| Wm. Douglas, B.A., Toronto | ..... | Political Economy. |

HONOURS.

A complete record of all the candidates, regular and special, will be found in the Class Lists (Appendix 3)—not only those who passed or won honours, but also those who failed. A fair proportion got first-class honours in individual subjects, and a few gained the rank of first-class men in one or more of the five departments, and received honour certificates, as follows:

Honour Certificates.

EASTER EXAMINATIONS, 1886.

*First Year.**Agriculture and Live Stock—*

Natural Science—1. Scrugham, J. G., Toronto; 2. Sleightholm, J., Humber, Peel, Ont.; 3. Lick, E., Oshawa, Ont.; 4. Craig, J. A., Russell, Ont.; 5. Donaldson, F. N., Tipperary, Ireland; 6. Pady, W. J., Barnstaple, England; 7. Orsman, C. P., Bathurst, Lanark, Ont.; 8. Hart, J. W., Bridgetown, N. S.; 9. Johnston, J. F., Ottawa.

Veterinary Science—1. Scrugham; 2. Lick; 3. Bishop, W. R., Brussels, Ont.; 4. Sleightholm; 5. King, R. E., Decewsville, Haldimand, Ont.

English Literature and Composition—1. Scrugham; 2. Donald, J. C., St. George, Ont., and Donaldson; 4. Sleightholm; 5. Hart; 6. Lick; 7. Ledingham, A. M., Turriff, Scotland; 8. Johnston; 9. Pady; 10. Morgan, J. H., Kerwood, Ont.

Mathematics and Book-Keeping—1. Scrugham; 2. Lick; 3. Marsh, G. F., Thornbury, Ont.; 4. Hart; 5. Orsman; 6. Harkness, A. D., Irene, Dundas, Ont.; 7. Sleightholm; 8. Donald; 9. Howes, J. S., Harriston, Ont.; 10. Pady.

Second Year.

Agriculture and Live Stock—1. Zavitz, C. A., Coldstream, Middlesex, Ont.; 2. Brown, C. R., Norwood, Peterborough; 3. Sturge, E., Penzance, England; 4. Madge, R. W., Brucefield, Ont.; 5. Owen, W. H., Hull, England.

Natural Science—1. Madge; 2. Sturge; 3. Brown; 4. Zavitz; 5. Owen; 6. Fee, J. J., Toronto.

Veterinary Science—1. Owen; 2. Sturge; 3. Madge; 4. Holtby, R. M., Manchester, Ont.; 5. Zavitz; 6. Walter, J. R., Somerset, England.

English Literature and Political Economy—1. Madge; 2. Sturge; 3. Owen; 4. Jeffery, J. S., Toronto; 5. Calvert, S., Rochdale, England; 6. Fee.

Mathematics and Book-Keeping—1. Brown; 2. Zavitz.

Prizemen.

CHRISTMAS AND EASTER EXAMINATIONS.

First Year.

Agriculture and Live Stock.

- 1st. { J. Sleightholm.
J. G. Scrugham,
2nd. J. W. Hart.

Natural Science.

- 1st. J. G. Scrugham.
2nd. J. Sleightholm.

Veterinary Science.

- 1st. E. Lick.
2nd. J. G. Scrugham.

English Literature and Composition.

- 1st. J. G. Scrugham.
2nd. J. F. Johnston.

Mathematics and Book-Keeping.

- 1st. J. G. Scrugham.
2nd. E. Lick.

General Proficiency.

- 1st. J. G. Scrugham.
2nd. J. Sleightholm.
3rd. E. Lick.

Second Year.

Agriculture and Arboriculture.

- 1st. C. A. Zavitz.
2nd. C. R. Brown.

Natural Science.

- 1st. R. W. Madge.
2nd. C. R. Brown.

Veterinary Science.

- 1st. W. H. Owen.
2nd. E. Sturge.

Eng. Lit. and Political Economy.

- 1st. R. W. Madge.
2nd. E. Calvert.

Mathematics and Book-Keeping.

- 1st. C. R. Brown.
2nd. C. A. Zavitz.

General Proficiency.

- 1st. R. W. Madge.
2nd. E. Sturge.
3rd. C. R. Brown.

Special Live Stock and Veterinary Class.

Silver Medal—J. R. WALTER, Wellington, Somerset, England.

SPRING TERM.

(17th April to 30th June.)

The members of the special class and some others left at Easter. Ten new students were admitted, and the routine continued inside and outside pretty much as during Winter Term.

The class-room work of the first year students embraced agriculture, geology, botany, veterinary materia medica, Wordsworth's "Excursion," and mensuration. That of the second year students included agriculture, analytical chemistry, systematic and economic botany, veterinary materia medica and obstetrics, Millon's "L'Allegro" and "Il Penseroso," and the outlines of levelling, surveying and road-making.

EXAMINATIONS.

The Midsummer Examinations on the work of the Spring Term began on the 16th and ended the 19th June, and immediately thereafter a number of the students, who were members of the Ontario Field Battery, went into camp on the Guelph Exhibition Grounds, after which they returned to the

CLOSING EXERCISES OF THE COLLEGE.

These exercises took place on the 30th June, and were unusually successful. The attendance was much larger than on any former occasion, and the interest throughout was all that could be desired.

Fifteen young men were presented for diplomas, which were granted by the Hon. A. M. Ross, Commissioner of Agriculture.

Messrs R. W. Madge and C. A. Zavitz, delivered valedictory addresses on behalf of the graduating class, and the medals were awarded as follows:

R. W. Madge . . . Brucefield, Ont Gold Medal.
 Edgar Sturge . . . Penzance, Cornwall, England . . First Silver Medal.
 C. R. Brown . . . Norwood, Peterborough, Ont . . Second Silver Medal.

The gold medal was presented by the Commissioner of Agriculture; the first silver medal, by James Innes, M. P.; and the second silver medal, by James Laidlaw, M. P.

The competition for the medals was keen as usual, and Messrs C. A. Zavitz and W. H. Owen may be mentioned as having come very close to the winner of the second silver medal.

Those who obtained an aggregate of 75 per cent. of the marks in any department were ranked first class and awarded honour certificates, as follows;—

Honour Certificates.

MIDSUMMER EXAMINATIONS, 1886.

First Year.

Agriculture and Dairying—1. J. G. Scrugham, Toronto; 2. E. Lick, Oshawa; 3. J. W. Hart, Bridgetown, N. S.; 4. W. Ewing, Mulmer, Ont., and W. H. A. Hart, Kerwood, Ont.; 6. T. N. Donaldson, Tipperary, Ireland.

Natural Science—1. R. E. King, Decewsville, Ont.; 2. Scrugham; C. W. Elton, London, England; 3. J. A. Craig, Russell, Ont.

Veterinary Science—1. Scrugham; 2. Hart; 3. King; 4. Lick; 5. J. Sleightholm, Humber, Ont.; 6. J. C. Donald, St. George, Ont.; 7. Craig.

English Literature—1. Scrugham; 2. Elton; 3. Donaldson and Hart; 5. Donald.

Mathematics—1. Lick and Scrugham; 3. Hart; 4. J. S. Howes, Harriston, Ont.; 5. R. DeMauritz, London, England; 6. W. J. Pady, Barnstaple, England; 7. King; 8. Sleightholm.

Second Year.

Agriculture and Dairying—1. C. R. Brown, Norwood, Ont.; 2. E. Sturge, Penzance, England; 3. R. W. Madge, Brucefield, Ont.; 4. C. A. Zavitz, Coldstream, Ont.

Natural Science—1. Madge; 2. Sturge; 3. Zavitz; 4. W. H. Owen, Hull, England.

Veterinary Science—1. Brown; 2. Sturge; 3. Madge; 4. Owen.

English Literature—1. Madge; 2. Owen; 3. Sturge; 4. S. Calvert, Rochdale, England; 5. Brown.

Mathematics—1. Madge and Zavitz.

Special Certificates in Live Stock and Veterinary Science were awarded to J. R. Walter, Wellington, Somerset, England; J. P. Poe, Callan, Ireland; and Hugh Craig, Carsonby, Ont.

Associates.

The total number of associates up to the present time is 117. The list is as follows:—

| <i>Date.</i> | A. | <i>Date.</i> | G. |
|--------------|--------------------|--------------|---------------------|
| 1880— | Anderson, J. | 1883— | Garland, C. S. |
| 1880— | Ash, G. E. | 1879— | Gillespie, G. H. |
| | B. | 1878— | Graham, D. |
| 1881— | Ballantyne, W. W. | 1879— | Greig, G. H. |
| 1884— | Black, P. C. | 1881— | Grindley, A. W. |
| 1882— | Blanchard, M. G. | | H. |
| 1879— | Bannard, E. L. | 1882— | Hallesy, F. |
| 1886— | Broome, A. H. | 1886— | Holtby, R. M. |
| 1886— | † Brown, C. R. | 1880— | Holterman, R. F. |
| 1885— | † Butler, G. C. | 1882— | Horne, W. H. |
| | C. | 1882— | Howitt, W. |
| 1886— | Calvert, S. | | I. |
| 1877— | Campbell, J. A. | 1886— | Idington, P. S. |
| 1880— | Campbell, D. P. L. | | J. |
| 1884— | *Carpenter, P. A. | 1886— | Jeffrey, J. S. |
| 1880— | Chapman, R. K. | 1883— | Jeffs, H. B. |
| 1882— | Charlton, G. H. | 1879— | Jopling, W. |
| 1882— | Chase, O. | | L. |
| 1879— | Clark, J. | 1882— | Landsborough, J. |
| 1879— | Clinton, N. J. | 1884— | † Lehmann, A. |
| 1880— | Clutton, A. H. | 1877— | Lindsay, A. J. |
| 1886— | Cobb, C. | 1880— | Lomas, J. W. |
| 1878— | Crompton, E. | 1878— | Logan, T. |
| | D. | | M. |
| 1878— | Davis, C. J. | 1880— | Macaulay, H. |
| 1880— | Daves, M. A. | 1885— | Macpherson, A. |
| 1882— | Dawson, J. J. | 1886— | *Madge, R. W. |
| 1882— | Dennis, J. | 1882— | Mahoney, E. C. |
| 1881— | Dickinson, C. S. | 1884— | Major, C. H. |
| 1877— | Douglas, J. D. | 1877— | Mason, T. H. |
| 1877— | Dunlop, S. | 1885— | McIntyre, D. N. |
| | E. | 1885— | McKay, J. B. |
| 1882— | Elworthy, R. H. | 1886— | McKay, J. G. |
| | F. | 1883— | McPherson, D. |
| 1878— | Farlinger, W. K. | 1877— | Meyer, G. W. |
| 1886— | Fee, J. J. | 1881— | † Motherwell, W. R. |
| 1881— | File, J. | 1885— | † Muir, J. B. |
| 1882— | Fotheringham, J. | | N. |
| 1883— | † Fotheringham, W. | 1878— | Naismith, D. M. |
| 1879— | Fyfe, A. | 1879— | Nicol, A. |
| | | 1882— | Nicol, G. |
| | | 1886— | Notman, C. R. |

* Gold Medallist. † First Silver Medallist. ‡ Second Silver Medallist.

Associates—*Continued.*

| <i>Date.</i> | O. | <i>Date.</i> | S. |
|--------------|-------------------|--------------|----------------------|
| 1877— | O'Beirne, A. C. | 1885— | Smith, E. P. |
| 1886— | Owen, W. H. | 1884— | Steers, O. |
| | P. | 1878— | Stewart, W. |
| 1883— | Perry, D. E. | 1882— | Stover, J. W. |
| 1881— | *Phin, R. J. | 1886— | †Sturge, E. |
| 1881— | Phin, W. E. | 1877— | Sykes, W. J. |
| 1881— | Pope, H. | | T. |
| 1886— | Power, R. M. | 1885— | Thompson, W. D. |
| 1884— | Powys, P. C. | 1879— | Toole, L. |
| | R. | 1883— | Torrance, W. J. |
| 1882— | §Ramsay, R. A. | 1884— | Tucker, H. V. |
| 1879— | Randall, J. R. | | W. |
| 1885— | †Raynor, T. | 1879— | Warnica, A. W. |
| 1885— | Reid, P. | 1884— | Wark, A. E. |
| 1883— | †Robertson, W. | 1878— | Warren, J. B. |
| 1879— | Robertson, J. | 1880— | *Webster, J. L. |
| 1881— | Robins, W. P. | 1879— | Wells, C. |
| 1879— | Robinson, C. B. | 1882— | †Wettlaufer, F. |
| 1881— | Ross, J. G. | 1882— | White, C. D. |
| | S. | 1879— | White, G. P. |
| 1884— | Saxton, E. A. | 1879— | Wilkinson, J. P. |
| 1883— | Schwartz, J. A. | 1879— | Willis, J. |
| 1877— | Shaw, G. H. | 1883— | †Willis, W. B. (Ob.) |
| 1882— | ‡Shuttleworth, A. | 1884— | Wroughton, T. A. |
| 1882— | Silverthorne, N. | | Z. |
| 1884— | †Slater, H. | 1886— | Zavitz, C. A. |

* Winner of Governor-General's Medal. † Gold Medallist. ‡ First Silver Medallist.
§ Second Silver Medallist.

SUMMER TERM.

(1st July to 31st August).

At the close of the Spring Term (30th June), when the year's lectures were ended, most of the farmers' sons went home for haying and harvest, and some of the other students hired out with farmers for the summer months; so that only twenty-five remained with us during the Summer Term (July and August). These worked nine and a half hours a day, giving more or less attention to all the departments, but spending the greater part of their time where it was most needed, *i. e.*, on the farm. I shall not attempt to give a detailed account of the routine in each department, but simply say that the young men received more or less instruction in the fields, the yards, the garden, and the shop; and assisted in doing all there was to do in the summer months, on a four hundred-acre grain and stock farm, and in the management of a large vegetable garden, flower garden, orchard, and lawn.

FALL TERM.

COMMENCEMENT OF A NEW SCHOLASTIC YEAR—1st October, 1886.

Thirty-eight old students returned at the beginning of the Fall term, and forty-five new ones were admitted, making a total of 83. Their names, post-office address, and other information regarding them having been given in the college roll and the analysis on a previous page, there is only one or two particulars which need be mentioned under this head.

AGE OF STUDENTS.

The ages of our students in the Fall Term of 1886, ranged from 16 to 28 years, as follows:—

| | | |
|---------------------------|--|---------------------------|
| 6 at the age of 16 years. | | 9 at the age of 22 years. |
| 7 " 17 " | \| | 4 " 23 " |
| 11 " 18 " | \| | 1 " 24 " |
| 21 " 19 " | \| | 2 " 25 " |
| 12 " 20 " | \| | 1 " 28 " |
| 8 " 21 " | \| |  |

The average age was $19\frac{3}{4}$ years.

CLASS-ROOM WORK.

The time table in Appendix I. indicates the subjects which were taken up in the Fall Term, and the number of hours allotted to each. Lectures began on the 4th October, and continued without interruption till the 17th December.

The first-year students received four lectures a week on the characteristic points and peculiarities of the different breeds of cattle; had a course of lectures with experiments on Chemical Physics and Inorganic Chemistry; and spent two hours a week in studying the Anatomy and Physiology of the horse. Under the head of English and Mathematics, they read Thomson's "Seasons"—"Autumn," and reviewed certain portions of Arithmetic, with special reference to the requirements of farming in Canada.

The attention of the second-year men was directed to such subjects as stock-breeding, farm management, and the experimental plots; the selection of animals for beef; the housing, feeding, and fattening of the same; the comparative values of pastures and green fodder; results from the different kinds of seed, soil, and manures; and the previous season's experiments with wheat, oats, and grasses. They had two lectures a week on Horticulture, and a full course on Agricultural Chemistry—the composition of different plants in relation to the soils on which they grow, the preservation and renovation of soils, the chemical composition and value of different manures, the superphosphates, double silicates, and other substances which furnish plant food. They spent two hours a week at lectures on Veterinary Pathology, and one in handling and examining horses for spavin, ring-bone, splint, founder, and other diseases, all under the eye and direction of our veterinary surgeon, Dr. Grenside; they also read Shakespeare's "Julius Cæsar," and devoted some time to the study of drainage and book-keeping.

BOARDING HOUSE AND COLLEGE BUILDINGS.

The work in this department embraces the heating, lighting, cleaning, and repairing of the College buildings, and the boarding and oversight of the students in the College.

The College is heated by steam, lighted by gas from Guelph, and supplied with water from the city water-works. The supply of the two latter is quite satisfactory, and the steam heating serves the purpose well, except in very cold weather, when the radiators in the halls do not keep the rooms on each side quite so warm as they should be for the comfort of persons engaged in study.

The bursar provides the supplies, the culinary departments under the supervision of the Matron, and the students are looked after by the assistant Resident Master, with some help from two of the Professors.

ADDITIONS TO BUILDINGS.

Last year I called attention to the fact that the coal shed connected with the College was not large enough to hold more than half of our year's supply of coal. Consequently a large part of it was exposed to rain and snow throughout the fall and winter. During the past summer an addition was made to the shed, and we now have ample room for all the coal that we require.

In regard to the surroundings of students in the College, and the duties required of them, I may say that their rooms are furnished with beds, bedding (except sheets), bureaus, mirrors, washstands, study tables, and chairs. They sleep separately, two in a room, and, in a few instances, three.

DAILY ROUTINE.

The daily routine during the Fall, Winter, and Spring Terms, is as follows :—

Twelve students, selected in rotation, go out at six in the morning to feed the cattle and sheep, clean stables, etc. The rest are called at six, and go to breakfast at half-past six. At 7.30, those who are not working outside, go to drill for an hour. All assemble in the class-room for roll-call and prayers at 8.30; and from 8.45 to 11.45, they are at lectures in the College.

For the afternoon, the entire number is divided into two equal divisions, which work and study alternately. One division goes out to work from 1.30 till tea time; and the other reads or studies under a Professor in the class-room from 1.30 to 4, after which they are free till the call for tea at 5.30 or 6, according to the season of the year.

From seven to half-past nine in fall and winter, and from eight to half-past nine in spring, they all study in their rooms under the supervision of the night watchman and one of the Professors. Lights are put out at ten and the doors closed at half-past ten.

The half of every Saturday is a holiday; and every student, who is not under ban for some misdemeanor, is allowed to be out one evening in the week till half-past ten. When going out, each student leaves his name with the master or professor in charge, and is required to report himself when he returns.

On Sunday morning all students are required to attend their respective places of worship in Guelph, unless they are excused by the President. In the evening it is optional whether they go or stay in the College.

Such is the routine in the boarding house, and such are the duties which are required of students therein during nine months of the year. The Summer Term (July and August) is devoted entirely to work in the outside departments. Those who remain with us for that term, work nine and a half hours a day outside; and the duties inside differ but little from those in an ordinary boarding house on a large scale.

DISCIPLINE.

I am pleased to be able to say that we have not had any serious case of discipline during the past year. Everything has gone on quietly and without the slightest friction. All the students have been respectful and obedient, and the great majority have shown a desire to make a right use of their time.

III.—THE BUSINESS DEPARTMENT.

Under this head there is a variety of work, for which the President and the Bursar are chiefly responsible—correspondence, books and accounts, general business, and the finances.

CORRESPONDENCE.

The correspondence of the College falls chiefly to the lot of the President, and occupies a considerable portion of his time. There are constant applications for circulars and reports; enquiries about the terms of admission, cost of board, etc.; and requests for information and advice regarding a great variety of matters connected with farm practice throughout the Province; and to this is added the work of arranging annually for a number of Farmers' Institutes in the month of January. Last year the correspondence under the last head occupied most of my spare hours during the months of November and December; and the work is steadily growing in magnitude and importance.

BOOKS AND ACCOUNTS.

Our Bursar, Mr. A. McCallum, as Financial Agent of the Institution, is chiefly responsible for the work under this head. It is his duty to examine all accounts against the College, the Farm, and the Creamery; to check them by invoices and requisitions; to charge each item under the proper head; to make out separate statements for these three departments every month, and submit them to the President, the Farm Superintendent, and the Manager of the Creamery, respectively, for their approval; after which he has to send them to the Treasury for payment.

The Bursar also receives and accounts for all moneys from the College, the Farm, and the Creamery, and pays all accounts that have been approved by the President, the Farm Superintendent, or the Manager of the Creamery, and passed by the Auditor. He also keeps five sets of books, as follows:—

No. 1. Shewing the monthly expenditure under each head of the appropriation for the college and boarding-house.

No. 2. Giving in detail the revenue and expenditure for the outside departments under the Farm Superintendent.

No. 3. Shewing the live stock and farm produce on hand, and the sales and purchases made under this head from time to time.

No. 4. Giving a statement of the purchases, sales, and other items of revenue and expenditure in connection with the Creamery.

No. 5. Shewing the account of each student from the day he enters the College till he leaves it—tuition fees, board and washing, amounts allowed for labour, and cash balances paid the College for board and washing.

Printed sheets containing the names of all the students are furnished each foreman daily, who fills in the blanks with the description of the work done that day by the students in his department, the number of hours each has worked, and the estimated value of such work. These are filed daily in the office, and journalized weekly. At the end of the financial month these sums are posted to the credit side of each student's account in the ledger, whilst on the debit side is placed the cost of the board and washing for that month, as obtained from the books of the storeroom and the laundry.

GENERAL BUSINESS.

In addition to his duties as book-keeper, the Bursar has to provide supplies for the boarding-house, and see that the quality of all articles furnished by tender is up to the standard required by the terms of contract.

The President signs requisitions for all purchases in the college, takes charge of the college buildings generally, and is responsible, not only for the management, but for the discipline of the inside departments, as regards both officers and students.

FINANCES.

Revenue.

The College revenue in 1886 amounted to \$7,347.18, and was made up of the following items :

| | |
|---|------------|
| (1) Tuition fees | \$2,591 17 |
| (2) Balances paid for board after deducting allowances for work in the outside departments, including also a few fines imposed for violation of rules | 4,720 19 |
| (3) Chemicals used by students engaged in post-graduate work | 15 00 |
| (4) Bed sheets sold to students (since change in regulations). | 15 82 |
| (5) Supplemental examinations..... | 5 00 |
| | <hr/> |
| Total revenue in 1886..... | \$7,347 18 |

*Expenditure.**No. 1—College Maintenance.*

| | |
|---|-------------|
| (1) Salaries and wages | \$12,652 42 |
| (2) Food— | |
| Meat, fish and fowl..... | 3,225 44 |
| Bread and biscuits | 654 81 |
| Groceries, butter and fruit | 3,284 17 |
| (3) Household Expenses— | |
| Laundry, soap and cleaning | 177 12 |
| Women servants' wages | 1,639 25 |
| (4) Business Department— | |
| Advertising, printing, postage and stationery | 609 37 |
| (5) Miscellaneous— | |
| Chemicals..... | 21 94 |
| Library and reading-room (books, papers and periodicals) .. | 382 95 |
| Unenumerated..... | 658 91 |
| | <hr/> |
| Less college revenue | \$23,306 38 |
| | 7,347 18 |
| | <hr/> |
| Net Expenditure for Maintenance. | \$15,959 20 |

No. 2.—Maintenance and Repairs of Government Buildings.

| | |
|--|-------------|
| Furniture and furnishings | \$785 72 |
| Repairs and alterations | 773 46 |
| Fuel | 3,067 49 |
| Light | 823 33 |
| Water | 550 00 |
| | <hr/> |
| | \$6,000 00 |
| Total net cash expenditure in 1886 | \$21,959 20 |

The net sum voted by the Legislature was \$23,420 00
 Consequently the unexpended balance for the year is \$1,460 80

Summary of Entire Expenditure.

| | |
|---|-------------|
| Net cash expenditure as above..... | \$21,959 20 |
| Produce, etc., from farm and garden (see Appendix 4) | 1,490 16 |
| | \$23,449 36 |
| Less— | |
| Amount paid by College for labor of students on farm and garden | 2,939 70 |
| Other payments on account farm officers, etc | 2,200 00 |
| Three-fifths of salary of Professor of Dairying (for time devoted to general dairy interests throughout the province) | 900 00 |
| | \$6,039 70 |
| Entire net expenditure of College in 1886 | \$17,409 66 |

CONCLUSION.

Information regarding the reading-room, library, and museum, will be found in Professor Paton's report in Part II., of this volume.

LITERARY SOCIETY.

The literary society in connection with the College never was more active and useful than it has been during the past year. The members of the society met every Friday evening during the Winter Session, in one of the class-rooms, to practise reading, debating and declamation. The majority of the students became members of the society; and the work done was a valuable addition to the educational appliances of the Institution.

In the performance of such work, young men have an opportunity of testing their powers before they engage in the duties and assume the responsibilities of real life in church or state. They learn to speak in public, and gradually become acquainted with the rules of order according to which public meetings are conducted. Their wits are sharpened, their reasoning powers developed, and their manners improved.

RECOMMENDATIONS.

Under this head we generally enumerate our wants and plead for the expenditure of more money. Some of our wants have been supplied during the past year, but we are still in need.

We must admit that hitherto the Government has dealt liberally with us. There is no other agricultural institution on this continent, that has in any twelve years of its history spent so large a sum of money on the farm connected with it, as our farm has received within the last twelve years, for drainage, fencing, tillage, buildings, implements, live stock, and experiments.

This praiseworthy liberality has arisen from a desire on the part of all concerned, that the farm should be a prominent factor in the work of this Institution; and the result is that in farm equipment we do not fear comparison with the best institutions in the country. I regret that I cannot say so much for the College. In fact, I am forced to

acknowledge that there is some ground for the criticisms of those who, at home and abroad, have lately been calling attention to our lack of some buildings and appliances which are clearly necessary, in order to do the work of the College proper, in such a way as to keep pace with the progress of the times.

Chemistry is the foundation of scientific agriculture ; and without it no real progress can be made. Hence any agricultural institution which does not provide adequate appliances for the most thorough and advanced work in this department, must, in some measure, fail to accomplish the object for which such institutions are maintained.

We have a room set apart for Chemistry, and some old-fashioned greenhouses for instruction in Botany and Horticulture ; but we make no claim to anything like adequate equipment in either of these departments.

Two things we must have at once, or we shall certainly fall behind in the race, *i.e.*, a separate building with first-class appliances for instruction and practical work in Chemistry, and a good botanical laboratory with suitable green and propagating houses.

In addition to these, we need a gymnasium, a carriage house and horse stable, some alterations and new cases in the museum, and an appropriation for painting the outside wood-work of the College.

Hoping that this statement of our wants may receive your favourable consideration,

I am,

Your obedient servant,

JAMES MILLS,
President.

APPENDIX 1.

TIME TABLE FOR FALL TERM.

The following Time Table indicates our class-room work from the 1st October to the 22nd December.

TIME TABLE.

FIRST YEAR.

| Hours. | Monday. | Tuesday. | Wednesday. | Thursday. | Friday. |
|--------|---------------------|-------------------------|-------------------------|-----------------------------------|--------------|
| 8.45 | Agriculture. | Agriculture. | Physiology and Hygiene. | 1. Bookkeeping. 2. Arithmetic. | Agriculture. |
| 9.45 | English Literature. | Physiology and Hygiene. | English Literature. | 3. Agriculture. | Chemistry. |
| 10.45 | Chemistry. | Veterinary Anatomy. | Chemistry. | Veterinary Anatomy. | Arithmetic. |

SECOND YEAR.

| Hours. | Monday. | Tuesday. | Wednesday. | Thursday. | Friday. |
|--------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| 8.45 | Mathematics. | English Literature. | Mathematics. | English Literature. | Horticulture. |
| 9.45 | Agriculture. | Agriculture. | Agriculture. | Practical Horse. | Agriculture. |
| 10.45 | Veterinary Pathology. | Agricultural Chemistry. | Veterinary Pathology. | Agricultural Chemistry. | Agricultural Chemistry. |

APPENDIX 2.

ONTARIO AGRICULTURAL COLLEGE.

EXAMINATION PAPERS.

I. PAPERS SET AT THE MATRICULATION EXAMINATIONS, EASTER, 1886.

MATRICULATION.

ARITHMETIC.

Examiner : E. L. HUNT.

1. Add $\frac{3}{9}$ and $\frac{17}{24}$ and reduce the sum to a decimal fraction.
2. Divide .0121 by 110 and multiply the quotient by 350.25.
3. Find the cost of 3 tons, 14 cwt. 18 lbs. of hay, at \$12 a ton.
4. A and B can do a certain work in 8 days ; A and C in 10 days ; B and C in 12 days. How long will it take A, B and C to do the work ?
5. A tank is supplied by two pipes. By one it can be filled in 7 hrs., and by the other in 11 hrs. After the first has been supplying for 2 hours, the second is also opened, when both together continue to supply for $2\frac{1}{2}$ hrs., and then the first is closed. How long before the tank is filled ?
6. If $1\frac{3}{4}$ bush. of wheat are sown to the acre, how much will be required to sow a field 264 yds. long and 154 yds. wide ?

ENGLISH GRAMMAR.

Examiner : C. C. JAMES, M.A.

1. " For a creamery, ice is *necessary* ; but *even* in *ordinary* dairying no one *who wants* good *butter* can *dispense* with it in warm weather." Separate the above into simple sentences, state the kind of each, and parse the words in italics.
2. State three different methods of forming the plural of nouns. Give singular of *potatoes, pence, kine, shears, brethren.*
3. Name the parts of speech and give examples of each.
4. Correct, where necessary, the following sentences :—
 - (a) The college staff is all back from its holidays.
 - (b) I do not like these kind of sheep.
 - (c) The first and second cow has not been milked.
 - (d) No one can leave the room until the proper time of dismissal.

EASTER EXAMINATIONS, 1886—Continued.

COMPOSITION.

Examiner : C. C. JAMES, M.A.

1. Quote at least eight lines of poetry.
2. Write a composition on one of the following subjects:—
 - (a) The pleasures of farm life.
 - (b) Fall in Ontario.
 - (c) Ambition.

MATRICULATION.

GEOGRAPHY.

Examiner : J. HOYES PANTON, M.A., F.G.S.

1. Name the most important rivers of North America, and where they empty.
2. *Where* and *what* are Trinidad, Vancouver, Mobile, Ceylon, Niagara, Bristol, Danube, Biscay.
3. What effect has a high range of mountains upon the climate of a country?
4. Draw a map of South America, indicating the principal rivers.
5. Name the fresh water lakes of North America.
6. Define Delta, Isthmus, Estuary, Watershed and Bay, giving examples.

READING AND DICTATION.

Selections from the Fourth Reader.

— — —

II. PAPERS SET AT THE SESSIONAL EXAMINATIONS, EASTER, 1886.

FIRST YEAR.

AGRICULTURE.

Examiner : WM. BROWN.

1. Specify the considerations that should guide anyone in the construction of roads and fences.
2. The under-drainage of farm land secures several things: Name ten of the most important.
3. It is proposed to drain No. 17 field of this farm: Show how you would do this, naming drains and giving a sketch of the ground. Give reasons for the manner in which you lay off said drains.
4. Explain the value of rotation in cropping. Give an example.
5. What circumstances regulate the application of fertilizers to farm crops?

EASTER EXAMINATIONS, 1886—Continued.

FIRST YEAR.

LIVE STOCK.

Examiner: WM. BROWN.

1. Compare the Aberdeen Poll and Shorthorn breeds of cattle.
2. Criticise the Ayrshire, Holstein and Devon breeds of cattle for direct dairy purposes.
3. Why is the Leicester called Shorthorn among sheep?
4. What are the five principal things to be considered in judging a fleece?
5. Give brief description of a model fattening steer, without reference to any particular breed.
6. Sketch the principal features of a good milch cow.

FIRST YEAR.

INORGANIC CHEMISTRY.

Examiner: C. C. JAMES, M.A.

1. *Fire*—Define combustion, and give the chemical changes taking place in the burning of fuel.
2. *Air*—What is the composition of the air?
3. *Earth*—Name in order the most important constituents of the solid earth.
4. *Water*—Give composition and symbol. Distinguish rain, river and sea waters. Give two of the most important uses of water in nature.
5. *Breathing*—What chemical changes result from breathing the atmosphere? Prove that the exhaled breath differs from the inhaled breath.
6. *Life*—State the relationship existing between animal and vegetable life.
7. *Chlorine*—Shew how chlorine can be used as a disinfectant. Upon what property or properties does this use of chlorine depend? Give formulas if possible.
8. *Symbols*—Give chemical symbols for four acids and from them derive the salts of Sodium and Magnesium.
9. *Animal Heat*—Explain chemically how animal heat is maintained.
10. *Compounds*—Give chemical composition of the following substances:—Sand, Clay, Limestone, Salt, Nitre, Quartz, Superphosphates, Cast-Iron, Burnt-Lime, Slaked-Lime, Pearl-Ash, Epsom Salts, Marble, Caustic Potash, Baking Soda. (Symbols and names are required as far as possible.)

FIRST YEAR.

ORGANIC CHEMISTRY.

Examiner: C. C. JAMES, M.A.

1. Define the chemical term Radical. Give names and symbols for five (5) monad and five diad radicals.
2. *Common Alcohol*—(a) Give its chemical name and symbol; (b) give the changes occurring in alcoholic fermentation.

EASTER EXAMINATIONS, 1886—Continued.

3. State chemically the origin of sugar and wood-fibre in vegetation.
4. Explain the souring of milk, and the curdling of milk, giving reaction in former case in formula.
5. Distinguish Alcohols, Acids and Ethers, according to their chemical composition.
6. What are Albuminoids? Give names and examples of the different forms.
7. Distinguish Decay and Putrefaction.
8. State as far as you are able the chemical composition of Starch, Vinegar, Milk, Cheese, Butter, Eggs, Tea, Tobacco, Beer and Ale.

FIRST YEAR.

PHYSIOLOGY AND ZOOLOGY.

Examiner: J. HOYES PANTON, M.A., F.G.S.

1. Name the different classes into which the sub-kingdom Vertebrata is divided and give the characters of any one.
2. What is meant by insectivorous birds? Give a popular classification of such, and name those belonging to the second division.
3. Distinguish between a whale and a shark, and explain the expression "distribution in time and space," as applied to animals.
4. Draw a diagram illustrating the circulation of the blood. Explain the term Hygiene.
5. State the changes, and where they take place, which the food undergoes until it reaches the *Thoracic Duct*.
6. Classify foods with reference to their use in the animal economy. Write brief notes on Milk, Oatmeal, and Potatoes, as feeding stuffs.
7. State the effects of alcoholic stimulants upon the system.
8. Identify the specimens before you.

FIRST YEAR.

VETERINARY ANATOMY.

Examiner—F. C. GRENSIDE, V. S.

1. Mention the bones that enter into the formation of the Pelvic cavity, and name the organs contained in that cavity in the mare.
2. Give the names ordinarily applied to the joints of the fore and hind extremities, in order, from above downwards.
3. What are the functions of glands? Give some examples of those possessing ducts, and those that are ductless.
4. Describe the difference in the appearance of temporary and permanent incisors, and state indications of a five year old mouth.
5. Describe the small intestine.
6. Name the urinary organs, and describe the bladder, stating how urination is effected.
7. Give a general description of the lymphatic or absorbent system.

EASTER EXAMINATIONS, 1886—Continued.

8. Describe the heart.
9. Describe the ovaries and the Fallopian tubes ; also the manner in which the womb is retained in its position.
10. Name the cranial nerves and state their respective functions.

FIRST YEAR.

ENGLISH LITERATURE.

Examiner—J. HOYES PANTON, M.A., F.G.S.

1. Give the chief characteristics of Macaulay as a writer, and name some of his most important works.
2. Name the principal charges made against Warren Hasting's administration in India, and state who were the chief speakers in the prosecution and defence.
3. Who was Sovereign of England at this time, and what was the result of the trial ?
4. Sketch briefly the character of Nuncomar, Hastings and Impey.
5. Give the reasons put forward by Macaulay, for believing that Francis was the author of the Letters of Junius.
6. "He would recover the estates which had belonged to his father. This purpose grew stronger as his intellect expanded. He pursued his plan with calm indomitable force of will, and when under a tropical sun, his hopes amidst all the cares of war, finance and legislation, still pointed to Daylesford. When his life, chequered with good and evil, with glory and obloquy, closed, it was at Daylesford."

(Explain the references in this passage and paraphrase this quotation).

7. Describe the mode of government in India at the time of Hastings.
8. What reasons can be urged in favour of Hastings' conduct ? State how he erred in the management of his case.

FIRST YEAR.

COMPOSITION.

Examiner—JAMES MILLS, M.A.

1. Quote rules for punctuating simple sentences.
2. Punctuate the following passages and give the rule for every mark inserted :
 - (a) Deut x 21 2 Sam ix 18 AD 1886
 - (b) Be our plain answer this The : throne we honour is the people's choice. There are three genders the masculine the feminine and the neuter.
 - (c) Greece fell but how did she fall did she fall like Babylom did she fall like Lucifer never to rise again
3. Give an example each of a *simple*, a *complex*, and a *compound* sentence.
4. State the principles which guide in the arrangement of phrases in a simple sentence and clauses in a complex sentence.
5. Complete the following sentences by supplying substantive clauses :
 - (1) We cannot tell——
 - (2) Look at the elephant : did you ever wonder—— ?

EASTER EXAMINATIONS, 1886—Continued.

6. Expand into complex sentences :

- (a) The rainbow seen yesterday was very beautiful.
 (b) The wind being fair, we put to sea.

7. Contract into simple sentences :

- (1) The trees are growing along the river, and are very large.
 (2) Dr. Johnson was in great distress, when he was writing many of his works.

8. Combine the following statements into a simple sentence :

- The island at first seemed uninhabited.
 The natives gradually assembled in groups on the shore.
 The natives overcame their natural shyness.
 The natives received us hospitably.
 They brought down for our use the various products of their island.

9. Write a short composition on *the kind of education which a farmer should have.*

FIRST YEAR.

ARITHMETIC.

Examiner—E. L. HUNT.

1. N. B.—Only for those who fail to do three of the following questions: Find the simple interest, the compound interest, the true discount, and bank discount on \$3,798 for $2\frac{1}{2}$ years, at 7 per cent.

2. From the following, taken from the tables of the dairy test of 1884-85: Compare the Holstein and Jersey as to the quantity of butter made in the season.

| SERVICES. | Milk. Per Season. | Cream. Per Cent. | Butter. Per 100lbs. Cream. |
|----------------|----------------------|---------------------|-------------------------------|
| Holstein | 7,000 | 11.9 | 34.5 |
| Jersey | 3,500 | 19.9 | 55.0 |

3. (a) If an ounce of gold and an ounce of wheat are placed in opposite scale pans, what weight of wheat must be added to make the scales balance?

(b) If a pound of silver and a pound of oats are placed in opposite scale pans, what weight of silver must be added to make the scales balance?
 (A pound Avoirdupois, contains 7,000 grains Troy).

4. A insures his property for $\frac{5}{8}$ of its value at $\frac{3}{4}$ per cent. for 3 years. It is destroyed by fire, and after the Insurance Company pay the claim in full, A's loss is \$3,600, besides the amount paid as premium. Find the value of the property and amount of one premium.

5. (a) \$8,650 is invested in the 6 per cent. Stocks, at 110. Find the amount of Stock purchased and annual income.

(b) A owns \$3,800 of the 5 per cent. Stocks, at $95\frac{1}{4}$; he sells out and invests the proceeds in the 7 per cent., at $119\frac{3}{4}$. Find the alteration in his income, brokerage in each case being $\frac{1}{4}$ per cent.

6. A farm is let for a fixed sum of money, and a certain number of bushels of wheat; when wheat is 70 cents a bushel the rent is \$750; when wheat is 78 cents a bushel the rent is \$780. What will the rent be when wheat is 91 cents a bushel?

EASTER EXAMINATIONS, 1886—Continued.

7. A and B engage to reap a field for £4 10s., and as A could reap it alone in nine days, they promise to complete it in five days. They found, however, that they were obliged to call in C, an inferior workman, to assist them for the last two days, in consequence of which B received 3s. 9d. less than he otherwise would have done. In what time could B and C reap the field?

FIRST YEAR.

BOOK-KEEPING.

Examiner : E. L. HUNT.

1. Write the form of a note negotiable without indorsement, of an accepted draft, and of the receipt which would be given in question 4, Dec. 31st

2. If you find the Cr. side of the Trial Balance is larger than the Dr. side, explain how you would proceed to detect the errors in your entries.

3. In opening your ledger at the beginning of the year, give the entries you would make if engaged in mixed farming on an ordinary farm of 200 acres.

4. Enter the following in the accounts affected : Jan. 20, sold for cash, 120 bushels barley @ 65c. a bushel ; Feby. 5, sold for cash, 70 lbs. butter @ 20c. a lb. ; April 10, fed cows 2 tons hay @ \$9.00 a ton, and 50 bushels of oats @ 35c. a bushel, and 300 bushels turnips @ 8c. a bushel ; Aug. 25, bought a cow, \$70.00 ; Dec. 31, paid S. Harvey (hired man) \$30.50, being the balance due him for the year.

5. Make out and close an account with the store steers from January 1st, 1885.

6. State in what accounts, and on which side of them, you would enter the following :

- (a) Lost my pocket-book containing \$50.00 ; paid 75c. for advertising it ; and after a few days it was returned, when I gave the finder \$6.00.
- (b) Sold 25 acres of land for \$60.00 an acre, taking in payment one thoroughbred bull \$900.00, and the balance in cash.
- (c) Lent \$5.00 to a neighbour for a few days, taking his I.O.U
- (d) Paid \$10.00 for insurance of household furniture.

SECOND YEAR.

AGRICULTURE.

Examiner : WM. BROWN.

1. To what extent and in what manner would it be advisable for the average farmer of Ontario to change his system of farming to meet the requirements of Dairying as now practised ?

2. Where Dairying is advisable as a specialty on the part of an individual farmer, under what circumstances would you advise Butter and Cheese respectively ? Recommend, if you can, the extension of the business into winter.

3. The improvement of our pastures is an acknowledged want : specify the manner in which this crop will affect Ontario Agriculture, both at home and abroad.

4. Give a brief account of the manner of establishing permanent pastures.

5. Make a list of the points to be taken into consideration in arranging farm buildings, with a brief note explanatory of each.

EASTER EXAMINATIONS, 1886—Continued.

SECOND YEAR,

LIVE STOCK.

Examiner: W. M. BROWN.

1. The Shorthorn, Ayrshire, Holstein, Guernsey, Devon, and Jersey breeds of cattle contest the dairy field at present: name any two of them that meet the average conditions of Ontario in this speciality equal to any other three of the same list. Give full explanations.
2. To what extent should the average farmer consider the selection of a bull for dairy purposes and indicate which the animal should be, irrespective of any particular breed.
3. In what direction should an average farmer aim at wool and mutton to-day?
4. Specify the good and poor points of the South Down, Oxford Down, and Cheviot breeds, as applicable to the last question.

SECOND YEAR.

ARBORICULTURE.

Examiner: W. M. BROWN.

1. The scientific and practical application of Forestry to Canada involves many considerations: specify those we have studied from a more immediate agricultural interest.
2. Give brief notes on the planting of shade trees, specifying in order the items of management from the purchasing of trees on to the second year's stage.
3. In the formation and management of extensive plantations give the principal operations up to the third year.
4. To what extent would the average Ontario farmer be justified in devoting so much of his land to a crop of trees with a view to direct cash profits?
5. Name the trees most suitable for shade, for shelter belts, or clumps, and for large plantations in Ontario.

SECOND YEAR.

AGRICULTURAL CHEMISTRY. I.

Examiner: C. C. JAMES, M.A.

1. Name the chemical elements found in plants, stating the special forms of combination of each.
2. State the functions of (*a*) leaves and (*b*) roots in the development of plant life.
3. (*a*) How do soils originate? (*b*) Discuss the origin and effect of colour of soils.
4. What are the effects of (*a*) tillage and of (*b*) drainage upon soils?
5. What are the most valuable ingredients of fertilizers? Name the principal sources of each (natural and commercial).
6. Discuss farm yard manure, (*a*) its preservation, (*b*) its effect, (*c*) its application.
7. What are the distinguishing characteristics in composition of the following classes of products:—cereals, hay, leguminous, crops, roots.

EASTER EXAMINATIONS, 1886—Continued.

8. What are the manures specially adapted for each of the above? Give brief reasons.
9. State the scientific reasons for the advantages derived from rotation of crops.
10. Give a rotation (four or five years) with your reasons for adopting the same.

SECOND YEAR.

AGRICULTURAL CHEMISTRY. II.

Examiner : C. C. JAMES, M.A.

1. Describe briefly the process of digestion, stating the peculiar functions of the several digestion ferments.
2. Define (and give examples of) Digestion, Co-efficient, Nutrient, Fodder, Ration, Nutritive Ratio.
3. Give the Nutritive Ratios of ten common Canadian fodders.
4. Distinguish fats, carbohydrates, and albuminoids, according to their chemical composition: state their peculiar value and functions in a ration; and give examples of fodders in which each predominates.
5. Discuss briefly the feeding of cows for milk, sheep for wool, and of horses for work.
6. Give average composition of milk. Wherein consists the special feeding value of whey, buttermilk, and skimmed milk?
7. Explain the whole process of obtaining butter from milk. What is the chemical composition of butter? Explain, chemically, rancidness in butter.
8. Calculate the value of the Phosphoric Acid contained in the fine ground bone phosphate made from the bones of a 1,500 lb. ox.

SECOND YEAR.

ETOMOLOGY.

Examiner : J. HOYES PANTON, M.A., F.G.S.

1. What is an insecticide? Name some of the most common, and state how they are used.
2. Explain the terms:—maggot, weevil, nymph, chrysalis, pupa, grub, bug, as applied to insects.
3. Name some insects that are injurious to plants in both the larval and imago condition.
4. Name the orders to which our most beneficial insects belong, and specify four genera.
5. Give remedies for the destruction of the following noxious insects:—Climbing cut-worms, turnip beetle, and the apple tree bark louse.
6. Contrast *Telea* with *Platysamia*. What fruit trees do they affect?
7. Give the salient characters of the plum curculio, the clover midge and the saw fly, and give remedies to prevent their ravages.
8. Identify the specimens before you, indicating the plants which they affect, and give one remedy for each of the first six.

EASTER EXAMINATIONS, 1886—Continued.

SECOND YEAR.

VETERINARY PATHOLOGY.

Examiner: F. C. GRENSIDE, V.S.

1. Define what is meant by Specific and Sporadic diseases, and give an example of each class.
2. What are the different symptoms of Dislocation of the Cervical Vertebrae and Wry-neck; and what are the results of each accident?
3. Name the diseases of the feet to which horses are liable, and describe how to diagnose and treat a case of punctured foot.
4. Describe the symptoms, causes and treatment of Poll-evil and Fistulous Withers.
5. Mention the structures that are involved in Simple Ophthalmia, and describe the treatment of this affection.
6. Define the term hernia; and explain all you know about the umbilical form.
7. Describe the symptoms, possible terminations, and treatment of Garget, in the cow and ewe.
8. State whether the cow or horse is most subject to gastric or intestinal derangements respectively; and give reasons for answers.
9. Describe the usual exciting and predisposing causes of digestive and respiratory disorders; also a rational plan of securing efficient ventilation.
10. Mention the indications for Tracheotomy, and describe how to perform the operation, stating the structures which are incised.

SECOND YEAR.

SHAKESPEARE—RICHARD II.

Examiner: S. C. SMOKE, B.A.

1. Wrath-kindled gentlemen, be rul'd by me:
Let's purge this choler without letting blood.
This we prescribe, though no physician;
Deep malice makes too deep incision.
 - (a) By whom spoken?
 - (b) To whom do the pronouns *me*, *'s* and *we* refer respectively?
 - (c) Give the different meanings of *let*.
 - (d) Name and explain the figure employed in the second line.
 - (e) Scan the 3rd and 4th lines.
2. Quote the passages in which occur the following expressions: *dark dishonour's use*, *slander's venom'd spear*, *gilded loom or painted clay*, *a dearer merit not so deep a maim*, *four lagging winters*, *the hungry edge of appetite*, *this precious stone set in the silver sea*.
3. Give the meaning and derivation of the following words: *inveterate*, *appeal*, *miscreant*, *inhabitable*, *atone*, *degenerate*, *regenerate*.
4. A partial slander sought I to avoid,
And in the sentence my own life destroyed.
 - (a) By whom spoken?
 - (b) Explain the meaning of *partial slander*.
 - (c) Analyze this extract syntactically.

EASTER EXAMINATIONS, 1886—Continued.

5. Locate the following passages, and explain concisely the allusions and meaning in each :—

- (1) "Whose manners still our tardy apish nation,
Limps after in base imitation."
- (2) "Thy state of law is hand-slave to the law."
- (3) "Take Hereford's rights away, and take from Time
His charters and his customary rights."
- (4) "We hear this fearful tempest sing,
Yet seek no shelter to avoid the storm."
- (5) "The task he undertakes
Is numbering sands and drinking oceans dry."
- (6) " "Tut, tut!
Grace me no grace, nor uncle me no uncle."

6. Name four of the greatest poets and four of the greatest prose writers of the Elizabethan era of English literature.

7. Give in order the sovereigns of the Plantagenet line proper, with a note on the reign of each.

(a) Who was the greatest poet in England in the reign of Richard II?

8. Name the different classes of Shakespeare's plays, giving an example of each, and say to which class Richard II. belongs.

9. Sketch briefly the characters of Richard II. and Bolingbroke.

SECOND YEAR.

POLITICAL ECONOMY.

Examiner: W. DOUGLAS, B.A.

N.B.—Give brief answers to all questions.

1. *Commodities*—The denominator being constant, how will the wealth of the community be affected by increasing or diminishing the numerator?
2. The numerator being constant, how will wealth be affected by increasing or diminishing the denominator?
3. *Product*—Numerator being constant, how will wealth be affected by increasing or diminishing the denominator?
4. The denominator being constant, how will wealth be affected by increasing or diminishing the numerator?
5. The numerator being constant how will value be affected by increasing or diminishing the denominator?
6. Give an example where an increase of wealth coincides with an increase of value.
7. Give an example where a diminution of wealth coincides with an increase of value.
8. Give an illustration showing that a substance is wealth only when it is (1) in the right place, (2) at the right time, (3) in the right quantity.
9. Why is one man a watchmaker and another man a hatter? Give *five* reasons.
10. Are people becoming more dependent or independent of one another? Illustrate.
11. Whose income continues only so long as he make effort? Whose income continues for ever, though he toil not?

 EASTER EXAMINATIONS, 1886—Continued.

12. Does interest increase or diminish in the course of years? Does rent (including town property) increase or diminish? Give proofs.

13. When men strike, is it for increase of *real* wages or *nominal* wages? How do workmen sometimes diminish real wages?

14. What effect has aided immigration on wages?

15. What new competitor is the Canadian farmer meeting in the British wheat market?

16. What is the rent per acre of land in the following locations?

(a) In the neighbourhood of the College;

(b) In the centre of Guelph;

(c) In the centre of Toronto.

17. Why are wages and interest at nearly the same rate in these different places, and why do rents differ so enormously?

SECOND YEAR.

MECHANICS.

Examiner: E. L. HUNT.

1. Explain the terms—uniform acceleration, mass, momentum, density.

Why does a heavy body, when allowed to fall freely, move with a uniform acceleration?

(a) A stone dropped from the hand into a well strikes the bottom in $2\frac{1}{2}$ secs.; find the depth of the well.

(b) A body weighing 9 lbs. is projected vertically downwards from the edge of a precipice with a velocity of 40 ft. a sec., and at the same moment another weighing 29 lbs. is dropped: find the distance between them at the end of $1\frac{3}{4}$ secs.

(c) Find the time when the momentum of one is equal to that of the other.

2. (1) When would the wheel and axle work at a mechanical disadvantage? (2) How may the mechanical advantage of the screw be increased? (3) Where is the greatest strain in the handle of a pitch-fork? Explain.

3. What are the conditions that two forces acting at a point may be in equilibrium? (a) 2 forces of 42 lbs. and 56 lbs. act on a body at right angles to each other: find the magnitude of the single force equivalent to these two forces; (b) A horizontal force of 75 lbs. is required to move a body along a level road: find the magnitude of the force if it act at an angle of 30° to the horizontal. (In ordinary cases would the actual be greater or less than the mathematical result? Why?)

4. In the hydrostatic press shew clearly that the work done by the power is equal to the work done by the weight.

5. (a) If the specific gravity of maple is 0.65 find to what depth a cubic block of it, the length of whose edge is 28 ft., will sink in water; (b) What weight placed on it will just immerse the whole block?

6. Explain, using a diagram, the working of the common pump, and by reference to diagram state when it will fail to work.

7. Draw a rough sketch of the Hydraulic Ram and clearly explain the principle by which it works; mention cases where it may be advantageously used.

8. Given that a cubic foot of water weighs 1000 ozs. and the atmospheric pressure 15 lbs. to square inch; find the height of the column of water sustained by atmospheric pressure.

 MIDSUMMER EXAMINATIONS, 1886.

9. In a lifting pump, if the diameter of the bore is $1\frac{3}{4}$ inches, and the distance from the end of the handle to the piston rod is 3 feet, and from the piston rod to the bolt about which the handle turns is 6 inches, find approximately what power exerted at the end of handle is required to raise the piston when the column above the valve is 100 ft. high.

(b) Find the power, if exerted one foot from end of handle.

III. PAPERS SET AT THE MIDSUMMER EXAMINATIONS, JUNE, 1886.

FIRST YEAR.

AGRICULTURE.

Examiner: WM. BROWN.

1. Classify Manures and indicate the practical value of those common to Canada.
2. Report on the accompanying sample of Barley.
3. What affected the time of seeding and quantity of seed per acre in our farm work this season?
4. Give details of the management of Field 5.
5. How do we usually prepare land for a root crop?
6. Give a short criticism on the systems of Bare Fallowing and Root Cultivation.
7. What is the place of Green Fodders in mixed farming? Which particular plants do you recommend? Give reasons.
8. What is implied in the term—"a first-class pasture"?

FIRST YEAR.

DAIRYING.

Examiner: J. W. ROBERTSON.

1. Describe the best method of rearing calves for the Dairy—as to feeding, etc., till time of dropping first calf.
2. How and under what conditions should milking be done? Give reasons with answers.
3. What is the best feed for milking cows in spring time?
4. What treatment will best prepare milk for delivery to a cheese factory?
5. Explain how the lactometer should be used and what may be learned of the quality of milk from its use.
6. Give a definition of cream, and state its average composition.
7. How should cream be prepared for churning?
8. Name the qualities, with comparative points of value, possessed by perfect butter.
9. What effect would the development of excessive acid have on the body, flavour, texture, and colour of cheese?

MIDSUMMER EXAMINATIONS, 1886—Continued.

FIRST YEAR.

G E O L O G Y.

Examiner: J. HOYES PANTON, M.A., F.G.S.

1. Name the different geological systems represented in Manitoba and the North-West, and give the economic products found in each.
2. Describe the rock exposures found either at Guelph or Limehouse.
3. In what respect is a knowledge of Geology of importance in the study of agriculture?
4. Explain the terms "weathering" and "denudation," giving examples of each.
5. In what rocks are the following found:—coal, petroleum, salt, chalk, gypsum, copper, and lead?
5. Describe the condition of North America at the close of the Archean age.
7. Write brief notes on the formation of glaciers, their influence on a country; and state reasons for believing they once were in Ontario.
8. What inferences can be made from fossils in rocks? Give examples illustrating your answer.
9. Identify the specimens before you.

FIRST YEAR.

B O T A N Y.

Examiner: J. HOYES PANTON, M.A., F.G.S.

1. State the different ways in which plants climb; give examples of each.
2. Name the essential organs in a flower, and state what modifications these undergo through selection and cultivation.
3. Contrast an exogenous with an endogenous plant.
4. Name the most important underground stems, and give examples.
5. Give notes on the fertilization of plants, and name the agencies by which it is effected.
6. Show in what respect plants and animals are dependent on each other.
7. State conditions which influence the distribution of plants.
8. Give short notes on Stomata, Silique, Legume, Stipule, Spike, Epigynous, as applied to plants.
9. Analyze the specimen before you.

FIRST YEAR.

VETERINARY MATERIA MEDICA.

Examiner: F. C. GRENSIDE, V.S.

1. Describe the relationship of the physiological actions of medicines to their therapeutic effects.
2. Mention the circumstances which modify the actions of medicines.

MIDSUMMER EXAMINATIONS, 1886—Continued.

3. Give the symbols used to express the different weights, also the various measures of capacity of medicines.
4. Describe the different forms in which medicines are used and given to the domesticated animals.
5. Define the following terms, viz. :—Cathartic, Diaphoretic, Anaesthetic, Sedative, Alterative and Ecboic.
6. Which is the best kind of aloes for the horse? State the quantity necessary to purge a horse, and when its use is contra-indicated.
7. State the respective effects of alum and aniseed on the lacteal secretion, and mention some substances the actions of which are similar to anise.
8. Give the dose of aconite and its actions.
9. Describe the course to pursue in ridding a dog of tapeworms.
10. What are the actions of Chloral Hydrate, and its properties.

FIRST YEAR.

ENGLISH LITERATURE.

Gray's "Elegy" and Selections from Wordsworth.

Examiner: E. L. HUNT.

1. Quote Wordsworth's description of a sunset; also any passages from Wordsworth and the Elegy which refer to the early morning, noon, and nightfall.
2. Locate the following passages and explain the meaning of each :—
 - (a) "And yet the miser mind
Mourns less for what age takes away
Than what it leaves behind."
 - (b) "He fixes good on good alone."
 - (c) "There is often found
In mournful thoughts, and always might be found,
A power to virtue friendly."
 - (d) "And many a holy text around she strew
That teach the rustic moralist to die."
 - (e) "The threats of pain and ruin to despise."
3. What, according to Wordsworth, are the traits of character desirable in the ideal happy warrior?
4. Define Simile, Alliteration, Antithesis, Personification, and Pathetic Fallacy, and give an example of each from any of the poems read.
5. Scan the following lines and name the metre in each :—
 - (i) And leaves the world to darkness and to me.
 - (ii) Let loose their carols when they please.
 - (iii) Are quiet when they will.
 - (iv) In bodily form. But without further bidding.
 - (v) Frugal, affectionate, sober and withal.
6. Quote the stanzas in which the following occur :—
 - (i) "Shapless sculpture."
 - (ii) "Pious drops."
 - (iii) "Neglected spot;" also quote those which convey the thought that (a) all human glory ends at last at death; (b) The world knows little of many of its greatest men; (c) Man wishes to be remembered after death; (d) Poverty represses genius.
7. Write a brief criticism of the Elegy.

MIDSUMMER EXAMINATIONS, 1886—Continued.

FIRST YEAR.

MENSURATION.

Examiner: E. LAWRENCE HUNT.

1. How many bricks are required to build a wall 80 ft. long, 18 ins. thick, and 15 ft. high, a brick being 9 ins. long, $4\frac{1}{2}$ ins. wide, and 3 ins. deep?
2. A barn is built 120 by 65 ft., with the same amount of wall: (a) How much more floor surface would there be if the barn were square? (b) If it were round?
3. A stick of timber 45 ft. long is in the form of a cylinder: (a) Find the solidity if the diameter is 5 ft. (b) Find the solidity of the largest square stick that can be hewn out of it.
4. A bin is 12 ft. long, 5 ft. wide, and 4 ft. deep: (a) How many bushels will it contain? (b) How often can the pail (which is in Examination Hall) be filled from it?
5. A ditch is half a mile long, 2 ft. wide at bottom, and 4 ft. deep; the sides slope so that each makes an angle of 120° with the bottom, (*i.e.* an angle of 30° with the perpendicular from the bottom); find the number of cubic yards of excavation.
6. A ditch is 8 ft. wide at the top and the sides meet at the bottom at an angle of 60° ; find the depth of the water when the ditch is half full of water.

SECOND YEAR.

AGRICULTURE.

Examiner—WM. BROWN.

1. Indicate the practical bearings to the country, of the two pasture experiments now being conducted in field plots.
2. The cropping of this farm is made up of so much grain, roots, fodders, and pasture: Show roughly the relation of these to (1) maintenance of Working and Stock animals; (2) surplus pure-bred stock sold; (3) milk; (4) wool; (5) steers fattened annually. Illustrate by diagram if necessary.
3. The following is Rotation A in our experimental plots: (1) roots; (2) spring wheat, seeded; (3) hay; (4) hay; (5) pasture; (6) peas; (7) oats. Rotation B is the same length, but differently followed—give its details; give also the four shifts of Rotation C, and shew any relationships to A and B.
4. Make comparative notes on the arrangements of new farm buildings, as planned by the class, and those now in course of construction.

SECOND YEAR.

DAIRYING.

Examiner—J. W. ROBERTSON.

1. Give reasons why dairy farming is preferable to exclusive grain growing.
2. State the main characteristics of a good dairy cow.
3. How might the *quality* of the milk from an ordinary herd be improved?
4. Compare the relative profits from heifers dropping their first calves at two years old, and three years respectively.

MIDSUMMER EXAMINATIONS, 1886—Continued.

5. Describe the most economical method of feeding dairy cows while not milking during the winter.
6. What treatment would be effective in removing a leeky taint from milk, and to what class of taint does it belong?
7. State the methods of separating cream from milk, and say what considerations would guide you in determining as to which is preferable.
8. What is the average composition of milk, butter, cheese?
9. State the proper range of churning temperatures, and briefly describe the process of butter-making from the time churning commences.
10. Name the qualities, with comparative points of value, possessed by perfect cheese.
11. How would you be guided in selecting places whereon to erect a creamery and a cheese factory?
12. What is rennet, and what is its action in cheese-making?

SECOND YEAR.

ANALYTICAL CHEMISTRY.

Examiner—C. C. JAMES, M.A.

1. Draw the apparatus (in use) for making carbon dioxide.
 2. How would you distinguish the principal acids?
 3. How would you easily distinguish at sight gypsum and mica, quartz and marble, hard and soft coal, ground apatite and superphosphate, calcite and crystalline quartz?
 4. State the ingredients of *common salt*. How would you determine the presence of each?
 5. Analyze the sample of *soil*. From your results what can you say as to its value, its origin, its greatest need in the way of fertilizers, etc?
 6. Examine the sample of water, and report on it, drawing any conclusions warranted by your analysis.
- N. B.—In all results, the re-agents used, and the accompanying re-actions must be stated.

SECOND YEAR.

METEOROLOGY.

Examiner—J. HOYES PANTON, M.A., F.G.S.

1. Explain the term "area of low pressure." How is it ascertained? What practical use is made of it?
2. Climate is said to be affected by the physical features of a place: Illustrate this by referring to a district situated as follows: (1) In the vicinity of a large body of shallow water; (2) near a body of deep water; (3) separated from the ocean by a lofty chain of mountains.
3. Describe the *pluviameter*, and shew the practical use of data obtained by it. Tabulate the results from a series of six observations on snow and rain.
4. Where, when, and why do the Chinook winds occur?

MIDSUMMER EXAMINATIONS, 1886—Continued.

5. What data are required concerning the temperature of a place to form an idea of its climate.
6. Under what circumstances does the thermometer fail to give you the true idea of the coldness of a locality.
7. Name the different kinds of thermometers used, and reduce 60° Fahr. to 6° centigrade.
8. Explain the Vernier as used on a barometer.
9. Read the instrument before you.

SECOND YEAR.

SYSTEMATIC AND ECONOMIC BOTANY.

Examiner : J. HOYES PANTON, M.A., F.G.S.

1. Give the life history of the fungus which causes smut, and some remedies to prevent it.
2. Give a popular classification of the most common plants found in the orders, Cruciferae, Boraginaceae and Amarantaceae.
3. Give the principal characters of the orders, Oleaceae, Lobeliaceae and Coniferae.
4. Name orders in which plants are found, from which the following economic products are obtained :—sugar, lumber, oil, and hemp.
5. Name some of the most common wild flowers of April and May, and the orders to which they belong.
6. Distinguish the so-called Calla lily from a true lily.
7. Account for the distribution of weeds ; classify the most common according to the time required for their development, and give some general principals required to be adopted to destroy them.
8. In the samples of wheat, oats, and peas given, name the different kinds of weed seeds found in each of them.
9. Analyze the plant before you according to the accompanying schedule.

SECOND YEAR.

PRACTICAL HORTICULTURE.

Examiner : J. HOYES PANTON, M.A., F.G.S.

1. Given the following plants : Ageratum, Cineraria, Orthonna, Lobelia, Amaranth, Coleus, Geranium, and Ricinus ; how would you arrange them :—
 - (1) In a bed with a wall at the back.
 - (2) In a rectangular bed at a distance from a fence or wall.
 - (3) In a circular bed.
2. Name a collection of plants best adapted for hanging baskets, carpet bedding, and window culture.

MIDSUMMER EXAMINATIONS, 1886—Continued.

3. What specimens of grafting are placed before you? State the precautions necessary to observe in this operation.
4. How would you proceed to grow plants from cuttings? Name some in which this process is often followed.
5. How would you make a soil suitable for potting plants?
6. Name some shrubs which have failed, owing to the climate, at the Agricultural College, and give seven of the most thrifty.
7. Identify the plants in the collection before you.

SECOND YEAR.

VETERINARY MATERIA MEDICA.

Examiner : F. C. GRENSIDE, V.S.

1. Give a prescription containing a vegetable and mineral tonic, stating the indications for the administration of such, and the best method of giving the same to a horse.
2. Which is the most powerful diaphoretic agent we know of, and in what conditions will it be found useful?
3. Describe how to prepare what is called "White Lotion," and state its uses.
4. Mention the medicinal and dietetic products of flax-seed.
5. Describe how to prepare a purgative drench for the ox.
6. Give the properties of Binioidide of Mercury and state how to prepare it for use, also the indications for its use.
7. What is Opium? Give its properties, actions and uses; and state how it differs from Laudanum and Morphia.
8. What are the common names for Nitrate of Potash? Give its actions and medicinal uses.
9. Give the technical names for Epsom and Glauber's Salts respectively, and state their comparative value as purgatives for the ox.
10. Give a prescription for Tympanitis in the ox.

SECOND YEAR.

BREEDS OF HORSES.

Examiner : F. C. GRENSIDE, V.S.

1. What is the supposed origin of the Shire and Clyde respectively? State any differences in feature that would enable one to distinguish a representative of one breed from that of the other.
2. Make a comparison of the limbs of a Shire and Clyde, and describe the significance or feather *versus* no feather.
3. Name the four breeds of draught horses, and name the characteristic middle piece of each.
4. Compare the fore and hind-quarters, head and neck of the Suffolk and Clyde.
5. Name the varieties in colour found amongst the Suffolks and Percherons.
6. Mention two prominent defects frequently noticeable in the Percheron.

MIDSUMMER EXAMINATIONS, 1886—Continued.

7. Describe the characteristics of the Cleveland Bay.
8. Define the term, "quality," as applied to a horse, and describe the origin of "Thorough-bred" breed.
9. Describe the factors that have determined the existence of the American trotter.
10. What are the predominating colours and average height of the Thoroughbred.

SECOND YEAR.

ENGLISH LITERATURE.

MILTON'S "L'ALLEGRO" AND "IL PENSEROSO."

Examiner—S. C. SMOKE, B.A.

1. About what period of Milton's life were these poems written? Name some of his other writings.

2. Which of these two poems do you prefer? Give grounds of preference.

3. Quote the passages in which the following expressions occur: *Slumbering morn, tufted trees, shadowy flail, busy hum, deluding joys, fleecy cloud, dewy-feathered sleep.*

4. " Daemons that are found
In fire, air, flood, or under ground,
Whose power hath a true consent,
With planet, or with element."

Explain what is meant.

5. "Hence loathed melancholy,
Of Cerberus, and blackest midnight born,
In Stygian cave forlorn,
'Mongst horrid shapes, and shrieks, and sights unholy;
Find out some uncouth cell,
Where brooding Darkness spreads his jealous wings,
And the night-raven sings:
There under ebon shades and low-brow'd rocks,
As ragged as thy locks,
In dark Cimmerian desert ever dwell."

(a) Write notes on *Cerberus, Stygian, Cimmerian.*

(b) Explain the force of the words *brooding* and *jealous* as used here.

(c) Shew the syntactical relation of the words *hence, born, forlorn, ragged, dwell.*

(d) Scan the last two lines.

6. "But, O sad virgin, that thy power
Might raise, Musæus from his bower,
Or bid the Soul of Orphans sing
Such notes, as warbled to the string,
Drew iron tears down Pluto's cheek,
And made Hell grant what love did seek."

(a) Relate the story of *Orphans.*

(b) Parse *sing, as, warbled, drew.*

(2) *Might raise*; What would be the difference in meaning if *may* were used instead of *might*.

7. "The full voiced quire." What other way of spelling the word italicised? What is the derivation of the word? Give your opinion as to the desirability of adopting a system of *phonetic spelling*, with your reasons.

MIDSUMMER EXAMINATIONS, 1886—Continued.

8. Write as good a prose paraphrase as you can of the following passage :

“ But let my due feet never fail
To walk the studious cloister's pale,
And love the high embowed roof,
With antique pillars massy proof,
And storied windows richly dight,
Casting a dim religious light.
There let the pealing organ blow
To the full-voiced quite below
In service high, and anthems clear,
As may with sweetness, through mine ear,
Dissolve me into ecstasies,
And bring all Heaven before mine eyes.”

9. What do you consider the essential characteristics of poetry, and wherein does it differ from prose? What meaning would you attach to the expression “a prose poem,” which is sometimes used?

SECOND YEAR.

ROAD-MAKING, LEVELLING AND SURVEYING.

Examiner—E. LAWRENCE HUNT.

- Write notes on the *slopes* of a road.
- Give full directions for the construction of gravel roads, and state the objections to large stones on a road.
- If a force of 80 lbs. is required to draw a load of 1 ton along the level,
 - What force is required to draw the load up a slope of 1 in 15?
 - What fraction of the load could be drawn up a slope of 1 in 20, with a force of 80 lbs.
- Distinguish *true* and *apparent* level.
 - If A and B are five miles apart, and on the same *apparent* level; find the height of A above the point of true level with B.
 - If they are 100 yds. apart.
 - If a trench be dug from A to B (See A), how would the water appear in the trench?
- Complete the following field-book and determine the relative heights of A and F, and draw a sketch of the line :—

| Stations. | Distances. | Back-Sights. | Fore-Sights. | Ascents. | Descents. | Total Heights. |
|-----------|------------|--------------|--------------|----------|-----------|----------------|
| A | | | | | | |
| B | 140 | 5.50 | 2.75 | | | |
| C | 60 | 7.60 | 1.80 | | | |
| D | 160 | 3.00 | 6.45 | | | |
| E | 35 | 1.30 | 7.00 | | | |
| F | 80 | 3.50 | 3.85 | | | |

6. Indicate the measurements you would take to determine the area of the field represented by the accompanying outline.

Record your measurements in the field-book, and complete the area, using your own figures. (The distance from A to B, through C, is 12 chains).

CLASS LISTS (EASTER EXAMINATIONS)—Continued.

FIRST YEAR.

| CLASSES. | | ORGANIC CHEMISTRY. | ZOOLOGY. | VETERINARY ANATOMY. | ENGLISH LITERATURE. | ENGLISH COMPOSITION. |
|----------|-----|--|--|--|---|---|
| HONOURS. | I. | 1 Scrugham. 2 Craig, J. A. 3 Sleightholm. 4 Lick. 5 Hart, J. W. 6 Ledingham. 7 Orsman. 8 Donaldson. 9 Bishop. 10 Livesey. 11 Pady. | 1 Scrugham. 2 Sleightholm. 3 King. 4 Craig, J. A. 5 Pady. 6 Johnston. 7 Donaldson. 8 Ledingham. 9 Marsh. 10 Lick. 11 Donald. 12 Paterson. 13 { Hart, J. W. { Gilbert. | 1 Scrugham. 2 Lick. 3 Bishop. 4 Sleightholm. 5 King. | 1 Scrugham. 2 Donaldson. 3 { Donald. { Sleightholm. 5 Ledingham. 6 Lick. 7 Hart, J. W. 8 Johnston. 9 Morgan. 10 Craig, J. A. 11 Pady. 12 Paterson. 13 King. | 1 Donald. 2 { Scrugham. { Hart, J. W. 4 Johnston. 5 Sleightholm. 6 Donaldson. 7 Pady. |
| | II. | 1 Gilbert. 2 Paterson. 3 Ewing. 4 Meikle. 5 King. 6 Marsh. 7 Johnston. 8 Hart, J. A. 9 Leslie. 10 Morgan. 11 Creelman. 12 Harkness. | 1 Bishop. 2 Ewing. 3 Ritchie. 4 Livesey. 5 Hart, J. A. 6 Morgan. 7 Orsman. 8 Howes. 9 Graham. 10 Creelman. | 1 Hart, J. W. 2 Ledingham. 3 Paterson. 4 Pady. 5 Craig, J. A. 6 Donald. | 1 Graham. 2 Bishop. 3 { Coutts. { Williams. 5 Gilbert. 6 { Ewing. { Acres. 8 Creelman. 9 Marsh. 10 Livesey. 11 Meikle. 12 Ritchie. 13 Leslie. 14 Bowie. | 1 Lick. 2 Ledingham. 3 Craig, J. A. 4 Morgan. 5 King. 6 Ewing. 7 Creelman. 8 Bishop. 9 Paterson. |

CLASS LISTS (EASTER EXAMINATIONS)—Continued.

FIRST YEAR.

| CLASSES. | ORGANIC CHEMISTRY. | ZOOLOGY. | VETERINARY ANATOMY. | ENGLISH LITERATURE. | ENGLISH COMPOSITION. |
|------------------|--------------------|----------------|---------------------|---------------------|----------------------|
| P.A.S.S. III. | 1 Donald. | 1 Harkness. | 1 Ewing. | 1 Hart, J. A. | 1 Orsman. |
| | 2 Howes. | 2 Brush. | 2 Gilbert. | 2 { Schofield. | 2 Hart, J. A. |
| | 3 Leavens. | 3 Leslie. | 3 Donaldson. | { Orsman. | 3 Gilbert. |
| | 4 Acres. | 4 Meikle. | 3 { Howes. | 4 Scott. | 4 Davidson. |
| | 5 McNiven. | 5 { Birdsall. | 5 Meikle. | 5 Howes. | 5 McCallum. |
| | 6 Knowlton. | { Acres. | 6 Knowlton. | 6 Smithers. | 6 Meikle. |
| | 7 Williams. | 7 McCallum. | 7 Morgan. | 7 Davidson. | 7 Howes. |
| | 8 Birdsall. | 8 Davidson. | 8 Marsh. | 8 Brush. | 8 Coutts. |
| | 9 McCallum. | 9 Williams. | 9 Hart, J. A. | 9 Leavens. | 9 Williams. |
| | 10 Davidson. | 10 Smithers. | 10 Johnston. | 10 { Harkness. | 10 Livesey. |
| | 11 Ritchie. | 11 White. | { Davidson. | { Donelly. | 11 Schofield. |
| | 12 Schofield. | 12 Schofield. | { Livesey. | 12 McCallum. | 12 Birdsall. |
| | 13 Furness. | 13 Furness. | { Harkness. | 13 Birdsall. | 13 Leslie. |
| | 14 Brush. | 14 Coutts. | 13 { Leavens. | 14 McNiven. | 14 Scott. |
| | 15 Graham. | 15 Bowie. | 15 Leslie. | 15 Lyster. | 15 Bowie. |
| White. | 16 Knowlton. | { Ritchie. | 16 White. | 16 Harkness. | |
| Coutts. | 17 Leavens. | 16 { Williams. | 17 { Furness. | 17 Lea. | |
| Bowie. | 18 Scott. | { Creehnan. | { Farlinger. | 18 Ritchie. | |
| Lea. | 19 { Miller. | McCallum. | 19 Knowlton. | 19 Brush. | |
| Donelly. | { McNiven. | Lyster. | 20 Miller. | 20 Marsh. | |
| Smithers. | McIntosh. | Farlinger. | McIntosh. | 21 Leavens. | |
| Miller. | Lyster. | Coutts. | McDonald. | 22 Graham. | |
| McDonald. | McDonald. | Acres. | Lea. | 23 Farlinger. | |
| Scott. | Donnelly. | White. | ..... | 24 Knowlton. | |
| McIntosh. | Farlinger. | Graham. | ..... | McDonald. | |
| Farlinger. | Lea. | Lea. | ..... | Acres. | |
| Lyster. | ..... | McIntosh. | ..... | White. | |
| ..... | ..... | Scott. | ..... | Smithers. | |
| ..... | ..... | Brush. | ..... | Donelly. | |
| ..... | ..... | Orsman. | ..... | Furness. | |
| ..... | ..... | Bowie. | ..... | McIntosh. | |
| ..... | ..... | Miller. | ..... | Miller. | |
| ..... | ..... | Donelly. | ..... | McNiven. | |
| ..... | ..... | Schofield. | ..... | Lyster. | |
| ..... | ..... | McDonald. | ..... | ..... |  |
| ..... | ..... | Smithers. | ..... | ..... |  |
| ..... | ..... | Furness. | ..... | ..... |  |
| ..... | ..... | McNiven. | ..... | ..... |  |

Names unnumbered are those of students who failed to pass in the subject.

The minimum for first class honours is 75 per cent. ; for second class honours, 60 per cent. ; for pass, 33 per cent.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR,

| CLASSES. | AGRICULTURE. | LIVE STOCK. | ARBORICULTURE. | JUDGING CATTLE. (Oral Exam.) | JUDGING SHEEP. (Oral Exam.) |
|----------|--------------|---|---|--|---|
| HONOURS. | I. | 1 Zavitz. 2 Madge. 3 Brown. 4 Sturge. | 1 Brown. 2 Zavitz. 3 Sturge. | 1 { Idington. Brown. Owen. 2 Zavitz. Madge. Watts. 5 { Craig, H. Sturge. Poe. 9 { Calvert. Menzies. Walter. | 1 { Idington. Sturge. 3 Madge. 4 { Owen. Zavitz. |
| | II. | 1 Walter. 2 Watts. 3 Owen. 4 McKay. { Fee. 5 { Broome. Poe. 8 Craig, H. { Calvert. 9 { Holtby. Jeffrey. | 1 Madge. 2 { Owen. Fee. 4 Broome. 5 { Power. Calvert. 7 McKay. | 1 Holtby. 2 Macfarlane. { Broome. Fee. 3 { Jeffrey. Notman. McKay. | 1 { Macfarlane. Brown. 3 Calvert. { Fee. 4 { Notman. Power. |
| PASS. | III. | 1 { Cobb. Notman. 3 Macfarlane. { Power. 4 { Idington. Menzies. | 1 Holtby. 2 { Watts. Notman. 4 Jeffrey. { Idington. Cobb. Menzies. 8 Macfarlane. | 1 Power. 2 Cobb. | 1 { Watts. Menzies. Broome. Holtby. Jeffrey. 6 { Cobb. McKay. |

CLASS LISTS (EASTER EXAMINATIONS)—Continued.

SECOND YEAR.

| CLASSES. | | AGRICULTURAL CHEMISTRY. | ENTOMOLOGY. | VETERINARY PATHOLOGY. | JUDGING HORSES. | ENGLISH LITERATURE. |
|----------|------|---|---|--|--|--|
| HONOURS. | I. | 1 Madge. 2 Sturge. 3 Brown. 4 Zavitz. 5 Owen. | 1 Madge. 2 Sturge. 3 Brown. 4 Owen. 5 Zavitz. 6 Fee. | 1 Owen. 2 Madge. 3 Sturge. 4 Zavitz. | 1 Owen. 2 Holtby. 3 Craig. 4 Sturge. 5 Poe. 6 Walter. | 1 Calvert. 2 Madge. 3 Owen. 4 Sturge. 5 Watts. |
| | II. | 1 Fee. 2 Calvert. 3 Cobb. 4 Holtby. 5 McKay. | 1 Holtby. 2 Calvert. 3 Watts. 4 Jeffrey. 5 Power. 6 Cobb. 7 Idington. | 1 Holtby. 2 Walter. 3 Brown. 4 Calvert. 5 McKay. | 1 { Brown. } Madge. 3 Jeffrey. 4 Zavitz. 5 Calvert. | 1 { Broome. } Fee. 3 Zavitz. 4 { Brown. } Holtby. 6 Cobb. 7 McKay. 8 Jeffrey. |
| PASS. | III. | 1 Jeffrey. 2 Watts. 3 Notman. 4 Menzies. 5 Power. 6 Idington. 7 Broome. 8 Macfarlane. | 1 Broome. 2 Notman. 3 McKay. 4 Menzies. 5 Macfarlane. | 1 Fee. 2 Poe. 3 Jeffrey. 4 { Power. } Idington. 6 Watts. 7 Craig. 8 Cobb. 9 Notman. 10 Broome. Menzies. Macfarlane. | 1 Fee. 2 McKay. 3 Menzies. 4 Watts. 5 { Idington. } Power. 7 Notman. 8 Macfarlane. 9 Broome. 10 Cobb. | 1 Power. 2 Notman. 3 { Idington. } Macfarlane. Menzies. |

* Names unnumbered are those of students who failed to pass in the subject.

CLASS LISTS.

II.—MIDSUMMER EXAMINATIONS, 1886.

FIRST YEAR.

| CLASSES. | | AGRICULTURE. | DAIRYING. | GEOLOGY. | BOTANY. | VETERINARY MATERIA MEDICA. |
|----------|-----|--|---|---|---|---|
| HONOURS. | I. | 1 Sleightholm, J. 2 Scrugham, J. G. 3 Lick, E. 4 Donald, J. C. 5 Morgan, J. H. 6 { Creelman, G. C. Hart, J. W. | 1 Donaldson. 2 Scrugham. 3 { Ewing. Hart, J. W. 4 Craig, J. A. 5 Morgan, J. H. 6 McCallum. 7 Lick. 8 Elton. 9 { Morgan. Pady. | 1 King. 2 Scrugham. 3 Elton. 4 Craig, J. A. | 1 Scrugham. 2 Craig, J. A. 3 { King. Elton. 4 Lick. 5 Lick. 6 Morgan. | 1 Scrugham. 2 Hart, J. W. 3 King. 4 Lick. 5 { Sleightholm. Donald. 6 Craig, J. A. |
| | II. | 1 Ewing, W. 2 Craig, J. A. 3 Elton, C. W. 4 King, R. E. 5 { Donaldson, F. N. Pady, W. J. 6 Howes, J. S. 7 Howes, J. S. 8 { Bishop, W. R. Gilbert, W. J. | { Bishop. 1 Donald. Gilbert. 4 Howes. 5 Paterson. 6 Williams. 7 Schofield. 8 Hart, J. A. { Sleightholm. 9 Scott. Creelman. 12 { King. Meikle. 14 Orsman. | 1 Paterson. 2 Ewing. 3 Hart, J. W. 4 Howes. 5 Morgan. 6 Donaldson. 7 Creelman. 8 { Sleightholm. Pady. 10 Bishop. | 1 Sleightholm. 2 { Ewing. Donaldson. 3 Gilbert. 4 Gilbert. 5 Hart, J. W. 6 { Paterson. Williams. 7 Williams. 8 Livesey. 9 Pady. 10 McCallum. 11 Orsman. | 1 Elton. 2 Morgan. 3 Pady. 4 Hart, J. A. 5 Creelman. 6 Gilbert. 7 Bishop. |

CLASS LISTS (MIDSUMMER EXAMINATIONS)—Continued.

FIRST YEAR.

| CLASSES. | AGRICULTURE. | DAIRYING. | GEOLOGY. | BOTANY. | VETERINARY MATERIA MEDICA. |
|-----------------|-----------------------|---------------------|----------------|----------------|----------------------------|
| PASS. III. | 1 Bayne, S. R. | 1 Leavens. | 1 Lick. | 1 { Bayne. | 1 { Paterson. |
| | 2 Hart, J. A. | 2 Bayne. | 2 { Bayne. | { Creelman. | { Howes. |
| | { McCallum, E. G. | 3 { Coutts. | { Gilbert. | 3 Bishop. | 3 Orsman. |
| | 3 { Williams, J. B. | 3 { Harkness. | 4 Livesey. | 4 Hart, J. A. | 4 { Ewing. |
| | { Harkness, A. D. | 5 Sullivan. | 5 Williams. | 5 Donald. | { Livesey. |
| | 6 { Meikle, W. F. | 6 { Livesey. | 6 McCallum. | 6 Harkness. | 6 { McCallum. |
| | { Livesey, E. M. | 6 { Smithers. | 7 Meikle. | 7 Howes. | { Donaldson. |
| | { Paterson, B. E. | { Price. | 8 Donald. | 8 Schofield. | 8 Williams. |
| | 8 { Coutts, W. F. | { Furness. | 9 Warner. | 9 Leavens. | 9 Meikle. |
| | { Miller, J. R. | 8 { Donnelly. | 10 Harkness. | 10 Meikle. | 10 { Coutts. |
| | 11 { Schofield, E. A. | { Miller. | 11 Hart, J. A. | 11 Coutts. | { Leavens. |
| | { Orsman, C. P. | { Graham. | 12 Schofield. | 12 DeMauritz. | { Harkness. |
| | 13 Scott, J. A. | 12 { Lyster. | 13 Coutts. | 13 Price. | 12 { Smithers. |
| | { Sullivan, R. | { Kellogg, W. J. | 14 Sullivan. | 14 Miller. | { DeMauritz. |
| | 14 { Warner, F. C. | 15 DeMauritz. | 15 Orsman. | 15 McDonald. | 14 { Schofield. |
| | { Lyster, G. R. | 16 { Kellogg, C. A. | 16 Leavens. | Sullivan. | { Price. |
| | { Smithers, A. S. | { McDonald. | 17 Graham. | Kellogg, W. J. | { Miller. |
| | { Leavens, D. H. | 18 Warner. | 18 Price. | Warner. | Sullivan. |
| | 18 { Kellogg, C. A. | Taylor. | 19 DeMauritz. | Smithers. | Warner. |
| | { McDonald, P. F. | ..... | ..... | Donnelly. | Furness. |
| | 21 Kellogg, W. J. | ..... | ..... | Kellogg, C. A. | Kellogg, W. J. |
| | 22 Graham, G. M. | ..... | ..... | Smithers. | Donnelly. |
| | 23 Furness, D. | ..... | ..... | Taylor. | Taylor. |
| | 24 DeMauritz, R. | ..... | ..... | McDonald. | Scott. |
| Price, V. | ..... | ..... | Kellogg, W. J. | McDonald. | |
| Taylor, F. O. | ..... | ..... | Furness. | Kellogg, C. A. | |
| Donnelly, P. E. | ..... | ..... | Miller. | Lyster. | |
| ..... | ..... | ..... | Lyster. | Bayne. | |
| ..... | ..... | ..... | ..... | Graham. | |

Names unnumbered are those of students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent. ; for second-class honours, 60 per cent. ; for pass, 33 per cent.

CLASS LISTS (MIDSUMMER EXAMINATIONS)—Continued.

FIRST YEAR.

| CLASS. | ENGLISH LITERATURE. | MENSURATION. | GENERAL PROFICIENCY. | DEPARTMENTS. | | FIRST-CLASS MEN IN THE DEPARTMENTS. | | | | | | | | | | | | | | | | | | | | | |
|----------|---|--|---|--------------|---------------------------|---|--|---|--|-----|------------------|--|-------|---|---|---|------|---------------------|---|--|--|-----|---------------------|---|----|--------------|--|
| | | | | I. | II. | | | | | | | | | | | | | | | | | | | | | | |
| HONOURS. | II. 1 Scrugham. 2 Elton. 3 { Hart, J. W. { Donaldson. 4 Donald. | 1 { Lick. { Scrugham. 2 Hart, J. W. 3 Lick. 4 King. | 1 Scrugham. 2 Hart, J. W. 3 Lick. 4 King. | I. | AGRICULTURE AND DAIRYING. | 1 Scrugham. 2 Lick. 3 Hart, J. W. 4 { Ewing. { Morgan. { Donald. 5 Donaldson. | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | I. 1 Pady. 2 Sleightholm. 3 Gilbert. 4 DeMauritz. 5 { Craig, J. A. { Lick. 6 King. | 1 Hart, J. A. 2 Harkness. 3 Orsman. 4 Bishop. 5 Donaldson. | 1 Sleightholm. 2 Craig, J. A. 3 Elton. 4 Pady. 5 Morgan. 6 Donald. 7 Donaldson. 8 Ewing. 9 Creelman. 10 Gilbert. 11 Bishop. 12 Howes. | II. | NATURAL SCIENCE. | 1 King. 2 Scrugham. 3 Elton. 4 Craig, J. A. | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PASS. | III. 1 Creelman. 2 Bishop. 3 Morgan. 4 Ewing. 5 Paterson. 6 Hart, J. A. 7 Price. 8 Harkness. 9 Howes. 10 Meikle. 11 Williams. 12 Orsman. 13 { McCallum. { Sullivan. { Livesey. 14 Graham. 15 Schofield. 16 Leavens. 17 Scott. | 1 Creelman. 2 Ewing. 3 Meikle. 4 { McCallum. { Craig, J. A. { Elton. { Donald. { McDonald. 5 Gilbert. 6 Morgan. 7 Schofield. 8 Bayne. 9 Livesey. 10 Kellogg, C. A. 11 Miller. 12 Kellogg, W. J. 13 Patterson. 14 Sullivan. 15 Leavens. | 1 Hart, J. A. 2 Paterson. 3 McCallum. 4 Orsman. 5 Livesey. 6 Harkness. 7 Meikle. 8 De Mauritz. 9 Schofield. 10 Leavens. | III. | VETERINARY SCIENCE. | 1 Scrugham. 2 Hart, J. W. 3 King. 4 Lick. 5 Sleightholm. 6 Donald. 7 Craig, J. A. | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | Warner. Furness. Bayne. Coutts. Taylor. Lyster. Miller. Kellogg, W. J. McDonald. Donelly. Kellogg, C. A. Smithers. | Coutts. Warner. Furness. Williams. Smithers. Price. Lyster. Graham. Scott. Taylor. Donelly. | IV. | ENGLISH LITERATURE. | 1 Scrugham. 2 Elton. 3 { Donaldson. { Hart, J. W. 4 Donald. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | V. | MATHEMATICS. | 1 { Lick. { Scrugham. 2 Hart, J. W. 3 Howes. 4 De Mauritz. 5 Pady. 6 King. 7 Sleightholm. |

Names unnumbered are those of students who failed to pass in the subject.

Only those who pass in every subject are ranked in General Proficiency.

First-class men in General Proficiency must obtain at least 75 per cent. of the total number of marks second-class men, at least 60 per cent. of the total number of marks.

First-class men in any department must obtain at least 75 per cent. of the marks allotted to the subjects in that department.

CLASS LISTS (MIDSUMMER EXAMINATIONS)—Continued.

SECOND YEAR.

| CLASSES. | AGRICULTURE. | DAIRYING. | PRACTICAL HORTICULTURE. | SYSTEMATIC AND ECONOMIC BOTANY. | METEOROLOGY. | |
|----------|----------------|--|--|---|---|--|
| HONOURS. | I. | 1 Brown, C. R. 2 Sturge, E. 3 Zavitz, C. A. 4 Madge, R. W. | 1 Brown. 2 Madge. 3 { Zavitz. } Sturge. 5 Owen. | 1 Madge. 2 Sturge. 3 Brown. 4 Zavitz. 5 Owen. 6 Calvert. | 1 Madge. 2 Sturge. 3 Owen. 4 Brown. 5 Zavitz. 6 Fee. | 1 Sturge. 2 Madge. 3 Brown. 4 Zavitz. 5 Owen. |
| | II. | 1 Owen, W. H. 2 Acres, A. G. 3 Jeffrey, J. S. | 1 Jeffrey. 2 Acres. 3 { Holtby. } Fee. 5 Calvert. 6 Power. 7 Idington. | 1 Fee. 2 Power. 3 Cobb. 4 Holtby. | 1 Calvert. 2 Cobb. | 1 Calvert. 2 Fee. 3 Holtby. 4 Jeffrey. |
| PASS. | III. | 1 Calvert, S. { Power, R. H. Cobb, C. 2 { Macfarlane, A. D Idington, P. S. 6 White, S. A. 7 { Birdsall, W. G. Menzies, R. M. Fee, J. J. 10 Notman, C. R. 11 { Holtby, R. M. Ritchie, H. | 1 Macfarlane. 2 Menzies. 3 Notman. 4 Ritchie. 5 White. 6 Cobb. 7 Birdsall. | 1 Notman. 2 Birdsall. 3 Acres. 4 Menzies. 5 Jeffrey. 6 Ritchie. 7 Idington. 8 Macfarlane. White. | 1 Holtby. 2 Power. 3 Acres. 4 Jeffrey. 5 Menzies. 6 Ritchie. 7 Notman. 8 Birdsall. 9 Idington. 10 Macfarlane. 11 White. | 1 Birdsall. 2 { Ritchie. Power. 4 Cobb. 5 Idington. 6 Notman. 7 Menzies. 8 Macfarlane. 9 White. 10 Acres. |
| | | | | | | |

Names unnumbered are those of students who failed to pass in the subject.

CLASS LISTS (MIDSUMMER EXAMINATIONS).—Continued.

SECOND YEAR.

| CLASSES. | ANALYTICAL CHEMISTRY. | VETERINARY MATERIA MEDICA. | BREEDS OF HORSES. | ENGLISH LITERATURE. | ROAD-MAKING, LEVELING, AND SURVEYING. |
|----------|--|---|--|--|--|
| HONOURS. | I. 1 Madge. 2 Zavitz. 3 Sturge. | 1 Brown. 2 Sturge. 3 Owen. 4 Madge. 5 Jeffrey. | 1 Brown. 2 Sturge. 3 Madge. 4 Owen. | 1 Madge. 2 Owen. 3 Sturge. 4 Calvert. 5 Brown. | 1 { Madge. Zavitz. |
| | II. 1 Fee. 2 Owen. 3 Calvert. 4 Cobb. 5 Brown. | 1 Holtby. 2 Birdsall. | 1 Calvert. 2 Holtby. 3 Jeffrey. | 1 Fee. 2 Holtby. 3 Cobb. 4 Zavitz. 5 Jeffrey. 6 Acres. | 1 Sturge. 2 Brown. |
| PASS. | III. 1 Ritchie. 2 Holtby. 3 Birdsall. 4 Jeffrey. 5 Power. 6 Notman. 7 Macfarlane. 8 Acres. 9 Menzies. 10 Idington. 11 White. | 1 Cobb. 2 Zavitz. 3 Fee. 4 { Calvert. Macfarlane. 6 Idington. 7 Power. 8 Notman. Ritchie. Acres. White. Menzies. | 1 { Fee. Idington. 3 Zavitz. 4 Power. 5 { Cobb. Acres. Menzies. Notman. Birdsall. Macfarlane. White. Ritchie. | 1 Ritchie. 2 Idington. 3 Birdsall. 4 Macfarlane. 5 Power. 6 Menzies. 7 Notman. White. | 1 Owen. 2 Holtby. 3 Fee. 4 Jeffrey. 5 Calvert. 6 Birdsall. 7 Cobb. 8 { Notman. Idington. 10 Power. Macfarlane. Acres. Menzies. White. Ritchie. |

| CLASSES. | GENERAL PROFICIENCY. | DEPARTMENT. | | FIRST-CLASS MEN IN THE DEPARTMENTS. | DEPARTMENT. | | FIRST-CLASS MEN IN THE DEPARTMENTS. |
|----------|---|-------------|---|-------------------------------------|---------------------|--|-------------------------------------|
| | | I. | AGRICULTURE AND DAIRYING. | | IV. | ENGLISH LITERATURE. | |
| I. | 1 Madge. 2 Sturge. 3 Brown. 4 Zavitz. | I. | 1 Brown. 2 Sturge. 3 Madge. 4 Zavitz. | IV. | ENGLISH LITERATURE. | 1 Madge. 2 Owen. 3 Sturge. 4 Calvert. 5 Brown. | |
| II. | 1 Owen. 2 Holtby. | II. | 1 Madge. 2 Sturge. 3 Zavitz. 4 Owen. | | | | |
| III. | 1 Jeffrey. 2 Fee. 3 Calvert. 4 Power. 5 Notman. 6 Cobb. 7 Idington. | III. | 1 Brown. 2 Sturge. 3 Madge. 4 Owen. | | | | V. | MATHEMATICS. | 1 { Madge. Zavitz. |

Names unnumbered are those of students who failed to pass in the subject.
Only those who passed in every subject are ranked in general proficiency.

First-class men in general proficiency must obtain at least 75 per cent. of the total number of marks; second-class men at least 60 per cent. of the total number of marks. First-class men in any department must obtain at least 75 per cent. of the marks allotted to the subjects in that department.

APPENDIX 4.

COLLEGE IN ACCOUNT WITH FARM AND GARDEN.

(a) WITH FARM.

| | |
|---|----------|
| To 3 20 bags potatoes, at 55c | \$176 00 |
| “ 3,738 gallons milk, at 12c | 448 56 |
| “ Cartage for College | 20 00 |
| “ Feed of College horse (without attendance) | 75 00 |
| “ Feed of Matron's horse (without attendance) | 75 00 |
| “ Carpenter work, etc., by students | 20 00 |
| | <hr/> |
| | \$814 56 |

(b) WITH GARDEN.

| | |
|--|------------|
| To fruit and vegetables (for items and prices, see Mr. Forsyth's report, Part VII)..... | 634 98 |
| | <hr/> |
| | \$1,449 54 |
| By amount paid by College for Students' labour on farm and garden | 2,939 70 |
| | <hr/> |
| | \$1,490 16 |

In addition to this, all College work done by the Farm Carpenter has been deducted from the Farm Expenditure and charged to the College, under the head of "Maintenance and Repairs of Government Buildings."

PART II.

REPORT

OF THE

PROFESSOR OF NATURAL HISTORY AND GEOLOGY.

ONTARIO AGRICULTURAL COLLEGE,

GUELPH, December 31st, 1886.

To the President of the Ontario Agricultural College :

SIR,—In submitting to you a report of the Department of Natural History, it will be convenient to consider it under the following topics:—

1. Museum.
2. Library.
3. Reading-room.
4. Practical work.
5. Lectures.

1. COLLEGE MUSEUM.

A Museum for an Agricultural College should partake more largely of an instructive character than for the gratification of public curiosity; while it may, to a certain extent, possess features of popular interest; still these should be subservient to the objects of instruction. Our museum hitherto has been an attempt to satisfy the ordinary sight-seer who visits the College from time to time. Many of the specimens are foreign to the Province, and serve in a very indirect way to instruct our students. During the past year an attempt has been made to render the collection more instructive, by altering the arrangement and adding specimens of more practical value in advancing the education of students in agriculture. The collection is so arranged that students may come from the lecture-room and observe illustrations of the subjects discussed. By a proper use of these facilities, inquiring, thoughtful young men have impressed upon their minds much of the instruction received in the class-room. There is no doubt, that the more we can illustrate our lectures by specimens, easy of access, the more successful we will be in developing an interest in the different studies of our curriculum. To effect this, we should make our collection of specimens largely provincial and closely associated with the instruction imparted.

While it is gratifying to mark the progress in the number, character and arrangement of our specimens, I regret to have to direct your attention to the inferior condition of the room itself, which at the present time is in sad want of repair, and equipped with cases which take up much space and display but little.

I hope you will be able to impress those who have means at their disposal to do something to improve the accommodation and equipment of the room. The introduction

of more modern cases, the raising of the roof, and construction of a gallery around the sides, would effect most satisfactory results in the appearance and utility of this valuable adjunct to college work. I am quite confident, if we could secure these necessary improvements we would soon possess a museum unique in its character, as an important factor in the progress of agricultural education, instructive to students and interesting to the ordinary visitor.

During the year we have been indebted to the following for, in some cases, very valuable donations to this department:—

1. J. Townsend, Esq., Durham. Forty specimens of fossils from the Guelph formation.
2. Entomological Society, London, Ont. Three cases of *noxious* insects and one of *beneficial*.
3. R. E. King, student. Twenty-three specimens of fossils from the Oriskany and Corniferous formations of Ontario.
4. S. A. K. White, student. One stuffed squirrel.
5. Messrs. Sutton & Sons, Reading, England. Twenty-four species of grass, beautifully arranged.
6. J. S. Jeffrey, student. An excellent specimen of the moth, *Platysamia Cecropia*.
7. J. A. Hart, student. Specimens of the American Tent-caterpillar (*Clisiocampa Americana*).
8. R. W. Madge, student. Specimens of chess.
9. James Newton, Esq. Economic products from the rocks at Limehouse.
10. J. C. Donald, student. Thirty-six species of shells.
11. A. Gilchrist, Esq. Thirty-five varieties of fruit, and twenty specimens illustrating bees and their work.
12. J. A. Creelman, ex-student. A collection of plants illustrating the *flora* of the North-west.
13. Messrs. Hart, J. W., Warner, F. C., Livesey, E. M., Bayne, S. W., Scrugham, J. G., Creelman, G. C., Kellogg, W. J., Craig, J. A., Paterson, B. E., and Bishop, W. R., students. Specimens from outcrops visited by the class in geology.
14. Prof. J. Hoyes Panton. Specimens of the seeds of fifty-four different species of weeds; ten fragments of boulders; four injurious microscopic plants, and thirty-five illustrating the development of some noxious insects.
15. Messrs. F. & A. Dickson & Sons, Chester, England. Thirty-two species of grasses mounted and named.
16. J. A. Craig, student. A collection of grasses showing the whole plants.
17. C. Zavitz, ex-student. A collection of weeds illustrating the nature of the roots.

Our geological specimens are arranged in the crude cases we have, so as to give an idea of the different systems in the series of rocks as well as the minerals and fossils found in them, together with rocks that form the earth's crust and the minerals of which they are composed.

Each case represents a system. These are so arranged, that by commencing at one side and passing to the left, the sixteen systems in the geological series pass in review, each with its characteristic fossils.

By this means our students soon become familiar with the rocks which have been important factors in the formation of soil. One case is devoted to popular geology. In this no scientific names are employed; every specimen is labelled with some common name by which it can readily be understood as regards its character and formation.

The collection of birds is classified and labelled as far as we have been able, so as to be of practical use to students. The birds that are beneficial and injurious being placed in separate groups, thus enabling the student to observe at once the farmer's friends and foes. We have also during the past year advanced in the arrangement of the specimens

used in the study of economic entomology. The noxious and beneficial insects being in separate cases and labelled, so that the insects affecting the different kinds of fruits, vegetables, etc., are at once recognized by their common and scientific names. In addition to the specimens of mature insects, many larval forms have been added, so that at a glance the life history of some of our insect pests is readily understood. Our object is to make this collection as instructive as possible, by having specimens of egg, larva, pupa and imago, together with illustrations of how they affect farm crops, etc.

As soon as suitable accommodation is secured, a collection of fruits will be made, consisting of typical forms illustrating the fruits of Ontario. These will be preserved in a condition which will enable the students to compare with little difficulty the fruits discussed in lectures on Horticulture.

An examination of the list of donors to our museum, shows a greater interest on the part of the students than in any former year, and indicates that when we are ready to receive specimens and place them in proper cases, it will not be long before the museum is a credit to our College and to the wealthy Province in which it is located. If we fail to make the improvements suggested, we can scarcely expect to reach the ideal of success in this important part of College work.

2. LIBRARY.

The improved arrangement for study in the afternoon of each day is observed, when a comparison of the books taken from the library now, is made with those before the change took place. The faithful, industrious student soon finds there is much to learn in agriculture, and that every moment of time in college life can be profitably employed by taking advantage of the books readily obtained from the library.

The following summary shows the number of books taken out during the respective terms and the departments to which they belong:—

| | Winter Term. | Spring Term. | Summer Term. | Fall Term. | Total. | 1885. |
|----------------------|-----------------|-----------------|-----------------|---------------|--------|-------|
| Agriculture..... | 298 | 194 | 12 | 216 | 720 | 508 |
| Chemistry..... | 24 | 9 | 8 | 27 | 68 | 49 |
| Natural History..... | 100 | 72 | 8 | 74 | 254 | 197 |
| Literature..... | 147 | 65 | 16 | 55 | 283 | 231 |
| Veterinary..... | 48 | 25 | 2 | 65 | 140 | 130 |
| Mathematics..... | 23 | 8 | .... | 3 | 34 | 30 |
| History..... | 66 | 14 | 10 | 25 | 115 | 110 |
| Travel..... | 21 | 8 | 7 | 8 | 44 | 81 |
| Biography..... | 30 | 9 | 4 | 4 | 47 | 148 |
| Miscellaneous..... | 87 | 62 | 16 | 25 | 190 | 93 |
| 1886..... | 844 | 466 | 83 | 502 | 1895 | 1577 |

The library contains at present 5,068 volumes, of which 165 have been added this year. The latter may be grouped as follows:—

| | |
|--|----|
| Reports, chiefly agricultural..... | 68 |
| Natural History, including Botany..... | 13 |
| Veterinary..... | 2 |
| Agriculture..... | 30 |
| Chemistry..... | 3 |
| Literature..... | 24 |
| Encyclopædias..... | 2 |
| Bound Journals..... | 8 |
| Directory..... | 2 |
| Dairying..... | 4 |
| Geology..... | 1 |
| History..... | 4 |
| Pamphlets..... | 4 |

Although the number of agricultural reports appears large in comparison with that

of other books added during the year, it must be remembered that in many of these some most valuable papers are found, and these are now so indexed that our students can readily find them. On this account these reports may be considered valuable acquisitions to our library, and in many respects almost equivalent to text-books upon agricultural subjects. The library is, no doubt, a very important factor in our work, and, if properly used by the students, will from year to year influence their minds in the line of study and thought.

3. READING-ROOM.

This is one of the most commodious and pleasant rooms in the College, and is becoming yearly more used for the purpose it was intended. It is well furnished for reading and study; excellent tables and chairs, and convenient reading-desks, upon which are found the best agricultural journals published, a list of which is given in this portion of my report.

Rules regarding the proper use of the reading-room are posted in conspicuous places.

It is a pleasure to report that the students take an interest in keeping this room in order, and not turning it into a place for general discussion.

The following is the list of papers, journals and magazines which come to the College, and are for the use of the students in attendance:—

PAPERS AND MAGAZINES.

(a) *Sent free by the Publishers.*

| Name. | Where published. |
|--|------------------|
| 1. Journal of Commerce | Montreal. |
| 2. Journal of Agriculture | “ |
| 3. Christian Guardian | Toronto. |
| 4. Canada Presbyterian | “ |
| 5. Mechanical and Milling News | “ |
| 6. Monthly Weather Review | “ |
| 7. Presbyterian Review | “ |
| 8. Canadian Lumberman | Peterboro’. |
| 9. Manitoba Weekly Free Press | Winnipeg. |
| 10. Canadian Horticulturist | St. Catharines. |
| 11. Canadian Entomologist | London, Ont. |
| 12. Weekly Herald | Stratford. |
| 13. Bee Journal | Beeton. |
| 14. North York Reformer | Newmarket. |
| 15. Acton Free Press | Acton. |

(b) *Furnished by the College.*

| | |
|---|---------------|
| 1. The Daily Globe | Toronto. |
| 2. “ Mail | “ |
| 3. “ Mercury | Guelph. |
| 4. “ Herald | “ |
| 5. Rural Canadian | Toronto. |
| 6. Grip | “ |
| 7. The Week | “ |
| 8. Farmers’ Advocate | London, Ont. |
| 9. Canadian Dairyman | Montreal. |
| 10. Canadian Stock-Baisers’ Journal | Hamilton. |
| 11. Nor’-West Farmer | Winnipeg. |
| 12. Popular Science News | Boston. |
| 13. Rural New Yorker | New York. |
| 14. Gardeners’ Monthly | Philadelphia. |

| | |
|--|-----------------------|
| 15. Canadian Breeder | Toronto. |
| 16. North British Agriculturist | Edinburgh (Scotland). |
| 17. Farmers' Gazette | Dublin (Ireland). |
| 18. Mark Lane Express | London (England). |
| 19. American Garden | Greenfield (Mass.). |
| 20. American Naturalist | Philadelphia. |
| 21. Veterinary Journal | London (England). |
| 22. Veterinarian | " |
| 23. Cultivator and Country Gentleman | Albany, N.Y. |
| 24. Scientific American | New York. |
| 25. " Supplement | " |
| 26. Live Stock Journal and Fanciers' Gazette | England. |
| 27. Live Stock Journal | Chicago. |
| 28. American Agriculturist | New York. |
| 29. American Dairyman | " |
| 30. Eclectic | " |

4. PRACTICAL WORK.

During the past year my efforts in this line of work have been observations made for the purpose of obtaining data necessary for the preparation of bulletins in connection with the Natural History Department.

The results of my work are embodied in the papers in this report on Potato Rot, Hardy Shrubs, Grapes, and the Germination of Seeds.

Some experiments were carried on in connection with a study of the root distribution of plants; these, together with some yet to be made, will form the subject matter of a future bulletin.

A considerable number of plants have been identified for persons who sent them from different parts of the Province. Among them I find the so-called "French Weed" of the Red River Valley—a most pernicious weed belonging to the same family as the mustard. The specimen sent was from some place near Almonte. In all likelihood it has come in seed wheat from the North-West, and if not kept under or extirpated will prove a troublesome weed. It is sometimes called "Penny Cress" from the shape of its pods, and to botanists is known as *Thlaspi Arvense*.

From near Stratford a specimen of the perennial Sow Thistle (*Sonchus Arvense*) was received. This, too, is a very bad weed, and wherever it appears every effort should be made to destroy it. It is distinguished from the common Sow Thistle, an annual, by the hairy nature of the stem near the flower. The other specimens identified were chiefly common weeds and plants which require no notice. But the appearance of "Penny Cress" and the perennial "Sow Thistle" should be regarded with alarm. Several insects have also been identified for correspondents, and methods given for their destruction.

The following are papers which I have prepared for publication in connection with the College work during 1886:—

THE POTATO ROT—ITS CAUSE AND REMEDIES.

The use of the microscope in the fields of scientific research has revealed much that is of importance to man. Many forms of disease, about whose origin little was known, have had much light shed upon them since this instrument was employed in their study, both among animals and plants. We find now that man is constantly lashed by invisible foes—some attacking himself and others the food which he eats. During the summer and fall of 1885 a striking example of this occurred in the prevalence of the so-called "potato rot," which has proved a great loss throughout the Province and in many parts of the United States. In the bulletin issued in November from the Bureau of Industries, we learn that the "rot" prevailed throughout the whole southern belt of the Province. In many cases one-half to three-fourths of the crop was destroyed, and in some it was not worth digging. With such disaster around us, the questions are naturally suggested, what is the cause of the "rot," and what remedies can be adopted?

Cause.—This disease has received a great deal of attention from botanists since the days when it became a scourge in Ireland and other parts of the British Isles; and it is now conceded to be the result of a minute fungus, *Phytophthora infestans*. This attacks all parts of the plant—leaf, stem and tubers. By those ignorant of the life history of this tiny parasitic plant little attention is paid to its appearance on the tops, and no alarm is experienced until the potatoes are effected. But being very contagious, its presence on the leaves should become a serious matter, especially when we remember that it spreads with great rapidity. It is usually indicated by the tops presenting a blotched, brownish, spotted, dead appearance. A close examination of the potatoes showing this will discover innumerable slender stems growing up out of the surface of the leaves and stems of the affected plants. These branch and swell out at the ends into pear-shaped minute bodies (spores), which are produced by millions. When ripe they separate from the stem and being exceedingly light pass into the atmosphere, where they are wafted about, many of them finally reaching the ground or settling upon plant. Under favourable conditions of moisture and heat, the contents of a microscopic spore may push out a long minute tube, which can penetrate into any part of the potato plant, and give rise to the fungus; or may separate into several distinct portions (swarm spores) which burst through the spore-wall and become the source of the parasitic plant. The mature plant which lives in the tops and tubers is very minute, and can be seen only by the aid of the microscope. It consists of many colourless, branching, thread-like structures. These penetrate the tissues of the potato and feed upon the juices, so that it soon weakens and begins to waste away. From the thread-like structures tiny stalks arise, assuming beautiful plant-like forms and bearing upon their branches the spores already referred to. They live but a short time, but the thread-like structure is perennial and hardy, and from fragments of it new fungi may arise. It is said by some that another kind of spore is produced which can winter, and thus give rise to the organism in another season. These are the so-called resting spores, apparently for the purpose of keeping the species over certain periods, while the spores already considered are produced rapidly, so as to hasten the spread of the fungus under favourable conditions. This minute microscopic plant is certainly a low form of vegetable life, incapable of manufacturing food from the mineral kingdom, but fastening upon other plants and feeding upon their juices. A wet season supplies conditions well adapted for its development, and hence we find the “rot” associated with such weather. There is no doubt that many spores are always more or less present, but they are prevented from being a source of trouble, because the weather is not suited for their growth.

Remedies.—The “rot” usually appears about the first two weeks in August, and if the weather is favourable its spread is very rapid, for as soon as the thread-like structure which arises from the spore is developed, it immediately becomes spore-bearing. Hence the importance of examining the plants for the appearance of the brownish spots that indicate the presence of the fungus:—

1. As soon as discovered, dig the potatoes. Delay will allow it to spread to the stems, and thence to the tubers. If it reaches these and damp weather comes, “rot” will certainly appear.

2. After digging, the potatoes should be put in a cool, dry place, thus surrounding them with conditions unfavourable for the growth of the fungus, if any happens to be upon them.

3. Growing early varieties is worthy of consideration, so that they may mature before the season arrives when this parasite is likely to affect the crop.

4. All potato stalks, in affected lands, should be gathered and burned, so as to destroy the millions of spores which may be upon them.

5. Use none but good seed. If at all affected, reject them; and plant in well-drained land. If the potatoes to be used for seed have been taken from cellars where affected ones were kept, they are likely to have the microscopic spores on them and escape notice. It would be best to get seed from unaffected districts.

6. It is scarcely necessary to remark that it would be injudicious to plant potatoes in the same field the following year, after a visitation of the "rot," inasmuch as the ground may retain the germs of the disease.

7. Avoid planting upon heavy clay soil, but prefer a light and dry soil. This presents the fewest conditions suitable for the growth of the fungus.

8. Plant the varieties least affected.

The nature of our climate is not so favourable for the development of this injurious fungus as that of Britain; yet as we are sometimes visited by it, and although scarcely viewed as a scourge, it is well that we should remember its nature and habits, and always be ready to guard against failure if it appears. As last summer was favourable for its propagation, great care should be exercised in the selection of seed this spring.

HARDY SHRUBS.

Six years ago an Arboretum was established at the Ontario Agricultural College for the purpose of testing trees and shrubs on the college grounds. Upwards of 400 species have been planted, so that we are now in a position to give some results of our work in this line of investigation. The space for a bulletin being limited, I shall in this refer only to the shrubs which have done well, and reserve for a future occasion remarks upon those which have failed, and our success in tree planting. At the present time, when the beautifying of country homes is commanding the attention of farmers, our results in shrub culture may be of interest. However, it must be remembered that some varieties, which have failed with us, may be grown successfully in some parts of Ontario where the climate is less severe. Whatever is remarked in this bulletin refers to results on the college grounds only.

1. CONDITIONS SURROUNDING THE SHRUBS.

Location: Latitude north $43^{\circ} 38'$, height above sea level 1,100 feet, above Lake Ontario 858 feet.

Exposure: The lawn on which the shrubs are planted, slopes S.S.W., and is surrounded by a belt of evergreens, the north side being well protected.

Soil: Clay loam.

Meteorological: Mean annual temperature 42.2° , 1880-1886; mean summer temperature 57.1° , winter 27.3° ; highest temperature (1881) 98° , lowest (1884)— 35° ; average number of days rain fell per year 72, rainfall including snow 24.7 inches; prevailing winds, southwest 43 per cent., northwest 31 per cent.

2. MANAGEMENT.

The shrubs have been carefully planted in clumps, each containing several genera of the same family. In some cases they are cultivated around them for a distance of about two feet, in others the whole space between the shrubs is kept thoroughly worked and as free from weeds as possible.

On the approach of winter the tender varieties are protected by using coarse manure as a mulch above the roots, and covering the shrub with evergreen brush in the way best suited for protection. Any weeds which may appear from time to time between periods of cultivation after being hoed are left as a sort of mulch around the shrubs.

3. RESULTS.

The following have proved hardiest in our collection, and having withstood the comparatively severe climate of this locality, while many which have completely failed may be grown with success in most parts of Ontario.

Anacardiaceae (Sumach Family).

Rhus (Sumach).—This genus is represented by four species which seem hardy.

Berberidaceae (Barberry F.)

Berberis (Barberry).—Both species, common and purple, have done well. The latter is a very handsome shrub, but the family has a bad reputation for being a source of the rust we find on wheat.

Caprifoliaceae (Honeysuckle F.)

Lonicera (Honeysuckle).—Six species of this genus are hardy and flowering early, and are among the most attractive shrubs on the lawn.

Viburnum (Snowball).—Seven species, hardy. In some the berries give the shrubs a beautiful appearance.

Weigela.—This genus is not quite so hardy as the preceding, but its beautiful bell-like flowers are well worth some extra care.

Sambucus (Elder).—Two species do well.

Symphoricarpus (Snowberry).—More attractive for the beauty of its white berries than the small flower it bears.

Cornaceae (Dogwood F.)

Cornus (Dogwood).—Three hardy species thrive in this family. *C. stolonifera* is interesting on account of its reddish bark.

Leguminosae (Bean F.)

Caragana (Pea-tree).—This genus of Russian shrubs is represented by several hardy forms which are dwarf-like in appearance, but seem to be doing well. This spring some bore beautiful golden flowers.

Colutea (Bladder senna).—Attractive for its yellow flowers and peculiar bladder-like reddish pods.

Oleaceae (Olive F.)

Syringa (Lilacs).—Eight species, hardy.

Forsythia (Golden Bell) and Ligustrum (Privet).—Do well.

Chionanthus (White Fringe).—Has not been as thrifty with us as the preceding, but the shrub seems to have been injured by some other means than the climate.

Rosaceae (Rose F.)

Spiraea.—This genus is represented by ten hardy varieties that are among the most beautiful shrubs we have. Some flowering in spring, *S. chamaedrifolia*, *S. aurea*; others in July, *S. Billardi*, *S. callosa*.

Pyrus Japonica (Japan quince).—Not so hardy as some of the preceding.

Rosa.—In this genus the briars are thrifty.

Saxifragaceae (Saxifrage F.)

Philadelphus (Mock Orange).—Six varieties in this genus are very interesting for their hardiness and the beautiful white fragrant flowers with which some of them are covered in June.

Ribes (Flowering Currants).—Five varieties have done well, and in early spring beautify the lawn with their golden and crimson flowers.

Hydrangea-paniculata (Shrub Hydrangea).—This beautiful shrub, flowering in August, blooms at a time when few are in flower. It is not quite so hardy as the other representatives of this family.

4. CONCLUSIONS FROM OUR EXPERIENCE.

1. Where shrubs are planted in clumps they grow better by having all the land between them cultivated.

2. Shrubs should be thoroughly cultivated around them for a distance of about three feet, so as to keep the soil clean and loose.

3. In the selection of shrubs, their hardiness should be considered, otherwise their purchase is money thrown away. It often happens in a climate like ours that the most expensive varieties are the most tender, and not likely to succeed.

4. Shrubs which withstand the climate of Guelph may be termed very hardy and may be grown successfully in most parts of Ontario.

5. The following thirteen shrubs are the best adapted for ornamental purposes on account of their size, time of flowering and hardiness :

- (1) *Berberis purpurea* (Purple-leaved Barberry), 3 to 5 feet high, flowering May.
- (2) *Ribes aureum* (Golden Currant), 5 to 7 feet high, flowering May and June.
- (3) *Syringa Persica* (Persian Lilac), 4 to 6 feet high, flowering May and June.
- (4) *Lonicera Tartarica* (Tartarian Honeysuckle), 5 to 9 feet high, flowering May and June.
- (5) *Viburnum opulus* (Snowball), 5 to 9 feet high, flowering May and June.
- (6) *Spiraea chamaedrifolia* (Germander-leaved Spiraea), 3 to 5 feet high, flowering May and June.
- (7) *Weigela rosea* (Rose-colored Weigela), 3 to 6 feet high, flowering June.
- (8) *Philadelphus coronarius* (Mock Orange), 5 to 10 feet high, flowering June.
- (9) *Spiraea aurea* (Golden-leaved Spiraea), 5 to 7 feet high, flowering June.
- (10) *Symphoricarpus racemosus* (Snowberry), 3 to 5 feet high, flowering June.
- (11) *Colutea arborescens* (Bladder Senna), 4 to 6 feet high, flowering June.
- (12) *Spiraea sorbifolia* (Ash-leaved Spiraea), 4 to 7 feet high, flowering July.
- (13) *Spiraea Billardi* (Pink Spiraea), 4 to 6 feet high, flowering July and August.

GRAPES.

The College vineyard is situated in a field at the rear of the College. This location was chosen in 1881 as the best available at that time, and 440 vines were planted the same season, in lines twelve feet apart each way. In the following spring 210 vines were added, making a total of 650, and representing ninety-six varieties. Having had an experience of five years with this varied collection, we are enabled to give some results, which may prove both interesting and instructive to those who read them.

Our success may be a surprise and disappointment to some who can readily ripen grapes which fail to mature with us, but the results are what have been obtained at the College under conditions which are given, and when considered they become an important factor in accounting for failures among varieties that elsewhere in Ontario are prolific. The reader will therefore remember that these data have been collected from the College vineyard only.

1. *Conditions surrounding the Vines.*

Location—Latitude north 43°-38'; height above sea level, 1,100 feet; above Lake Ontario, 858 feet.

Exposure—High and airy position, with southern aspect, but unduly exposed to the west.

Soil—Clay loam, with a somewhat springy bottom, and in need of more draining.

Meteorological—Mean annual temperature for 1880-86, 42.2°; mean summer, 57.1°; mean winter, 27.3°; highest temperature (1881), 98°; lowest (1884), -35°; average number of days rain fell per year, 72; rainfall (including snow), 24.7 inches; prevailing winds—S.W., 43 per cent.; N.W., 31 per cent.

2. Management.

In the third year (1883) two canes were grown from each vine and carefully tied up throughout the growing season to stakes, these canes being intended for permanent limbs from which the young and bearing wood was to grow. This mode of training seemed the best adapted for this section of the Province, where it is necessary to lay down the vines and cover for winter protection.

The next spring, posts were put between the vines, and four rows of fence wire (No. 8) strung from post to post, the lowest wire eighteen inches from the ground, the top five feet, and the two remaining, twenty-one inches. This arrangement forms an excellent trellis for the vines.

The ground between the rows has been thoroughly cultivated, kept clear of weeds, and manured with farmyard manure. This year some night-soil was applied, but with no marked results.

About the end of October or beginning of November, the vines are pruned by cutting back the canes which bore the fruit to the main arms, and leaving between each a cane of the present year's growth to bear next year. They are then laid down and covered with three or four inches of earth. During the summer, pruning is also done by pinching the shoots bearing fruit back to the second joint beyond the fruit, and the young shoots, as soon as the wood is well formed, are kept back even with the top of the trellis by the same process.

The two main lines are trained in opposite directions and thus form the so-called laterals from which the bearing canes rise vertically, three or four on each lateral.

3. Results.

Waverly, Rogers' 5, Purity, Dempsey's 18 and 25, Croton, Centennial, Louisiana Concord, Chasselas, Triumphant, and Herbemont, have died and have not been replaced. Accident may have been as much the cause of failure as severity of climate.

Rogers' 31, Eldorado, Prentiss, Rochester, Black Eagle, Monroe, Beauty, Iona, Senasqua, Grein's Golden, Autuchon, and Telegraph, are weak in appearance. This may have resulted from some being transplanted to another part of the vineyard in the second year.

Jessica, Faith, Rogers' 30, Canada, Dempsey 4, Walter, Amber, Cuyahoga, Transparent, Amber Queen, Alvey, Lady, Isabella, Advance, Salem, Creveling, Delaware, Rogers' 2 and 39, Echland, New Haven, Worden, and Antionello, are medium vines.

Naomi, Wilding, Brant, Jefferson, Barry, Pearl, Duchess, Una, Lady Washington, Eva, Janesville, Maxatawney, Ives' Seedling, Elvira, Black Hawk, Cottage, Vergennes, Pocklington, Early Dawn, Eumelan, Gaertner, Missouri, Riesling, Merrimac, Herbert, Brighton, Lindley, Martha, Hartford, Champion, Agawam, Moore's Early, Wilder, Clinton, Massasoit, Concord, Rogers' 41, 28 and 33, Umland, Mary Ann, Cornucopia, Othello, Venango, Noah, Dracut's Amber, Cynthia, and Norton, are all vigorous vines.

The following notes made this fall at stated times will show the condition of these varieties when visited :

September 8th, Brant, Janesville, Champion, Moore, Early Dawn, coloring and ripe before the week ends ; Wilder commencing, Othello freely coloured, but unequally ; 14th, Lindley, Hartford, Wilder, Massasoit, just showing color, Telegraph, Ives' Seedling, Cottage, Israella, Eumelan, Barry and Concord, apparently later than the preceding ; 21st, Creveling and Concord about the same, and Cornucopia nearly so.

October 2nd, the best were cut, viz.: Lindley, Delaware, Moore, Salem, Massasoit, Wilder, Merrimac, Eumelan, Herbert, Concord ; 7th, Clinton, Brighton, Agawam, and Martha, ripe.

4. Conclusions.

1. Grape vines in this locality must be well sheltered with warm exposure, and grown in a warm, well-drained soil, or little fruit will be secured.

2. Our vines are vigorous and show much fruit, but it ripens very irregularly and late in the season.

3. The Concord, known as the grape for the million, scarcely ripens with us before well into October, and even then but irregularly.

4. A grape which does not ripen earlier than the Concord is of little use here.

5. Our earliest seems to be Moore's Early, Champion, Lady, and Massasoit,

6. In a district at all suited for grapes, we would recommend the following for flavour, hardiness, and yield:

Black:—Wilder, Worden, Moore, Concord, Barry.

Red:—Delaware, Brighton, Lindley, Agawam.

White:—Niagara, Lady, Martha.

SEED TESTING.

1. *Object.*

For some years past, especially in England, farmers have had their attention directed to the condition of the seed sown on the farm, and in many cases have found that seed is far from being pure, and suited for the purpose intended. It fails in being true to its kind, other seeds are mixed with it, especially among grass seed. In some samples many seeds of weeds are found and in not a few cases there is a lack of germinating power in the seed. These facts have led to the practice, among prominent seedsmen, of guaranteeing the *purity, cleanness* and *vitality* of seeds sold, and it has been observed, that during the past few years a marked improvement has resulted in the condition of seed sold. Leading American and Canadian seedsmen have also adopted the idea of testing their seeds before recommending them to the public, and find that the expense is well repaid by securing the confidence of their customers. With a view to calling the attention of our Canadian farmers to this question of testing seeds, this bulletin is written.

While all the failures in germination cannot be attributed entirely to poor seed, yet there is no doubt that much seed is sown which has very little vitality, and in some cases, especially grass, the seed is far from being true to its kind, there being several varieties where one only was expected.

The seeds of weeds too, unfortunately, are not uncommon in seed grain, and thus at a period in Canadian farming, when there is so much interchange of grain for seeding purposes, as the present, it is not a matter of surprise, if care is not taken, that we find weeds on the increase both in regard to number and variety. Having made some tests in the germinating of seeds at the College during the past year, some of the results are now published with a hope that they may prove interesting and instructive to the readers of this bulletin.

2. *Methods.*

There are several methods for testing the vitality of seeds. Some are very simple and may be performed by any one interested.

1. Place 100 seeds between sheets of blotting paper laid on sand, and keep the paper wet in a place where the temperature is about 78°-85° F. The number of seeds germinating will indicate the percentage good.

2. Place the seeds on a piece of flannel in a saucer with sufficient water to moisten it thoroughly. After scattering the seeds (100) on the flannel, put a piece of damp blotting paper over the whole and place in a warm room. Keep it continually damp and in a short time the seeds will germinate. The number sprouting will be the percentage of good seeds.

3. The following method is much more complicated than the preceding and can only be adopted where the subject is made a study. This is the apparatus used at the College. It consists of a hemispherical copper boiler one foot in diameter, fastened to the bottom of a galvanized iron pan, two feet wide, four feet long and five inches deep. The water passes from the copper boiler into the pan through four small holes, and is made to circulate over every part of it by guides; these are three-fourths of an inch high. Another bottom resting on the top of these is firmly soldered around the edges; at one corner a tube passes through the bottom for the purpose of filling the boiler and under-pan with

water. After coming from the copper vessel the heated water runs back and forth several times in the lower pan, and is finally conducted by a return tube back to the copper boiler, entering near the bottom. Some sand (about 2 inches deep) is put in the upper part of the pan, and on this the boxes, etc., containing the seeds to be tested rest. This tin box and boiler is set in something like an office desk about four feet high, standing on four legs. This desk-like structure has a hinged glazed top. Heat is produced by a small coal oil stove placed below. This form of apparatus is well adapted for testing many samples at the same time and gives very satisfactory results.

4. For examining seeds as to purity, scatter them on a piece of black card-board and the foreign grains are readily observed. If a good collection of seeds true to their kind is kept for comparison the impurities can be easily identified.

3. Results of Some Tests in the Germinator.

(100 seeds of each variety.)

TABLE I.—Temp. 78° 85'.

| | Per cent. at end of 3—5—7—12 days. |
|---------------------|------------------------------------|
| Clover, Red..... | 48, 68, 72, 79 |
| “ White..... | 12, 36, 80, 96 |
| “ Alsike..... | 18, 52, 67, 70 |
| Lucerne..... | 36, 75, 81, 86 |
| Blue Grass..... | 5, 10 |
| Red Top..... | 8, 10, 12, 22 |
| Timothy..... | 3, 19, 58, 70 |
| Perennial Rye..... | 5, 23, 55, 63 |
| Orchard..... | 4, 15, 20, 38 |
| Hard Fescue..... | 2, 2, 16, 32 |
| Sheep “..... | 4, 12 |
| Meadow “..... | 2, 60, 72, 96 |
| Tall “..... | 4, 18, 60, 80 |
| Meadow Foxtail..... | 2, 6, 16, 20 |
| Yellow Oats..... | 8, 18, 26 |

TABLE II.—Temp. 70'.

| | Per cent. at end of 5—7—12—15 days. |
|---------------------------|-------------------------------------|
| Sweet Vernal..... | 1, 5, 14 |
| Italian Rye..... | 15, 20, 21 |
| Crested Dogtail..... | 4, 18, 26 |
| Wood Meadow Grass..... | 3, 6, 6 |
| Fine-leaved Fescue..... | 3, 3 |
| Rough Stalked Meadow..... | 1, 2 |
| Timothy..... | 19, 52, 61, 70 |
| Perennial Rye..... | 6, 37, 47 |
| Orchard..... | 3, 8, 10 |
| Hard Fescue..... | 1, 18, 34 |
| Meadow “..... | 3, 23, 65, 85 |
| Tall “..... | 2, 13, 22 |
| Meadow Foxtail..... | 2, 16, 23 |
| Yellow Oat..... | 2 |
| Thistles..... | 10, 48, 54 |

TABLE III.—Seeds 10 years old taken from Museum.

| | Per cent. at end of 12 days. |
|-----------------------------------|------------------------------|
| Pease, 9 samples..... | 0 |
| Beans, 10 “..... | 0 |
| “ 2 “..... | 36 |
| Turnips..... | 32 |
| Mangolds..... | 72 |
| Rye..... | 0 |
| Timothy, 8 samples..... | 2 |
| Millet..... | 54 |
| Hungarian Grass..... | 27 |
| Clover..... | 6 |
| Tares..... | 90 |
| Buckwheat, 9 samples average..... | 13 |
| Oats, 1 sample..... | 0 |
| Barley, “..... | 0 |
| Rusted Wheat, '86..... | 12 |

TABLE IV.—Frosted Wheat from Manitoba.

| | Per cent. at end of 3—4—5—7—8 days. |
|------------|-------------------------------------|
| No. 1..... | 16, 26, 32, 46, 48 |
| “ 2..... | 16, 24, 48, 56, 58 |
| “ 3..... | 32, 56, 58, 68, 72 |
| “ 4..... | 8, 14, 24, 30, 30 |
| “ 5..... | 26, 42, 50, 68, 70 |
| “ 6..... | 2, 6, 16, 38, 52 |
| “ 7..... | 10, 24, 42, 56, 58 |
| “ 8..... | 38, 46, 58, 66, 66 |
| “ 9..... | 10, 16, 28, 42, 52 |
| “ 10..... | 0, 10, 24, 35, 42 |
| “ 11..... | 16, 26, 44, 52, 52 |
| “ 12..... | 24, 38, 54, 56, 60 |

Inferences.

1. Age has a marked effect on the vitality of certain seeds.
2. That many seeds have lost much of their vitality from improper curing or other causes.
3. Frozen wheat is not reliable for seed, even though germinating a fair per cent., its growth in the field is of a more or less weakly nature. The seeds of Table IV. were grown in the field as well as in the germinator.
4. All seeds should be tested for vitality and purity.
5. Seeds are more likely to be good from seedsmen than commission agents.

6. A small percentage of impure seeds means very many in a bushel.

7. Thistles can be grown from seed. A fact contradicted by some, who maintain that the plant is propagated from the root only, and all seed imperfect. This view was held by some at Farmers' Institutes last winter.

8. Grass seed is very liable to impurities; some kinds containing much chaff.

9. Temperature has considerable effect in hastening germination.

5. LECTURES.

Concerning this department of work little requires to be said by me. An examination of your report on class-room work, will give the reader a clear conception of the work performed by the different professors in the various departments.

But I wish here to remark that much attention has been given to make the study of science popular and practical. Excursions have been made from time to time with the students for the purpose of studying Botany and Geology in the field. The Grand Trunk Railway authorities have kindly reduced the rates to our students on scientific trips, so that they can visit places of geological interest some miles from the college at comparatively little expense.

They have availed themselves of this kindness and have evinced a greater interest in the practical study of science than in former years. The late additions to the museum and excellent diagrams drawn by Messrs. Ritchie and Gilbert (students), have also aided much in the teaching of natural science. We are now in a position to make the subject interesting, attractive and instructive.

TREES AND SHRUBS PLANTED ON THE ONTARIO AGRICULTURAL COLLEGE GROUNDS.

Those marked "dead," in some cases came in bad condition for planting; some were destroyed by accident, while others were too tender to withstand the severity of the climate. Those marked "fair" are growing but not vigorously, while those referred to as "tender," live but are protected during the winter. Specific characters are not referred to in the list. Information regarding any particular shrub or tree, can be obtained from works on the subject, or by consulting either the Professor of Natural History or the practical Horticulturist at the College.

Anacardiaceæ. Sumach or Cashew Family.

Deciduous Shrubs:

- Rhus aromatica.* Fragrant sumach. Good.
R. copallina. Copal sumach " "
R. Cotinus. Smoke tree. Mist shrub. Fair.
R. glabra. Smooth sumach. Good.
R. Osbecki. Chinese sumach. Dead.
R. trilobata. Three-lobed sumach. Dead.
R. typhina. Staghorn sumach. Good.

The Sumachs are large shrubs, generally of peculiar growth. Nearly all of them have leaves changing to a scarlet colour in autumn.

Anonaceæ. Custard-Apple Family.

Deciduous Trees:

- Anona triloba.* Pawpaw or custard-apple. Dead.

Aquifoliaceæ. Holly Family.

| | | |
|-------------------------|-----------------|-------|
| <i>Ilex opaca.</i> | American holly. | Dead. |
| <i>I. verticillata.</i> | Black alder. | " |
| <i>I. aquifolia.</i> | English holly. | " |

Araliaceæ. Ginseng Family.

Deciduous Shrubs :

| | | |
|------------------------|----------------|-------|
| <i>Aralia spinosa.</i> | Hercules club. | Fair. |
| <i>A. Japonica.</i> | | Dead. |

Berberidaceæ. Barberry Family.

Deciduous Shrubs :

| | | |
|---------------------------|-------------------------|---------------------|
| <i>Berberis Vulgaris.</i> | European barberry. | Good. |
| <i>B. V. purpurea.</i> | Purple-leaved barberry. | Good. |
| <i>B. Fremonti.</i> | | Dead. |
| <i>B. Darwini.</i> | | Dead. |
| <i>B. Thunbergi.</i> | | Fair. |
| <i>Mahonia aquifolia.</i> | Holly-leaved Mahonia. | Fair. An evergreen. |

Most of these shrubs are prized for their flowers and dark red fruit, which becomes ornamental in July and continues till late in the season. The foliage is small and attractive.

Betulaceæ. Birch Family.

Deciduous Trees :

| | | |
|-------------------------|-----------------------|-------|
| <i>Alnus glutinosa.</i> | European alder. | Good. |
| <i>A. g. laciniata.</i> | Cut-leaved alder. | Good. |
| <i>A. maritima.</i> | Seaside alder. | Good. |
| <i>Betula alba.</i> | European white birch. | Good. |
| <i>B. a. purpurea.</i> | Purple-leaved birch. | Dead. |
| <i>B. a. laciniata.</i> | Cut-leaved birch. | Good. |
| <i>B. a. pendula.</i> | Weeping birch. | Good. |
| <i>B. populifolia.</i> | Poplar birch. | Good. |
| <i>B. lenta.</i> | Sweet or black birch. | Good. |
| <i>B. lutea.</i> | Yellow or gray birch. | Good. |
| <i>B. papyracea.</i> | Paper or canoe birch. | Good. |
| <i>B. Rubra.</i> | Red birch. | Dead. |

The birches are interesting trees, possessing beautiful foliage and bark of different hues.

Bignoniaceæ. Bignonia Family.

Deciduous Trees :

| | | |
|------------------------------|------------------|---------|
| <i>Catalpa bignonioides.</i> | Catalpa. | Tender. |
| <i>C. p. nana.</i> | Dwarf catalpa. | Tender. |
| <i>C. kœmpferi.</i> | Japan catalpa. | Tender. |
| <i>C. Bungei.</i> | | Tender. |
| <i>C. speciosa.</i> | Western catalpa. | Good. |

Calycanthaceæ. Calycanthus Family.

Deciduous Shrubs :

| | | |
|------------------------------|--------------|-------|
| <i>Calycanthus floridus.</i> | Sweet shrub. | Poor. |
| <i>Chimonanthus præcox.</i> | | Dead. |

Caprifoliaceae. Honeysuckle Family.

Deciduous Shrubs :

- Weigela amabilis.* Light rose weigela. Fair.
W. hortensis nivea. White weigela. Fair.
W. Desboisii. Deep rose weigela. Fair.
W. Groenewegenii. Dark rose weigela. Fair.
W. rosea. Rose weigela. Fair.
W. variegata. Variegated weigela. Fair.
W. Isolone. Fair.
W. purpurea. Fair.
W. Van Houtti. Fair.

The Weigelas are beautiful shrubs, bear handsome flowers of several colors ; the bushes from three to five feet high. They are somewhat tender, but, with protection, do comparatively well.

- Lonicera grandiflora.* Bush honeysuckle. Good.
L. Orientalis. Bush honeysuckle. Good.
L. Philomelæ. Bush honeysuckle. Good.
L. Sibirica. Bush honeysuckle. Good.
L. Tartarica. Tartarian honeysuckle. Good.
L. Xylosteum. Fly honeysuckle. Good.

The Honeysuckles form an attractive group of shrubs, flowering early in spring, and afterwards bear red berries, which hang on until fall. Bush, five to eight feet high.

- Sambucus variegata.* Variegated-leaved elder. Good.
S. racemosa. Red berried elder. Good.
Symphoricarpus racemosus. White-fruited snowberry. Good.
S. vulgaris. Coral berry, red-fruited snowberry. Good.
S. v. variegata. Variegated-leaved snowberry. Good.
Viburnum acerifolium. Maple-leaved viburnum. Good.
V. lantanoides. Hobble bush. Good.
V. lantana. Way-faring tree. Good.
V. lentago. Sweet viburnum. Good.
V. nudum. Good.
V. opulus. Snowball. Good.
V. oxycoccus. Bush cranberry. Good.
V. plicatum. Japan snowball. Good.
V. prunifolium. Sheep berry. Good.

The Viburnums bear attractive flowers, followed by beautiful red berries, which give the bushes a striking appearance in autumn.

Celastraceae. Staff Tree Family.

Deciduous shrubs :

- Euonymus Americanus.* Strawberry bush. Good.
E. Europæus. European burning bush. Dead.
E. E. Variegata. Variegated bush. Tender.

Coniferae. Pine Family.

- Chiefly Evergreens, trees and shrubs. Good.
Abies alba. White spruce. Good.
A. Canadensis. Hemlock spruce. Good.
A. Douglasii. Douglas spruce. Good.

- A. Engelmannii. Engelmann's spruce. Good.
 A. Excelsa. Norway spruce. Good.
 A. Menziesii. Menzies' spruce. Good.
 A. orientalis. Oriental. Fair.
 Biota orientalis. Chinese arbor vitæ. Good.
 B. O. Aurea. Golden arbor vitæ. Tender.
 Juniperus Chinensis. Chinese juniper. Tender.
 J. communis. Common juniper. Good.
 J. prostrata. Trailing juniper. Good.
 J. Sabina. Savin juniper. Good.
 J. Suecica. Swedish juniper. Tender.
 J. Virginiana. Red cedar. Fair.
 J. occidentalis. Rocky Mountain juniper. Good.
 Libocedrus decurrens. Decurrent-leaved arbor vitæ. Dead.
 Pinus Austriaca. Austrian pine. Good.
 P. Benthamiana. Good.
 P. Banksiana. Scrub pine. Good.
 P. Cembra. Swiss pine. Good.
 P. Jeffreyi. Dead.
 P. Laricio. Corsican pine. Good.
 P. Mughus. Mountain pine. Good.
 P. mitis. Yellow pine. Dead.
 P. pinaster. Sea pine. Dead.
 P. ponderosa. Heavy pine. Dead.
 P. pungens. Table mountain pine. Good.
 P. rigida. Pitch pine. Good.
 P. strobus. White pine. Good.
 P. S. pumila. Dwarf white. Good.
 P. sylvestris. Scotch pine. Good.
 P. inops. Jersey pine. Dead.
 P. Lambertiana. Giant sugar pine. Good.
 Podocarpus Japonicus. Japan yew. Tender.
 Retinospora ericoides. Heart-leaved Japan cypress. Tender.
 R. filifera. Thready Japan cypress. Tender.
 R. leptoclada. Tender.
 R. obtusa. Obtuse-leaved Japan cypress. Tender.
 R. plumosa. Plum-like Japan cypress. Tender.
 R. squarrosa. Tender.
 R. pisifera. Tender.
 Salisburia adiantifolia. Maiden hair tree. Tender.
 Taxus Canadensis. American yew. Tender.
 Taxodium distichum. Bald cypress. Tender.
 T. d. pendulum. Weeping bald cypress. Tender.
 T. Chinensis. Tender.
 Glyptostrobus pendula. Chinese cypress.
 Thuja gigantea. Giant arbor vitæ. Good.
 T. occidentalis. American arbor vitæ. Good.
 T. o. aurea. George Peabody arbor vitæ. Tender.
 T. o. ericoides. Heath-leaved arbor vitæ. Fair.
 T. o. glauca. Tender.
 T. o. globosa. Globe arbor vitæ. Fair.
 T. o. Hoveyi. Hovey's arbor vitæ. Tender.
 T. o. Meehani. Meehan's arbor vitæ. Tender.
 T. o. pyramidalis. Upright arbor vitæ. Good.
 T. o. Siberica. Siberian arbor vitæ. Good.
 T. o. spiralis. Fair.
 T. o. Tom thumb. Dwarf arbor vitæ. Fair.

Cornaceæ. Dogwood Family.

Deciduous Trees :

- Cornus florida.* White flowering dogwood. Tender.
Nyssa multiflora. Northern sour gum. Dead.

Deciduous Shrubs :

- Cornus alba.* Red-twiggèd dogwood. Tender.
C. alternifolia. Blue dogwood. Fair.
C. mascula. Cornelian Cherry. Fair.
C. sanguinea. English dogwood. Good.
C. paniculata. White-fruited dogwood. Fair.
C. sericea. Silky dogwood. Tender.
C. stricta. Stiff cornel dogwood. Good.
C. Siberica. Red Siberian dogwood. Good.

Cupuliferæ. Oak Family.

Deciduous Trees :

- Castanea Americana.* Sweet chestnut. Fair.
C. vesca. Spanish chestnut. Dead.
Fagus ferruginea. American beech. Good.
F. sylvatica. English beech. Dead.
F. s. incisa. Cut-leaved beech. Dead.
F. s. asplenifolia. Fern-leaved beech. Dead.
F. s. purpurea. Purple-leaved beech. Tender.
Ostrya Virginica. Iron wood. Good.
Quercus alba. White oak. Good.
Q. aquatica. Water oak. Dead.
Q. bicolor. Swamp white oak. Dead.
Q. Catesbæi. Turkey oak. Dead.
Q. cerris. Burgundy oak. Dead.
Q. cinerea. Upland willow oak. Dead.
Q. coccinea. Scarlet oak. Dead.
Q. falcata. Spanish oak. Dead.
Q. imbricaria. Northern laurel oak. Dead.
Q. lyrata. Lyre-leaved oak. Dead.
Q. macrocarpa. Mossy cup or burr oak. Good.
Q. nigra. Black Jack oak. Good.
Q. obtusiloba. Post oak. Dead.
Q. palustris. Pin oak. Dead.
Q. prinoides. Dwarf chestnut oak. Dead.
Q. rubra. Red oak. Good.
Q. robur fastigiata. Dead.
Q. r. sessiflora. Dead.
Q. tinctoria. Black oak. Dead.
Q. Bannisteri. Scrub oak. Dead.

Deciduous Shrubs :

- Carpinus Americana.* American hornbeam. Dead.
C. Betulus. European hornbeam. Dead.
Corylus Avellana. Hazelnut. Good.
C. purpurea. Purple hazelnut. Good.

The Oaks of this family which died were injured by being transplanted twice, owing to a re-arrangement of the trees upon the lawn.

Elæagnaceæ. Oleaster Family.

Deciduous Shrubs :

- Elæagnus longipes. Japanese oleaster. Dead.
 E. parvifolia. Silver thorn. Tender.
 E. flava. Tender.
 E. argentea. Silver berry. Fair.
 E. dulcis. Dead.

Ericaceæ. Heath Family.

Deciduous Shrubs :

- Andromeda Mariana, Stagger bush. Dead.
 A. racemosa. Dead.
 A. calyculata. Dead.
 A. arborea. Sorrel tree. Deciduous tree. Dead.
 Azalea Viscosa. Clammy azalea. Dead.
 Clethra alnifolia. Sweet pepper bush. Fair.
 Erica carnea. Fair.
 Vaccinium corymbosum. Blueberry. Dead.
 V. stamineum. Deerberry. Good.

Evergreen Shrubs :

- Calluna vulgaris. Scotch heath. Fair.
 Kalmia augustifolia. Narrow-leaved laurel. Dead.
 K. latifolia. Broad-leaved laurel. Dead.

Euphorbiaceæ. Spurge Family.

- Buxus sempervirens. Common box. Evergreen box. Tender.
 B. s. Handsworthi. Handsworth's box. Evergreen. Tender.
 Euphorbia corallata. Tender.

Hamamelaceæ. Witch-hazel Family.

Deciduous shrubs :

- Fothergilla alnifolia. Good.
 Hamamelis Virginica. Witch-hazel. Good.

Deciduous Tree :

- Liquidambar styraciflua. Sweet gum. Tender.

Hypericaceæ: Saint John's Wort Family.

Deciduous Shrubs :

- Hypericum ascyron. Siberian, St. John's wort. Dead.
 H. patulum. Japan, St. John's wort. Dead.
 H. prolificum. American, St. John's wort. Fair.
 H. Kalmianum. Shrubby, St. John's wort. Dead.

Juglandaceæ. Walnut and Hickory Family.

Deciduous Trees :

- Carya alba. Shellbark hickory. Good.
 C. amara. Swamp hickory. Good.
 C. olivæformis. Pecan nut hickory. Dead.
 C. porcina. Pignut hickory. Dead.
 C. sulcata. Large fruited hickory. Dead.
 C. tomentosa. White hickory. Dead.

C. Microcarpa. Small fruited hickory. Dead.
 C. aquatica. Water hickory. Dead.
 Juglans nigra. Black walnut. Good.
 J. cinerea. Butternut. Good.

Lauraceæ. Laurel Family.

Sassafras officinale. Sassafras. Dead.
 Laurus Benzoin. Spice bush shrub. Dead.

Leguminosæ. Bean Family.

Deciduous Trees :

Acacia julibrissin. Sensitive tree. Dead.
 Cercis Canadensis. American Judas tree. Fair.
 C. Japonica. Japan Judas tree. Fair.
 C. siliquastrum. European Judas tree. Dead.
 Cytisus albus. White broom. Dead.
 Gleditschia triacanthos. Honey locust. Good.
 G. sinensis. Chinese honey locust. Good.
 G. horrida. Fair.
 Gymnocladus Canadensis. Kentucky coffee tree. Good.
 Robinia hispida. Rose acacia. Good.
 R. h. grandiflora. Dead.
 Sophora Japonica. Japan Sophora. Dead.
 Virgilia lutea. Yellow wood. Fair.

Deciduous Shrubs :

Amorpha canescens. Lead plant or indigo shrub. Fair.
 A. fruticosa. False indigo. Fair.
 Caragana arborescens. Siberian Pea. Good.
 Colutea arborescens. Bladder senna. Good.
 Indigo dosua. Dead.
 Lespedza bicolor. Dead.
 Genista scoporinus. Scotch broom. Dead.

Magnoliaceæ. Magnolia Family.

Deciduous Trees :

Liriodendron tulipifera. Tulip tree. Dead.
 L. integrifolia. Entire-leaved tulip tree. Dead.
 Magnolia acuminata. Cucumber magnolia. Tender.
 M. glauca. Sweet bay. Dead.
 M. Soulangeana. Dead.
 Cercidiphyllum Japonicum. Dead.

Malvaceæ. Mallow Family.

Deciduous Shrubs :

Hibiscus Syriacus. Rose of Sharon. Dead.
 H. s. alba. White althæa. Dead.
 H. s. purpurea. Purple althæa. Dead.
 H. s. variegata. Variegated althæa. Dead.
 H. s. carnea. Red althæa. Dead.

Myricaceæ. Sweet Gale Family.

Deciduous Shrubs :

- Comptonia asplenifolia.* Sweet fern. Dead.
Myrica cerifera. Wax myrtle. Dead.

Oleaceæ. Olive Family.

Deciduous Trees :

- Fraxinus Americana.* White ash. Good.
F. A. Bosci. Bosc's ash. Dead.
F. A. ancubæfolia. Aucuba-leaved ash. Fair.
F. A. spectabilis. Dead.
F. A. juglandifolia. Walnut-leaved ash. Fair.
F. excelsior. European ash. Good.
F. ex. heterophylla. Cut-leaved ash. Dead.
F. ex. angustifolia. Willow-leaved ash. Fair.
F. ex. jaspidea. Striped-barked ash. Dead.
F. ex. pendula. Weeping ash. Dead.
F. Americana lutea. Dead.
F. ornus. Flowering ash. Dead.
F. pubescens. Red ash. Dead.
F. platycarpa. Water ash. Fair.
F. quadrangulata. Blue ash. Fair.
F. sambucifolia. Black ash. Good.
F. Theophrasti. Dead.
F. viridis. Green ash. Dead.
Chionanthus Virginica. White fringe. Fair.
Forsythia viridissima. Golden bell. Fair.
F. suspensa. Golden bell. Fair.
Ligustrum vulgare. Privet. Good.
L. luxifolium. Box-leaved privet. Good.
L. Japonicum. Japan privet. Fair.
L. variegatum. Variegated privet. Dead.
L. myrtifolium. Myrtle-leaved privet. Fair.
L. ovalifolium. Californian privet. Fair.
L. Stauntoni. Staunton's privet. Fair.
Syringa Josikea. Josikea's lilac. Good.
S. Persica. Persian lilac. Good.
S. vulgaris. Purple lilac. Good.
S. v. alba. White lilac. Good.
S. v. Ambroise Verschaffelt. Good.
S. v. Charles X. Reddish purple lilac. Good.
S. v. Dr. Stockhardt. White. Good.
S. v. Gloire de Moulins. Good.
S. v. ligustrina. Good.
S. v. oblata. Good.
S. v. Princess Maria. Good.
S. v. rubra insignis. Good.
S. vallettiana. Good.
S. purpurea florepleno. Good.
S. racemosa. Dead.
S. variegata. Dead.

Platanaceæ. Plane Tree Family.

Deciduous Trees :

- Platanus orientalis.* Oriental plane. Good.
P. occidentalis. Button wood. Good.

Rhamnacee. Buckthorn Family.

Deciduous Shrubs :

- Ceanothus Americana.* Red Root, New Jersey Tea. Dead.
Rhamnus catharticus. Common buckthorn. Good.
R. Carolinianus. Carolina buckthorn. Good.
R. frangulus. Good.

Rosacee. Rose Family.

Deciduous Trees :

- Amelanchier botryapium.* June berry. Good.
A. nana. Dwarf variety. Fair.
Cerasus Padus. European bird cherry. Dead.
Prunus Americana. Wild plum. Good.
P. Virginiana. Choke cherry. Good.
P. chicasa. Chickasaw wild plum. Dead.
P. umbellata. Southern wild plum. Fair.
P. spinosa flore pleno. Double-flowering sloe. Fair.
Pyrus aucuparia. European mountain ash. Good.
P. coronaria. Sweet-scented crab. Good.
P. hybrida. Hybrid mountain ash. Good.
P. malus spectabilis. Chinese double-flowering apple. Dead.
P. Americana. American mountain ash.
P. A. nana. Fair.

Deciduous Shrubs :

- Amygdales nana.* Flowering almond. Tender.
A. n. alba. White flowering almond. Tender.
Cerasus pumila. Dwarf Cherry. Tender.
C. p. pendula. Weeping dwarf cherry. Tender.
C. carnea. Good.
C. florepleno. Fair.
Cotoneaster acuminata. Tender.
C. buxifolia. Box-leaved cotoneaster. Tender.
C. baccularis. Tender.
C. floribunda. Tender.
C. frigida. Tender.
C. Simmondsi. Tender.
C. obtusa. Tender.
C. nummularia. Tender.

The *Cotoneasters* are attractive shrubs with small leaves and bright-coloured berries in autumn, but are rather tender for this part of Ontario.

- Crataegus Oxycantha.* English hawthorn. Fair.
C. o. variegata. Variegated-leaved hawthorn. Dead.
C. o. apiifolia. Parsley-leaved hawthorn. Fair.
C. o. Douglassii. Fair.
C. o. rubra splendens. Dark red. Fair.
C. o. Crus-galli. Cockspur hawthorn. Fair.
C. cordata. Washington hawthorn. Fair.
C. coccinea. American white thorn. Fair.
C. flava. Southern hawthorn. Dead.
Kerria Japonica. Tender.
K. flavescens. Tender.
K. Kalmiana. Dead.

- Potentilla fruticosa. Shrubby cinquefoil. Fair.
 P. verna. Dead.
 Prunus triloba. Double-flowering plum. Dead.
 P. glabra. Fair.
 Pyrus (Cydonia) Japonica. Japan quince. Fair.
 P. floribunda. Japan choke berry. Dead.
 P. Jap. cardinalis. Crimson Japan quince. Fair.
 P. J. semipleno. Double-flowering Japan quince. Dead.
 P. J. variegata. Variegated Japan quince. Fair.

The large striking flowers of the Japan quince appearing in early spring make the shrub attractive and popular.

- Rosa blanda. Early wild rose. Good.
 R. rubiginosa. Sweet brier. Good.
 R. rugosa. Good.
 R. lutea. Dead.
 R. florep pleno. Good.
 Spiraea Billardi. Good.
 S. callosa. Good.
 S. c. alba. Good.
 S. carpinaefolia. Good.
 S. chamædrifolia. Good.
 S. Hookeri. Fair.
 S. opulifolia. Good.
 S. o. aurea. Good.
 S. paniculata. Fair.
 S. prunifolia. Fair.
 S. rotundifolia. Fair.
 S. Reevesii. Tender.
 S. salicifolia. Good.
 S. sorbifolia. Good.
 S. Regeliana. Dead.
 S. Thunbergii. Fair.
 S. vaccinaefolia. Fair.
 S. ulmifolia. Good.
 S. crenata. Fair.

Spiraeas are among the most beautiful of shrubs, flowering at all seasons and differing in foliage, flower and habit of growth.

Rubiaceæ. Madder Family.

- Cephalanthus occidentalis. Button-bush. Dead.

Rutaceæ. Rue Family.

Deciduous Trees :

- Zanthoxylon fraxineum. Prickly ash. Dead.
 Ptelea trifoliata. Hop tree. Fair.

Salicaceæ. Willow Family.

Deciduous Trees :

- Populus alba. White poplar. Good.
 P. angulata. Angled cottonwood. Good.

- P. angustifolia*. Narrow-leaved poplar. Good.
P. balsamifera. Balsam poplar. Good
P. crispa. Curled-leaved poplar. Good.
P. Eugenie. Dead.
P. grandidentata. Large-leaved aspen. Good.
P. monilifera. Cottonwood. Fair.
P. rotundifolia. Japan poplar. Fair.
P. Van Gaerti. Dead.
Salix alba. White willow. Good.
S. annularis. Curled or ring willow. Good.
S. Babylonica. Weeping willow. Good.
S. B. Salamoni. Dead.
S. Japonica. Japan willow. Dead.
S. caprea. Goat willow. Fair.
S. candida. Silvery willow. Fair.
S. discolor. Glaucous willow. Good.
S. Forbyana. Fair.
S. myricoides. Fair.
S. pentandra. Shining willow. Dead.
S. purpurea. Fair.
S. Russelliana. Good.
S. rosmarinifolia. Rosemary-leaved willow. Good.
S. Villarsiana. Dead.
S. Sieboldiana. Dead.
S. vitellina. Golden willow. Good.

Sapindaceæ. Soapberry Family.

Deciduous Trees :

- Acer campestre*. English maple. Good.
A. nances. Good.
A. dasycarpum. Silver maple. Good.
A. d. Weiri. Weir's cut-leaved maple. Good.
A. laetum. Colchican maple. Good.
A. macrophyllum. Oregon maple. Good.
A. platanoides. Norway maple. Good.
A. p. Reitbachi. Reitbach's maple. Fair.
A. p. Schweidleri. Schweidler's maple. Good.
A. p. laciniatum. Eagle's claw maple. Good.
A. p. dissectum. Cut-leaved Norway maple. Good.
A. saccharinum. Sugar maple. Good.
A. pseudo-platanus. Sycamore maple. Good.
A. p. purpureum. Purple-leaved sycamore maple. Good.
A. Tartaricum. Tartarian maple. Good.
A. Tauricum. Fair.
A. striatum. Stripped maple. Good.
Aesculus hippocastanum. Horse-chestnut. Fair.
A. glabra. Ohio or smooth horse-chestnut. Fair.
A. flava. Yellow horse-chestnut. Fair.
Pavia macrostachya. Dwarf white horse-chestnut. Fair.
Negundo fraxinefolium. Ash-leaved maple. Good.
N. Californicum. California ash-leaved maple. Good.
Staphylea Bumalda. Japan bladder nut. Good.
S. trifolia. American bladder nut. Good.
Kœlreuteria paniculata. Dead.

Scrophulariaceæ. Figwort Family.

Paulownia imperialis. Empress tree. Dead.

Simarubaceæ. Quassia Family.

Ailantus glandulosa. Tree of Heaven. Dead.

A. Chinensis. Dead.

Styracaceæ. Storax Family.

Halesia tetraptera. Snowdrop shrub. Dead.

H. Meehani. Dead.

Saxifragaceæ. Saxifrage Family.

Deciduous Shrubs :

Deutzia crenata. Fair.

D. c. floreplena. Fair.

D. Pride of Rochester. Fair.

D. fortunei. Fair.

D. græilis. Fair.

D. scabra. Fair.

Hydrangea paniculata. Good.

H. quercifolia. Oak-leaved. Dead.

Itea Virginica. Dead.

Philadelphus coronarius. Mock orange. Good.

P. Gordianus. Good.

P. grandiflorus. Good.

P. Columbianus. Good.

P. odoratissimus. Good.

P. tomentosus. Good.

P. Zeyheri.

Ribes aureum. Yellow-flowering currant. Good.

R. aureum Utah. Yellow-fruited currant. Good.

R. floridum. Wild black currant. Good.

R. Gordianum. Fair.

R. sanguineum. Red-flowered currant. Tender.

R. nigrum. Fair.

R. luteum. Good.

The shrubs of this family are very attractive, varying in foliage, flower and nature of the shrubs. They flower in early spring.

Tamariscinæ. Tamarix Family.

Deciduous Trees :

Tamarix Algerica. Tender.

T. tetandra. Tender.

T. Africana. Tender.

T. Chinensis. Tender.

T. Narbonne. Tender.

Tiliaceæ. Linden Family.

Deciduous Trees :

Tilia Americana. Basswood. Good.

T. Europæa. European linden. Good.

T. Eu. laciniata. Cut-leaved linden. Good.

T. heterophylla. White linden. Good.

Urticaceæ. Nettle Family.

Deciduous Trees :

- Celtis occidentalis.* Nettle tree. Dead.
C. pumila. Dwarf nettle tree. Dead.
C. Australis. Dead.
Maclura aurantica. Osage orange. Tender.
M. a. variegata. Variegated orange. Tender.
M. a. aurea. Golden-leaved orange. Tender.
Morus rubra. Red mulberry. Fair.
M. Downingii. Downing's mulberry. Fair.
Ulmus Americana. American White elm. Good.
U. campestris. English elm. Good
U. c. adiantifolia. Dead.
U. c. monumentalis fastigiata. Dead.
U. c. montana. Scotch elm. Good.
U. c. pendula. Weeping elm. Dead.
U. c. purpurea. Purple-leaved elm. Dead.

Verbenacæ. Vervian Family.

Deciduous shrubs :

- Callicarpa purpurea.* Dead.
Vitex agnus-castus. Chaste shrub. Dead.

The following summary shows the orders, number of genera, species and varieties represented in the collection.

40 orders, 121 genera, of which 345 species are living, and 132 dead.

| Orders. | Genera. | Species and varieties living. | Species and varieties dead. |
|---------------|---------|-------------------------------|-----------------------------|
| Anacardiaceæ | 1 | 5 | 2 |
| Anonacæ | 1 | 0 | 1 |
| Aquifoliaceæ | 1 | 0 | 3 |
| Araliaceæ | 1 | 1 | 1 |
| Berberidaceæ | 2 | 4 | 2 |
| Betulaceæ | 2 | 10 | 2 |
| Bignoniaceæ | 1 | 5 | 0 |
| Calycanthaceæ | 2 | 1 | 1 |
| Caprifoliaceæ | 5 | 29 | 0 |
| Celastraceæ | 1 | 2 | 1 |
| Coniferae | 12 | 55 | 5 |
| Cornaceæ | 3 | 9 | 1 |
| Cupuliferae | 6 | 10 | 22 |
| Elaeagnaceæ | 1 | 3 | 2 |
| Ericaceæ | 7 | 4 | 8 |
| Euphorbiaceæ | 2 | 3 | 0 |
| Hamamelaceæ | 3 | 3 | 0 |
| Hypericaceæ | 1 | 1 | 3 |
| Juglandaceæ | 2 | 4 | 6 |
| Lauraceæ | 2 | 0 | 2 |
| Leguminosæ | 14 | 12 | 8 |
| Magnoliaceæ | 3 | 1 | 5 |
| Malvaceæ | 1 | 0 | 5 |
| Myrtaceæ | 2 | 0 | 2 |

| Orders. | Genera. | Species and varieties livings. | Species and varieties dead. |
|---------------------------|---------|--------------------------------|-----------------------------|
| Oleaceæ | 5 | 31 | 13 |
| Platanaceæ | 1 | 2 | 0 |
| Rhamnaceæ | 2 | 3 | 1 |
| Rosaceæ | 11 | 61 | 12 |
| Rubiaceæ | 1 | 0 | 1 |
| Rutaceæ | 2 | 1 | 1 |
| Salicaceæ | 2 | 21 | 6 |
| Scrophulariaceæ | 1 | 0 | 1 |
| Simarubaceæ | 1 | 0 | 2 |
| Sapindaceæ | 5 | 25 | 1 |
| Saxifragaceæ | 5 | 21 | 2 |
| Styracaceæ | 1 | 0 | 2 |
| Tiliaceæ | 1 | 4 | 0 |
| Tamariscineæ | 1 | 5 | 0 |
| Urticaceæ | 4 | 9 | 6 |
| Verbenaceæ | 2 | 0 | 2 |
| 40 | 121 | 345 | 132 |

METEOROLOGY.

REPORT OF OBSERVATIONS TAKEN AT THE ONTARIO AGRICULTURAL COLLEGE DURING 1886.

Observations are regularly taken at the hours of 7 a.m., 2 p.m., and 9 p.m. daily, and recorded in a book printed for the purpose. The instruments in use are as follows:—

Anemometer—Recording the direction of the wind and indicating the number of miles travelled.

Barometer—Showing the atmospheric pressure at the time of observation.

Maximum thermometer—Indicating the highest temperature between times of observation.

Minimum thermometer—Indicating the lowest temperature between times of observation.

Hygrometer—With *dry* and *wet* bulb thermometers, for the purpose of showing the condition of the atmosphere with reference to moisture.

Pluviometer—Used in measuring the rainfall.

Thermometer—For observing ordinary temperature.

Besides taking observations from these instruments, the cloudiness of the sky is observed, and general remarks on the weather for the day are recorded in the daily register. At the close of each month a summary of the month's observations is given to the Guelph papers for publication. From these monthly summaries the condensed statement of the year's meteorology is made out.

In my course of lectures on Meteorology, the practical method of teaching is adopted. The instruments named above are fully described, and the students taught not only how to read them, but also to epitomize the observations taken in such a way as to make them interesting and instructive.

At examination some of the instruments are brought into the class-room and the candidate asked to read them.

FORM OF MONTHLY SUMMARY.

Meteorology.

A summary of the meteorological observations taken at Ontario Agricultural College during the month of

Normal height of barometer at Guelph (1,100 feet above sea level and 858 above Lake Ontario), 28.86 inches. Latitude north 43°-38'.

Barometer—

Highest barometer.
 Lowest “
 Highest mean barometer.
 Lowest “ “
 Monthly “ “
 Monthly range.

Thermometer—

Highest thermometer.
 Lowest “
 Highest mean thermometer.
 Lowest “ “
 Monthly “ “
 Monthly range.

Pluviometer—

Days rain fell.
 Greatest rainfall.
 Days snow fell.
 Greatest snowfall.
 Total precipitation.

Anemometer—

Direction of wind.
 Greatest number of miles travelled in twenty-four hours.
 Greatest velocity per hour.
 Mean velocity per month.

Clouds—

Cloudy days.
 Clear days.
 Mean cloudiness for the month.

SUMMARY OF METEOROLOGICAL RESULTS FOR 1866.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. |
|---|----------|-----------|--------|--------|--------|--------|--------|---------|------------|----------|-----------|-----------|
| Barometer— | inches | inches | inches | inches | inches | inches | inches | inches | inches | inches | inches | inches |
| Highest barometer.... | 29.380 | 29.266 | 29.420 | 29.260 | 29.108 | 29.120 | 29.100 | 29.140 | 29.268 | 29.326 | 29.226 | 29.368 |
| Lowest “..... | 28.016 | 28.000 | 28.070 | 28.272 | 28.278 | 28.438 | 28.636 | 28.536 | 28.540 | 28.222 | 28.092 | 28.184 |
| Highest mean barom'er | 29.226 | 29.122 | 29.192 | 29.227 | 29.068 | 29.071 | 29.068 | 29.100 | 29.238 | 29.312 | 29.151 | 29.267 |
| Lowest “..... | 28.091 | 28.138 | 28.062 | 28.286 | 28.482 | 28.488 | 28.644 | 28.889 | 28.580 | 28.341 | 28.190 | 28.270 |
| Monthly “..... | 28.777 | 28.866 | 28.737 | 28.928 | 28.756 | 28.848 | 28.836 | 28.839 | 28.943 | 29.101 | 28.760 | 28.844 |
| Monthly range..... | 1.364 | 1.988 | 1.350 | .988 | .830 | .682 | .464 | .604 | .728 | 1.104 | 1.134 | 1.184 |
| Thermometer— | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. | deg's. |
| Highest temperature.. | 48.9 | 47 | 51.1 | 81.1 | 78.8 | 86.1 | 90 | 92.3 | 86.5 | 76 | 66.5 | 42.5 |
| Lowest “..... | -10.5 | -23.5 | -10.2 | 14.6 | 30.5 | 37.0 | 41.4 | 41.5 | 34.5 | 27.2 | 8.6 | -12.1 |
| Highest mean “..... | 43.5 | 36 | 43.4 | 63.3 | 66.8 | 76.1 | 77.4 | 75.9 | 71.7 | 60.4 | 52.1 | 36.7 |
| Lowest “..... | -.5 | -11.2 | 1.9 | 23.5 | 44.3 | 50.1 | 60 | 56.0 | 45.0 | 31.8 | 13.5 | -.9 |
| Monthly “..... | 13.6 | 16.2 | 27.3 | 44.1 | 54.2 | 62.1 | 65.9 | 64.5 | 42.1 | 47.0 | 29.6 | 17.4 |
| Monthly range..... | 59.4 | 70.5 | 61.3 | 64.5 | 48.3 | 49.1 | 48.6 | 50.8 | 52.0 | 48.8 | 57.9 | 54.6 |
| Pluviometer— | | | | | | | | | | | | |
| Number days rain fell. | 3 | 2 | 5 | 8 | 5 | 12 | 6 | 7 | 13 | 8 | 4 | 1 |
| “ snow fell | 12 | 11 | 6 | 4 | 2 | ..... | ..... | ..... | ..... | ..... | 9 | 13 |
| Greatest rainfall, inches | .69 | .32 | .32 | .78 | .72 | .67 | 1.1 | 1.25 | .54 | 1.21 | 1.4 | .08 |
| Rainfall for month, in. | 1.16 | .35 | 1.30 | 2.53 | 1.22 | 2.77 | 1.99 | 4.31 | 2.79 | 2.34 | 2.13 | .08 |
| Greatest snowfall, in. | 6 | 2.6 | .50 | .6 | .33 | ..... | ..... | ..... | ..... | ..... | 1.0 | 5.0 |
| Snowfall for month, in. | 19.6 | 15.9 | 2.20 | 7.61 | .36 | ..... | ..... | ..... | ..... | ..... | 3.55 | 21.5 |
| Total precipitation.... | 3.12 | 1.94 | 1.52 | 3.31 | 1.26 | 2.77 | 1.99 | 4.31 | 2.79 | 2.34 | 2.48 | 2.23 |
| Anemometer— | | | | | | | | | | | | |
| Predominating wind.. | N. W. | S. W. | N. W. | E. | N. W. | N. W. | N. | N. W. | W. | N. W. | W. | S. W. |
| Greatest No. of miles in 24 hours..... | 659 | 819 | 703 | 743 | 473 | 480 | 410 | 545 | 485 | 943 | 1008 | 619 |
| Mean velocity for the month..... | 15.2 | 15.9 | 5.3 | 12.2 | 11.5 | 9.9 | 8.4 | 9.2 | 10.2 | 11.2 | 12.2 | 13.2 |
| Clouds— | | | | | | | | | | | | |
| Cloudy days..... | 19 | 18 | 18 | 14 | 16 | 15 | 11 | 23 | 10 | 18 | 22 | 20 |
| Clear “..... | 5 | 6 | 11 | 11 | 14 | 12 | 15 | 7 | 13 | 8 | 7 | 5 |
| Mean cloudiness for month..... | 7.8 | 6.5 | 5.7 | 5.2 | 4.8 | 4.9 | 4.4 | 6.7 | 4.8 | 5.7 | 6.7 | 7.1 |

MEAN METEOROLOGICAL RESULTS FOR THE YEAR 1886.

| | 1886. — GUELPH. | Average of 40 Years. — TORONTO. |
|---|-----------------------|--|
| BAROMETER. | | |
| Month of highest mean pressure | October. | September. |
| Highest mean monthly | 29.312 | 29.664 |
| Lowest " " | 28.062 | 29.572 |
| Month of the lowest mean | March. | June. |
| Highest pressure | 29.420 | 30.358 |
| Lowest " " | 28.016 | 28.692 |
| THERMOMETER. | | |
| Mean temperature of the year | 40.3 | 44.17° |
| Warmest month | July. | July. |
| Mean temperature of the warmest month | 77.4 | 67.64° |
| Coldest month | January. | February. |
| Mean temperature of the coldest month | 13.6 | 22.73° |
| Highest temperature | 92.3 | 91° |
| Lowest temperature | -23.5 | 11.9° |
| Range of the year | 115.8 | 102° |
| PLUVIAMETER. | | |
| Total depth of <i>rain</i> in inches | 22.97 | 28.30 |
| Number of days on which <i>rain</i> fell | 74 | 110 |
| Month in which the greatest depth of <i>rain</i> fell | August. | September. |
| Greatest depth of <i>rain</i> in one month | 4.31 | 3.55 |
| Month with most <i>rainy</i> days | September. | October. |
| Greatest number of <i>rainy</i> days in one month | 13 | 13 |
| Total depth of <i>snow</i> in inches | 70.72 | ..... |
| Number of days on which <i>snow</i> fell | 57 | ..... |
| Month in which the greatest depth of <i>snow</i> fell | December. | ..... |
| Greatest depth of <i>snow</i> in one month | 21.5 | ..... |
| Month with most <i>snowy</i> days | December. | ..... |
| Greatest number of <i>snowy</i> days in one month | 13 | ..... |
| Total precipitation in inches | 30.04 | ..... |

DIAGRAM ILLUSTRATING THE MEAN METEOROLOGICAL RESULTS FOR 1886.

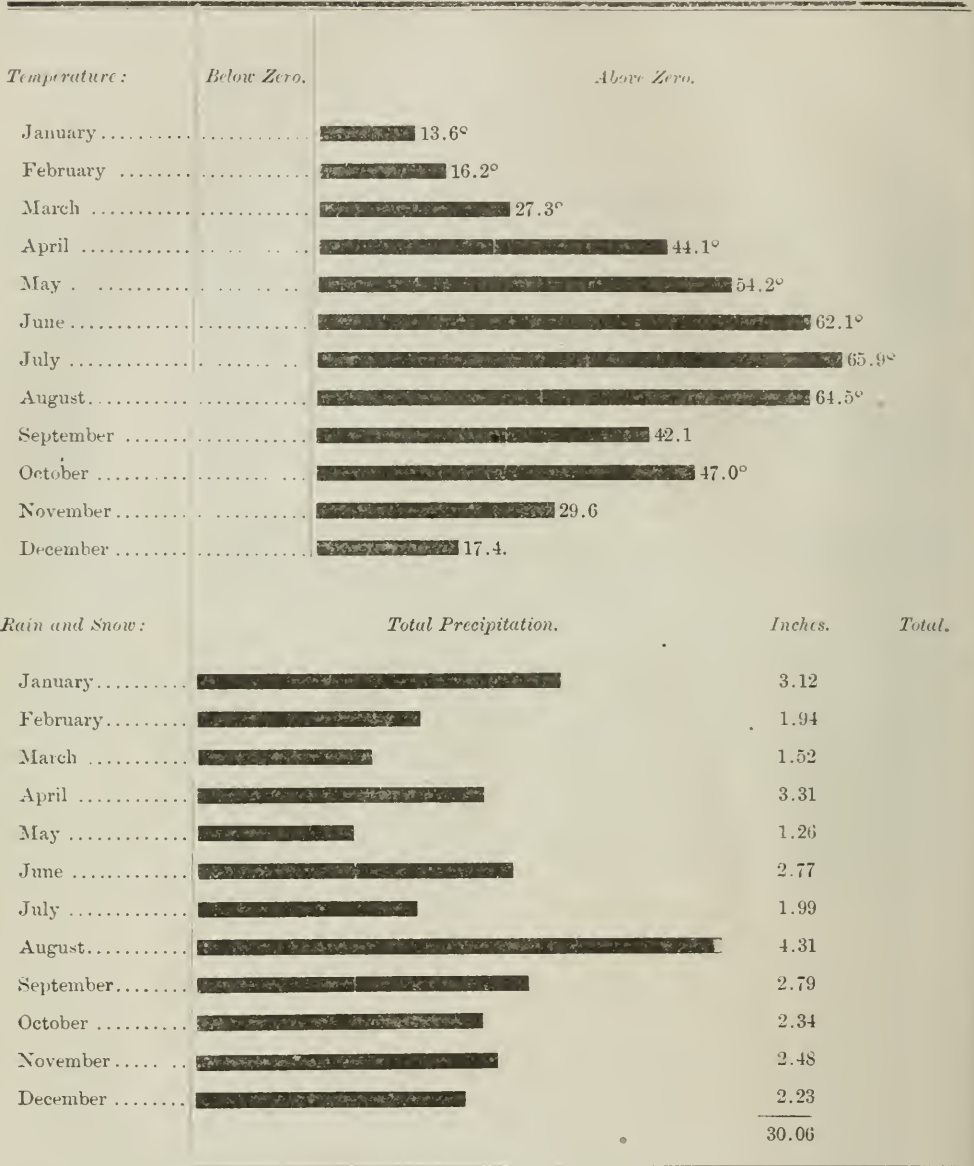






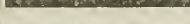

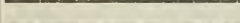
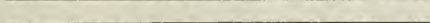

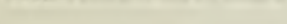

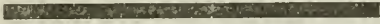

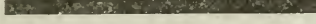

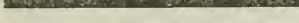
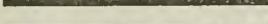
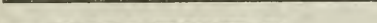
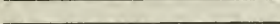


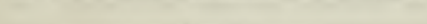


DIAGRAM ILLUSTRATING THE MEAN METEOROLOGICAL RESULTS.—*Continued.*

| <i>Wind:</i> | <i>Miles Traveled.</i> | <i>Miles.</i> | <i>Direction predominating.</i> |
|---------------------|---|---------------|---------------------------------|
| January..... |  | 659 | E. 1 month. |
| February..... |  | 819 | N.W. 6 " |
| March..... |  | 703 | S.W. 5 " |
| April..... |  | 743 | N. 1 " |
| May..... |  | 473 | W. 2 " |
| June..... |  | 480 | |
| July..... |  | 410 | |
| August..... |  | 545 | |
| September..... |  | 485 | |
| October..... |  | 943 | |
| November..... |  | 1008 | |
| December..... |  | 619 | |
| <i>Cloudiness :</i> | | | |
| January..... |  | 7.8 | |
| February..... |  | 6.5 | |
| March..... |  | 5.7 | |
| April..... |  | 5.2 | |
| May..... |  | 4.8 | |
| June..... |  | 4.9 | |
| July..... |  | 4.4 | |
| August..... |  | 6.7 | |
| September..... |  | 4.8 | |
| October..... |  | 5.7 | |
| November..... |  | 6.7 | |
| December..... |  | 7.1 | |

J. HOYES PANTON,
 Professor Natural History and Geology.

PART III.

REPORT

OF

THE PROFESSOR OF CHEMISTRY.

ONTARIO AGRICULTURAL COLLEGE,

December, 1886.

To the President of the Ontario Agricultural College, Guelph, Ontario :

DEAR SIR,—In presenting to you my first report, as Professor of Chemistry, I beg to offer to yourself, to Prof. Brown, and to the Commissioner of Agriculture, Hon. A. M. Ross, my sincere thanks for your hearty co-operation and assistance in meeting my wishes and the wants of the Chemical department during the past year. I trust that the evidence of the past will be the earnest of greater things in the future. Further, I feel indebted to all connected with this College for the reception I have received.

The subjects of the first and second year were continued by myself until the end of the winter term. In Practical Chemistry, with the second year, I have endeavoured to reduce the work so as to be practicable within the limited time of the spring term. It being found impossible to give any instruction in quantitative analysis within the time allotted, that subject has been reserved for the third, or post-graduate year. With that exception, I think the whole work of the first and second years, as laid down in the published *syllabus*, has been covered; though, of course, no single subject has been exhausted. The subjects handled in these two years are to be enlarged and developed in the third year.

As regards apparatus and accommodation, I have endeavoured to make the best of what I found at my disposal. Some of the results of the work accomplished have been published in bulletin form. Two bulletins were issued from the Chemical department. The first one was on the subject of salt—a comparison between leading English and Canadian brands. There has existed, in past years, a strong prejudice against Canadian salt, everything under the name or brand of Canadian being at once condemned by the public as inferior to anything of the nature of salt bearing an English name or brand. The origin of this prejudice was doubtless well founded, but its continuance being a subject of doubt, I undertook an investigation of the subject. The analyses were not made to compare or contrast one Canadian brand with another, but to compare average Canadian salt with average English salt. All the Canadian brands were not obtained, nor were all the English; those analyzed were procured in the Guelph market, and may be taken as fair representatives of the two classes. In cases where a manufacturer asked me for the analysis of his own salt, I gave it, but gave to him that of no other.

The comparison results very favourably to Canadian brands; all the samples of Canadian salt may be considered as being very good, though there is room for still further improvement.

Five Canadian and four Liverpool salts were analyzed. Each was analyzed twice and the average taken, as given in the table below. While these analyses were in progress, a sample of salt was sent to the Dairy department for investigation. It was handed to me for analysis, and as the name neither of manufacturer nor of user was given me with the salt, I added it as "No. 10, unknown." It was appended merely to shew the composition of an impure salt for contrast with the others. The comparison stands between Nos. 1 to 5, and Nos. 6 to 9.

Common salt consists of sodium chloride (97 per cent. to 98 per cent.), water, calcium sulphate or gypsum ($1\frac{1}{4}$ per cent. to $2\frac{1}{2}$ per cent.), calcium chloride, magnesium chloride, with traces of sand, clay, iron and dirt. The gypsum should not exceed $1\frac{3}{4}$ per cent. to 2 per cent.; in excess it makes the salt difficultly soluble and produces a slime. The chlorides of magnesium and calcium are very soluble, and attract moisture from the air. The magnesium salts impart whatever bitter taste may be apparent.

Most of the samples were taken from sacks of fine dairy or table salt, procured for the Dairy department by Prof. Robertson.

The following is the

CHEMICAL ANALYSIS.

| No. | BRAND. | Order as to purity. | Sodium chloride. | Water. | Calcium and magnesium chloride. | Calcium sulphate. | Residue. | Total impurity. |
|-----|----------------|---------------------|------------------|--------|---------------------------------|-------------------|----------|-----------------|
| 1 | Canadian..... | 2nd. | 97.66 | 0.49 | 0.13 | 1.63 | 0.09 | 1.85 |
| 2 | Canadian..... | 4th. | 97.11 | 0.71 | 0.23 | 1.87 | 0.08 | 2.18 |
| 3 | Canadian..... | 8th. | 94.26 | 3.29 | 0.47 | 1.93 | 0.05 | 2.45 |
| 4 | Canadian..... | 5th. | 97.18 | 0.58 | 0.24 | 1.95 | 0.05 | 2.24 |
| 5 | Canadian..... | 6th. | 96.61 | 1.11 | 0.27 | 1.86 | 0.15 | 2.28 |
| | Average..... | ..... | 96.564 | 1.236 | 0.268 | 1.848 | 0.084 | 2.200 |
| 6 | Liverpool..... | 1st. | 97.12 | 1.09 | 0.26 | 1.45 | 0.08 | 1.79 |
| 7 | Liverpool..... | 3rd. | 97.20 | 0.75 | 0.25 | 1.72 | 0.08 | 2.05 |
| 8 | Liverpool..... | 7th. | 96.93 | 0.69 | 0.31 | 1.88 | 0.19 | 2.38 |
| 9 | Liverpool..... | 9th. | 96.47 | 0.94 | 0.23 | 2.26 | 0.10 | 2.59 |
| | Average..... | ..... | 96.930 | 0.868 | 0.263 | 1.828 | 0.113 | 2.203 |
| 10 | Unknown..... | 10th. | 93.00 | 1.79 | 0.55 | 3.70 | 0.96 | 5.21 |

The "residue" in the above table is the insoluble or difficultly soluble portion.

The average impurity of the five Canadian salts is 2.200 per cent.; the average impurity of the four Liverpool salts is 2.203 per cent. There is as much difference between the various English brands as between the English and Canadian, and the average of the latter is a little ahead of the average of the former. If allowance be made for the water, the apparent advantages of the Liverpool salt will disappear and the average stand about equal.

PHYSICAL ANALYSIS.

By means of fine sieves, each sample was divided into four classes; these were weighed, and an estimate made of the uniformity and fineness of the different brands. Taking 100 as the maximum of uniformity and fineness, the salts were arranged in the following order: No. 6, 88; No. 4, 87; No. 7, 86; No. 1, 84; No. 9, 83; No. 2, 72; No. 8, 69; No. 3, 66; No. 5, 54; or (1) Liverpool, (2) Canadian, (3) Liverpool, (4) Canadian, (5) Liverpool, (6) Canadian, (7) Liverpool, (8) Canadian, (9) Canadian. In this respect the Liverpool salts are a little ahead, being on the average a little more uniform.

SOLUBILITY.

On the average the Liverpool salts are a little more readily soluble than the Canadian. The purer a salt the more thoroughly it dissolves, but not necessarily the more quickly. The rapidity of solution depends upon the *shape* of the grain as well as upon the *size*: the more soluble salts are flat, thin, disc-shaped; the more insoluble are compact and cubical in grain. No 1, for instance, is quite pure and small in grain, but very difficultly soluble; it is gritty in feel; No. 6, the purest and finest, stands fourth. In choosing a salt, then, attention should be paid to the shape of the grain; for a quick pickle the flat grain is preferable, and for dry-curing and slow pickle the compact grain. The best Canadian salts are slow in solution, the best Liverpool a little more rapid. Too often Canadian salts have been condemned because a slowly dissolving salt has been used where a rapidly dissolving salt was required; for instance, in the salting of butter for immediate use. Dealers and users of salt seem to pay too little attention to this important question of solubility.

In the salting of food for immediate use, butter and pork for example, also in the case of vegetable pickling, the rapidly dissolving salts are best. In the dry-curing of meat, the making of a lasting pickle, the salting of dairy products to be stored for some time, a more slowly dissolving salt is preferred. For table use a fine salt of uniform grain, clean and white, dry and quickly dissolving, is required. Such a salt as the latter is required also for butter-making, and there seems to be lacking just such a salt among the Canadian brands. The best Canadian salts are either too hard in grain or too large for this immediate use. If such a brand were available Canadian salt would have no fear of competition with Liverpool salt.

STRENGTH OF BRINE.

The value of a salt cannot be accurately determined from the specific gravity of the brine it produces, as the weight can be increased by increasing the soluble impurities. In mixing brines a hydrometer, or salometer, as it is termed in this connection, does not give exact results as to the purity of a salt or the saltiness of a brine; for ordinary purposes, however, it may be used.

COLOUR OF SALT.

A first-class salt should be pure white in colour. All of the Liverpool salts have faint bluish tinge; two of the Canadian salts, from the same locality, have a faint reddish cast. These colours are perhaps due to the shells of animals deposited in or beside the salt brines. Enough of the red colouring matter was obtained to determine it to be due to the presence of iron. A very decided red or blue cast should condemn a salt for use. One packer gave as his experience that a dark salt colored the outside of the meat dark also, though he was of the opinion that neither that nor the sliminess produced by some salts affected the interior of the meat.

CHARACTERISTICS OF A GOOD SALT.

A first-class salt should be: 1st, clean; 2nd, white; 3rd, comparatively dry; 4th, uniform in grain; 5th, quite thoroughly soluble in water; 6th, scale-like in grain for quick, and compact for slow solution.

In following such directions no one should have been deceived in purchasing or in using such a salt as No. 10, since its appearance showed its impurity quite distinctly. With such a guide, also, any intelligent purchaser should be able to select a Canadian salt suitable for his purpose. The only difficulty he will meet with will be in finding a quickly soluble salt suitable for some grades of butter. The manufacturers should endeavour to meet the demands of the butter makers, and produce a salt fully equal to the best Liverpool, being clean and pure in composition, uniform in grain and quick in solution.

There are doubtless some poor brands of Canadian salt, but so there are also poor brands of English salt. Whether the Government should allow poor brands to be manufactured or whether they should be killed out by compelling the manufacturer to publish the analysis of his salt is a question worth considering. From the investigation I am convinced that we can compete with the English manufacturers. The analysis of a single sample is not sufficient to guarantee or condemn any brand as a whole; the best way in which to obtain a good Canadian salt is to buy only from reliable makers and use the eyes, hands and tongue, in determining the requisites of a good brand.

I spent considerable time among the packers and dealers of Toronto, and found that the prejudice was being removed; that Canadian salt would be used if guaranteed pure enough, and if suitable for the work. In some cases Canadian salt is being used although the consumers believe their food is preserved and flavoured with Liverpool salt.

MARL.

From time to time samples of marl are received for identification and analysis. The enquiries in reference to the nature, use, and value of such deposits, led me to make an investigation of the samples at my disposal. The common occurrence of marl, and the general desire for information in reference to all natural supplies of fertilizers, warrant a reproduction of the conclusions in this report.

Marl is frequently found below deposits of muck or humus, in swamps and low land, sometimes quite near to the surface. It is then of a slate or bluish-white color, wet and spongy, darkened a little on top from the overlying dark soil. Upon exposure to the air it dries to a white crumbly mass, light in weight, and showing its origin in the shells of various sizes with which it is filled. Of such a nature is No. 4 of the table below, which was dug up on the Experimental Farm, Guelph.

In some localities the marl bed is found exposed, high and dry, ready for immediate application to land. When found lying low and soaked with water, it should be dug out and exposed to the weather. The fall is the best time for excavating. Let it lie in heaps; in the Spring it will be found thoroughly pulverized by the winter's frosts.

Its deposit beneath humus or swamp muck can be accounted for in the same way as the deposit of salt in the ocean; inflowing streams of hard water bring their loads of lime and sand to the swamp basin: the water having no outlet, accumulates, or evaporates, and drops its load of lime upon the bottom of the basin. Years serve to increase the accumulation. Being heavier than the humus it falls through and forms a bed or layer underneath. Many beds are nothing else than beds of more or less decomposed and disintegrated shells. If compacted together the deposit is not marl but limestone. When largely composed of fossils, phosphoric acid will be found, sometimes forming a very large percentage. Fossiliferous limestone, or shell marl, will be on this account more valuable than the common deposits of carbonate of lime.

To distinguish marl from clay, pour upon it a small quantity of acid, and if it be marl it will effervesce. To test its value quickly, place a small lump in an earthen dish and pour upon it a little hydrochloric acid; the less residue undissolved the better the sample of marl. The effervescence is caused by the setting free of carbonic acid gas from the carbonate of lime, of which marl is principally composed. The carbonate of lime or calcium is the most valuable ingredient. In addition will be found small quantities of sand, magnesium carbonate, oxides of iron and aluminum, and variable quantities of phosphate of lime. Marl, however, is generally a lime fertilizer, and is used as such.

The results of analyses are given in the following table, in which some of the percentages are wanting, though the important ones are given. The first seven were analyzed lately at the laboratory of the Ontario Agricultural College by myself. Nos. 1, 2 and 3 came from north-eastern Ontario; No. 4 is from the Experimental Farm, direct from a low-lying bed; No. 5 is a weathered sample, locality unknown; No. 6 is from near Toronto; No. 7 is from Quebec; No. 8 is an Ontario marl, analyzed by the

Connecticut Station ; Nos. 9, 10, 11 and 12 are Michigan marls, analyzed at the Michigan Agricultural College, Lansing ; Nos. 13 and 14 are from North Carolina.

| No. | Water. | Sand—insoluble matter. | Oxide of Iron and Aluminum. | Magnesium Carbonate. | Lime or Calcium Carbonate. |
|-----|--------|------------------------|-----------------------------|----------------------|----------------------------|
| 1 | 2.82 | 1.13 | 1.84 | 1.29 | 92.92 |
| 2 | 11.10 | 2.48 | 1.37 | 1.27 | 83.78 |
| 3 | 20.64 | 1.09 | 0.92 | 0.98 | 76.37 |
| 4 | 53.90 | 1.42 | 0.52 | 1.18 | 42.98 |
| 5 | 2.25 | 5.51 | 1.16 | 1.84 | 89.24 |
| 6 | 1.56 | 1.54 | 1.89 | 0.72 | 94.29 |
| 7 | 2.41 | 0.83 | 0.76 | | 96.00 |
| 8 | 2.51 | 0.41 | 0.29 | 2.10 | 94.69 |
| 9 | 1.43 | 13.00 | 1.43 | 4.54 | 79.60 |
| 10 | ..... | 36.79 | 1.05 | 6.00 | 56.16 |
| 11 | ..... | 5.50 | ..... | 2.00 | 90.00 |
| 12 | ..... | 16.00 | ..... | 2.50 | 80.00 |
| 13 | ..... | 74.86 | ..... | ..... | 10.57 |
| 14 | ..... | 0.48 | ..... | ..... | 94.00 |

The following is an analysis of a fossiliferous limestone ; it might also be taken as the analysis of an extra rich phosphatic marl :—

Sand, 6.89 per cent. ; Carbonate of Lime, 70.00 per cent. ; Phosphate of Lime, 14.87 per cent.

Such a sample would be worth about \$7 per ton.

According as the lime, clay or sand predominates, the marl is classed as calcareous, clayey or sandy. The Ontario samples are calcareous ; the 13th is a sandy marl.

As before noticed marl is generally a lime fertilizer ; phosphoric acid when present adds to its value. The effects of an application of marl are either physical or chemical. Physically it serves to give lightness and looseness to soils and thus render them more workable. Chemically it serves as a direct food to the plant, being used in the building up of stem and stalk. It will be found of especial value, therefore, to plants developing stem and leaf—grasses are especially benefitted by lime ; clover demands lime in the form of gypsum ; so also with roots. It corrects acidity or sourness in soils. It helps to decompose and render available the mineral matter of the soil, especially the silicates. It greatly assists in the decay of vegetable compounds, whether found in the compost heap or in the soil.

APPLICATION.

The nitrogen of swamp muck, (humus) is unavailable in its ordinary condition. Thoroughly drain the swamp and apply sixty to seventy-five bushels of marl per acre. No benefit will result unless draining be done, as marl is a great absorbent of moisture.

On light soils apply about 25 bushels per acre, sufficient to help the decomposition of organic matter and supply lime to the crops. If the soil be very porous and subject to drouth apply more—the marl will improve its water-holding power. Since lime quickly filters through a soil, it will be found better to harrow in the marl lightly than to plow under.

For clay lands apply by the waggon-load ; hardly too much can be added. The more marl applied the deeper it should be worked in ; apply muck also if available. Neither marl nor muck should be applied to *undrained* wet land, as they are both great absorbents of water.

Farmers having marl deposits will do well to test their value on different lands. Small plots in a couple of fields will be sufficient. Those not having them should examine their swamps and marshy lands, digging a few feet beneath black soils will often disclose the whitish marl.

Lime, in the form of burnt lime should not be used with farmyard manures. In the changes resulting, ammonia is formed and set free; this is a volatile compound. Lime, in the form of sulphate, *i. e.*, gypsum or land-plaster, is better; it produces ammonium sulphate, a stable compound—in other words, it *fixes* the ammonia.

There is no market for marl at present established in Canada. Its value depends upon its situation and the nature of the surrounding land. The commercial value for lime in fertilizers is sometimes placed at \$5 per ton. At that rate, Ontario dried marls are worth from \$2 to \$3 per ton. Rich marls are sometimes utilized for burnt lime. Phosphoric acid, when present, may be reckoned at the rate of six cents a pound.

DAIRY ANALYSES.

During the summer, fall and early winter, twelve samples of whole milk were analyzed for Prof. Brown, and for Prof. Robertson thirty-two samples of skimmed milk, twenty samples of butter-milk and twenty samples of cheese—eighty-four in all. This work devolved principally upon Mr. Zavitz, the assistant in the Experimental Department.

GENERAL WORK.

Samples of soils, oil cake, cream, water, etc., have been received from various sources and a most varied series of correspondence, all of which have been attended to, so far as the other duties permitted. Being new to the surroundings I was a little later with some of the practical work than I hope to be during the future.

SOIL THERMOMETERS.

The observations of ground temperature were recorded from June 1st to November 1st, on August 15th the 24in. thermometer was broken by an inconsiderate steer. August 1st, Prof. Brown added to our collection three additional pairs of thermometers, which were placed in the three lysimeters containing clover on sand, clay and loam. They registered at the depths of three and nine inches. A careful study of the effects of air and surface temperature upon deep soil temperature will prove interesting.

The soil in which the soil thermometers stood was sandy, bare on top.

One of the principal benefits to be derived from such observations will doubtless be in the study of nitrification in its variation with temperature.

These observations were made at the time and as recorded by Mr. Zavitz.

As shewing the connection between soil temperature and the formation of nitrates in the soil, the following extract from Lawes and Gilbert's report on drainage waters will be appropriate:—

“Nitrification is the work of a living ferment contained in the soil, which is capable of oxidising ammonia and probably other nitrogenous bodies, into nitric acid; the action is, in fact, quite similar to that of the vinegar ferment, which oxidises alcohol into acetic acid. The investigation and establishing this fact we owe to M.M. Schloesing and Müntz; their results have been amply confirmed by experiments made at Rothamsted.

The nitrifying ferment is apparently present in all fertile soils; it requires for its activity a sufficient supply of water and air, and also some salifiable base, as chalk; a certain degree of warmth is also necessary. No nitrification will take place in a dry soil; the production of nitrates will increase in activity as the soil becomes wetter, up to the point at which water begins to interfere with the free aëration of the soil. Nitrification is at a standstill near the freezing-point, and gradually increases in activity as the temperature rises, reaching its maximum of energy about 98° Fahr. (37°c.) At a higher temperature it diminishes in activity and ceases altogether at 131° (55°c.). The process of nitrification is probably chiefly confined to the surface soil, where nitrogenous matters are most abundant, and the supply of air greatest; it will proceed with greatest energy in summer time, and be especially active during a wet summer. The nitrate produced in soil is chiefly nitrate of calcium.”

The readings given in our tables are all centigrade.

OBSERVATIONS of Ground Temperature from June 1st to November 1st.

| MONTH. | Day. | Time of Reading. | Barometer. | Attached Ther- mometer. | Wet bulb Ther- mometer. | Dry bulb Ther- mometer. | Maximum Ther- mometer. | Minimum Ther- mometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | |
|--------|------|------------------|------------|----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|------------------------------|---|-----------|-----------|-----------|------------|------------|------------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. |
| June | 1 | 7 a.m. | 28.810 | 57.0 | ..... | 54.5 | ..... | ..... | ..... | 56.5 | 52.0 | 53.0 | 56.0 | 53.5 | 51.0 | 48.5 |
| | | 2 p.m. | 28.810 | 86.5 | ..... | 74.5 | ..... | ..... | ..... | 84.2 | 75.2 | 62.0 | 56.2 | 53.7 | 51.2 | 48.8 |
| | | 9 p.m. | 28.822 | 64.0 | ..... | 58.0 | 75.0 | ..... | 46.0 | 62.0 | 65.0 | 65.0 | 59.0 | 54.0 | 51.3 | 48.8 |
| " | 2 | 7 a.m. | 28.700 | 60.1 | ..... | 59.1 | ..... | ..... | ..... | 58.8 | 58.0 | 58.6 | 58.0 | 54.4 | 51.7 | 48.8 |
| | | 2 p.m. | 28.554 | 75.0 | ..... | 70.2 | ..... | ..... | ..... | 71.3 | 69.1 | 65 | 59.3 | 54.6 | 51.8 | 49.0 |
| | | 9 p.m. | 28.708 | 53.1 | ..... | 52.2 | 74.8 | ..... | 50.5 | 56.7 | 60.0 | 61.9 | 59 | 55.6 | 51.9 | 49.1 |
| " | 3 | 7 a.m. | 28.824 | 47.5 | ..... | 47.0 | ..... | ..... | ..... | 50.7 | 51.2 | 54.2 | 56.2 | 54.8 | 52.0 | 49.3 |
| | | 2 p.m. | 28.940 | 57.5 | 56.2 | 56.8 | ..... | ..... | ..... | 66.4 | 60.8 | 57.5 | 55.6 | 54.8 | 52.1 | 49.4 |
| | | 9 p.m. | 28.958 | 52.7 | 46.9 | 46.1 | 58.2 | ..... | 42.7 | 51.2 | 55.9 | 58.9 | 57.8 | 54.6 | 52.1 | 49.6 |
| " | 4 | 7 a.m. | 28.958 | 48.1 | 45.7 | 47.6 | ..... | ..... | ..... | 52.8 | 47.7 | 50.2 | 54 | 54.7 | 52.4 | 49.8 |
| | | 2 p.m. | 28.846 | 71.5 | 57.5 | 67.8 | ..... | ..... | ..... | 72.8 | 69.0 | 62.4 | 55.1 | 54.8 | 51.4 | 49.8 |
| | | 9 p.m. | 28.844 | 61.7 | 49.8 | 54.0 | 69.0 | ..... | 33.3 | 57.1 | 60.1 | 61.8 | 58.8 | 54.2 | 52.5 | 50.0 |
| " | 5 | 7 a.m. | 28.784 | 56.7 | 53.0 | 55.4 | ..... | ..... | ..... | 56.7 | 53.0 | 54.1 | 55.8 | 54.5 | 52.2 | 50.0 |
| | | 2 p.m. | 28.700 | 66.0 | 57.0 | 62.0 | ..... | ..... | ..... | 63.5 | 62.2 | 60.7 | 56.8 | 56.1 | 54.3 | 52.2 |
| | | 9 p.m. | 28.808 | 58.0 | 52.0 | 53.0 | 69.8 | ..... | 44.2 | 55.2 | 57.5 | 59.3 | 57.5 | 54.3 | 52.3 | 50.0 |
| " | 6 | 7 a.m. | 28.896 | 55.0 | 51.5 | 53.3 | 77.5 | 73.5 | ..... | 55.6 | 51.8 | 52.7 | 54.7 | 54.5 | 52.3 | 50.0 |
| | | 2 p.m. | 28.794 | 59.1 | 57.1 | 58.0 | ..... | ..... | ..... | 58.8 | 57.8 | 58.3 | 58.0 | 54.8 | 52.7 | 50.1 |
| | | 9 p.m. | 28.974 | 52.2 | 46.0 | 48.2 | 70.2 | 47.8 | ..... | 71.6 | 69.2 | 64.4 | 58.6 | 57.8 | 54.9 | 52.6 |
| " | 8 | 7 a.m. | 29.002 | 49.2 | 47.0 | 48.0 | ..... | ..... | ..... | 53.5 | 57.6 | 60.8 | 59.0 | 55.0 | 52.7 | 50.2 |
| | | 2 p.m. | 29.044 | 72.0 | 55.5 | 67.0 | ..... | ..... | ..... | 52.0 | 48.5 | 52.1 | 55.6 | 55.4 | 53.3 | 50.3 |
| | | 9 p.m. | 28.968 | 67.6 | 54.9 | 56.0 | 70.1 | 39.2 | ..... | 81.0 | 75.8 | 67.1 | 57.8 | 57.8 | 55.1 | 53.0 |
| " | 9 | 7 a.m. | 28.832 | 53.7 | 51.0 | 51.4 | ..... | ..... | ..... | 54.8 | 53.7 | 55.7 | 58.2 | 56.8 | 53.0 | 50.6 |
| | | 2 p.m. | 28.736 | 75.0 | 59.0 | 66.5 | ..... | ..... | ..... | 73.8 | 67.0 | 61.4 | 57.5 | 57.5 | 53.0 | 50.8 |
| | | 9 p.m. | 28.652 | 68.0 | 60.7 | 63.0 | 73.0 | 40.8 | ..... | 65.0 | 65.6 | 65.6 | 60.0 | 55.7 | 53.2 | 50.8 |
| " | 10 | 7 a.m. | 28.628 | 58.5 | 57.0 | 57.0 | ..... | ..... | ..... | 58.0 | 57.1 | 58.1 | 58.8 | 56.0 | 53.3 | 50.9 |
| | | 2 p.m. | 28.184 | 76.8 | 63.0 | 67.0 | ..... | ..... | ..... | 76.5 | 72.8 | 65.2 | 59.0 | 58.5 | 56.0 | 53.4 |
| | | 9 p.m. | 28.732 | 59.0 | 53.0 | 54.2 | 70.0 | 52.0 | ..... | 56.0 | 58.8 | 61.5 | 60.5 | 60.0 | 53.7 | 51.0 |

| | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|----------------------|----------------------|--------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 11 | 7 a.m. 2 p.m. 9 p.m. | 28,834 28,884 28,926 | 56.0 77.5 69.0 | 50.4 58.5 54.0 | 55.0 68.5 56.1 | 71.2 41.5 | 53.7 79.3 62.0 | 50.7 73.2 64.4 | 53.0 66.0 66.4 | 56.3 58.1 62.3 | 57.2 57.2 60.7 | 56.2 56.2 56.2 | 53.8 53.8 54.0 | 51.1 51.1 51.3 |
| 12 | 7 a.m. 2 p.m. 9 p.m. | 28,952 29,032 28,914 | 57.0 81.5 65.4 | 53.0 61.0 52.2 | 53.1 69.5 56.7 | 71.0 46.0 | 56.7 78.3 62.7 | 55.4 71.0 64.5 | 56.8 64.8 66.1 | 58.5 58.8 62.7 | 58.8 58.4 61.2 | 56.5 56.4 56.6 | 53.8 54.0 54.0 | 51.3 51.3 51.5 |
| 13 | 7 a.m. | 28,864 | 67.2 | 61 | 66 | 84.1 | 68 | 61 | 59.4 | 59.4 | 59.6 | 57 | 54.1 | 51.7 |
| 14 | 7 a.m. 2 p.m. 9 p.m. | 28,742 28,768 28,756 | 67 94 76 | 64 66.5 | 64.2 83.5 68 | 84.9 | 68 94.5 71.6 | 64.2 88.5 75 | 63.8 78.9 75.6 | 63.2 66.3 70.2 | 63 64 67.7 | 58 59.5 58.8 | 54.7 55 55.1 | 51.9 52.1 52.2 |
| 15 | 7 a.m. 2 p.m. 9 p.m. | 28,772 28,720 28,690 | 69.2 95.5 79 | 66 76.5 69.3 | 65.7 84.3 72.1 | 85 | 70 95.5 73.5 | 67.7 87.3 75.8 | 67.5 78.2 75.8 | 66.2 68 71 | 65.8 66 68.7 | 59.7 60 60.3 | 55.5 55.8 56 | 52.5 52.6 52.8 |
| 16 | 7 a.m. 2 p.m. 9 p.m. | 28,624 28,656 28,582 | 72 88.5 77 | 68.8 74.9 71 | 69 79.9 72 | 83 | 80.8 85.6 71.7 | 68.8 80.5 73.5 | 68.8 74.7 74.2 | 67.7 68.8 70.8 | 67 66.5 69 | 62 61.1 61.5 | 56.6 56.8 57 | 53 53 53.4 |
| 17 | 7 a.m. 2 p.m. 9 p.m. | 28,434 28,456 28,576 | 70 77.8 57 | 65.4 67.2 54 | 66 72 56 | 74.5 | 69.4 73.5 58.2 | 67.3 73.8 63 | 68 73.2 68 | 67.6 68 67.8 | 67.3 67 67.3 | 63 62 62 | 57.5 57.8 57.7 | 53.8 54 54 |
| 18 | 7 a.m. 2 p.m. 9 p.m. | 28,734 28,788 28,702 | 62 65 57 | 48 53.5 46.8 | 50 61 49.2 | 61.8 | 58 67 50.3 | 54.6 66.1 57.9 | 57.8 62.5 62.5 | 63.6 62.6 63.7 | 63.6 62.7 63.7 | 62 61.6 62.3 | 58.1 58.3 58.3 | 54.2 54.4 54.7 |
| 19 | 7 a.m. 2 p.m. 9 p.m. | 28,972 29,036 29,020 | 50 74 77 | 46.7 57.5 56 | 48 67 59.3 | 69 | 56.2 82.5 62.3 | 49.6 77 68.2 | 52.8 70 70 | 58.7 61 65.3 | 60 60.3 64 | 61 60.3 60.3 | 58.1 59.2 58 | 54.7 55 55 |
| 20 | 7 a.m. | 29,036 | 64 | 54.6 | 61.2 | 70.5 | 66 | 58.6 | 58.4 | 60.5 | 61.2 | 60.4 | 57.9 | 55 |
| 21 | 7 a.m. 2 p.m. 9 p.m. | 28,968 28,980 28,988 | 61 72 66 | 56.3 62.2 60 | 60 65 61 | 65.9 | 60.8 66.7 61.4 | 60.1 65.7 63 | 61.4 64.5 63.8 | 62.4 62.2 62.8 | 62.7 62 62.8 | 60.6 60.5 61.7 | 57.9 58 58 | 55 55 55 |
| 22 | 7 a.m. 2 p.m. 9 p.m. | 28,898 28,874 28,800 | 61.8 76.2 63 | 59.9 65.2 58.6 | 60 68 58.4 | 68 | 61.4 68.7 72.7 | 60.6 65.7 62.7 | 61.3 63.7 63.5 | 61.3 61.9 63.7 | 61.8 61.7 62.8 | 60.4 60.2 61 | 58 58 58 | 55 55.1 55.1 |
| 23 | 7 a.m. 2 p.m. 9 p.m. | 28,696 28,710 28,678 | 57.5 71 60.2 | 55 59 58 | 55.2 62.2 58.2 | 64 | 58 69.9 60.7 | 58.1 67.1 61.7 | 59.7 63.8 63 | 60.7 61 62.2 | 61.2 61 62 | 60 59.8 59.6 | 57.8 58 57.6 | 55.2 55.2 55.2 |

OBSERVATIONS of Ground Temperature—Continued.

| Month. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | |
|----------------|------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. |
| June—Continued | 24 | 7 a.m. | 28.694 | 62 | 59.2 | 59.8 | 68.7 | ..... | ..... | 63.2 | 60.8 | 61 | 61.1 | 59.8 | 57.7 | 55 |
| | | 2 p.m. | 28.718 | 71.1 | 63.2 | 66 | ..... | ..... | ..... | 69.7 | 68 | 62 | 61.6 | 59.7 | 57.7 | 55.1 |
| | | 9 p.m. | 28.690 | 63 | 59 | 59.2 | 68.7 | 56.7 | .090 | 62.2 | 63.9 | 55.1 | 62 | 62.8 | 59.7 | 57.7 | 55 |
| “ | 25 | 7 a.m. | 28.672 | 63 | 59.8 | 60.6 | ..... | ..... | ..... | 62 | 61.8 | 61.3 | 61.8 | 57.7 | 57.7 | 55 |
| | | 2 p.m. | 28.682 | 73 | 63.6 | 66.2 | ..... | ..... | ..... | 71.8 | 69.8 | 66.9 | 62.8 | 59.6 | 57.7 | 55.2 |
| | | 9 p.m. | 28.708 | 61.4 | 58.7 | 60 | 69 | 56.3 | .026 | 61 | 63 | 64.8 | 62.1 | 59.8 | 57.6 | 55 |
| “ | 26 | 7 a.m. | 28.722 | 62 | 59 | 59 | ..... | ..... | ..... | 61 | 60.3 | 60.9 | 61.8 | 59.9 | 57.7 | 55.2 |
| | | 2 p.m. | 28.782 | 72.5 | 63.8 | 68.1 | ..... | ..... | ..... | 73 | 68.8 | 65.4 | 61.8 | 61.8 | 57.8 | 55.2 |
| | | 9 p.m. | 28.840 | 66.2 | 59 | 61 | 70.9 | 57.4 | ..... | 60.6 | 62.9 | 65 | 63.4 | 60 | 57.8 | 55.2 |
| “ | 27 | 7 a.m. | 28.880 | 67.2 | 60.5 | 66 | 74.8 | 49 | ..... | 69.2 | 60 | 59.5 | 60 | 60 | 57.7 | 55.3 |
| | “ | 7 a.m. | 28.936 | 61.2 | 57 | 61.4 | ..... | ..... | ..... | 63.2 | 56.8 | 57.7 | 61.4 | 60.2 | 57.8 | 65.3 |
| | | 2 p.m. | 28.984 | 82 | 63.4 | 75.2 | | | | 87.8 | 82.6 | 72.7 | 63.1 | 62 | 66.2 | 57.9 | 55.5 |
| “ | 29 | 7 a.m. | 28.926 | 60.2 | 54.8 | 58.8 | ..... | ..... | ..... | 65 | 70.5 | 73.2 | 67.7 | 66 | 61 | 58 |
| | | 2 p.m. | 28.902 | 80 | 65 | 75.5 | ..... | ..... | ..... | 62.8 | 58.8 | 60.2 | 62.7 | 63.3 | 60.8 | 58 |
| | | 9 p.m. | 28.910 | 65.6 | 57.2 | 60.2 | 76.2 | 46.2 | ..... | 82.7 | 78.9 | 71.8 | 64.2 | 63.4 | 60.7 | 58.2 |
| “ | 30 | 7 a.m. | 29.036 | 63 | 55 | 61.2 | ..... | ..... | ..... | 63 | 68.2 | 70.3 | 67.3 | 66.1 | 60.9 | 58.2 |
| | | 2 p.m. | 29.110 | 79 | 59 | 69.2 | ..... | ..... | ..... | 62.8 | 59 | 60.3 | 63 | 63.7 | 61.2 | 58.2 |
| | | 9 p.m. | 29.068 | 64 | 52 | 54 | 70.8 | 48.8 | ..... | 84.6 | 80 | 71.1 | 63.9 | 63.8 | 61.2 | 58.8 |
| July | 1 | 7 a.m. | 29.050 | 55 | 51.6 | 54 | ..... | ..... | ..... | 60.5 | 67.2 | 70.3 | 67.4 | 62.4 | 58.9 | 55.8 |
| | | 2 p.m. | 29.112 | 79 | 71 | 71.5 | ..... | ..... | ..... | 67.8 | 65.8 | 62.2 | 62.4 | 61.4 | 58.8 | 56 |
| | | 9 p.m. | 29.028 | 61.6 | 64 | 53.2 | 74.8 | 41 | ..... | 59 | 65.8 | 68.9 | 67.1 | 66.1 | 62.9 | 58.8 |
| “ | 2 | 7 a.m. | 29.032 | 58 | ..... | 58.3 | ..... | ..... | ..... | 63.8 | 57.8 | 59.3 | 62.4 | 63.1 | 61.8 | 56.2 |
| | | 2 p.m. | 29.099 | 87.2 | 67 | 81 | ..... | ..... | ..... | 93.8 | 84.5 | 75 | 65.2 | 63.8 | 61.9 | 56.8 |
| | | 9 p.m. | 28.988 | 73.4 | 61.5 | 65.2 | 82 | 42.2 | ..... | 67.7 | 72 | 73.2 | 69.1 | 67.4 | 59 | 56.6 |
| “ | 3 | 7 a.m. | 29.024 | 62 | 57.8 | 61.1 | ..... | ..... | ..... | 65.9 | 61 | 62.4 | 64.5 | 65 | 62.1 | 56.8 |
| | | 2 p.m. | 29.056 | 90.4 | 68 | 82.2 | ..... | ..... | ..... | 94.5 | 86.1 | 76.1 | 65.6 | 62.3 | 59.8 | 56.9 |
| | | 9 p.m. | 29.002 | 75.2 | 62.8 | 65.2 | 83 | 46.9 | ..... | 67.7 | 73.2 | 71.8 | 70.6 | 68.7 | 59.4 | 56.8 |

| | | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|----------------------|----------------------|------|------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 4 | 7 a.m. | 29,040 | 47 | 62.6 | 65.3 | 87.1 | 48.6 | 69.2 | 75 | 76.3 | 72 | 69.8 | 63 | 60 | 57 |
| 5 | 7 a.m. 2 p.m. 9 p.m. | 29,064 29,102 29,026 | 64.2 94 79.1 | 60.1 72 64.4 | 62.8 87.6 69.3 | 88 | 48.5 | 67.8 97 70.5 | 63.4 87.5 75.2 | 65 78.5 77 | 67 69.5 72.9 | 67.2 67.8 70.8 | 63.7 63.9 63.9 | 60 60.7 60.6 | 57.1 57.6 57.7 |
| 6 | 7 a.m. 2 p.m. 9 p.m. | 28,996 28,996 28,868 | 68.2 94.2 79.5 | 63.4 72.5 65.3 | 67.2 88.5 74.5 | 89.8 | 52.5 | 76.8 97.2 74 | 66 88.3 77 | 66.7 78.9 77.2 | 68 69.8 73 | 67 67.9 70.9 | 64.3 64.3 64.4 | 60.7 60.8 61.1 | 57.5 57.6 57.8 |
| 7 | 7 a.m. 2 p.m. 9 p.m. | 28,848 28,850 28,916 | 74 87.5 67.5 | 67 71 59.6 | 71.8 83.7 64.8 | 84.5 | 63.4 | 73.8 93.5 67.8 | 70 85 73.9 | 70.2 78.5 75.7 | 69.8 71.1 73 | 69.3 69.5 71.5 | 65 65 65.2 | 61.2 61.3 61.5 | 58 58 58.1 |
| 8 | 7 a.m. 2 p.m. 9 p.m. | 29,024 29,036 28,982 | 65 81.2 72.5 | 56.2 62 57 | 63 74.8 61 | 80 | 52.4 | 67.3 88.3 66 | 64.3 80.9 73.2 | 66.3 75 74.9 | 68.2 69 72 | 68.4 68.1 70.6 | 65.5 65.6 65.2 | 61.7 62 62 | 58.3 58.7 58.7 |
| 9 | 7 a.m. 2 p.m. 9 p.m. | 28,910 28,904 28,868 | 60 83 73.8 | 55.5 63 58.1 | 58.2 73.2 61.3 | 77.7 | 52.5 | 63.4 80.4 65.2 | 63.2 76 72.8 | 65.4 72.1 75.2 | 67.2 68 72.4 | 68 67.4 70.2 | 65.3 65.3 65.3 | 62 62.1 62.2 | 58.8 58.9 58.9 |
| 10 | 7 a.m. 2 p.m. 9 p.m. | 28,810 28,812 28,768 | 65 83.2 67.1 | 60.6 67.8 69.9 | 61.2 77.8 64.2 | 79 | 51.9 | 67.8 85.8 69.2 | 64 81 72 | 65 74.7 72 | 66.5 68.1 70.1 | 67 67.2 69 | 65 65.1 64.8 | 62 62.2 62.2 | 59 59.1 59.1 |
| 11 | 7 a.m. | 28,802 | 63 | 58.7 | 61.3 | 78.8 | 51.8 | 66.3 | 63.2 | 61 | 66 | 66.8 | 65 | 62 | 59.1 |
| 12 | 7 a.m. 2 p.m. 9 p.m. | 28,840 28,850 28,798 | 56.5 82.3 68.4 | 52 62.2 54 | 57.3 71 57 | 76.1 | 36.9 | 69.6 89.5 62.8 | 61 82.6 69 | 61 74.8 72.6 | 64.6 66.8 70.2 | 65.8 65.9 68.9 | 65 64.8 64.4 | 62.1 62.2 62 | 59.2 59.2 59.3 |
| 13 | 7 a.m. 2 p.m. 9 p.m. | 28,764 28,772 28,712 | 61.2 78.5 66 | 55.8 59.2 56 | 60.2 70.2 62.2 | 73.4 | 48.9 | 67.6 73.3 61.8 | 62 73.5 67 | 62.6 70.5 69 | 65.4 66.3 67.8 | 66.2 65.6 67 | 64.7 64.5 64.2 | 62 62 62 | 59.3 59.3 59.3 |
| 14 | 7 a.m. 2 p.m. 9 p.m. | 28,568 28,692 28,702 | 63.2 62.5 58.8 | 61 59.4 57 | 62 60 57.2 | 64.2 | 56.3 | 62.2 61.8 58.9 | 62.2 63.2 59.9 | 63.7 63.2 62.2 | 65.7 63 63.3 | 65 64.3 64 | 64.1 64 63.8 | 62 61.9 61.9 | 59.3 59.2 59.2 |
| 15 | 7 a.m. 2 p.m. 9 p.m. | 28,632 28,636 28,664 | 59 64.3 62 | 57 60.2 59.9 | 58.2 61.2 61 | 61 | 55.1 | 58.8 64 61.4 | 58.8 63.2 62 | 60.3 63 63.2 | 61.8 62 62.8 | 62.6 62.2 63 | 63 62.8 62.6 | 61.6 61.6 61.2 | 59 59 59 |
| 16 | 7 a.m. 2 p.m. 9 p.m. | 28,682 28,710 28,706 | 60 82.1 72.1 | 57.3 68 62.5 | 58.2 73.3 65.1 | 78.1 | 56 | 60 81.5 65.5 | 59.3 76.5 67.3 | 60.8 71 69.2 | 61.8 64 67 | 62.3 63.1 65.8 | 62.2 62.1 62.2 | 61 61 61 | 58.8 59 59 |

OBSERVATIONS of Ground Temperature—Continued.

| Month. | Day. | Time of Reading. | Barometer. | Attached Ther- mometer. | Wet bulb Ther- mometer. | Dry bulb Ther- mometer. | Maximum Ther- mometer. | Minimum Ther- mometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | |
|----------------|------|------------------|------------|----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|------------------------------|---|-----------|-----------|-----------|------------|------------|------------|------------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. |
| July—Continued | 17 | 7 a.m. | 28.728 | 62.3 | 58.2 | 60.5 | ..... | ..... | ..... | 61.8 | 59.7 | 61.3 | 63.3 | 64 | 62.5 | 60.7 | 58.7 |
| | | 2 p.m. | 28.732 | 83.5 | 68.2 | 73.8 | ..... | ..... | ..... | 84.8 | 80.8 | 73.2 | 65.3 | 64.3 | 62.7 | 60.8 | 58.8 |
| | | 9 p.m. | 28.801 | 60.8 | 57 | 59 | 78.1 | 52.9 | ..... | 61.8 | 67 | 70.3 | 68.1 | 67 | 62.6 | 60.8 | 58.7 |
| " | 18 | 7 a.m. | 28.820 | 55 | 52.8 | 54 | 60 | 52.6 | ..... | 57.7 | 59 | 62.2 | 64 | 62.9 | 60.8 | 58.5 | |
| | | 7 a.m. | 28.746 | 54.5 | 52 | 53 | ..... | ..... | ..... | 61.8 | 55.1 | 57.4 | 60 | 61.2 | 60.6 | 58.5 | |
| | | 9 p.m. | 28.720 | 64.2 | 59.7 | 61.5 | 73 | 42.2 | .040 | 83 | 76.7 | 72.2 | 63.1 | 62 | 60.7 | 58.7 | |
| " | 20 | 7 a.m. | 28.714 | 61.3 | 58 | 59.1 | ..... | ..... | ..... | 64.4 | 60 | 61 | 63 | 63.5 | 62 | 60.5 | 58.6 |
| | | 2 p.m. | 28.748 | 81.2 | 65 | 73.1 | ..... | ..... | ..... | 86.2 | 78.7 | 73 | 64.7 | 63.7 | 62.2 | 60.5 | 58.5 |
| | | 9 p.m. | 28.708 | 68 | 61 | 64.1 | 75 | 51.8 | ..... | 67.7 | 70.6 | 71.7 | 68.1 | 66.7 | 62.1 | 60.5 | 58.4 |
| " | 21 | 7 a.m. | 28.662 | 60.3 | 56 | 58 | ..... | ..... | ..... | 67.2 | 60.9 | 61.7 | 63.9 | 64.6 | 62.6 | 60.5 | 58.5 |
| | | 2 p.m. | 28.638 | 83 | 66.6 | 78 | ..... | ..... | ..... | 87.3 | 80.9 | 76 | 66.7 | 65.2 | 62.7 | 60.5 | 58.5 |
| | | 9 p.m. | 28.648 | 67.1 | 58.5 | 62 | 78 | 47 | ..... | 66 | 71 | 72.8 | 69.2 | 67.9 | 62.7 | 60.5 | 58.5 |
| " | 22 | 7 a.m. | 28.790 | 53 | 48.6 | 52.2 | ..... | ..... | ..... | 63.5 | 58.5 | 60.2 | 64 | 65 | 63 | 60.5 | 58.5 |
| | | 2 p.m. | 28.866 | 77.9 | 60 | 71 | ..... | ..... | ..... | 89.4 | 81.9 | 76 | 66 | 65 | 63.1 | 60.9 | 58.7 |
| | | 9 p.m. | 28.894 | 65.6 | 56.2 | 59.1 | 74 | 41 | ..... | 64.7 | 71 | 73 | 64.8 | 68.1 | 63 | 60.9 | 58.6 |
| " | 23 | 7 a.m. | 28.940 | 56.8 | 52.5 | 55.5 | ..... | ..... | ..... | 65.6 | 59.7 | 61 | 64.4 | 65.1 | 63.3 | 60.8 | 58.6 |
| | | 2 p.m. | 29.022 | 79 | 62.5 | 74.2 | ..... | ..... | ..... | 86.8 | 79.6 | 74.6 | 66.2 | 65.2 | 63.4 | 61.2 | 58.9 |
| | | 9 p.m. | 29.010 | 58 | 56.7 | 60.6 | 75.7 | 40.7 | ..... | 63.5 | 70 | 72.4 | 69.5 | 67.9 | 63.2 | 61 | 58.8 |
| " | 24 | 7 a.m. | 29.026 | 60 | 56.2 | 59.2 | ..... | ..... | ..... | 66.4 | 60.8 | 61 | 63.2 | 64.8 | 63.5 | 61.1 | 58.8 |
| | | 2 p.m. | 29.002 | 89 | 66.8 | 79.2 | ..... | ..... | ..... | 93 | 82.6 | 76 | 66.1 | 65.1 | 63.7 | 61.4 | 59 |
| | | 9 p.m. | 28.874 | 70.5 | 61.5 | 65.4 | 80.1 | 40 | ..... | 69.1 | 71.9 | 73 | 59.8 | 68.4 | 63.4 | 61.2 | 59 |
| " | 25 | 7 a.m. | 28.712 | 69 | 63 | 67.2 | 87.5 | 60 | 1.260 | 71 | 66.7 | 67 | 67 | 67 | 63.8 | 61.2 | 58.9 |
| | | 7 a.m. | 28.708 | 66.5 | 64 | 65 | ..... | ..... | ..... | 66.6 | 66.2 | 67.5 | 68 | 68 | 64.6 | 61.6 | 59 |
| | | 9 p.m. | 28.682 | 69 | 64.8 | 65 | 77.3 | 60 | ..... | 66.8 | 69 | 70.2 | 69 | 58.2 | 64.7 | 61.8 | 59.4 |

| | | | | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|-----------------------|----------------------|-------|-------|-------------------------|-------------------------|----------------------|----------------------|----------------------|--------------------|----------------------|----------------------|----------------------|----------------------|
| 27 | 7 a.m. 2 p.m. 9 p.m. | 28,686 28,782 28,754 | 68.7 87.4 73.2 | 61.8 69.5 59.5 | 66.5 79.8 61.5 | 80.2 | 59 | ..... ..... ..... | ..... ..... ..... | 70.6 81.2 61.6 | 65.8 80.4 56.8 | 65.7 76.4 70.2 | 66.2 68.8 70 | 66.8 67.6 69.1 | 64.7 61.7 61.7 | 62 62.2 62 | 59.2 59.5 59.4 |
| 28 | 7 a.m. 2 p.m. 9 p.m. | 28,716 28,726 28,692 | 59.2 81 75 | 57.1 68.2 65.3 | 58.5 74 69 | 77.5 | 50 | ..... ..... ..... | ..... ..... ..... | 62.3 76 66.1 | 59.1 70.5 68.2 | 61.7 68.8 69.7 | 65.1 66.2 68 | 66.2 66 67.2 | 65 61.8 64.6 | 62 62.2 62.2 | 59.4 59.6 59.6 |
| 29 | 7 a.m. 2 p.m. 9 p.m. | 28,648 28,712 28,744 | 69 84.4 70.8 | 64 72.5 64.1 | 67 79.2 67.1 | ..... | ..... | ..... ..... ..... | ..... ..... ..... | 64.7 77.8 66.2 | 64 74.1 68.7 | 65 71.9 70.2 | 65.1 67 68.7 | 66 66.2 68 | 65.6 64.5 64.4 | 62.2 62.4 62.2 | 59.6 59.8 59.8 |
| 30 | 7 a.m. 2 p.m. 9 p.m. | 28,804 28,868 28,868 | 61 79 66.4 | 56 64.2 63.1 | 59.3 75.6 65 | 76.2 | 52 | ..... ..... ..... | ..... ..... ..... | 61.4 85.4 61.8 | 60.1 78.7 68.6 | 62 72.7 70.7 | 65 66.2 69 | 65.8 65.8 68 | 61.7 64.7 64.4 | 62.2 62.4 62.3 | 59.8 60 60 |
| 31 | 7 a.m. 2 p.m. 9 p.m. | 28,850 28,892 28,834 | 61.8 90.2 76.1 | 59.4 62.5 | 61 79 65.2 | 81.4 | 51.9 | ..... ..... ..... | ..... ..... ..... | 61 91.4 69 | 61.2 86.8 74.4 | 62.2 78.8 76 | 64.8 67.8 72 | 65.5 66.5 59.8 | 61.5 64.5 64.4 | 62.2 62.5 62.3 | 59.8 60 60 |

OBSERVATIONS of Ground Temperature—Continued.

| MONTH. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | | TEMPERATURE OF DIFFERENT SOILS. | | | | | | |
|--------|------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|------------|---------------------------------|-------|-------|------|------|------|------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. | Loam. | Clay. | Sand. | | | | |
| August | 1 | 7 a.m. | 28.702 | 65 | 62 | 64.7 | 81.5 | 53.1 | ..... | 68.8 | 64 | 65 | 67 | 67.3 | 65 | 62.3 | 59.9 | 65 | 68 | 64.7 | 68 | 66.8 | 69.8 | |
| " | 2 | 7 a.m. | 28.692 | 57.7 | 54 | 56.2 | ..... | ..... | ..... | 63 | 60 | 62.5 | 66 | 66.7 | 65.2 | 62.7 | 60 | 60 | 65.8 | 62.5 | 68 | 66.8 | 62.5 | 68 |
| " | 2 | 9 p.m. | 28.712 | 66.7 | 54.3 | 63 | ..... | ..... | ..... | 76 | 74.4 | 71.1 | 66.5 | 66.7 | 65.2 | 62.8 | 60.1 | 74.3 | 69.8 | 73 | 68.3 | 76.3 | 68.3 | 70 |
| " | 3 | 9 p.m. | 28.716 | 54 | 48.7 | 52.2 | 66.1 | 50.3 | ..... | 56.1 | 63 | 67.1 | 68 | 67.6 | 65 | 62.7 | 60.1 | 65 | 70.2 | 60.1 | 67.9 | 64.6 | 70.3 | 68 |
| " | 3 | 7 a.m. | 28.706 | 54.7 | 50 | 53 | ..... | ..... | ..... | 57.1 | 57 | 59.4 | 63.1 | 64.1 | 61.7 | 62.7 | 60.1 | 57.7 | 62.8 | 56.2 | 62.8 | 58.8 | 64.5 | 64.5 |
| " | 3 | 2 p.m. | 28.870 | 66.5 | 56.5 | 64 | ..... | ..... | ..... | 74 | 70.8 | 69.6 | 63.7 | 63.8 | 64.5 | 62.8 | 60.2 | 76 | 66 | 70.5 | 63.8 | 73.2 | 64.8 | 64.8 |
| " | 3 | 9 p.m. | 28.870 | 56 | 49.6 | 52.2 | 65.7 | 47 | ..... | 55.7 | 62.1 | 65.6 | 65.8 | 65.4 | 64 | 62.7 | 60.1 | 64 | 68.2 | 60.2 | 65.7 | 63.3 | 67.5 | 67.5 |
| " | 4 | 7 a.m. | 28.806 | 55.1 | 50.1 | 52 | ..... | ..... | ..... | 62.3 | 54 | 56 | 61 | 63.2 | 63.8 | 62.4 | 60.5 | 53.5 | 59.2 | 56 | 60.7 | 56.7 | 62 | 62 |
| " | 4 | 2 p.m. | 28.922 | 73.1 | 60.1 | 69.8 | ..... | ..... | ..... | 81.4 | 75.6 | 70 | 62.8 | 62.8 | 63.7 | 62.5 | 60.4 | 82 | 66.7 | 77.7 | 63.8 | 78.5 | 64 | 64 |
| " | 4 | 9 p.m. | 28.878 | 57.3 | 49.7 | 53.1 | 71 | 39.1 | ..... | 57 | 63.4 | 66.8 | 65.9 | 65 | 63 | 62.5 | 60.4 | 65.8 | 69.4 | 62.1 | 66.5 | 64.7 | 68.1 | 68.1 |
| " | 5 | 7 a.m. | 28.904 | 50 | 47.8 | 48.8 | ..... | ..... | ..... | 53.8 | 54 | 56.7 | 61 | 62.1 | 63 | 62 | 60 | 55 | 55.5 | 56.1 | 56.2 | 62.2 | 62.2 | 62.2 |
| " | 5 | 2 p.m. | 28.926 | 77.2 | 58 | 65 | 71 | 39.2 | ..... | 76 | 75.3 | 72 | 64.2 | 63.2 | 63.8 | 61.7 | 60 | 82 | 67.8 | 75.9 | 64.7 | 78.6 | 65.7 | 65.7 |
| " | 5 | 9 p.m. | 28.910 | 64 | 52 | 55.5 | ..... | ..... | ..... | 59.1 | 65 | 68 | 65.4 | 64.5 | 61.7 | 60 | 66.7 | 69.2 | 64.1 | 60.3 | 56.6 | 67.3 | 67.3 | 67.3 |
| " | 5 | 7 a.m. | 28.894 | 58.1 | 54.8 | 58.6 | ..... | ..... | ..... | 65 | 56.6 | 57 | 60.7 | 62 | 62.7 | 61.7 | 60 | 55.3 | 59.5 | 58.7 | 60.8 | 58.2 | 61.9 | 61.9 |
| " | 5 | 2 p.m. | 28.894 | 77.3 | 60 | 69.2 | ..... | ..... | ..... | 78.5 | 76.3 | 72 | 63.5 | 62.6 | 62.7 | 61.8 | 60 | 78.6 | 67.8 | 75.9 | 64.7 | 76 | 64.4 | 64.4 |
| " | 5 | 9 p.m. | 28.834 | 64 | 52.4 | 56.8 | 72.2 | 38.2 | ..... | 59.8 | 66.1 | 68.8 | 66.2 | 65.1 | 62.2 | 61.4 | 59.8 | 67.2 | 69.8 | 64.7 | 67.4 | 66.8 | 67.9 | 67.9 |
| " | 5 | 7 a.m. | 28.846 | 54 | 54 | 59 | ..... | ..... | ..... | 64.6 | 56.8 | 57.8 | 61.3 | 62.5 | 62.6 | 61.2 | 59.6 | 55.6 | 60.2 | 58.7 | 61.6 | 58.1 | 62.8 | 62.8 |
| " | 5 | 2 p.m. | 28.878 | 64.7 | 64.7 | 77 | ..... | ..... | ..... | 92 | 82.8 | 74.8 | 64 | 63 | 62.8 | 61.5 | 59.7 | 87.7 | 69 | 85.5 | 66 | 83.7 | 65 | 65 |
| " | 5 | 9 p.m. | 28.888 | 63 | 55 | 57.2 | 77.5 | 40 | ..... | 61.4 | 67.8 | 70.6 | 68 | 66.7 | 62.4 | 61.2 | 59.6 | 69.8 | 72.8 | 67 | 69.2 | 69.1 | 70.2 | 70.2 |
| " | 5 | 7 a.m. | 28.988 | 58 | 55.2 | 57.5 | 84 | 46.3 | ..... | 64.1 | 59 | 60.8 | 63.4 | 64 | 63 | 61.2 | 59.5 | 59 | 63.4 | 61 | 63.9 | 60.8 | 65.4 | 65.4 |
| " | 5 | 7 a.m. | 29.076 | 61.2 | 59 | 61.2 | ..... | ..... | ..... | 63.8 | 66 | 62.6 | 65 | 65.2 | 63.3 | 61.2 | 59.4 | 61.1 | 65.7 | 62 | 65.8 | 62.5 | 67.6 | 67.6 |
| " | 5 | 2 p.m. | 29.120 | 88.5 | 71 | 85 | ..... | ..... | ..... | 91.8 | 82.4 | 76.1 | 67 | 65.8 | 63.7 | 61.8 | 59.7 | 89.4 | 73 | 86 | 69.3 | 87.4 | 69.4 | 69.4 |
| " | 5 | 9 p.m. | 29.074 | 73.5 | 63 | 68 | 86 | 51 | ..... | 67 | 72.3 | 73 | 70 | 68.5 | 63.7 | 61.8 | 59.5 | 74.5 | 75.6 | 71.6 | 72 | 74 | 73.3 | 73.3 |
| " | 5 | 7 a.m. | 29.028 | 70.5 | 66 | 69.2 | ..... | ..... | ..... | 71.7 | 65 | 65 | 66 | 66.2 | 64 | 61.8 | 59.6 | 65 | 67.1 | 67.3 | 67 | 67.3 | 68.9 | 68.9 |
| " | 5 | 2 p.m. | 28.952 | 89 | 72.4 | 86.2 | ..... | ..... | ..... | 93.2 | 84.2 | 78 | 68.7 | 67 | 64 | 62 | 59.9 | 91.4 | 75 | 88.2 | 71.2 | 89.8 | 71.2 | 71.2 |
| " | 5 | 9 p.m. | 28.866 | 76 | 66.2 | 72.3 | 87 | 55 | ..... | 72.1 | 74 | 74.6 | 71 | 69.2 | 64.1 | 62 | 59.8 | 77.1 | 76.6 | 74.6 | 72.8 | 77.7 | 74.6 | 74.6 |

| | | | | | | | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|
| 11 | 7 a.m. 2 p.m. 9 p.m. | 28,814 28,738 28,744 | 73.2 85.4 66.1 | 67 73.8 62 | 69.6 83.3 64.1 | 86 63 | 63 | 73.5 87 65.6 | 68.7 81.7 72.4 | 68.5 77 70.7 | 68 69.3 69.1 | 67.8 68.1 69.1 | 64.8 61.8 65 | 62 62.2 62.2 | 59.8 60 60 | 70 70.5 71.2 | 69.3 69.1 71.2 | 71.1 71.86 74.2 | | |
| 12 | 7 a.m. 2 p.m. 9 p.m. | 28,826 28,852 28,788 | 64.6 81.2 62 | 58 66 57.2 | 63 78.5 57 | 80 52.3 | 52.3 | 67.8 90.6 60.3 | 62.8 82 66.8 | 64 76 70 | 65.3 68 69.4 | 67 67 69.4 | 65.1 65.1 65 | 62.5 62.8 62.6 | 60 60.2 60.2 | 66.7 72.3 73.8 | 63.2 86.2 69.1 | 67.2 69.8 71.8 | 69.4 85.6 69 | |
| 13 | 7 a.m. 2 p.m. 9 p.m. | 28,738 28,688 28,608 | 61 86.1 67 | 59 82.3 63 | 63.4 84 81 | 49 | 590 | 66.8 82.5 64.1 | 62.2 71.2 66.4 | 64 66.7 68.1 | 66.6 66.6 67.8 | 67 66.6 67.8 | 65.2 65.2 65 | 62.7 63 62.9 | 60.2 60.5 60.7 | 62.2 73.5 66.9 | 67.2 69.7 69.1 | 64 68.7 67.0 | 69.6 68.7 67.5 | |
| 14 | 7 a.m. 2 p.m. 9 p.m. | 28,714 28,802 28,828 | 65.2 73.4 58 | 62.3 62 56 | 61 71.6 56 | 54.4 | 54.4 | 66.2 78.2 57.4 | 64 73.6 63 | 65 71.8 67.1 | 66.3 66.5 67.8 | 65 65 61.8 | 65 65 61.8 | 62.9 63 62.8 | 60.4 60.6 60.5 | 64.2 80.1 64.2 | 66.7 77.7 63.1 | 65.2 68.8 69.7 | 68 79.4 66.2 | |
| 15 | 7 a.m. | 28,910 | 55.2 | 53 | 55 | 74.8 | 43 | 59.1 | 64.8 | 58.5 | 62.8 | 64.2 | 64.7 | 62.8 | 60.6 | 53.6 | 61.2 | 56.2 | 63.6 | 56.5 |
| 16 | 7 a.m. 2 p.m. 9 p.m. | 28,730 28,861 28,960 | 60.1 61.4 60 | 56 58 54.1 | 59.4 58.9 52.3 | 61 | 53.4 | 60.5 61.6 53.2 | 60.7 62.1 57.8 | 62.8 62.2 58.8 | 64.6 63.6 59.9 | 65.3 64.1 60.1 | ..... ..... ..... | 62.8 62.7 62.4 | 60.5 60.6 60.5 | 60.8 63.1 57.8 | 60.6 65.3 63.4 | 65.3 56.1 58.2 | 61.8 64.1 58.2 | 66.3 64.1 63.1 |
| 17 | 7 a.m. 2 p.m. 9 p.m. | 28,822 28,888 28,938 | 58 64.8 58 | 56 58.8 53.4 | 57 63 54.2 | 65.9 | 53.7 | 59 64.4 54.8 | 59 64.3 59.2 | 60.3 63.8 62.2 | 61.9 62.3 63.2 | 62.8 62.7 63.3 | ..... ..... ..... | 62.3 62.2 62.3 | 60.4 60.6 60.3 | 59.3 65.7 59.6 | 61 62.8 63.3 | 59.7 65.6 61 | 62.3 63.3 60 | 62.2 63.8 60.4 |
| 18 | 7 a.m. 2 p.m. 9 p.m. | 29,002 29,030 29,054 | 54.2 68 60 | 53.2 59 50.1 | 54.2 66.4 52 | 71 | 43 | 58 70.8 53.5 | 53.2 67.8 59.1 | 55.1 65.7 63 | 59.3 61.4 63.5 | 61 61.2 63.3 | ..... ..... ..... | 62 60.4 62 | 60.3 60.4 60.2 | 53.2 63.2 65.1 | 57.7 68.9 61.6 | 55 62 61 | 60 61.7 61.1 | 59.6 61.8 65.1 |
| 19 | 7 a.m. 2 p.m. 9 p.m. | 29,072 29,122 29,100 | 60 77.8 62.3 | 48.2 61.5 53.3 | 49.3 70.4 55 | 72 | 38.5 | 56 75.8 56 | 50.7 72.7 61.2 | 53.8 68.1 54.6 | 59 61.3 64.1 | 60.7 61 61.0 | ..... ..... ..... | 61.8 61.8 61.5 | 60.4 60.4 60.4 | 57.3 64.5 62.2 | 53.2 62.4 66.1 | 59.5 75.8 66.1 | 62.7 75.8 63.8 | 69.8 62.5 63.8 |
| 20 | 7 a.m. 2 p.m. 9 p.m. | 29,054 29,084 28,976 | 56.2 85 68 | 55.1 67 60.9 | 57.2 77 64 | 77.2 | 42.3 | 60.5 84.2 61.5 | 54.4 57.2 66.3 | 59 60 67.8 | 60 62.3 65.8 | 61.5 61.5 61.7 | ..... ..... ..... | 61.5 61.5 61.3 | 60.4 60.4 60.2 | 54.9 66.5 67 | 59.2 79.6 64 | 57 61.1 67 | 61.1 78.8 68.3 | 61.6 64.2 68.3 |
| 21 | 7 a.m. 2 p.m. 9 p.m. | 28,936 28,916 28,860 | 66 80.9 70 | 63.1 70.8 65.5 | 65 73.2 67.2 | 77 | 55.2 | 63.7 78.2 67 | 62.8 73.4 67.5 | 63.2 69.5 68 | 63.5 64.2 66.1 | 63.8 63.9 65.4 | ..... ..... ..... | 61.2 61.2 61.2 | 60.2 60.2 60.2 | 63.4 67.5 68.5 | 61.8 74.3 65.8 | 61.8 65.8 67.4 | 61.8 74.3 69.1 | 65.7 66.3 68.4 |
| 22 | 7 a.m. | 28,740 | 84 | 71 | 76 | 76 | 55.1 | 80.8 | 74.1 | 70 | 61.9 | 61.7 | ..... | 61.4 | 60.2 | 77 | 68.3 | 76 | 66 | 77.5 |
| 23 | 7 a.m. 2 p.m. 9 p.m. | 28,656 28,704 28,750 | 67 82.5 66 | 65 71.8 61.5 | 65.5 75 65.5 | 66.9 | 66.9 | 66.2 80.4 67 | 65.8 72.2 68.1 | 66.1 72.2 69 | 65.7 66.8 67.8 | 66 66.1 67.5 | ..... ..... ..... | 61.7 61.8 62 | 60.2 60.2 60.2 | 66.1 77.8 67.8 | 67.5 68.1 68.2 | 66.8 79.5 69 | 66.6 68.1 70.1 | 67.5 69 70.1 |

OBSERVATIONS of Ground Temperature—Continued.

| MONTH. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | | TEMPERATURE OF DIFFERENT SOILS. | | | | | |
|------------|--------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|------------|---------------------------------|-------|-------|------|------|-------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. | Loam. | Clay. | Sand. | | | |
| August—Con | 24 | 7 a.m. | 28.800 | 63.2 | 61.1 | 62.1 | 68.5 | 62.4 | ..... | 63.5 | 64 | 65.5 | 66 | 66.2 | ..... | 62 | 60.2 | 64.8 | 66.5 | 64.7 | 66.8 | 65 | 69.5 |
| | | 2 p.m. | 28.892 | 69.5 | 64.8 | 66.1 | ..... | ..... | ..... | 70 | 69.5 | 68.3 | 65.7 | 65.6 | ..... | 62 | 60.2 | 70.7 | 67.1 | 70 | 66.7 | 67.1 | 67.6 |
| | | 9 p.m. | 28.895 | 65.3 | 62.4 | 64.5 | 68.5 | 62.4 | ..... | 64 | 66.5 | 68 | 67.5 | 67 | ..... | 62 | 60.2 | 65.7 | 68 | 66 | 67.8 | 66.2 | 67.6 |
| “ | 25 | 7 a.m. | 29.004 | 64 | 61.1 | 64 | ..... | ..... | ..... | 63.7 | 63.7 | 64.6 | 65 | 65.2 | ..... | 62 | 60.2 | 64.2 | 65.6 | 64.5 | 66 | 64.8 | 66.4 |
| | | 2 p.m. | 28.980 | 78 | 67.2 | 73.3 | ..... | ..... | ..... | 83.5 | 75.6 | 71 | 65.8 | 65.4 | ..... | 62.1 | 60.2 | 79.6 | 69.8 | 79.1 | 67 | 78.2 | 67.4 |
| | | 9 p.m. | 29.002 | 67.5 | 60.1 | 62 | 78 | 60.5 | ..... | 63 | 66 | 70.3 | 67.8 | 67.8 | ..... | 62.4 | 60.2 | 68.7 | 71.2 | 67.5 | 69.8 | 69 | 70.7 |
| “ | 26 | 7 a.m. | 28.952 | 60 | 60 | 60 | ..... | ..... | ..... | 61.8 | 60.2 | 61.9 | 64.2 | 65 | ..... | 62.3 | 60.2 | 61 | 63.8 | 61.7 | 65 | 61.8 | 65.8 |
| | | 2 p.m. | 28.972 | 85.6 | 73 | 81.8 | ..... | ..... | ..... | 89.5 | 81.6 | 74.5 | 66.5 | 65.7 | ..... | 62.4 | 60.2 | 87.7 | 71.2 | 86.4 | 68.3 | 83.2 | 68 |
| | | 9 p.m. | 28.916 | 73.1 | 65.1 | 68.2 | 85.6 | 49.5 | ..... | 67 | 71.4 | 73.2 | 70.6 | 69 | ..... | 62.4 | 60.2 | 72.5 | 74 | 71 | 71.5 | 72.3 | 72.5 |
| “ | 27 | 7 a.m. | 28.874 | 60 | 59.1 | 59.8 | ..... | ..... | ..... | 64.3 | 61 | 63.2 | 66 | 66.4 | ..... | 62.4 | 60.3 | 61.5 | 66 | 63 | 66.8 | 62.8 | 67.7 |
| | | 2 p.m. | 28.918 | 90 | 75 | 86 | ..... | ..... | ..... | 93.5 | 85 | 78.2 | 68 | 66.7 | ..... | 62.5 | 60.4 | 91.5 | 73.5 | 90.5 | 70 | 86 | 69.5 |
| | | 9 p.m. | 28.868 | 77 | 69 | 72 | 86.2 | 50 | ..... | 70.2 | 74 | 75.2 | 72.2 | 70.1 | ..... | 62.5 | 60.4 | 75.5 | 76.5 | 73.6 | 73.6 | 74.7 | 74.2 |
| “ | 28 | 7 a.m. | 28.830 | 64.4 | 65 | 65.2 | ..... | ..... | ..... | 69.5 | 64 | 65.8 | 67.6 | 68 | ..... | 62.7 | 60.5 | 64.5 | 68 | 65.8 | 65.6 | 69.5 | ..... |
| | | 2 p.m. | 28.824 | 93 | 76 | 88 | ..... | ..... | ..... | 95.5 | 85.8 | 79.2 | 69.5 | 68 | ..... | 62.8 | 60.5 | 89 | 74.5 | 80 | 71.6 | 86.2 | 71 |
| | | 9 p.m. | 28.792 | 69 | 63 | 63.4 | 88.5 | 61.3 | 1.280 | 66 | 69.4 | 72 | 71.3 | 70.2 | ..... | 63 | 60.5 | 69.5 | 73 | 69.5 | 71.6 | 68.5 | 72.3 |
| “ | 29 | 2 p.m. | 28.640 | 93 | 76 | 84.7 | 85 | 58.5 | ..... | 85.5 | 81 | 76.8 | 69.5 | 67.2 | ..... | 63.3 | 60.8 | 81.3 | 74 | 82.8 | 71 | 81.8 | 70.8 |
| | 30 | 7 a.m. | 28.548 | 70 | 67 | 68 | ..... | ..... | ..... | 68.7 | 68 | 68.9 | 68.5 | 68.7 | ..... | 63.5 | 61 | 68.5 | 69.9 | 69 | 70 | 69 | 70.4 |
| “ | | 2 p.m. | 28.526 | 71 | 66 | 66.7 | ..... | ..... | ..... | 69.5 | 69.5 | 69.9 | 68.5 | 68.5 | ..... | 63.5 | 61.2 | 70.5 | 70 | 70.7 | 69.8 | 70.8 | 70 |
| | | 9 p.m. | 28.592 | 63 | 60.2 | 61.2 | 85 | 60 | ..... | 61.3 | 64.1 | 66.9 | 67.8 | 68 | ..... | 63.4 | 61 | 65.2 | 68.8 | 65.7 | 69.1 | 65.1 | 69.2 |
| | 31 | 7 a.m. | 28.662 | 56 | 53.3 | 55 | ..... | ..... | ..... | 59.4 | 56.8 | 60.7 | 63.8 | 65.2 | ..... | 63.4 | 61 | 57.8 | 63 | 59.7 | 65 | 58 | 64.7 |
| September | | 2 p.m. | 28.742 | 67 | 56.7 | 63.8 | ..... | ..... | ..... | 66.6 | 65.8 | 65.8 | 64.3 | 64.8 | ..... | 63.6 | 61.1 | 70 | 65.7 | 70 | 67 | 65.9 | 65.3 |
| | | 9 p.m. | 28.844 | 55 | 49.7 | 54 | 64.2 | 46.7 | ..... | 52.9 | 56.3 | 60.8 | 64.1 | 65 | ..... | 63.2 | 61.1 | 59 | 69.6 | 59.4 | 65.8 | 59.2 | 65.8 |
| | 1 | 7 a.m. | 29.034 | 50.2 | 46.3 | 49 | ..... | ..... | ..... | 53.1 | 51.2 | 55 | 60.3 | 62 | ..... | 63.2 | 61.1 | 52.6 | 59.2 | 54.7 | 61.8 | 53 | 61.2 |
| | 2 p.m. | 29.142 | 67.8 | 54.2 | 61.8 | ..... | ..... | ..... | 71.2 | 68 | 65.2 | 61.7 | 62 | ..... | 63.2 | 61.2 | 73 | 63.5 | 74.8 | 63.2 | 73 | 62.8 | |
| | 9 p.m. | 29.138 | 55.2 | 48 | 50.1 | 64.7 | 43.3 | ..... | 49.6 | 56 | 61 | 63.3 | 63.8 | ..... | 62.9 | 61.1 | 58.4 | 65.6 | 59 | 65 | 59.2 | 65.8 | |

| | | | | | | | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|----------------------|----------------------|--------------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------|------|
| 2 | 7 a.m. 2 p.m. 9 p.m. | 29,191 28,252 29,232 | 45.2 76.2 53 | 44.2 68.8 52.8 | 45 68.8 51.7 | 70 43.2 | ..... | 52 77 53 | 47.3 71 58.2 | 51.9 66.2 61.9 | 58.6 60.8 62.3 | 60.4 60.8 60.8 | 62.5 62.7 62 | 61.1 61.1 61 | 49.2 57 58.2 | 50.8 52.5 65.3 | 52 62.5 60.2 | 59.7 62 65.9 | | |
| 3 | 7 a.m. 2 p.m. 9 p.m. | 29,222 29,268 29,174 | 53 81 60 | 52.3 63.7 51 | 53.3 73 57.2 | 74.1 35.2 | ..... | 55.7 81 56.4 | 51.7 73.5 60.7 | 59.4 61.1 61.1 | 61 61.4 63.8 | 61 61.4 63.8 | 62 62 61.8 | 60.7 60.9 60.7 | 58.7 73.8 65.3 | 54.8 63.1 60.7 | 60.8 75.3 63.1 | 60.9 63 66.2 | | |
| 4 | 7 a.m. 2 p.m. 9 p.m. | 29,148 29,130 29,150 | 58.1 80 65 | 56.4 68.4 60 | 58.2 76 61 | 76.1 49.1 | ..... | 56.2 82.7 62 | 55 74.2 61.9 | 60.3 62 65 | 61.3 62 61.2 | 61.3 62 61.2 | 61.8 61.8 61.8 | 60.4 60.5 60.6 | 56.3 74.2 66.7 | 51.5 63.3 66.3 | 61.3 63.5 66.2 | 60.9 63.5 60.6 | | |
| 5 | 7 a.m. | 29,118 | 62 | 59 | 61 | 78.5 56 | ..... | 63.8 | 59 | 60.2 | 63 | ..... | 61.8 | 60.7 | 59.2 | 62.8 | 61 | 63.2 | 63.9 | |
| 6 | 7 a.m. 2 p.m. 9 p.m. | 29,146 29,190 29,152 | 56 87.5 70 | 55 71.2 62.8 | 56 81.4 61.3 | ..... | ..... | 60.1 92.8 63.3 | 56.4 83 70 | 60.2 75.2 71.9 | 63.7 64.4 67.7 | 63.7 64.4 67.7 | 61.6 62 61.8 | 60.2 60.8 60.3 | 57.2 82.8 69 | 58.4 66.5 63.8 | 63.2 65.8 69.7 | 64.2 66.2 69.7 | | |
| 7 | 7 a.m. 2 p.m. 9 p.m. | 29,130 29,168 29,080 | 59 89.2 72 | 57.3 73.6 61 | 58.2 81 67.8 | 84.2 48 | ..... | 63.5 91.5 63.8 | 59 83.2 69.6 | 62.2 77 71.5 | 65 63.7 68.8 | 65 63.7 68.8 | 61.9 62.2 61 | 60.3 60.8 60.5 | 59.2 81.5 68.9 | 60.8 71.3 69.6 | 61.6 82.8 63.6 | 65.4 82.8 67.4 | | |
| 8 | 7 a.m. 2 p.m. 9 p.m. | 29,024 29,011 28,920 | 62 87.2 71 | 60.6 72.2 68.2 | 61.2 83.8 70.2 | 85 51 | ..... | 65.3 90 71.2 | 61.2 80.7 73.6 | 63 76 74 | 66 56.2 69 | 66 56.2 69 | 62.2 62.3 62.4 | 60.4 60.7 60.7 | 61.2 82.6 73 | 65.2 68.7 72 | 62.4 79.5 73.2 | 65.8 62.4 71.2 | 66.6 | |
| 9 | 7 a.m. 2 p.m. 9 p.m. | 28,910 28,856 28,772 | 63.2 61 61.2 | 62 61 57.6 | 62 61.1 60.9 | ..... | ..... | 63.8 63.8 62.1 | 65.3 65.8 68.7 | 66.8 66.4 66.3 | 67.3 66.4 66 | 67.3 66.4 66 | 62.4 62.8 62.8 | 60.7 60.7 60.7 | 65.2 65.2 63.2 | 67.8 65.4 63.4 | 65.1 66.4 66 | 65.9 65.9 66.2 | 68.4 | |
| 10 | 7 a.m. 2 p.m. 9 p.m. | 28,662 28,666 28,722 | 66 76.7 61 | 61.8 74 57.6 | 65.2 74 61.8 | 77.2 57.6 | ..... | 61.8 72.6 59.3 | 63.6 71 63.6 | 64 69.8 63.8 | 65 65.4 66.4 | 65 65.4 66.2 | 62.8 63 62.8 | 60.8 61 60.8 | 63.6 71.8 63.2 | 64.2 66.8 67.2 | 64 66.8 67.2 | 64.8 66.6 66.6 | 67.5 | |
| 11 | 7 a.m. 2 p.m. 9 p.m. | 28,846 28,142 28,684 | 51.7 67.6 59.2 | 44.8 55.3 53.4 | 50.3 61 57.5 | 45 | ..... | 55 71.3 45 | 62.3 63.8 58.1 | 61.8 62.1 61.8 | 63.1 62.6 63.8 | 63.1 62.6 63.8 | 62.8 62.9 62.8 | 60.8 61 60.7 | 52.5 69 58.5 | 51.8 67.8 63.6 | 62.9 62.4 59.5 | 62.1 62.1 61.4 | | |
| 12 | 7 a.m. | 28,616 | 53 | 51 | 51.6 | 50.9 | | 52.6 | 55.2 | 58.4 | 61.3 | 61.7 | 62.7 | 61.8 | 55.2 | 60.2 | 56 | 61.5 | 55.8 | 61.8 |
| 12 | 7 a.m. 2 p.m. 9 p.m. | 28,692 28,761 28,692 | 44.2 60 51.4 | 40.2 48.8 52.6 | 42.6 55.6 52.6 | 57 38.4 | ..... | 45.6 61.3 45.2 | 46.5 58.3 56.1 | 50.8 58 57.5 | 56.8 58 59.8 | 56.8 58 59.8 | 61.8 61.8 61.6 | 60.4 60.6 60.4 | 56.4 56.8 60.5 | 48.5 61.8 57.8 | 56.6 60.6 60.4 | 47.8 56.3 59.3 | 56 | |
| 11 | 7 a.m. 2 p.m. 9 p.m. | 28,706 28,804 28,882 | 51.4 65 51 | 50.3 51.2 45 | 50.2 62 47 | 38.4 40 | ..... | 51.6 65.5 46.7 | 51 62.8 52.7 | 53.5 61.5 59.2 | 58 58.3 59.8 | 58 58.3 59.8 | 61 60.8 60.8 | 60 60.2 59.8 | 51.2 65.3 54.8 | 55 59.3 59.4 | 56 65.8 61.6 | 61.8 64 60 | 56.2 64 60 | |

OBSERVATIONS of Ground Temperature—Continued.

| Month. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | | TEMPERATURE OF DIFFERENT SOILS. | | | | | | | |
|------------------|------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|------------|---------------------------------|-------|-------|------|------|------|------|------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. | Loam. | Clay. | Sand. | | | | | |
| September—(Con.) | 15 | 7 a.m. | 28.882 | 47.3 | 47 | 49.4 | ..... | ..... | ..... | 49 | 45 | 48.6 | 55 | 56.7 | ..... | 60.2 | 59.7 | 59.7 | 46.7 | 52.4 | 48.2 | 55.3 | 47 | 54.6 | |
| | | 2 p.m. | 28.944 | 67 | 55.2 | 60.4 | ..... | ..... | ..... | 64.4 | 61 | 59.2 | 56.4 | 56.8 | ..... | 60.2 | 59.7 | 59.7 | 61.7 | 56.8 | 59.2 | 55.7 | 59.2 | 55.7 | 55.7 |
| | | 9 p.m. | 28.876 | 56 | 54 | 55 | ..... | ..... | ..... | 54.8 | 55.2 | 57 | 57.8 | 58 | ..... | 60 | 59.4 | 59.4 | 55.2 | 57.3 | 55 | 57.6 | 55.7 | 57.4 | 57.4 |
| " | 16 | 7 a.m. | 28.804 | 64.6 | 64.2 | 61.2 | ..... | ..... | ..... | 63.2 | 60 | 59.2 | 58 | 58.2 | ..... | 59.7 | 59.2 | 59.2 | 60.2 | 58.2 | 60.4 | 58 | 60.3 | 57.8 | 57.8 |
| | | 2 p.m. | 28.792 | 78 | 69.2 | 72.2 | ..... | ..... | ..... | 72.8 | 69.5 | 66.1 | 60.3 | 59.7 | ..... | 59.7 | 59.2 | 59.2 | 69.7 | 63 | 69.1 | 60.7 | 70.2 | 60.8 | 60.8 |
| | | 9 p.m. | 28.724 | 66.1 | 62.7 | 63 | ..... | ..... | ..... | 62.8 | 63 | 63.8 | 62.2 | 61.5 | ..... | 59.8 | 59.2 | 59.2 | 63.4 | 63.8 | 63.5 | 62.6 | 63.8 | 63.4 | 63.4 |
| " | 17 | 7 a.m. | 28.846 | 61.2 | 63.2 | 65.6 | ..... | ..... | ..... | 64.3 | 62 | 64 | 59 | 59.3 | ..... | 59.9 | 59.2 | 59.2 | 59 | 59 | 60.1 | 58.7 | 60 | 58.5 | 58.5 |
| | | 2 p.m. | 28.906 | 66.2 | 58 | 62.1 | ..... | ..... | ..... | 66.2 | 65.8 | 64.6 | 61.8 | 61.5 | ..... | 59.8 | 59.2 | 59.2 | 67.2 | 63.5 | 66.7 | 62.3 | 66.2 | 62.7 | 62.7 |
| | | 9 p.m. | 29.020 | 54.5 | 50 | 51 | ..... | ..... | ..... | 51 | 56 | 59.8 | 62 | 62 | ..... | 59.8 | 59 | 59 | 57.6 | 62.2 | 57.8 | 62.2 | 57.7 | 63 | 63 |
| " | 18 | 7 a.m. | 29.168 | 47.2 | 45 | 46 | ..... | ..... | ..... | 51 | 47.8 | 51.3 | 57 | 58.8 | ..... | 60 | 58.7 | 58.7 | 49.1 | 55.3 | 51.4 | 57.2 | 49.3 | 57.2 | |
| | | 2 p.m. | 29.200 | 67 | 55.4 | 62.2 | ..... | ..... | ..... | 69.2 | 64 | 61.4 | 58.2 | 58.3 | ..... | 59.8 | 59 | 59 | 66.8 | 59.2 | 66.4 | 59 | 64.1 | 57.8 | 57.8 |
| | | 9 p.m. | 29.074 | 56.2 | 50.2 | 52 | ..... | ..... | ..... | 52 | 56.2 | 59.2 | 60.4 | 60.3 | ..... | 59.8 | 58.8 | 58.8 | 57.2 | 61 | 59.6 | 60.8 | 57.4 | 60.7 | 60.7 |
| " | 19 | 7 a.m. | 28.788 | 54.2 | 53.4 | 53.4 | ..... | ..... | ..... | 54.8 | 54.6 | 55.8 | 57.7 | 58.7 | ..... | 59.8 | 58.8 | 58.8 | 55 | 57 | 55.2 | 58 | 54.8 | 57.8 | 57.8 |
| | | 2 p.m. | 28.960 | 41.6 | 42 | 43 | ..... | ..... | ..... | 47.8 | 45.8 | 50 | 55 | 56.4 | ..... | 59.2 | 58.6 | 58.6 | 47.6 | 53.6 | 49 | 55.4 | 47.6 | 54.1 | 54.1 |
| | | 9 p.m. | 28.958 | 50 | 47 | 49 | ..... | ..... | ..... | 48.8 | 56.2 | 56 | 55.5 | 56.2 | ..... | 59.4 | 58.6 | 58.6 | 57.5 | 55.6 | 56 | 56 | 54.8 | 54.8 | 54.8 |
| " | 21 | 7 a.m. | 29.012 | 41.2 | 38.5 | 39.5 | ..... | ..... | ..... | 46.7 | 42 | 46.2 | 42.3 | 54.2 | ..... | 58.8 | 58.1 | 58.1 | 43.3 | 50.1 | 46 | 52.5 | 43.2 | 51.4 | 51.4 |
| | | 2 p.m. | 29.010 | 62.5 | 51 | 57.4 | ..... | ..... | ..... | 66.8 | 60.7 | 57.4 | 54 | 54.3 | ..... | 58.8 | 58.2 | 58.2 | 61.8 | 54 | 61.9 | 54 | 58.6 | 52.8 | 52.8 |
| | | 9 p.m. | 29.012 | 48 | 43.2 | 45.6 | ..... | ..... | ..... | 46.2 | 50.5 | 54.2 | 55.8 | 56.2 | ..... | 58.5 | 58.2 | 58.2 | 51.8 | 55.9 | 52.2 | 56.1 | 51.1 | 55.3 | 55.3 |
| " | 22 | 7 a.m. | 28.990 | 47 | 44.9 | 46.4 | ..... | ..... | ..... | 47.5 | 47.8 | 50 | 53.2 | 54.7 | ..... | 58 | 58 | 58 | 48.7 | 52 | 48.8 | 53.2 | 48.4 | 52.8 | 52.8 |
| | | 2 p.m. | 28.908 | 61 | 52.5 | 55.2 | ..... | ..... | ..... | 58.4 | 58 | 57.5 | 55.5 | 55.2 | ..... | 58 | 57.8 | 57.8 | 57 | 55.4 | 56.5 | 53 | 57 | 54.5 | 54.5 |
| | | 9 p.m. | 28.788 | 47.8 | 53.5 | 53 | ..... | ..... | ..... | 44.1 | 49.3 | 55.3 | 54.3 | 56.4 | ..... | 58.6 | 58.1 | 58.1 | 51.6 | 58.1 | 51.2 | 59.3 | 51.3 | 55.4 | 55.4 |

| | | | | | | | | | | | | | | | | | | | |
|---------|----------------------------|----------------------------|----------------------|----------------------|----------------------|--------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------|
| 23 | 7 a.m. 2 p.m. 9 p.m. | 28,894 28,964 29,020 | 53.2 68.1 55.7 | 59.8 59 52 | 51.8 62.2 52 | 66.6 43 | ..... ..... ..... | 54.2 71.4 55.8 | 53.2 68.7 58.2 | 51 59.8 60 | 55 55.8 59.1 | 55.5 55.9 58.5 | 57.8 57.5 57.5 | 57.5 57.5 57.5 | 53.8 53 57.9 | 53.4 56 58 | 54.5 55.6 58.5 | 54.8 62 59.4 | |
| 24 | 7 a.m. 2 p.m. 9 p.m. | 29,040 29,084 29,026 | 49 76 62 | 47.2 63 53.2 | 47.2 68.2 55 | 70.5 43.2 | ..... ..... ..... | 51 74.7 58.2 | 52 68.2 61.2 | 54.7 63 63 | 56.8 51.9 60.6 | 57.7 57.5 60.6 | 57.6 57.8 59.3 | 57.5 57.4 59.3 | 56.6 63.5 59.3 | 63.5 59.3 60.5 | 63.5 57.7 60.5 | 63.5 57.7 60.5 | |
| 25 | 7 a.m. 2 p.m. 9 p.m. | 26,048 28,932 28,848 | 60.8 82.6 70 | 60.2 81 65 | 60.2 81 67 | 81.2 59 | ..... ..... ..... | 61 77.3 63.3 | 58.7 71.5 63.8 | 58.8 67.6 64.6 | 59 60.8 62.8 | 59 59.7 62 | 57.8 58 58 | 57.5 57.5 57.2 | 58.6 59 61.3 | 59.1 71.8 64.4 | 58.7 61 63.1 | 58.7 61 63.1 | |
| 26 | 7 a.m. | 28,682 | 65 | 61.2 | 63.2 | 70.1 | 200 | 62.3 | 62.3 | 62.6 | 61.7 | 61.2 | 58.1 | 57.2 | 63 | 63 | 62.1 | 63 | 62.5 |
| 27 | 7 a.m. 2 p.m. 9 p.m. | 28,744 28,720 28,628 | 55 66.8 57 | 53.1 58.8 55.5 | 53.6 61 55.9 | 61 | ..... ..... ..... | 56.8 66.3 57.5 | 56.5 63.3 58.7 | 58.2 62 60.5 | 60 60.1 60.6 | 60.3 60.1 60.7 | 58.5 58.6 58.8 | 57.1 57.4 57.5 | 57.8 61.1 60.9 | 58.2 62 58.5 | 57.8 62.2 60.6 | 58.2 62 60.6 | |
| 28 | 7 a.m. 2 p.m. 9 p.m. | 28,748 28,786 28,800 | 57 55.5 48.8 | 55 50 45.5 | 56 54.1 46.6 | 60.7 45.2 | ..... ..... ..... | 57.2 56.2 48 | 58 58.8 52.3 | 59.1 60.1 55.9 | 59.7 59.8 58.4 | 60 59.8 59.1 | 58.8 58.9 57.8 | 57.5 57.6 57.8 | 58.2 59.4 53.8 | 58.7 60 58.5 | 58.7 60 58.5 | 58.7 60 58.5 | |
| 29 | 7 a.m. 2 p.m. 9 p.m. | 28,810 28,820 28,770 | 40 59.4 47.6 | 38 49 42 | 38.5 56.9 42.5 | 35 | ..... ..... ..... | 42.3 59.4 42.8 | 43.5 56.8 48 | 49 56.1 52.8 | 54.8 55 56 | 56.9 55.8 56.9 | 58.9 58.5 58.7 | 57.8 57.6 57.6 | 46 59 50 | 48.2 58.2 56.1 | 48.2 55.5 49.1 | 48.2 55.5 49.1 | |
| 30 | 7 a.m. 2 p.m. 9 p.m. | 28,632 28,528 28,538 | 46.3 67 43.1 | 43.5 55.5 40.5 | 45.1 62 41.7 | 62.7 35 | ..... ..... ..... | 47.1 63.1 45.2 | 41 58 50.7 | 47.3 56 54 | 52.3 53.8 55.3 | 54.1 54.1 55.8 | 58.1 58.2 58 | 57.2 57.7 57.5 | 45.7 58.7 50.8 | 50.8 54.8 55.1 | 50.8 54.8 55.1 | 50.8 54.8 55.1 | |
| October | 7 a.m. 2 p.m. 9 p.m. | 28,686 28,818 28,896 | 36.6 45 37.2 | 35 39.2 55.2 | 36 42.4 55.5 | 47.2 34.1 | ..... ..... ..... | 39.8 51 37.8 | 41.2 48.7 42 | 46.3 50.8 47 | 51.8 51.7 51.2 | 53.7 52.8 52.8 | 57.8 57.6 57.2 | 57.4 57.2 57 | 42.5 50.7 43.3 | 49.8 56.1 44.9 | 49.8 56.1 44.9 | 49.8 56.1 44.9 | |
| 1 | 7 a.m. 2 p.m. 9 p.m. | 28,998 29,084 29,116 | 41.2 51.8 40 | 37.8 48.4 35.3 | 37.8 48.4 36 | 50.8 34.8 | ..... ..... ..... | 39.8 51.5 36.6 | 41.6 49 42.1 | 46.1 49 47 | 50.7 49.5 50.8 | 52.6 50.8 51.6 | 56.9 56.8 56.5 | 56.9 56.8 56.5 | 41.8 49.8 41.1 | 49.6 49.1 42.8 | 49.6 49.1 42.8 | 49.6 49.1 42.8 | |
| 2 | 7 a.m. 2 p.m. 9 p.m. | 29,034 29,060 29,030 | 49.4 60 47.8 | 48 51 42.5 | 48.3 55 43 | 55.1 41.5 | ..... ..... ..... | 49.5 59.5 44 | 48.8 56.2 49 | 50.6 54.8 52.2 | 51.2 52.2 53 | 51.8 52.2 53.2 | 54.7 54.8 54.8 | 55.5 55.2 55 | 48 55.8 47.2 | 50.9 51.6 52.8 | 50.9 51.6 52.8 | 50.9 51.6 52.8 | |
| 3 | 7 a.m. | | | 34 | 34 | 57.9 | 26 | 37.8 | 37.2 | 41.6 | 47.3 | 49.1 | 55.7 | 56.4 | 36 | 37.8 | 36.8 | 36.8 | 36.8 |
| 4 | 7 a.m. 2 p.m. 9 p.m. | 28,854 28,842 28,926 | 46 53 52 | 45 54.5 50.2 | 46 54.5 51 | 54.6 33 | ..... ..... ..... | 45.2 51 51 | 44.2 51 50.6 | 46.1 50.8 51.4 | 48.8 49.8 51 | 50 50 51.3 | 55.2 55.6 54.1 | 55.8 55.6 55.6 | 44.2 43.2 50.3 | 48.1 50.8 50.2 | 48.1 50.8 50.2 | 48.1 50.8 50.2 | |
| 5 | 7 a.m. 2 p.m. 9 p.m. | 29,034 29,060 29,030 | 49.4 60 47.8 | 48 51 42.5 | 48.3 55 43 | 55.1 41.5 | ..... ..... ..... | 49.5 59.5 44 | 48.8 56.2 49 | 50.6 54.8 52.2 | 51.2 52.2 53 | 51.8 52.2 53.2 | 54.7 54.8 54.8 | 55.5 55.2 55 | 48 55.8 47.2 | 50.9 51.6 52.8 | 50.9 51.6 52.8 | 50.9 51.6 52.8 | |

OBSERVATIONS of Ground Temperature.—Continued.

| Month. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | TEMPERATURE OF DIFFERENT SOILS. | | | | | | | | | |
|-----------------------|------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------|-----------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. | Loam. | Clay. | Sand. | | | | | | |
| October— <i>Cont.</i> | 6 | 7 a.m. | 29.020 | 39 | 39.2 | 39.3 | ..... | ..... | ..... | 42.9 | 41 | 46.2 | 49.8 | 51.2 | ..... | 51.5 | 55 | 55 | 42.2 | 49.1 | 43.2 | 50 | 43 | 50 | 9 inches. | |
| | | 2 p.m. | 29.024 | 66 | 57.2 | 63 | ..... | ..... | ..... | 69.7 | 62.6 | 58.2 | 52.1 | 52 | ..... | 54.8 | 54.7 | 54.8 | 54.8 | 50.7 | 59.2 | 50.3 | 61.6 | 50.4 | 50.4 | 3 inches. |
| | | 9 p.m. | 28.990 | 53 | 47 | 47.4 | 33 | ..... | ..... | 57.8 | 42 | 55 | 54.8 | 54.6 | ..... | 54 | 55.1 | 55.1 | 55.1 | 51.2 | 54.2 | 51.3 | 53.2 | 52.1 | 54.2 | 9 inches. |
| " | 7 | 7 a.m. | 29.000 | 40 | 38.1 | 38.1 | ..... | ..... | ..... | 41.2 | 42.3 | 46.6 | 50.8 | 52.2 | ..... | 54.4 | 54.7 | 54.8 | 41.4 | 51.2 | 41.9 | 51.4 | 51.4 | 51.4 | 9 inches. | |
| | | 2 p.m. | 29.018 | 66.5 | 60.1 | 67 | ..... | ..... | ..... | 70.6 | 61 | 59.7 | 53.2 | 52.8 | ..... | 54.7 | 54.8 | 54.8 | 61.1 | 60.8 | 51.3 | 63.1 | 61.4 | 51.4 | 51.4 | 3 inches. |
| | | 9 p.m. | 29.016 | 56 | 51 | 51.3 | 67 | 34.9 | ..... | 48.2 | 53.6 | 53.4 | 55.3 | 55.1 | ..... | 54.8 | 54.8 | 54.8 | 52.4 | 55.2 | 52.4 | 53.3 | 53.8 | 51.8 | 51.8 | 9 inches. |
| " | 8 | 7 a.m. | 29.004 | 42 | 40.4 | 40.6 | ..... | ..... | ..... | 44.3 | 44.5 | 48.1 | 52 | 52.8 | ..... | 54.6 | 54.7 | 54.8 | 43.8 | 52 | 45 | 52 | 44.1 | 52.2 | 52.2 | 9 inches. |
| | | 2 p.m. | 29.038 | 75.4 | 63 | 72 | ..... | ..... | ..... | 69.7 | 63.2 | 59.8 | 54 | 53.7 | ..... | 54.8 | 54.8 | 54.8 | 61.6 | 53.1 | 61.6 | 52.5 | 61 | 52.7 | 52.7 | 3 inches. |
| | | 9 p.m. | 29.016 | 60 | 55.5 | 57.3 | 72.5 | 36 | ..... | 53 | 55 | 56.5 | 56 | 55.5 | ..... | 55 | 54.8 | 54.8 | 55 | 56.1 | 53.9 | 51.9 | 55.9 | 55.8 | 55.8 | 9 inches. |
| " | 9 | 7 a.m. | 29.048 | 52 | 52 | 53 | ..... | ..... | ..... | 48 | 48.2 | 50.2 | 53.7 | 53.7 | ..... | 54.7 | 54.6 | 54.6 | 48.7 | 53 | 48 | 53 | 47.9 | 53.2 | 53.2 | 9 inches. |
| | | 2 p.m. | 29.068 | 77.2 | 64.5 | 72.3 | ..... | ..... | ..... | 73.2 | 65.4 | 61 | 59.7 | 54.1 | ..... | 54.8 | 54.8 | 54.8 | 66.9 | 54 | 64 | 54.1 | 64.8 | 53.5 | 53.5 | 3 inches. |
| | | 9 p.m. | 29.044 | 60.1 | 54.1 | 55.1 | 73.2 | 41.8 | ..... | 52.4 | 56 | 57.7 | 57.1 | 56.8 | ..... | 54.8 | 54.8 | 54.8 | 55.9 | 58 | 55.7 | 56.4 | 57 | 56.9 | 56.9 | 9 inches. |
| " | 10 | 7 a.m. | 29.044 | 46.7 | 44 | 44 | 74 | 42 | ..... | 41.8 | 47.6 | 51.2 | 54 | 54.8 | ..... | 55 | 54.6 | 54.6 | 47.6 | 54.5 | 48.1 | 54.1 | 48.1 | 55 | 55 | 9 inches. |
| | | 2 p.m. | 29.026 | 47.7 | 45 | 45.2 | ..... | ..... | ..... | 49 | 47.8 | 51.2 | 54.4 | 55.2 | ..... | 55.1 | 54.7 | 54.7 | 47.8 | 55.1 | 48.3 | 54.8 | 48.4 | 55.2 | 55.2 | 3 inches. |
| | | 9 p.m. | 29.030 | 77 | 63.1 | 71 | ..... | ..... | ..... | 55.4 | 65 | 62 | 56.1 | 55.7 | ..... | 55.2 | 54.8 | 54.8 | 66 | 55.9 | 63.5 | 54.8 | 65.2 | 55 | 55 | 9 inches. |
| " | 11 | 7 a.m. | 28.980 | 62 | 56.5 | 58 | 72.2 | 44 | ..... | 57.8 | 58.7 | 57.8 | 57 | ..... | 55.6 | 54.9 | 54.9 | 57.2 | 58.5 | 57 | 56.9 | 56.8 | 57.8 | 57.8 | 9 inches. | |
| | | 2 p.m. | 28.968 | 55.0 | 53.2 | 54 | ..... | ..... | ..... | 54 | 53.2 | 54.4 | 56 | ..... | 55.6 | 54.9 | 54.9 | 53.6 | 55.8 | 53.4 | 55.4 | 53.5 | 53.5 | 56.9 | 56.9 | 3 inches. |
| | | 9 p.m. | 28.872 | 71.2 | 62.2 | 67 | ..... | ..... | ..... | 67.5 | 62.2 | 59.5 | 56.3 | 56.1 | ..... | 55.7 | 55 | 55 | 63.4 | 56.4 | 56.2 | 53.3 | 53.3 | 56.9 | 56.9 | 9 inches. |
| " | 12 | 7 a.m. | 28.904 | 67.2 | 56 | 55.5 | 67.2 | 51.8 | ..... | 54.2 | 56.1 | 57.2 | 57.4 | 57.4 | ..... | 55.7 | 55 | 55 | 56.3 | 56.4 | 54.6 | 57.8 | 57.5 | 57.5 | 57.5 | 9 inches. |
| | | 2 p.m. | 28.894 | 55 | 52.1 | 52 | ..... | ..... | ..... | 54.8 | 55.6 | 56.5 | 56.7 | 56.9 | ..... | 55.8 | 54.9 | 54.9 | 55.6 | 57.1 | 55.2 | 56.4 | 55.7 | 57 | 57 | 3 inches. |
| | | 9 p.m. | 28.866 | 62 | 55 | 55.9 | ..... | ..... | ..... | 61.2 | 59.7 | 58.6 | 56.6 | 56.7 | ..... | 55.7 | 55 | 55 | 59.2 | 56.8 | 58 | 56.9 | 56.7 | 56.7 | 56.7 | 9 inches. |
| " | 13 | 7 a.m. | 28.794 | 53.1 | 51 | 51 | 67.8 | 49.7 | ..... | 53.2 | 55.4 | 57.2 | 57.2 | ..... | 55.7 | 55.2 | 55.2 | 54.8 | 57.3 | 54.2 | 56.2 | 55.3 | 57.1 | 57.1 | 9 inches. | |
| | | 2 p.m. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 inches. |
| | | 9 p.m. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9 inches. |

| | | | | | | | | | | | | | | | | | |
|----|----------------------------|----------------------------|----------------------|----------------------|----------------------|--------------------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 14 | 7 a.m. 2 p.m. 9 p.m. | 28,560 28,192 28,210 | 53.2 63.4 51.9 | 53 62.6 52.3 | 54 63.5 53 | 64.5 64.5 50 | 665 | 53.9 62.1 54.7 | 53.3 58.8 52.2 | 54.3 58 56.7 | 55.9 56.1 57 | 55 55 55.4 | 53.3 55.4 54.8 | 55.4 55.5 53.7 | 53.5 55.4 53.6 | 55.1 53.7 51.9 | 55.2 54.8 52.2 |
| 15 | 7 a.m. 2 p.m. 9 p.m. | 28,642 28,836 28,988 | 47.5 42.2 34.5 | 47 45.2 34.4 | 47 45.2 34.4 | 51.2 33.3 | 33.3 | 48 51.3 37.4 | 50.4 53.5 41.4 | 55 54.3 52.2 | 55.7 55 53.9 | 55.1 55 55 | 58.8 49.8 40.7 | 55.1 53.7 51.9 | 55.1 53.7 51.9 | 55.1 53.7 51.9 | 55.2 54.8 52.2 |
| 16 | 7 a.m. 2 p.m. 9 p.m. | 29,128 29,182 29,138 | 30 41 31 | 28.5 35 27.8 | 29.6 39 28.4 | 48.1 27.2 | 27.2 | 34.2 49.8 33.6 | 43.1 47.3 38.7 | 49 48.7 48.8 | 51.1 50 50.3 | 54.8 54.9 54.8 | 35.2 43.9 37.1 | 47.6 44.1 47.4 | 47.6 44.1 47.4 | 47.6 44.1 47.4 | 47.6 44.1 47.4 |
| 17 | 7 a.m. | 28,992 | 32.8 | 31.7 | 32.6 | 43.6 | 1,246 | 35 | 37 | 40.8 | 45.9 | 54.8 | 35.5 | 43.6 | 38.6 | 35 | 45 |
| 18 | 7 a.m. 2 p.m. 9 p.m. | 29,062 29,138 29,174 | 35.0 49.4 37.2 | 33.9 39.8 35.5 | 34.1 42.3 36 | 44.2 31.5 | 31.5 | 36.2 50.3 38.2 | 37 49.8 41 | 44.2 45.7 47 | 46 46.2 48 | 54.6 54.2 53.8 | 36.7 46 43 | 42.2 43 44.7 | 42.2 43 44.7 | 42.2 43 44.7 | 43.3 43.3 43.3 |
| 19 | 7 a.m. 2 p.m. 9 p.m. | 29,198 29,218 29,156 | 35.2 61.3 47.5 | 34 52 42.2 | 34 55 42.2 | 55 | 32.6 | 37.9 62.2 43.9 | 39 55.8 47.1 | 45.1 47 49.1 | 46.6 47.1 49 | 53.6 53.7 53.6 | 38 53 45.8 | 38.7 44.8 45.9 | 38.7 44.8 45.9 | 38.7 44.8 45.9 | 43.8 44.8 47.2 |
| 20 | 7 a.m. 2 p.m. 9 p.m. | 29,168 29,034 28,824 | 40.1 73 61 | 40 62 57.7 | 40.6 69.7 59 | 70.1 34.5 | 34.5 | 41.5 65.2 57 | 39.9 58.8 55.4 | 46.4 48.8 51.7 | 47.8 48.5 51 | 53 52.8 52.8 | 39 57 54.7 | 43.8 46.8 50.5 | 43.8 46.8 50.5 | 43.8 46.8 50.5 | 45.4 46.3 65.0 |
| 21 | 7 a.m. 2 p.m. 9 p.m. | 28,974 29,020 28,994 | 42 51.2 40 | 39 64 36 | 41.6 64 37 | 60 | 204 | 42.8 53.4 38 | 43.6 52.6 41.9 | 50.7 50.6 50.8 | 51 50.6 50.8 | 52.5 52.7 52.4 | 43 49.4 40.8 | 49.8 49.1 48.9 | 49.8 49.1 48.9 | 49.8 49.1 48.9 | 50.2 49.2 49.1 |
| 22 | 7 a.m. 2 p.m. 9 p.m. | 28,898 28,892 28,920 | 48 64.7 50.7 | 37.1 55 45.1 | 38.1 61.6 46.3 | 62.2 33.9 | 33.9 | 38 60.8 43.8 | 37.8 55.2 48.8 | 48 46.5 49.8 | 48 48.2 48.2 | 52.2 52.6 52.2 | 37.5 52.8 45.7 | 44.8 46.1 45.5 | 44.8 46.1 45.5 | 44.8 46.1 45.5 | 45.8 46.3 48.8 |
| 23 | 7 a.m. 2 p.m. 9 p.m. | 29,032 29,094 29,018 | 42 58 42 | 40.2 45 38 | 41.5 48.1 39.6 | 49.2 31 | 31 | 40.6 58 39.8 | 39.4 53.1 43.4 | 42.8 48.1 47.2 | 48.2 48.2 49 | 51.8 52 51.8 | 39.8 49.2 42.3 | 45.6 46.3 47.4 | 45.6 46.3 47.4 | 45.6 46.3 47.4 | 46.4 46.2 42.1 |
| 24 | 7 a.m. | 28,896 | 40 | 39.6 | 40 | 59.2 | 010 | 39.8 | 40.5 | 43.5 | 46.3 | 52.1 | 41 | 45 | 41 | 45.2 | 40.4 |
| 25 | 7 a.m. 2 p.m. 9 p.m. | 28,892 29,026 29,162 | 49 41.8 36 | 48.2 40.3 33.2 | 49 40.3 35.1 | 38.2 34.4 | 34.4 | 48.2 44.5 37.5 | 47 49.6 40.8 | 49.5 49.6 48.2 | 49.5 48.8 49.3 | 51.9 51.8 51.8 | 47 45.9 41.4 | 48.2 45.8 47.4 | 48.2 45.8 47.4 | 48.2 45.8 47.4 | 48.4 48.7 40.8 |

OBSERVATIONS of Ground Temperature.—*Concluded.*

| Month. | Day. | Time of Reading. | Barometer. | Attached Thermometer. | Wet bulb Thermometer. | Dry bulb Thermometer. | Maximum Thermometer. | Minimum Thermometer. | Amount of Rain in Inches. | TEMPERATURE OF SOILS VARYING FROM 1 TO 48 INCHES IN DEPTH. | | | | | | | | TEMPERATURE OF DIFFERENT SOILS. | | | | | |
|-----------------------|------|------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|---------------------------|--|-----------|-----------|-----------|------------|------------|------------|------------|---------------------------------|-----------|-----------|-----------|-----------|-----------|
| | | | | | | | | | | 1 inch. | 3 inches. | 6 inches. | 9 inches. | 12 inches. | 24 inches. | 36 inches. | 48 inches. | Loam. | | Clay. | | Sand. | |
| | | | | | | | | | | | | | | | | | | 3 inches. | 9 inches. | 3 inches. | 9 inches. | 3 inches. | 9 inches. |
| October— <i>Clea.</i> | 26 | 7 a.m. | 29.258 | 29.8 | 28 | 29.1 | ..... | ..... | ..... | 33.8 | 36.5 | 40.8 | 45.2 | 47 | ..... | 51.5 | 51.6 | 36 | 43.8 | 35.4 | 44.4 | 36 | 45.2 |
| | | 2 p.m. | 29.248 | 37.4 | 32.8 | 34 | ..... | ..... | ..... | 42.5 | 42 | 43 | 41.2 | 45.8 | ..... | 51.4 | 51.7 | 40 | 42.4 | 41.2 | 43 | 41.8 | 43.8 |
| | | 9 p.m. | 29.194 | 34 | 32 | 33.1 | ..... | 34.2 | ..... | 35.2 | 37.6 | 41.2 | 44.7 | 45.9 | ..... | 51.4 | 51.6 | 36.8 | 42.8 | 36 | 43.2 | 37.3 | 44.1 |
| " | 27 | 7 a.m. | 29.040 | 34 | 33.8 | 34 | ..... | ..... | ..... | 35.8 | 37 | 39.8 | 43.1 | 44.8 | ..... | 51.2 | 51.5 | 36.4 | 41.2 | 36.8 | 41.9 | 36.5 | 42.6 |
| | | 2 p.m. | 28.862 | 39.2 | 38.4 | 38.6 | ..... | ..... | ..... | 40.7 | 39.8 | 41.8 | 43.4 | 44.2 | ..... | 50.9 | 51.5 | 38.2 | 41.4 | 39.8 | 42.1 | 39.8 | 42.5 |
| | | 9 p.m. | 28.806 | 41.2 | 40.4 | 41.2 | ..... | 30.9 | ..... | 41.3 | 41.2 | 42.8 | 44 | 44.8 | ..... | 50.8 | 51.3 | 40.7 | 42.2 | 41.1 | 42.8 | 41 | 43 |
| " | 28 | 7 a.m. | 28.736 | 41.5 | 41.0 | 41 | ..... | ..... | ..... | 42.2 | 42 | 43.3 | 44.2 | 45.1 | ..... | 50.6 | 51.3 | 41.8 | 42.7 | 42 | 43.2 | 41.8 | 43.5 |
| | | 2 p.m. | 28.744 | 49 | 44 | 45.2 | ..... | ..... | ..... | 49 | 47.2 | 46.8 | 45 | 45.8 | ..... | 50.6 | 51.2 | 46.9 | 44 | 47.2 | 44 | 47.8 | 43.1 |
| | | 9 p.m. | 28.763 | 41.2 | 42.3 | 42.7 | ..... | 39.7 | ..... | 42.5 | 42.7 | 43.9 | 44.3 | 45.2 | ..... | 50.2 | 51 | 40.9 | 42.2 | 41.3 | 43 | 41.3 | 42.8 |
| " | 29 | 7 a.m. | 28.828 | 43.6 | 43.2 | 43.2 | ..... | ..... | ..... | 44.2 | 44.2 | 45.1 | 45.8 | 46.4 | ..... | 50 | 50.8 | 43.9 | 44.8 | 43.8 | 44.8 | 43.7 | 45 |
| | | 2 p.m. | 28.862 | 50.3 | 47.2 | 49.5 | ..... | ..... | ..... | 56 | 49.5 | 49 | 46.8 | 47 | ..... | 50 | 50.6 | 48.8 | 45.9 | 49 | 41.7 | 49.4 | 45.8 |
| | | 9 p.m. | 28.932 | 47 | 45 | 47 | ..... | 39.7 | ..... | 46.7 | 46.8 | 47.7 | 47.6 | 47.8 | ..... | 49.8 | 50.6 | 46.2 | 46.8 | 46.3 | 46.6 | 46.9 | 46.8 |
| " | 30 | 7 a.m. | 29.010 | 40.8 | 40.1 | 40.9 | ..... | ..... | ..... | 40.8 | 41.8 | 44.7 | 46.6 | 47.4 | ..... | 49.8 | 50.6 | 41.1 | 45.8 | 41.6 | 45.8 | 40.5 | 46 |
| | | 2 p.m. | 29.036 | 62.2 | 50.6 | 59 | ..... | ..... | ..... | 60 | 55.2 | 52.4 | 47.5 | 47.5 | ..... | 50 | 50.7 | 45.8 | 53.7 | 46.2 | 46.2 | 54.8 | 46.6 |
| | | 9 p.m. | 29.038 | 46.2 | 38.9 | 41 | ..... | 37.5 | ..... | 47.2 | 47.4 | 47.9 | 48.6 | 48.8 | ..... | 50 | 50.4 | 47.6 | 48.2 | 47.7 | 48.5 | 48.4 | 48.7 |
| " | 31 | 7 a.m. | 28.972 | 40 | 37.2 | 38 | 62.4 | 36.2 | ..... | 36.4 | 37.2 | 41 | 45.2 | 46.6 | ..... | 49.8 | 50.1 | 36.8 | 43.8 | 37 | 44.5 | 35.8 | 44.8 |

OBSERVATIONS AND ANALYSES OF DRAINAGE.

The rain gauge and six lysimeters were first in operation during the summer of 1884. For fuller information consult the reports of 1883 and 1884. In 1885, owing to the illness and death of Dr. Hare, then in charge of the Chemical Department, accurate and detailed observations and analyses were not preserved.

There are six lysimeters, as follows:—

- I. Permanent Pasture, on soil of experimental field.
- II. Bare Fallow or Fall Wheat on soil of experimental field.
- III. Fall Wheat or Bare Fallow “ “ “
- IV. Four years rotation, on loam.
- V. “ “ on clay.
- VI. “ “ on sand.

Each lysimeter covers 1-10,000 of an acre, is three feet deep, and contains the soil preserved in its natural position. In the accompanying tables the drainage is given calculated to pounds per acre.

The following is the description of the soil of Nos. I, II and III:—

“The surface soil is a sandy loam eight inches in depth—the humus being abundant. The sub-soil consists of three distinct layers: first is a firm clay ten inches deep, having a reddish tinge and a slight sprinkling of gravel; second is a gravel loam fourteen inches deep, the gravel varying from one inch to the one-tenth of an inch in diameter; third a layer of pure building sand four inches deep.”

No. I. was manured in 1884 at the rate of fourteen tons of farm-yard manure to the acre.

Nos. II. and III. have a two years' rotation, fall wheat and bare fallow, manured fourteen tons to the acre before sowing every other year.

The rotation in Nos. IV., V. and VI. is roots (manure), barley, clover, spring wheat. This is the third year; manure was fourteen tons to the acre, applied to the turnips—none since.

| LYSIMETER. | Month. | Rainfall, lbs. per acre. | Drainage, lbs. per acre. | Solids in Drainage, lbs. per acre. | LBS. OF NITROGEN PER ACRE. | | | | Chlorine, lbs. per acre. |
|--------------------------------|--------|--------------------------|--------------------------|------------------------------------|----------------------------|--------------------|---------------------------|--------|--------------------------|
| | | | | | As Ammonia. | As Organic Matter. | As Nitrates and Nitrites. | Total. | |
| I. Permanent Pasture | May | 290,870 | 121,220 | 1,922 | .0039 | .0290 | .6011 | .6340 | .0002 |
| II. Bare Fallow | “ | 290,870 | 171,600 | 2,705 | .0184 | .0269 | .9002 | .9455 | .0004 |
| III. Fall Wheat | “ | 290,870 | 62,920 | 1,031 | .0047 | .0083 | .1404 | .1534 | .0002 |
| IV. Clover on Loam | “ | 290,870 | 18,304 | 306 | .0235 | .0100 | .0612 | .0947 | .0002 |
| V. “ Clay | “ | 290,870 | 32,780 | 696 | .0042 | .0097 | .2343 | .2482 | .0002 |
| VI. “ Sand | “ | 290,870 | 94,050 | 569 | .0016 | .0387 | .7117 | .7520 | .0001 |
| Total, 6 acres | “ | 1,745,220 | 500,874 | 7,229 | .0563 | .1226 | 2.6489 | 2.8278 | .0013 |
| None ran | June | 536,172 | | | | | | | |
| “ | July | 177,061 | | | | | | | |
| II. Bare Fallow | Aug | 974,857 | 31,900 | 561 | .0026 | .0118 | .0634 | .0828 | .0002 |
| II. Bare Fallow | Sept. | 430,751 | 44,220 | 814 | .0022 | .0026 | .1195 | .1243 | .0001 |
| II. Bare Fallow | Oct. | 535,038 | 151,360 | 2,866 | .0062 | .0105 | .4861 | .5008 | .0002 |
| II. Bare Fallow | Nov. | 583,781 | 190,300 | 3,930 | | | 2.4300 | 2.4300 | |
| III. Fall Wheat | “ | 583,781 | 12,584 | 205 | | | .3505 | .3505 | |
| V. Clover on Clay | “ | 583,781 | 28,160 | 375 | | | .3817 | .3817 | |
| Total for | “ | 3,502,686 | 231,044 | 4,510 | | | 3.1622 | 3.1622 | |
| Total for 6 acres for 7 months | ..... | 21,171,180 | 959,398 | 15,980 | ..... | ..... | 6.6999 | 6.6999 | .0018 |

NOTES.

II. Bare Fallow.—On September 25th of this year, this plot was manured with farmyard manure, at the rate of 14 tons to the acre; it was ploughed under on same day. On October 2nd, wheat (Rodger), was sown.

III. Fall Wheat.—The wheat was cut about July 27th; the stubble ploughed under about August 7th; no manure was added. In September and October, therefore, it was a fallow, the name, Fall wheat, being in above table, still applied to No. III.

IV., V. and VI. Clover on Loam, Clay and Sand.—These were turned under October 2nd; no manure added; they were fallow, therefore, during October and November.

The clay on No. V., is a little sandy.

In 1884, the first year of operation, drainage water was received from only two lysimeters, viz., from II., the bare fallow, and V., the clay. For complete analysis see Report of 1884, pp. 101-3.

The total drainage for all the lysimeters during this year, was 4.53 per cent. of the total rainfall, somewhat below the average.

For comparison or contrast, I append a few observations taken elsewhere :—

| Inches of Rainfall. | DRAINAGE. | | Time. | Observer. | — |
|---------------------|-----------|-----------|---------------------|--------------------|----------------------|
| | Inches. | Per cent. | | | |
| 26.6 | 11.3 | 42.5 | 1836-43. | Dickinson. | Grass in Sandy Loam. |
| 13.93 | 10.39 | 74.5 | October to March. | " | " |
| 12.67 | 0.90 | 7.1 | April to September. | " | " |
| 26 to 28 | 6.5 to 7 | 25 | ..... | Dalton. | |
| | | 27 | ..... | Greaves. | |
| 31.45 | 14.06 | 44.7 | 1871-1880. | Lawes and Gilbert. | |
| 26 | 10.1 | 39 | ..... | Maurice. | |
| 41 | 12.3 | 20 | ..... | Risler. | |
| 28 | 5.6 | 30 | ..... | Gasparin. | |
| 25.7 | 5.14 | 20 | May to Sept., 1877. | Stockbridge. | |
| 45.34 | 6.76 | 14.9 | 1876 to 1879. | Sturtevant. | |

The rainfall at the Experimental Farm during the seven months, 1886, (May to December), was 15.574 inches and the drainage 0.71 inches (4.53 per cent.), both rainfall and drainage being quite low.

The total drainage, solids and nitrogen loss, were made up as follows :—

| | Drainage. | Solids. | Nitrogen. |
|---|-----------|---------|-----------|
| | Lbs. | | |
| I. Permanent Pasture | 121,220 | 1,922 | .6340 |
| II. Bare Fallow | 589,380 | 10,876 | 4.0854 |
| III. Fall Wheat | 75,504 | 1,236 | .5039 |
| IV. Clover on Loam | 18,304 | 306 | .0947 |
| V. " Clay | 60,940 | 1,071 | .6299 |
| VI. " Sand | 94,050 | 569 | .7520 |
| Total from six acres for seven months | 959,398 | 15,980 | 6.6999 |

The amount of Nitrogen received by an acre of soil through the rain varies between five and seven pounds *per annum*, six being about the average.

The small amount of Nitrogen washed out of the various soils, in comparison with some results from other stations, can easily be accounted for by the small percentage of total drainage. This summer it amounted to 1-10 of what it has reached in some seasons in England. The above results, however, are available for comparison one with another.

POST GRADUATE COURSE.

The work of the third year is, of course, in a formative condition and will gradually develop into more perfect form. Since November 1st, the time of its commencement, the

class have made good progress. They have continued the work of the second year. The work during the first term has consisted of the following:—

(a) Laboratory Work:—The preparation of Hydrogen, Oxygen, Nitrogen, Ozone and Sulphuretted Hydrogen gases, and experimenting with the same; a review and fuller treatment of the subject of Qualitative Analysis; including Blow-pipe Analysis, Volumetric Analysis; experiments with the following soils—clay, sand, loam, marl, humus, vegetable mold—to determine their chemical and physical properties.

(b) Theoretical Work:—The work in Agricultural Chemistry has been confined principally to the writing of theses on subjects prescribed. Each week a thesis is handed in by one of the members of the class: this is read by myself, criticized, and then handed to the others for reading and for making notes. The subjects of the first term have been "Humus," "Green Manuring," "Fallowing," "Bones." In addition I have prescribed technical books, reports and pamphlets for reading and study. The attention and interest so far manifested, justify the inception of this work and promise success for the future. Though it has thrown much additional work upon the Chemical Department, I hope to see it continued and developed still farther. After the New Year we shall commence the Quantitative Analysis of soils, water, dairy products, etc.

NEEDS.

A chemist, while thankful for past favours, is always anxious for further improvement. You will therefore please permit me to refer to the pressing needs of the Chemical Department.

At present the lecture room, the laboratory of the college, the laboratory of the Experimental Department, and the private room of the chemist are all in one, a room poorly lighted, with but few conveniences, and situated in immediate conjunction to the private dwelling of yourself, and also to the sleeping and dining rooms of the student. I think that you and every one else of sound thinking will readily admit the following: That a laboratory where vapours and gases, unwholesome and poisonous, are constantly being liberated, should not be situated beside or near inhabited rooms: that a chemist should not be compelled to lecture to a class in the laboratory where analytical work is proceeding all the time; that where we attempt to give the complete and practical course mapped out in our chemical curriculum, we should have equipment and conveniences commensurate with the work. Further progress is barred unless we have better equipment; we are enabled to continue the analysis of water, manures and dairy products through this winter because of the additional conveniences added to the College laboratory. By having both departments in the same room, I have been able to conduct analyses and oversee the practical work of the third year without much inconvenience; but we are working against great difficulties, and our field is limited because of the lack of accommodation, convenience of arrangement, and scanty apparatus. The laboratory of the only Agricultural College in the Province of Ontario should certainly be as complete as that of the Agricultural Colleges of the neighbouring states, and we should not be thrown too much in the shade by the accommodation and equipment of the laboratory about to be established at the Dominion station near Ottawa. I trust, sir, that the Government will give speedy realization to what all must certainly feel is a great necessity, viz., a new, commodious and well equipped laboratory.

The retention of Mr. Zavitz as assistant in the Experimental Department has proved wise; work has developed sufficient to demand his services. Since his appointment last summer all of his time allotted to the laboratory has been fully occupied. He has shown himself careful and reliable.

Trusting that I have not trespassed too far upon the pages of the Report and that this record will prove satisfactory,

I remain your obedient servant.

C. C. JAMES,
Professor of Chemistry.

PART IV

REPORT OF THE PROFESSOR OF VETERINARY SCIENCE.

GUELPH, December 31st, 1886.

To the President of Ontario Agricultural College :

SIR,—The duty of writing my Annual Report for the year just ended is a comparatively pleasant one, as the health of the live stock on the Experimental Farm has been, on the whole, so good that I have no very serious losses to give an account of.

One circumstance that, of course, has had an influence in lessening the loss, is the reduction in the number of stock kept, on account of the housing accommodation being limited, the result of the fire.

Amongst the sheep, I have to report the death of an imported ewe, which occurred in the early spring. She died pretty suddenly after developing marked signs of sickness, as the first intimation I had of anything being wrong was the announcement of her death, which I found on *post mortem* to be due to exactly the same condition in connection with the liver as described in my report of last year, and from which two ewes succumbed.

Two black mares, that are worked regularly on the farm, have been very unfortunate with their foals for two years in succession. The first year they were bred to an English cart horse, and foaled without any difficulty, but the foals were weak, the muscles of their limbs seeming undeveloped and flaccid, and incapable of enabling the bones to support the body, consequently they could not seek the teat, and although constantly attended, gained no strength and within a few days died. The milk given by the mares was translucent and watery, and evidently lacking in that thickness and richness characteristic of the first milk, and which gives it its laxative action on the bowels of the newly-born foal, which action is so important in establishing a healthy condition. The dilligent use of rectal injections, castor oil, and syrup of rhubarb, were futile in bringing about this healthy action in these cases. This spring these mares dropped foals to a Suffolk Punch, and with exactly the same result, which is, of itself, some evidence in favour of the mares' responsibility for their lack of success. Last year both mares were worked steadily up to the time they foaled, and appeared in fair condition—not over fleshy—but this year, after the team was broken by the one that foaled first, the other one had a full month at grass without work, which altered condition seemed to confer no benefit. It should, however, be mentioned that the one that foaled last went about a month over the usual eleven months' term. They were certainly not fleshy this year.

Of the other accidental troubles to which my attention has been called during the year, such as coughs, colds, touches of colic, indigestion, injuries and lameness, perhaps the most interesting case was one of Eversion of the Vagina that occurred in a Devon cow. The trouble I so designated, but in reality there was a complication of disorders, one of the most prominent symptoms of which was the appearance of a congested or somewhat inflamed mass of the walls of the passage to the womb (vagina) between its

lips, and often being extended as a pendulous mass the size of a man's head. This was more particularly the case when the cow was recumbent. An important feature of her trouble, and one that first presented itself, was a difficulty in the use of the hind legs, shown by a stiffness in moving them, and the exercise of a great effort in rising from the recumbent position, several attempts being often made before she was successful in getting on her feet. The difficulty in using her hind legs was noticed fully a month before she calved, and gradually became more pronounced until that act was satisfactorily accomplished, and then rapidly disappeared, she soon gaining her accustomed freedom of movement. When first attacked she occupied a loose box, but on account of the chronic displacement of the vaginal walls, it was deemed necessary to tie her in a stall, in order that she could be elevated behind, which was accomplished to the extent of a foot by packing in long horse-manure. This raising of the hind parts has a tendency to encourage the gravitation of the displaced walls into their normal position. No doubt the almost constant lying, induced by the difficulty of getting up and standing, and the relaxed state of the tissues, due to the imperfect supply of nerve power, combined to cause the displacement described. The paralytic symptoms were in no measure controlled or relieved by the administration of general and nervine tonics in the form of drachm doses of each of the following constituents, viz: powdered nux vomica, gentian and sulphate of iron, mixed and given in crushed oats three times a day for two weeks. But treatment of the more immediate source of danger in connection with the displaced vagina was decidedly satisfactory. After thorough cleansing of the passage by syringing with lukewarm water, and the subsequent disinfection with a two per cent. solution of carbolic acid, an astringent and anodyne ointment was freely applied twice a day to the swollen and congested walls; this had the effect of allaying the irritation, and causing their contraction into something like a normal condition, and averting what was anxiously feared would be a sequel to delivery, viz, expulsion of the womb and vagina. She, however, calved with ease, and gave birth to a strong, healthy calf, the delivery of which was followed by complete restoration to health.

Two imported Shorthorn cows, "Mademoiselle" and "Princess Royal," have been barren for a length of time. They were put to the bull regularly for some months, but as they did not hold, I was asked to examine them and see if I could determine the cause. Upon passing my hand in as far as the mouth of the womb I found, in both cases, that the neck of this organ was so much contracted that the canal through it was completely closed up, so much so as to render it impervious to even a slender body like a knitting needle. There was no doubt that this state of affairs was of itself quite sufficient to account for sterility.

Many breeders labour under the erroneous impression that the penis really enters the mouth of the womb during copulation, but it only passes into the vagina, and a much smaller opening than that necessary to admit the penis even of the bull, suffices to render conception possible in any female. If the canal in the neck of the womb in a cow admits of communication between the vagina and the womb, even although it may be only a third of an inch in diameter, or even less, conception can take place, as the living particles in the semen, commonly called the seed, have the power of working themselves along for a considerable distance, and do not require a large opening for their passage in travelling to meet the egg of the female, contact having to take place before conception can occur.

In these cases of complete occlusion, unless the neck has become thickened and hardened from an abnormal growth of tissue, due in some cases to injury at the time of giving birth, it is generally possible to bring about dilatation.

It should be understood that the neck, which is cylindrical in form, and from four to six inches in length, is made up of tissue that has the power of expansion and contraction. The former quality is amply demonstrated by the passage of the calf through it at birth-giving, and the latter by its speedy return to its usual calibre after the completion of that act. But in some cases normal contraction is exaggerated, thus bringing about the condition under consideration. Although no easy task, still it is quite possible in many cases to open up the occluded canal and thus restore normal relationships in so far as this is concerned. The best method of doing this is to tie the

cow up tightly with a halter, or use the "bull-dogs" in her nose. Place her against a wall, with an attendant on the other side to keep her there and hold the tail out of the way. Passing a rope over the loins round under the flanks, and tying it tightly tends to prevent kicking and straining. The operator should warm his hand and arm with warm water, and smear them with oil or cream preparatory to passing them into the vagina. After passing the hand as far into the vagina as possible, at the end of it will be found a projecting ring, in the centre of which a depression may be felt, which should continue in the form of a canal into the womb in a natural state of affairs. But as before stated the canal is sometimes closed up, nothing more than a depression being detectable. In order to open up communication nothing is better than the finger. Apply moderately firm pressure with it on the depression for a time, moving it in a screw-like manner. The index finger answers best at first, but it may be relieved occasionally by the middle one. It is a very laborious undertaking and two hours may be occupied in accomplishing it. Although a slow process the operator can realize that he is making progress by the finger passing in a little deeper, until there seems to be no barrier between the end of the finger and the cavity of the womb. It is well, however, to continue the dilatation until two fingers will pass in. The manipulations necessarily cause some irritation and straining, so that it is desirable to smear plenty of an oily substance, which should contain one part of carbolic acid in it to ten of oil, repeatedly on the hand.

The process of dilating should be carried out the day before the cow is likely to be in season, as the manipulations lead to straining, which is opposed to the retention of the semen after service.

We are very hopeful that one of the cows—Princess Royal—is in calf, as she has gone over twelve weeks since the last service. Mademoiselle has also passed several terms, but as she has shown irregularity in coming in heat before, we are not so sanguine regarding her. Both of these cows have a fleshy appearance, but they are not highly fed, having received no grain since they arrived at the Experimental Farm.

SPAYING.

The first work that has been done of an experimental character in the Veterinary department of this College was begun during the past summer. The question of the usefulness or uselessness of the removal of the ovaries from heifers or cows, with the object of getting a better return in the shape of either beef or milk, has not yet been satisfactorily settled in this country; and every now and then articles are written in not only agricultural, but other papers, commending the course as a good one, and expressing surprise that it is not more generally adopted. It has been tried in the different countries of Europe, but the opinions regarding it differ, so that it is impossible to glean a correct estimate of its value. Some of the advantages claimed for Spaying are the following:

- 1st. It increases the quantity and improves the quality of milk.
- 2nd. It lengthens the period of lactation to nearly twice the usual one.
- 3rd. It lessens the losses of the dairyman from the diseases and accidents incidental to parturitions.
- 4th. Spayed animals more rapidly accumulate flesh, and which is of high quality.

If the results of the operation were so generally favourable as above indicated, there is every likelihood that it would be more generally practised. There is very little doubt, however, about the beneficial influence it has upon fattening females, but as the number of heifers fattened is comparatively few, it is of limited application in this direction. It is further claimed that dairy cows, after having milked for a couple of years, or until it is not profitable to keep them for that purpose any longer, are then fit for the block, having accumulated flesh so rapidly while milking. Before we can settle this question satisfactorily, it will be necessary to carry out a number of observations systematically. So far we have only made a start, but think it well to announce that something is being done. It was not considered advisable to buy a number of cows and heifers all at once, and keep them for the sole object of testing this matter, but from

time to time, as cattle are required to carry out other experiments, some of them can be subjected to spaying, and its effects noted.

Professor Robertson procured a number of cows last spring, and will very likely have a number more this spring for experimental purposes, which will afford a valuable opportunity for this purpose. We, however, purchased two cows and two heifers in August to begin with, and largely for the purpose of observing the immediate effects of the operation.

One of the cows—a spotted one—had had her fourth calf about seven weeks previously, while the other—a red cow—had dropped her fifth one some three months before. These animals looked like Canadians, improved by one cross of Shorthorn. The spotted cow was a good milker, but the red one was only middling, and unfortunately before the operation had some sores on the bag, which caused the loss of one quarter, and subsequently all the quarters of her bag became blind, one by one. The two heifers were about thirteen months old, one of which was a pretty common one, while the other showed a moderate amount of breeding.

I operated on the cows by a method suggested by a French veterinarian named Charlier. Instead of making any external opening, the hand is passed in to near the mouth of the the womb, and an incision made in the roof of the vagina large enough to admit two fingers, which are passed through it, and the ovaries reached for one by one and drawn into the passage (vagina), and there removed by a suitable instrument which completes the operation. The only means of restraint resorted to were tying the cows up short and applying a rope tightly tied round the loins and abdomen.

The passage is so small in heifers of thirteen months that it will not admit of the practice of the method already described, so that an opening has to be made in the side through the abdominal muscles. The left side is most convenient, for being occupied by the stomach, the bowels do not get in the way of the necessary manipulations. I find it necessary to throw in operating through the side, as the subject is apt to throw herself while the operation is going on.

All four animals survived the operation and its effects; the heifers particularly continued to feed and showed no indisposition whatever, the wounds healing in a very short time, with a marked absence of discharge. The heifers did not lose in weight nor in healthfulness of appearance. They received no extra attention except being kept in a box stall for a couple of days as the flies were bad; after that they took their chance with the rest of the herd. The cows did not do so well and lost considerable in weight, but I cannot charge the operation as accountable for all the loss. They were put on an acre of pasture and kept there, which had been eaten so close before they were put on it, that it did not appear to me to be capable of affording sufficient food. They did not show any marked evidence of ill health as they appeared to be ready for food, and their temperature was never more than one degree above normal.

It is an operation that requires practice, and I dare say if I had been more expert in its performance, it might have made some difference in the result. It is the first time I had ever either seen or performed the operation.

The percentage of losses from the vaginal operation is given by some operators as very small, not exceeding two per cent., while that through the side in adult cows is estimated at fifteen per cent. Certainly the vaginal operation is much preferable for cows or heifers over two years of age; but I am of the opinion that very few deaths need occur in young heifers, and that it is better to perform the operation pretty early in life—say at five or six months old.

In herds of fattening cattle in which there are heifers coming in heat, there is no doubt there would be much benefit derivable from Spaying, not only to the animal altered, but to the rest of the herd, on account of the general uneasiness produced by a rutting heifer.

I must defer further comments on this subject until next year, when we hope to have something more definite and elaborate to submit.

Respectfully submitted,

F. C. GRENSIDE, V. S.

PART V.

REPORT OF THE PHYSICIAN.

GUELPH, 31st December, 1886.

*To the Honourable A. M. Ross,
Commissioner of Agriculture :*

SIR,—I have the honor of presenting to you my Eleventh Annual Report.

We have had nothing of an unusual character in the way of sickness or accident during the year just closing.

We had one case of diphtheria, that of a servant girl, but by promptly removing her to her home the disease was prevented from spreading to others.

I beg leave to call your attention to one very important matter regarding the sanitary condition of the College. Owing to the storage of large quantities of vegetables in the cellars, through which the steam pipes must pass to reach other parts of the building, the cellars become so heated that decomposition takes place very rapidly, and at times the odour of decomposing vegetable matter is unpleasantly perceptible throughout the building. To remove this difficulty I would strongly urge the necessity of providing a proper root-house apart from the College.

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

E. W. McGUIRE.

PART VI.

REPORT OF

THE PROFESSOR OF AGRICULTURE,

FARM MANAGER, AND EXPERIMENTAL SUPERINTENDENT.

ONTARIO AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM,

31st December, 1886

*To the Honourable A. M. Ross,**Commissioner of Agriculture :*

SIR,—I have the honour to report upon the Farm, Live Stock, Experimental and Mechanical Departments for the year 1886, being the twelfth of the Institution and eleventh of my time.

As introductory, I beg to submit some thoughts with reference to what we are learning from the farmers of the Province through the agency of their Institutes. Having, with my colleagues, assisted at these meetings during the past two years, we are necessarily in a position to distribute some points of practical importance, bearing directly upon our profession and the agriculture of the country.

A primary fact is the responsive spirit of our people to anything well organized, giving variety, and of a thoroughly practical stamp. It is good evidence of how much may be done by any Government in drawing out the self-culture of a class that is naturally isolated, self-reliant and retiring. This is no case of state aid really, as the \$25 contributed to each Institute is so small and upon such conditions as draw out many times more from the very men who previously did not, and may be would not now, so organize. It is also evidence of an appreciation by the farm mind of what their country expects them to do towards building up a new nation. The numerical pre-eminence, and as being holders of our estate value, with very much of the comforts of others in their hands, should long ago have made farmers national leaders. The demand for organization has become so full that it is impossible to overtake help to each from the College—even with the three separate pairs of Professors now arranged for 1887. No doubt the increasing interest thus exhibited says something decidedly favourable of the assistance thus allowed by the Government, and to remove any view of newness being a drawer of men in this particular walk of life, we have the important fact that all the already established Institutes are asking for a renewal of this help.

But the striking feature of every piece of the work has been the high merit of discussions by farmers. The average character of the papers read by them, with some marked exceptions, has not been so strong and far-reaching as many expected. I am saying this upon the testimony of others, and not the Faculty of the College, for though as yet somewhat diffident in preparing papers, there has been, in our opinion, no want of merit in those given. Thoughts through pen and paper are not yet the easiest for men constantly at outdoor labour, and hence the superior nature of the discussions. It has been very refreshing indeed to witness the invariable objection at first to taking part at these meetings by many, until drawn out through a simple question as to his own practice in a particular operation—a mere “yes” or “no” at first, and then to find the man roused and overflowing with the best of crisp facts in response to another who had struck a corresponding note—either too high or too low in his belief. We have thus had material equal to any Legislature and superior to most debating societies, because their hand was on the plough, and they are ploughmen.

At the same time it seems curious that farmers have not as yet of themselves been able to keep up the vigor and freshness of clubs and societies. This is true of the average of all countries and may be more so here, where by reason of the necessity of manual labour on their part, the leisure and desire for mental work are wanting. At the same time Europeans are saying that Canadian and American associations among farmers for mutual benefit is a much more prominent thing than with them; this is true to the extent of realising the immediate or the near prospect of an increased dollar, but not so very prominent when mental culture is the crop in question. However, we must rejoice rather than complain of anything in connection with the Ontario Farmers' Institutes. Danger, if anywhere, lies in want of variety and interest, should the contributing element be withdrawn—mind, not money I mean.

I have been particularly struck by the absence of grumbling at these meetings, and I also speak of those held in 1887. Since 1871 we have branched and are now fruiting into the arena of competitive nations—the budding was previous to that. So much solid history in a few years has been the harvest of agricultural improvements and development. The honor belongs to the plough and the people.

In closing, therefore, the twentieth Dominion year we are met by the oddity of absence of “grumbling” in our farm life. Grumbling, 'tis said, is the right of the farmer, if not his characteristic, which, it is not worth while to enquire, for it could be shown that both are but the natural accompaniment of his position as universal caterer. But discontent is a more serious thing than grumbling—the latter is more often a habit, the noise whereof is worse than the bite. We have had some large enough discontent amongst farmers more than once in the period named, and the fact of its evaporation is good evidence of the quiescent rural mind, in comparison with other professions.

The interesting question for December 1886 is—Why has Canada so much contentment, with low prices for most agricultural products? That she is so, solidly, is undoubted. The press, the Parliamentary aspirant, the banks and railways, the Tariff, manufactories, our Bureau of Industries, and the universal discontent himself, says so. But what of the cause or causes?

The argument of long use and wont begetting indifference does not apply to a young and vigorous nation, and even the spirit of the people would not brook the deadness of even one decade; still migratory in our disposition, we would assuredly have made for new pastures. If we hold any indigenous trait, it is not by any means that of submission to successive “bad times” in any business—nor, allow me to add, are we characteristically steady in public policy and national devotion. Nor can it be said that abundance of wealth has fattened us to the extent of engendering a sleepy indifference. This feature is prominent enough in some districts of other lands, but our physical conditions, in conjunction with comparative newness, and the love of change, precludes any such ground to place the contentment in question.

Neither are the prospects so bright as to account for our problem. Few things are so wordly certain as the long, low prices of grain and flesh in coming years, and the newer fields of the dairy cannot be called highly inviting at present. What, then, is it?

I am of opinion that the contentment of the Canadian farmer is the result of several things: One is the having measured himself with the world and found his place and his superiority. I mean by this that we are now tied with all the appliances of civilization, and all the civilization itself, to make and maintain a market, and that we have just learned how much we can and cannot do in the great competition—the satisfaction being our ability to do a good deal of everything well. Another reason is the distinctly better average cropping. This—not the result yet of much better management—but of decidedly more reliable physical conditions. Many of us have wandered, of late, in search of the ideal home, and most would like to return again.

Then, also, we are gradually, though slowly, settling down to a fixed rural economy—eratic as we be, no doubt. This is much the result of realising the steadiness for any branch of the profession, and that unwholesome speculations live but a day, to be nipped by the common sense of latitude 43° and upwards.

Our contentment, then, is the being able to live well on what we produce, and to conserve “for better, for worse.”

II.—THE FARM.

It will be interesting to give an abstract of the principal operations undertaken—some finished and others still in progress—to make the farm what it should be.

Tree Clearing.

In Fields 3, 4, 6, 12, 14, 15, 16, forty-four acres have been cleared of trees and underbrush, some spots thick brush, and others scant second growth. The greater part of the work was performed by students. We have just finished the stumping of Field 12 and the hillside of No. 4. This kind of reclamation will be completed on Field 18, and the swamp between 16 and 21, which extend to about twenty-five acres.

Drainage.

Every field of the farm, twenty-one in number, has been wholly or partly underdrained with tile, most of the mains six-inch and all the lateral with three and four inch, according to circumstances. Depths have varied from two to four feet, and the distance apart not closer than fifty feet, where systematic work was necessary. A great wash from adjacent land compelled us to use two sixes and one four across the farm, through Fields 12, 10, 2, 3 and 4. We have also had to work up some of our outlets for nearly a quarter of a mile through other properties at considerable expense. The natural drainage of the farm is from east to west.

Stoning and Levelling.

In Fields 1, 2, 3, 4 and 13 especially a large amount of labour has been expended in levelling large open ditches, filling swamp holes and old gravel pits. Many hundred tons of stones have been removed from Fields 3, 4, 6, 15, 16, 18 and 19, both in the form of old accumulated hillocks, fast boulders, and fence-side deposits; some of these, but not much, have yet to be undertaken.

Road-making.

Not much of this has yet been done; part of the centre lane, in neighbourhood of the farm buildings, and northward to Field 16, was blocked out with centre tabling and sidewalks, and the formerly impassable track through the swamp between 16 and 21 has

been made roughly servicable for farm work, but otherwise no finished road-making has been undertaken. By desire of the Commissioner, we are now about to begin a systematic grading and gravelling of the lane in question, so as to secure a uniform piece of engineering the whole length of the farm—nearly one and one-half mile. For this I have concluded to adopt the following specification, and am making levels accordingly so as to get into some progress next season.

A centre of eighteen feet will be boxed and gravelled, the sidewalks of twelve feet each will be levelled and laid down to grass, at the same time that a variety of the best shade trees will be planted thirty feet apart. It is thought best to plant these shades close to fence in place of the inside of walk, so as to avoid trouble with live stock going from fields to buildings daily, as, with the very best of protection, damage is unavoidable, and the fence with the necessary V form of protection of course gives much less chance of trouble, and ensures greater progress even by reason of soil and moisture than is possible near the waterway. A good deal of road-making will also be immediately required beside the new farm buildings.

Fencing.

We have to date erected five miles of fencing, principally in sub-dividing fields, and as it would be unnecessary detail to speak of each, the following abstract will suffice :—

| | |
|----------------------|--------------|
| Post and board | 5,082 yards. |
| Post and rail | 1,980 " |
| Wire | 2,640 " |
| Dyke | 110 " |
| | 9,812 |

2. THE NEW FARM BUILDINGS.

1. These are situated on the old experimental plots, butting on the centre lane of the farm and running with the roadway that forms the back or northern access to the College grounds. All the buildings and courts cover an area of fully one acre.

2. They have a south-eastern aspect, with drainage to the north, and stand upon a very stiff deep clay loam.

3. The general plan is a square, having the barn, with the cattle under, on the west, the sheep on the north, the bulls on the east, and the horses on the south side.

4. The nature of the ground necessitated an excavation of seven feet on the west corner of the barn, so that the term "bank" may be partially applied to the whole, though the ground slope leaves a clear wall half upon the barn one way, and at a right angle down along the horses the other way.

5. The barn is 130 feet by 70, the horse range 150 by 30, the sheep 150 by 30, and the bull shed 40 by 80 feet. There is a thirty-feet outside court for the sheep the whole length of their building, inside the square, and thus facing the south, and the bulls have separate outside courts on each side in connection with their separate inside boxes.

6. The barn is built upon twelve feet stone walls, twenty-four inches thick, so that the cattle have a clear overhead ten feet. Entrances to barn are on the ends, and having taken advantage of the seven feet bank, the south access rises six in a length of thirty feet from the roadway; the north entrance will be practically an egress only, as owing to the depth caused by the ground slope, we have had to make a sharp-curved, and somewhat steep roadway, keeping close to the building as shown on plan.

7. The barn proper is entirely of pine timber, with twenty feet posts, and twenty-two feet between bents, which are thirty-eight feet in height, thus giving six division son

each side of the fifteen-foot roadway, usually called mows, but in this case without division fences. The total height of barn from floor to apex is forty-five feet and to top of cupola sixty-five feet, so that from the cattle floor the building measures seventy-seven feet in height. The barn floor has two detached granaries, with feed-room between, corresponding to that below, and where straw-cutter and grinder are placed. There are also fourteen straw and turnip shoots, passages to horse and sheep lofts, and twelve doors equally distributed all round, in addition to windows and ventilators.

8. The principal entrance to the cattle is on the angle between barn and horses, where steps descend to level of all the buildings. All the cattle are immediately under the barn and occupy the whole space with the exception of sixteen feet the whole length of the barn on the west side, which is cut off by a fourteen-inch brick wall for root-cellars and feed-room. These cellars are floored with grout and cement, the outside walls being first lined with inch boards, then laid with tar-felt paper, and covered with finished tongue and grooved narrow boards. The feed-room is 21 by 16 feet in centre of building between cellars, having sliding-doors two-thirds of the front upon passage way to cattle-stalls, where a two-ton platform weigh scale is placed. The root pulper stands in feed-room in line between cellar doors, and is driven by belt from engine shaft above. The stair, as access from barn, breaks upon the feed-room from north side. The accommodation is for sixty-seven cattle in seven single rows, as follows:—

| | |
|--------------------------------|----------|
| For large cattle tied up | 34 head. |
| For small cattle tied up | 14 “ |
| Calves in pens | 11 “ |
| Loose boxes | 8 “ |

67

These boxes are on both ends, the calves between two rows of cows with a door on each side, and all the rows cross the building, or edge on the feed-room. Watering troughs are attached to the feeding troughs in every row, the floor grouted and cemented, and box stalls laid with cedar blocks. Feed passages are six feet apart between water troughs, and main passages eight feet in width. Double stalls, 7 feet 4 inches, centre to centre; single, 5 feet; half the boxes are 20 by 17, and half 15 by 11 feet; calf pens, 7 by 8. The space behind the cattle is six feet, a door opens into manure court at each row of cattle, and passages lead to horses and sheep. Light is admitted by thirteen windows in addition to those over the six doors to court.

9. The horse range has stalls for fourteen single and one double, with three boxes. Three of the stalls are six feet, all others 5½ feet in width, boxes 12 by 12; feeding passage seven feet, and the space behind horses is eleven feet. The floor is cedar block pavement. At the end adjoining barn is a small room for extra harness, that for daily use being in a press upon the wall behind each team. The feed-room, 30 by 10 feet, will hold cut hay and oats. As it is proposed to use cut hay only, there are no racks, and the mangers are divided for hay and oats. Straw is got by four shoots behind horses, and there are corresponding openings in front should long hay be wanted from the loft. Double doors, with an eight feet passage between, divides the building—the one to the manure court and the other from roadway, with two ordinary doors to said court, and two on end near bull shed. Water is got from three hydrants inside on the head passage, and light by eighteen windows. All the stalls and boxes are fitted with Telford's pillars and top rails. The horse loft is arranged to be filled with hay by a horse hay-fork.

10. The sheep range is divided into five inside and six outside compartments—dry, solid soil inside and gravel outside. A five-foot passage runs throughout, with hay-racks upon sub-divisions opposite shoots from loft; water is supplied by three hydrants. There is a wool-room, grain bin, separate lambing pens, and pens for each of the stock

rams. Eight-foot doors open into the special court, which is fenced from the large manure court by a four-foot stone and lime wall.

11. The bull shed is a separate building, 40 by 80 feet, having a ten-foot centre passage, with six boxes on each side, 14 by 14 feet, and one for straw. Each box has an outside fenced yard of 14 by 14 feet. Overhead is for hay, straw and grain.

12. The yard enclosed by the four ranges just described is surrounded by an eight-foot causewayed sidewalk, excepting on the sheep side, which is taken up by a special court for them. The manure from all classes of animals is taken immediately into the large court, in centre of which are two-cemented brick tanks—one for the liquid from stables, the other for rainfall from buildings. Any over accumulation of mixed liquid from the manure is taken into the first tank, and both tanks have an overflow with the open ditch north of the buildings. This manure court is laid with rough broken stones, and blinded to an average of four inches with sharp gravel and cinders. Many other items could be enumerated, such as galvanized iron shingles, horse stable walls inlaid with brick, ventilators all over, rope and pulley covers for all trap openings overhead, three coats of paint everywhere outside, a 17 horse-power portable engine, with cable rope for a separate house fifty feet distant, driving straw-cutter, root pulper, grain grinder, and threshing machine as required in the barn and feed-room.

My opinion of these new buildings is, that with the exception of a few things, they are the most complete of their kind. I say of their kind, for I do not believe in having \$20,000 worth of cattle in *one compartment under a barn*. I am satisfied that a system of concentrated isolation is best for the holder of a large valuable herd of cattle, but I can follow the object of the Government in choosing what is looked upon as something that can be copied, on a larger or smaller scale by our own breeders and farmers.

We have certainly got a very fine *suite* of farm buildings—creditable to the Institution and worthy of the Province.

3. REPORT OF FARM FOREMAN.

To Professor William Brown :

SIR,—In submitting my annual report of the Farm and Live Stock Department, permit me to say that during the past year the Institution has in those branches fully sustained its high reputation. I have been engaged since my last report, among other duties, in giving instruction to the students in class and field, on live stock and farming. In class we deal two hours each day with theory of farm work and the raising and feeding of live stock. Practical illustrations are frequently given on the latter subject. The class subjects embrace—store cattle, how to select them; how to judge fat cattle; method of feeding; breeds of swine, and the attention necessary in the management of them; management of sheep, cows, calves, etc.; how to prepare land for seeding; quantities of seed to be sown, etc. In the field, practical instruction is given in ploughing, hand-sowing, mowing by hand, etc. The students have displayed praiseworthy aptitude in all these subjects. I would call your attention to the condition of Field No. 12. When I forwarded my last report only half of that field had been drained. I am pleased to be able to say that since then the whole field has been thoroughly under-drained. But the outlet is not sufficient to carry off the superfluous water. By enlarging the outlet (say to a 6 and 4-tile drain) the condition of this field would be greatly improved. In Field No. 9, in which was a crop of turnips, we this year tested the cheapness of the two methods of taking up the roots. We topped three acres by hand, and when delivered in the cellar cost \$29.94; while those topped with the hce and harrowed out and delivered as above cost \$23.35.

The following is the result of the field cropping for the past year:—

No. 1 Field.—Nineteen acres; hay, yield $1\frac{1}{2}$ tons per acre.

No. 2 Field.—Twenty acres; seventeen acres pasture, remaining three acres form the gardens of the Mechanical Foreman and Shepherd.

No. 3 Field.—Seventeen acres; summer fallow.

- No. 4 Field.—Twenty acres ; uncultivated and bush.
- No. 5 Field.—Twenty acres ; golden vine peas, yield 35 bushels per acre.
- No. 6 Field.—Twenty acres ; sown with white Australian and Egyptian oats ; yield 50 bushels per acre.
- No. 7 Field.—Seventeen acres ; fall wheat ; Rodger and Bonnell varieties, yield 24 bushels per acre.
- No. 8 Field.—Twenty acres ; Mensury barley ; yield 40 bushels per acre.
- No. 9 Field.—Twenty acres ; one acre, white Belgium carrots, yield 450 bushels ; $4\frac{1}{2}$ acres, mangolds, yield 795 bushels per acre ; five acres, large Rose potatoes, yield 170 bushels per acre ; $9\frac{1}{2}$ acres, turnips, yield 700 bushels per acre.
- No. 10 Field.—Twenty acres ; eight acres, under barley and green fodder, as follows : three acres Mensury barley, 25 bushels per acre ; four acres green corn, 20 tons per acre ; one acre of vetches and oats, yield 6 tons per acre. The balance of this field is occupied by the Creamery Buildings and a small fruit orchard.
- No. 11 Field.—Twenty-three acres ; hay, yield $2\frac{1}{2}$ tons per acre.
- No. 12 Field.—Uncultivated.
- No. 13 Field.—Nineteen and a-half acres ; $9\frac{1}{2}$ acres under spring wheat—red and white Fife. This was badly rusted and was a poor sample ; it has not been thrashed yet, so it is impossible to give the yield ; ten acres of black barley, yield 60 bushels per acre.
- No. 14 Field.—Twenty-four acres ; seven acres sown with Egyptian oats, badly rusted, yield 35 bushels per acre ; balance of field used for experimental plots.
- No. 15 Field.—Twenty acres ; permanent pasture.
- No. 16 Field.—Twenty-five acres ; hay, yield $1\frac{3}{4}$ tons per acre.
- No. 17 Field.—Twenty acres ; sixteen acres hay, yield $1\frac{1}{2}$ tons per acre. Four acres of this field is under cultivation as a vineyard.
- No. 18 Field.—Thirteen acres ; hay, yield $1\frac{1}{2}$ tons per acre.
- No. 19 Field.—Thirty acres ; hay, yield $1\frac{1}{2}$ tons per acre.
- No. 20 Field.—Uncultivated.
- No. 21 Field.—Twelve acres ; four acres of white Fife spring wheat, rusted, not thrashed yet ; eight acres of Mar's spring wheat, also rusted, not thrashed yet.

INVENTORY AND VALUATION OF LIVE STOCK AND IMPLEMENTS ON HAND DECEMBER
31ST, 1886.

| HORSES : | \$ | c. | \$ | c. |
|---|-------|----|-------|----|
| 8 working horses on farm | 1,435 | 00 | | |
| 2 instruction and experiment horses | 275 | 00 | | |
| | ----- | | 1,710 | 00 |
| CATTLE : | | | | |
| 1 Short Horn bull | 2,500 | 00 | | |
| 3 " cows | 2,050 | 00 | | |
| | ----- | | 4,550 | 00 |
| 1 Hereford bull | 2,600 | 00 | | |
| 2 " cows | 1,060 | 00 | | |
| | ----- | | 3,660 | 00 |
| 1 Polled Angus bull | 2,000 | 00 | | |
| 3 " cows | 2,900 | 00 | | |
| | ----- | | 4,900 | 00 |
| 1 Galloway bull | 600 | 00 | | |
| 2 " cows | 700 | 00 | | |
| | ----- | | 1,300 | 00 |
| 1 Devon bull | 325 | 00 | | |
| 1 " cow | 300 | 00 | | |
| | ----- | | 625 | 00 |

CATTLE—Continued:

| | \$ c. | \$ c. |
|----------------------------|----------|----------|
| 1 Ayrshire bull | 300 00 | |
| 2 " cows | 500 00 | |
| | <hr/> | 800 00 |
| 1 Guernsey bull | 350 00 | |
| 1 " cow | 275 00 | |
| | <hr/> | 625 00 |
| 1 Jersey bull | 325 00 | |
| 2 " cows | 550 00 | |
| | <hr/> | 875 00 |
| 1 Holstein bull | 1,000 00 | |
| 2 " cows | 400 00 | |
| | <hr/> | 1,400 00 |
| 1 West Highland bull | 200 00 | |
| | <hr/> | 200 00 |
| 20 Grade cows | 899 00 | |
| 3 " yearlings | 52 00 | |
| 1 " heifer calf | 20 00 | |
| 12 feeding cattle | 421 00 | |
| 1 steer calf | 20 00 | |
| | <hr/> | 1,412 00 |

SHEEP :

| | | |
|--------------------------|--------|--------|
| 1 Leicester ram | 30 00 | |
| 4 " ewes | 206 64 | |
| 3 " ram lambs | 30 00 | |
| | <hr/> | 266 64 |
| 2 Cotswold rams | 285 00 | |
| 9 " ewes | 190 00 | |
| 1 ram lamb | 10 00 | |
| 1 ewe lamb | 10 00 | |
| | <hr/> | 495 00 |
| 1 Lincoln ram | 160 00 | |
| 3 " ewes | 180 00 | |
| 1 " ewe lamb | 10 00 | |
| | <hr/> | 350 00 |
| 1 Cheviot ram | 60 00 | |
| 2 " ewes | 36 00 | |
| 1 " ram lamb | 5 00 | |
| 1 " ewe lamb | 5 00 | |
| | <hr/> | 106 00 |
| 1 Hampshire ram | 200 00 | |
| 2 " ewes | 160 00 | |
| 1 " ram lamb | 10 00 | |
| 1 " ewe lamb | 10 00 | |
| | <hr/> | 380 00 |
| 2 Oxford Down rams | 250 00 | |
| 10 " ewes | 480 00 | |
| 1 " ram lamb | 10 00 | |
| 3 " ewe lamb | 30 00 | |
| | <hr/> | 770 00 |
| 1 South Down ram | 270 00 | |
| 5 " ewes | 260 00 | |
| 1 " ram lamb | 10 00 | |
| 2 " ewe lamb | 20 00 | |
| | <hr/> | 560 00 |

| SHEEP— <i>Continued</i> : | \$ c. | \$ c. |
|---|--------|-------------|
| 1 Highland ram | 60 00 | |
| 1 " ewe | 18 00 | |
| | <hr/> | 78 00 |
| 2 Shropshire rams | 520 00 | |
| 7 " ewes | 245 00 | |
| 4 " ram lambs | 40 00 | |
| 4 " ewe lambs | 40 00 | |
| | <hr/> | 845 00 |
| 2 Merino ewes | 25 00 | |
| 1 " ewe lamb | 8 00 | |
| | <hr/> | 33 00 |
| SWINE : | | |
| 1 Mid York sow | 80 00 | |
| 2 Berk boars | 60 00 | |
| | <hr/> | 140 00 |
| | | <hr/> |
| | | 26,080 64 |
| IMPLEMENTS : | | |
| Valuation of farm implements, per inventory | | 5,130 00 |
| | | <hr/> |
| | | \$31,210 64 |

P. J. WOODS.

III—THE LIVE STOCK.

The following is detailed account of the cost of producing thoroughbred cattle and sheep in Ontario—an abstract of which was given in No. 1 Bulletin, issued in May last :—

Allow me to say that the great majority of farmers take strong exception to the prices obtained for individuals of certain breeds—characterizing them as fanciful, unsound, temporary, and often false. They look upon the owners of such herds and flocks as pure speculators, who use every possible means to overvalue their property and beget an unhealthy position for them on the public market. To the average Canadian agricultural mind there is nothing in cattle life that need be more than \$150, and in sheep not over \$20 per head. A good deal of this is true, and much of it unreasonable. Every profession is subject to what may be termed unnatural development, and hence to a somewhat just suspicion on the part of those who admire steady progress. It is for the purpose of removing any misconception as to the actual value or cost of an animal that I make these notes. We find few farming matters so roughly understood as that of the cost of producing a thoroughbred yearling bull or heifer, or a shearling ram and ewe. This is not only the case on the part of the purchaser, but even those old in years as breeders cannot show how, and cannot place and explain the debit and credit of what they are disposing of every year.

The Position of the Question in Ontario.

The cost of production in this branch of our profession is really very much more serious to us than to the Americans, because of our physical conditions, our smaller numbers, and their keenness. What will always give us the advantage is the comparative immunity from disease and the peculiarly favourable climate that has already told so well in upholding vigorous animal life. It is thought by some, however, that the cost of production must necessarily be more in consequence of our compulsory six months' housing of all live stock, and hence of the use of more high feeding—so called it may be—as against the more natural and equally effective pasture and green fodders of the right

kinds. Then, also, we have hitherto been getting prices from the States that possibly have ruled higher than we are likely to secure again on an average; for extension of breeding there, and even here, will tend to over supply in some particular lines. Otherwise, no doubt, we will have increasing demand, particularly in view of Dairying and Ranching. But this demand may not keep up the prices of the past, for the very simple reason that the average farmer—who is the sound source of all such demand—will not give as much, is less particular about individual animals, and has no reputation at stake, as in the case of special breeding. It therefore stands as a matter of unusual importance at this day to ascertain exactly the cost of production, and place ourselves amongst competitors and on a sound basis with our own farmers.

The Importer vs. The Home Breeder.

There are no more unreasonable jealousies than those existing between the direct importer and the home breeder. These do exist; for no commoner expressions at exhibitions and elsewhere than—"It is all very well for these wealthy men to import;" "We have no chance against them;" "It is not fair to home products." And now, in fact, some of our larger exhibitions are actually making separate classes for these men, in response to the complaints long made by the home breeder. In all this, due credit is not accorded to men who, at great risks, keep up the standard of our herds and flocks by frequent systematic importations. We are not complaining of the distinction now being inaugurated at exhibitions, but of the unreasonable criticisms against importers. It has to be admitted, however, that the average judge of this country is not yet able to throw off the influence of a new importation when in the ring with home bred animals. There is no other way of accounting for this than that of want of confidence, and the feeling to "hedge" upon the known or unknown of the new comer. Of course we have had some exceptions to this rule in judging. Importers deserve special encouragement, for in many cases the profits are not so special under the circumstances, as we shall soon find out.

Show Herds and Flocks vs. Others.

Here also we have ground of complaint between parties. All countries have exhibition parasites—the unfailing competitors under any circumstances, who year by year prepare a few gems and make them pay directly. Our regular breeders do not take this field often, but keep to the more legitimate sale of their stock through a few purposely spoiled specimens. But in this they are also severely criticised by the ordinary farmer. Our average man is not thinking enough, or if he be so, is not yet liberal enough to see the value, to himself and such others, of knowing what the male source at least can do in the way they require his progeny to act. The high condition of a bull and ram is really a more important factor to the purchaser of their "get" than indeed it often is to the owners of the sires. Some good breeders never send an animal to the show yard, but it is only the very tops of the profession who can disregard such a source of advertisement in these keen competitive times. The cost of production is affected largely by the show yard results, and this is the excuse for this touch of the subject.

The Increasing Importance of Pedigree.

We are enquiring into the cost of producing certain animals as if it were a new or unknown thing, and at the same time our country is possibly on the eve of a rebellion upon what goes more than half-way to make that cost. This is not the place at present to discuss the position of the "Dominion Short Horn Herd Book," but this may be said, that in our Canadian future, if everything is thoroughly done, this book will materially lessen the cost of production, relatively to prices got.

A good few of our leading breeders and agricultural thinkers do not, I respectfully submit, understand just what pedigree is. The common idea of a short pedigree being comparatively valueless to a long one, for example, is theoretically right, but not so in real truth. What originated Herd Books was of course the desiring to know what had

been and was being done in the changes and improvements amongst certain animals, and hence the farther we get from the original source of such work the more danger there is of errors and of impositions. When Bates and J. Booth followed the Collins, and others also followed them, their cattle pedigrees were short; but how valuable and much less subject to errors they were! Why is it we would all like to tie our herds with the short pedigrees of the eighteenth century? So then the value of a pedigree is only partly because of its source, and very much indeed, now more than ever, of the thoroughness of the breeding and correctness of the records *since then*. In 1822 when Coates began the herd book, the short pedigrees running back say to 1750 were of the highest possible value, and in 1886, or twice the distance since, pedigrees kept up from and through the like blood are certainly no more valuable because of that length of time. The cost of producing an animal being affected by what is called its pedigree, we must be cautious therefore in saying that a short one is always less value than a long one. The most pure-bred animals are those in nature, so that the buffalo are clearly superior to the best families of the Short Horn in that respect, and we must not forget that pedigree should be valued according to breeds and not necessarily by the Short Horn standard with which most people are familiar. If we can only obtain three or four removes in a Hereford or Jersey pedigree there is a greater certainty of their shortness being free from any impurities than in the other example—not only because of shortness being nearer the fountain head, but that, as *original breeds*, the Hereford and Jersey did not require to be looked after in the maintenance of purity, for no outside improvements were ever thought of; this of course has reference to the whole breed and not to particular families.

It is quite true then that the farther we get into the nineteenth century with so many Herd Books in different countries, so many more breeders, and so many more risks from various causes, the increasing length of pedigrees will be the more valuable, according as thoroughness is insisted upon, and short pedigrees may become the most valuable if better management obtains.

The Influence of Reputation on Prices.

Another cause—indirect to some extent as regards the first point—influencing the cost of production and profits, is that of the reputation of the breeder, and the records of his herd. Some men are so reliable, and stand so high in their profession, in all their herd work, that their good name is above the best managed book anywhere. Were all breeders so conditioned, Herd Books might have no place in our economy, and indeed a few good British herds do not patronise the present public registrations. This no doubt is wrong to the public and perhaps themselves, but it is an illustration of the value of reputation, for no ordinary herd could live in such independence. At the same time I am of opinion that a carelessly managed Herd Book is worse than none, and that the average breeder has such a fair amount of conscientious conduct as to command the public respect of his private registrations.

The point of a reputation old in the business has a strong influence in holding up prices where even the pedigree and individual animal merit are not better than those of the beginner, who cannot command two-thirds of the figures. We have several examples of this in Ontario, and in this connection I am justified in noting that the cause of the prominent patronage of the Experimental Farm live stock public sales is not altogether the name of the place, nor animal merit, as the knowing that everything is right.

The Items of Debit and Credit Considered Generally.

It is not such an easy matter to submit, and get everybody to agree, on what should be charged and discharged to any animal's cost of production. Practice varies to some extent, but not so much as to demand attention. The making of a good thoroughbred in Ontario a somewhat uniform process, and while the facts about to be submitted will apply to any first-class breeder in the Province, it will be necessary to work from data largely those of this experimental station.

Abstractly, there are but three things that have to do with the production of stock animals fit for sale and for use when eighteen months old—

1. The particular source of the animal.
2. Its individual merit.
3. Its management.

By source is meant the breed, the special family and pedigree, the stamp of the sire and dam, and whether they are from distant or recent importations. The market value of each of these sub-points (the breed excepted of course) has, I think, never been placed in our live stock study. If there is no good source, there can be no reliability for reproduction; but there is all that man wants in the form of the sire and dam in the majority of cases with very ordinary bred animals, so that we meet at the very outset of our valuation with this apparent anomaly so well known to everybody. But individual merit along with pedigree is the desideratum, and having secured these we have only to rely on management to complete the animal for the best market price. Management implies such judicious liberal treatment—in food, exercise and handling—as shall help the pedigree and form to secure the weight, condition, temper and animal vigour necessary for immediate use to the purchaser. With such explanation I venture to place these abstract points at the following valuation:—

| | |
|---------------------------|--------------|
| 1. Source | 60 per cent. |
| 2. Individual merit | 30 “ |
| 3. Management | 10 “ |
| | 100 |

The beginning of the debit of the individual is the sire's service, and the value of this varies according to his cost, and, it may be, his special reputation. From the \$100 given for some particular bull, down to the \$1 that most men would rather give, it may be said that \$5 would be a fair service fee. To check this, take the case of the full use of the bull among his own herd, where the maximum is thirty cows. Let us say \$400 were paid for the bull, and that during the year he was used to all. The interest on his cost is \$50, and the annual maintenance is worth \$50, so that \$100 can be looked upon as the total annual cost of the service of the thirty cows. As, however, there would be on an average twenty-five calves got, the charge per calf stands at \$4. This, remember, is the breeder's own cost, and has nothing to do with what he considers a profit from those who patronize him. All things considered, therefore, \$5 is a reasonable fee, and that for sheep is usually worth \$1. The second item of debit begins when the cow has been relieved of her previous calf, say two months before next calf, when properly the cow's keep must be charged to the coming calf. In order to follow the argument more intelligently, take the following as an example journal:—

Service, 1st July, 1884.

Weaning of previous calf, 1st February, 1885.

Calved 1st April, 1885.

Calf weaned 1st November, 1885.

Calf winter fed six months to 1st May, 1886.

Calf on summer keep until sold in September, 1886.

With service on 1st July, 1884, the weaning of the previous calf takes place about 1st of February, 1885, or two months before the coming of the calf we have to handle.

Then follows the keep of both cow and calf for seven months, from 1st April to 1st November, 1885. From weaning to sale there are nine months' food, care, and risks to be accounted for against the animal ready for disposal in September, 1886, when about eighteen months old.

In the case of cattle particularly, it will be contended by some that allowance ought to be made for manure; and, indeed, sheep properly managed give proportionately more value, if not bulk, of manure than cattle do. In regard to this I have decided to look upon it as part of the profits realized, as to which see special paragraph. Then also in calculating the cost of sheep, I have taken credit for one lamb per ewe only, while one-fourth more at least is usually got, according to kinds and management. This point will also be considered in the profits.

The Original Cost of Different Breeds of Cattle and Sheep.

I mean by this the cost of importations, without which we cannot come to exact figures of cost of production in many Canadian herds and flocks. Allowing for every possible outlay—including British cost, quarantine and home, say to Toronto as a centre, and with a sufficient number to reduce cost per head—the following may be taken as an average of what have been imported from Britain to Ontario during the last ten years; in every case first-class stock:—

ORIGINAL COST OF CATTLE AND SHEEP IMPORTATIONS TO ONTARIO, 1876-1885.

| CATTLE. | Bull. | Heifer. | SHEEP. | | |
|--------------------|-------|---------|----------------|-------|------|
| | | | | Ram. | Ewe. |
| | \$ | \$ | | \$ | \$ |
| Aberdeen Poll..... | 500 | 350 | Southdown..... | 150 | 50 |
| Hereford..... | 450 | 200 | Shrops..... | 150 | 40 |
| Short Horn..... | 400 | 300 | Hamps..... | 130 | 40 |
| Holstein..... | 350 | 275 | Leicester..... | 100 | 35 |
| Galloway..... | 350 | 250 | Cotswold..... | 100 | 35 |
| Jersey..... | 300 | 250 | Oxford..... | 75 | 40 |
| Devon..... | 250 | 200 | Lincoln..... | 75 | 30 |
| Ayresshire..... | 250 | 200 | | | |
| Mean..... | \$360 | \$260 | | \$110 | \$40 |

I do not expect that this table will satisfy every breeder, nor is it supposed to be exact, but the approximation is close enough to serve all practical purposes.

Bulls and Heifers from Birth to Eighteen Months.

Basing upon paragraph 6, this shall be a simple practical statement of debit calculated upon a herd of thirty cows that keep one cattleman fully employed.

| | |
|--|---------|
| Sire's service..... | \$4 00 |
| Two months' keep of cow previous to calving | 6 50 |
| Keep of cow and calf for seven months during nursing (summer) | 15 00 |
| Keep of calf for nine months..... | 36 00 |
| | \$61 50 |
| Share of attendance..... | 11 00 |
| Proportion of losses..... | 17 50 |
| | \$90 00 |

It appears then that even on a large scale it is not possible to produce a good yearling bull at less than \$90 cash; heifers will be \$15 less. As to profits see another paragraph.

Rams and Ewes from Birth to Eighteen Months.

Taking the same date of birth for sheep as for cattle, namely 1st of April, and service therefor having been about 1st November, weaning in middle of July, with 200 ewes to keep a shepherd in full employment, we have the following account:—

| | |
|--|---------|
| Keep of ewe $3\frac{1}{2}$ months between weaning and service—15th July to 1st November, 1884 | \$1 75 |
| Sire's services 1st November, 1884 | 0 75 |
| Keep of ewe—1st November to 1st April, 1885 | 3 50 |
| Keep of ewe and lamb until weaning | 2 50 |
| Keep of lamb for 14 months—sold September, 1886 | 9 00 |
| Share of attendance..... | 2 00 |
| Proportion of losses | 1 50 |
| | \$21 00 |
| Credit one clip of wool from ewe and shearling | 3 00 |
| | \$18 00 |

I am prepared for more comment upon this result than that of cattle, because usually breeders are not in the habit of calculating their position even with the best of pure bred sheep, as they certainly do not do with common ones. I have not given the details of rations either for cattle or sheep as our previous reports have done so several times, and the general statement is enough that their management in this respect consists of neither of the extremes, but a good liberal allowance of all that practice in our provincial conditions has shown to be best for the ends in view,—*i.e.*, the production of first-class animals up to the requirements of the time.

A shearing ewe will cost \$4 less than the ram, and it will be obvious to all who study the figures of cost that more profit is derived by selling the ram lambs the previous fall, under the well-known fact that most men give about as much for a vigorous lamb as they usually do for a shearing, and as the difference of cost of production is about \$10, there is the very important item of nearly that amount in favour of selling the lamb as against the shearing.

Cost of Producing Different Breeds of Cattle and Sheep in Ontario.

That animals eat according to size, age and other conditions is true, and as our Experimental Farm has had the longest experience of the largest variety of cattle and sheep that cover these "other conditions," we should be able to place them fairly well under this heading.

COST OF PRODUCING CATTLE AND SHEEP IN ONTARIO.

| CATTLE. | Bull. | Heifer. | SHEEP. | | |
|--------------------|-------|---------|-----------------|------|------|
| | | | Ram. | Ewe. | |
| | \$ | \$ | | \$ | \$ |
| Short Horn..... | 115 | 95 | Lincoln | 21 | 16 |
| Aberdeen Poll..... | 110 | 90 | Cotswold | 20 | 16 |
| Hereford | 95 | 80 | Leicester | 19 | 15 |
| Galloway..... | 90 | 75 | Oxford | 19 | 15 |
| Devon..... | 90 | 75 | Shrops | 18 | 14 |
| Holstein..... | 75 | 65 | Hamps..... | 17 | 14 |
| Ayrshire | 70 | 60 | South Down..... | 15 | 11 |
| Jersey..... | 65 | 60 | | | |
| Mean | \$90 | \$75 | | \$18 | \$14 |

In the making of this table I have had to consider the cost of imported sires and dams, their reliability in breeding, freedom from disease, general well doing under Ontario conditions, cost of keep and the ability of the cow and ewe to make good calves and lambs. Our experience has been comparatively short with Galloway, Holstein and Jersey Cattle, and with Lincoln and Hamps sheep.

The Prices Got for Different Breeds in Ontario.

This need not be a lengthy paragraph, nor a difficult one, though we do not claim to strike figures to please every breeder in the country. Neither do we expect so make any relative prices with either the cost of production or those paid for importations, although no doubt both considerably affect the actual selling prices throughout the country, whether for home or American use. Then also it may be that we shall meet with the rather odd position of getting less price than the real cost of production; for a good many men, as we have already hinted, do not know what the latter is in their own experience or that of others.

PRICES OF CATTLE AND SHEEP IN ONTARIO.

| CATTLE. | Bull. | Ewe. | SHEEP. | | |
|--------------------|-------|-------|-----------------|------|------|
| | | | Ram. | Ewe. | |
| | \$ | \$ | | \$ | \$ |
| Aberdeen Poll..... | 350 | 210 | Shrops | 40 | 30 |
| Hereford | 300 | 200 | Hamps | 35 | 25 |
| Jersey | 300 | 170 | Oxford | 30 | 25 |
| Galloway..... | 275 | 200 | South Down..... | 30 | 23 |
| Holstein | 250 | 200 | Leicester | 30 | 15 |
| Short Horn..... | 210 | 175 | Cotswold..... | 30 | 15 |
| Ayrshire | 100 | 70 | Lincoln | 28 | 15 |
| Devon | 80 | 80 | | | |
| Mean | \$235 | \$167 | | \$32 | \$21 |

The Ontario Experimental Farm has handled 177 of these cattle during the last ten years, and as many as 1200 head of the sheep named, all thoroughbred. With this experience, with also other public sales throughout the Province, and many private sales of the most reliable kind, we have no hesitation in asking our farmers to accept of the foregoing prices as representing Ontario during the last ten years. It must be remembered, in commenting upon these prices, that the very lowest have been used in making up the averages, cases that some would have omitted as being exceptional. An average of anything is usually an unexpected thing.

PROFITS OF CATTLE AND SHEEP BREEDING IN CANADA.

And now we are likely to create some controversy. Take first this balancing table:—

| CATTLE. | Cost of Production. | Price obtain'd | Profit. | SHEEP. | Cost of Production. | Price obtained | Profit. |
|--------------------|---------------------|----------------|---------|-----------------|---------------------|----------------|---------|
| | \$ | \$ | \$ | | \$ | \$ | \$ |
| Aberdeen Poll..... | 100 | 280 | 180 | Shrops..... | 16 | 35 | 19 |
| Jersey..... | 63 | 235 | 172 | Hamps..... | 15 | 30 | 15 |
| Hereford..... | 87 | 250 | 163 | South Down..... | 13 | 26 | 13 |
| Holstein..... | 70 | 225 | 155 | Oxford..... | 17 | 28 | 11 |
| Galloway..... | 83 | 237 | 154 | Leicester..... | 17 | 22 | 5 |
| Short Horn..... | 105 | 193 | 88 | Cotswold..... | 18 | 22 | 4 |
| Ayrshire..... | 65 | 85 | 20 | Lincoln..... | 18 | 21 | 3 |
| Devon..... | 83 | 80 | ..... |  |  |  |  |
| Mean..... | \$80 | \$200 | \$120 | | \$16 | \$26 | \$10 |

The first thing objected to will probably be the low cost of production as considered by the respective producers, in which argument will be advanced that sufficient allowance has not been made for risks, and may be also as regards actual food and care. It is worth noting that there is practically no difference in the actual cost of producing a thoroughbred animal of eighteen months and a well done steer of the same age that usually weighs 1,200 lbs. I am ready with every detail when required. This will apply nearly altogether to cattle, as sheep have not been much under the consideration of any one particularly. The only example of no profits is with the Devons, where there is even a small touch of a loss. The market for these has, however, very much improved within two years from the American side; for, indeed, a very strong and considerably successful attempt was made recently to buy up all the Devon herds of Ontario. In these dairy times this breed should not be neglected, and their patrons may reasonably expect a renewal of better prices.

Where pure-bred cows are used directly for the Dairy, in addition of course to the production of their kind, prices, and therefore profits, cannot be such a prominent thing; and on the other hand, where any breed is used more immediately to improve or produce something through a commoner source for a particular purpose, or are comparatively new to a country, prices and profits stand much higher. The Ayrshire is a good example of the former position, which, as shown here, on an average gives a profit of only \$20 per head. But, with a breed as prominent in dairy circles, we have the Holstein (Dutch properly) giving a profit of \$150, a result coming with their comparative newness and their fame as heavy milkers. The other dairy breed of the list (the Jersey) is just a little

ahead of its Dutch neighbour in profits at present, a position not so much from any newness, but an unusually vigorous continental exposition of their merits.

The strictly beef field is well contested in the item of profits—the exception being the old Durham, and this is easily accounted for by age and numbers. It may be said that \$88 is no small profit on an eighteen months bull or heifer ; but, as yet, the greater field of production occupied by them makes this even a handsome profit. The Galloways have stood the competition remarkably well, and compared with cost of importations, are making a better balance sheet than most others. Naturally the American market is also giving the Hereford and Aberdeen Poll a high place in our revenue, and it will not escape observation that the Hereford and Galloway hold a very distinct place as regards cost of production.

It cannot fail to stand as a striking fact in the live stock breeding of Canada, that with over eight distinct breeds of cattle we have been realising an average per head profit of \$120, or one and one-half more than their cost of production. Now, what does this mean ? It certainly looks a large thing, but after all is it more *per acre* than any other popular and well managed farm product ? We have no time to show this now, but close meantime with the reflection that as a branch of our profession the production of thoroughbred cattle and sheep demands a larger profit than possibly any other.

We submit the sheep averages with even more confidence than those of cattle. Comment is hardly required. An average of \$10 is small encouragement, and still there is a fair return per acre. If it cannot be *per acre* with live stock, we are not up to time.

2. CONDUCT OF DIFFERENT BREEDS OF CATTLE AT THE ONTARIO EXPERIMENTAL FARM.

It is four years since we gave any detailed account of the general behaviour and standing of the herds of this Farm, and having had extended experience not only of the old but of new breeds, we think it desirable in the interests of the Province to bring materials up to date. This is true experimental work.

Aberdeen Angus Polls.

Our extended acquaintance with this breed has been a favourable one in several respects. In nursing, however, there is no very marked improvement ; neither can we speak of them as better than their competitors in ability to withstand extremes of climate. Their early maturing properties are very marked, and we consider not second to anything in our experience. First crosses with Short Horn grade cows are not only hornless but free of any scur ; indeed, in all the markings, form and other characteristics, we would have no difficulty in disposing of such crosses as pure bred Polls—male or female. We possess an entirely *red* cow of this class, imported from Scotland, secured purposely as a specimen of the older type in respect of colour. This cow is giving calves as black and mossy as any of the others ; and, by the way, she is a good dairy cow. We are prepared to venture her with a red Poll bull and get black calves also. What do Messrs. Geary, Boyd and Paton say to this ?

Ayrshires.

Not much new about this old dairy breed ; still the trouble of high milk before and after calving. With twins at foot we had to milk twice a day by hand for three weeks after calving, and milk had also to be removed two weeks before calving. They are true and reliable breeders, and yet we have not had any transmission of their prominent milking properties by use of the bull with grade cows. The conduct of one of these cows will be remembered in our last year's testing of breeds, when her milk made an usually strong record in richness, and now in suckling a calf she still upholds the reputation.

Devons.

Of this distinctly intermediate class of cattle—milk and beef combination—we have to repeat the observation that none can make better calves, few so content and hardy, and but one richer in dairy products. The Devon has not held the world's patronage because of undersize, and possibly, also, of moderation in maturing and milk quantity, but it is difficult to conceive of a more desirable cow on upland, rangy pastures for the butter factory.

Galloways.

Looking back ten years we have to acknowledge a share in the general ignorance regarding this breed. As nearly all available literature has been old country, and that of itself old, our conceptions of Galloway characteristics were slow maturers, indifferent milkers, and difficult to manage. The lovers of them in Canada have been too diffident in correcting the teachings thus conceived; for unquestionably if true long ago it is not true now, by specimens in our herds, and from what we know of others in Ontario. Particularly the milking in quantity and quality of the Galloway is no uncertain thing, and we have had them suckling calves in winter with all the good doing of many, and superior to the Aberdeen Poll and Hereford in this respect.

Guernsey.

We are not yet sure what to make of this breed of cattle—where to place them in these competitive days, and say with any exactness what they can do. The bull retains full vigor and weighs 1,500 at four years, but the cows impress us as possessing a somewhat delicate constitution, and in milking have not yet made anything unusual either in quantity or quality. We hope ere long to be able to speak upon the result of crossing with the common grade cows.

Herefords.

For the first time in our management we have a dairy Hereford cow—a good, fair milker in all respects, and taking her place amongst the ordinary dairy cows. This is more likely to be a transmitted property than any other circumstance, for, as “Cronkill Duchess,” she traces straight back to the old Downton Castle herd that did not want for milk. We are still treated to doubtful headshakings when introducing another Hereford cow, weighing 2,100 pounds and that is unduly full of flesh, without any grain winter and summer. We have refused \$3,000 for Conqueror (7510), and Her Majesty's Commissioner at Windsor has asked if we will return him to their Herd.

Holsteins.

I have not been able to read all the controversy that has resulted from our testing of cows during 1885-6, and especially as regards Holstein and Jersey, nor have we considered it necessary—with one exception—to respond to any of the many invitations, actual or implied, from those who have been unable to throw aside “self” in criticising our experimental work. No answer is needed when men speak or write so strongly under the influence of the great dollar. Our Holsteins are doing well: “Adanc, 190,” weighs 2,200 pounds at four years, and receives very favourable praise even from Short Horn lovers. We think three-year-old cows should average more than 1,075 pounds. They have good constitutions, strong in impressive power, and we have on hand for fall exhibition a steer from a very common grade cow and the bull of this breed that may serve to give light on the “general purpose” to some.

Jerseys.

Were it possible to apply this saying of Ruskin, that “it is a matter of the simplest demonstration that no man can be really appreciated but by his equal or superior” in

criticising this breed of cattle from the standpoint of another breed, the lesson would be a good one; but as they have no equals and no superiors in a certain way, we stand without the usual ground of comparison. We are not so satisfied with the way St. Mary's Boy (535), is marking his calves this year, but very much so with the development of the cows in all the form and room and quality of their milk field.

Short Horns.

“Rob Roy” (45,484), has got back about twelve cows from sixty that came to him since importation; hence so long as this continues we can assuredly say it is not his fault. The trouble, and therefore expense, of irregular breeding continues with some cows, as to which Professor Grenside will likely say something ere long.

3. DIFFERENT BREEDS OF SHEEP AT THE EXPERIMENTAL FARM.

Our nine breeds of sheep are making such a prominent record this year with lambs that we give a special paragraph to that subject. In other respects they are worth mentioning. Of the newer breeds to us, the Cheviot ewes have for two seasons in succession been thinning off their wool in midwinter without any of the ordinary causes—such as vermin, overheating with food, or otherwise out of trim apparently. In trying to attribute this to climatic changes we are met by the want of similar shedding among the black-faced Highland of Scotland, that are holding their wool similar to natives, and it may be urged that they would more likely be the first to change. The Cheviot ram, however has been regular in this respect. Both these breeds are evidently feeling the five months' house confinement; they do not settle down at any time to the quieter sleepy conditions of the heavy breeds, and do not even *flock* with them when being handled in close quarters, but will take the fence or hurdle with great ease. We cannot see anything in the Highland breed to recommend for any Canadian conditions, but it is certainly worth while to prosecute experiment with the Cheviot. If we could retain the wool, the hardiness, the mutton quality, and at the same time increase size one-half, this breed would claim a considerable recognition on our upland pastures. We are not prepared as yet to recommend the Hamps against the Shrops. If we ever do it will be owing to a better texture and closer crop of wool, and possibly better constitutions—not yet to our experience in the other good things among sheep, as to which we require more time. South Down good-doing has not been so prominent with us of late, and of all the Downs we are handling the Oxford has unquestionably stood the all-over comparison best. The recuperative power of the Leicester has been well exemplified with the ewes imported in 1884, that then looked no better than any roadside scrub and that now command offers of \$60 per head. Lincoln and Cotswold are maintaining their weight of wool and good conditions.

We have got the following average of lambs per ewe this season—beginning on 3rd March and ending in May:—

| | |
|------------------|------|
| Shrops | 1.75 |
| Hamps | 1.75 |
| Lincoln | 1.67 |
| Oxford | 1.62 |
| Leicester | 1.50 |
| Cotswold | 1.50 |
| Merino | 1.50 |
| Cheviot | 1.50 |
| South Down | 1.40 |
| Highland | 1.00 |

Average over all..... 1.52

There are about equal numbers of male and female. The crop of lambs in 1885 was unusually poor in numbers and quality, caused undoubtedly by all the ewes being shearings, and mostly in high condition as recent importations. Hence, possibly, the resumption of fertility this year, both of rams and ewes, by sufficiently liberal management and a full change to pasture only in summer, and on hay, roots and bran during winter. We have also to note stronger and fresher lambs and more milk by timing the lambing one month later than usual.

4. ARE MANY GOOD CALVES THE NATURAL FOLLOWING OF AN EPIDEMIC ABORTION IN A HERD OF CATTLE?

As reported by Professor Grenside, we experienced serious loss in 1884-5 by abortions throughout all the breeds of cattle, and no doubt he was right in attributing this to direct importation. A point of much value to everybody, and though perhaps known to many, has not been impressed, is the question I have asked above. We are now running over with calves from all sources, and though we can count two dead ones, they were on full growth. The aborting cows were allowed, in most cases, to go on to their natural time and get the ordinary management of the place, summer and winter. Whatever had been the cause and particular physiological trouble, it seems to have all disappeared. The condition, freshness and vigour of the cows since have been cause of comment, and this upon pasture and the following winter rations daily:—Cut hay, 12 lbs.; pulped turnips and mangels, 20 lbs., mixed in a heap with 2 lbs. of wheat bran, fed thrice per day. Now, is all this reliable calving and bloom immediately after the epidemic the natural following of most troubles and diseases in all animal life, and to be accounted for only by good vigorous constitutions, youth and good management? If more, what?

5. PUBLIC SALE OF LIVE STOCK, 23RD SEPTEMBER, 1886.

| Lot. | CLASS. | PURCHASER. | Amount. | Total. |
|------|--------------------------------------|-------------------------------------|---------|--------|
| | CATTLE. | | \$ c. | \$ c. |
| 1 | <i>Short Horns:</i> Heifer | John Lamont, Caledon, Ont..... | 75 00 | 75 00 |
| 2 | <i>Herefords:</i> Bull | H. A. Muntz, Alport, Muskoka..... | 140 00 | |
| 3 | do | do do do | 210 00 | 350 00 |
| 4 | <i>Aberdeen Polls:</i> Bull | Thomas McRae, Guelph, Ont..... | 160 00 | |
| 6 | Heifer | R. Shortreed, do | 120 00 | 280 00 |
| 7 | <i>Galloways:</i> Bull | T. McRae, Guelph, Ont..... | 105 00 | 105 00 |
| 8 | <i>Devons:</i> Heifer | W. J. Rudd, Guelph, Ont..... | 65 00 | 65 00 |
| 9 | <i>Ayrshires:</i> Bull | W. Keough, Owen Sound, Ont..... | 45 00 | |
| 10 | Heifer | J. Healey, Strathroy, Ont | 85 00 | 130 00 |
| 11 | <i>Holsteins:</i> Heifer | John Leys, Toronto, Ont..... | 100 00 | |
| 12 | do | do do | 70 00 | 170 00 |
| 13 | <i>Jerseys:</i> Bull | Charles Cumming, Troy, Ont..... | 42 00 | |
| 14 | Heifer | Sydney Fraleigh, St. Marys, Ont.... | 120 00 | 162 00 |

PUBLIC SALE OF LIVE STOCK—(Continued).

| Lot. | CLASS. | PURCHASER. | Amount. | Total. |
|------------------------------|-------------------------------------|--------------------------------------|---------|----------|
| CATTLE—Continued. | | | \$ c. | \$ c. |
| 15 | <i>Guernseys:</i> Heifer | T. Ballantyne, Stratford, Ont. | 85 00 | 85 00 |
| 16 | Hereford Grade Steer | W. West, Guelph, Ont. | 140 00 | |
| 17 | Shorthorn do | W. Weir, St. Marys, Ont. | 136 00 | |
| 18 | do do | do do | 105 00 | |
| 19 | do do | do do | 131 00 | 512 00 |
| 22 | Milch Cows | Patrick Malone, Guelph, Ont. | 26 00 | |
| 23 | do | George McGill, do | 25 00 | |
| 24 | do | Robert Howie, do | 24 00 | |
| 25 | do | Edwin Gray, Puslinch, Ont. | 21 00 | 96 00 |
| Gross total for cattle | | | | 2,030 00 |
| SHEEP. | | | | |
| 1 | <i>Leicesters:</i> Ram | A. C. Willett, Durham, Ont. | 10 00 | |
| 2 | do | J. Speers, Mosboro', Ont. | 15 00 | |
| 5 | Ewe | A. C. Willett, Durham, Ont. | 13 00 | 38 00 |
| 6 | <i>Cotswolds:</i> Ram | Henry Swayzee, Aspedin, Muskoka .. | 17 00 | |
| 7 & 8 | 1 pair Ewes | James McIrvine, Paris, Ont. | 16 00 | 33 00 |
| 12 & 13 | <i>Lincolns:</i> Pair Ewes | John Morgan, Strathroy, Ont. | 11 00 | 11 00 |
| 14 | Highland Ram | Thomas McRae, Guelph, Ont. | 5 00 | 5 00 |
| 18 | <i>Oxfords:</i> Ram | W. Brockie, Paisley, Ont. | 21 00 | |
| 19 | do | H. R. Pattison, Brantford, Ont. | 23 00 | |
| 22 & 23 | Pair Ewes | George Robinson, Claude, Ont. | 22 00 | |
| 24 & 26 | do | John Morgan, Strathroy, Ont. | 22 00* | 88 00 |
| 33 | <i>Shropshires:</i> Ram | T. McRae, Guelph, Ont. | 40 00 | |
| 35 | do | R. Rennelson, Galt, Ont. | 16 00 | |
| 36 | do | J. C. Wood, Florence, Ont. | 19 00 | |
| 37 | do | John Morgan, Kerwood, Ont. | 17 00 | |
| 39 & 42 | Pair Ewes | T. McRae, Guelph, Ont. | 52 00 | 144 00 |
| Total for sheep | | | | 319 00 |
| HORSES. | | | | |
| | Brown Mare | John Shortreed, Barrie, Ont. | 120 00 | 120 00 |
| Total for horses | | | | 120 00 |

ABSTRACT.

| | |
|----------------------------|------------|
| Cattle | \$2,030 00 |
| Sheep | 319 00 |
| Horses | 120 00 |
| Total amount of sale | \$2,469 00 |

6. ENQUIRIES ON HAND.

We have arranged to make two important enquiries during the winter, 1886-7—the value of bran in feeding store cattle; and for this purpose will set aside eight head in two lots—one to alternate with the other each month, and to receive equal weights of bran, hay and roots, and equal weights of a mixture of corn, peas, oats and barley, with hay and roots also. It will be necessary to chemically analyze all those foods, as well as the manure obtained, in order to draw practical conclusions. The other enquiry is the feeding value for dairy purposes of the hay of permanent pasture as recently established by us, and of the ordinary timothy and clover of the Province, in which we will use four cows—noting quantity and quality of milk and the life sustaining properties of each among other things. We should have an interesting bulletin upon these two subjects in June next.

IV.—THE EXPERIMENTAL.

1. EXPERIMENTS FROM 1876 TO 1886, INCLUSIVE.

In view of the widening importance of experimentation, and in order to give the country an idea of the ground covered by us, I have pleasure in submitting a list of the experiments that have been undertaken here from 1876 to 1886, inclusive.

I beg respectfully to suggest that no better compliment could be paid our farmers than giving them a copy of these in a separate condensed form, immediately. No doubt, as in such work everywhere, a good deal may have been overlooked, a good deal requires further development, and a good deal has been closed up to the light of the times. Experimentation is to verify more than to discover, and by a near public criticism, of what we have, and what we have not done, our future in this line should be considerably assisted.

| Year. | No. | SUBJECT. |
|-------|-----|---|
| 1876 | 1 | Feeding pigs; raw <i>vs.</i> cooked food. |
| " | 2 | Cereals, with and without fertilizers. |
| " | 3 | Turnips, mangels, carrots and potatoes; with and without manure. |
| " | 4 | Four kinds of peas in competition. |
| " | 5 | Seven kinds of spring wheat, five of oats, and three of barley in competition. |
| " | 6 | Characteristics of wool from seven sources. |
| " | 7 | Fifteen varieties of turnips and eight of mangels in competition. |
| " | 8 | Judging and valuing roots by specific gravity and texture. |
| " | 9 | Chemical analysis of roots by specific gravity and texture. |
| " | 10 | The growth of seven varieties of winter wheat, fifty-three of spring wheat, thirty-three of oats, and twelve of barley. |
| " | 11 | The feeding of sheep on raw and on cooked food. |
| " | 12 | The feeding of cattle on raw and on cooked food. |
| " | 13 | Turnips under special fertilizers. |
| " | 14 | Potatoes from different sized sets. |
| " | 15 | Mangels with and without liquid manure. |
| " | 16 | Wheat from different fertilizers. |
| " | 17 | Turnips and carrots with and without lime. |
| " | 18 | Barley from different fertilizers. |
| " | 19 | The fall and spring manuring of mangels. |
| " | 20 | Lucerne and other clovers under different manures. |
| " | 21 | Mangels and sugar-beet under four special fertilizers. |
| " | 22 | Testing of forty-one varieties of wheat, oats and barley, from American Centennial. |
| " | 23 | Corn—five kinds. |
| 1878 | 24 | Introduction to five breeds of sheep. |
| " | 25 | Cost of producing pure-bred shearing rams and ewes. |
| " | 26 | Classification and value of wool from ten sources. |

EXPERIMENTS, ETC.—*Continued.*

| Year. | No. | SUBJECTS. |
|-------|-----|--|
| 1878 | 27 | Some varieties of winter wheat as regards produce and liability to disease. |
| " | 28 | Oats and barley with different manures. |
| " | 29 | Fourteen kinds of spring wheat in opposition. |
| " | 30 | Spring wheat under fall and winter manuring. |
| " | 31 | Barley under fall and winter manuring. |
| " | 32 | Sugar-beet and sugar-cane. |
| " | 33 | Twenty-three varieties of grasses and clovers. |
| " | 34 | Lucerne and thousand headed kale. |
| " | 35 | Four kinds of peas in competition. |
| " | 36 | Thirteen kinds of turnips against each other. |
| " | 37 | Turnips from fall and spring manuring. |
| " | 38 | Turnips at various distances apart on the flat and drilled. |
| " | 39 | Twelve varieties of mangels, and the results of transplanting. |
| " | 40 | Mangels and carrots from late and early sowing and fall and spring manuring. |
| " | 41 | Mangels, turnips and carrots, under different manures. |
| " | 42 | House sewage on roots. |
| " | 43 | Four kinds of potatoes in competition. |
| " | 44 | Potatoes by different sized sets. |
| " | 45 | Potatoes from different manures. |
| " | 46 | Fattening steers upon turnips, straw and corn. |
| " | 47 | Feeding value of our turnips and mangels. |
| " | 48 | The milling properties of some wheats. |
| " | 49 | Our green fodder crops. |
| 1879 | 50 | Comparison of our breeds of cattle. |
| " | 51 | Comparison of our breeds of sheep. |
| " | 52 | Various manures on wheat. |
| " | 53 | Wheat, barley and oats, after roots and several manures. |
| " | 54 | Mangels, turnips, carrots and sugar-beet. |
| " | 55 | Nineteen forms of fertilizers on turnips. |
| " | 56 | Drilling and broadcasting of lucerne. |
| " | 57 | Our green fodders to date. |
| " | 58 | Condition of grasses and clovers to date. |
| " | 59 | Fourteen kinds of mangels and three of sugar-beet in opposition. |
| " | 60 | Nineteen kinds of turnips and thirteen of mangels, two of sugar-beet, and four of carrots. |
| " | 61 | Twelve varieties of potatoes. |
| " | 62 | A plot of permanent pasture. |
| " | 63 | Durham and Hereford grade steers in opposition. |
| " | 64 | Feeding sheep, different breeds and foods. |
| " | 65 | How much should be paid for store steers? |
| " | 66 | What it costs to make beef. |
| " | 67 | The scientific bearings of our winter feeding of live stock. |
| " | 68 | Classification and relative value of wool at O. E. F. |
| 1880 | 69 | Cost of producing various crops. |
| " | 70 | The prematuring of young stores. |
| " | 71 | Fattening of young sheep. |
| " | 72 | Cream and butter from different breeds of cows. |
| " | 73 | Milk and cream from soiling and grazing. |
| " | 74 | The effects of special fertilizers applied in 1878. |
| " | 75 | Three years' cropping after F. Y. manure and special fertilizers. |
| " | 76 | Effects of manures upon wheat second year. |
| " | 77 | The effect of nineteen varieties of manures on wheat, from previous application to roots. |
| " | 78 | Five years' experience of thirty-three forms of fertilizers. |
| " | 79 | Apatite upon winter wheat. |
| " | 80 | Produce of roots at various distances apart on the drill. |
| " | 81 | An early catch of mangels and carrots. |
| " | 82 | Thirteen sorts of potatoes in competition. |
| " | 83 | Green fodder. |
| " | 84 | Permanent pasture. |
| " | 85 | Nine varieties of barley in competition. |
| " | 86 | Thirty varieties of oats in competition. |
| " | 87 | The growth of nine spring wheats. |
| 1881 | 88 | The washing of wool. |
| " | 89 | Carcass and wool of six kinds of wether lambs. |
| " | 90 | Comparison of diameter of fibre of twelve kinds of wool from lambs. |
| " | 91 | Prepared and unprepared hay and roots in the fattening of cattle. |
| " | 92 | The cost and profit of two and three-year-old steers. |
| " | 93 | Does it pay to fatten cattle for manure production only? |

EXPERIMENTS, ETC.—*Continued.*

| Year. | No. | SUBJECTS. |
|-------|-----|---|
| 1881 | 94 | The value of a manure heap. |
| " | 95 | Sir J. B. Lawes on our cattle-feeding experiments. |
| " | 96 | The comparative size, weight and value of various grades of fat shearing wethers. |
| " | 97 | Corn, oats and peas in the fattening of cattle. |
| " | 98 | The cutting up of our experimental cattle. |
| " | 99 | The third year of wheat after seventeen forms of manure. |
| " | 100 | The effects of four special fertilizers applied in 1878. |
| " | 101 | Permanent pasture. |
| " | 102 | Four years' cropping after F. Y. manure and three special fertilizers. |
| " | 103 | Thirteen varieties of potatoes. |
| " | 104 | F. Y. manure and special fertilizers on mangels, sugar-beet and carrots. |
| " | 105 | The growing of large roots in a dry season. |
| " | 106 | Continuous crops of cereals after clover and after fallowing. |
| " | 107 | Hay from nineteen forms of fertilizers applied in 1879. |
| 1882 | 108 | Corn in cattle fattening. |
| " | 109 | Peas " " |
| " | 110 | Oats " " |
| " | 111 | Oilcake " " |
| " | 112 | Cotton seed cake in cattle fattening. |
| " | 113 | The microscopic examination of twelve kinds of wool grown on the O. E. F. |
| " | 114 | Fat shearing wethers. |
| " | 115 | An example of the application of science in cattle feeding. |
| " | 116 | Fifteen new winter wheats. |
| " | 117 | Some oats and barley in opposition. |
| " | 118 | Seventeen forms of manure and grain. |
| " | 119 | Room, air and light <i>vs.</i> fertilizers. |
| " | 120 | Bone-dust telling from 1878. |
| " | 121 | Lucerne <i>vs.</i> F. Y. manure. |
| " | 122 | Permanent pasture and sheep. |
| " | 123 | Some new Swede turnips in opposition. |
| " | 124 | Mangels and sugar-beet—sixteen kinds. |
| " | 125 | Potatoes—ten kinds. |
| " | 126 | Prime cattle and sheep. |
| 1883 | 127 | Early finished beef. |
| " | 128 | The great beef contest at O. E. F. |
| " | 129 | Preserving corn fodder in a common root cellar. |
| " | 130 | Milk in quantity and quality from ensilaged corn. |
| " | 131 | Butter from ensilaged corn. |
| " | 132 | Damaged wheat in cattle feeding. |
| " | 133 | Rice meal " " |
| " | 134 | Barley meal " " |
| " | 135 | Corn meal " " |
| " | 136 | Pea meal " " |
| " | 137 | Sugar-beet, mangels and turnips in the growth of young cattle. |
| " | 138 | Testing milk, cream and butter from ten breeds of cows. |
| " | 139 | Wool and mutton. |
| " | 140 | Influence of food on milk. |
| " | 141 | Conduct of our silos. |
| " | 142 | Wool as a bi-annual crop, and the clipping of lambs. |
| " | 143 | Winter spring wheat and barley from special fertilizers. |
| " | 144 | Thick and thin seeding. |
| " | 145 | Deep <i>vs.</i> shallow seeding. |
| " | 146 | Potatoes—eight varieties. |
| " | 147 | Rotations in cropping. |
| " | 148 | Sixteen varieties of oats. |
| 1884 | 149 | Mixture of grain in cattle feeding. |
| " | 150 | " " and oil cake in cattle feeding. |
| " | 151 | " " and Thorley " |
| " | 152 | Corn in cattle feeding. |
| " | 153 | Peas " " |
| " | 154 | Oats " " |
| " | 155 | White barley " " |
| " | 156 | Black barley " " |
| " | 157 | Uncooked food in cattle feeding. |
| " | 158 | Cooked food " " |
| " | 159 | Water and temperature in winter feeding of cattle. |
| " | 160 | Maturing of Short Horn, Hereford and Aberdeen Poll grade steers. |
| " | 161 | Oats and hay in sheep feeding. |

EXPERIMENTS, ETC.—*Continued.*

| Date. | No. | SUBJECTS. |
|-------|-----|---|
| 1884 | 162 | Peas and hay in sheep feeding. |
| " | 163 | Beans and hay " " |
| " | 164 | Low feeding of sheep. |
| " | 165 | High " " |
| " | 166 | The sale of forty head of winter-fed cattle. |
| " | 167 | The influence of food on wool. |
| 1885 | 168 | Testing Ayrshire, Holstein and Jersey cows. |
| " | 169 | Dairy products from ensilage and turriips. |
| " | 170 | Cream from deep setting under two temperatures. |
| " | 171 | Centrifugal separation of cream from milk of ten breeds, in comparison with deep settin |
| " | 172 | The chemical analysis of winter milk. |
| " | 173 | " " summer milk. |
| " | 174 | Cream from different breeds in relation to prices paid by butter factories. |
| " | 175 | Butter globules from twelve sources. |
| " | 176 | Size of globules in relation to cream obtained. |
| " | 177 | Churning in relation to butter globules. |
| " | 178 | Cheese from different breeds, winter and summer. |
| " | 179 | Feeding calves on skim milk. |
| " | 180 | Cost of producing dairy products. |
| " | 181 | Milk from permanent pasture. |
| " | 182 | Abortion among cows in relation to milk production. |
| " | 183 | Butter from milk and cream of different breeds. |
| " | 184 | The possibilities of the centrifugal separator. |
| " | 185 | The silo. |
| " | 186 | Buying and feeding cattle, and selling at same price. |
| " | 187 | The possibility of making yearling beef fit for exportation. |
| " | 188 | Closing beef contest. |
| " | 189 | Some wool clips. |
| " | 190 | Fattened shearling wethers. |
| " | 191 | Lambs from nine distinct breeds. |
| " | 192 | Cross-bred lambs from nine distinct breeds. |
| " | 193 | Three crops of wool in fifteen months. |
| " | 194 | Selected varieties of grasses and clovers for permanent pasture. |
| " | 195 | Black walnut and European larch clumps. |
| 1886 | 196 | Milk and beef from permanent pasture. |
| " | 197 | What takes place during the grazing of permanent pasture. |
| " | 198 | Special fertilizers and clovers. |
| " | 199 | Cost of producing thoroughbred cattle and sheep in Ontario. |
| " | 200 | Experience with cattle and sheep for eleven years. |

2. REVIEW OF GENERAL PRINCIPLES, SUBJECTS OF ENQUIRY AND DETAIL MANAGEMENT.

I have not for ten years given anything in the form of public notes upon the A B C of Experimentation. It is now a profession distinct from farming, and from any of the sciences and arts, and thus a review of what guides, and what should be the principal subjects of enquiry in Ontario, as well as some of the details of management, will interest many. Several of the notes were obtained from other authorities.

In all experimental work there are general governing principles, such as :—

1. (a) Scientific Investigations.
- (b) Practical Investigations.
- (c) Scientific Experiments.
- (d) Practical Experiments.

2. *Investigations* are usually conducted without reference to cost. *Experiments* are made with reference to practical economy.

3. Now-a-days it is not so much *Discovery* as *Verification*, and one of the objects of experimentation may be to establish a *principle* that seems wanting.

4. To ascertain the exact state of information regarding any line of experimental work, and select the subjects of enquiry.

5. To arrange for the solution of a definite question, upon a definite plan.

6. To consider as to the form in which the enquiry should be prosecuted.

It is very undesirable to undertake many experiments at once, as they cannot all be brought to a satisfactory termination; one good one is worth many indifferent ones: *in no other way can a single station make permanent contributions to Agricultural Science and Practice.*

8. All are useless, and worse than useless—misleading, without *minuteness*, system, uniformity and care.

9. An apparently lost experiment may be a step towards a more perfect one; “failures are a necessary consequence of progress.”

10. The true experimental station must be the link between science and practice; investigations on the farm must keep pace with advanced science, and brought *home to the farmer himself.*

11. An experimental station is therefore purely *industrial.*

12. No generalizing without *long experience.*

13. The appliances should be abundant, and of the most modern kind.

14. The management must have skill, experience, time to plan, study, and to super-
vise constantly.

The most important subjects of experimental enquiry for Canada, at the present time are—

1. *Climate.*

1. The exact effect by kind, position, form of plantation, and area of trees, upon climate, especially on prairie.

2. Estimating the effects of *seasons* in the production of crops—in association with fertilizers.

2. *Soil.*

1. The effect of rainfall in washing away fertilizers, in various soils, with the same crop.

2. The effect of rainfall in washing away fertilizers, in the like soil, with different crops.

3. The exact physical relations of soil to plant food.

4. Chemical relations of soil to plant food.

5. The importance of having *contiguous* plots of *different* soils for testing weather, drainage, fertilizers, and crops.

6. The temperature of different soils at different depths in the same locality, and its relation to germination, rainfall, drainage, drought, conduct of fertilizers, and crops obtained.

3. *Fertilizers.*

1. The *exact effect* of a deficiency of supply of certain plant food to various crops.

2. *Relative* value of various fertilizers for particular crops.

3. Ascertaining market value of different fertilizers.

4. The value of the *mechanical* effect of certain fertilizers on various soils.

5. The *permanency* of various fertilizers.

6. Management of farm yard manure.

7. The special effects of apatite, gypsum, lime and salt, under various conditions.
8. Fertilizing at different *stages of growth*.

4. *Cultivation, Management.*

1. Methods of seeding and manuring.
2. Different rotations in the like, and in various soils.
3. Observations on daily growth of plants.
4. As to allowing for effects of *culture*.
5. As to the best possible means of distributing seed and manures in the soil.
6. What can be done for winter wheat in certain localities, until tree influences are re-established.
7. Identification and eradication of diseases among plants and animals.
8. Identifying noxious and beneficial insects in our rural economy—their encouragement and eradication respectively.

5. *Seeds.*

1. Germination and purity.
2. Paying for seed according to vitality and purity.
3. Depths of seeding in various soils.
4. Thick and thin seeding in the like soil.
5. The identification of plants and seeds for farmers.
6. Selection and introduction of varieties (cereals specially) from other countries.
7. The introduction of new varieties of forest and fruit trees.

6. *Crops.*

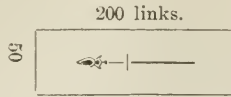
1. The suitability of various crops to the like and different conditions.
2. Comparative value of different crops—chemically and by feeding animals.
3. The conduct of plants under exactly similar conditions, (rootage).
4. Hybridising.
5. Pastures : variety of grasses and clovers.
6. Green fodders.
7. Rotations : effects on soil and crops.

7. *Selection and Preparation of Plots.*

1. Soil should not be in the *highest* or lowest state of cultivation, nor have received recent large manuring, when for testing fertilizers.
2. When to stand as a base of comparison the soil should be in the highest state of cultivation.
3. The field and plots should be of the greatest possible uniformity in—
 - (a) Quality, texture and sub-soil alike.
 - (b) General character.
 - (c) Drainage—natural or artificial.
 - (d) Aspect and exposure.
 - (e) Receiving rain and evaporating equally.

4. Proving uniformity of soil by a previous cropping, in addition to a physical and chemical analysis.

5. Size of plots to be one-tenth of an acre, in this form



and position. The smaller the plots the greater the care necessary.

6. If the field slopes, the length of the plots, however, must be up and down the slope.

8. Management of Plot Experiments.

1. Uniformity of treatment indispensable: manures, seeding, tillage, harvesting.
2. Every experiment should be in duplicate, as far apart as possible in the field, and several *without* fertilizers.
3. Care in *preparation* of fertilizers.
4. All seed should be tested for germination previous to planting.
5. Maturity to guide harvesting of each crop.
6. Note brairding, tillering, blooming, heading, maturing, diseases.
7. Keeping full records of rainfall, air temperature, ground temperature, maximum and minimum thermometers, hygrometers, barometer, sunshine, cloud and wind.
8. Care in noting and retaining *negative* results as well as positive ones.
9. All useless, and worse than useless,—misleading without *minuteness*.
10. An apparently lost experiment may be a step towards a more perfect one—failures are a necessary consequence of progress.

9. Live Stock.

1. Beefing and dairy breeds of cattle.
2. Effects of the first and subsequent crosses with the native cattle.
3. Adaptability of each to particular physical conditions.
4. Effects of food.
5. The systematic production of dairy products during winter.

MEMO.—Experimentation has to discover, verify, and disseminate; to tell why and wherefore, not so much to raise crops, *i.e.*, success is not to be measured by the crops raised, necessarily. Must learn how to interpret the results. Unavoidable that some efforts must be thrown away. All agriculture being artificial, may expect as many “*nôes*” as “*yeses*.”

3. MILK AND BEEF FROM PERMANENT PASTURE.

The United States agricultural press has taught for many years that “*Grass is King*.” This sound aphorism is built largely upon what nature gives, for with all their age, wealth and enterprise, our neighbors have done comparatively little with cultivated permanent pasture. They find, as Ontario can also tell in her experience, that it requires fully three acres of the average cultivated hay and natural meadows to maintain one cow, or one two-year-old store. This is no adequate return for these days, when other agricultural products here and elsewhere are in such keen competition. There is no doubt of the fact that the present limit of North American pastures is 1,300 lbs. of milk,

or 85 lbs. of beef per acre per season of five and one-half months. These at three-fourths of a cent and five cents per pound give \$9.75 and \$4.25 respectively, or an average value of \$7 per acre, with the very marked difference of nearly 130 per cent. in favor of the milk product. If these deserve to be called "King," what may the future as indicated by the following?

The pasture seeded down in 1884 is still holding two cows per acre easily, and producing at the rate of 7,692 lbs. of milk per season of five and one-half months by common grade cows—cows which under any conditions never give over 25 lbs. per head daily. Were they Holsteins, Ayrshires, or Shorthorns, the season's produce would amount to about 14,000 lbs. of milk per acre. The two common six-year-old cows in this experiment are also adding to their weight at the daily rate of fully three-quarters of a pound each, which therefore may become an unfavourable feature of this pasture; for so far as known, matured cows in full milk on ordinary pasture hold their own good-condition weight only, and may reduce rather than increase in flesh.

Four acres of these experimental plots were laid down last year with our selected eight varieties of grasses and five clovers, the conduct of which is given in last year's annual report. This year, the first of their depasturing, one-fifth of the area consisting of low-lying spots was killed by frozen-lodged water in spring. Elsewhere the pasture is very wealthy. The continuous heavy spring rains delayed occupation until 20th May, when two two-year-old and two yearling store steers were put on. Had we disregarded poaching and spoiling otherwise, the animals could have had a full bite on 10th May; and were we followers of much of the ordinary practice, we could have cleaned our cattle's teeth by a four hours' run daily during the first week of that month, when rolling was done.

The rush of growth became so strong in the last week of May that, rather than mow so early, we added three two-year-old heifers to the four steers for a week, in order to keep pasture within sweet conditions. These heifers had to be removed to avoid the seasoning trouble, but we now realize that it would have been better to purchase six steers in place of four, as under proper management heavy stocking is better than allowing plants to seed and become rank. As it was, we kept under by mowing and mulching the early grasses on 11th June. I am of opinion that our mixture contains too much clover, and as cattle prefer good grasses to clovers our future recommendations will have to note this among other things. Why cattle also often choose dandelion and prefer the maturer but unseeded grasses on the outside of a field as against the more tender and less branchy ones of the like kinds in the closer conditions of the crop, we have yet to learn precisely.

The four steers are not able to keep down the four acres (or rather the three and one-fifth acres of full covered ground) which are divided into two fields of two acres each, the cattle being rotated weekly and receiving unlimited water and rock salt. No grain and no top-dressing has been given. The rain which fell on seventeen days during the period, amounted to 5.017 inches; maximum temperature in the shade, 89.8°; minimum, 33.3°; mean, 60.47°.

These ordinary Short-Horn grade steers made an average daily gain of 3.03 lbs. per head from 20th May, to 31st July. This is at the rate of 3.79 lbs. per acre per day.

That these facts will surprise many we do sincerely hope, and that they may have to be reduced when several years' experience is gathered is not unlikely. Meantime is the future to be \$58 for diary produce, or \$31 for beef per acre per summer?

A British authority in 1872 said that, "first-class grass land is that which will produce twenty imperial stone (280 lbs.) of meat per acre without artificial assistance"; and in the public press of last month it was stated that, "in Scotland the average of permanent pasture and rotation pasture requires 1.96 acres to each dairy cow." Compare these with the results we have obtained for nearly two seasons at this experimental farm.

We have in view to test the value as pasture of several of our best native grasses, and though not looking for results equal to a proper mixture of varieties, there may be other qualities that will show how much they are deserving attention by selection and proper management.

I submit to the Ontario farmer, under every measure of caution, that our pasture tests even now are decisive enough in the sense of showing how much we have yet to learn of certain lines of our profession, and that the possibilities of Canadian climate and soil are but being touched upon.

In addition to the foregoing, which appeared as a bulletin, we have to report that :— Steers were pastured up to 15th October, or 146 days for the season, and made an average daily rate of 2.15 lbs., hence we got 312 lbs. of live weight per acre for the short season.

Cows were also taken off same date, with a record of 23 lbs. of milk per head daily, and consequently a per acre crop of 6,670 lbs. for the season.

4.—WHAT TAKES PLACE DURING THE GRAZING OF PERMANENT PASTURE.

From the previous chapter will be learned what we are doing experimentally in the production of beef and milk from pasture composed of a variety of the best grasses and clovers.

Here we desire to submit some introductory light on what coming years may say in the way of renewal of fertility under such circumstances. Necessarily the figures must be taken with caution, but in view of the attention being paid to this crop in Ontario, nothing, even of a preliminary nature, should be withheld even for one season.

In treating this subject in the future, I shall keep the store steers separate from the cows, so that we may gather some things for or against either.

In the first place we have the precise fact that the two cows on the one acre gave 6,670 lbs. of milk, and increased their own weight 217 lbs. During the season we gathered and weighed the *dried* manure, as well as took samples of the fresh droppings for chemical analysis. Allowing for a good deal left on the ground that could not be picked up easily, and for the difference between the old and the fresh manure, the two cows voided—urine excepted—about 4,680 lbs. fresh during the season, and of course from one acre.

The analysis of the milk—twice at six different times—is as follows :

| | |
|----------------------------|---------|
| Water..... | 88.7518 |
| Fat..... | 3.3096 |
| Solids other than fat..... | 7.9386 |

The manure analysis, on a mean of four times, resulted thus :

| | |
|--|-------|
| Water..... | 82.76 |
| Organic matter..... | 12.93 |
| Insoluble matter..... | 2.09 |
| Iron and Alumina..... | 1.03 |
| Lime..... | .69 |
| Magnesia..... | .21 |
| Nitrogen..... | .25 |
| Undetermined, such as soda and potash..... | .04 |

And the 217 lbs. of increase to live weight will be set down at its proper value.

So, altogether, the 11,567 lbs. of materials in three forms, removed from the acre of permanent pasture, can be valued at \$65, according to the markets of the day, but as this gives no correct idea of the fertility removed, we have to value in some other way.

The four store steers on four acres gave 312 lbs. of additional live weight per acre, and the following is chemical analysis of their manure :

| | |
|--|-------|
| Water..... | 83.00 |
| Organic matter..... | 11.47 |
| Insoluble matter..... | 3.60 |
| Iron and Alumina..... | 1.32 |
| Lime.....; | .41 |
| Magnesia..... | .12 |
| Nitrogen..... | .24 |
| Undetermined, such as soda and potash..... | .07 |

How much fertility has been removed from these pastures and what should be done to recoup them ?

Sir J. B. Lawes writes me as follows :

“Some years ago I spent a day or two in Leicestershire for the purpose of selecting for study one of the most celebrated of the many celebrated fattening pastures of that county. The field I settled upon pastured about 17 oxen on 14 acres, without artificial food; I calculated each acre produced between 5 and 600 lbs. in increased live weight, equal to 350 to 400 lbs. of beef; this is I expect the outside possible product. The herbage of the field was exceedingly simple and might be said to consist almost entirely of perennial rye grass and white clover, the other grasses forming quite an insignificant portion of the pasture. If English experience is of any value to your country, you will find that for three or four years your new pasture will yield very large crops, and this will be followed by a considerable falling off. I find that I can improve my pasture in a cheaper manner by feeding the stock with decorticoled cotton seed than I can by means of artificial manure. If your land has been under arable cultivation for a long period of time, you will find that you must accumulate a considerable amount of fertility underground before your pasture is established. I have pasture on my farm of all ages, from the unknown to 4 or 5 years in the form of turf. Decayed roots in each acre has to accumulate about 1,000 to 1,500 lbs of nitrogen before it can obtain the composition of the old pasture, although of course soil and climate affect the result materially, I am disposed to think that the accumulation of a large quantity of organic nitrogen in the soil is absolutely essential towards the formation of a pasture. For the last year or two we have been regulating the artificial food of the dairy cows to the milk, and I have some hopes that something is to be done in this direction. You cannot, it is true, increase the yield of milk of a cow two or three months after calving however highly you feed her, nor can you make a bad milker a good one. What you appear able to do, is to keep up the maximum flow, which is generally obtained two or three weeks after calving, with a comparatively slight decline for perhaps 20 weeks or more, by a proper regulation of the artificial foods. Our standard foods in winter being mangels, chaff, cake and bran, and in summer pasture, and later we give 4 lbs. of cake and 4 lbs. of bran, to each cow per day, which yield 28 or 30 lbs. of milk per day, and at the end of each week this food is increased or diminished by $\frac{1}{4}$ lb. for each rise or fall of 2 lbs. of milk. I have not sufficiently studied the result (the daily weights of food and milk of a herd of 50 cows, extending over $1\frac{1}{2}$ years is a serious matter), but I think that the regulation of the more costly foods to the amount of milk yielded is worthy of attention.”

At end of next year the Ontario Experimental Farm should be able to say something more upon the maintenance of different kinds of grasses and clovers, and how much diminution there may be in dairy product per acre. Meantime the oldest plots have been top-dressed with ten loads of first-class F.Y. manure, to be followed with 200 lbs. of bone meal per acre in spring.

5.—SPECIAL FERTILIZERS AND CLOVERS.

On 8th May, 1885, we seeded plots 71 to 80 inclusive, in range 4 of the Experimental plots, with orchard grass and red clover, at the rate of six pecks per acre, at same time taking a crop of barley.

These plots were treated in spring of 1884 with the respective fertilizers named below, when a crop of roots was taken, and the purpose is to ascertain the influence of such fertilizers through a rotation of (1) roots, (2) barley, (3) hay, and (4) spring wheat.

As we have three years' crops on hand for criticism, it is very tempting to submit results, but in view of a full and more reliable report next year, I deem it desirable merely to indicate now that some important and practically valuable facts may be looked for.

- Plot 71. No Manure.
- " 72. Farm-yard manure, 14 tons per acre.
- " 73. Nitrogen mixture $\frac{1}{3}$ nitrate of soda, $\frac{1}{3}$ sulphate of ammonia and $\frac{1}{3}$ dried blood, 150 lbs per acre.
- " 74. Superphosphate, 350 lbs. per acre.
- " 75. Muriate of potash, 150 lbs. per acre.
- " 76. Nitrogen mixture, } 150
Superphosphate, } 350 lbs., per acre.
- " 77. Nitrogen mixture, } 150 " "
Muriate of potash, } 150 " "
- " 78. Superphosphate, } 350 " "
Muriate of potash, } 150 " "
- " 79. Superphosphate, } 350 " "
Nitrogen mixture, } 150 " "
Muriate of potash, } 150 " "
- " 80. Quick lime, 400 lbs. per acre.

6.—ARRANGEMENTS FOR CEREALS, 1887.

I am much pleased to be in a position to inform the public, that we have set on foot an extensive arrangement to secure such kinds of new wheat, oats and barley, from various part of the world, as are most likely to succeed in Ontario. Early steps were taken, and thus we will almost certainly be in possession of several hundred varieties in early spring, both for distribution on a small scale to such parts of the province as will best test by variety of soil and climate, and of course also for our own Experimental plots. For this special purpose we have chosen a part of No. 3 field of the farm, and trust to be able to give important results in next year's report.

V—THE MECHANICAL.

TO WILLIAM BROWN, ESQ.:

DEAR SIR,—The following statement will give you a general idea of how the Mechanical Department was employed from October 1885, to October 1886. On the morning of the 1st October, 1885, a fire occurred, which destroyed the main barn, and a portion of the other outbuildings. Hence our first concern was to prepare accommodation for sheltering the farm stock in a temporary way, until new barns and stables could be erected. This was accomplished partly by utilizing what buildings were not consumed by fire, and partly by repairing those that were partially consumed, using in this temporary repair over 50,000 feet of lumber, and although this being work which student

labour could have reached, we found that we could not wait for them to accomplish it, and were under the necessity of hiring outside help. About the end of November that work was all completed, so far as was thought advisable to do.

The general repairs about the class-rooms and College, such as desks, doors, windows, etc., were next seen to, as also the experimental engine to drive centrifical, or cream-separater, with counter-shafts, bands and pulleys. There were also made for farm use six wheel-barrows, some ladders and hay racks. The farm implements and tools were overhauled; there was likewise built for the use of the creamery, an ice-house 12x14, 16 feet high, and also a number of boxes to take exhibits to the Indian and Colonial Exhibition at London, England.

There were also a number of propogating boxes made for use in the garden, likewise lawn seats, new and old repaired, and also repairing glass in green-houses. Towards the spring season we fixed pens for ewes and lambs, and bins for seed grain. After Easter examinations, repairs in College were again attended to, winter sashes taken off and stored away, broken desks and seats repaired: a general repair of field fences, gates, etc. A new fence along side of field 18, commenced last year, was completed, as also wire fence in south lane repaired, and a barbed wire fence erected in field 17, enclosing vinery, and one enclosing walnut shelter clump. Our attention was now called to preparing accommodation for twelve cows purchased in connection with the the creamery, and also a pig-sty 24x70 feet. The erecting of these buildings interfered with time intended to be devoted to building new fences, as we had now to attend to erecting hay-forks for stacking hay in several fields, having no barn room, and preparing for the annual sale of stock, which was to be held in the City of Guelph during the week of the Provincial Exhibition. We repaired the tent which was to be used in connection with the sale, erecting it first two or three times on the College grounds, for the accommodation of visitors. Set it up on the show grounds, and erected a shed for the further accommodation of the stock. There was also a show-case made for exhibiting permanent pasture grasses, and likewise a number of shipping boxes for transporting sheep and other animals by railroad.

A number of shelves were made and put up in the experimental dairy, for the purpose of curing cheese, and also shelves, cupboards, and other fixings, in the re-arrangement of chemical class-room.

In accordance with a recommendation from the Board, that instructions in the several outside departments be as thorough as possible, (and after consultation with yourself) as a means to reach that end, we devote an hour each day with the students that are in this Department to general explanations—

- 1st. As to names and use of carpenter's tools
- 2nd. Putting same in order.
- 3rd. Practical handling of tools.
- 4th. Terms used in carpentry.
- 5th. Framing buildings.
- 6th. Fence and gate making.
- 7th. General work and repairs.
- 8th. Comparative strength of materials.
- 9th. Rudimentary joinery.

After which they are set to perform various pieces of work, part of them under my assistant, and part under my own superintendence.

As to the work that is going on at the present time, the contract for the new farm steading being about completed, we begin to see the number of necessary articles yet required, not included in contract. These embrace sheep feeding racks, cattle feeding mangers, harness rooms, grain bins, wool room, pens for ewes and lambs, also house for engine, with all necessary gearing for driving cutting machines, separator, forks, etc.

These statements contain a general outline of the operations that have engaged the time and attention of this Department during the year.

Yours truly,

JAMES McINTOSH,
Foreman.

VI—ARBORICULTURAL.

GUIDE TO PLANTING TREES AND SHRUBS ON THE SCHOOL GROUNDS OF ONTARIO.

General Advice from Students of the O. A. C.

1. Choose the best kinds of trees and shrubs for the *special* purposes—having regard to *soils, districts and exposures*.
2. Attend to every *detail thoroughly*, and adopt the *most approved* management.
3. The best *ornament, shade and shelter* are from *properly developed* trees and shrubs, so *disposed* as not to unduly check side branches.
4. Never plant upon naturally *poor or wet* ground, and remember that *drought* is more *dangerous than frost*.
5. Make no *profuse congratulations* when you have many *leaves* and some growth of *wood the first and second* years, nor *rejoice* unnecessarily if *fruit* is also abundant then, because neither are, necessarily, indications of well-doing.
6. Order your plants one month ahead of *time*, and place responsibility of *delivery* upon party supplying them.
7. In cases of *extensive* work it will pay to employ *skilled* labour, but the *education* of others at same time should not be overlooked.

Trees for Shade.

8. The best trees for *Shade* are the sugar maple, horse chestnut, Scotch elm, butternut, European linden and fern-leaved birch.

Trees for School-ground Shelter.

9. A mixture of maple, elm, oak, ash, beech, birch, black walnut, with evergreens of Norway spruce, Austrian pine, common white cedar and black American spruce.

Shrubs for Ornament.

10. A proper mixture of lilac (10), guelderose (6), high-bushed cranberry (10), hazel-filbert (8), hawthorn-English (15), barberry (6), and mock orange (8). The figures indicate the *branching diameter* of mature plants.

Soils.

11. All these trees and shrubs do well upon good, naturally *dry* loam, and the lighter character of *clay loams*.

Distance Apart.

12. *Shade* trees from 20 to 30 feet, *shrubs* from 6 to 12 feet, according to *diameters* given in No. 10 note; and for a *mixed* shelter bed, ten feet apart is best in view to future thinning and *selection of standards*.

Where to get Plants.

13. We have yet to be *educated* in knowing *how* to choose, *prepare* and *manage* the planting of young trees from our *forest*. Our *College* has in view to issue *special advice* on this *subject* next year. In any event, all trees and shrubs are *most reliable* from well managed *nurseries*, as being always kept in a *prepared* transplanting condition, they are ready to move at any time, and better able to do well on removal. The first cost is less from the neighbouring bush, but so is the success less on an average, even under the very best management.

Size or Age of Plants.

14. The *younger* the plants the *less risk* with all kinds; aim at not more than from *three to six years* in the nursery. Avoid *branchless* trees that have been standing *close together*.

Time to Plant.

15. From end of *April* to end of *May*. Transplanting with the buds and young leaves is not dangerous, but requires more careful attention; fall or autumn planting is not so safe.

Preparation for Planting.

16. On obtaining plants cut off any rough branches and roots, so as to balance *under* and *over* ground. Do not interfere with the evergreens in this respect. Take special care of small *fibrous* roots. Previous fall digging for shrubs and belting is good.

Weather for Planting.

17. If possible, choose mild, cloudy, and moist weather, but not so wet as to make the soil *sticky*.

Making Pits.

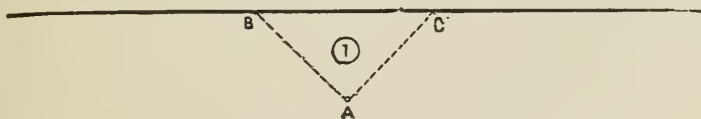
18. Make pits one-half wider and deeper than is actually required; remove any water or scum from old-made pits—squaring off the bottom well.

How to Plant.

19. Fill up pit to required depth of *special tree*; plant one inch deeper than the old mark on the stem; incline the tree slightly towards the *prevailing wind* of the district; spread out very carefully all the roots and fine fibres in the pit; fill in the best *loamy* soil first, shaking and gently pulling the plant up and down a little so as to *run* the soil amongst the roots. When half the pit is filled tramp moderately firm with the foot, and on finishing give another tramp—*heeling* close up to the stem. *Puddling* roots before planting is only required when both soil and atmosphere are dry. A *naturally* moist soil is the best.

Protection.

20. On public roadsides we would not require to protect shade trees were our laws properly administered; if the tree is planted close to fence the best guard is the triangle, thus:



This consists of one post at A with fence lumber from bottom to top nailed at B and C. If the line of shade trees is on the out-edge of sidewalk—eight or ten feet from fence—the best guard is an open one, strong, and with room to allow for growth. Never *tie* a tree nor allow it to *rub* against the guard.

After Attention.

21. If wind makes *openings* around stems, have them made good *immediately* as *drought* would damage seriously; use grass or other *rough* material as a *light mulch* in *midsummer* round each tree for the first *two years*, and place a *deeper* mulch during *winter* for the same period. Keep ground cultivated until the tree shades itself in after years. Do not cultivate *later* than August, as it tends to prolong growth that may be damaged by winter. If a severe and continuous *drought* occurs immediately after planting, it may be necessary to *water*—depending upon situation and a retentive soil; avoid watering if possible, as oft cultivation with mulch is better for future success.

Pruning.

22. No general rule can be given as to pruning: keep the tree well *balanced*, without interfering much with its *natural character*; encourage the leader, or stem shoot; prune any time from fall of leaf to budding—never draw sap by pruning in early spring; remove all dead or damaged matter anywhere, as well as improper sapling growth from the lower stem.

2.—SPECIAL NOTE FOR YOUNG PEOPLE.

Every properly developed tree is a thing of beauty and utility. They are the nobility of vegetable life—man's companions and to some extent teachers. Trees supply us with food, clothing, medicine, and the many things of every day; they make nations and actually affect the individual, for men brought up in an oak or a pine forest, respectively, are differently constituted. Trees keep us warm and cool, they mellow and purify the air for our health; they break and soften the cold winds, and moisten the hot sunshine; they breathe, perspire, and sleep, and sing; they moan, and whistle, and groan; trees have electric affinity one to another, according to kind, area covered, distance apart, and the particular atmospheric conditions; they have also particular friends and enemies in nature, both animal and vegetable, and hence for these and many other reasons we do not deserve well of our country if every person does not plant one tree every year of his or her life.

VII.—MISCELLANEOUS.

1.—BRAN AS CATTLE FOOD.

I think one of the weaknesses of agricultural things in these times is not knowing exactly what wheat bran is. Its commonness everywhere for hundreds of years may be the cause of this. Many men, no doubt, can tell of favourable experience in its use with calves, dairy cows, and possibly fattening cattle also, but its exact position, singly as a cattle food against grain of any kind, as well as its manurial value, are still largely unknown; hence the very important question of its value in the market remains a doubtful thing.

The subject demands more light, especially in these days of increasing wheat area, and lowering prices, for unquestionably, as we get about 200 lbs. of bran per acre, on an average, of winter and spring varieties—the crop may be worth so much more were we fully satisfied of its value, both for flour and for bran.

Bran, chemically, by the old and new process of milling, will average about:—

| | Old. | New. |
|------------------|-------|-------|
| Fat | 4.27 | 5.25 |
| Starch | 66.12 | 61.54 |
| Woody Fibre..... | 9.23 | 8.46 |
| Gluten | 14.79 | 17.64 |
| Ash | 5.59 | 7.11 |

Both these analyses are free of water, which is usually about 13 per cent. Compare them with whole wheat that on an average contains 1.75 per cent. of fat, starch, 65 ; gluten or albuminoids, 13 ; ash, 1.90 ; water, 13 ; and crude fibre about 6 per cent. Do the same with flour as represented by the following :—

| | |
|--------------|------|
| Fat | 1.2 |
| Water | 16.5 |
| Gluten | 12.0 |
| Starch..... | 69.6 |
| Ash | .7 |

Now, as by the old process of milling, the bran took most of the gluten with it, and as by the new, the greater part of the gluten is left in the flour, it follows that the bran from the new process should be stronger, richer and fatter. Even by the old process bran contains $2\frac{1}{2}$ times more fat than the whole wheat, and exactly *three times* more than flour.

In his report on ensilage this year, Sir J. B. Lawes says :—“ It is somewhat remarkable that the composition of bran bears a very close relation to that of milk, in the proportion of the digestible nitrogenous and digestible non-nitrogenous constituents, thus :—”

| | Dig. Nit. | Dig. Non-Nit. |
|---|-----------|---------------|
| $3\frac{1}{2}$ lbs. bran will supply | 0.42 | 1.41 |
| $11\frac{1}{2}$ lbs. milk will contain..... | 0.42 | 1.49 |

If these chemical constituents are of equal value, relatively, to its own source—that is the bran and the milk—and as the $3\frac{1}{2}$ of bran costs with us about 2 cents, and the milk 9 cents, we are again in possession of a fact highly favourable to bran as cattle food.

Some years ago our experimental station made a test with 18 head of store cattle, during winter, by feeding 12 lbs. hay, 35 lbs. turnips, and 9 lbs. bran per head daily ; this large quantity of bran, (about one and one-quarter pressed patent pail full) was given against several other foods—grain principally, and as we had an extensive series of them, all the comparisons are most interesting and valuable. The mean of all the testing was 2.05 lbs. of a daily rate of increase per head—at a cost of 10 cents per pound—the highest 2.70, at a cost of $12\frac{1}{3}$, the lowest 1.60, at a cost of $11\frac{3}{4}$. The bran gave a daily rate of 2.14, at a cost of 9 cents per pound of the added live weight, and as the *lowest cost* of production or $8\frac{1}{2}$ cents, was with a mixture of the best grains—corn, peas, oats, barley,—giving a rate of 2.25 lbs., we get another good idea of the importance of wheat bran.

Then, again, looking at the manurial value of foods, when used to cattle, and building upon what British experience and analysis have shown as the actual fertilizing properties of the manure from them, we are struck with the position taken by bran.

2.—MANURE VALUE OF WHEAT BRAN.

| | Per cent. | Value, per ton. |
|--------------------|-----------|-----------------|
| Nitrogen | 2.47 | \$8 38 |
| Phosphoric Acid .. | 2.75 | 3 83 |
| Potash | 1.43 | 1 15 |
| | | \$13 36 |

So at the present price of \$12 per ton, we get \$13.36 of manure, or, in other words, when we feed store cattle with one ton of bran that cost \$12, the residue in the form of manure is actually worth more than the original cost. If this be doubted, or laughed at, or pooh-poohed, it simply places the sceptical party outside the pale of all modern science and practice.

The mean cost of the four kinds of grain referred to as having given the cheapest cost of production, being \$21.85 per ton, before feeding, and valued at \$9.33 when got as manure, is is evident that if we take this as a standard of comparison, we could give about \$20 per ton for bran, if we believe in *manure* as a primary consideration.

To conclude, meantime it is indicated :

1. That bran is more valuable than its own whole grain, or flour, for feeding purposes.
2. According to chemical analysis, or nutritive ratio, bran is worth \$21 per ton.
3. According to actual feeding tests, it is worth \$20 per ton, irrespective of the manurial value.
4. The new process bran is more valuable for feeding cattle because, while it contains less of the starchy matter, it has, in per cent: considerably more valuable protein, or albuminoids, so valuable in forming bone and muscle.

I have the honour to be, Sir,

Your obedient servant,

W. BROWN.

PART VII.

REPORT ON

PRACTICAL HORTICULTURE.

To the Honourable A. M. Ross,

Commissioner of Agriculture:

SIR,—For several years past, in consecutive reports I have endeavored to describe somewhat minutely the various alterations and improvements from time to time made in the Horticultural Departments, the grading and re-modelling of the grounds, change of drives and laying out of flower beds, the planting of an arboretum, a vineyard and orchard, noting as clearly as possible the success and failures in each. This year I am to a large extent relieved of this duty by Professor Panton, who has taken close and copious notes throughout the season, and in his report I have no doubt may be found many particulars of interest.

The orchard as you know has been but a partial success, due principally to a succession of severe winters. Peats, of which we had fifty-five varieties, were all but a complete failure. Plums, twenty-nine varieties, have also suffered much from the same cause, and in the apple orchard, although the destruction has not been so extensive or general, yet many vacancies have occurred from year to year, and with many of the trees, although still living, their constitutions are so impaired and their vitality so weakened that each successive winter will have its victims. We are thus forced to the conclusion that the low temperature of our altitude is unsuitable to many of the standard varieties of fruit trees that may be (and in fact are) grown successfully in more favoured localities throughout the Province. To fill up blanks last spring, we procured from Fontheil nurseries, where they are making a speciality of hardy varieties, several new sorts highly commended as the hardiest at present obtainable, the proof of which may be noted in the near future.

We would here acknowledge a donation from the Fruit Growers' Association of Ontario (and we do so with gratitude), one hundred young apple trees, embracing fifty varieties of Russian origin two years from graft, the scions imported directly by the above Association. Although young for permanent planting, we have filled some vacancies in the orchard and planted the remainder in our nursery ground as a reserve for future use. The small fruits, viz.: Raspberries, Currants and Goosberries grown in a portion of the apple orchard, were fairly productive in their season, sufficient to meet all demands from the College and a surplus over, which was disposed of to hucksters and to private individuals in the neighbourhood. Of the fifteen or sixteen varieties of raspberries that we have in stock, the Philadelphia for a time proved the most prolific, but from the the small size and dark colour of the berry it was less attractive than some of the others, and from the extreme hot and dry atmosphere of the month of July the crop was early over. For general purposes the Cuthbert is perhaps the most desirable

variety that we have. Its large size, deep red colour and firm flesh, will always commend it as a good market sort. We would name Herstein next in the order of merit, a hardy vigorous grower and good bearer, but its rather dark colour and soft watery texture tells against it for shipping purposes. Clark, Thwack, Highland-hardy, Brandywine, Niagara and Turner, were all more or less injured by the preceding winters, as well as some of the Black-caps, Davidson's thornless, Gregg, Dorchester, and Mammoth Cluster.

Gooseberries and Currants were an average crop, although as usual they were sadly punished by the caterpillar. Of the nursery ground and tree clumps but little need be said; no new planting has been done during the year, the young trees consisting of Norway and Native Spruce, Larch, Ash (English and American), Butternut, Birch, Elm, Linden, Hickory, Maple and Oak, as well as some of the larger shrubs. Buckthorn, Barberry, Spindle tree, etc., etc., are all very healthy plants and require transplanting in the spring, either in the nursery or into new clumps, as may be decided on.

GREENHOUSES.

In this department no change has been made for the year, further than some indispensable patching to keep them in working order. The whole structure, as has been repeatedly reported, is in a very unsatisfactory condition, constructed at first on a very primitive system and finished in the roughest style. Heated by flues, which have never wrought well, the smoke and gases frequently escape in the houses to such an extent that it is difficult throughout the firing season to keep the plants in anything like a healthy condition.

Our stock of plants consists principally of the soft-wooded or herbaceous sorts—in fact the houses in their present state are quite unfit to grow the more valuable class of hardwooded plants, and apart from the unsightly appearance the dilapidated buildings present in the position they occupy, they stand in the way of carrying out the adopted plan for this section of the grounds, and I trust now that the old buildings of the farm are being removed something may be done in this matter at an early date, so that the plan of the grounds may be completed throughout.

But notwithstanding the unsatisfactory state and limited space that the houses afford, we were enabled last spring, by the aid of a number of hot-beds, to raise from seeds and cuttings together, from eight to nine thousand bedding and ornamental plants of all sorts, to furnish the flower beds and borders for the summer, which we think both for quantity and variety were quite equal in appearance to what they have been in any former year.

This winter, from a more equitable distribution of the students, we were enabled to resume more systematic instruction during the months when but little can be accomplished to forward the work of the year. This instruction consists of practical lessons on grafting and budding, the various modes explained to and practiced by the students, the propagating, hybridizing, arranging and handling of plants generally, becoming familiar with their names, technical and common, composition and preparation of suitable soils, the potting, drainage, pruning and training, the various systems of heating, the temperature required, watering, moisture, air, light and ventilation necessary, also the construction, regulation and management of hot-beds, with the benefits to be derived from their use—in short, as far as we can, all that pertains to practical horticulture, and I am glad to say that the great majority of the students appreciate our efforts in this direction.

KITCHEN GARDEN.

As for several years past this department has done all that could reasonably be expected of it, the crops with scarcely an exception were abundant and good as far as the average year will permit of. Some of the late and more tender crops—corn, mellons and tomatoes—are rarely secured to the full extent in our locality before the early fall frosts pinch off their share. But all vegetables were plentiful in their season, and as usual, such sorts as can be preserved are stored in sufficient quantity for winter use.

Last spring, in making up our orders for vegetable seeds, we selected an unusual variety of each sort, with the idea of testing experimentally the comparative merits of each, and after the most careful observation throughout the season we have come to the conclusion that either the amateur or professional, by procuring a good descriptive catalogue from a reliable seed firm, of which we have now a good choice, will perhaps gain more information than the experience of a single individual will afford in a life-time, making (of course) full allowance for the many new and untried varieties often unduly puffed up by the originators, and frequently result only in the disappointment, and at the cost of the more hopeful and credulous.

The following fruits and vegetables were supplied to the College during the year :

January.

| | | | |
|--|----|----|---------|
| Carrots, $1\frac{3}{4}$ bush. at 25cts..... | \$ | 43 | |
| Parsnips, $1\frac{1}{2}$ bush. at 40cts..... | | 60 | |
| Turnips, $2\frac{1}{4}$ bush. at 20cts..... | | 45 | |
| Onions, $3\frac{3}{4}$ bush. at \$1 00..... | 3 | 75 | |
| Celery, 18 doz. at 75cts..... | 13 | 50 | |
| Peppers, 2 doz. at 20cts..... | | 40 | |
| Cabbages, 3 doz. at 70cts..... | 2 | 10 | |
| Herbs, etc..... | | 10 | |
| | | | \$21 33 |

February.

| | | | |
|--|-----|------|-------|
| Turnips, $5\frac{1}{2}$ bush. at 20cts..... | \$1 | 10 | |
| Carrots, 4 bush. at 25cts..... | | 1 00 | |
| Onions, $6\frac{1}{4}$ bush. at \$1.00..... | 6 | 25 | |
| Parsnips, $4\frac{1}{2}$ bush. at 40cts..... | 1 | 80 | |
| Beets, 1 bush. at 30cts..... | | 30 | |
| Vegt. Marrow, 2 doz. at 60cts..... | 1 | 20 | |
| Cabbages, 4 doz. at 70cts..... | 2 | 80 | |
| Celery, 1 doz. at 75cts..... | | 75 | |
| Herbs, etc..... | | 30 | |
| | | | 15 50 |

March.

| | | | |
|--|-----|------|-------|
| Carrots, $7\frac{1}{2}$ bush. at 25cts..... | \$1 | 87 | |
| Turnips, $11\frac{1}{2}$ bush. at 20cts..... | | 2 30 | |
| Parsnips, $7\frac{1}{2}$ bush. at 45cts..... | 3 | 37 | |
| Beets, 1 bush. at 30cts..... | | 30 | |
| Onions, 8 bush. at \$1.00..... | 8 | 00 | |
| Cabbages, $4\frac{1}{2}$ doz. at 70cts..... | 3 | 15 | |
| Sundries..... | | 25 | |
| | | | 19 24 |

April.

| | | | |
|--|----|----|-------|
| Carrots, 3 bush. at 25cts..... | \$ | 75 | |
| Onions, 8 bush. at \$1.00..... | 8 | 00 | |
| Parsnips, $8\frac{1}{4}$ bush. at 45cts..... | 3 | 71 | |
| Turnips, $8\frac{1}{4}$ bush. at 20cts..... | 1 | 65 | |
| Beets, 7 bush. at 30 cts..... | | 30 | |
| Cabbages, $5\frac{1}{2}$ doz. at 70 cts..... | 3 | 85 | |
| Herbs, etc..... | | 25 | |
| Sundries..... | | 15 | |
| | | | 18 66 |

May.

| | |
|--------------------------------------|---------|
| Parsnips, 11½ bush. at 45 cts..... | \$ 5 17 |
| Onions, 3 bush. at \$1.00..... | 3 00 |
| Salsify, 1¼ bush. at 75 cts..... | 94 |
| Turnips, 6 bush. at 20 cts..... | 1 20 |
| Rhubarb, 21½ bush. at 70 cts..... | 15 05 |
| Beets, 1 bush. at 30 cts..... | 30 |
| Lettuce, 7¼ bush. at 70 cts..... | 5 07 |
| Cabbages, 3 doz. at 75 cts..... | 2 25 |
| Asparagus, 756 bunches at 4 cts..... | 30 24 |
| Herbs, 8 bunches at 5 cts..... | 40 |
| Sundries..... | 20 |
| | <hr/> |
| | \$63 82 |

June.

| | |
|--------------------------------------|---------|
| Rhubarb, 19 bush. at 60 cts..... | \$11 40 |
| Onions, 2 bush. at \$1.00..... | 2 00 |
| Lettuce, 8¼ bush. at 50 cts..... | 4 12 |
| Spinach, 17½ bush. at 50 cts..... | 8 75 |
| Peas, 2¼ bush. at \$1.00..... | 2 25 |
| Asparagus, 879 bunches at 4 cts..... | 35 16 |
| Gooseberries, 96 qts. at 7 cts..... | 6 72 |
| Herbs, etc..... | 45 |
| | <hr/> |
| | 70 85 |

July.

| | |
|---|--------|
| Peas, 10½ bush. at 90 cts..... | \$9 45 |
| Onions, 2 bush. at \$1.00..... | 2 00 |
| Lettuce, 3¼ bush. at 40 cts..... | 1 30 |
| Beets, 1¾ bush. at 80 cts..... | 1 40 |
| Carrots, 3¾ bush. at 60 cts..... | 2 25 |
| Spinach, 1½ bush. at 40 cts..... | 60 |
| Potatoes, 4¼ bush. at \$1.25..... | 5 31 |
| Beans, 1½ bush. at \$1.00..... | 1 50 |
| Apples, ¾ bush. at 80 cts..... | 60 |
| Gooseberries, 32 qts. at 7 cts..... | 2 24 |
| Currants, red and white, 196 qts. at 8 cts..... | 15 68 |
| Currants, black, 45 qts. at 10 cts..... | 4 50 |
| Raspberries, 624 boxes at 6 cts..... | 37 56 |
| Asparagus, 110 bunches at 4 cts..... | 4 40 |
| Herbs, etc..... | 30 |
| | <hr/> |
| | 89 09 |

August.

| | |
|--|---------|
| Apples, 15 bush. at 70 cts..... | \$10 50 |
| Potatoes, 22 bush. at 75 cts..... | 16 50 |
| Rhubarb, 3 bush. at 65 cts..... | 1 95 |
| Beans, 4 bush. at \$1.00..... | 4 00 |
| Onions, 1½ bush. at \$1.00..... | 1 50 |
| Beets, ¾ bush. at 25 cts..... | 19 |
| Carrots, ¼ bush. at 20 cts..... | 5 |
| Cucumbers, pickling, 5½ bush. at \$1.50..... | 8 25 |
| Peas, 3 bush. at 90 cts..... | 2 70 |
| Tomatoes, 1 bush. at \$1.25..... | 1 25 |
| Plums, 24 qts. at 10 cts..... | 2 40 |
| Currants, red, 4 qts. at 8 cts..... | 32 |

| | | |
|---|----|---------|
| Currants, black, 9 qts. at 10 cts | \$ | 90 |
| Vegetable Marrow, 20 at 5 cts..... | | 1 00 |
| Cabbages, 2 doz. at 60 cts..... | | 1 20 |
| Cauliflower, 5 doz. at 75 cts..... | | 3 75 |
| Corn, 60 doz. at 8 cts..... | | 4 80 |
| Raspberries, 183 boxes at 7 cts..... | | 12 81 |
| Sundries..... | | 35 |
| | | <hr/> |
| | | \$74 42 |

September.

| | | |
|--|----|-------|
| Potatoes, 22 bush. at 60 cts | \$ | 13 20 |
| Tomatoes, 11 bush. at 80 cts | | 8 80 |
| Crab Apples, 2 bush. at \$1.50 | | 3 00 |
| Onions, $\frac{1}{2}$ bush. at \$1 | | 50 |
| Apples, $\frac{2}{2}$ bush. at 50 cts..... | | 1 00 |
| Pears, 2 bush. at \$1.75 | | 3 50 |
| Carrots, $\frac{1}{4}$ bush. at 25 cts | | 7 |
| Cabbages, 2 doz. at 60 cts | | 1 20 |
| Cauliflower, 20 $\frac{3}{4}$ doz. at 70 cts | | 14 52 |
| Corn, 23 doz. at 8 cts | | 1 84 |
| Cucumbers $\frac{1}{2}$ doz. at 20 cts..... | | 10 |
| Plums, 200 qts. at 8 cts | | 16 00 |
| Grapes, 304 lbs. at 3 cts..... | | 9 12 |
| Vegetable Marrow, 3 at 5 cts | | 15 |
| Herbs, etc..... | | 20 |
| | | <hr/> |
| | | 73 20 |

October.

| | | |
|---|----|--------|
| Tomatoes, 3 bush. at 60 cts | \$ | 1 80 |
| “ green, 4 bush. at 40 cts..... | | 1 60 |
| Beets, 1 $\frac{1}{2}$ bush. at 30 cts..... | | 45 |
| Apples, Snow, 24 bush. at 80 cts | | 19 20 |
| “ Baldwins 8 bush. at 70 cts | | 5 60 |
| “ Northern Spy, 40 bush. at 65 cts | | 25 00 |
| “ Mixed, 34 bush. at 50 cts | | 17 00 |
| Carrots, 4 bush. at 25 cts | | 1 00 |
| Onions, 4 $\frac{1}{4}$ bush. at \$1.25..... | | 5 31 |
| Turnips, 3 $\frac{1}{4}$ bush. at 15 cts..... | | 49 |
| Parsnips, 2 $\frac{3}{4}$ bush. at 40 cts | | 1 10 |
| Citrons, 5 doz, at 70 cts..... | | 3 50 |
| Vegetable Marrow, 18 doz. at 60 cts..... | | 10 80 |
| Cauliflower, 7 doz. at 60 cts | | 4 20 |
| Cabbages, 4 $\frac{1}{2}$ doz. at 50 cts | | 2 25 |
| Celery, 17 doz. at 70 cts | | 11 90 |
| Peppers, 1 doz. at 15 cts..... | | 15 |
| Grapes, 464 lbs. at 3 cts..... | | 13 92 |
| Sundries | | 40 |
| | | <hr/> |
| | | 125 67 |

November.

| | | |
|---|----|------|
| Onions, 5 bush. at \$1.50 | \$ | 7 50 |
| Carrots, 6 $\frac{1}{4}$ bush. at 25 cts..... | | 1 56 |
| Turnips, 2 bush. at 15 cts..... | | 30 |
| Parsnips, 2 bush. at 40 cts | | 80 |
| Salsify, 6 bush. at 75 cts..... | | 4 50 |
| Artichokes, 3 bush. at 70 cts | | 2 10 |
| Beets, $\frac{1}{2}$ bush. at 30 cts | | 15 |

| | | |
|--------------------------------------|---------|---------|
| Celery, 28 doz. at 70 cts | \$19 60 | |
| Cabbages, 3 doz. at 60 cts | 1 80 | |
| “ red, 100 6 cts. | 6 00 | |
| Herbs, 7 bunches at 5 cts | 35 | |
| Sundries | 40 | |
| | | \$45 06 |

To December the 15th.

| | | |
|---|--------|----------|
| Artichokes, 3 bush. at 70 cts | \$2 10 | |
| Salsify, 2 bush. at 75 cts. | 1 50 | |
| Celery, 16 doz. at 70 cts | 11 20 | |
| Cabbages, 1 doz. at 60 cts | 60 | |
| Onions, 2 $\frac{1}{4}$ bush. at \$1.50 | 3 37 | |
| Carrots, 2 bush. at 25 cts | 50 | |
| Parsnips, 1 bush. at 40 cts | 40 | |
| Turnips, 1 bush. at 15 cts | 15 | |
| Sundries | 30 | |
| | | 20 12 |
| | | \$636 96 |
| Supplied to Prof. Brown at above rates | 87 05 | |
| Sold and Cash paid to Bursar | 146 62 | |
| Turnips delivered to Farm, 1,100 bush. at 6 cts | 66 00 | |
| | | \$936 63 |
| Total | | |

Inventory—Stock and Implements on hand as per list in
Office \$1,831 25

Your obedient servant,

JAS. FORSYTH.

PART VIII.

REPORT OF

THE PROFESSOR OF DAIRYING.

GUELPH, 1st February, 1887.

To the Honourable A. M. Ross,

Commissioner of Agriculture.

DEAR SIR,—I have the honour to submit a brief report of work done in connection with the Dairy Department during 1886.

My duties commenced on 1st April. The time consumed attending conventions and general farmers' meetings in the interests of the dairy industry of the Province, left less time for purely college work and experimental investigation than these matters would otherwise have received.

My trip to England, in charge of Ontario's contribution of butter and cheese, to the Colonial and Indian Exhibition—which mission you were good enough to entrust to me—occupied, with its associated duties, quite three and a-half months of the remainder of the year.

The work done outside, in our own Province, as well as that attended to while abroad, was doubtless valuable to the dairy interests of the country, though the results will not be found tabulated in this statement. For the sake of clearness, as well as for service to those seeking information from this report, it is framed into seven parts.

- I. Creamery Management.
 - II. Dairy Investigations.
 - III. College Lectures.
 - IV. Outside Instruction and Experiment.
 - V. Cheese and Butter from Ontario at the Colonial and Indian Exhibition.
 - VI. The Farming and Dairy System of Denmark.
 - VII. General Remarks and Conclusions.
-

I. CREAMERY MANAGEMENT.

Three objects were sought to be attained in all that was done in connection with, at and for the Ontario Creamery and its patrons. I judge the same three-fold purpose to have been the essence of the Government's intention in the erection, equipment and operation of a creamery near the Agricultural College.

(a) The Government Creamery should have educational value and be of service in that sense to the whole farming community of the Province. The farmers in districts where none have yet been built and where cheese factories are not established, may learn from its reports what to expect in the way of returns from the creamery business, if introduced into their neighbourhood. Its working has been illustrative of the comparative suitability of the two systems of operation—cream gathering, or milk collecting—to different localities.

A study of the matter to follow will yield some reliable information on the details of methods best suited for the profitable handling of milk, cream and butter in the stages of the process of preparation for the market.

Enterprising farmers in backward sections may be encouraged by the measure of its success, in a neighbourhood where dairying had been neglected for the supposedly more remunerative branches of stock-raising and cattle feeding. The success on its own merits of a creamery near Guelph, is evidence that no district in Ontario which has not already a cheese factory can afford to be without the one or the other.

(b) The creamery has been made a school for practical dairy instruction to students. Butter-makers from other creameries may visit it; and all its acquired information is available for the trade.

(c) The Government Creamery affords its patrons no special benefit beyond what may be realized from any joint stock or private concern in any part of Ontario. Those who furnish cream are paid for it, at the price realized from sales of the butter manufactured, after all expenses for cream-gathering, management and labour and furnishings, tubs, fuel, ice, etc., etc., have been deducted. These expenses are kept as low as possible and close economy is practiced in all outlays. Notwithstanding that, the rate of expenses per lb. of butter is very high. The cost of cream-gathering depends so much upon the distance to be travelled for the quantity collected, that the number of patrons and cows within a given area largely determine the rate per lb. For the ground covered, the number of patrons and the quantity of cream supplied were unexpectedly and unnecessarily small. This rate of expense is correspondingly high. Such a difficulty will hardly be experienced another year.

The small number of cows kept by each patron and unfavourably dry weather lessened the supply rapidly after July, while the cost for gathering remained at a fixed sum per day.

At a public meeting of the patrons, held before the creamery opened for the season, an advisory committee of five gentlemen from their number was appointed. This committee has been helpful in the satisfactory conducting of the business. Its members have been consulted as to times for selling and prices at which to sell the butter. The committee has by its judicious advice made the task of running the creamery on a sound business basis, much easier of accomplishment. People look for so much more from any Government institution than from a private business concern.

The agreement with the patrons was to the effect that they were each to receive after the end of each month a cash advance on cream supplied at the following rates:—

For May—14c. per lb. of butter yielded.

“ June—14c. “ “

“ July—14c. “ “

“ August—14c. “ “

“ September } 15c. “ “
and October }

After paying these prices and providing out of the receipts from sales of butter for all expenses, including \$325.00 to the Government for the management and the partial

use of one horse, there is a balance on hand of \$601.18, which is still due, and will be distributed to the patrons.

SUMMARY.

| <i>Receipts.</i> | <i>Expenditures.</i> |
|---|---|
| Total value of butter. | Total cash to patrons for cream. \$7,274.97 |
| Total sales of buttermilk and profit from feeding buttermilk | Cream-gatherers 1,235.16 |
| | Management and labour 750.46 |
| | Furnishings, Marine Insurance and Incidentals 783.57 |
| | Balance due patrons 601.18 |
| \$10,322.71 | \$10,645.34 |
| | \$10,645.34 |
| Butter manufactured | 50,281 lbs. |
| Number of gauges of cream received, (4 gauges to each inch ; diameter of the can used $8\frac{1}{2}$ inches) | 413.210 |
| Number of gauges of cream per lb. of butter | 8.21 |
| Average price per lb. of butter | 20.53 cents. |
| Number of patrons | 152 |
| Number of days in operation | 118 |
| Seven routes were taken up. Average distance for each round trip, about | 22 miles. |
| Cost of gathering cream | 2.45 per lb. of Butter |
| Cost of management and labour | 1.49 “ |
| Cost of furnishings, etc | 1.56 “ |
| Total cost for expenses | 5.50 “ |
| Receipts from buttermilk account | .64 “ |
| Net cost for manufacturing | 4.86 “ |

I offer a few explanatory remarks on these facts.

The plan followed was that of collecting the cream only. The plain shot gun can, with side glass and measuring gauge divided into quarter inch markings, was used. The cream was gathered only every second day. The quantity of cream was reckoned by the gauges shown before the skimming was commenced.

Every other day's skimming was performed by the patrons, to permit them the use of the skim-milk every day for feeding calves. The average quality of the season's cream was below the standard for butter production. That was mainly due to the too early skimming of the cream.

A commencement was made to test the comparative value of each patron's cream. Samples were regularly and systematically collected by the cream gatherers. These samples were examined by the usual oscillating test-churn ; but as all the samples were in various conditions of ripeness, with widely different degrees of acidity, the results were not accurate nor exactly reliable. So impractical, in our case, were the results considered, as a basis for adoption as the paying standard, that they were abandoned after the end of July. There is a very great difference between the fat qualities of some samples of cream. Cream itself bears no unvarying ratio to the quantity of milk from which it is taken. It may be defined as merely a portion of the milk into which the fat globules have been gathered in a comparatively large per cent. Sometimes seven-eighths of the whole butter-fat contained in the milk may be collected into a cream not measuring by bulk more than one-twelfth of the whole volume of the milk, while one-third of the bulk of the same milk might be separated as cream, and then contain exactly seven-eighths of the whole butter-fat of the milk. We are behind, in not having in use an efficient, easily-practicable,

accurate and reliable method of testing cream. Some attention has been paid to the lactoscope. It is valuable in examining sweet creams, but is altogether unsuited to the testing of cream even slightly sour. It is thus ruled out of everyday use in creameries collecting cream every second day. The ether-test has been found expensive and wanting when measured by the needs of the ordinary, or extraordinary, butter-maker. The centrifugal test is unworkable with sour cream.

The oil test churn is apparently the best apparatus so far invented for the purpose. Every creamery should have some method of making such tests; and payments for cream should invariably be made according to *quality* and quantity. The Ontario Creamery can seek no credit for taking the lead in this matter. For the coming summer I hope to see an oil-test churn in steady and satisfactory use.

The butter market has shared in the depression of prices for all farm products. The price realized—rather more than 20½ cents per lb.—may be considered rather under than over what might be reasonably expected as the average for the next 5 or 10 years. The butter was sold at four times during the season, as soon as sufficient for economical export shipment was made.

By reason of the unfavourable conditions already mentioned—dry weather, etc.—the advisory committee recommended that the creamery be closed after the end of September; hence the short season—118 days—of operation.

The causes for the to-be-regretted high rates per lb. for cream gathering, etc., have already been discussed.

The receipts from butter-milk account were largely from sales for delivery in Guelph city, for house and bakers' use.

The butter was salted during May, June and part of July, at the rate of 1 oz. of salt per lb of butter. During the remainder of the season, ¾ oz. per lb was used.

A series of tests with different brands of salt—English and Canadian—was undertaken. These will be described under the head of Dairy Investigations.

The butter was packed for the most part in tin-lined tubs. This was done in compliance with the request of the customer in Scotland who purchased the bulk of our make. Satisfactory reports were received from the buyer.

Our butter-maker, Mr. McHardy, is to be commended for his skill and care in the making of the butter, as well as for the interest taken in giving the students practical instruction in the creamery.

The cold storage-room is not large enough. Advantage was taken of the College cellars for storing part of the butter.

The lower the temperature of the room in which butter is kept—if that be above freezing point—the better will the butter keep while there, and the better will it keep when brought into the warmer temperature of the English warehouses. The same conclusion is applicable to its treatment for shipment and during transit. Therefore, every creamery should have, as part of its buildings, sufficient and suitable cold-storage for its make of butter. College or other convenient cellars are not adjacent to nor available by most creameries.

Before comparing the returns to the average farmer's from the cream supplied to a creamery, with those realised from home butter-making, let me point out a leak entailing serious loss upon those supplying cream who do not make adequate provision for the proper care of their milk for cream separation.

During the month of August, I visited the farms of a large number of the patrons, and by measurement and calculation learned that on the average, 33 lbs. of milk were taken to yield enough cream to make 1 lb. of butter. During the same period by the ordinary 12 and 24 hour setting in ice water, 28 lbs. of milk yielded sufficient cream to make 1 lb. of butter. Had the same milk been used with the centrifugal separator, 26 lbs. of milk would have given as much cream as would have given 1 lb. of butter.

From these figures it follows that by the ordinary and very insufficient care given to the setting and cold-keeping of their milk by patrons, the butter yield was 3.03 lbs. butter per 100 lbs. milk.

By ordinary setting in ice water the yield was 3.57 lbs. butter per 100 lbs. milk.

By use of centrifugal separator, 3.85 lbs. butter per 100 lbs. milk.

From these facts it will be seen that the increased yield of butter from a given quantity of milk, set in ice water, is 17.8 per cent. on the quantity realized by ordinary practice. The increase by the use of the centrifugal separator over ordinary practice would be 27 per cent. The increase by use of centrifugal separator over setting in ice water would be 7.8 per cent. Hence, where cream only is supplied to a creamery, every patron should provide for use a liberal supply of ice.

The larger returns in butter from the centrifugal separators point to an advantage from their use where the increased cost of drawing the whole milk and returning to the farms the skim-milk would not more than equal the value of the increase of butter realised.

As this is a live question for those interested in the starting of new creameries, I state four points for consideration in connection with the facts of circumstance in every locality.

- (1) Proportion of cream separation that may be effected.
- (2) Effect of the process on the quality and condition of the cream.
- (3) Effect of the process on the quality of the skim-milk.
- (4) Costs.

In connection with (1) the above stated ratio of separation may be taken as reliable.

(2) Where cream has to be carried a number of miles during hot weather its condition and quality are not as good for butter-making as where the separation is effected at the creamery.

(3) For profitable calf feeding the skim-milk must be sweet. Both processes, when well managed leave it at the farm in that condition.

(4) Under the head of "Costs" are to be compared; cost of machines and pails; cost of maintenance; expense of operation against increased cost for collecting milk over cream; saving in expense and labour in setting and caring for the milk at the farm.

The foregoing information should enable those interested to intelligently decide for themselves which plan to adopt. This general guiding conclusion may be added, where a small quantity of milk is available, and then only by collecting from long distances; the setting plan would be more economical; but where a large supply of milk may be obtained within a small area, the centrifugal plan will be most profitable.

In pointing out the advantage to the farmers of the creamery system of butter-making over the plan of home butter-making, I have little to say about the character and reputation of the average Canadian dairy butter. As many farmers' wives aver—and of course the farmers peacefully agree—it may be just as good or better than creamery butter when it leaves the churn, but the awkward and unfortunate fact still remains, that whereas the average price of creamery butter in Ontario during '86 would be about 20 cents per lb., the average price for dairy butter, made during the same months, was only 13 cents per lb.

In each neighbourhood of, say, ten miles square, over 300 farmers might as well be supporting a creamery at some central point, or two creameries at convenient centres, with the milk of 1,800 cows. If each cow yielded, during the summer, enough milk to make only 100 lbs. of butter (and with proper feeding and care during winter, spring, summer and fall, they would give at least 150 lbs.), the product from these 1,800 cows would bring just \$12,600 of *more money* into the neighbourhood through the creamery, than by the ordinary home methods of making and marketing. Every farmer would get his own share of the increased returns and his family would be spared the taxing work of butter-making during the hot summer months. Then the extra attention paid to dairying would result in the cows being better and more economically fed; more milk would be produced at less cost; the coarse grains would be mostly consumed on the farms; increased fertility of the fields would follow; the better condition of the skim-milk would make possible the rearing of more stock with more profit. How that may

best be done will be discussed under heads II. and VI. of this report. The destiny of profitable farming in Ontario will be found along the line of careful, economical and progressive dairying, and the sooner Canadians recognize the fact and shape their plans and course accordingly, the sooner will there be no occasion for complaint of "hard times."

II. DAIRY INVESTIGATIONS.

That the results of enquiry, observation, investigation, experiment and study may have the largest practical value, these should be carried on and out according to a systematic plan. The student in every line of science and practice will occasionally stumble into acquaintance with an unexpected fact, the knowledge of which will be serviceable. But in a field where so many painstaking scientists have ploughed and searched so long and thoroughly as that of dairy science it was not to be expected that one season's working would turn up much absolutely new. The plan laid down for guidance here during 1886 was made for the purpose of making accessible and acceptable to the general farmer such information, as would enable him to put into immediate and profitable practice better methods of managing the cows he already owns, the fields he presently tills for their feed, the milk he handles, the calves he tries to rear and the hogs he feeds on the products of his dairy. One summer's trial would be but a very inadequate experience from which alone to draw conclusions for the guidance of Ontario farmers. Hence I have not hesitated to supplement the information gained this season, by that formerly acquired by years of practice in dairy work, as well as by that available from the investigations of other reliable dairymen before framing any conclusions for publication. Four divisions will be made for the sake of plainness.

- I. The management and feeding of milking cows.
- II. The handling of milk.
- III. The rearing of calves.
- IV. The disposal of the by-products by hog feeding.

THE MANAGEMENT AND FEEDING OF MILKING COWS.

Twelve ordinary cows such as might be obtained from almost any six farms in the Province were purchased. They were bought in the open fair. In passing I cannot suppress the thought that the fair is still too often used as a dumping place on which to weed out the poor milkers merely to have them transplanted to some other farm. Let every dairyman weed out his poor unprofitable milkers by fattening for the butcher and not by selling into another herd. The perpetuation of every kind of farm weed is a practice from which, all round, we are happily becoming free. In selecting a cow for milking purposes, a careful observation of certain "points" will guide the buyer in making a good choice. Where a reliable record of the animal's past performance may be examined, it is of unquestionable use in estimating her milk-producing value. Descent from stock with creditable records is of much worth. But so much depends upon the individuality of the animal that the values just mentioned can best be rated in conjunction with their apparent evidences in her body.

When buying cows on a fair ground the animals have to be taken for what they are worth by appearance. There are some general characteristics peculiar to all animals of individual merit in all the milking breeds; a course, rough bullish appearance is *not* one of these. Size is a matter of secondary consequence. Temperament is a matter of prime importance. Cattle as well as horses may be classified in temperament as nervous or lymphatic.

The "nervous" in the cow is indicative of good milking power; in the horse it is associated with speed and action. The "lymphatic" in the cow means a tendency to lay on beef; in the horse it stays with draught and heavy weight.

Milk and butter are essentially the products of nervous force. Hence a good milker should have abundant nerve power. That does not necessarily imply nervousness. Her organs are to be considered merely as so much nervous machinery for the accomplishment of a given end. The purpose of her life is to make the largest possible quantity of the best milk out of the least possible consumption of food. That faculty will generally reveal itself in what are called the "points" of the animal. Specifically these might be described in the following order, which begins with the head and follows around the outline of the animal's body as viewed from the side. The ideal cow should have a broad forehead, a wide poll. The seat of nervous power is in the brain and the room for that organ should be ample. Her eyes should be prominent, bright, and mild looking. All the better is the indication if they stand out so well as to give the face a dish shape—the hollow up and down the face. Such eyes promise nerve power if their owner be well used. A broad muzzle is a good point. Fairly large and open nostrils should be looked for; but a cow with constantly gaping nostrils is a little too expensive to keep. The face should be rather long, lean, and clean cut. An instructive model for comparison is the face of the blood horse. Waxy smooth horns and fine ears usually accompany the delicately yet strongly-strung nervous organization we seek. The head will be small in proportion to the weight of the body and tapering in fine lines. The neck should reveal a strong jointure between the backbone (containing the spinal cord) and the skull. There is a large nervous connection from the spine to the uterus and the udder. A fine tapering neck, with no superfluous flesh, is a desirable point. The top of the shoulder had better be sharp than broad. In a young cow a hollow back is often indicative of weakness. A slightly arched or straight back is preferable. The loin should be wide, flat and thin. The pelvis—the bony frame-work whereby the hind legs are attached to the backbone for locomotion—should be broad, large and somewhat arched. A hollow pelvis is the omen of danger from milk-fever or an early breakdown. The ham will be in-sloping and in-hollowing, leaving lots of udder-room. The shape is merely indicative of the tendency of the animal. The pitch or symmetry of the udder's shape may be ignored except in the case of a "fancy" animal. The surface extent of the udder's attachment to the body is all important. It is generally a measure of the arterial and nervous activity in the milk-secreting glands. Taking a side view of a cow in full milk, the line of connection or the line of absorption will be the direct measure between the upper and lower points of attachment between the udder and the body. The longer that line is the better is that "point." A fleshy udder is not wanted. The milk veins are mostly in size and prominence proportionate to the flow of venous blood from the udder, consequently the larger the better. Good barrel room is required to hold and permit of the proper digestion of abundance of suitable feed. In such a cow the energy of digestion is allied to the energy of milk secretion. The chest should be deep, leaving full play for the heart and lungs,—these vital organs for blood-circulation and purification. Good blood promotes the activity and energy of the nervous system and thus stimulates the secretion of milk. Many other "points" might be mentioned, some of them important, such as a soft, mellow skin, fine silky hair, etc., but enough has been written to help the ordinary farmer in the selection of a good milker. The form of a good milking cow might be briefly described as tending to the wedge-shape from three points of view: as looked at from the front, rather sharp on the top of the shoulder and widening to the chest; as looked at from behind, along the back, broad and wide across the pelvis and narrowing towards the shoulder; as seen from the side, deep from the back to the lower line of the udder and lighter in the forequarters.

When the twelve ordinary cows were bought, as many of these points as possible were sought for in each one. They were, with one exception, in poor condition as to flesh. The eleven had calved within a fortnight prior to the 24th of May. From the 25th May till July 7th, they each received 4 lbs. of wheat bran per day, besides the fair grass of a common pasture field, part of which was still bush. During that period, the average milk yield per day was 34½ lbs. per head. They were milked regularly between the hours of five and six o'clock in the morning and evening, in a stable. They had free

access to pure water and salt. From July 8th to July 20th, each cow received 2 lbs. of bran in the morning and a feed of fresh cut oats and vetches in the evening. By this time the grass had become comparatively bare and dry. The average yield per day during these thirteen days was 28 lbs. per head. These returns were not at all surprisingly large, but taking into account the poor body condition of the cows, they show what may be expected from ordinary Canadian cows when kindly cared for, regularly milked and supplied with the most economic feed. The supplying of bran as a supplementary feed, when the early grass is rank and watery, and when the pastures fail from drought, is a profitable plan for increasing the milk yield. It most satisfactorily takes the place of supplementary green feed, and saves the troublesome and expensive work of handling so much weight. The cost involved in the labour of partial soiling in early summer and autumn is the only objection to undertaking it and recommending its general adoption throughout Ontario.

On July 21st the cows were divided into three groups. No further bran was allowed. Group No. 1 had no feed besides the grass on the pasture field. Groups Nos. 2 and 3 received a feed of green oats and vetches just before milking, morning and evening. The first result apparent was an immediate loss in the weight of milk from group No. 1, equal to 16 per cent., and from groups 2 and 3 of 7 per cent. The feeding was continued in the same way till July 30. The average loss in weight of milk from the average of the previous eight days was—

| | |
|---|----------------------|
| Group No. 1 (no extra green feed) | 16.6 per cent. loss. |
| Group Nos. 2 and 3 (extra green feed)..... | 12.2 “ “ |

From July 31 to August 7, groups Nos. 1 and 3 received a supply of the same formerly mentioned kind of green feed, while the cows of group 2 had only pasture with the others.

| |
|--|
| Group No. 1 showed an immediate gain of 9.7 per cent. by weight. |
| “ “ 2 no appreciable change “ |
| “ “ 3 “ “ “ |

On the period of eight days,

| |
|--|
| Group No. 1 showed an average gain of 9.3 per cent. by weight. |
| “ “ 2 no appreciable change “ |
| “ “ 3 “ “ “ |

From August 8th to August 15, groups Nos. 2 and 3 received a supply of the same kind of supplementary green feed, while the cows of group No. 1 had only pasture with the others.

| |
|---|
| Group No. 1 showed an immediate loss of 14.3 per cent. by weight. |
| “ “ 2 “ “ gain of 14. “ “ |
| “ “ 3 “ no apparent change. |

On the period of eight days,

| |
|--|
| Group No. 1 showed an average loss of 3 per cent. by weight. |
| “ “ 2 “ “ gain of 4.4 “ “ |
| “ “ 3 “ no appreciable difference “ |

After August 16th, all the cows were fed green corn stalks twice per day.

The conclusion has been drawn from other data, and with it the foregoing figures agree that a frequent change of feed during summer, even a change of pasture fields, will largely increase the flow of milk.

The extra yield of milk, from feeding supplementary green feed, will largely pay for the extra cost at the time, but the keeping of the herd up to a full flow while the pastures are bare, will enable them to give a much larger yield when feed is abundant on the stubble fields and aftermath.

The changes of feed had some uniform influence on the quality of the milk for butter-making. There was no perceptible difference in the milk to the taste or smell. The milk (from each group) was accurately weighed, set in deep setting pails, in ice water, at an average temperature of 86° Fahr. It was cooled to an average temperature of 40° Fahr. The skimming was performed after the lapse of about twenty-two hours. The cream was ripened and soured in the usual way, and after each churning the weight of salted butter (1 oz. salt per lb. of butter) was recorded. Over thirty analyses were made, and the following table shows the differences attributable to the use or absence of supplementary green feed :

| | Lbs. of milk per lb. of Butter. | Lbs. of milk per inch of cream in a can 8½ in. diam. | Lbs. of butter per 100 lbs. milk. | Per cent. of fat in Skim milk. | Per cent. of fat in Buttermilk. | Per cent. of other solids in Skim milk. | Per cent. of other solids in Butter-milk. |
|--|---------------------------------|--|-----------------------------------|--------------------------------|---------------------------------|---|---|
| Average results from milk when no supplementary green feed was supplied. | 26.34 | 12.79 | 3.82 | .514 | .996 | 8.91 | 7.14 |
| Average results from milk from same cows, during same total period, when green feed was supplied as before described.. | 25.47 | 12.61 | 3.95 | .506 | .748 | 8.84 | 7.75 |

It will be seen that while there is hardly any chemical difference in the composition of the whole milk (butter, fat and solids in skim-milk and buttermilk) from the two treatments of cows, there is an appreciable commercial difference in the readiness with which, under similar treatments of milk, the green feed milk yields its fat to the butter-maker. The supposition that when cows were given an extra supply of succulent feed, and gave a larger quantity of milk, that it was therefore poorer in quality as to per cent. of solids, has no foundation in fact. The larger the quantity of milk a cow can be made to give on suitable feed, the more the milk is worth per 100 lbs. When just made the butter from both qualities of milk seemed equally good. It is being kept to note the effect of age on its keeping properties.

For many years it has been recognised by observant and thoughtful dairymen that when milking cows were denied access to salt, the quantity and quality of the milk yield was at once affected. A little investigation, more to define into accuracy the facts known than to bring to light any new ideas, was undertaken with eleven of the cows already mentioned. Until August 15th these cows had access to salt at will in their pasture-fields. Then all salt was removed from places within their reach. Small boxes were procured for attachment to the mangers of the stable in which the cows were tied twice a day for milking. The cows were divided into four groups. Groups 1 and 2 (five cows) received no salt. In the boxes before the six cows of groups 3 and 4 a supply of common barrel salt was placed. No change was made for twelve days. Then salt was placed before the three animals of group No. 1, and still continued the three animals group No. 4. No salt was allowed to groups Nos. 2 and 3. This treatment was continued for a like period. The cows of group No. 4 could take as much salt as they liked twice a day during both periods. In every other respect all the cows received similar treatment. The feed was pasture as before mentioned, supplemented now by a feed of green corn fodder twice a day.

The following are the results from the observations and record : The average immediate loss (taking a period of two days after each change) was 17½ per cent. in the weight of the milk yield when salt was withheld. The average total loss in the weight of milk yield from the eight cows of groups No. 1, 2 and 3, which were insufficiently or irregularly salted, was 14½ per cent. for the whole period. There was no loss in the

weight of the milk yielded from cows of group No. 4, which had access to salt daily during the same period.

It was required that I should leave for England before the experiment was nearly completed. Still, I am safe in drawing the conclusion that the irregular and insufficient salting of cows is a cause which lessens their production of milk. Just *how* the cause brings about the result I do not yet know.

The quality of the milk as to its constituents and condition was examined. Cans of milk from the cows taking salt, and from those from which salt had been withheld, were placed under like conditions. The milk was set as usual for cream. Then after twenty-four hours it was exposed to the ordinary temperature of the room, about 65° Fahr. The milk from the cows not receiving salt was perceptibly sour to the taste and smell 24 hours sooner than that from cows taking salt. Moreover, an easily distinguishable difference in the flavor and "fullness" to the taste in favor of the salt-used samples was at once detected by all to whom the comparison was submitted. The conclusion drawn is, that the irregular or insufficient salting of cows leaves their milk not so easily kept sweet for supplying to cheese factories. The further examination and analysis of the milk was prevented by my absence at the Colonial and Indian Exhibition.

For butter making the observed result may be seen in the following table. The milk was set as formerly at an average of 86° Fahr, and cooled to under 42° Fahr. Both kinds were treated alike as to daily temperature and time set.

| | Lbs. of milk per lb. of butter. | Lbs. of milk per inch of cream in can 8½ in. diam. | Lbs. of butter per 100 lbs. of milk. |
|--|---------------------------------|--|--------------------------------------|
| Average results from milk when cows had access to salt regularly | 29.67 | 14.58 | 3.37 |
| Average results from milk when cows had no access to salt for periods of 12 days | 30.7 | 14.48 | 3.26 |

The cows having a continuous supply of salt consumed on the average one-quarter pound per head per day. The exposure of rock salt to milking cows is evidently not sufficient. The cow's palate may be readily satisfied before she has licked off enough for her systems' needs. The cows from which salt had been withheld for twelve days were too greedy for it when supplied. They each licked enough to make their milk taste salty. The preferable plan, and one which leaves forgetfulness less wasteful, is to have a protected trough or salt-box from which the animals may help themselves as disposed.

An abundant supply of water—and pure water only—should be where milking cows may drink freely twice or three times a day.

Milk is so much the product of nervous operation that any undue excitement, no matter how induced, lessens the milk supply and injures its quality. The kind and gentle treatment of his cows by the sensible dairyman is one source of his profit.

The average yield of the eleven cows that milked during the whole period was 3,264 pounds of milk per head in 117 days, notwithstanding the changeful usage already referred to. Were the present herds of milking cows in Ontario but properly stabled and fed and watered and salted and handled, there would be an immediate increase of not less than 25 per cent. in their milk returns, and that at no extra cost to their owners.

THE HANDLING OF MILK.

The subjoined bulletin was issued early in the season:—

Agricultural College—Bulletin II.

Points for the attention of the patrons of cheese factories and creameries :

The business of dairying when intelligently and carefully followed insures to the farmer a safe and steady income. The Province of Ontario is favored with all the natural

advantage needed for the production of cheese and butter of the finest quality ; and as the permanent success of the dairy industry depends upon the quality of the product, every dairy farmer is or should be interested in its improvement. To help in that direction is the purpose of this bulletin. In producing and supplying milk to cheese factories and creameries the following points require attention in order that the best results may be obtained.

General Rules.

1. Milk from healthy cows only should be used, and not until at least four days after calving.
2. Any harsh treatment that excites the cow lessens the quantity and injures the quality of her yield.
3. Cows should be allowed an abundant supply of wholesome, suitable food, and as much pure water as they will drink.
4. A supply of salt should be placed where cows have access to it *every day*.
5. Cows should not be permitted to drink stagnant, impure water, nor to eat cleanings from horse stables, leeks, turnip tops, or anything that would give the milk an offensive taint.
6. All milk vessels should be thoroughly cleansed ; first being well washed, then scalded with boiling water, and afterwards sufficiently aired to keep them perfectly sweet.
7. Cows should be milked with dry hands, and *only after* the udders have been washed or well brushed.
8. Milking should be done and milk should be kept only where the surrounding air is pure and free from all objectionable and tainting odors. Milking in a foul smelling stable or yard imparts to milk an injurious taint. Sour whey should never be fed, nor should hogs be kept in a milking yard nor near a milk stand.
9. Tin pails only should be used.
10. All milk should be properly strained immediately after milking, and for that purpose a detached strainer is preferable to a strainer-pail.

For Cheese Factories.

11. In preparing milk for delivery to a cheese factory it should, immediately after straining, be *thoroughly aired* by pouring, dipping, or stirring. This treatment is as beneficial for the morning's milk as for the evening's, and is even more necessary when the weather is cool than when it is warm.
12. In warm weather all milk should be *cooled* after it has been aired, but not before.
13. Milk kept over night in small quantities—say in tin pails—will be in better condition than if kept in larger quantity in one vessel.
14. When both messes of milk are conveyed to the factory in one can, the mixing of the morning with the evening's milk should be delayed till the milk-waggon reaches the stand.
15. While the milk is warmer than the surrounding air it should be left uncovered, but when colder it may with advantage be covered.
16. Milk-pails and cans should be protected from the rain, and milk-stands should be constructed to shade the cans from the sun.
17. Only honest milk with its full cream and full share of strippings should be offered ; violation of this requirement leaves the patron liable to a heavy penalty.

For Creameries.

18. In preparing milk for delivery once a day to a creamery where the whole milk is received, the treatment should be similar to that recommended for cheese factories.

19. For creameries receiving cream only, the milk should be well aired but not cooled before setting.

20. Milk should be set for the separation of the cream where no impure air will reach it.

21. Cream rises best with a falling temperature, and the separation of cream from milk is promoted by cooling, after setting, to at least 40°.

For Butter-Making at Farm Dairies.

22. When the cream is used for butter-making at the farm the foregoing treatments and conditions may be observed with profit.

23. Good ventilation for a milk-house, milk-cellar or dairy-room, is most essential, and may be provided for by leading an air-drain underground, for say 200 feet. Through it a supply of pure, fresh, cool air may be admitted. The foul or warm air may be allowed to escape through ventilators or windows in or near the ceiling.

24. Cream should invariably be removed from the milk before the milk is sour.

25. The cream for each churning should be gathered into and kept in one vessel.

26. The whole of the cream should be well stirred every time fresh cream is added.

27. In summer cream should not be left longer than three days before churning.

28. The best churning temperatures are between 57° and 60° during the summer, and between 60° and 64° during the winter.

29. Butter can be more thoroughly washed free from butter-milk while in the granular condition than after it is gathered or pressed into a roll.

30. Only the best pure salt of medium and uniform fineness of grain should be used, and from three-quarters to one ounce of salt per pound of butter will be found satisfactory for the summer.

31. The utmost cleanliness in milking, in vessels, in utensils, and in all surroundings must be observed to preserve the flavor and body of milk, cream, butter and cheese from contamination.

A Dairy Class.

A desire has been expressed for the formation of a Dairy Class, to be trained in butter-making at the Ontario Creamery during the forenoons, and to receive general instructions in dairying in the lecture-room during the afternoon. September would be the most suitable month. Farmers' sons and daughters and others proposing to attend will please address the Dairy Department, O. A. C., Guelph. No fee will be charged. Let applicants write soon.

Enquiries on matters pertaining to the dairy industry of the province, addressed to the undersigned at the Dairy Department, Ontario Agricultural College, Guelph, will receive attention.

JAS. W. ROBERTSON.

Later researches during the summer have but confirmed the correctness of each of the thirty-one points mentioned. To elaborate each paragraph would fill the pages of a large volume. Some examination was made of the temperature conditions most suitable for cream-raising. These have been partly presented and discussed under the head of Creamery Management. It was found that practically as full a separation of cream was effected by setting at any temperature between 85° and 98° Fabr., and then causing the temperature to fall to 40°, as by setting at 98°, and then causing the temperature to fall to the same point.

Samples of cream were churned at six different degrees of ripeness or sourness. The butter-milk was analyzed to discover the comparative effectiveness of the churning operation.

The following table shows the average per cent. of fat left in the butter-milk from cream in different stages of maturity. No. 1 represents the average from creams churned sweet, and No. 6 the average from creams churned quite sour. The degree of ripeness or perceptible acidity was gradual from No. 1 (sweet) onward to No. 6 (sour):—

| No. | Per cent. of fat left in Butter-milk. |
|--------|---------------------------------------|
| 1..... | 5.255 |
| 2..... | 3.101 |
| 3..... | 3.344 |
| 4..... | 2.542 |
| 5..... | 1.019 |
| 6..... | .739 |

These per centages of fat left in the butter-milk prove nothing absolute about the quantity of fat necessarily left in butter-milk.

The effectiveness of the process depends so much upon the construction, the motion, and the speed of the churn. But as the churning treatment in all these cases was similar, the varying percentages of fat left in the butter-milk were solely due to the condition of the cream.

Sour cream will yield its butter, by churning, in less time than sweet cream, other conditions being alike.

Besides the instructive fact, apparent on the face of the table, this may be learned: The mixing of creams of different ages and acidity together, just before churning, makes large loss of the butter-fat in the butter-milk unavoidable.

To points 25, 26, and 27 of the Bulletin, this may be added: The best method of preparing cream for churning is to have the whole cream kept cool and sweet till about twenty-four hours before the churning. Then add to it about two per cent. by bulk of cream that has been raised, exposed to pure air, and afterwards kept as warm as 70° Fahr., to promote souring. The best kind of fermentation, resulting in sourness, is thus induced, and all bitterness in flavour and loss of fat are avoided.

A series of tests, to throw light upon the comparative values of the Canadian and English brands of dairy salt in butter-making, was undertaken.

Some forty-five tubs, salted from 1 oz. per pound to $\frac{1}{2}$ oz. per pound, are still on hand.

The matter of salting butter and the salt interests involved, are so important that this Department looks for the assistance of a committee of experts from the Creamery Association of Ontario, in judging of the present qualities of the butter, after having been kept for five months. A bulletin will be issued, stating the conclusions reached after such judging has been completed. Meanwhile a general standard, whereby to select a salt for butter-making, may be presented:

1st. The salt should be pure and clean.

2nd. It should be easily dissolved and not hard in the crystal from roasting.

3rd. It should be of medium fineness, and nearly uniform in the quality and size of its grains. If it be pure in composition, a salt with a velvety body to the touch is well suited for use in butter.

The addition of coarse, hard salt to butter not only injures its grain in the working, but remaining undissolved, is easily recognized by the *touch* of the butter trier, or tongue, as well as the *taste*. When such is the case the value is very much lessened, especially in the British market.

THE REARING OF CALVES.

Eight calves were reared on skim milk and supplementary feed after they were a fortnight old. They were sold for further rearing to a neighbouring farmer. The value

realized for the skim milk was slightly under two and three-quarter cents per gallon. That need not be accepted as applicable to all calf-feeding. According to conditions of stock and market, it may be more or less. This much is assured: fine, thrifty, healthy, and large calves can be reared without whole milk after they are two weeks old.

Following the style of communicating information already adopted in this Report, permit me to gather into a chapter of instruction and advice the knowledge on this subject, gleaned from experience during the past and previous years:—

The “heredity” and “individuality” of the farmer have more to do with the successful raising of profitable milking cows for his dairy, or steers for his stalls, than the “pedigree” of his herd.

Breed and blood are of much service to the stock-raiser. So are a good steam boiler and engine to the grain thresher. What fuel and oil are to the latter, feed and care are to the former. A good thresher with good fuel and skill, will get more efficient work out of a poor boiler and second rate engine than a shiftless, careless engineer will get out of the best machinery.

As a rule there is no profit in trying to raise the late calves. In any case the calves from the best milking cows only should be selected for rearing. The herd bull should have a pedigree linking him to a family distinguished for milking qualities. If a calf with a big body at one, two, three, or six months old be what is wanted, it had better be allowed to suck its dam. But if a calf, leaving a large profit on its rearing at two years old, and a large profit on its milking, or fattening be the object sought for, then it should be reared the other way. Where the calf is allowed to suck the cow, for even a few days, the cow is in a less contented condition of nerve to yield her milk to the hand for some weeks. The restlessness thus caused will tend to the lessening of the milk yield in most cases. The task of teaching the calf to drink is doubly difficult after it has acquired the habit of getting its supply in the natural way. Invariably where a calf has been permitted to run with its mother for ten days, I have found it to go back, or at least fail to gain in condition for a fortnight or more, when a change was made to hand feeding. The checking of its growth and thrift at that early stage in its development, entails more loss of possible profit in after years than a partial winter's starvation when eighteen months old. The organs of digestion, whose function it is to get for the animal all possible good out of its food, for maintenance, growth, beef, milk, or work, can never be injured with impunity. The treatment from the day of birth should be to preserve and, if possible, improve the assimilating power. Milk from the first six milkings of the mother should be fed to her calf three times a day. The first milk, “colostrum” or “beastings,” is of medicinal as well as food value to the young calf. For two weeks the calf will not need nor take much besides the two or three quarts of whole milk of each feed. The milk should be fed as near the blood temperature, 98° Fahr., as practicable. After the lapse of a fortnight a gradual change, during the third week, may be made from whole milk to sweet skim milk. Such a change can be best effected by putting skim milk in gradually increasing quantity with the whole milk till it is wholly substituted for it. The skim milk should always be fed *sweet*. The sourness of milk is evidence that some of the feeding value of its large per cent. of sugar of milk has been lost by the change into acid. Besides, the sourness renders the food unsuited to the stomach of a yet tender calf. Sour feed in such a case favours growth in but two ways. The calf so fed will develop marvellous girth extension. “Pot-bellied” is hardly sufficiently expressive of the chronic enlargement from that cause. Then the growth of hair is effectually and speedily promoted. It becomes so strong in “stalk” that it stands out in daily protestation against that kind of feed. The skim milk should also be fed warm. The blood heat is the best. Where no better convenience exists for the heating of the milk, hot water may be added with advantage. A feed of ice-cold milk, such as comes from the deep setting cans—by the use of which fine dairy butter can be most economically made—will leave the calf uncomfortable. That is but the evidence that indigestion exists. It may easily be made partially permanent by a continuation of such injurious treatment. The power and practice of digesting and appropriating all that is possible out of its feed should be encouraged into a fixed habit, by giving the young animal only suitable feed in the best condition of

preparation. These points about the feeding of skim milk will apply to young pigs as well as calves. A gutty, thriftless hog is the necessary product of a careless and wasteful mode of feeding even excellent skim milk.

To make up for the fat taken out of the milk in the shape of cream, some supplementary feed should be given with the skim milk: Linseed, oil-cake, bran, oats and peas are all good. Bran is frequently mixed with chopped oats and peas, and fed raw in the milk. That practice is most objectionable, and frequently results in the loss of the full value of the grain fed, besides inflicting injury upon the calf by scouring. The better plan is to put the bran and chopped oats and peas, with linseed in a dry state, into a box conveniently placed within reach of the calf. Between the ages of one and three weeks most calves will begin to eat the mixture. The chewing necessary to a comfortable swallowing fits the feed for proper digestion, and prevents all risk of scouring from that cause. The chewing also favours the free flow in the mouth of a good deal of saliva, needed to thoroughly digest the milk gulped down so hurriedly from the feeding pail. Linseed and oil-cake may be boiled, or well scalded, and mixed in a syrupy state with the milk. Such preparation means time and trouble. Equally good results follow from the feeding of both, in the raw and dry state with the mixture of bran and chop. They should first have been ground very fine. The composition of the additional feed should be about equal parts by bulk of bran, oat, and pea chop, with a teacupful of ground linseed to each quart of the mixture. No fixed quantity per head for feeding need be mentioned. It has been found desirable to allow the calves to take as much as they care to eat. Handfuls of the best hay—and all hay for fodder should be cut on the green side—may be offered, and most calves will eat with relish at a month old. As soon as grass can be got it should be given in liberal quantity.

Opinions differ as to the relative advantages of keeping calves in the stable all summer and allowing them the run of a small pasture field. A grass plot with no shade from the sun, and where flies are numerous and diligent, is not the best place for calves. But if the calves be kept in a dark cool stable during the hot days of "fly time," and turned out for the evening and nights, the protection of the soiling system will be coupled with the benefits of exercise and feed outside. Some farmers report very satisfactory results from adding pulped turnips to the forementioned grain mixture from the time the calves are three weeks old. No matter where fed—in the stable or out—each calf should receive only its own allowance of milk. The distension of stomach by overfeeding is very harmful. The old-fashioned implements for the feeding of six calves in the field, being but three buckets and one big stick, had better be exchanged for more sensible and economical conveniences. Outside feeding from a trough is unsatisfactory, as the big and greedy calves get more than their share, while the weaker ones get barely enough. The construction of small stalls for the calves against a fence in the plot will make it easy to give every calf its own share in its own pail, and successfully avoid the respective risks of gorging and starving.

Calves reared in this way will gain in size and strength of constitution all spring and summer and autumn. When the severe weather of late fall and winter comes, it finds these calves accustomed to live mainly on grass and dry chop feed, so that the change to stable and winter conditions of existence is not very trying. The best conditions for profitable growth having been supplied by the intelligence of the owner, the inherited good qualities of the calf will get fair play. But if good qualities of breed inherited from the best of stock be balked at the beginning by unsuitable conditions for growth and thrift, all chance of after profit from milk or fattening is gone. The profits of dairymen are to be largely augmented by proper attention to the early feeding of early calves. Such stock-raising will foster the export trade of fat cattle, and enable farmers more numerously and satisfactorily to patronise either a cheese factory or creamery.

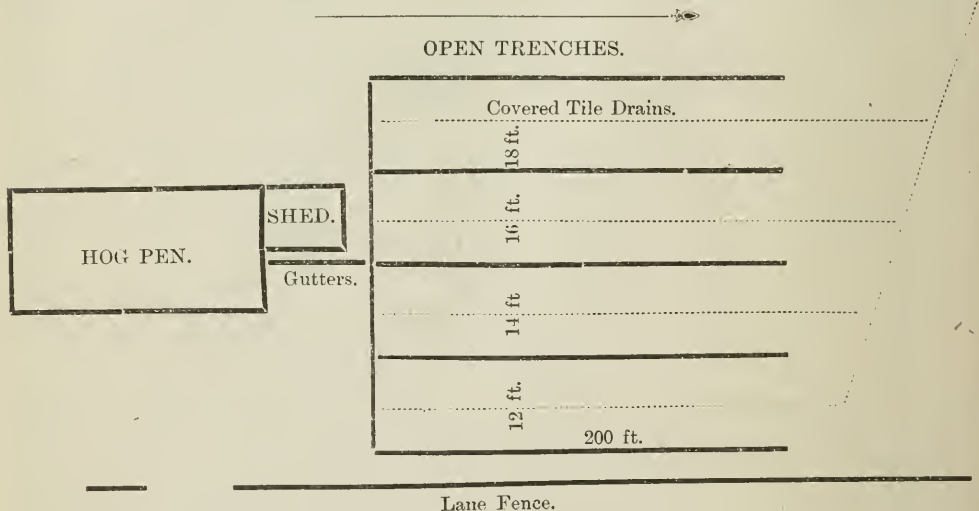
THE DISPOSAL OF BY-PRODUCTS BY HOG FEEDING.

The feeding of a large number of hogs near a cheese-factory or creamery has for some time been recognized as a nuisance to those living in the vicinity; a nuisance to the health of the population, and a source of trouble to the factory operators. All this is so because

at most places no adequate provision has been made for the disposal of the refuse from the pens. A hog-pen was constructed on the Experimental Farm in June, for the purpose of testing the adaptability of a system of draining and filtrating such refuse, rather than to gauge the gallon-value of butter milk or skim milk for pork production. The site for such a building should, if possible, be chosen near a piece of land with a gentle slope. The building was so planned and erected as (1) to most conveniently meet the needs of the hogs, for fattening; (2) to prevent the escape, except by the gutters, of any liquid manure; (3) to be economical in cost.

The inclination of both floors toward the centre of the building permits of the hogs lying on dry floors all the time. This is important for thrift. The cleaning out is easy of accomplishment, and the disagreeable smells are reduced to a minimum. From the gutters the liquid refuse passed into a cross head, open trench about one foot deep. From it were made five lateral trenches running down the slope. A 12 foot distance was placed between the first two, then 14 feet to the next one, 16 feet to the next, and 18 feet to the last. Between these lateral trenches, and running parallel with them were dug four drains 2 feet 6 inches deep. These were laid with 2½ inch tiles and filled up. The liquid refuse was diverted by turns into the trenches and, by a plan combining irrigation and downward filtration, passed off into the tile drains. The method worked well during the past summer. The soil between the trenches was cultivated and sown with rape, as the season was rather advanced before the drain-making was finished. The solid refuse was treated with dry earth in a shed at the end of the pens. Another year's experience may reveal some weakness or defect in the method described, but so far I am led to hope that it will prove effective in abating all objectionable and dangerous smells from cheese factory, creamery, or hog-pen refuse.

A sketch of positions may make the description more fully understood by all interested.



Fifty hogs were fed in the experiment.

III.—COLLEGE LECTURES.

Lectures on Dairying were delivered to the students of both years during the Spring term. Further instruction in practical butter-making was given to some eight students during parts of the Summer term.

A short course of lectures during the Winter term for the special benefit of practical cheese and butter makers would doubtless prove a popular and valuable provision for

those engaged in these increasingly important industries. The enterprising and energetic young men in both of these businesses would carry back into their own districts added knowledge and skill that would effectually tell for the profit of their patrons. A fortnight or three weeks would suffice, and I am confident such an opportunity would be appreciated and taken advantage of by many of our oldest as well as youngest dairymen. Discussions could be encouraged after each lecture, and much valuable information to be thus elicited could not so fully be made available in any other way.

IV.—OUTSIDE INSTRUCTION AND EXPERIMENT.

The suggestion and recommendation in the preceding Part will not be taken to imply an undervaluing of the superior uses of practical instruction and demonstration at the factories during their working season.

By request of the Dairymen's Association of Western Ontario, a number of cheese factories were visited during the summer. The cheese-makers from neighbouring factories were invited to meet at central ones. The best methods of handling the milk, etc., in all stages of the process of manufacture were illustrated in practice, and the scientific reasons for such treatments were explained.

A number of creameries were visited for a like purpose.* Reports credit these visits with beneficial results.

There is need for organized Provincial supervision, including systematic instruction by competent men at the various factories, of the whole cheese factory and creamery systems of Ontario. One man's time is not at all equal to a task at which seven good workers could be fully occupied, with much benefit to the industry and gain to the country.

No experiments in cheese-making were practicable at the creamery. The only milk available was that from the twelve cows mentioned in Part II. To meet the need, the Dairymen's Association of Western Ontario voted a sum of \$300 to purchase milk at a cheese factory for experimental work.

Milk was obtained at the Brussels cheese factory, and a quantity of cheese was made there. Different lines of investigation were followed in connection therewith. A careful test was made to determine the comparative merits of the various brands of Canadian and English salt for cheese-making use. The results on the whole, taking into account the qualities of the cheese at five weeks and five months old, were decidedly in favour of the Canadian salt. A full statement of the experiments and conclusions will be found in the "Report of the Proceedings of the Convention of the Dairymen's Association held at Ingersoll, January, 1887." The cheese, of course, became the property of the Association.

The want of a salt for butter-making, that would meet the needs of the creamery-men all round, both as to quality and price, was recognized. The essential points of quality have already been stated. At my request a sample of salt was prepared for this Department in the following simple way. Brine—practically pure—was evaporated rapidly. The rapid evaporation induced the formation of much thinner flakes of salt-crystals than when a less intense heat was applied. The bulk of salt from these thin crystals was dried by exposure to the air, and not by roasting. It just met the case for butter-making. It was practically pure. It dissolved easily. The grains were fairly uniform in size. It had no sharp-edged, roasted crystals that might have escaped the grinder. It was velvety to the touch. Canadian salt manufacturers are losing a valuable customer while they neglect to meet the wants of the Canadian dairyman with such a salt, put up specially for butter-making.

V.—OUR CHEESE AND BUTTER AT THE COLONIAL EXHIBITION.

The holding of Industrial Exhibitions in the different parts of the world, and their development and extension have been at least contemporaneous with marked progress in the arts and industries therein represented. The stimulus given to trade, from the prospect of the unexpected competition in all branches of commerce, which a largely patronized exhibition always reveals, must have had some influence on that progress. There is the incidental inducement to the visitors to become purchasers, then or afterward, by seeing a varied and novel collection of goods. There follows the enquiry by the private citizens from their merchant suppliers as to where and how certain goods, seen at the Exhibition, can be purchased. Thousands of permanent customers are thus obtained for all classes of goods. Then from visiting such places, the shopkeepers and merchants conclude that they may, with advantage, add some new articles or features to their business in their own towns, all of which means more customers. Besides, there is the best kind of commercial education offered to all contributors by the displays of their competitors.

The aim of those who proposed and promoted this great Colonial and Indian Exhibition in London was to bring together evidences of the resources, products, and manufactures of the several colonies and dependencies for the promotion of the commerce of the Empire. There was no intention of making the Exhibition a competitive one, by giving awards of juries as to the particular merits of any class of exhibits. The only competition that existed was a friendly rivalry between the exhibitors and colonies, as to which of them could bring forward the most conclusive evidences of their national prosperity and commercial wealth and strength. In preparing for the beforementioned object, the Royal Commission, who had charge of the arrangements, secured the use of the South Kensington buildings and grounds adjoining and attached to the Albert Hall. The buildings are quite commodious and extensive, and are very well adapted for such occupation. The beautifully laid-out gardens and playing fountains were additional attractions for visitors.

The time at which the Exhibition was held was, perhaps, the most fitting that could have been chosen. The population of the whole empire, for some time before, had their attention drawn to the possibility of a closer administrative, fiscal and defensive union of its many dependencies. A full recognition by the different colonies and the mother country of each other's resources, manufactures, commerce, customs, and capabilities, would make perhaps the most substantial foundation, or basis, for any such agreement or federation. Indeed, if any such federation should ever be consummated, the credit will be largely due to the success of this Exhibition, and the facilities it afforded the people of all parts of the empire for becoming acquainted with each other in the manner just indicated. The Courts of the Exhibition may be said to have been a series of object lessons, informing the visitors what each colony could and did do, and thus making a succinct history of the agricultural, commercial, and social development of each. Those who examined them with care and thought could not but leave with a higher estimate and more just appreciation of the value to the mother country of both Canada and Australia.

It was expected that the Exhibition would continue for six months—as a matter of fact it lasted six months and ten days. The attendance during the whole of that time was surprisingly large for one of its class. The visitors numbered, in round figures, five and a-half millions, being an average of about 34,000 per day. The largest number attending upon one day was 81,000. It is reasonable to expect that many benefits will accrue to this country from having its products examined by this incessant stream of 34,000 people per day. A valuable stimulus to immigration of the right classes will doubtless result from the impressions left upon so many minds, the effects of which will probably be, with advantage, felt by Ontario for twenty-five years to come.

The Dominion Government having referred the matter of making a worthy display of Dairy Products to the Government of the Provinces, I may be allowed to rehearse the steps taken to make the Exhibition truly creditable and serviceable to all those interested in this increasingly important industry in Ontario. The Presidents of the Dairymen's Association of Eastern and Western Ontario were consulted as to the best mode of procedure.

In accordance with their recommendation, a quantity of fine fall cheese of 1885 make, were purchased and held for shipment to reach London in time for the opening in May. Through some unfortunate failure on the part of the companies employed by the Dominion Government to carry the Exhibition goods through as expeditiously as usual, these cheese did not arrive in time to be used in making an opening display. Some of them were stored in London, to be used later in the season. Further on, mention will be made of the excellent service they rendered.

During the summer of 1886, when it was possible to procure cheese of the summer make, another consultation was held with T. Ballantyne, Esq., M.P.P., representing the Dairymen's Association of Western Ontario; D. M. MacPherson, Esq., Lancaster, attending on behalf of the Dairymen's Association of Eastern Ontario; John Hannah, Esq., President of the Ontario Creamery Association, and the Professor of Dairying from the Ontario Agricultural College. To them was entrusted the task of selecting and collecting contributions from cheese factories and creameries. In the west, the local Dairy Boards of trade were invited to appoint experts to assist in the work. John Podmore, Esq., Ingersoll, and John Robertson, Esq., London, rendered excellent help. The ready response on the part of the dairymen in all the districts of the Province, enabled the committee to obtain such samples as to make the whole exhibit fairly representative of the cheese and butter made both east and west. The Provincial Government had further agreed to advance money to pay for the goods so selected. In this way the exhibit, in every sense, became Provincial, and not sectional or individual. It was recognized that all possible advantage could not be reaped from the Exhibition, unless some person should take charge of the goods upon their arrival in London, who would be competent to compare, contrast, and point out the characteristic excellencies of Ontario's cheese and butter over those from other countries, competing with ours in the British markets. It fell to my lot to try to accomplish that. The fine goods sent forward made the duty light. On the 11th September I sailed for England. The display was well commenced by 1st October. There was decided gain in reaching the Exhibition with a new feature when the other departments were comparatively old and threshed out in the press of the Metropolis and country. The public interest and attendance continued unabated. The Courts were daily thronged by enquiring crowds of sight-seers, who evidently came to be amused, and left largely instructed. The space allotted to Canada in the buildings was scant enough, and not in itself the most desirable. But it became the most attractive by reason of its varied and interesting contents, and their admirable arrangement. Just enough room was got to indicate what Canada could do, had she a full opportunity to do justice to her desire and powers.

By the courtesy and help of Mr. C. C. Chipman, the acting Commissioner for the Canadian Court, on my arrival, space in a prominent place was secured. At the side of the Canadian Agriculture trophy were placed Ontario's pyramids of butter and cheese

The total quantity received was :—

| | | | | |
|-----|----------|----------|----------|-----------------------|
| 618 | Boxes | Canadian | Cheddars | (white and coloured); |
| 300 | Canadian | Truckle | Cheese; | |
| 8 | Monster | Canadian | Cheese; | |
| 299 | Tubs | Canadian | Creamery | Butter; |
| 10 | Firkins | do | do | do |
| 2 | Tierces | do | do | do |
| 480 | 5 lb. | Tins | do | do |

With these, it will be seen, it was possible to make a display even in point of magnitude worthy of the industry. Two pyramid frames with surrounding shelves were erected. The edges of these were decorated with strips of colored paper on cloth, on which were printed instructive facts relating to the exhibition, and inviting visitors to "take home a sample" from "Ontario's display of butter and cheese," etc. Then ornamental cards of varied shapes and colours were attached. These had such information as "Ontario's cheese and butter are all from pure whole milk." "Ontario makes no oleomargarin e, no butterine, no imitations." "Ontario leads the world in cheese making." "Ontario has

752 cheese factories," "Ontario has 40 creameries." "Ask your grocer for Canadian cheese and butter," etc., etc.

It was not thought that the mere display on the shelves would serve our interests as well as might be done by the distribution of samples. Hence your representative considered that some means should be taken to put samples of the best in the mouths of the visitors while they admired the general appearance of the dairy pyramids. Facilities were soon provided at four counters in different parts of the grounds. Samples of cheese to be sold at a penny and twopence each were done up in neatly printed oil paper wrappers. The call for these was very good. In less than five weeks nearly 40,000 samples were so sold, and in many cases the cheese and wrappers were carried back to mechanics' and farmers' homes. The wrappers set forth such information as this :

ASK YOUR GROCER FOR CANADIAN CHEESE.

SAMPLE OF CANADIAN CHEESE

FROM THE

ONTARIO GOVERNMENT'S EXHIBIT

AT THE

COLONIAL AND INDIAN EXHIBITION.

—)o(—

The Province of Ontario, Canada, has now over 750 Cheese Factories in Operation.

*

Canadian Cheese is as fine as English Cheddar Cheese and finer than three-fourths of the English make.

Canadian Cheese sells for 4s. per cwt. above American Cheese.

The average price of farms in Ontario is \$37.00 (£7.12s.) per acre.

The average rent value of farms in the older settlements is from \$2.30 (9/5) per acre to \$3.50 (14/4) per acre per annum.

ONTARIO HAS A SPLENDID CLIMATE FOR DAIRYING.

ASK YOUR GROCER FOR CANADIAN CHEESE.

ASK YOUR GROCER FOR CANADIAN CHEESE.

ASK YOUR GROCER FOR CANADIAN CHEESE.

That means of advertising the lands, etc., of the country will be of service to Canadian farmers for many years to come. It was complained by some from our own Dominion, that

the retailing of samples in this way should have been thought quite beneath the dignity of the Government of the Province of Ontario. I thought then and have continued to think since, that the smallness of the common sense and commercial sense faculty of these croakers was alone responsible for such small talk. No matter how large in the aggregate may be the value of butter and cheese exported by Ontario annually, it must be ultimately distributed in small quantities and consumed by not more than mouthfuls. To give away samples to all who would have taken them, would have involved heavy additional expenditure, while the desired end could be more advantageously attained by selling at a small price than by giving away for nothing. The exhibition throngs talked more about and tasted and tested with more interest and took home with more care what cost them only a penny than what they got free.

Enquiries directed by persons—so tasting our cheese butter—to their grocers brought me from the latter many letters, asking where and how equal qualities could be regularly obtained. Instead of seeking to supply these shop-keepers from the exhibition I referred them to wholesale firms in their own districts accustomed to handling Canadian goods. I judged that such using of already established agencies of trade was preferable to arousing the jealousy, and perhaps the opposition of importing houses by selling direct to grocers. I think he best serves the interests of the industry he represents who encourages and strengthens, as far as possible the already established and legitimate agencies in commerce.

In another part of the ground a further display of butter and cheese was made. The use of a suitable building at one side of the gardens was obtained for the storing of surplus boxes and tubs. There it was convenient to show goods to persons directly interested in the trade, by whom a closer examination and comparison of the different lots was desired than was practicable at the central pyramids.

The subjecting of the different lots of butter to much boring by the "tester," lessened the immediate market value of many of the tubs, but that loss was of little consequence in view of the after advantage to the industry from the high quality of "Canadian creamery" being well known by the trade.

I did not find the re-packing of samples of butter in small tins easily practicable nor prospectively serviceable, and hence very few packages smaller than the five pound tins which had been prepared at the Ontario Agricultural College Creamery were offered on the counters.

Good service was rendered by the cheese of the make of 1885 before mentioned, and sent over in care of Messrs. Ballantyne and Macpherson. Often prominent dairy experts would say that while our Canadian cheese was very fine when comparatively new, it lacked good keeping properties. To such I would sample these cheese over one year old. Among the well known dairy experts to whom I showed these cheese were Mr. H. F. Moore, of Frome, and Prof. Fream, of Downton Agricultural College. The expressed opinion of both was that these old cheese were as fine then as any cheese in the whole exhibit, and so fine that to them the cheese awarded the first prize at Frome Dairy Show would have made but an indifferent second. At Frome is held the largest cheese show in England. Mr. Moore did us the justice and service of writing an article to the London *Times* containing the same statement.

I also sent samples of the cheese of 1885 and '86 and some tubs of butter to the dairy show held at Kilmarnock in Scotland. It is by far the largest dairy show in the United Kingdom. On this occasion there were no less than 645 entries, and in the show and fair not less than 18,000 cheese of British make. The unanimous verdict of experts who carefully examined the Canadian cheese was that there was nothing on exhibition finer than the cheese of 1885 from Ontario, then over twelve months old.

The dairy display received a good deal of attention from the press of London and England, which will not fail to effect some valuable results for dairymen. I quote parts of articles from only three of the many papers containing favourable comment.

The *Canadian Gazette* had the following and a number of other articles :—

ONTARIO DAIRY PRODUCTS IN BRITISH MARKETS.

“It has been left to the closing weeks of the exhibition to witness one of the most practical of Canadian exhibits from a directly commercial point of view. Visitors acquainted with the leading industries of the Dominion must often have been struck, when visiting the Canadian section, with the absence of any adequate representation of the cattle raising and dairying trades of Eastern Canada. This deficiency is now fully made up at least from one Province by the joint action of the Eastern Dairymen's Association of Ontario, the Western Dairymen's Association of the Province, and the Ontario Creamery Association. These three bodies have united, and together sent over 500 boxes of the finest Ontario and Stilton cheeses, contributed by some forty different factories throughout the eastern and western sections of the Province, and about 100 tubs of fancy creamery butter, to be followed by 150 further tubs this week. These goods are now being arranged on the south side of the eastern transept of the central gallery, in the form of two trophies of cheese and butter, and a side display of fancy packages of butter and small Stilton cheeses. The exhibit is in charge of Mr. James W. Robertson, of the Dairy Department of the Ontario Agricultural College, at Guelph, from whom the following information, in regard to the exhibit, was elicited in the course of a conversation with our representative :—

“‘The object of our display is,’ said Mr. Robertson, ‘to introduce our best Canadian cheese to English consumers. Hence a good portion of the cheese will be sold in small quantities to visitors in the course of the exhibition, while the balance may be disposed of direct to retailers here, so as to allow of no mistake as to its being Canadian cheese. We feel very strongly in Ontario the imperative necessity of taking active steps to bring the good quality of our cheeses before the direct notice of the consumers here. We have not had fair play in the past. Formerly—*i.e.*, eight or nine years ago—Canadian cheese was sold here as American, but the Centennial Exhibition so revealed the superiority of the Canadian product, and we have since so steadily kept the lead, that our best Canadian Cheddar is often now, on reaching this market, sold as English Cheddar, while inferior English qualities are often sold as Canadian. Hence a prejudice has not unnaturally arisen against our cheeses, though we hope yet to prove how unwarranted this prejudice is. Then in doing this we hope also to promote emigration. We are earnestly looking for the settlement on our fertile lands in Ontario of the English farmer, who has capital enough to enable him to buy land and have a surplus sufficient to stock it well, and at once enter upon dairying on a profitable scale. Nothing will appeal so much to this class of English agriculturists as the excellence of our product, and seeing that the best Ontario cheese is equal to the purest English Cheddar, and superior to three-fourths of English Cheddar, and is quoted at four shillings per cwt. above the finest United States cheese, we don't anticipate any great difficulty.’

“‘How does the industry stand in Ontario?’

“‘According to the last returns for 1885 we have in the province 752 factories in operation, with an output of nearly seventy-one and one-fourth million pounds, of the value of one and one-fifth million pounds sterling. The increase in the number of factories last year is thus only one, and in the output of four and one-fourth million pounds, though the fall in prices, which affected Ontario less than English dairymen, made the value of the 1885 output less by a quarter of a million sterling than that of 1884. Our present policy is to strengthen in every possible way by co-operation and instruction the hands of each dairyman, and past success gives reason for the expectation that we shall thus be able to keep in the front rank even in the face of keen competition. The great thing we have to fight against here is prejudice. This alone prevents Canadian cheese from selling as high as the fancy makes of English cheese. In this respect the London market seems as yet the most satisfactory, in that it regards our products with less of that unreasoning prejudice so common in many parts. English dealers need not, however, fear that we are

going to overdo the business. We are careful of that, and what development takes place will now tend in the direction of butter rather than cheese production.'

"Ah, yes. Canadian butter might be improved with advantage, might it not?"

"Yes, it might, and will be, for we want to introduce it fairly into this market. It is true that our butter has a bad reputation here, and perhaps deservedly so, but the Canadian Creamery butter is now made in sufficient quantities with us to be exported. We have good samples of this creamery butter in the exhibit, so as to open up a market for it."

"What is the distinction between dairy and creamery butter?"

"Well, dairy butter is just the butter made at a private dairy by farmers and their wives, without either of them being skilled in its manufacture. Creamery butter is the product of the butter factory, where the cream from, perhaps, one hundred dairies is collected and made into the purest butter by those skilled in every improvement. We are thus, you see, adopting with our butter the same factory system that has proved so successful with our cheese. Canadian cheese, when it used to be made at the farmhouses, was a complete failure, so far, at all events, as outside markets were concerned; but since the factory system has been introduced it has been a marked success. We have the prospect of at least twenty-five new creameries being erected in Ontario before next spring—that is, twenty-five butter-making factories. The farmers form joint-stock companies, and erect the factories in many cases for the disposal of their produce. In other cases the factories are built by private capital, and the owner of the creamery charges a commission for the manufacture. It is easy to see the great aid this system is to the best methods of manufacture, and how the market naturally discourages the home production of dairy butter and favors the product of the creameries. The difference is that, where Ontario dairy butter may be worth barely 12 cents per pound, creamery butter will be worth 20 cents per pound. The commission of the creamery owner would be, say about $4\frac{1}{2}$ cents per pound, leaving an advantage of $3\frac{1}{2}$ cents per pound to the farmer who makes use of the creamery rather than attempting home production. We have a creamery at the College at Guelph, and have sent over samples of butter made there. We have also something new here in the way of five pound tin packages for retail sale in the place of fifty pound or one hundred pound firkins. The experiment is, we think, worth a trial, a five pound package being of a convenient size for family use,' etc., etc.

The *Morning Post* wrote as follows:—

"During the past two weeks there has been in the Exhibition at South Kensington a display made by the Canadian Government of the greatest importance to the British farmer. It is that of cheese and butter from Ontario, the whole having been collected from some fifty factories, and brought over to the Exhibition by Professor J. W. Robertson, who is the head of the dairy department at the Ontario Agricultural College. An examination of this extensive exhibit ought to be the aim of every cheesemaker in the country, for without an examination he can have no idea of the perfection to which the Canadian competition has been brought. The writer of these reports spent an afternoon in company with Professor Robertson and Captain Clarke (who is in charge of the Canadian agricultural exhibits), in an examination of these dairy products, the high quality of which would fairly astonish the cheese and butter makers of the country. That which was tried was two months old, and had been for ten days (and ten days of heat), in the exhibition. It was not at all salt, the natural texture was well preserved, it was well and solidly worked, and of fine meaty flavour. It was equal to our best butter, and this, it is said, can be placed on the English market at 1s. a pound. There was none better at the London Dairy Show. The Canadians are trying hard to meet the markets in this country, and this butter will be imported fresh in five pound tins, which can be obtained regularly by the householder. But it was in the cheese department that the greatest perfection has been obtained. Here there are in all some 400 cheeses, all made on the Cheddar system, and all of a uniform high quality. Out of the 1,000 cheeses shown at Frome last month it would have been impossible to have selected 50 cheeses of such a uniform quality as the 400 on exhibition at the Canadian Court, while the first prize

winners at that show would have been run very close indeed by most of the Canadian. The cheese shown vary in size, the "truckles" being about four pounds smaller than those usually made in the west of England, and the ordinary sizes weighing about fifty pound to seventy pound against the eighty pound to one hundred pound of the deep Cheddars of the west of England. The Canadian cheese is also earlier in maturing than our own Cheddars, the cheese in the exhibition being about six weeks old, and being then well matured. At that age our English cheese would be still soft and curdy. The Canadian cheese is mellow, silky, and meaty to the palate, solid in body, and of fine grain and texture, is rich and nutty in flavour, and is shapely in size, clean in appearance, and smooth and clear in the skin. It is a great pity that at the show at Frome a few lots of Canadian could not be sent for competition, for it would prove such an "object lesson" to the farmers of the West as they would not soon forget. This exhibition opens up a very great question for the English Cheesemonger, and that is how it happens that Canada has been able to produce so even and high a quality of cheese. It is not in the factory system that the answer is to be found, for the United States has factories, and its cheese is much inferior to Canadian. Cheddar cheese has really become the world's cheese, and is made not only in various parts of Great Britain, but on parts of the Continent, in Canada and the United States, and in the antipodes. In the latter place Victoria produces a higher quality than other place. The subject of Cheddar cheese in every part of the world requires to be investigated, and a more useful work could not be undertaken by the Department of Agriculture at Whitehall. A good investigation would give such a mass of practical details that could not fail to be useful."

The following extract is taken from the *Daily Telegraph* :—

"Two or three years ago Canadian butter was made at each farmstead, with every possible grade of care and negligence, science and ignorance, with the net result that a small portion was excellent, a certain quantity middling, and the bulk grading downwards to 'very inferior.' Two or three years ago co-operative dairying was started under the auspices of the Government and under the supervision of the Ontario Agricultural College. The idea of this system is that the farmers of a district possessing 500 to 1,000 cows among them send their milk to a creamery. There it is treated in a most scientific manner by skilled hands using the best machinery, the result being that butter is produced of a uniformly high quality, the farmer receives a better price and the public a better article. Professor Robertson, of the Ontario College, is now in London representing his Government at the Colonial Exhibition, and he has explained the principles on which the system is worked in his Province, which has led the way in the Dominion; and his exposition goes to show that the colonists have applied strictly scientific theory and art in the attainment of their object. They have recognized first of all that butter has a natural texture which is destroyed by mixing and too much handling; and second, that it is a material which undergoes a natural ripening or maturing process, and that this may be hastened or retarded to suit the requirements of commerce. Taking these points together, it may be said that the finest product is only possible where the butter is made from the best milk, by the most careful processes, untouched by hand, and when it is brought to market just at the time when its oxidation or mellowing by contact with the air brings about the mature or ripe flavour. In Brittany, England and Ireland, butter is usually made in shallow vessels, and at a rather warm temperature. The result is quick oxidation—soon ripe, soon spoil; and an excess of salt is used to prevent it from becoming rancid. The Canadians use, on the contrary, deeper cases, submerged in cold water, and their fresh butter will keep easily from three to five weeks; with a very slight covering of salt, and packed in suitable tins, it will keep good for a year. They can send perfectly fresh butter to the English market, and the probability is that in a few years this will be done to a large extent. In Canada the whole cost of collecting, churning, providing packages, salt and other necessaries, is 2½d. per pound."

My own pen was not idle in the matter of commending our Dairy Products and the natural and good features of Ontario for farmers' homes. Thinking that two of these

letters may contain some information of interest to Canadian readers I take them from *The Daily News*:

BUTTER MAKING.

To the Editor of The Daily News:

"SIR,—I read with much interest your remarks on the butter trade in your Agricultural Notes the other day. It cannot be without commercial benefit to the country that your paper evidences such a lively concern in its great agricultural interests. Very timely, indeed, is any discussion that tends to enlighten on the dairy industry, which is fast coming to the front, in the northern latitudes of the Empire, as the main and most profitable branch of farming. The town and city people need information as much as the dairymaids of the country. And the instruction of the city consumers as to the "hows," "whys," and 'wherefores' of butter-making, would quickly and forcibly tell in a prosperous propulsion to the trade wherever intelligently, tidily, and scientifically carried on. Fine butter is a table luxury which will always be cheerfully paid for by the masses, at a price profitable to the makers; and while its "fineness" of quality is eminently the characteristic which gives to it, and through it to the dairyman, superior and profitable value, the same "fineness" is that which really costs nothing extra of cream or labour to produce. When British dairymen—English, Irish, Scotch and Canadian—all learn how to add or rather conserve the natural "fineness" of flavour in their really nutritious butter, the price will come up to an abundantly profitable figure. By butter-making there is hardly any appreciable exhaustion of the fertility of the soil; by it there is provided remunerative employment for many extra workers; and out of it the producer (the farmer) realises a larger percentage of its ultimate cost to the consumer than from almost any other article he sells. That all being so, why is it that the British and Canadian farmers do not supply all the butter England and Scotland want? If British farmers would but adopt the Canadian methods of manufacture, and British consumers but become acquainted with the excellencies of Canadian creamery butter, the question would not need to be asked. Herein is a subject for the investigation and consideration of agitators for Imperial federation. The vitality of any scheme of federation will be proportionate to its power for promoting the interests of all the individual citizens concerned. The increase by it of everybody's comfort and safety, and the making of life to the people richer in its opportunities and enjoyments, will alone make federation desirable, durable, or endurable, or by it strengthen the Empire. Whatever facilitates the interchange of excellent food commodities will be the harbinger of closer union. Therefore, through your columns, I seek to speak to Canada of England's unsupplied need of fine, pure butter, and to England of Canada's power and resources to supply it; and, besides, in the supplying of this food-need, to give therewith such apt and acceptable dairy information and instruction as will direct England's and Ireland's and Scotland's farmers to do better for themselves.

"In every department of agriculture, the colonies have learned and are learning much from the mother country. But the impetus given to life, in every avenue, in a new country, impels its population to the speedy development and combination of old and merely local methods into comprehensive, adaptable and applicable systems. This is true as applied to the dairying industry and other minor things, such as newspaper making, public policies, social customs, etc. The love of the new—the changed—for its own sake, is characteristic of the mental and mechanical methods of all young countries. However in the case of a colony like Canada, heathfully fed by numerous additions of immigrants from old countries, with their tersely conservative habits, the native tendency is well corrected, and safe progress only is made. But what has that to do particularly with butter-making? Well, this. Canada can and does make as fine and finer and as uniform a quality of butter as the "Brittany mixture" so highly commended by the well-known butter merchant mentioned in your article, before referred to. Moreover the uniformity of Canadian creamery butter is not due to the "grinding," "milling," or "mixing" of different samples into one homogeneous mass, whereby the natural texture and grain are all destroyed, and the butter left as greasy as goose gravy. Canadians have adopted the good and the good only of the "mixing" system. They mix the cream, not the butter,

from fifty to two hundred dairies at each creamery where finest butter—every package alike—is made by skilled butter-makers. Uniformity and fineness of flavour, body, and colour are thus obtained without the destruction of the keeping properties by the objectionable “milling” process. Canadian creamery butter has only to be well-known in the London market to divert the trade that now goes to a foreign country into the channels which are being more widely opened between England and her Colonies. Let but English butter dealers lend their aid by introducing Canadian creamery butter to their customers—(and here let me remark that Canada manufactures no oleomargarine, no butterine, no imitations)—and much of the desired end of increased, closer, and more profitable trade relations between the mother country and her enterprising children will be brought about. Then, as soon as Canadian creamery butter is well known, English and Irish farmers will begin to inquire about the “hows” of the system by which such results are obtained; and an early adoption of the creamery system into their own districts will soon be sought. Let the landlords, who are said to find many tenants unable to meet their rent obligations, take the lead in this matter, and the money which may be invested in factory buildings will yield 1,000 per cent. in the prosperity of the tenants and the consequent increased value of properties. The Government of the Province of Ontario, having in view the development of a butter trade with England, on a scale equal to the export cheese business of the province—now over \$6,000,000 annually—are about to exhibit a large quantity of butter and cheese, contributed from all parts of the province, at the Colonial and Indian Exhibition. Sample packages of both may be obtained by visitors. Inquiries as to the resources of the province and the nature of Canadian dairy systems, so far as the knowledge may further fore-mentioned objects, may be addressed to the undersigned at the Canadian Court, Colonial and Indian Exhibition.

Your obedient servant,

JAS. W. ROBERTSON,
Government Superintendent of Dairying for
the Province of Ontario, Canada.

Ontario Agricultural College, (Dairy Department),
London, England, Sept. 28th.

“CREAMERY” BUTTER.

The following statements are made in the form of a letter by Mr. J. W. Robertson, Government Superintendent of Dairying for Ontario, dated from the Canadian Court of the Colonial Exhibition:—

“For the moment the butter industry is exciting unusual attention and comment in the Press. Producers and consumers alike manifest lively concern for the improvement and extension of this most profitable branch of farming. Nor is the quickened interest confined to London and England. The news from Cork tells that Irish farmers and merchants are bestirring themselves, in the hope of recovering their once enriching trade, which lately foreigners have won from them. Nearly every article and letter on agricultural affairs makes more apparent the urgent need for some action. The Government might well implement their expressed intention “to investigate the capacity of Irish resources for development by public works on a remunerative scale,” in connection with this business, and that, too, with unique advantage to Ireland at this particular time. By a simple calculation, founded upon the data of last week’s market reports from Cork, it appears there is a difference of about £6,000 between the total value of the butter sold there during the week (about £33,300) and the sum that would have been realized (about £39,300) had it all fetched the price quoted for best quality. What a large loss every week to the producers on the butter of one market, due to the manufacture of irregular and inferior qualities. The loss indicated is not local nor peculiar to Cork, but is all too general over dairying Ireland and England, where butter is made at the farms without system. To prevent the continuance of such an enormous loss to the farmers of the country, and to protect and foster this valuable and elastic industry, surely comes within the

scope of Government duty. I am convinced that such a desirable end can be efficiently attained by the establishment of suitable creameries, after the Canadian system. By their general introduction a profitably and permanent enlargement of the trade would be immediately possible by the production within our own Empire of sufficient uniformly fine butter for our own people. Such a quality would always be in demand at remunerative rates. At the Ontario Agricultural College in Canada, the Government erected an experimental creamery some two years ago. The cream from nearly 1,000 cows is now received. The system of butter-making throughout the whole province is being rapidly changed and much increase of wealth is going into the country in consequence. The institution is educational, and free instruction in the management of creameries and the details of scientific butter-making is given to eligible young men. Why does not the Imperial Government aid English and Irish farmers in a similar way? Contrasted with the mixing, milling Brittany process, the Canadian creamery system has everything to commend it. The desirable keeping properties, which add much to the butter's worth, are by it conserved, and the natural and exquisitely delicious creamy flavour is preserved for weeks. The national importance of the subject will excuse me in encroaching further on your space to state in popular terms some interesting facts recognized by only a few experts.

1. The natural flavour of milk and its products reside mainly in their fat constituents.

2. While milk is quite new its cream or fatty portion is comparatively insipid or lacking in flavour.

3. By exposure to the action of the air (oxidation) the flavour is ripened or developed, and the colour of the cream and butter made therefrom is deepened.

4. A warm temperature facilitates and a cool temperature retards the development of flavour.

5. Thus, butter made from cream raised at the ordinary temperature of the atmosphere, in open shallow vessels (such as are commonly used in Brittany, England, and Ireland), has a much fuller and riper flavour when just made than butter manufactured from cream raised in deep cans, submerged in cold water, as by the creamery system of Canada.

6. The former butter has its best flavour within two days after it is made, while the latter, the creamery, may continue to have its best taste from three to five weeks afterwards.

7. The earlier development of flavour in that butter which is at its best just after churning proclaims it of the character defined by the fruit adage, "Quick ripe, quick rotten." For such butter, delicious while fresh, nobody claims keeping properties any more than for harvest apples the quality of keeping sound till Spring time.

8. On the other hand, the quality of creamery butter (as evidenced by the Ontario Government's display at the Colonial and Indian Exhibition free for inspection and examination by all interested) shows that it has excellent keeping properties.

9. The butter fat of milk is in the condition of minute globules. These are collected into mass by the impaction of churning.

10. Any after-working, "mixing," or milling, that destroys the natural grain or texture of butter, thereby destroys its keeping properties, just as the bruising of fruit or the breaking of egg shells renders both of these commodities subject to speedy decay.

11. As an article of diet, delicious butter is very different in its gastronomic effect from oleomargarine or any imitation compounds.

12. Fine butter—its peculiarity—aids weak digestion by instilling its own atoms between the atoms of more solid foods, thus assisting in their disintegration for assimilation.

It will be to my satisfaction, as an humble servant of my own Province and of the Greater Britain, to give any further information I can that will be helpful in promoting the prosperity of the farmers of the empire along the lines indicated."

These have since been copied into the leading British papers and journals devoted to the provision trade. Many inquiries came in consequence and the information thus given about Ontario, and Ontario's butter and cheese, may be of some help in the further development of her natural resources. Numerous letters came from English, Scotch and Irish dairymen, seeking information about how to improve the quality of their goods. Any help in that direction that can be given would leave a larger and more profitable market for Canadian products. Though this is perhaps not the place to fully discuss that proposition, it may not be amiss to point out that during the months of November and December, the consumption of some of the inferior and cheaper qualities of late-made English cheese very much weakened the demand for higher priced Canadian. The consumer is a very much longer time about consuming two pounds of inferior cheese than in disposing with satisfaction of four pounds of excellent quality. Every pound of inferior butter or cheese made anywhere shuts off the demand—by lessening the consumption—for at least twice its quantity of fine quality. The conclusion that the higher is the standard of quality of dairy products of our own and all other countries that compete with us, the more profitable will be the business for all producers, is indisputably correct. The exhibition is to be credited with doing something in that direction.

The criticism of some of the best buyers drew my attention to some of the defects that lessen the value of our average shipments of both cheese and butter. At the three dairy conventions I have pointed out these and detailed the slight changes in the process of manufacture that are needed to remedy or avoid them. I may condense the important points as lessons for cheese and butter makers.

LESSONS FOR CHEESE-MAKERS.

- I. Uniform fineness of quality is required in *every* cheese of *every* lot.
- II. A cheese with fine flavour and solid and buttery body, which will retain its richness after exposure by cutting, is wanted.
- III. A smooth, bright rind, without cracks, gives additional value; also a neat finish as to shape and general appearance.
- IV. Scaleboards should be put on just before boxing, and so as to stick closely to the surface of every cheese.
- V. Cheese boxes should be made with stronger covers to safely stand the rough handling of transhipment. The cover bands should be $\frac{5}{16}$ of an inch thick.

LESSONS FOR CREAMERY BUTTER-MAKERS.

- I. An attractive, neat and clean butter package, that will be decently ornamental to a provision shop will increase the value of the butter. Besides the packages already in use, a Canadian cask with wooden hoops and holding 112 pounds would meet with favour.
- II. The use of impure butter cloth leaves an objectionable taste on the top of the butter, very seriously lessening its value.
- III. Such salt should be used as may be tasted but not felt by the touch of tongue or finger in the butter.
- IV. Pure brine should be frequently poured on the butter while in store. A tallowy taste for an inch on the top is induced by neglect of that.
- V. All butter for export shipment should be stored in suitably cold store-rooms from the time of making.

The need for attention to the last mentioned matter is so urgent that I take the liberty of stating the case at some length. In our competition with butter from Ireland, Denmark, France, Sweden, Holland, etc., we labour under difficulty in trying to put Canadian butter on the consumer's plate in the best condition to please the palate and nourish the body. In the matter of freight charges we are comparatively well off, but the circumstances presently existing of our largest production being at a time when safe

transportation is most difficult, and when the price in all consuming centres is lowest, is against us. The adoption, in a measure, of winter dairying might be recommended as a partial relief and remedy. Still this state of things exists, in that most of the June and July creamery butter is stored somewhere, either on this side the ocean or the other. Hence the providing of suitable storage that will prevent deterioration in quality, and consequent depreciation in price, is a manifest need of the business. In visiting creameries during the past summer, I generally found the storage accommodation quite inadequate and unsuitable. Large refrigerators at convenient centres would be more economical for use than the erection of small ones at every creamery. Then there would be less risk of butter "going off in flavour" when kept in buildings exclusively used for that purpose, and looked after by men engaged for the definite work of regulating its temperature and preserving its contents. Such buildings would be of Provincial and national service and benefit. Watchful attention to a continuance of suitable conditions for preserving quality, with proper selection and classification, would gain us a higher reputation and price. Any quality under fresh-flavoured, sweet, delicious-tasting butter, will be pushed out of the market by the finest brands of butterine. I am satisfied that by treatment as advised, June butter, in nine cases out of ten, would reach the consumer in better condition in November and December, or later, than by immediate and direct shipment in midsummer, followed by exposure to the humid air of English warehouses and shops. Probably the farmers would not receive their full share of the increased prices for a time, but additional wealth would be brought into the country, and the competition of commerce would soon equalize the distribution of profits. A rate of 5 cents per tub per month would amply cover all expense and allow a fair dividend on the cost of buildings. It would thus be possible to preserve the creamery butter, and put it before the consumer in England, or elsewhere, in its best state, and at the season of the year when the highest price may reasonably be expected.

The interests of the carrying companies are closely identified with those of dairymen. When the latter use only reasonably strong boxes and packages, the former should look after their safe carriage. The heated and damaged condition in which I observed some cheese to be discharged from the ships' holds, if continued, will speedily and justly lead to the withdrawal of Canadian dairy patronage from such vessels.

With the consumers, the shop-keepers, the wholesale dealers, and the importing firms, the butter and cheese from Ontario now stand in higher repute than ever.

Of the general influence of the dairy display from an immigration-fostering standpoint, I am not prepared to report. But this I can confidently write, that the Apple, the Honey, and the Cheese and Butter exhibits, all mainly under the care of Ontario men, did more to bring a true knowledge of the resources and climate of the Dominion of Canada before the public in an acceptable way than all the other departments of the Colonial and Indian Exhibition put together.

Commemorative medals and diplomas will be issued to all who contributed cheese and butter to the exhibition.

My thanks are due and are hereby tendered to all who aided me in the endeavour to make the display of cheese and butter from Ontario a success.

VI.—THE FARMING AND DAIRY SYSTEM OF DENMARK.

A few lines may be devoted to the mentioning of some things observed while on the journey from England to Denmark, that may have educational value for farmers in Ontario.

The route taken was by way of Queensboro'; thence by boat to Flushing in Holland; thence by rail *via* Bréda, Boxel, Goch, Wesel and Hamburg to Kiel; thence by steamer to Korsør in Denmark and on to Copenhagen by rail. London was left on the 3rd December.

The continental railroads travelled over were well equipped. The roadbeds, in respect of their construction, were between the English and Canadian styles in point of solidity

and durability. The engines seen were mostly of English make. The passenger coaches, which were comfortably upholstered and heated by steam, were built after the English pattern, with compartments across the cars, having entrances from both sides. The freight box-cars and trucks were much smaller and lighter than those in use on the Grand Trunk and Canadian Pacific Railways. The average rate of passengers' fare is lower than in Canada. On the German State Railways there are no less than four classes of carriages. The fourth-class have no seats and are largely used by labourers travelling short distances to their work at very low rates.

A thin sprinkling of snow lay on the ground. The country of the Dutch surprises one by its generally flat aspect. The monotony of a prairie scene is absent, as canals and ditches scarify its whole surface. The fields have a rich alluvial soil of dark colour. Trees, visible from the car windows, were all of light timber and mostly scrubby-looking. After Tilburg was passed, the soil has lighter colour; and stunted shrub beech is plentiful. What seemed to be thriftless thorn and beech hedges disfigured the landscape.

The fields were mostly ridged up with deep furrows between the lands. Large fields of turnips looked very well. The kinds were mostly yellow and soft purple tops. On meadow lands the pasture was still fresh looking, with a good roughness of top for feeding or winter protection.

Great Don Quixote wind-mills, for grinding, were here and there lazily rolling round. The farm-houses were generally built of brick of smaller size than ours, and roofed with red or dark coloured tiles. Occasional groups of three or four houses close together, with moss-covered thatch roofs, seemed to have grown out of the ground on which they stood. After crossing the German frontier, the country had very similar appearance to the undulating and fertile districts of Ontario. The woods were large in area and their trees looked as large as those in Canadian forests.

The farms appeared to be smaller and the barns were quite dwarf-like in comparison with bank barns on 100-acre farms in Canada. The peasants are rather slow-moving and sedate-looking people. The farm labourers still wear wooden clogs, kept on by the movement of the toes. Their stockings are without soles and are kept in place by a leather strap around the instep and toe. For fuel, wood, peat or turf, and coal are used.

From Hamburg to Kiel through Holstein, the country is generally flat, with blotches of turf, whence the peat is obtained for burning. The soil is very much assorted, many different colours being seen in single fields. The hedges of hazel, thorn and beech are neglected looking. The woods are about as heavy as in Ontario and mainly of elm and beech, with some light birch. At Kiel I inspected a creamery, but instead of detailing what was seen at each creamery or dairy visited, I will gather into one place a description of the best points in butter making seen at the different places.

On reaching Denmark, one is struck by the clean and well cultivated appearance of the farms. The soil is of boulder clay or boulder sand. Geological researches have revealed the history of its timber clothing at different periods. There was first poplar, then elm, followed in turn by pine, oak, hazel and beech. The present is still the beech period there.

The average annual rainfall is from 23 to 24 inches. The mean yearly temperature is 45°.

For a small country, Denmark deserves much praise for the long and thorough attention given to agricultural investigation and education. Outside the kingdom, the impression prevails that the Government of the country has financially and otherwise borne most of the burdens inseparable from the establishment and maintenance of educational means and facilities, which have been of much national benefit and have enabled the Danes, particularly in the making and exporting of butter, to gain the foremost place in the world for quantity and quality exported per acre of kingdom area.

The Government has all along maintained a friendly and fostering attitude towards the improvement of agricultural methods and implements, and has given liberal grants towards furthering scientific investigation and the dissemination of sound knowledge relating to land and its cultivation, as well as to stock and the manufacture of their products. But the agricultural and dairy instructors of the country have not been very

liberally fed at the public crib. Their success and the really telling education which the young men and women have received, I judge [to be due to the necessity laid upon all of them, of largely helping themselves before they received Government assistance. That the Government should support agricultural and educational concerns merely for the sake of appearances does not seem to have come within the range of Danish administration.

As long ago as 1769 the Royal Agricultural Society of Denmark was established. It was originally founded for the purpose of promoting interest in and spreading useful information in relation to all rural industries. The main objects sought to be attained through its organization might be summed up as :

1. Holding of meetings for the discussion of matters having scientific and practical bearing on agricultural interests as well as the publication and distribution of books and pamphlets thereon.
2. The employment of persons competent to advise farmers on dairying, on the care of stock and on the treatment of diseases of farm animals.
3. The institution and supervision of experiments, embracing chemical analyses, etc.
4. Arranging for and superintending the placing of apprentices on farms and in dairies, and granting certificates to such as comply with the conditions of service and prove deserving.
5. Acting as a central organization for the numerous local agricultural societies in the kingdom, and joining with them for the purpose of holding one comprehensive exhibition every five years at different centres.
6. Assisting in fostering the export trade of farm produce, and submitting to the Government reports on agricultural subjects.

In 1853 its membership was only about seventy, while now it has on its roll nearly one thousand members paying an annual subscription of a little over \$5 each. Up to last year it received an annual grant from the Government of rather more than \$800. That is now somewhat increased. It has a funded capital of about \$90,000, part of the revenue from which is devoted to the maintenance of a few deserving pupils at the Royal Agricultural College at Copenhagen.

The local agricultural societies are very numerous and keep alive an active interest in the progress of farming knowledge and methods in the remoter districts. From these clubs, delegates are sent yearly to form one agricultural society for each of the four provincial districts, into which the country is divided for that purpose.

Both these and the local societies hold exhibitions every year, and the Government contributes to the premium fund dollar for dollar provided by the societies themselves.

Before proceeding to briefly trace the part taken by the Royal Agricultural Society in the development of agricultural education, mention should be made of the Polytechnic School, established in Copenhagen in 1829, and also the Royal Agricultural College of Denmark. This first institution, which seems to cover the same and more ground, educationally, than the School of Practical Science in Toronto, is very highly esteemed for its work in preparing thoroughly competent teachers for the Royal Veterinary and Agricultural College. At this school, in 1849, Prof. Jorgensen first commenced to lecture on rural economy.

A veterinary school had been in existence at Copenhagen from 1773. In 1856 it was decided to add to it a full course of instruction in all branches of agriculture. Then it became the Royal Agricultural and Veterinary College of Denmark. It is now entirely a Government institution, the expenses being met by an annual grant from the public treasury, which, however, is supplemented to a considerable extent by revenue from legacies and gifts invested for its benefit. There are twenty-two professors and thirteen assistants, besides the inspector and other officials upon its staff. The total annual expense is about \$33,000, of which the Government pays about \$28,000.

Its curriculum embraces five divisions, Veterinary Science, Agriculture, Surveying, Forestry and Horticulture. Then there is a ten months' preparatory course for those

reading further elementary instruction before taking up any special subjects. Two years' study are required to pass in either of the five divisions. A few students stay for four years and thus graduate in two departments. The fees are about \$15 per annum for all lectures and the use of the laboratories and chemicals; books are extra.

The students find for themselves boarding places in the city. The cost, of course, varies with the accommodation required. The average expense for the year for fees, boarding, books, clothing, etc., was put by one of the professors at \$250 per student. The plan of College boarding for the students was considered by the authorities as very undesirable and unsatisfactory.

The College buildings seem spacious for the number of students, yet an early enlargement is looked for and promised. The class-rooms are fitted up in admirable arrangement. The museums are replete with specimens of every creature and skeleton that might be found on a farm. The skeletons of cattle, horses and sheep, which, while naturally clothed with flesh and skin had once won prizes at leading shows, now serve as models from which to lecture, demonstrating the desirable points of frame and build. Samples of all kinds of seeds and farm plants are daily handled in the class-rooms; working models of implements and machinery (ancient and modern) are taken apart in the class-rooms as far as practicable, and the names, uses and manner of construction of each piece explained. So, also, with the various fertilizers of commerce.

The chemical laboratories are fitted up most completely and ample opportunity is afforded all students for practical work in analyses. The O. A. C. laboratory at Guelph is like a blacksmith shop beside a well equipped engine works when compared with that at Copenhagen.

There is also a large botanical garden adjoining the college. One feature that delighted me was the full and clear labels attached to every shrub and bush. Some twenty acres are used to illustrate agricultural operations. The students visit the plots in company with the professors to watch and note the progress, differences and likenesses between plants and grasses at their various stages of growth.

For the use of veterinary students there is a suitable dissecting room, with excellent appointments. Under the charge of the same department there is a commodious horse hospital, where the disabled and sick equines of the city are stabled and doctored. The students accompany one of the professors of veterinary science on his morning rounds and receive clinical instruction.

A branch hospital is a retreat for the sick dog-and-cat pets of the capital. At this place we received a very noisy welcome. Horse-shoeing is taught in an adjoining building. A small dispensing laboratory is attached, where students learn how to prepare and compound medicines.

For use in his lectures on Dairying, Prof. Segelcké has models of all kinds of apparatus, used in nearly every country where cows are milked and butter and cheese are made. Especial attention is given to instruction in the use of and parts of the centrifugal cream separators.

Apart from the College stands the special dairy laboratory, under the charge of Prof. Fjord, who is assisted by three chemists and a number of other helpers. A Government grant is also made for its support (about \$5,000 annually), and the whole time of these enthusiastic experts is given to investigation and experiment with milk, butter and cheese, and the utensils used in their manufacture. The chief chemist, M. Storch, whose name, together with Prof. Fjord's, will be permanently engraved in the dairy literature of the century, kindly showed me over the place. The necessary limits of this report, and my unavoidably hurried visit, forbid an attempt at fully detailed description. Everything useful, seen or learned, will be communicated to the professor of chemistry at Ontario Agricultural College, who is with commendable vigour devoting much time to scientific dairy investigation. Besides the work carried on at this laboratory, many of the leading dairies of the country have appliances and conveniences for Prof. Fjord's use when he wishes to work at their places. Whatever improvement in dairy machinery is effected is made known freely to the public, and all useful discoveries are regularly published for the benefit of dairymen. Such elaborate care is exercised in all the work that the confidence reposed by the public in Prof. Fjord's conclusions is fully warranted and justified.

There have passed through the college course at the Royal Agricultural College—

| | | | | |
|---|---|---|---|------|
| 455 in Veterinary Science during the last 25 years. | | | | |
| 258 in Agriculture | “ | “ | “ | 25 “ |
| 71 in Surveying | “ | “ | “ | 25 “ |
| 55 in Horticulture | “ | “ | “ | 18 “ |
| 82 in Forestry | “ | “ | “ | 18 “ |

These graduates become teachers in the lower agricultural schools, managers of estates, or follow the special vocation for which they have been educated, on their own account. By way of incitement to diligence, the Royal Agricultural Society—formerly mentioned—awards to successful students premiums of sums of money, sufficient to enable them to visit different parts of their own or some foreign country, for further culture and acquisition of knowledge relating to their intended calling. Many instances are on record where diligent and persevering youths have risen from poverty and obscurity, to occupy foremost places of usefulness and influence.

I return to the part taken by the Royal Agricultural Society, outside of the College, for the improvement of agricultural operations. From the beginning of the present century, it has been a very important factor in developing the country's resources. It first undertook the task of apprenticing young men to the best farmers all over the Kingdom for training and instruction. The conditions upon which youths were received were briefly: they must be native Danes, of good health and irreproachable moral character; they must have a recommendation from a magistrate and clergyman, and express an intention to follow farming. When everything of that sort was satisfactory, the applicants were accepted for two or three years. Good farmers of approved standing were glad to take these youths as learners, paying them a small sum yearly, besides giving them board and lodging. Each apprentice was left for one year only on one farm, when he was removed to a farm in another part of the Kingdom. His third year was spent on still a different farm in one of the other districts. At the outset each apprentice received from the Society a number of books bearing on agriculture, which became his own property upon the completion of the three years. Reports were made to the Society at stated intervals by each apprentice. Then from these, and the youths' records at the places where they had spent three years, the Society judged of their progress and merits, and granted diplomas accordingly.

Such varied training gave the apprentices a wider knowledge, and more skill in regard to all farm work, than if they spent the whole period on one farm under one manager. After the Society had laid the foundations for the success of the system, the demand for apprentices, and the desire to be apprenticed, quite out-grew its capacity for oversight and management. Then the terms of the Society were accepted as the basis of engagement between youths and farmers direct. Thus the leading farms of the Kingdom have each become a centre for agricultural education. The plan whereby the young men learn the systems of farming, in all the districts of their country might be transplanted with much advantage, to the farming community of Ontario. The student apprentice's life was not by any means half work and half play. They were at work by four o'clock in the morning, and, except for meals, did not knock off till seven in the evening.

By 1873 this same Society began to recognise the value of the dairy industry and the importance of and need for instruction. It took steps to learn of the best methods in dairy husbandry, followed in their own and other countries and by means of pamphlets and lectures set out to improve the manufacture of butter. In 1860, Prof. Segelckè was engaged as dairy chemist. Then his whole time was occupied in the work of apprenticing young women to the best dairies in the country. Considerable difficulty was at first experienced by reason of the opposition of the chief dairymaids, who were secretive. This was finally overcome, and a small fee in every case, for a two or three months' course, allayed their jealousy and directed their tongues to teaching. From 1864, young men were apprenticed in the same way. They were accepted by the Society upon conditions similar to those affecting candidates for apprenticeship for general farming. The term of service, however, was usually three months, instead of three years. Each apprentice was

furnished with blank report forms, on which he was required to report to Prof. Segelkè, once a week, a record of the operations of the dairy in detail. The supervision and necessity for recording details of everything done, were very helpful in furthering the young men's education and progress.

By 1885, no less than 945 youths had passed through the course of training and received the Society's diplomas. They were required to pay their own way, but no fees were charged for the Society's help. As in the apprenticing of youths to general farming, this, also, soon outgrew the need of the Society's control. Now nearly every dairy of note has many learners, accepted and trained by private agreement and arrangement. All this has told with marked effect on the general progress and appearance of the country. No antagonism is apparent between dairymen and other branches of farming. But as more attention has been paid to this specialty, so more progress and prosperity have attended the other departments of farm labour. While the Danes have been appropriately called a "Nation of Dairy Farmers" they have not neglected the thorough cultivation of their farms for grain and root growing, nor ignored the profits to be made from stock raising and fattening cattle. From the export statistics it is learned that during the four years from 1869 to 1872, Denmark exported 69,838,730 lbs. of butter and 207,513 head of cattle; from 1870 to 1873, inclusive, Canada exported 61,976,234 lbs. of butter, and 233,402 head of cattle; from 1881 to 1884, Denmark exported 133,061,193 lbs. of butter and 445,498 head of cattle; from 1882 to 1885, Canada exported 38,674,611 lbs. of butter and 360,771 head of cattle. These figures show that the development of the dairy industry is not at all incompatible with, but rather helpful to, the profitable extension of the export cattle trade.

For sixteen years, each, the export figures are :

| | Lbs. Butter. | No. of Cattle. |
|------------------------------|--------------|----------------|
| Denmark, 1869-1884 | 433,492,488 | 1,401,918 |
| Canada, 1870-1885 | 212,593,246 | 914,462 |

Enthusiastic engagement in the dairy business has led the farmers to keep more stock, and the keeping of additional stock has made the raising of larger crops of feed a necessity. It has also made the latter an easy possibility by the consequent increased fertility of the lands.

I had the honour and pleasure of visiting the estate of Baron Tesdorpf, who wears the proud honour of being acknowledged as perhaps the leading farmer in the Kingdom. He has under his direction no less than seventy student apprentices, besides his small army of labourers. I quote two of his courses of rotation of crops, which will give a general idea of the system of farming followed ;

| Eight-course rotation. | Four-course rotation. |
|------------------------|--|
| Clean fallow. | Wheat. |
| Wheat. | Roots. |
| Sugar Beets. | Barley. |
| Barley. | $\frac{1}{2}$ Clover, $\frac{1}{2}$ Beans. |
| Peas, Beans, Turnips. | |
| Oats. | |
| Clover to cut. | |
| Pasture. | |

The same gentleman uses a phosphate fertilizer in the shape of ground bones very liberally. He applies from 600 to 700 lbs. per acre about every fourth or fifth year. His large herd, at the home farm, of some 250 milking cows, were a lot of very fine milkers. The daily ration for stable feeding while in milk for a 1,000 lb. cow was :

| | |
|-----------------------------------|----------------------|
| 3 lbs. Bran. | 7 lbs. Clover Hay. |
| 2 lbs. Cake (Oil or Cotton Seed). | 30 lbs. Mangels. |
| 5 lbs. Mixed Barley and Oats. | Straw without stint. |

The mixture of chopped barley and oats for milking cows was very highly commended. For Canadian dairymen, I should recommend a mixture of barley, oats and

peas. General feeding practices that had been successful in different parts of the Kingdom I found to be very much as followed by our best feeders. A word or two of comment here will not come amiss. Bran was found to be more economical for milk production, together with grain, than the feeding of grain alone. All the richer feeds are fed with the coarse feed, both to encourage a large consumption of coarse feed and to promote the best results from digestion. The feeding of clover hay gives better results in milk than the feeding of timothy hay. A mixture of grasses will be found best in Ontario. These should be cut rather on the green side and well saved and kept. An excessive feeding of roots, even to the extent of one bushel a day, is judged to be wasteful and injurious. Straw from a grain crop cut on the green side is held to make excellent fodder. Ontario farmers may note that the practice of cutting crops rather on the green side would avoid loss of grain, leave it of brighter colour and better weight, and make the straw much more valuable for milk production.

The breed of cows now finding most favour are the Angels (*g* is pronounced hard). In appearance they resemble a cross between the Ayshires and Jerseys. It is not believed that they are descended from either of these breeds; but possessing similar powers for milk production, they reflect these in forms somewhat alike. They are of a dun-red colour, shading into black on the neck and head.

The price in Denmark of a first-rate Angel Bull, with good pedigree, would be about \$165, and that of a choice picked cow about \$75. I do not recommend their importation. The average annual milk yield will be about 6,700 lbs. per cow, with an average weight of under 1,000 lbs.

The stables are constructed to provide for thorough ventilation, as the cows are often stabled for eleven months continuously. Every care is taken to preserve the manure for use on the fields. Both liquids and solids are guarded from losing their fertilizing value. In some stables the manure is pitched under the cows feet, then covered with straw, and so allowed to accumulate for three months. No bad odour was detected as arising from that practice. At other farms, covered manure yards protect their contents against the washing of rains and the bleaching of the sun. At such places the liquids are conveyed to a central tank, and frequently pumped over the compost heaps.

The stable feeding has already been described. The ration mentioned is the usual one, and is divided into three feeds per day.

Water is given in the stables. Attention is paid to its purity, and it is offered freely. Cows have access to salt at all times.

On large farms, the soiling system prevails; and cows are allowed out only one month in the year. That is either June or August. Where allowed to pasture during the summer, the cows are usually tethered. Water is supplied by a watering cart driven along between the rows, and with convenience for each cow to drink.

The milking is mostly performed by women, who, generally in large dairies, milk twenty cows each, morning and evening. Attention is paid to the equal division of time between the milkings. From four to six o'clock in the morning, and from four to six o'clock in the evening, are the times taken. A superintendent sees to it that each milker washes her hands after milking every two cows. The utmost cleanliness is observed in all the handling of milk and its products.

A record is kept of the milk yield of each cow by weight once a week, and occasional tests are made of its quality. The average quantity of milk required to yield one pound of butter is about 25 lbs., by the centrifugal separator. At some creameries where deep setting was followed, the average was 31 lbs.

The heifers drop their first calves when from twenty-two to thirty months old. The season of the year when most cows calve is from early December to late January.

Cheese-making is followed, to only a very limited extent. Skim milk mostly is used in its manufacture. The product is not very palatable, though it is rather more so than the soft varieties to be found in North Germany. The taste in North Europe seems to be for a soft, a very soft cheese, when made from whole milk: and if the odour is of an indescribably vile description, no objection is taken. The sense of smell seems to be dulled into enduring, or cultivated into relishing every kind of assault.

Butter-making is followed both on the home-dairy and creamery plans. The smaller dairies frequently unite to support a creamery, while the larger dairies of from 100 cows and upwards, can afford to manufacture their own butter economically. The shallow pan, deep-setting and centrifugal systems of cream separation, have all been tried, and in different places, are all still in practice. Progressive dairymen have abandoned the shallow-pan method for the deep-setting, during most of the season; and are now adopting the centrifugal, as an advance and improvement on the latter. It is allowed that a fuller separation of cream is effected by the mechanical than by the natural plan—that the skim milk is left in better condition for calf-feeding—and that the butter has better keeping properties. The cream is better under the control of the butter-maker for ripening, and its butter has a higher melting temperature than when milk is set in the ordinary way for cream to rise.

Care is taken to have the centrifugal machines run at a regular rate of speed. The inflow is regulated to a nicety. Then the separation can be adjusted to any per cent. desired. The usual temperature of the milk is 86° Fahr. for mechanical separation. Where deep setting is practised the milk is heated to 100° Fahr. and immediately placed in ice-water tanks, and so allowed to stand till cream separates. For the best results from shallow pans the milk is poured into them while warm, and then left in a cool room. In both of the latter cases, the skimming is performed in the well-known manner, and always while the milk is sweet. Thus the cream obtained in bulk is always sweet.

To properly ripen the cream for churning a "fermentation starter" is prepared daily in the following way: As much milk as will yield cream, equal to two per cent. by bulk of the whole cream to be churned each day is taken from the evening's milk and set in deep-setting cans in ice-water. Sometimes it is set in shallow pans. The surface in both cases is left exposed to the air. In the morning this is skimmed. About 11 o'clock in the forenoon it is warmed to 72° Fahr., and placed under cover so as to retain its heat. By the following morning it will have become sour. The sourness is merely a result of the fermentation induced by the exposure to the air and after maintenance of warmth. This is now what is called the "fermentation starter." After the bulk of the cream is separated, if by the centrifugal machine, it is heated to 72° Fahr. and then put in tin-lined cream tubs. To it is added "fermentation starter" equal to two per cent. of its bulk about 11 a.m. The whole mass is allowed to gradually cool to 58° Fahr., and by the following morning, or after the lapse of about 18 hours, is in the right condition for churning.

When the separation of cream has been effected by the natural method of setting, the bulk of the cream is heated to 59° Fahr., and then the "fermentation starter" is added, and the treatment is as above. These temperatures vary slightly with the season of the year and the length of time the most of the cows have been milking. So, also, the temperatures at which the churning is performed, the range being from 57° to 64° Fahr.

The churns in common use are the Holstein churns. The churn body is cylindrical and stands perpendicular, the bottom being wider than the top. On the inside and standing perpendicularly, are three or four blades of wood, fastened at equal distances around the inside. These stand out in width from three to four inches, and are about one inch thick. The churning is performed by means of a revolving dash whose axle stands perpendicularly. The churns vary in size, holding from 150 pounds to 300 pounds of cream.

The speed of revolution varies with the diameter of the churn. The smaller in diameter the greater number of revolutions per minute. By a simple calculation, I arrived at the ratio of speed to diameter. The outside of the blades on the dash are made to travel about 700 feet per minute. Churning is completed in from 30 to 40 minutes. In the cover of the churn, provision is made for the insertion of a small stick or tube, while the churn is in motion, on which to withdraw a sample and learn the condition of the cream. As soon as the cream is churned into butter-particles about the size of clover seed, the churning is instantly stopped. This stage is watched very closely, as churning too long or stopping too soon are regarded as injurious.

The butter in the granular state is then dipped out by a hair sieve. As much as possible of the buttermilk is shaken off. The remaining buttermilk is worked out by hand

in hollow troughs. No water is used to wash the butter; the hand-pressing only is applied. The working is performed on small quantities of less than half a pound each, and each piece is folded and pressed some eight or nine times. They are then placed on an ice-box to cool for an hour.

Salt is then added. From three to four per cent. by weight is the usual quantity, though the salt is generally measured and not weighed. By measuring, instead of weighing, the moist or dry condition of the salt does not affect the salting power of the quantity added. In from one hour to three hours the salt will have fully dissolved and the second working is proceeded with. The highest temperature at which butter is worked is 60° Fahr. The firkin to be filled will have been previously prepared by soaking with cold water and then washing with hot water and rubbing with salt inside. The butter is immediately and finally packed away. Usually within four hours or less from the time when it leaves the churn, the butter is packed. In that way all disturbance of the grain of the butter by re-working after it has commenced to set is avoided. The butter has better keeping properties in consequence.

The package mostly used is the Danish cask, which is barrel-shaped, and headed in at both ends. It holds 112 pounds of butter, and is finished with wooden hoops. The butter is packed in very firm and close, and covered with a clean cloth, free from all impurity that would impart offensive flavour to its surface. A slight sprinkling of coarse salt is put both under and over the cloth.

Examination has been made by trial of the effect of cold storage on the after-keeping qualities of butter when exposed to the warm summer weather of England. It was found that the cold-stored and cold-carried butter was in every way better than butter from the same churnings that had not been so treated.

A considerable quantity of the Danish butter is packed in hermetically sealed tins in Copenhagen and shipped at very remunerative prices to markets in the East and West Indies, China, Brazil, etc.

A measure has been framed, and by this time I believe it has become law, making it a penal offence to manufacture any compound in imitation of and of the colour of butter in the Kingdom of Denmark. Having won for themselves an excellent and valuable reputation, the Danes are setting their faces against the making of all counterfeit vilenesses.

For assistance rendered to me in the making of enquiries and gleanings the foregoing information, which I trust will be useful to the Dairymen of Ontario, my hearty thanks are due to Baron Tesdorpf, Rev. M. Weber, Prof. Segelcké, and Drs. Faber, of London and Copenhagen.

VII.—GENERAL REMARKS AND CONCLUSIONS.

Looked at in its relation to other branches of farming in Ontario, dairying needs and deserves more attention from farmers and educators than it has received in the past. Everybody acknowledges that the most economical way in which to increase and maintain the fertility of farms is by thorough cultivation and the keeping of large numbers of some kind of stock to consume the coarser grains and fodders. To those who prefer horses and sheep I have no advice to offer. But to those who go in for cattle I would say that dairying offers the best profits. Good milking cows leave margins above the cost of their keep; and as good and generally better stock for economical and profitable fattening may be had. There is an endless chain of annually increasing profit from the keeping of good cows on any farm. The more the cows kept, the more the stock reared and fed; the more the milk got from such cows, and reared in conjunction with dairying than in any other way. The more the stock, the more the barn-yard manure; the more the manure, the richer the fields; the richer the fields, the better the crops; the better the crops, the more the stock that can be fed; the more the stock, etc., etc.

In those districts where milking cows are already numerous, but where no cheese factories or creameries are in operation, the farmers cannot too soon set about establishing the one or the other. The profits to the farmers from both are, on the average of years, about equal, when counting in the value of the skim-milk for calf feeding. The loss from dairy butter-making, where a market for immediate consumption cannot be reached, is very great, as has been already pointed out.

Then the dairy industry, even where well established, needs to be conducted on more progressive and profitable lines. The average yield per cow in Ontario is still deplorably small. Too much time has been spent in trying by manipulation to get the selling prices up, to the neglect of trying the more easily accomplished task of putting the producing prices down. That can speedily be effected by suitable and economical feeding and proper stabling, watering, salting and handling, as recommended. The line of possible profit is between the two prices mentioned, and nearly every farmer can make the line for himself a good deal longer than it has been, in the way just suggested.

At the factories and creameries the men whose special work it is to handle milk and manufacture cheese and butter need to keep on improving the quality of the goods turned out. As compared with the same industry in other and competing countries, our cheesemakers cannot afford to weaken effort at further improvement by too much confidence and boasting. The need now is to have *all the cheese from the Province as fine as the "make" of the best factories*. Systematic supervision and instruction would much facilitate that work.

In butter-making our creamery men have made some advances during the past few years. It is needed that the quality of the butter from the best creameries be better in 1887 than during 1886, and that the "make" from the creameries of the whole Province be as nearly uniform as possible. Judicious superintendence and practical instruction at the creameries during their working season would further that end. All of which is respectfully submitted by

Your obedient servant,

JAS. W. ROBERTSON.

R E P O R T

OF THE

ONTARIO AGRICULTURAL AND EXPERIMENTAL UNION,

FOR THE YEAR 1886.

INTRODUCTORY.

The proceedings of the Union are so fully presented by the reporter as to leave the editor but little to say. It might be mentioned, however, that great interest was taken in the discussions by those present, and several suggestions which were made, have since been put into operation by the officers of the College and Farm. In accordance with a resolution passed during the meeting, the Committee distributed seeds and fertilizers for experimental purposes in various parts of the Province, and those receiving them, very willingly undertook the assigned work. The results will be ready to come before the Union at its next meeting in February, 1887, and from all indications, we think a valuable work will be done in the future in this line by the members.

CONSTITUTION OF THE UNION.

The objects of the Association are to form a bond of union among the officers and students, past and present, of the Ontario Agricultural College and Experimental Farm, to promote their intercourse with the view to mutual information, to discuss subjects bearing on the wide field of agriculture, with its allied sciences and arts, to hear papers and addresses delivered by competent parties, and to meet at least once annually for these purposes.

All officers and students of whatever time shall be entitled to become members of the Union on paying their subscription. The Hon. the Commissioner of Agriculture for the Province of Ontario, the presidents for the time being of the various agricultural societies of Ontario, and such parties as the Association deem it advisable to appoint, shall be honorary members of the Union.

Members shall pay the sum of fifty cents annually. They are eligible to all the offices of the Union, and shall receive gratuitously any reports of the same which may be published after the date of such payment. For any reports previous to their admission they shall pay the sum of twenty-five cents.

Every ex-officer and ex-student, who is in regular accord with the Union, shall be considered as a corresponding member thereof. Each shall be entitled to the privilege of receiving for experimental purposes at least five samples annually of such agricultural

seeds as may be on hand for distribution at the Ontario Experimental Farm. He shall report to the Union the results of such experiments, and also give his experience on such subjects as come within the scope of the Association. Ex-officers and students, who are members, shall be entitled to receive by correspondence, if necessary, such information on the work of the Union or that of the Ontario Agricultural College and Experimental Farm as may be deemed reasonable by the Executive Council.

The Union shall meet annually at the Ontario Agricultural College for one day or more, beginning two days previous to the Easter closing exercises of the institution.

The officers of the Union shall consist of a President, Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, and Editor of Transactions, who shall be appointed annually by the general meeting, and hold office for the ensuing twelve months.

The President, as chief officer of the Union, shall be *ex-officio* a member of all committees or councils thereof during his term of office.

The Vice-President shall have powers similar to the President, but only in his absence.

The Recording Secretary shall keep the minutes of the general meetings of the Union.

The Corresponding Secretary shall conduct all business in connection with the Union in regard to memberships, general meetings, and all the business of the Executive Council, for which purposes he shall be *ex-officio* a member of that council.

The Treasurer shall collect all fees, and keep account of all receipts and disbursements of the Union as may be authorized by the general meeting and Executive Council.

The Editor shall receive, revise, and attend to the publication of such addresses, articles or papers, as may be authorized for publication in the Transactions of the Union.

The Executive Council shall consist of the officers of the Union for the time being. Its duties shall be to prepare a programme for annual general meetings, invite and arrange with parties for the reading of papers, to appoint reception and sectional committees, and transact such other work as has been indicated for it in this constitution, or which may be hereafter authorized by the general meetings.

The accounts of the Union shall be audited annually by the auditors appointed by the general meeting.

No part of the constitution can be altered except at an annual general meeting of the Union, and then only by giving at least three hours' notice of such intended alteration.

SEVENTH ANNUAL CONVENTION.

The Seventh Annual Convention of the Ontario Agricultural and Experimental Union opened in the lecture room of the Agricultural College on Thursday, March 11th, 1886, at 2.30 p.m.

The chair was occupied by the President, Mr. J. A. Campbell, of Simcoe, and Mr. J. P. Anderson, of Puslinch, acted as Secretary. The attendance was about equal to that of former years. Among others, the following members were present:—Messrs. J. I. Hobson, Mosboro'; Jas. Anderson, Puslinch; C. A. Keil, Chatham; L. E. Morgan, Strathroy; E. M. Zavitz, Coldstream; R. F. Holterman, Brantford; J. A. Ramsay, Eden Mills; J. B. Muir, North Bruce; John Morgan, Strathroy; J. Anderson, Jr., Puslinch; George Charlton, St. George; P. A. Carpenter, Collingwood; G. W. Westlake, New Sarum; W. Eidt, Philipsburg West; W. Thomson, Galt; A. E. Wark, Wanstead; O. T. Stamer, Paisley Block; P. Grant, Chatham; W. Robertson, Wanstead; W. Ballantyne, Stratford; A. E. Shuttleworth, Mount Albert; D. A. Black, Listowell; O. A. Chase, Sparta; George McIntosh, Paisley Block; W. Shark, Killyleigh; and W. A. McDonald, London.

After the roll had been called, and the minutes of the last annual meeting read and confirmed, the Treasurer, Mr. R. A. Ramsay, presented his report, as follows:—

TREASURER'S REPORT.

| DR. | | CR. | |
|--|----------------|---------------------------------------|----------------|
| Money received from A. E. Shuttleworth, | | | |
| Treasurer of last year..... | \$ 3.75 | Paid Mr. Galbraith for reporting..... | \$10.00 |
| Subscriptions received..... | 25.50 | Printing 300 Circulars..... | 3.00 |
| Special suscriptions from ex-students..... | 6.00 | Two hundred certificates..... | 2.00 |
| | <u>\$35.25</u> | Postage and stationery..... | 3.65 |
| | | Printing 100 programmes..... | 2.25 |
| | | | <u>\$20.90</u> |
| Cash balance on hand..... | | | |
| | | | \$14.35 |

The report was adopted.

The retiring president having briefly reviewed the workings and object of the Union, the following gentlemen were appointed a Committee to nominate the officers for the ensuing year:—Messrs. Ramsay, Shuttleworth, Wark, Campbell, Holterman and J. P. Anderson, the Committee to report at 8.30 Friday morning.

A few communications were received and read, and the Chairman then announced that the next business of the Convention would be the reading of papers on the various subjects selected by the executive committee.

STUDY.

PAPER BY P. A. CARPENTER, GOLD MEDALIST OF 1884.

This is a subject of great moment to every student, and yet one which not a few know very little about. Every student is supposed to study, but is left entirely to himself to learn how to study. Every subject studied has its share of teachers and text books; but the subject of study itself can only be taught by the student to himself. Yet it is a subject separate and distinct from all other subjects, and as such, it is well worthy of every student's consideration. A student should study how to study.

Generally speaking, we have a two-fold object in study. We want to obtain a knowledge of the subject studied, and we want to develop and educate all our faculties. This latter is often a secondary consideration, but it should never be lost sight of. Indeed it is often advisable to select subjects for the first object solely with a view to their effect on the second. Educated men, and those who have charge of educational matters, generally choose subjects that are best adapted to develop and educate the mind. While the young student that studies the subject prescribed often values it only for the knowledge it contains. He considers it an end what is only a means, and if he thinks the end not worth the time spent in attaining it, he often wants to give it up on that account.

Every student has his own particular way of studying; some choose the steady, plodding, hard-working style that always tells, while others only study by fits and starts, brilliant at times, but generally woefully deficient in the long run. Still, each one must adopt a style that is best suited to him, and in order to master a subject he should do it one way if he cannot another; if the old orthodox way won't suit, you find a way that will. Take the shortest, easiest and best way of getting it up. If it takes a year to learn to judge a cow by reading text books, and a month by working about the stables, by all means save the eleven odd months. When a subject can be mastered in a practical way, it is generally easier and better to do so. Similarly in studying a description of anything, if the thing can be seen, or even pictured in the mind, it is generally much easier remembered. Some can remember views and descriptions very easily, while others might soon forget them, but retain facts and lists of names. When one has a good memory, but deficient reasoning powers, he is very apt to study altogether by memorizing. These are generally poor in mathematics, and would rather remember a rule than understand it,

on the other hand, a good reasoner always understands, and goes to the bottom of everything as he goes along, thus he makes less use of his memory, but if he forgets a thing, can generally reason it out, and a thing once learned is always available. Poor reasoners should take every chance to improve themselves by making it a point to understand everything as they go along. When hurried, and especially when studying for examinations, it is often easier to commit a thing to memory than to understand it; however, this is mere waste of time, as it is soon forgotten, and leaves no permanent good. Besides, a catch question on the subject would completely puzzle one who did not thoroughly understand it, the student who follows this plan, must acknowledge that he has spent so much time merely for the sake of standing well at an examination. The sooner a student finds that he has fortitude enough to, in a measure, overlook the examinations and study only for his permanent benefit, the sooner will he realizing the true meaning and value of education. However, while we should not substitute our memory for our reasoning powers, we must not forget the great value of cultivating the memory; it is a faculty very easily cultivated, and, on the other hand, carelessness often makes our memory poorer. If we get in the habit of never trusting our memory, but writing everything down as it occurs, we will soon find our memory for daily events becoming poorer. Thus a business man could not tell you what he paid for a hat a week afterward, while an uneducated laborer would remember the price for a year; still, while the memory may become poorer for some things, it may get better for others, and knowing this, I would make it a rule to memorize only those things necessary to be remembered, and never mind those things that can be found at a moment's notice. Never burden the memory with a lot of facts that can at any time be referred to, but rather make it a point to remember everything that you have to depend on yourself for. A successful student must make good use of his memory, and in order to do this, he must know what to forget, that he may have more room for that which should be treasured up.

In studying such subjects as mathematics, it is a good plan to explain difficult questions to others. In order to make a thing plain to others a person must be very clear on the subject himself, and very often in trying to explain anything you notice your own defects. Trying to explain a thing clearly is very good practice, as it accustoms one to look exactly at what is wanted. Thus we form the habit of thinking and acting right to the point. Ability to do just what is wanted, no more nor less, is attained only by a few, and gives those few a decided advantage over others; they become possessed of that clear, practical mind that at once strikes to the root of everything, and are not apt to waste much time in getting down to work.

While we study chiefly as a means of education, we should study only that which will be of most use to us; an active man that makes good use of what he knows, finds life far too short to spend time reading a great deal that some consider necessary to a first-class education. Indeed, I consider a book-worm that spends much of his time reading what will never be of much use to himself or anybody else, one of the worst educated men of our time. Knowledge is only valuable when we are able to make use of it; unless it can be applied in some manner the time spent in acquiring it is as good as wasted. Of course just how much is useful, each one must decide for himself and to suit himself. What would be indispensable to one person in one walk of life, might be of little value to another; different people require different modes of education and treatment, and a man's chief study should be to know himself, and find out just what he does want. Still, in picking out for ourselves we must not be guided by narrow or prejudiced opinions, because we don't like a subject, or because, at first, we see little of real value in it, is no reason that the study would not benefit us. Very often the very effort required to master a subject is of more value to us than the knowledge gained. Nearly all study is more or less beneficial, even if it goes in at one ear and out the other, it leaves its trace.

In beginning a course of study, the key to success is method, "Order is heaven's first law," and the farther we go from heaven's decrees, the worse for us. Have a time for every subject, and do everything in its time. When the time for one subject is up, leave it whether you know it or not and go to the next; if you find you cannot get up a subject in a certain time, you must allow more time for it. In this way one finds out exactly the time required for each subject, and, knowing the time at one's disposal, each can have its

proper share allotted to it ; this will save confusion, and prevent some subjects taking nearly all the time, and others hardly any ; but the chief advantage in method is, that it enables one to find out just what one can do. In order to study with any degree of success, a student must know himself ; he must know what he can do, and in what way he can best do it. The more he knows about his own abilities and failings, the better is he able to accomplish his purposes. It is not always the cleverest scholar, the greatest intellect, nor the hardest worker that makes the best student, but the one that is able to make the best use of his own abilities. Method is the great secret of knowing yourself and your studies ; it enables you to handle your studies, your time, and yourself to the best advantage, and will get you into the habit of thinking, planning and systematizing, so as to be able to make the best use of the means at hand. Thus we soon find that some subjects can be best studied after certain others. If we have been at one subject for some time, a change to another entirely different will rest the brain. When studying, always keep the mind concentrated on your work ; allow yourself only a reasonable time to get up a lesson, and make up your mind to do it in that time, and it will not be long before determination forces concentration, and by practice the time required for a certain amount of work will gradually grow shorter. Having too much time at one's disposal is fully as bad as having too little, as one is apt to fall into careless ways of studying, while determination is pretty sure to make up for want of time. Of course one can generally study best in a quiet room, yet if a person makes up his mind to it he can study in a room full of talkers without being disturbed.

As to the best time to study much depends on the student. Some prefer the night, others the early morning. Some can study at any and every time, day or night. Odd minutes can be snatched now and then during the day for study. If a text-book is not handy, the mind can always run over and digest what is already acquired. After meals or much exercise, it is generally best to study light subjects that do not require much effort. Anything needing much reasoning is best studied when the brain is clear and calm, as in the morning. Still, here as elsewhere, each one must find for himself when he can best study certain subjects.

The foundation for vigorous brain work is a vigorous constitution. If the brain is to act clearly, it must be supported by good health. A person in poor health cannot stand nearly as much study, nor study as well as one in good condition. Hence the first requisite to a student is to keep well. Do not study hard enough to over-work the brain and always take plenty of out-door exercise. The brain needs to be rested fully as much as the body. A rest of one day in seven, enables one to do more work in six than could be done in seven continuous days, because a constant strain tends to make the brain dull, while a short rest gives it time to recover its freshness and vigour. Also a few weeks holidays after a hard term's work, have a very beneficial effect. After a good rest one can study much more in a given time, at the beginning than at the end of a term, simply because he has had a rest ; hence, I am no advocate of much study in the holidays ; especially about examination time should one make it a point to be in the best of health and spirits. If possible, study very little while the examinations are going on. The strain caused by writing and thinking while striving to do well, is fully as much as the brain can stand. It is very poor policy to spend a hard night's study before an examination. The mind is sure to be tired and dull, and cannot act as clearly and promptly as when backed up by a good night's sleep. Cramming for an examination is one of the worst evils of our educational system. Still, as long as examinations are conducted as they are now, just so long will most students make a business of cramming. Steady systematic work, from the beginning to the end of the term, always tells. Cramming for a few weeks before an examination is time spent in stuffing trash wholesale, only to be cleaned out and forgotten as soon as the examination is over. Besides this waste of time, it is very injurious to the health ; and about examination time one feels more like taking a week's sleep than on entering a competition in which a calm, clear mind, high spirits and splendid condition are indispensable to success.

President MILLS said that the question of cramming referred to in the essay, was a very difficult matter to grapple with. In his opinion, students would always cram; there was no such thing as putting a stop to it.

Mr. HOLTERMAN agreed with all that was said in the paper. In reference to cramming, he thought there would be many obstacles in the way of overcoming the habit. The questions asked at the examinations should be broad, and the student should concentrate his mind upon those subjects which would be most useful to him in after life.

Mr. MUIR said that the only way to meet with success was by systematic study. His term at the college was over, and he was well satisfied with the knowledge he had gained whilst attending the institution. In the first year he had studied everything, but in his second year, he found by experience that it was best to confine himself to those subjects which were best suited to the walk in life which he intended to follow; he also made a practice of memorizing.

Prof. BROWN said that a point was made in the paper in reference to the style of examinations. He thought that a great many students failed to understand the questions asked. There was a great difference in the way the questions were put.

President MILLS said a great revolution for the better had taken place in the style of questions given to the students. There was less cramming in the schools now than there was some years ago. Enough general questions should be given to help the earnest plodders and pick out the crammers. He advised the students to buy a little book called "Todd's Students' Manual," which, he said, would be of incalculable service to them.

Mr. BROOME advocated outside examiners for the institution.

Prof. BROWN said there were certain objections against outside examiners. The students would be induced to throw all their labour into the examinations and would neglect the lectures. It would be better to have associate examiners, like some of the universities. There would be no difficulty in getting them.

Mr. WARK thought there was too much study on the dry facts. More time should be allowed for reading, and the professor should tell them the best books to read. They did not get enough general knowledge.

Prof. BROWN intimated that he occasionally suggested books which contained useful information.

Mr. SHUTTLEWORTH thought that one night each week should be devoted to recreation. He appreciated fully the sciences taught in the Institution, but thought that if the three hours which were devoted to reading, every other day, were given to agricultural matters, it would be much better.

Mr. HOLTERMAN—Study agriculture at home and scientific matters here.

Prof. PANTON said that each student could study what he wished during the three hours mentioned; it was left to his own discretion. In reference to outside examiners, there was much in their favour; but this Institution could not be compared with Toronto University, and therefore, was not prepared to introduce professional examiners. In the latter institution, a four years' course was gone through, whilst here, the majority of the students barely put in two years. "Just imagine," he said, "an outside examiner from Toronto University, asking questions to the class here on botany and the other sciences; not one-third of them would be properly answered; he would not know what kind of a question to ask and give the student a fair chance. Associate examiners should, however, be employed, and they should be selected from among the ex-students." He thought that cramming could be partly overcome by holding monthly examinations.

Dr. GRENSIDE said that in his profession an outside examiner would be of no use. He always took great pains in explaining the subjects upon which he lectured, and made them as plain as possible. He did not think there was any cramming in the veterinary department.

PRACTICAL FORESTRY.

PAPER BY J. B. MUIR, NORTH BRUCE, ONTARIO.

It is not my intention to enter into a full and detailed history of the conserving and replanting of forest in this paper. Were I to do so, I presume we would require to go back to the time when our ancient ancestor dwelt with his fair consort on the banks of the great river Euphrates, and enjoyed himself beneath the leafy branches of those beautiful trees in the garden of Eden. And delightful it must have been to him then, as it is to us now; to walk in the primeval forests, and enjoy their health-giving atmosphere and

“Under the shades of melancholy boughs
Love and forget the creeping hours of time.”

But I do not mean to linger on the pleasures which our forefathers enjoyed; I must pass by the ages of antiquity, loaded though they be with useful information regarding our subject, and confine my attention to the forest of the present time.

In this and other provinces of the Dominion, which were at one time covered with trees from shore to shore, we find large tracts of land, where the trees have been entirely removed, and a dreary, cheerless waste exposed to view. Those of us who have the misfortune to live in those exposed places, know and realize what a grievous mistake was made in the early settlement of this country, when they permitted the forest to be all cleared or burned away. The soil has ceased to be so productive, the little streams and rivulets have dried up, greater extremes of heat and cold are experienced, and the climate becomes more variable. Besides this, it requires more fuel to keep our homes warm during the cold winter weather, more food and shelter to maintain our stock, and all out-door work done during the winter is accomplished with greater expense and hardship both to man and beast. Again, we find it much more difficult to raise some of our principal crops. The pasture becomes bare and withered in early summer, owing largely to exposure and the hot dry winds, which sweep along unchecked and lick up the moisture from the parched soil. The raising of fall wheat and clover is not so profitable, and is attended with greater uncertainty, than where we have a due proportion of forest land preserved on each of the farms. The rain, also, as it falls, washes away the soluble constituents and natural fertility of the soil from exposed places, more quickly than in protected districts, and in a very short period of time, we have the land in a state of poverty, altogether unfit for the successful raising of crops.

From a consideration of those facts, we may readily arrive at the just estimate as to the importance of renewing a small portion of the original forest on each of our farms. And in addition, when we consider the history of the different countries in the world, we cannot find one that has made a successful agricultural record, but what has given its attention to forestry as well.

If we go to the distant prairies of the North-West, rich in the elements of fertility and decaying vegetable matter, there men of science tell us that unless the cultivation of trees is resorted to, there can be no great agricultural future in store for that vast territory. Now, if we continue wasting our forests in the future, as we have done in the past, many parts of Ontario will soon be as bare of trees, as the prairies of the North-West. But, fortunately for us, Ontario possesses many far-seeing and able men, who are alive to the importance of saving the timber on their farms, and are seeking to the best of their ability to preserve their forests in a healthy condition. Those men will one day prove to be the backbone of the agricultural wealth of this Province. We cannot find an eminent agriculturist without at the same time finding a forester. Forestry and agriculture are twin brothers; they must go hand in hand, in order that both may be successful.

To those who are living in the newer districts, where a large percentage of the natural forests are still standing, we would say, be conservative in regard to the wasting of your timber. Where it is possible and convenient to save it, do so. The time is coming when every stick of timber will be valuable, and varieties which cannot now be placed on the market but at a loss, will be increased in value, and made to yield a handsome profit.

Then in order to secure the climate amelioration which bush-lands are known to possess, it is not sufficient that here and there one farmer should be conservative and save his bush-land, while his neighbours pursue the opposite course. He must be "up and doing" as well, arguing, reasoning and prevailing with his neighbours for their own good, for their families comfort and for their countries wealth, to save a portion of the timber-land in its natural condition. Protect it from the woodman's axe, as you would the young and growing crop from the reaper's sythe, and stimulate its production, by planting new and improved varieties whenever a fit opportunity presents itself.

But then there are those who maintain that the timber thus saved will in a few years die off and be of very little use. True, we see some notable examples of this throughout the country; but on the other hand, it is equally true that we can find many examples of reserved timber lands, flourishing in all the beauty of their own native grandeur, pushing out year after year an abundance of foliage, unsurpassed in vigour and richness by the healthiest forests of America.

But if we give the cattle permission to roam amongst the trees, eating and tramping under foot the rejuvenators of the woods, breaking with horn and hoof the rising sapling, tramping the soil from the roots of the trees, and letting in the drying winds, sooner or later our forest becomes but the dried-up remains of former greatness; very little use as a protection, and an eye-sore to all lovers of natural beauty.

Another very destructive enemy to the conserving of forests are the annual summer fires. Thousands of dollars worth of timber are sometimes destroyed in a very few days by one of those forest fires, which sweeps across the country for miles at a stretch, burning everything before it.

To guard against this, we should keep our forests and woodlands as free from fallen and decayed timber as possible. This may be done by taking out the dead and dying trees, and making use of them either for timber or firewood. Their place should be supplied by more profitable trees, and, in time, a very inferior piece of woodland may be made to contain some excellent specimens of the best varieties of timber.

In order to secure this result at an early date, it is well to thin out the poorer qualities in the underwood, and supply their places by more profitable varieties. Care must be taken in this operation, though, not to thin too near the edge of the bush, as by so doing the wind finds an entrance, drying up the soil and upsetting many of the larger trees.

Having thus touched briefly on the more important points to be observed in saving a piece of bush in a healthy state, let us turn our attention to another aspect of the situation, namely, replanting our roadsides and other places with trees. As has been stated in the former part of this paper, large tracts of Ontario have already been stripped too bare of their natural protection. The climate is now more liable to extremes of heat and cold than formerly, changes in temperature are more sudden, and the wind sweeps along with greater force and penetration than in the backwoods. This last remark is especially true in many of the western counties of Ontario, bordering, as they do, on the great lakes, where the wind sweeps along the vast bodies of water, and rushes with unchecked fury across our treeless fields and round our unprotected houses, piling the snow in heaps promiscuously behind the fences in the roads, lanes, outbuildings, etc. Now, if we had clusters of trees around our dwellings, and wind-breaks along the north and west sides of our farms, how different it would all be. Occasionally we meet with a farmer who is taking advantage of the natural protection which trees afford, and is planting groves for wind-breaks around his buildings. As one nears the friendly shelter on a stormy day, he feels as though he were leaving winter's icy blasts for summer's pleasant breezes, so great is the change. Here the severity of the winter's blast is moderated, the yearly consumption of fuel economized, the comfort and healthfulness of the live stock increased, and greater facilities afforded for proper attention to out-door work.

Now, if we consider that tree-planting is a necessity, as many farmers do, it is important that we should adopt some system as a guide to all our future operations. The haphazard system which characterizes the work done by many farmers is a very injurious one, and should be discarded as well as our scrub stock.

In planting we should consider what will be the most profitable size and shape to give the clump, wind-break, or other plantation. We should arrange the trees so as to afford shelter and protection to our buildings, to our fields, and to our stock. The trees should also be planted, when convenient, in rows, so that at any future time they may be used as posts for a wire fence. Again we must select trees suitable for the soil and locality, and such as will be profitable for timber when matured. Yet another consideration would be to plant the trees in such a manner so that they shall be an ornament to the place, hide unsightly objects and give a more pleasing effect to the eye, "for a thing of beauty is a joy forever."

How to make the trees grow, is a question which puzzles many of our practical men when they commence to plant their first trees. The present system of going to the woods in the spring and rooting and tearing out by main force a few fishing-rods, and then planting each in a hole in the ground a few inches in diameter, is a useless one, and in nearly every case results in failure. The few trees that survive usually present a dwarfed, sickly, stunted appearance, compared with their natural condition.

Now, a simpler and much better method of obtaining trees, and one that usually proves successful, is to carefully prepare a plot of ground for a nursery. This should be a free, rich, loamy soil, carefully tilled, and kept free from weeds and grass. Great care should be experienced in keeping the fence well repaired around it, as the stock would cause a serious loss to the young trees if they should happen to break in.

Having carefully prepared the land for the reception of the young trees, go to the woods and select good, thrifty, healthy trees. It is always better to select small trees, (say from eight inches to two feet in height), as the change in their mode of living does not affect them so much. Trees of such a size will readily bear transplanting, and will soon become accustomed to their new quarters. After having carefully planted the young trees in rows in the nursery, they will require to be kept well cultivated for a few years to prevent their being smothered out with grass, and also, to keep the soil loose and moist. Planting the trees in the nursery develops a large number of fibrous roots, and this can only be done under favourable conditions, as when the soil is kept cultivated, etc. When the young trees in the nursery are ready to be removed to their permanent positions, select a mild, damp day in the spring of the year. Have the land carefully prepared for their reception, either by plowing or digging, and in no case plant deeper than the tree stood in the nursery.

And now, in concluding this paper, which is intended only to form a subject for discussion, and to awaken an interest, if possible, in this great branch of farming, let me ask: Why is it that so few of our farmers take any interest in ornamenting their places with trees? Is it because they think that only millionaires and such as are able to command their thousands are able to engage in this business? Or do they imagine that only foreign and expensive trees should be planted? To one and all I would say lay aside those foolish notions, and in the spring go to the nearest woods and select your young trees. Commence at once to beautify your homes, and save your stock from the cutting, wintry blast, and your fields from the sweeping winds. There is no need for us to turn this fair Province into the cold and barren *steppes* of Siberia, while we have plenty of material growing in our midst to prevent it. What we lack is the energy to go at the work; but let us combine our forces and turn again the treeless plains of Ontario into fields bordered on every side with shady fences, and in so doing we shall be able to make our homes more comfortable, our stock shall thrive on fat pastures, prosperity shall meet us on every side, and our land shall yield her increase.

Mr. MILLS asked Mr. Muir if he considered too much of our timber had been cleared away.

Mr. MUIR.—No; it is the unequal distribution that causes the difficulty. Many farms have no bush whatever, every stick having been cleared away. I claim that every

farmer should reserve from fifteen to twenty acres of bush to every one hundred acres of land. A farmer would realize more profit from eighty acres of land well cultivated and protected by bush, than from one hundred acres all cleared.

Mr. RAMSAY, (Eden Mills).—I think it would be wise to do more tree planting, but, at the same time, it is quite possible the thing could be overdone. Farmers should make it a point to leave some of the original bush standing and not clear all the land. Some people do not believe that taking away the forest dries up the springs, but I must say that I do. I do not approve of woodland pastures, as I have found it impossible to have bush and pasture in one. The grass will not grow in an old bush, and the cattle will not let the trees grow in a new one. Money can be made out of a bush by thinning out the old trees for sale, and planting young trees as the old ones are taken out.

Mr. MILLS.—When would you consider the best time for planting—in the spring or fall?

Mr. RAMSAY.—I always plant in the spring; it is much the better, and is more reliable.

Mr. MILLS.—Is there any damage arising from watering them in the heat of the day?

Mr. RAMSAY.—I apply water any time, and have found no bad results. The ground should also be mulched well to keep the roots moist.

Mr. FORSYTH said that in his experience watering did no harm at any time. He preferred mulching, as it retained the moisture around the roots. He was much pleased with the paper, but regretted that it said nothing about the raising of trees from seed. Anything of a loose nature would do to mulch with, such as leaves, straw, chips, sawdust, and barnyard manure.

Prof. BROWN briefly referred to hedge rows, as compared with rows of trees, and expressed himself as much in favour of the latter. England, he said, was not realizing what she expected from her hedge rows, and we should take a lesson from her. He favoured planting trees on the sides of the farm from which the prevailing winds came.

A memorandum was here submitted by a member, in reference to the sowing of a handful of oats in the hole with the young tree, it being claimed that the people of some countries practised this custom.

Mr. MORGAN (Strathroy), considered that a farm beautifully ornamented with trees was the happiest home on earth, and besides, the trees formed wind-breaks and protected the grain fields. He was not in favour of tall, thin, fish-rod trees, but advocated the planting of soft-maples of stout proportions, with good roots.

President MILLS.—How do you protect the trees?

Mr. MORGAN.—I dig a large hole, and if the soil is not good, I procure soil that is adapted, and pack it well about the roots. I also mulch well, and advocate the driving down of stakes, and placing wire guards around the trees to keep the cattle off.

Mr. A. E. WARK (Wanstead).—I would like to hear from some one who has had experience in raising walnuts.

Mr. C. A. CAMPBELL (Simcoc)—I am now raising several hundred trees, and find that there is more difficulty in raising nut-bearing trees than any other kind. I cannot, however, give much information on the subject, as I have not had sufficient experience to speak with accuracy. I was much amused with the remark made by a member, "That a handful of oats facilitated the growth of a tree." The thing seems to me to be absurd.

A member here explained that he had seen oats sown with trees on several occasions. The oats grew and formed a turf which acted as a mulch, and therefore, was very beneficial.

Mr. RAMSAY.—There is a great difference between nut-bearing and other trees. In transplanting from the nurseries to the farm there was not much risk of losing the trees,

but in taking them from the bush, they invariably died. The oat question he considered as a relic of barbarism. He used stones as a mulch, and his trees thrived. Watering not enough was worse than no water at all.

Mr. FORSYTH.—When the tap-root is cut, the upward growth of the tree is checked, and it branches out from below without any leading shoots. He advised planting seed where the trees were wanted to grow, thereby avoiding transplanting.

Prof. BROWN.—This tap-root is an important point. To-morrow morning I will show you some trees on the farm, and you will see the difference between those which had been cultivated, and those which had not.

Mr. KEIL.—I have planted over one hundred and fifty nut trees, some of them have had the tap-roots cut, while others have not. They all thrived equally well.

Mr. FORSYTH.—I have noticed some trees planted from seed which grew up hardy, tall and straight. Transplanting and cutting the tap-root seems to check the growth, and causes side roots to shoot out.

President MILLS.—I don't believe that the sap from this one root runs separately through the tree, and would, therefore, look to other causes for the check in growth.

Mr. CAMPBELL.—Could it not be traced to the severe weather of the last few winters? The fruit trees have also suffered much lately from some cause.

Mr. JAS. ANDERSON (Puslinch).—I have not had much experience in anything but apple trees. I believe that mulching is better than watering, and that all orchards should be properly drained. I find black muck to be the best mulch.

Mr. LESLIE (Peel), had planted over one hundred trees, and they had all lived. He merely hoed around them; believed there was nothing as good as cultivation.

Mr. LICK referred to the Government grant of 25 cents per tree, and said that the farmers were not taking enough interest in the matter. There was great difficulty in getting trees from the bush to grow after transplanting. Sugar maples would not live in wet land. In planting on the roadside, trees should be placed thirty feet apart, and protected from cattle by a snake-rail fence.

Mr. RAMSAY.—Any municipality can pass a by-law, naming the size of tree to be planted, to get the Government grant of 25 cents. I know where whole lines of trees are dead, a fitting monument of the folly of men who planted for the sake of the Government grant.

Mr. MORGAN.—The law requires that the trees shall be growing for three years before the grant is paid. There is no law to compel a farmer to plant trees—merely a reward offered to those who do so.

Before the meeting adjourned, Prof. Mills invited all present to proceed to the dining-hall of the College, to partake of the matron's hospitality, after which various toasts were proposed and fittingly responded to by members of the Union.

SECOND DAY.

The Union resumed at 8.30 this morning, pursuant to adjournment of yesterday. There was a large attendance present. Mr. J. A. Campbell in the chair.

The Nominating Committee having reported, scrutineers were appointed, and the election of officers for the ensuing year proceeded with. Following is the result:—

OFFICERS FOR 1886-7.

| | |
|-----------------------------------|-----------------------------------|
| Hon. President | Professor Brown, O. A. C. |
| President | A. E. Shuttleworth, Mount Albert. |
| Vice-President | P. A. Carpenter, Collingwood. |
| Treasurer | R. A. Ramsay, Eden Mills. |
| Recording-Secretary | R. W. Madge, O. A. C. |
| Corresponding-Secretary | R. F. Holtermann, Brantford. |
| Editor | C. A. Zavitz, O. A. C. |

CREAM GATHERING *VERSUS* CENTRIFUGAL IN THE MANUFACTURE OF BUTTER.

PAPER BY A. E. WARK, OF WANSTEAD, ONTARIO.

The raising of cream by the old shallow pan system is fast going out of date, and will be substituted either by the deep-setting or centrifugal. The farmer who makes butter under the old system in the future will either have to consume it himself or trade it off in our country stores, which is little better than giving it away.

Creamery butter brings the highest price in our market; artificial butter or butterine the second, and farmers' home-spun, third or lowest.

Of the two evils, butterine and farmer's butter, it is hard to say which is the best. Statistics show, that from the 1st of May, 1885, up to date, 10,000,000 pounds of butterine were manufactured in the city of Chicago, and it is calculated that by May, 1886, there will have been 20,000,000 pounds made. Now, these are startling figures, and must influence the market to a great extent. At the Sixth Annual Convention of the National Agricultural and Dairy Association, which was held in New York last month, the President, Mr. Jos. H. Reall, contended that milch cows have depreciated \$10 a head, the land 25 per cent. in value, and that a direct loss of \$1,000,000,000 was entailed on the dairy industry by the manufacture of imitation butter, and by its sale as the genuine article. Now, I hope that this will be a warning to Canada.

You are all aware of the fact that Canada can stump the world in the manufacture of cheese, and taking into consideration the absence of butterine factories, and the non-market for farmers' butter, why not stump the world in the manufacture of butter also?

Creamery butter is of two kinds, namely, that made from cream raised by the centrifugal separator, and that made from cream raised on the deep-setting system.

The first prominent fact in the separation of cream from milk is, that it rises by reason of its having a less specific gravity than the milk with which it is mingled. The average specific gravity of milk is 1,030. The difference between this and 985 brings the cream to the surface. In the deep-setting system, everything being favourable, all or nearly all the cream rises in from 6 to 12 hours, while by centrifugal force it is separated in the fraction of an hour.

In criticising these two systems I will do so from an unprejudiced standpoint, and as I am neither acting as an agent for centrifugal separators, nor interested in the sale of deep-setting cans, I think I am in a position to do so.

In the first place, we will compare the cost of rigging out a factory to be run on the cream-gathering system, with one to be run on the centrifugal system.

CREAM-GATHERING.

| | |
|--|---------|
| Cost of Building..... | \$400 |
| Two 300-gallon vats..... | 100 |
| One 250-gallon churn..... | 30 |
| One butter-worker..... | 12 |
| One test-churn..... | 8 |
| Eight gathering cans..... | 70 |
| One scale..... | 5 |
| One 6 horse-power engine and 8 horse-power boiler..... | 400 |
| Sundries..... | 25 |
| Total cost..... | \$1,050 |

CENTRIFUGAL SYSTEM.

| | |
|--|---------|
| Building..... | \$400 |
| Two vats..... | 100 |
| One churn..... | 30 |
| One butter-worker..... | 12 |
| One scale..... | 5 |
| One 6 horse-power engine and 8 horse-power boiler..... | 400 |
| Three centrifugal separators..... | 750 |
| Sundries..... | 25 |
| Wear and tear on machines, 10 per cent..... | 75 |
| Total cost..... | \$1,800 |

We will suppose our factories in running order, the centrifugal having cost us \$750 more than the cream-gathering factory. In order to meet my extra expense in starting the centrifugal factory, I must have more per pound for manufacturing.

The farmer's expense in both cases is about the same. In the one he has to furnish himself with cans to set his milk in, and in the other he has to furnish cans for the conveyance of his milk to the factory. In the one case I have the patrons complaining about the cooling of the milk, and in the other they keep growling about the skim-milk having no more nourishment than whey, and sour at that. These two points are where the shoe pinches the farmer, and which ever system can prescribe the best remedy is the one which is going to meet with success.

The trouble of cooling the milk can be easily overcome by laying in four or five loads of ice during the slack time in winter. The farmer can do this at little or no expense. He must build himself a water-tight box with a lid attached; into this set the cans of milk, and fill the box with water, which can be kept cold by throwing in a chunk of ice and closing the lid, by doing this he will greatly diminish the labour of cooling the milk.

Advocates of the centrifugal claim that they can take more cream out of the milk than can be done under the cooling system. If this is so it must certainly be done at the expense of the skim-milk, thus decreasing its value as a food. I maintain that the farmer would realize more by feeding the extra cream—which the separator takes out—to his calves.

“The skim-milk is sour.”

This will invariably be the cry in the hot summer months, especially from patrons living four or five miles from the factory. This is not to be wondered at when we consider the different temperatures, etc., to which the milk is exposed. Milk comes from the cow at a temperature of 90°; it is set aside over night and cools; next morning it is

mixed with morning's milk and the milk hauler draws it, say five miles, to the factory. Here it is heated up to 90° and run through the separator at the rate of 1,000 revolutions per minute, and after all this carried home to the owner.

It is not the quantity of butter extracted from a given quantity of milk, which decides in favour of one system over another, but the quality. I fear that this one word "quality" will greatly retard the progress of centrifugal factories. We have only to look at the results of the Provincial Exhibition held in London last fall, and the Industrial held at Toronto, where butter from both systems were in competition side by side. The first prize in both cases was awarded the butter made under the cream-gathering system, the centrifugal not even getting a prize. I know of similar cases both in Canada and the States.

From these statements we must come to one of two conclusions—either that a first-class article can not be manufactured by this system, or that centrifugalists are not up to their business.

In either case my opinion is, that the cream-gathering system will be the system for some time to come.

Mr. CAMPBELL, Chairman of the Convention, called upon the farmers present to express their views on the subject. He said it should be thoroughly sifted.

Mr. McDONALD (London), thought that the paper was much to the point. He had been making many enquiries lately in regard to the centrifugal manufacture of butter, and had come to the conclusion that at present the system was not complete enough to go into general use. He had been told in Toronto that the milk from Holstein cows was poor in solid matter, but in his opinion, the soil and grass had more to do with the quality of the milk than the breed of the animal. He would like to hear from some of the old butter-makers in attendance.

Mr. RAMSAY (Eden Mills), said that it was not worth while discussing the subject in this section of the country. The farmers here raised a good quality of stock, and would not sell the milk for centrifugal manufacture. Something should be done towards improving the butter that was now made, and means proposed to judiciously use the milk to raise young stock for export purposes. He was not in favour of the centrifugal process, although it had been said that in Denmark butter made by that system was considered the best and brought the highest market price. The Danes, he thought, were better posted in its manufacture. At all events it had never been a success in Canada. The cattle here were exactly suited for exportation, and the deep-setting is best for the milk. We should be very careful about jumping into this new-fangled system of centrifugal separators.

Prof. BROWN asked the essayist if butterine brought a higher price on the market than farmers' butter, when the buyer was made acquainted with the difference between them.

Mr. WARK replied that butterine took the precedence and highest price on the foreign markets, but not in Canada.

Mr. MORGAN (Strathroy), had not had much experience in the making of butter or cheese, or in the raising of farm stock, and was not posted on the centrifugal system. The essayist had said that Canada should lead the world in butter. This, the speaker thought, was an easy thing to propose but another thing to accomplish. Canadians could make very good butter, but other countries could make equally as good. He knew a gentleman in the county of Middlesex who had competed with the best makers in all parts and had always came out with first honours. This gentleman had attributed his remarkable success, solely to cleanliness in manufacture. Cleanliness was a very important factor and should not be lost sight of. He once knew two brothers, both extensive butter-makers and importers; one was an habitual smoker, the other did not use tobacco

in any shape or form. They both sold their butter through an agent on a foreign market, and the one who did not smoke, always received a higher price for his butter than the one who used the noxious weed. Not being able, in any other way, to find out why this distinction should be made, they at last resolved to change the labels upon the packages as an experiment, and in their next shipment, made it appear that the butter from one belonged to the other, and *vice versa*. In due time a letter was received from their agent, in which that person said, that—strange to relate—a very disagreeable taste or flavour was attached to the butter belonging to one brother, which had never been known of before, whilst the other brother's butter, which had always been marked by this peculiar flavour, was this time pure and sweet, and, therefore, worth $2\frac{1}{2}$ cents more per pound on the market. This convincing test satisfied the brothers that it was the aroma of the tobacco, which had invaded the butter and detracted from its value. He, the speaker, merely cited this case as an example of the effects of cleanliness, and he could vouch for its correctness.

Mr. RAMSAY.—Who smoked; the man or his wife?

Prof. BROWN.—You are not in Scotland now Mr. Ramsay; the women don't smoke in Canada.

Mr. CAMPBELL (Simcoe), said that down his way a short time ago the people were inclined to go into the creamery business. They thought there was more money in it than in cheese, and wanted to give it a trial. The cheese men made a big kick and the matter was thoroughly discussed. Prof. Barrè of the College staff attended one of the meetings held at the time, and gave the farmers some good sound advice, the result was, that after careful consideration, they resolved that it would be unsafe to start a creamery, and they accordingly stuck to the cheese factory, and seem to be well satisfied with the course they took.

Mr. RAMSAY thought the farmers should stick to the cheese factories; it paid better than butter.

Mr. MORGAN asked what effect turnips fed to the cattle would have on the butter.

Prof. BROWN stated that anything over thirty pounds would effect the milk seriously. Some people's experience differed. One-third of a bushel would leave no marked taste—it was a good idea to mix the turnips with chopped stuff; it appeared to destroy the flavour.

Mr. RAMSAY.—Does the time of feeding make any difference—say, before or after milking? I have heard that the centrifugal separator got rid of this turnip taste.

Prof. BROWN.—It is best to feed turnips just after milking. I see by the report of the New York Dairymen's Association, that butter made by the centrifugal system, is of a more greasy nature than other butter; also, that the texture is affected and it does not keep so long. The leading chemists of the country were at sea on the matter.

Mr. MORGAN did not think it possible that a feed of turnips, given a short time before milking, could pass through the blood and taint the milk at once. He believed it was the continual feeding of turnips that did the mischief, and thought the top was worse than the root. He agreed with Prof. Brown in everything, and thought that mixing the food would be of great benefit. Up his way the farmers considered Prof. Brown's views as sufficient authority on all subjects relating to the farm.

Mr. RAMSAY said, that when turnips were properly housed, they lost a great deal of their disagreeable odor; chilled, half frozen turnips were the worst for feed.

Prof. PANTON said the testimony of the majority was in favor of feeding the turnips immediately after milking. Experience, he said, teaches that the aroma will pass through the animal and taint the milk. Nearly everyone had a different opinion on the matter, but, taken on the whole, feeding after milking had been proven to be the best.

Prof. BROWN said that in England the cattle were fed on all kinds of roots without evil results. There was something mysterious about it, which we, in this country, had not yet learned.

OBSERVATIONS FROM A TWO YEARS' COURSE AT THE ONTARIO
AGRICULTURAL COLLEGE.

PAPER PREPARED BY T. RAYNOR, ROSE HALL, ONT.

When a young man leaves home for the purpose of gaining instruction in some particular line of operation, or to better his circumstances, he becomes instilled with hope, new desires, and determinations. This is no less true of the student, when he first sets out for a course at the Ontario Agricultural College.

Directly he is thrown upon his own resources, and the sympathies of this cold world, his views of life broaden. He realizes, it may be for the first time in his life, that he is a responsible being, and that upon his individual efforts depends to a large extent, his success in life. As to the degree of responsibility he may feel, depends largely on the training he has received at home, the habits he has formed, and his surrounding circumstances.

I have noticed with few exceptions, that every new student begins the term well, acting out his resolutions with great earnestness and seeming profit. But human nature requires company. In a week or so, the student has formed several acquaintances, the choice of whom as bosom companions soon determines, as a rule, whether or not he will carry on the good beginning he has made.

We conclude from this that great care should be taken by the student in selecting close friends, and that carefulness should be exercised by the authorities in the distribution of new comers.

The first two or three weeks of the student's life abroad seems to be a period of stock-taking, not only with regard to his surroundings and study, but also in the professors and those with whom he may have to deal generally. It is then that his likes and dislikes begin to root; and if the former are not properly nourished, and the latter by all means discouraged, the success of such a student may be considerably impaired. On the impressions made during this brief period, depends to a larger extent, the conduct of students towards their superiors than is generally admitted.

I have noticed too, that if there be any animosity existing in the minds of older students towards those who have the oversight of affairs, or with regard to any of the methods of doing things, more particularly in the outside departments, that it is very contagious, and like contagious diseases, spreads rapidly. This to a certain extent counteracts the impressions previously mentioned, but in the main, I think the assertion holds true. From the foregoing, then, I draw the following conclusions:—

1. That all the instructors, whether outside or in, should be very punctual in the dispatch of business.
2. They should seek to impress the importance of the subject or work, as the case may be, in which they are imparting instruction, laying particular stress upon its practical bearings.
3. They should insist on the work assigned being thoroughly prepared, although it may be argued that young men are old enough, when they enter such an institution, to be impressed with their own responsibility in such matters; but not always the case, as some seem to be more matured in judgment at seventeen years of age than others at the age of twenty-one, due, as before stated, largely to one's early surroundings; and
4. They should seek to know the students individually, as soon as possible, especially the more reserved characters.

The most successful instructors that I have observed are those who are the most practical in their methods of teaching, and hence the necessity of having each department supplied with plenty of the right kind of apparatus. There seems to be nothing so good as the object itself to impress the lesson home on the mind of the student, whether young or old.

In the method of studying, I have noticed particularly a great lack of system on the part of the student. Every one seems to have a system of his own, and, as in the case with respect to political economy, people, if they have not the proper principles, will make some to suit themselves, which, too often, adds but little to their own wealth or to that of the nation. It is much the same in studying. One may appear to be working hard, but some how or other very little appears to be accomplished. There seems to be about three principal methods of studying :—

1. The method of those who start in well for a few weeks, but given to too much company which seeks the gratification of pleasure, get behind, discouraged, and then “throw up the sponge,” until a week or so before the examinations come off. Then relief from work, and shutting down on lectures is wanted. Note books are drawn out from beneath the *debris*, when only about half are to be found, and a general raid is made on their more provident and generous neighbours, to supply the other half. Usually this method results in the pluck and zero scale on the list.

2. That pursued by those who want to get along, but who only like certain of the subjects taught, spending nearly all their time on these, while those which are more distasteful, are studied when the eyes are on the book, but the mind is revelling in some enjoyment, or travelling in some foreign country. Here we may class those who partly understand the subjects, but have no ambition to ferret out the other part. The results of this system are more satisfactory, as it generally shows itself in the pass list.

3. Method, and the most successful, is that in which there is a system, (*a*) as to the division of time regulated by the subjects to be learned; (*b*) regarding determination to understand the principles at all hazards; (*c*) as to the training of the eye and mind to observe and inquire into the causes of things; and (*d*) commencing to work at the beginning of the term, keeping, if anything, a little ahead of the work (at any rate even with it), and simply reviewing at the end of the term, instead of having to get up all new work. This kind of preparation fills in the honour list.

We conclude, then, that to study successfully it requires attention, observation, an inquiring mind, determination, application, and perseverance. To carry out these principles properly the student requires a healthy and vigorous mind, which acts best in a sound body, and which in its turn demands exercise.

There has been a tendency, on the part of many students, to find fault with the number and kind of subjects taught, owing formerly for the most part, to the limited amount of time for studying; but which, with the more extended time, I presume and hope, has entirely died out. The study of such a variety of subjects has a very refining influence upon the mind of a man, and better fits him for his calling in life. I have noted the dull, listless expression of the eye, seldom turning from the ground before it, on which the possessor was walking, turned to a sharp, searching look, which could only be changed to such a degree of brightness by the refining influence of many subjects, especially those cultivating the powers of observation. No subjects have done more to attain this end than have the different branches of science, drawing the attention to the book of nature constantly open before us, and causing the willing student to see some of its hitherto hidden pictures. I think, however, if some of the subjects taught, by way of lectures, as for instance much of the veterinary department, were printed on sheets, with a space at the bottom, or in books, with blank sheets between the pages, on which to take explanatory notes, that some of the bad effects of so much scribbling, and much of the poor spelling, too, often seen on examination papers, might be done away with to a considerable extent. This would give more time for the practical part of these branches which does the most good in after life.

The necessity of having plenty of exercise to retain a healthy body for a sound mind to work in was referred to in passing. It has been maintained that the work in the outside department is sufficient to supply the demands of exercise. It does help to a large extent; but now, with the increased time for studying and reading, I think the want of a good gymnasium must be doubly felt. And, as it was so humorously and ably

referred to by a fellow student at our last re-union, I quite agree with him, that pillow-fights, broken-down beds and hall raids with water deluges, might become a thing of the past, if a convenient and well-equipped gymnasium was at the disposal of the students. Also this might result in some permanent benefits, as the preservation of property, less cases of hauling up on the carpet, and might afford peace and quietness for the less nervous students to concentrate their minds on their work.

I have also observed that there is more disappointment of the expectations of students in the outside departments, than with the inside training. This is due, possibly, to the fact that students expect too much, in fact a great deal more than was ever intended. Many expect to be turned out first-class farmers, first-class mechanics, and expert gardeners, all in the space of two years, eight months of which time, by many, is spent at home. This may be somewhat overdrawn, but I appeal to the students if there were not some such ideas in their minds before the reality was found out. This impression, though absurd on the face of it, must originate somewhere, and would it not be well to find out the source?

Without the aid of an instructor, much can be learned from observation and enquiry, if the student be willing to apply himself. Too often, however, he waits to have everything handed to him, and thus misses much of the benefits to be obtained in the outside departments.

That students under the old system of work and study sought to kill too much time in order to appear busy, few will deny; and yet, it was quite noticeable, that those who did the least work by killing the most time, found the most fault with the pay they were getting. As a rule, students do not like to work at jobs which are distasteful to them, especially away from home. If they can avoid it they will, and in too many instances those who stand around pleading for the "fat jobs," to keep peace in the family receive them, to the discomfiture of the more willing workers. Without discussing the lack of proper equipment for a more thorough and practical training in the principles of agriculture, I wish to call attention to how the overseers might make attractive some of the more or less distasteful work. I know that it is utterly impossible to please all; yet if the overseers had more time at their disposal to spend with the students engaged at the different operations, explaining the necessity of having the work in question done at the proper time, by the best and simplest methods, and at as little cost as possible, I think greater interest would be taken in the work generally.

Under the past system of doing much of the work by making a job last a certain length of time, the student, almost unconsciously, contracts the habit of working slow and often to little advantage, which will follow him after his college days are over. The object of the overseer should be to make his department the most interesting and attractive by imparting all the information possible in connection with it.

Another fact which has attracted a great deal of attention is, that too many of the students leave the College before the two years have expired. Thus they deprive themselves of much valuable information, and lose many benefits arising from the first year work. This ought not to be, as the ground to be covered properly, should occupy three years, instead of two; but under the circumstances impossible. Why then, it has been asked, do not more stay for their second year? Is it because there is not enough to be learned in the outside departments? This has been one complaint. Another has been that in the first year a number of the subjects taught are quite useless, for instance the chemistry and zoology; of which they do not remain to see the real benefits. This again shows the necessity of the professors fully explaining their positions with respect to the subjects in their charge.

Some have complained (1) that too much stress is laid on the examinations, and the course has been styled a "systematic cram," and (2) that the students are studying more for the examinations than for general information, leaving valuable books in the library untouched, and only glancing at the general news topics, and that studying, therefore, becomes irksome and repulsive. They maintain that if they cannot pass in all their subjects during the first year, that there is no use trying the second year, basing their conclusions on some of the subjects they do not understand, as for example chemistry, one of the keys which help to unlock the great book of nature.

These views, no doubt, arise from the fact that the average education of the farmers' sons, received at our public schools, is not high enough to enable them successfully to take advantage of many of the subjects taught in the College. Hence the necessity, as has been so eloquently and convincingly argued by the President of the College, in his tours through the Province, of a change in our system of education, whereby agriculture, the most important industry of our Dominion, may receive its just dues.

Finally, let us notice briefly some of the benefits arising from a course at the Ontario Agricultural College, (1) After leaving college one takes a greater interest in his work, because he understands much better what he is doing.

(2) It fits him much better to take a social standing in life, in which his influence may be felt, and the world made better by his having lived in it.

(3) It creates a desire to know more about his occupation, by reading along that line what prominent men have to say through the press, and

(4) It enables one to read and talk much more profitably and intelligently, on all topics of general interest, and on those subjects which concern his own occupation in particular.

Now, sir, if I have succeeded in throwing out any hints, which may be of some practical benefit, I shall not consider the time used in preparing this paper spent in vain.

W. H. OWEN, (student) spoke of some criticisms on the College and Farm, that had been printed in some of the papers. He admitted that there were some defects in the outside department, and thought that a proper system of outside instruction had not yet been adopted. He thought that much more instruction on practical work should be given, and suggested the appointment of an Advisory Board composed of practical farmers to assist in managing the farm.

Mr. MORGAN, (farmer), asked to hear the opinions of some more of the students.

R. W. MADGE, (student), said he agreed with Mr. Owen in his remarks about the outside department. As to the interior department, the students themselves are all well aware that the studies are compulsory. He was in favour of making some of the subjects optional, as a great many of the young men who came to the institution to gain a better knowledge of farming, were not prepared to take hold of all the studies imposed upon them; some in fact were not qualified to do so, and became discouraged before the first year was finished, and left the College. He did not think that it was the bad reputation attached to the Farm, which deterred farmers from sending their sons to the College, nor yet had politics much to do with it. He attributed it merely to a want of interest in scientific agriculture. The present regular course of study at the College was first-class in every respect, but the special class was a complete failure. A change should be made in it at once. He was exceedingly well pleased with the suggestions made in Mr. Raynor's paper, and felt that they would be fully appreciated by all. The Veterinary Department was well and thoroughly taught, but the lectures were not of as much practical benefit to the students as they might be; what was wanted was practical knowledge. Mr. Madge next reviewed the Horticultural Department, and suggested that the practical work in this department should run through the whole course. In conclusion, he said that it gave him great pleasure in moving the following resolution, which included all he had to say in reference to the special class.

"That it be suggested, (1) that the special class be recognised, and the course of study extended, including live stock, agriculture, agricultural chemistry, veterinary science, arboriculture and entomology; (2) that all their time be as fully occupied as in the regular class, and that in every respect the class be considered of equal importance with the regular class; (3) that the course extend over two winters, and that the members of the special class be allowed, if desiring, to join the regular class in the intervening season again."

E. STURGE (student) in rising to second the resolution, remarked that he agreed with all the former speaker had said. He thought that the resolution covered all the subjects necessary for such a class. He regretted that the winter holidays extended over such a long period. The Farm Foreman should go around the farm with them, and give practical lectures on farm implements, soil, cultivation, etc. The class should be taken around to visit some of the neighbouring stock farms. He would second the resolution.

C. A. ZAVITZ (student) said the regular course at the Institution was an excellent one, but many of the farmers' sons came here with very little education, and as a matter of fact found it next to impossible to keep up with all the subjects. Two ways existed of remedying the evil: First, by having science classes established throughout the country where young men could gain a preliminary knowledge in botany, chemistry, etc., and consequently be better prepared to properly master the work after entering the college; Secondly, the formation of the special class referred to in the resolution. He approved of having the lectures in veterinary science and those of some other subjects printed, and fly-leaves attached for taking notes. In relation to the outside work, he said that in his opinion lectures should be given in the stables, where they could be practically illustrated, with stock of various kinds. This would, if carried on systematically, no doubt result in much benefit to the students. He would like to see more lectures on the field, tools, implements, etc.

J. P. POE (student) thought there were not enough lectures on agricultural chemistry and live stock, and that a large proportion of the whole number of lectures, should be on these subjects. He also suggested that the studies on natural sciences be made optional. He thought that for an inducement for students to return for their second year, the tuition fee should be dropped, and they should receive more privileges than those in the first year. He supported the resolution.

It being 12 o'clock, the meeting adjourned.

The Union met again at 1.30, and the discussion was resumed.

A. E. SHUTTLEWORTH (Mount Albert), said he had been to the college longer, and was connected more closely with agriculture, than most of the students, and could probably enlighten them on some points. He believed in the College being a professional institution, and the Farm a model farm. He disapproved of cutting off a single subject from the list, and condemned a special course, until after the first year had been completed. No pupil should enter the College at less than eighteen years of age, and he should pass in at least one year with a practical farmer, and have attended a science school before coming here. He said it was impossible to turn out a skillful farmer in two years, and another year should be added to the course. One hundred acres of the Farm should be set apart as a field for instruction with necessary implements, and four hundred acres as a model farm. Three teams and three instructors would be required, and a certain portion of the students could be sent out daily to receive instructions in practical farming. The second year students to manage the farm and get pay for it. The summer months could be spent in learning how to sow, plough, etc., and in the winter the time would be devoted to science and the live stock. He felt satisfied that the four hundred acre model farm would pay.

Mr. SLEIGHTHOLM (student) said that this discussion should be for the ultimate good of the College. In his opinion the course all through was a good one, but he considered that there should be a special professor of agriculture for the outside department—who could teach us how to go about our work in a practical, systematic manner. This Institution cannot be, a model farm, agricultural college, farm of instruction and an experimental farm, all in one; each branch should be distinct of itself, and under the management of a separate professor, who would be held directly responsible to the government for his actions. He thought the winter vacation was rather long, and he did not approve of the officers of the College spending so much time in organizing farmers'

institutes throughout the country. In reference to the lectures on veterinary subjects, he thought it would be advisable to have them printed, as much of the student's time is lost in taking notes of these lectures, which would otherwise be devoted to gaining practical knowledge from the professor. He would, therefore, move the following resolution :—

“It is respectfully suggested that the lectures on veterinary science, as now given at the Ontario Agricultural College, be printed and bound in book or pamphlet form, and that one copy be supplied to each and every student. That the student pay cost-price for such book or pamphlet, and that it be printed not later than October 1st, 1886.

Rev. W. F. CLARK made some highly interesting remarks on the history of the Institution, and thought that the subjects of agriculture and live stock, should receive more attention than all the other subjects combined. He thought that the reason more farmers did not send their sons here was because they could not spare their labour from their farms, and not because they did not think well of the Institution. He favoured the printing of the lectures on veterinary subjects, thinking it would result in much advantage to the students.

President MILLS said he felt some delicacy in saying anything; he was perfectly willing to make any modifications in the class, that would be of benefit to the students. In regard to the special class, he would say the only objections he had was that Prof. Brown and Dr. Grenside had not the time to give enough lectures to keep the students engaged, and the average young man, if left to himself, usually falls into idle ways. This was the only difficulty which presented itself to him, and he was in favour of any plan, which would economise the student's time.

Prof. BROWN said that the management had not secured that system of outside instruction, which they would like to have; but unless some other system was adopted, and a farm set aside for the purpose of instruction, no great changes could be made. At the Michigan State College, after twenty-six years and with one instructor to every ten students, they have failed to turn out the young men in two years time in shape to assume the management of a farm; and these colleges were surprised to find, this College was still working on the old system and succeeding.

President MILLS: “We are far ahead of any other agricultural college in America to-day.”

JOHN J. HOBSON, Mosborough, said he thought the reason more farmers did not send their sons to the College, was that they were conservative in their habits, and thought their sons could learn enough at home. This was the only reason why they did not send them to the College. The Institution, he said, would yet do much towards removing the stigma which was at present attached to the name of “farmer” and would raise the farmers' sons to the same prominence, as that attained by men in other professions.

Mr. HOLTERMAN remarked that the very best young men of the Province were attending the College. When the farmers first settled in Canada, he said there was very little scope for education, but that day had long since gone by. There was no reason now why the farmer's son should not be just as enlightened as men in other professions.

Mr. MORGAN thought that if the mind were trained to literary pursuits when young, it would seek literary pursuits in after years, and the same might be said in regard to improved agriculture. He expressed himself as having been very much interested in the discussion. He was proud of being a farmer, and he believed that farmers' sons should be well educated. He had come a long distance in order to be present at this union, and he considered that the information, which he had gleaned on many important subjects, much more than repaid him for the expense he had incurred. He was well pleased with the management of the Institution, with the appearance of the farm, and above all with the manner in which the students had conducted themselves during the discussion.

Mr. MADGE's resolution with reference to the special class, and that of Mr. Sleight-holm suggesting that the lectures on veterinary subjects be printed, were then voted on and carried unanimously.

BREEDING STOCK.

A PAPER READ BY MR. JOHN MORGAN, STRATHROY, ONT.

I regret to say how few farmers, comparatively speaking, understand the principles of breeding, and succeed in improving their stock.

Breeding is a branch of knowledge to be secured by study, also an art to be acquired by experience, and a knowledge of its principles shows us how to produce and reproduce what we want. Prof. Darwin says, not one man out of a thousand has sufficient accuracy of eye and judgment to become an eminent breeder. If a person gifted with this quality studies the subject for years, devoting all his energies to it with an indomitable will, he will and must succeed. If he does not possess the requisite qualities of making improvement, he will surely fail. A man with a natural quick eye can pick out an animal which an untrained or unexperienced man would not admire, while others cannot detect qualities in an animal by any practical skill or knowledge, but judge in a sort of hap-hazard process, which is not all commendable.

The handling of animals is by no means a particular gift or endowment, but a quality and qualification, which should not be lost sight of.

The qualification of a breeder, by far the least easy to be accomplished, is to judge the proper maturing. This is a knowledge by few men possessed and recognized with anything like fitness. There is a law of variation in nature as well as of similarity, and our highest ambition should be not to accomplish a stationary uniformity, but a steady progress towards the perfection of our stock. We must seek to discover how to turn the law of favourable variation to account and secure and perpetuate valuable characteristics, when we get them, as in life all nature is born of sexual union. There is potent sexual union to determine the progress of the race.

In selecting male animals, always fix on those of strong masculine character and with striking male characteristics; supposing they are not high in flesh, good feeding will put that right, if you have the constitution. Still I would recommend an animal of a fleshy nature, to have a broad level top, deep and even underneath, deep heavy flank, full quarters, stately head and neck, and, by all means, of a quiet disposition. The sire to possess a masculine appearance does not follow that the female will be of a coarse quality.

Always prefer a male with a higher tone of pedigree, to those of a lower; if animals are equal in other respects, then add judgment at all times to pedigree, as animals on paper are not always the most desirable.

You must learn to determine at a glance what to cull and what to breed from. This is one of the greatest natural gifts of a breeder's success. It is generally conceded that the male animal has the more influence in breeding, but not always; doubtless it is the animal, whether male or female, with the strongest vitality, that stamps itself more powerfully on the offspring.

The selection of animals for maturing purposes (which evidently is now the main point) is perhaps one of the great secrets of breeding successfully. The soundest animal has the greatest vitality, and the animal with the strongest vitality is the best, soundest and surest breeder. It is the relative peculiarity of the parent that determines the nature of the offspring. In breeding you must properly mate the male and female, in order to accomplish a successful issue. In a herd, say of twenty females, you should have at least two males of different lines and of the highest order of course, in order to suit the adaptability of the females. We have seen in some cases where an inferior looking male produced on one class of females better offspring than that of a superior looking male with the same female, simply because they were properly mated. Now then, if you follow out this theory you can remedy the imperfections in your animals, (if any), and correct accordingly; if you do not carry out this system you are as likely to aggravate the defects as to remedy them.

Docility in the male is a very essential qualification, as the more docile an animal is the more likely he is to have the fleshy qualities, which is a very important trait in the bovine race.

Every male should be tested before placed at the head of a herd of any note, then you will be breeding with safety, as one female may be the mother of one calf in twelve months while the male may be the sire of seventy, hence the necessity of having the male animal the superior, as in laying the foundation of a good herd. The breeder should have in his mind's eye what he wants to accomplish.

In selecting animals to breed from you must always choose the superior one of the herd, and as near as possible reach the ideal you want.

In order to succeed you will have to spend years of toil in culling and reculling, in selecting and reselecting, before you can attain the highest point of perfection, and when you have succeeded in that attainment, you can congratulate yourself as having accomplished as much for your country's good, as the bravest hero who has conquered nations.

As regards in-and-in breeding, I am not a very strong advocate of it, but I am aware in some cases it will prove to an advantage, if proper care is taken as to the constitution and construction of the animal, as for instance, you have a first-class male or female, (as the case may be), by breeding to blood relations, you will get more of the original blood in the cross, and the progeny of that cross, if a male, will stamp more fully in his stock the noble blood of his ancestors. This, where you want to retain more of the original blood of either, will prove a boon of success. Some breeders advocate, breed the best to the best regardless of affinity; but always study formation and constitution; it was this principle that brought Collins, Bates and Booth to such perfection. But now since the different lines of cattle have become so numerous, you can breed best to best of other blood with safety. The laws of nature prohibit in-and-in breeding in the superior race and why not in the inferior?

EXPERIMENTATION WORK.

Mr. J. P. ANDERSON called the attention of the Convention to the fact that the Union had been organized for the purpose of making experiments, but of late years had gradually been drifting into a debating society. The Minister of Agriculture had granted them the sum of seventy-five dollars, and he (the speaker) would like to know what was going to be done with it. He would be very much pleased to see some experiments made during the coming season.

Mr. CAMPBELL thought that so long as members of the Union confined themselves to debates, the government would give no regular support to it. Something should be done without delay towards getting things in shape for experimenting this summer.

President MILLS thought Mr. ANDERSON's suggestions were correct, but they could not be successfully carried out unless some of the officers at the College interested themselves in the matter. There was a lot of work to be done in connection with the matter. Seed must be sent out to those who were willing to experiment; letters should be answered promptly and a great deal of other work done to make the thing a success.

Mr. ANDERSON remarked that more progress would have been made if the Union had not been short of funds.

Professor BROWN advised the Convention not to do anything unless they could see their way clear to make it a success.

Mr. HOLTERMANN said that he was in favour of the students giving their views from year to year at the meetings. No satisfactory results had yet been attained from previous

*experiments. The time of the Convention was taken up too much with debates; more papers on agriculture should be read, and less time occupied in useless debating.

Mr. ANDERSON asked what was going to be done with the seventy-five dollars granted by the Minister of Agriculture.

Mr. CAMPBELL wanted a few experiments of some kind made, even though they were on a small scale.

Professor JAMES said that each member of the Union should be an experimenter himself, and report at the meeting next year. He did not think they should want for assistance from the Government, but on the contrary, go right ahead, experimenting in the field, garden, dairy, or elsewhere, and report the result at next session of the Union. He would be only too happy to assist them all in his power.

On the suggestion of President Mills, the matter was finally settled by the formation of a Committee composed of the following gentlemen: Professor Brown, Professor James, Professor Panton, and Messrs. Anderson, Ramsay, and Zavitz, to confer with the Minister of Agriculture, and make necessary arrangements for future experiments.

REPORT OF EXPERIMENTS CONDUCTED BY MEMBERS OF THE UNION IN 1866.

The object of the experiments was to test the effects of salt, gypsum or land-plaster and superphosphates upon wheat, oats and barley.

The plots were one-fortieth of an acre in area in each case.

The cereals sent out were twelve pounds of white fife wheat, eight and a-half pounds of barley, and seven and a-half pounds of black tartarian oats, each for four plots or one-tenth of an acre.

The fertilizers were ten pounds of salt, ten pounds of gypsum, and ten pounds of superphosphate. The analysis accompanying the superphosphate was as follows:—

Phosphoric acid, thirteen per cent.; ammonia, two per cent.; potash, one and a-quarter per cent.

Each experimenter would, therefore, have wheat, oats or barley growing on four similar plots treated as follows: One, no manure; two, salt; three, gypsum; four, superphosphate.

Grain and fertilizers were sent to twelve members of the Union, wheat to four, oats to four, and barley to four. Eight completed the experiments and replied in full; four made incomplete reports.

The experimenters were requested to observe and report upon the following points:—

1. Previous cropping and fertilizing.
2. State of soil and condition at time of sowing; date of sowing.
3. Time of appearance of grain on each plot.
4. General growth and comparative condition of grain on the four plots, from time to time.
5. Date of maturity and harvesting.
6. Weight and condition of straw and grain, separately.
7. General observations on the weather.
8. Conclusions as to the value of each of the fertilizers.

| Experimenter. | Grain. | Fertilizer. | Straw in lbs. | Grain in lbs. | Total. | Soil. |
|--|---|-------------------------------------|-----------------|---------------|---------------|--|
| I. J. B. Muir, Bruce Co. | Wheat ... | No fertilizer | 46—10 lbs chaff | 32 | 88 | Clay loam to clay, with clay sub-soil. |
| | | Salt | 42—10 " | 34 | 86 | |
| | | Gypsum | 44—9 " | 33 | 86 | |
| | | Superphosphate .. | 50—8 " | 34 | 92 | |
| II. J. G. McKay, Bruce Co. | Wheat ... | No fertilizer | 73 | 21 | 94 | Clay loam. |
| | | Salt | 60½ | 19½ | 80 | |
| | | Gypsum | 73 | 21 | 94 | |
| | | Superphosphate .. | 66½ | 16½ | 83 | |
| III. E. M. Zavitz, Middlesex Co. | Wheat ... | No fertilizer | 57¾ | 23¼ | 81 | Clay loam inclined to loam, gravel sub-soil |
| | | Salt | 77 | 36 | 113 | |
| | | Gypsum | 62¾ | 27¼ | 90 | |
| | | Superphosphate .. | 58 | 23 | 81 | |
| IV. T. Raynor, Pr. Edward Co.. (See notes below.) | Barley ... | No fertilizer | 8 | 12 | 20 | Clay loam. |
| | | Salt | 10½ | 15¾ | 25¾ | |
| | | Gypsum | 10¾ | 14¾ | 25¾ | |
| | | Superphosphate .. | 9½ | 13¼ | 22¾ | |
| V. Geo. Charlton, Brant Co. | Barley ... | No fertilizer | 35 | 35 | 70 | Clay loam, with clay sub-soil. |
| | | Salt | 43 | 39 | 82 | |
| | | Gypsum | 43 | 37 | 80 | |
| | | Superphosphate .. | 43 | 38 | 81 | |
| VI. C. A. Keil, Chatham | Barley ... | No fertilizer | 39 | 42 | 81 | Rich alluvial soil. |
| | | Salt | 28 | 33 | 61 | |
| | | Gypsum | 28 | 31½ | 59½ | |
| | | Superphosphate .. | 34 | 35 | 69 | |
| VII. E. Lick, Ontario Co. | Oats | No fertilizer | | 32½ | | Poor clay loam, inclined to gravelly nature. |
| | | Salt ..... | ..... | 32½ | ..... |  |
| | | Gypsum ..... | ..... | 26¼ | ..... |  |
| | | Superphosphate .. | ..... | 32 | ..... |  |
| VIII. A. L. F. Lehman, Simcoe Co. | Oats | No fertilizer | 23—4 chaff | 31 | 58 | Clay loam. |
| | | Salt | 20—4½ " | 28.5 | 53 | |
| | | Gypsum | 22—8½ " | 21.5 | 52 | |
| | | Superphosphate .. | 22—5 " | 26 | 53 | |
| | | Farm yard manure, 20 tons per acre. | 33—6 " | 33 | 72 | |
| Average of experiments on— | Experimenter's Nos. | Fertilizer. | Straw in lbs. | Grain in lbs. | Total in lbs. | |
| Wheat | I., II., III. | No fertilizer | 62.25 | 25.42 | 87.67 | |
| | | Salt | 63.17 | 29.83 | 93.00 | |
| | | Gypsum | 62.92 | 27.08 | 90.00 | |
| | | Superphosphate | 60.83 | 24.50 | 85.33 | |
| Barley | V., VI. | No fertilizer | 37.00 | 38.50 | 75.50 | |
| | | Salt | 35.50 | 36.00 | 71.50 | |
| | | Gypsum | 35.50 | 34.25 | 69.75 | |
| | | Superphosphate | 38.50 | 36.50 | 75.00 | |
| Oats | VII., VIII. | No fertilizer | 27.00 | 31.75 | 58.75 | |
| | | Salt | 24.50 | 30.50 | 55.00 | |
| | | Gypsum | 30.50 | 23.87 | 54.37 | |
| | | Superphosphate | 27.00 | 29.00 | 56.00 | |
| All complete reports of crops. | I. II. III. V. VI. VII. VIII. | No fertilizer | 47.96 | 30.99 | 78.95 | |
| | | Salt | 47.50 | 31.78 | 79.17 | |
| | | Gypsum | 48.37 | 28.21 | 76.83 | |
| | | Superphosphate | 47.58 | 29.21 | 76.50 | |

The following observations and notes were made by the experimenters :—

I.—*J. B. Muir, North Bruce.*

Previous Cropping.—Previous to 1886 no systematic course of cropping had been adopted, but corn, potatoes, millet, etc., had been grown upon it from time to time.

Previous Treatment.—For the past eight or ten years it has been plowed in autumn and generally received from ten to twelve loads of barnyard manure per acre yearly. A small quantity of wood ashes were thrown upon it from time to time every winter. In September, 1885, a light topdressing of fresh meadow muck was spread, and allowed to be exposed for the winter.

State of Soil, Etc.—Land selected was in fair state of cultivation, and not exhausted by previous cropping. The surface soil varies from a clay loam to clay, with heavy clay sub-soil, only partially drained, on gentle slope to east and south.

In spring of 1886 weather was wet and cold. Land plowed May 12th, then harrowed, rain prevented sowing till 18th.

Appearance of Grain.—First blades on gypsum plot on 23rd, on 24th large percentage up in all plots ; wheat came out quite thin.

Weather.—Severe frosts early in season, dry later on. In time the plots fertilized by salt and superphosphate became more healthy and vigorous looking than the other two, especially the plot where no fertilizer was used. During the latter part of June and early part of July, quite a percentage of this latter plot turned yellow in the leaf, and was very unhealthy looking for a time. As the season of growth advanced, the salt and superphosphate plots became more uniform and healthy-looking than their companions, and after the grain shot out, the salt plot seemed to gain on its rival, ripening a day or two earlier; had a brighter, stiffer and healthier-looking straw, and when threshed, a plumper and more uniform grain.

On 22nd August, wheat on salt plot was ripe and ready to cut, on 24th all were cut. Had the grain on the superphosphate plot filled out as well in proportion, as that from the salt, it would certainly have ranked first in point of yield, as there was a more vigorous growth of vegetable matter from this plot, than from any of the others.

Conclusions.—From the results of this experiment, I consider salt to be the most economical and beneficial fertilizer to apply to our land at the present time. It is inexpensive and convenient, may be obtained in abundance in this locality, and would certainly be used profitably, even if there was no greater return than the improved quality of the grain it would secure. Judging by the return from the superphosphate plot, it would not pay to use this fertilizer at present prices on our land. Gypsum, apparently, has no value, and is not required by the land in our locality.

II.—*J. G. McKay, Underwood P. O., Bruce Co.*

Previous Cropping.—Last crop peas ; land never manured before ; four crops taken off since broken up from sod soil.

Sowing, Weather, Etc.—Sowed wheat forenoon of May 14th, rained seven p.m. of same day. Fore part of season was very dry (June). July 7th doing fairly well. On July 15th the salt plot headed out, superphosphate plot half headed out, gypsum plot just starting. July 20th all headed out. August 13th heavy hail, which hurt the grain, shelling about one-fourth. August 16th, rain, salt plot the ripest. August 23rd, rain all day. August 30th, salt plot ent. September 1st, other plots cut ; superphosphate plot being a little riper than the gypsum. The salt plot had a little more clay in it than the others.

III.—*E. M. Zaritz, Coldstream P. O., Middlesex Co.*

Previous Cropping.—Roots up till last two years, when plots 1 and 4 were under strawberries ; only manure has been barnyard.

Growth of Grain.—Sowed on April 28th, soil moist and mellow :—

| | | | |
|--------------------------|----------|-----|------|
| Grain on plot No. 1..... | appeared | May | 6th. |
| “ “ 2..... | “ | “ | 8th. |
| “ “ 3..... | “ | “ | 7th. |
| “ “ 4..... | “ | “ | 6th. |

They seemed to keep even until the time of the drouth, when the salt plot appeared to hold out rather the best.

Condition of Grain and Straw.—The straw of No. 2 was a little the brightest, the rest about the same. After careful examination, we concluded that the difference in quality of grain was slight, and in the following order from best to poorest: Nos. 2, 3, 4, and 1.

Conclusions.—The exceptional drouth seemed to give the salt plot an advantage over the rest. Had it been a wet season the results might have been materially changed, even reversed in some cases. Could we foretell the nature of the season, we might choose more wisely, but under existing circumstances we must draw conclusions from the aggregate of advantages and disadvantages of each fertilizer, not only the aggregate of the dozen little experimental stations of this year, but of a number of years. We feel well repaid for having undertaken the experiments, in the insight we have gained in experimenting. We intend to act on the result obtained by sowing the wheat next spring from all the plots and fertilizing with *salt*.

IV.—*T. Raynor, Rosehall, Prince Edward Co.*

Previous Cropping.—Barley in 1885, then light coat of farm yard manure.

Soil.—Clay loam, plowed once in fall and ganged again in spring; in fair condition, but not so fine a seed bed as is desired. Sowed May 4th, plots somewhat wet. It was harrowed over twice after the fertilizers had been applied.

Appearance of Grain.—It was all above the surface in a week, or perhaps less time. No. 4 first showed itself distinctly. The other plots seemed to come up and grow about alike.

Growth of Grain.—Notwithstanding the fact that the grain was too thick it grew quite uniformly most of the time. Plots 1 and 2 grew somewhat ranker towards close of growing season. Being so thick on the surface the straw was made finer, and the head much smaller than it otherwise would have been.

Maturity.—About August 1st plot No. 4 had matured four or five days before the others. The straw was fine, a fair color, of medium length. That from No. 2 was a little the coarsest, I think. The grain was partly coloured and partly bright—about No. 2 extra. It was plump, however; in other ways a good sample.

The weather at time of seeding was everything could be desired. The seed sprouted quickly and grew rapidly with the refreshing showers. The weather changed, however, becoming cold and very backward for two or three weeks, and finally a drought setting in indicated a short crop. Towards harvesting time, the weather became once more favourable and with the few warm showers a good crop was harvested after all.

Conclusions.—From results obtained I must acknowledge the salt to be the best, although I think the position of one and two were a little advantageous. I do not think that salt acts directly as a manure, but indirectly, aiding in splitting up other constituents into soluble plant food. Salt has been used before in this vicinity, and with good results.

The gypsum gave even better returns than the superphosphate. However as a fertilizer I think it is much better for leguminous crops than for the cereal crops.

There is no doubt in my mind that the superphosphate is a far better manure for barley than the others. It is quick in its action and causes a more rapid growth. A rapid growth means early maturity, and on the whole I am somewhat prejudiced in favor of the phosphate for barley.

In conducting this experiment-I discovered when too late that only one-quarter of the land necessary was taken. This will account for the small amount of grain and straw. If the results were multiplied by three, a fair average would be obtained.

V.—*Geo. A. Charlton, St. George P. O., Brant Co.*

Previous Cropping.—The soil the previous year was under roots and had farm-yard manure applied at the rate of twenty loads per acre. Soil is a clayey loam and at time of sowing was in the best possible condition.

Growth of Grain.—Sowed May 8th; by May 14th all plots were up equally well. No difference apparent in growth from time to time except that No. 3 had a deeper shade of green. A difference was perceptible in the time of maturing, No. 2 (salt) ripening fully three days sooner than No. 3; No. 4 maturing sooner than No. 3 but not so soon as Nos. 1 and 2. All were ripe and harvested July 20th.

Condition of Grain.—No. 1, heads short; straw had a tendency to remain green and the barley contained a considerable percentage of small grains, though of good colour.

No. 2 straw bright, and stood up well, heads well formed; grain of a good colour, plump and very few of small size.

No. 3 same as No. 1, except that the percentage of small grains was less.

No. 4 straw seemed soft, had a tendency to lodge and coloured rapidly with dews and sun; heads large and well formed; grain slightly coloured yellow but plump with few small grains.

Weather.—During the experiment the weather was warm and moist first half, but latterly dry and hot, which, I think, was the reason why the yield was not greater.

VI.—*C. A. Keil, Chatham, Ont.*

Previous Cropping.—From 1879 to 1885, potatoes (farmyard manure), barley, potatoes, fodder corn, sugar beets, flax (farmyard manure), oats. Land has been cropped for twenty-five years, no special fertilizers ever having been used. It is drained by an open creek near by, no under-drains. The soil is a clay loam with considerable percentage of humus having a clay sub-soil.

The land was plowed April 21st (rather late for us), barley was broadcasted next day and fertilizers broadcasted afterwards. The ground was not in very fine condition and the weather was very warm.

Growth.—From date of sowing till harvesting we had very little rain fall, and the barley did not stool out as it should have done. The only difference in all the plots was that the salt plot could be easily distinguished from the others by the whiteness of the straw and grain.

It was cut July 21st and threshed; November 25th; although not a heavy crop, the sample was good. Salt was number one, gypsum number two, the other two equal. I also sowed salt on our field of barley, and also fall wheat, leaving some strips unsown. I could never see any difference in the growth or maturity except that the straw was brighter where the salt was sown.

The land in this part of the country being of a rich alluvial nature, if moderately well worked and manured with farmyard manure will yield good crops for a great many years, and I think the benefits derived from special fertilizers would not compensate for their cost. Salt and gypsum would be useful in diminishing the quantity of straw and especially salt, very materially brightens the grain and straw but superphosphate would not pay. The extreme dry weather may have affected the action of the manures, but it is rather strange that the "No Manure" plot came out the best.

VII.—*Elmer Lick, Oshawa, Ont.*

Previous Crop.—Oats seeded to Alsike clover, the portion under experiment winter killed. In 1884 barley. In 1883 peas, on three year old sod. A light dressing of barnyard manure was applied in fall of 1883.

Soil.—It is a poor clay loam inclined to be gravelly. It was plowed May 14th; was very wet owing to spring rains and low situation.

Grain.—On May 17th oats and fertilizers were sown. June 23rd, a much darker and more luxuriant growth could be noticed in the superphosphate plot. Dry weather following, the salt soon gave the best appearance. After every rain a very noticeable improvement could be seen in No. 4 plot. No difference in Nos. 1 and 2. July 22nd, Nos. 1 and 2 headed out, 3 and 4 a few days behind and not looking so well as Nos. 1 and 2. Just before harvesting Nos. 2 and 4 were equal in appearance, only slightly better than No. 1. No. 3 was very inferior to the others.

August 23rd.—Ripe and harvested; no difference could be noticed in ripening, owing to rust.

The quality of the grain was best on No. 4, then No. 2, No. 1 and No. 3 in order. There appeared to be more straw on 2 and 4 than on 1, and more on 1 than on 3. No. 3 was badly rusted, No. 1 not so badly, and Nos. 2 and 4 were comparatively free from rust.

The late sowing and rust account for the low yield (under forty bushels per acre).

The dry summer gave the salt a good chance, and hindered the superphosphate from showing the effects of its application.

The land was poor, scarcely ever giving over thirty-five bushels of oats, twenty bushels of peas, or twenty of barley to the acre.

Conclusions.—From the above experiment I would conclude that gypsum was an injury to the crop; that salt would pay in dry seasons, through the straw being freer from rust; that superphosphate in dry seasons would not pay for its application. All the above applying to land similar to that under experiment.

VIII.—A. L. F. Lehmann, Orillia, Ont.

Previous Cropping.—Oats, preceded by peas.

Soil.—Clay loam, plowed in fall and spring.

Grain.—Sowed on May 8th, appeared on 17th and 18th May.

June 1st.—Superphosphate and gypsum ahead, then farmyard manure, then salt and no manure. June 15th.—Farmyard manure improving. June 30th.—Salt and no manure still behind, others even. July 7th.—Farmyard manure decidedly ahead, and heading out, the others evenly advanced. July 12th.—All headed out. August 23rd.—Grain matured. August 30th.—Cut; rainy weather preceded this. September 4th.—Threshed. All grain was “dead ripe” except that of the farmyard manure, which still contained some green stalks. The season was a dry one, with the exception of seeding and harvesting time.

Conclusions.—My conclusions are, that the soil, on which I experimented, has been deficient only in nitrogen. The barnyard manure was of an inferior quality. As clay predominates I think sufficient potash was present.

As far as I know no similar experiment has been conducted in this neighbourhood.

I was much astonished to find all the special fertilizers have an injurious effect upon the soil on which I experimented, but in a previous experiment with superphosphate on potatoes on sandy soil, I found the same injurious effect.

RESOLUTION OF CONDOLENCE.

On motion made and passed, a resolution was drawn up and ordered to be forwarded to the family of the late Doctor HARE—a former member of the College staff—expressing the heartfelt sympathy of the union upon the early demise of their late friend and fellow member.

REPORT
OF THE
MINISTER OF EDUCATION.

REPORT

OF THE

MINISTER OF EDUCATION

(ONTARIO)

FOR THE YEAR 1886,

WITH THE STATISTICS OF 1885.

Printed by Order of the Legislative Assembly.



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UNIVERSITY OF TORONTO; UNIVERSITY COLLEGE, TORONTO; SCHOOL OF PRACTICAL SCIENCE
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STATISTICAL REPORT, 1885.

REPORT

OF THE

MINISTER OF EDUCATION

FOR THE YEAR 1886,

WITH THE STATISTICS OF 1885.

TO THE HONORABLE JOHN BEVERLEY ROBINSON,

Lieutenant-Governor of the Province of Ontario:

MAY IT PLEASE YOUR HONOR:

I herewith present the Report of the Education Department for the year 1886, together with the statistics for the year 1885. The several comparative statements submitted will, I trust, be found worthy of perusal.

I.—PUBLIC SCHOOLS.

.1—SCHOOL POPULATION—ATTENDANCE.

School Population.

By the School Act the assessor is required to take the census of all persons between the ages of five and twenty-one, and, also, of the number between seven and thirteen. From this census the Report sent to the Department is made up—its accuracy depending, of course, upon the care with which the assessors do their work. The following comparative statement shows the school census for the last ten years :

| YEAR. | School Age. | School population. | Pupils under 5. | Pupils 5 to 21. | Pupils over 21. | Total number of pupils registered. | Boys. | Girls. |
|-----------|-------------|--------------------|-----------------|-----------------|-----------------|------------------------------------|--------|--------|
| 1876..... | 5—16 | 502250 | ..... | 489664 | 873 | 490537 | 260809 | 229728 |
| 1877..... | 5—16 | 494804 | 1430 | 488553 | 877 | 490860 | 261070 | 229790 |
| 1878..... | 5—16 | 492360 | 1358 | 486802 | 855 | 489015 | 260400 | 228615 |
| 1879..... | 5—16 | 494424 | 1255 | 485040 | 717 | 487012 | 259056 | 227956 |
| 1880..... | 5—16 | 489924 | 1221 | 481154 | 670 | 483045 | 255677 | 227368 |
| 1881..... | 5—16 | 484224 | 1463 | 474303 | 502 | 476268 | 251661 | 224607 |
| 1882..... | 5—16 | 483817 | 1352 | 469751 | 409 | 471512 | 246966 | 224546 |
| 1883..... | 5—16 | 478791 | 1165 | 462887 | 317 | 464369 | 243671 | 220698 |
| 1884..... | 5—16 | 471287 | 1115 | 465374 | 428 | 466917 | 244532 | 222385 |
| 1885..... | 5—21 | 583137 | 847 | 471235 | 376 | 472458 | 249175 | 223283 |

NOTE.—Tables A, B, C, D, E, include Separate Schools.

Attendance.

The following Table shews the attendance for the periods therein named :—

| YEAR. | Attendance less than 20 days. | 20 to 50 days. | 51 to 100 days. | 101 to 150 days. | 151 to 200 days. | 201 to whole year. | Average attendance. | Percentage of average attendance to total number attending school. | Pupils between 7-12 and 7-13 not attending school for 110 days during the year. |
|----------|-------------------------------|----------------|-----------------|------------------|------------------|--------------------|---------------------|--|---|
| 1876.... | 46474 | 91612 | 128455 | 108122 | 94953 | 20921 | 212483 | 43 | ..... |
| 1877.... | 43675 | 88581 | 127331 | 109697 | 100676 | 20900 | 217184 | 44 | 25974 (7-12) |
| 1878.... | 42096 | 87634 | 121042 | 106550 | 107977 | 23716 | 224588 | 46 | 27415 (7-12) |
| 1879.... | 44580 | 84767 | 123481 | 103341 | 107328 | 23515 | 219442 | 45 | 27409 (7-12) |
| 1880.... | 44973 | 85453 | 121357 | 101557 | 105032 | 24673 | 220068 | 45 | 30195 (7-12) |
| 1881.... | 45881 | 82796 | 119477 | 103144 | 104009 | 20961 | 215264 | 45 | 29143 (7-12) |
| 1882.... | 43610 | 81621 | 117941 | 102644 | 107814 | 17882 | 214176 | 45 | 87444 (7-13) |
| 1883.... | 41724 | 78628 | 115927 | 103443 | 108820 | 15827 | 215561 | 46 | 88432 (7-13) |
| 1884.... | 40761 | 76124 | 114974 | 103997 | 112539 | 18522 | 221861 | 48 | 90959 (7-13) |
| 1885.... | 43567 | 77866 | 119756 | 103425 | 115400 | 12444 | 225907 | 48 | 91269 (7-13) |

The preceding Table is worthy of special examination; I would therefore call the attention of Trustees and Inspectors to the details given elsewhere respecting their own districts. (1) It will be noticed that 9 per cent. of the pupils registered attended school less than 20 days. In 1876, the number attending less than 20 days was nearly $9\frac{1}{2}$ per cent. (2) 17 per cent. attended school from 20 to 50 days; 25 per cent. attended from 51 to 100 days, or, to summarize columns one to three, 241,189 pupils attended school less than 100 days; or less than six months in the year. Is it not possible for Trustees and Inspectors to do something whereby a more regular attendance at school may be obtained?

Compulsory Attendance.

By section 210 of the Public Schools Act of 1885, the parent or guardian of every child not less than seven years nor more than thirteen years of age is required to cause such child to attend a public school, or any other school in which elementary instruction is given, for the period of one hundred days in each public school year, unless there be some reasonable excuse for non-attendance. By referring to the column which indicates the attendance of pupils between the ages of seven and thirteen years, it will be seen that the duty imposed by section 217 of the School Act upon Trustees requires their

immediate attention. Under our Free School system the tax-payer who is rated without his consent for school purposes for the public good, has a right to expect that those for whose education he is compelled to provide should be obliged to attend school, at least during the time required by the School Act.

2.—CLASSIFICATION OF PUPILS.

| YEAR. | 1st Reader. Part I. and II. | 2nd Reader. | 3rd Reader. | 4th Reader. | 5th Reader. | 6th Reader. | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. | Music. | Grammar and Composition. |
|-------|-----------------------------|-------------|-------------|-------------|-------------|-------------|-----------|----------|-------------|----------|------------|--------|--------------------------|
| 1876 | 156425 | 99977 | 147263 | 77861 | 9011 | ..... | 444281 | 400774 | 389933 | 119479 | 368733 | 152148 | 207239 |
| 1877 | 152002 | 108678 | 135824 | 72871 | 19857 | 1628 | 386393 | 396006 | 402248 | 153036 | 375951 | 168942 | 226977 |
| 1878 | 151474 | 111360 | 132144 | 74729 | 17891 | 1417 | 390505 | 400750 | 411216 | 161368 | 381401 | 167890 | 219940 |
| 1879 | 155861 | 110093 | 130013 | 74368 | 15622 | 1055 | 398159 | 398340 | 417457 | 160672 | 294405 | 160906 | 218253 |
| 1880 | 156527 | 109065 | 126758 | 75564 | 13649 | 1482 | 396353 | 399867 | 418524 | 158789 | 289378 | 155346 | 215743 |
| 1881 | 161463 | 107458 | 120725 | 73754 | 11442 | 1426 | 390170 | 398598 | 417708 | 177102 | 283060 | 159579 | 210616 |
| 1882 | 164810 | 106229 | 117352 | 71740 | 10357 | 1024 | 390920 | 398404 | 419557 | 176434 | 280517 | 158694 | 209184 |
| 1883 | 164035 | 106482 | 113980 | 70104 | 8919 | 849 | 411872 | 409016 | 415786 | 222095 | 273397 | 147283 | 208949 |
| 1884 | 167722 | 106017 | 112873 | 70713 | 8698 | 894 | 410992 | 416588 | 422076 | 247715 | 280953 | 150510 | 220566 |
| 1885 | 181221 | 98378 | 108984 | 74749 | 9126 | ..... | 422123 | 432225 | 437810 | 310187 | 305031 | 165334 | 242125 |

While there is a gratifying increase in the number of pupils engaged in the study of the principal subjects on the school curriculum, there is still some negligence in regard to the subject of music. Out of a school population of over half a million it might be reasonably expected that more than 165,000 would be taught how to sing. I have directed the attention of Inspectors to this subject by circular and hope for better results before my next report.

3.—TEACHERS' CERTIFICATES—SALARIES.

Teachers' Certificates.

| YEAR. | Public School Teachers. | Males. | Females. | Total number of Certificates. | Provincial 1st Class. | Provincial 2nd Class. | 3rd Class. |
|-----------|-------------------------|--------|----------|-------------------------------|-----------------------|-----------------------|------------|
| 1876..... | 6185 | 2780 | 3405 | 6185 | 241 | 1201 | 3688 |
| 1877..... | 6468 | 3020 | 3448 | 6468 | 250 | 1304 | 3926 |
| 1878..... | 6473 | 3060 | 3413 | 6473 | 210 | 1409 | 3904 |
| 1879..... | 6596 | 3153 | 3443 | 6596 | 253 | 1601 | 3836 |
| 1880..... | 6747 | 3264 | 3483 | 6747 | 239 | 1875 | 3706 |
| 1881..... | 6928 | 3362 | 3560 | 6928 | 258 | 1970 | 3828 |
| 1882..... | 6857 | 3062 | 3795 | 6857 | 246 | 2169 | 3471 |
| 1883..... | 6911 | 2829 | 4082 | 6911 | 211 | 2167 | 3426 |
| 1884..... | 7085 | 2789 | 4296 | 7085 | 235 | 2237 | 3420 |
| 1885..... | 7218 | 2744 | 4474 | 7218 | 254 | 2358 | 3592 |

From this Table it will be seen that the total increase of 1033 since 1876 is made up of female teachers, male teachers having declined in number.

Referring to the standing of the teachers employed, it will be noticed that there is an increase of 19 in the number holding Provincial First Class Certificates, and in addition to the 254 teaching in the Public Schools, there are 65 teachers in the High Schools and Collegiate Institutes holding First Class Certificates. This increase, in view of the demand for teachers possessing the highest attainments, is very gratifying. Owing to the superior culture required for teachers of this rank the number eligible for a certificate is necessarily limited. There is, also, a very large increase in the number holding Second Class Certificates, namely, from 1201 in 1876 to 2358 in 1885.

Table of Temporary Certificates.

| YEAR. | Temporary Certificates. | Other Certificates, including County Board, etc. |
|------------|-------------------------|--|
| 1876 | 493 | 562 |
| 1877 | 519 | 469 |
| 1878 | 480 | 470 |
| 1879 | 474 | 432 |
| 1880 | 356 | 571 |
| 1881 | 321 | 551 |
| 1882 | 409 | 562 |
| 1883 | 603 | 504 |
| 1884 | 623 | 570 |
| 1885 | 500 | 514 |

Teachers' Salaries.

The following Table shows the average salaries for the Province, and for Counties, Cities and Towns, respectively:—

| YEAR. | Highest salary paid. | Average salary male teacher, Province. | Average salary female teacher, Province. | Average salary male teacher, Counties. | Average salary female teacher, Counties. | Average salary male teacher, Cities. | Average salary female teacher, Cities. | Average salary male teacher, Towns. | Average salary female teacher, Towns. | No. of teachers who have attended Normal School. |
|-----------|----------------------|--|--|--|--|--------------------------------------|--|-------------------------------------|---------------------------------------|--|
| | £ | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| 1876..... | 1000 | 385 | 260 | 367 | 240 | 726 | 314 | 567 | 267 | 1015 |
| 1877..... | 1100 | 398 | 264 | 379 | 251 | 735 | 307 | 583 | 259 | 1084 |
| 1878..... | 1200 | 407 | 266 | 382 | 247 | 730 | 313 | 577 | 274 | 1133 |
| 1879..... | 1000 | 409 | 268 | 383 | 249 | 732 | 316 | 616 | 270 | 1374 |
| 1880..... | 1000 | 410 | 269 | 382 | 241 | 743 | 324 | 564 | 256 | 1636 |
| 1881..... | 1100 | 410 | 265 | 384 | 240 | 755 | 330 | 562 | 261 | 1799 |
| 1882..... | 1100 | 415 | 269 | 385 | 248 | 742 | 331 | 576 | 273 | 1873 |
| 1883..... | 1200 | 422 | 271 | 394 | 252 | 764 | 362 | 605 | 277 | 1853 |
| 1884..... | 1200 | 426 | 279 | 404 | 264 | 771 | 364 | 612 | 283 | 1941 |
| 1885..... | 1200 | 427 | 281 | 405 | 267 | 776 | 359 | 612 | 287 | 2161 |

It will be seen, although the increase in salaries is not very large, that Trustees are not unmindful of the services rendered by the teacher. I regret I am not able to furnish any information showing the mode in which these salaries are payable. I fear the habit still prevails of simply paying the teacher the usual grants as they become due, leaving the balance of the salary unpaid until the close of the year.

4.—SCHOOLS AND SCHOOL HOUSES, MAPS, ETC.

Schools and School Houses.

| YEAR. | No. of Schools established. | No. of Schools open. | Total No. of school houses. | Brick. | Stone. | Frame. | Log. | Schools using maps. | Total number of maps. | No. of legal teaching days open. |
|------------|-----------------------------|----------------------|-----------------------------|--------|--------|--------|------|---------------------|-----------------------|----------------------------------|
| 1876 | 5092 | 5042 | 4926 | 1417 | 514 | 2253 | 742 | 4603 | 36874 | 204 |
| 1877 | 5219 | 5140 | 5148 | 1445 | 526 | 2446 | 731 | 4666 | 37493 | 204 |
| 1878 | 5041 | 4990 | 5066 | 1569 | 511 | 2281 | 705 | 4670 | 38995 | 206 |
| 1879 | 5155 | 5123 | 5147 | 1633 | 520 | 2301 | 693 | 4744 | 39987 | 208 |
| 1880 | 5195 | 5137 | 5182 | 1666 | 513 | 2297 | 706 | 4752 | 40104 | 208 |
| 1881 | 5288 | 5238 | 5278 | 1695 | 521 | 2372 | 690 | 4740 | 39719 | 208 |
| 1882 | 5255 | 5203 | 5227 | 1774 | 502 | 2306 | 645 | 4738 | 39372 | 206 |
| 1883 | 5316 | 5252 | 5284 | 1820 | 504 | 2343 | 617 | 5119 | 39812 | 207 |
| 1884 | 5375 | 5316 | 5344 | 1879 | 511 | 2323 | 631 | 5163 | 40022 | 208 |
| 1885 | 5443 | 5395 | 5401 | 1954 | 516 | 2317 | 614 | 5217 | 40116 | 208 |

From the above Table it will be seen that out of a total of 5,443 schools established in Ontario, 5,395 were open during last year. It will also be observed that there is a considerable decrease in the number of log school houses and a large increase in frame and brick. In 1850 there were only 99 brick school houses in the Province, now there are 1954. In the same year the number of log school houses was 1466, now happily reduced to 614. It will be gratifying to notice from the column headed "maps" that nearly every school in the Province is furnished with a certain number of wall maps, and that the total number in use exceeds 40,000. As in 1850 the total number of maps used in our public schools was 1814, the figures for last year show what remarkable progress has been made since that time.

5.—RECEIPTS AND EXPENDITURE.

Receipts for School Purposes.

| YEAR. | Legislative Grants. | Municipal School Grants and Assessments. | Clergy Reserves Fund. Balances and other sources. | Total receipts. |
|-----------|---------------------|--|---|-----------------|
| | \$ | \$ | \$ | \$ |
| 1876..... | 249956 | 2346735 | 776344 | 3373035 |
| 1877..... | 251962 | 2422432 | 730687 | 3405081 |
| 1878..... | 258539 | 2278040 | 694986 | 3231565 |
| 1879..... | 252566 | 2307223 | 654051 | 3213840 |
| 1880..... | 263454 | 2321929 | 669447 | 3254830 |
| 1881..... | 258297 | 2352556 | 648385 | 3259238 |
| 1882..... | 265738 | 2447214 | 757038 | 3469990 |
| 1883..... | 265467 | 2538042 | 767222 | 3570731 |
| 1884..... | 267084 | 2675621 | 780433 | 3723138 |
| 1885..... | 264419 | 2680121 | 868526 | 3813066 |

The revenue of School Boards consists of the amount apportioned by the Inspector on the basis of average attendance, interest from investments, and rate levied on the taxable property or income of the ratepayers. Since 1876 there has been an increase of \$14,463 in the revenue from Legislative Grants, and an increase of \$333,386 in the revenue from Municipal Assessments

Expenditure.

| YEAR. | Teachers' salaries. | Maps, apparatus, prizes, etc. | Sites and building school houses. | Rent, repairs, fuel and other expenses. | Total expenditure. | Average cost per pupil on total attendance. | On average attendance. |
|-----------|---------------------|----------------------------------|--------------------------------------|--|--------------------|--|------------------------|
| | £ | £ | £ | £ | £ | £ c. | £ c. |
| 1876..... | 1838321 | 49083 | 630266 | 488786 | 3006456 | 6 13 | 14 15 |
| 1877..... | 2038099 | 47539 | 477393 | 510458 | 3073489 | 6 26 | 14 15 |
| 1878..... | 2011208 | 42507 | 413393 | 422239 | 2889347 | 5 91 | 12 86 |
| 1879..... | 2072823 | 32622 | 306026 | 421614 | 2833085 | 5 82 | 12 91 |
| 1880..... | 2113180 | 25222 | 249390 | 434261 | 2822053 | 5 85 | 12 82 |
| 1881..... | 2106019 | 14022 | 280460 | 443770 | 2844271 | 5 92 | 13 21 |
| 1882..... | 2144449 | 15583 | 341918 | 525025 | 3026975 | 6 42 | 14 13 |
| 1883..... | 2210187 | 20275 | 312342 | 565626 | 3108430 | 6 69 | 14 42 |
| 1884..... | 2296027 | 17732 | 341198 | 625905 | 3280862 | 7 02 | 14 79 |
| 1885..... | 2327050 | 20230 | 373405 | 592015 | 3312700 | 7 01 | 14 66 |

This Table shows an increased expenditure of \$306,244 for 1885, as compared with 1876, or an increase of 10 per cent. The cost per pupil is now \$7.01 on total attendance, and \$14.66 on average attendance.

6.—ROMAN CATHOLIC SEPARATE SCHOOLS.

Schools—Expenditure—Teachers.

| YEAR. | No. of Schools open. | Total Receipts. | Total Expenditure. | No. of Teachers. |
|-----------|-------------------------|-----------------|-----------------------|---------------------|
| | | £ | £ | |
| 1876..... | 167 | 106483 | 101493 | 302 |
| 1877..... | 185 | 120266 | 114806 | 334 |
| 1878..... | 176 | 127549 | 120559 | 333 |
| 1879..... | 191 | 129092 | 122831 | 346 |
| 1880..... | 196 | 136873 | 128463 | 344 |
| 1881..... | 195 | 137074 | 123724 | 374 |
| 1882..... | 193 | 166739 | 154340 | 390 |
| 1883..... | 194 | 166289 | 153611 | 397 |
| 1884..... | 207 | 190454 | 176477 | 427 |
| 1885..... | 218 | 218096 | 204531 | 453 |

Number of Pupils—Studies.

| YEAR. | No. of Pupils. | No. in Reading. | No. in Spelling. | No. in Writing. | No. in Arithmetic. | No. in Geography. | No. in Grammar. | No. of Maps. | No. of schools using maps. |
|-----------|----------------|-----------------|------------------|-----------------|--------------------|-------------------|-----------------|--------------|----------------------------|
| 1876..... | 25294 | 23823 | 22652 | 19172 | 19550 | 14890 | 10909 | 1133 | 154 |
| 1877..... | 24952 | 23716 | 17920 | 17932 | 17961 | 13154 | 11174 | 1267 | 162 |
| 1878..... | 25280 | 25280 | 18559 | 19381 | 20111 | 14668 | 11806 | 1274 | 165 |
| 1879..... | 24779 | 24777 | 18039 | 19059 | 19965 | 13668 | 11469 | 1417 | 168 |
| 1880..... | 25311 | 25311 | 19178 | 21914 | 20716 | 14875 | 11968 | 1604 | 168 |
| 1881..... | 24819 | 24767 | 19763 | 19726 | 20473 | 14636 | 11909 | 1708 | 166 |
| 1882..... | 26148 | 26148 | 21119 | 21052 | 21524 | 13900 | 11695 | 1616 | 171 |
| 1883..... | 26177 | 26177 | 21385 | 22016 | 22111 | 14074 | 12805 | 1646 | 177 |
| 1884..... | 27463 | 27463 | 23125 | 23139 | 23705 | 15108 | 13637 | 1640 | 193 |
| 1885..... | 27590 | 27590 | 23357 | 23377 | 24823 | 16122 | 14518 | 1634 | 201 |

From these Tables it will be seen that while the number of Separate Schools has increased 51 in ten years, the expenditure increased \$111,613, and the number of teachers 151 during the same period. The number of pupils in the various subjects of the school programme has also proportionately increased.

II.—HIGH SCHOOLS.

(Including Collegiate Institutes.)

I.—RECEIPTS, EXPENDITURE, ATTENDANCE, ETC.

| YEAR. | No. of schools open. | Total receipts. | Paid for Teachers' salaries. | Total expenditure. | No. of pupils. | Average attendance. | Percentage of average attendance to total attendance. | Cost per pupil on total attendance. | Cost per pupil on average attendance. |
|-----------|----------------------|-----------------|------------------------------|--------------------|----------------|---------------------|---|-------------------------------------|---------------------------------------|
| | | \$ | \$ | \$ | | | | \$ c. | \$ c. |
| 1876..... | 104 | 321132 | 195906 | 304948 | 8541 | 4719 | 55 | 35 70 | 64 60 |
| 1877..... | 104 | 357521 | 211607 | 343710 | 9229 | 5201 | 56 | 37 24 | 66 08 |
| 1878..... | 104 | 420188 | 223010 | 396010 | 10574 | 5998 | 56 | 37 46 | 66 03 |
| 1879..... | 104 | 417461 | 241097 | 400788 | 12136 | 6992 | 57 | 33 02 | 57 32 |
| 1880..... | 104 | 432309 | 247894 | 413930 | 12910 | 7256 | 56 | 32 06 | 57 05 |
| 1881..... | 104 | 371250 | 257218 | 345850 | 13136 | 7270 | 55 | 26 00 | 47 57 |
| 1882..... | 104 | 373150 | 253864 | 343720 | 12348 | 6580 | 53 | 27 56 | 52 24 |
| 1883..... | 104 | 378888 | 266317 | 348946 | 11843 | 6454 | 55 | 29 47 | 54 07 |
| 1884..... | 106 | 407978 | 282776 | 385426 | 12737 | 7302 | 57 | 30 26 | 52 78 |
| 1885..... | 107 | 458941 | 294078 | 429762 | 14250 | 8207 | 58 | 30 16 | 52 36 |

The number of Collegiate Institutes in operation 18, employing on an average 7 masters each; the number of two-master schools, 49; three-master schools and over, 58. The average cost per pupil at a Collegiate Institute, \$33.38; at a High School, \$28.57. Fees varying from \$2 to \$27 per annum are charged in 43 High Schools; the remaining 64 do not charge fees.

2.—CLASSIFICATION.

The following Table shows the classification of the High Schools and the number of pupils in several of the most important subjects :—

| YEAR. | English Grammar. | Composition. | Reading. | History. | Geography. | Arithmetic and Mensuration. | Book-keeping and Commercial Transactions. | Algebra. | Latin. | Greek. | French. | German. | Music. | Drawing. |
|-----------|------------------|--------------|----------|----------|------------|-----------------------------|---|----------|--------|--------|---------|---------|--------|----------|
| 1876..... | 8457 | 8091 | 8249 | 8125 | 8318 | 8452 | 3725 | 7609 | 3789 | 905 | 3039 | 362 | .... | 2747 |
| 1877..... | 8819 | 8772 | 8762 | 9106 | 9158 | 9227 | 3621 | 8678 | 4955 | 871 | 3091 | 442 | .... | 2755 |
| 1878..... | 10486 | 9844 | 10184 | 9855 | 10074 | 10450 | 4011 | 10212 | 4729 | 883 | 3588 | 516 | .... | 2881 |
| 1879..... | 12015 | 11691 | 11281 | 11873 | 11935 | 12105 | 4500 | 11761 | 5391 | 1097 | 4687 | 729 | .... | 2693 |
| 1880..... | 12765 | 12288 | 12128 | 12654 | 12634 | 12825 | 4542 | 12667 | 5559 | 1100 | 5464 | 859 | .... | 2397 |
| 1881..... | 13086 | 13050 | 12290 | 12937 | 12802 | 13097 | 5005 | 13032 | 5389 | 967 | 5938 | 877 | .... | 1595 |
| 1882..... | 12275 | 12189 | 11425 | 12220 | 12106 | 12261 | 5642 | 11742 | 4591 | 815 | 5363 | 962 | .... | 3441 |
| 1883..... | 11815 | 11707 | 9939 | 11551 | 11518 | 11767 | 4849 | 10296 | 4439 | 903 | 5318 | 961 | 1360 | 3538 |
| 1884..... | 12577 | 12525 | 11792 | 12393 | 12448 | 12638 | 7407 | 11490 | 4454 | 927 | 5119 | 1089 | 3428 | 8126 |
| 1885..... | 13942 | 14022 | 13253 | 13912 | 13885 | 14017 | 11145 | 13633 | 4937 | 903 | 5528 | 1111 | 3547 | 12150 |

3.—MISCELLANEOUS.

The highest salary paid a Head Master, \$2350; the lowest, \$750. The average salary of a Head Master, \$1104. Sixty-one Head Masters were graduates of Toronto University; 20 of Victoria; 11 of Queen's; 7 of Trinity; 2 of Albert; and 4 of British Universities. The total number of teachers employed was 365.

Entrance Examination to High Schools.

The following Table shows the number of candidates who passed the Entrance Examination and the occupation chosen by High School pupils on completing their High School course :—

| YEAR. | Candidates examined. | Candidates passed. | Matriculated. | Mercantile. | Agriculture. | Learned Professions. |
|-----------|----------------------|--------------------|---------------|-------------|--------------|----------------------|
| 1876..... | | | 126 | 495 | 300 | 427 |
| 1877..... | 6248 | 3270 | 145 | 555 | 328 | 564 |
| 1878..... | 7383 | 3826 | 183 | 445 | 417 | 633 |
| 1879..... | 5848 | 4822 | 248 | 565 | 535 | 693 |
| 1880..... | 4894 | 2654 | 209 | 731 | 555 | 625 |
| 1881..... | 6556 | 3427 | 280 | 859 | 598 | 576 |
| 1882..... | 9815 | 4751 | 272 | 881 | 646 | 751 |
| 1883..... | 9607 | 4371 | 277 | 768 | 583 | 868 |
| 1884..... | 10662 | 7040 | 266 | 730 | 571 | 927 |
| 1885..... | 13660 | 6768 | 290 | 856 | 636 | 639 |

III.—MODEL SCHOOLS.

| YEAR. | No. of Schools. | No. of Teachers in training. | No. that passed final examination. | Government Grant. |
|------------|-----------------|------------------------------|------------------------------------|-------------------|
| 1877 | 50 | 1237 | 1146 | 2000 |
| 1878 | 50 | 1391 | 1372 | 8200 |
| 1879 | 51 | 1295 | 1259 | 200 |
| 1880 | 49 | 1413 | 1317 | 100000 (1879-80) |
| 1881 | 50 | 668 | 615 | 4800 |
| 1882 | 46 | 882 | 837 | 9750 |
| 1883 | 48 | 820 | 791 | 7500 |
| 1884 | 51 | 1117 | 1017 | 8100 |
| 1885 | 52 | 1305 | 1203 | 8100 |
| 1886 | 53 | 1463 | 1376 | 8250 |

IV.—TEACHERS' INSTITUTES.

| YEAR. | RECEIPTS. | | | | | | | EXPENDITURE. | |
|-----------|------------------------------|-----------------|------------------------------------|--|---------------------------------------|-------------------------------------|------------------------|----------------------------|--------------------|
| | No. of Teachers' Institutes. | No. of Members. | Total No. of Teachers in Province. | Amount received from Government Grant. | Amount received from Municipal Grant. | Amount received from Members' Fees. | Total amount received. | Amount paid for Libraries. | Total amount paid. |
| | | | | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 1877..... | 42 | 1881 | 6468 | 1412 50 | 100 00 | 299 75 | 2769 45 | ..... | 1127 68 |
| 1878..... | 54 | 3511 | 6473 | 3247 38 | 530 00 | 689 32 | 5961 62 | 1069 76 | 3764 63 |
| 1879..... | 60 | 4185 | 6596 | 3516 55 | 350 00 | 756 55 | 7632 24 | 1687 68 | 4772 30 |
| 1880..... | 59 | 4214 | 6747 | 3275 00 | 225 00 | 790 20 | 8028 97 | 1460 29 | 4965 85 |
| 1881..... | 61 | 4033 | 6922 | 2950 00 | 200 00 | 1027 04 | 8570 64 | 438 62 | 4377 44 |
| 1882..... | 62 | 4395 | 6857 | 2900 00 | 300 00 | 1088 84 | 9394 28 | 453 02 | 5355 33 |
| 1883..... | 62 | 4821 | 6911 | 4025 00 | 435 00 | 792 83 | 10372 91 | 1274 32 | 5870 79 |
| 1884..... | 64 | 5189 | 7085 | 2027 00 | 510 00 | 676 05 | 9423 47 | 1500 09 | 4875 43 |
| 1885..... | 64 | 5666 | 7218 | 1800 00 | 900 00 | 885 31 | 9252 65 | 1636 21 | 4587 87 |

V.—TRAINING INSTITUTES,

FOR ASSISTANT MASTERS IN HIGH SCHOOLS AND FIRST CLASS TEACHERS.

1885.

| NAME OF INSTITUTE. | NAME OF PRINCIPAL. | Number in attendance at Institute. | | Number who wrote at examination. | | Number who passed. | | | | Number of Lessons taught. |
|--------------------|-------------------------|------------------------------------|---------|----------------------------------|---------|--------------------|---------|---|---------|---------------------------|
| | | Male. | Female. | Male. | Female. | Assistant Masters. | | First-Class Professional and Assistant Masters. | | |
| | | | | | | Male. | Female. | Male. | Female. | |
| Hamilton | P. S. Campbell, M.A.... | 9 | 1 | 25 | 1 | 13 | 1 | 10 | ..... | 268 |
| Kingston | A. P. Knight, B.A.... | 11 | ..... | 11 | ..... | 9 | ..... | ..... | ..... | 178 |
| | Total | 20 | 1 | 36 | 1 | 22 | 1 | 10 | ..... | 446 |

1886.

| NAME OF INSTITUTE. | NAME OF PRINCIPAL. | Number in attendance at Institute. | | Number who wrote at examination. | | Number who passed. | | | | Number of Lessons taught. |
|--------------------|--------------------------|------------------------------------|---------|----------------------------------|---------|--------------------|---------|---|---------|---------------------------|
| | | Male. | Female. | Male. | Female. | Assistant Masters. | | First-Class Professional and Assistant Masters. | | |
| | | | | | | Male. | Female. | Male. | Female. | |
| Guelph | William Tytler, B.A.... | 7 | ..... | 15 | ..... | 7 | ..... | 2 | ..... | 233 |
| Hamilton | P. S. Campbell, M.A. . . | 13 | ..... | 40 | 2 | 14 | ..... | 11 | 1 | 336 |
| Kingston | A. P. Knight, M.A. | 10 | 1 | 21 | 9 | 6 | 1 | 7 | 8 | 220 |
| Strathroy | J. E. Wetherell, B.A.... | 8 | ..... | 18 | 1 | 5 | 1 | 2 | ..... | 178 |
| | Total | 38 | 1 | 94 | 12 | 32 | 2 | 22 | 9 | 967 |

VI.—NORMAL AND MODEL SCHOOLS.

| YEAR. | Number of Normal School Teachers. | Number of Normal School Students. | Number of Model School Teachers. | Number of Model School Pupils. | Receipts from Fees of Model School Pupils. | | Expenditure, Normal and Model Schools. | |
|-----------|-----------------------------------|-----------------------------------|----------------------------------|--------------------------------|--|----|--|----|
| | | | | | \$ | c. | \$ | c. |
| 1877..... | 13 | 257 | 8 | 399 | 7909 | 22 | 39863 | 58 |
| 1878..... | 14 | 226 | 8 | 382 | 7752 | 00 | 34032 | 92 |
| 1879..... | 15 | 429 | 8 | 391 | 7798 | 00 | 33719 | 58 |
| 1880..... | 13 | 483 | 15 | 607 | 9122 | 00 | 36694 | 07 |
| 1881..... | 15 | 418 | 15 | 698 | 11523 | 00 | 41808 | 43 |
| 1882..... | 16 | 260 | 15 | 799 | 13783 | 50 | 44888 | 02 |
| 1883..... | 15 | 338 | 16 | 760 | 13232 | 00 | 45540 | 40 |
| 1884..... | 15 | 351 | 16 | 742 | 12106 | 75 | 40761 | 02 |
| 1885..... | 12 | 405 | 17 | 658 | 11352 | 50 | 38257 | 11 |
| 1886..... | 11 | 439 | 18 | 660 | 11625 | 50 | 37477 | 89 |

VII.—ART SCHOOLS.

There are now in operation five Art Schools. The one at Ottawa is attended by 149 pupils; at Kingston by 102 pupils; at Toronto by 157 pupils; at London by 155 pupils; and at Hamilton by 243 pupils. Art Schools have since been incorporated in Stratford and Brockville.

Ottawa, Toronto, Kingston and London, sent over more than five hundred examples of Art work to the Colonial and Indian Exhibition, including Freehand Drawings, Geometry, Perspective Drawing from Models, Original Industrial Designs, Machine Drawings, Mechanical Drawings, Architectural Drawings, Shading from the "Flat," Shading from the "Round," Shading "Still Life," Outline from the "Round," Pen and Ink Drawings, Life Studies, Oil Paintings, Water Color Paintings, Painting on China, Modelling in Clay and Plaster Casts, Sculpture in Marble, Repoussé Work, Chasing in Brass, Electro-Metallizing, Wood-carving, etc.

Some of these specimens were presented to Her Majesty the Queen, and a letter has just been received from Sir Henry Ponsonby, the Queen's Private Secretary, in which he says "the Queen was very much pleased with them, and commanded me to thank you for sending her those well executed specimens of the work of the students."

In addition to the regular Art Schools, Drawing-classes, in affiliation with the Art Schools for examination purposes, were established in seventy-four Mechanics' Institutes, etc. Simultaneous examinations were held throughout the Province; 10,349 examination papers, Grade B, and 914 examination papers, Grade A, were sent to 78 Art Schools and branch Art Schools from this department on the 1st March, 1886. These papers were finally examined at this department by a committee from different parts of the Province appointed for that purpose.

Drawing Classes were also conducted for teachers during the summer holidays at Aurora, Barrie, Cannington, Collingwood, Picton, Parkdale, Sarnia, Stratford and Thornbury. The number of lessons given in each place varied from 30 to 75.

VIII.—MECHANICS' INSTITUTES.

There are now in operation 131 Mechanics' Institutes and Free Libraries, with 29,492 members, averaging 225 members to each Institute, with property valued at \$5,369,098.

The total expenditure for the past year was \$93,136; the sum of \$23,875 was expended for books, and 679,096 volumes were issued to the public, shewing that there were at least that number of applications from persons who availed themselves of this source of information.

Seventy-nine Institutes expended \$7,927 on reading-rooms, and provided for their members 1,147 periodicals and 1,214 newspapers. Twenty-four Institutes conducted evening classes in English, Commercial and Science courses, and 57 Institutes conducted evening classes in Drawing, including the elementary course, Industrial Designs, Mechanical Drawing, Machine Drawing, Architectural Drawing, Flower Drawing, Shading from the "Flat," Shading from the "Round," Wood-carving, etc. One thousand and fifty-two students from Mechanics' Institutes were examined for certificates in Drawing in March, 1886. The sum of \$6,222 was expended on evening classes, and \$2,293 on lectures.

Forty-eight Mechanics' Institutes sent specimens of Drawing to the Colonial and Indian Exhibition. The British press gave several favorable notices of this work. The *Canadian Gazette*, in referring to the value of practical education to adult artisans, says "the work from several Institutes is now on display in the Court: from it may be gathered that a practical knowledge of Drawing is imparted. The industrial designs prepared at these Mechanics' Institutes have elicited general commendation." The *Globe* says "the work from the Mechanics' Institutes has attracted a great deal of attention from manufacturers and others, in connection with the growing recognition of training mechanics and artisans in industrial drawing."

IX.—DEPARTMENTAL EXAMINATIONS.

EXAMINATION PAPERS PRINTED, 1886.

| | | |
|-------------------------------------|---------|---------|
| Entrance Examinations | | 221,500 |
| County Model Schools | | 14,000 |
| Training Institutes | | 4,000 |
| III. Class | 156,000 | |
| II. Class, Professional | 21,600 | |
| II. Class, Non Professional | 114,500 | |
| I. Class | 17,500 | 309,600 |
| Provincial Model Schools | | 14,100 |
| Algoma and Parry Sound Papers | | 4,200 |
| Total | | 567,400 |

DEPARTMENTAL EXAMINATIONS, 1879-1886, INCLUSIVE, FOR TEACHERS' NON-
PROFESSIONAL CERTIFICATES.

| YEAR OF EXAMINATION. | Candidates Examined. | Passed for II. Class. | Passed for III. Class. | Appeals. | Sustained. |
|----------------------|----------------------|-----------------------|-------------------------------------|----------|------------|
| 1879..... | 2539 | 750 | } Conducted by County Boards. | | |
| 1880..... | 3185 | 737 | | 424 | |
| 1881..... | 3592 | 674 | 464 | | |
| 1882..... | 3090 | 1181 | 452 | | |
| 1883..... | 3900 | 377 | 1205 | | |
| 1884..... | 5128 | 1071 | 860 | 506 | 144 |
| 1885..... | 4541 | 743 | 1150 | 736 | 194 |
| 1886..... | 5055 | 764 | 1312 | 339 | 109 |

X.—ARBOR DAY.

By a circular issued on the 16th day of April, 1885, I suggested to the trustees in the rural districts to set apart the second Friday in May for the purpose of planting trees, and beautifying and improving the school grounds. I am glad to say that the response to my suggestion was very cordial and all but unanimous. The Inspectors report that in addition to the planting of trees, many school yards were sodded, fences repaired, walks laid, and flower beds arranged, thus adding to the beauty and attractiveness of the school premises. Provision is now made in the new regulations for an annual Arbor Day in the Province. In a very few years I trust that the grounds surrounding every school house will be planted with suitable shade trees and otherwise made attractive to the pupils.

The number of trees, etc., planted on Arbor Day, 1885, was (corrected) 38,940; flower beds, 253.

XI.—INDIAN AND COLONIAL EXHIBITION.

The exhibition of the Education Department at the Indian and Colonial Exhibition at London during the year, was generally regarded as very satisfactory. The design of the exhibit was to show the standing of our school system by means of such appliances as are generally in use, and to represent the actual work of the pupils, so far as they were capable of use for this purpose. The exhibit embraced every department of the system and was viewed with great interest by visitors from all parts of the world. As a full report will be submitted to you by the Special Commissioner, S. P. May, M.D., I need not now enter more fully into details. It is due, however, to Sir Charles Tupper, Commissioner of the Dominion, and also to Dr. May, to acknowledge the earnestness and fidelity with which they devoted themselves to the interests of the Province, and the valuable services rendered by them in placing before the millions who attended the Exhibition the educational advantages of Ontario.

XII.—CONCLUSION.

In the perusal of this Report, I trust you will find many gratifying evidences of progress. Nowhere are the benefits of a liberal education more fully appreciated than in this Province, and you may rest assured that no effort will be spared to give every citizen the advantages of at least a good elementary education.

I have the honor to be,

Your Honor's obedient servant,

EDUCATION DEPARTMENT,

Toronto, December 31st, 1886.

GEO. W. ROSS,

Minister of Education.

T A B L E S

REFERRED TO IN THE FOREGOING

STATISTICAL REPORT.

TABLE A.—The Public

| COUNTIES. (Including Incorporated Villages but not Cities or towns.) | School population between 5 and 21 years of age. | PUPILS ATTENDING | | | | | |
|---|--|------------------------------|---------------------------------------|------------------------------|--|--------|--------|
| | | Pupils under 5 years of age. | Pupils between 5 and 21 years of age. | Pupils over 21 years of age. | Total number of Pupils of all ages attending school. | Boys. | Girls. |
| 1 Brant | 5490 | 1 | 4302 | 6 | 4309 | 2340 | 1969 |
| 2 Bruce | 19270 | 20 | 15892 | 19 | 15931 | 8564 | 7367 |
| 3 Carleton | 10436 | 28 | 9335 | 9 | 9372 | 5000 | 4372 |
| 4 Dufferin | 6385 | 14 | 5730 | 5 | 5749 | 3062 | 2687 |
| 5 Dundas | 6197 | 21 | 5191 | 2 | 5214 | 2711 | 2503 |
| 6 Durham | 7646 | 18 | 6594 | 4 | 6616 | 3533 | 3083 |
| 7 Elgin | 8232 | 19 | 8024 | 3 | 8052 | 4222 | 3850 |
| 8 Essex | 11536 | 22 | 9714 | 6 | 9742 | 5161 | 4581 |
| 9 Frontenac | 7364 | 21 | 6625 | 4 | 6650 | 3450 | 3200 |
| 10 Glengarry | 5160 | 6 | 4896 | 4 | 4906 | 2638 | 2268 |
| 11 Grenville | 6521 | 11 | 5704 | 3 | 5718 | 3118 | 2600 |
| 12 Grey | 21522 | 49 | 17079 | 28 | 17156 | 9318 | 7838 |
| 13 Haldimand | 7093 | 13 | 5971 | 4 | 5988 | 3224 | 2764 |
| 14 Haliburton | 1942 | 21 | 1482 | 3 | 1506 | 779 | 727 |
| 15 Halton | 6069 | 8 | 4977 | 5 | 4990 | 2700 | 2290 |
| 16 Hastings | 12001 | 22 | 10172 | 9 | 10203 | 5401 | 4802 |
| 17 Huron | 19103 | 32 | 15962 | 10 | 16004 | 8537 | 7467 |
| 18 Kent | 10781 | 37 | 10319 | 9 | 10365 | 5598 | 4767 |
| 19 Lambton | 13612 | 24 | 11561 | 18 | 11603 | 6055 | 5548 |
| 20 Lanark | 7785 | ..... | 6352 | 1 | 6353 | 3204 | 3149 |
| 21 Leeds | 7428 | 9 | 6789 | 10 | 6808 | 3600 | 3208 |
| 22 Lennox and Addington | 6249 | 10 | 5601 | 1 | 5612 | 2969 | 2643 |
| 23 Lincoln | 5590 | 12 | 4687 | 3 | 4702 | 2558 | 2144 |
| 24 Middlesex | 16889 | 12 | 14971 | 9 | 14992 | 8080 | 6912 |
| 25 Norfolk | 8316 | 19 | 7843 | 6 | 7868 | 4191 | 3677 |
| 26 Northumberland | 9896 | 8 | 8175 | ..... | 8183 | 4500 | 3683 |
| 27 Ontario | 12291 | 10 | 10402 | 5 | 10417 | 5598 | 4819 |
| 28 Oxford | 10597 | 4 | 9047 | 14 | 9065 | 4967 | 4098 |
| 29 Peel | 6654 | 15 | 5610 | 2 | 5627 | 2970 | 2657 |
| 30 Perth | 10716 | 24 | 8988 | 1 | 9013 | 4839 | 4174 |
| 31 Peterborough | 6830 | 20 | 5673 | 4 | 5697 | 3018 | 2679 |
| 32 Prescott and Russell | 12104 | 49 | 9626 | 3 | 9678 | 4878 | 4800 |
| 33 Prince Edward | 4217 | 1 | 4092 | 5 | 4098 | 2213 | 1885 |
| 34 Renfrew | 11726 | 23 | 8725 | 12 | 8760 | 4552 | 4208 |
| 35 Simcoe | 17880 | 43 | 16237 | 26 | 16306 | 8665 | 7641 |
| 36 Stormont | 5278 | 19 | 4675 | 2 | 4696 | 2500 | 2196 |
| 37 Victoria | 11066 | 20 | 9530 | 11 | 9561 | 5019 | 4542 |
| 38 Waterloo | 9921 | 6 | 7953 | 3 | 7964 | 4382 | 3582 |
| 39 Welland | 6562 | 18 | 5561 | 12 | 5591 | 2986 | 2605 |
| 40 Wellington | 15331 | 28 | 12385 | 14 | 12427 | 6632 | 5795 |
| 41 Wentworth | 8210 | 9 | 6258 | 8 | 6275 | 3446 | 2829 |
| 42 York | 16961 | 22 | 13485 | 19 | 13526 | 7384 | 6142 |
| 43 Districts | 10221 | 28 | 8014 | 16 | 8058 | 4079 | 3979 |
| Total | 424578 | 796 | 360211 | 344 | 361351 | 192641 | 168710 |
| CITIES. | | | | | | | |
| 1 Belleville | 3219 | ..... | 2205 | ..... | 2205 | 1125 | 1080 |
| 2 Brantford | 4231 | 1 | 2448 | ..... | 2449 | 1254 | 1195 |
| 3 Guelph | 3248 | 1 | 2252 | ..... | 2253 | 1168 | 1085 |
| 4 Hamilton | 12828 | 10 | 8073 | ..... | 8083 | 4017 | 4066 |
| 5 Kingston | 4942 | ..... | 3368 | ..... | 3368 | 1719 | 1649 |
| 6 London | 7666 | 2 | 5908 | 2 | 5912 | 3060 | 2852 |
| 7 Ottawa | 7300 | 15 | 6066 | ..... | 6081 | 3154 | 2927 |
| 8 St. Catharines | 3007 | ..... | 2071 | ..... | 2071 | 1127 | 944 |
| 9 St. Thomas | 2872 | ..... | 2435 | ..... | 2435 | 1198 | 1237 |
| 10 Stratford | 3159 | 1 | 1865 | ..... | 1866 | 970 | 896 |
| 11 Toronto | 33101 | 10 | 21359 | 8 | 21377 | 10949 | 10428 |
| Total | 85573 | 40 | 58050 | 10 | 58100 | 29741 | 28359 |

Schools of Ontario.

THE PUBLIC SCHOOLS.

| NUMBER OF PUPILS ATTENDING SCHOOL. | | | | | | Number of children between 7 and 13 years of age not attending any school for 100 days during the year. | Number of children between 7 and 13 years of age not attending any school during the year. | Average attendance of pupils. | Percentage of average attendance to total number attending school. | | | | | |
|------------------------------------|----------------|-----------------|------------------|------------------|-----------------------------|---|--|-------------------------------|--|-------|-------|------|--------|----|
| Less than 20 days during the year. | 20 to 50 days. | 51 to 100 days. | 101 to 150 days. | 151 to 200 days. | 201 days to the whole year. | | | | | | | | | |
| 1 | 331 | 668 | 1129 | 1014 | 985 | 182 | 740 | 10 | 2058 | 48 | | | | |
| 2 | 1446 | 2645 | 4157 | 3637 | 3579 | 467 | 4099 | 163 | 7104 | 45 | | | | |
| 3 | 1021 | 1848 | 2432 | 1973 | 1832 | 266 | 2758 | 133 | 3958 | 42 | | | | |
| 4 | 863 | 1207 | 1620 | 1129 | 803 | 127 | 1842 | 46 | 2096 | 37 | | | | |
| 5 | 610 | 908 | 1288 | 1141 | 1146 | 121 | 1419 | 98 | 2338 | 45 | | | | |
| 6 | 666 | 1240 | 1713 | 1517 | 1267 | 213 | 1494 | 136 | 2938 | 45 | | | | |
| 7 | 747 | 1353 | 2032 | 1860 | 1778 | 282 | 1705 | 97 | 3724 | 46 | | | | |
| 8 | 1129 | 1673 | 2542 | 2184 | 1954 | 260 | 2306 | 226 | 4263 | 44 | | | | |
| 9 | 1092 | 1476 | 1824 | 1269 | 887 | 102 | 2095 | 229 | 2411 | 36 | | | | |
| 10 | 556 | 1038 | 1446 | 1014 | 753 | 99 | 1561 | 64 | 2219 | 45 | | | | |
| 11 | 629 | 1164 | 1540 | 1233 | 1016 | 136 | 1110 | 61 | 2360 | 41 | | | | |
| 12 | 2157 | 3850 | 4855 | 3488 | 2478 | 328 | 4759 | 429 | 6568 | 38 | | | | |
| 13 | 545 | 1012 | 1493 | 1362 | 1336 | 240 | 1376 | 150 | 2871 | 48 | | | | |
| 14 | 285 | 430 | 424 | 256 | 89 | 22 | 537 | 112 | 454 | 30 | | | | |
| 15 | 396 | 796 | 1369 | 1129 | 1150 | 150 | 1072 | 33 | 2301 | 46 | | | | |
| 16 | 1258 | 1921 | 2598 | 2074 | 2096 | 256 | 2845 | 134 | 4375 | 43 | | | | |
| 17 | 1377 | 2468 | 4317 | 3726 | 3585 | 531 | 3009 | 101 | 7443 | 47 | | | | |
| 18 | 1178 | 1953 | 2827 | 2251 | 1936 | 220 | 2159 | 253 | 4263 | 41 | | | | |
| 19 | 972 | 1831 | 2770 | 2730 | 2858 | 442 | 1298 | 86 | 5689 | 49 | | | | |
| 20 | 538 | 1036 | 1597 | 1476 | 1366 | 340 | 1615 | 74 | 3146 | 50 | | | | |
| 21 | 788 | 1269 | 1753 | 1599 | 1253 | 146 | 1928 | 28 | 2882 | 42 | | | | |
| 22 | 679 | 1134 | 1551 | 1208 | 941 | 99 | 1686 | 82 | 2260 | 40 | | | | |
| 23 | 398 | 823 | 1228 | 1099 | 1008 | 146 | 1119 | 16 | 2143 | 46 | | | | |
| 24 | 1222 | 2153 | 3570 | 3584 | 4014 | 449 | 2367 | 83 | 7284 | 49 | | | | |
| 25 | 881 | 1502 | 2114 | 1713 | 1467 | 191 | 1562 | 40 | 3354 | 43 | | | | |
| 26 | 780 | 1439 | 2114 | 1786 | 1825 | 239 | 2058 | 100 | 3745 | 46 | | | | |
| 27 | 999 | 1831 | 2867 | 2237 | 2103 | 380 | 2092 | 88 | 4987 | 48 | | | | |
| 28 | 659 | 1438 | 2307 | 2088 | 2206 | 367 | 1756 | 85 | 4399 | 49 | | | | |
| 29 | 511 | 1017 | 1556 | 1326 | 1128 | 89 | 1428 | 46 | 2290 | 41 | | | | |
| 30 | 631 | 1281 | 2399 | 2128 | 2262 | 312 | 1842 | 26 | 4397 | 49 | | | | |
| 31 | 666 | 1057 | 1573 | 1215 | 1035 | 151 | 1702 | 66 | 2452 | 43 | | | | |
| 32 | 1289 | 1967 | 2589 | 1891 | 1681 | 261 | 3305 | 390 | 3956 | 41 | | | | |
| 33 | 384 | 746 | 1059 | 890 | 865 | 154 | 845 | 28 | 1834 | 46 | | | | |
| 34 | 1069 | 1747 | 2508 | 1844 | 1379 | 213 | 2870 | 289 | 3366 | 39 | | | | |
| 35 | 1766 | 3204 | 4487 | 3377 | 2864 | 608 | 3135 | 243 | 6869 | 42 | | | | |
| 36 | 635 | 985 | 1169 | 924 | 887 | 126 | 753 | 4 | 1880 | 40 | | | | |
| 37 | 1235 | 2010 | 2745 | 1920 | 1510 | 141 | 2471 | 141 | 3811 | 40 | | | | |
| 38 | 425 | 976 | 1916 | 1947 | 2325 | 375 | 1374 | 37 | 4229 | 53 | | | | |
| 39 | 605 | 977 | 1546 | 1221 | 1047 | 195 | 908 | 40 | 2302 | 42 | | | | |
| 40 | 1072 | 2083 | 3358 | 2871 | 2659 | 384 | 3196 | 106 | 5770 | 46 | | | | |
| 41 | 564 | 1062 | 1639 | 1447 | 1358 | 205 | 1396 | 24 | 2884 | 46 | | | | |
| 42 | 1371 | 2400 | 3543 | 3141 | 2620 | 451 | 2695 | 380 | 5973 | 44 | | | | |
| 43 | 1091 | 1735 | 2186 | 1627 | 1099 | 320 | 1901 | 215 | 2901 | 36 | | | | |
| 37516 | | | | | | 65353 | 95750 | 79546 | 72400 | 10786 | 83688 | 5192 | 158547 | 44 |
| 1 | 109 | 248 | 472 | 504 | 801 | 71 | 199 | ..... | 1267 | 58 | | | | |
| 2 | 163 | 348 | 508 | 550 | 880 | ..... | 218 | ..... | 1562 | 64 | | | | |
| 3 | 78 | 216 | 452 | 566 | 928 | 13 | ..... | ..... | 1341 | 60 | | | | |
| 4 | 302 | 775 | 1614 | 1591 | 3395 | 406 | ..... | ..... | 5171 | 64 | | | | |
| 5 | 164 | 364 | 629 | 896 | 1315 | ..... | ..... | ..... | 2050 | 61 | | | | |
| 6 | 491 | 865 | 1777 | 1116 | 1639 | 24 | ..... | ..... | 3203 | 55 | | | | |
| 7 | 433 | 876 | 1526 | 1339 | 1526 | 381 | ..... | ..... | 3721 | 61 | | | | |
| 8 | 109 | 236 | 512 | 519 | 686 | 9 | ..... | ..... | 1302 | 63 | | | | |
| 9 | 124 | 294 | 590 | 500 | 919 | 8 | ..... | ..... | 1427 | 59 | | | | |
| 10 | 123 | 171 | 368 | 443 | 743 | 18 | ..... | ..... | 1167 | 62 | | | | |
| 11 | 833 | 2121 | 4225 | 3804 | 10385 | 9 | ..... | ..... | 13925 | 65 | | | | |
| 2929 | | | | | | 6514 | 12673 | 11828 | 23217 | 939 | 630 | 100 | 36136 | 62 |

I.—TABLE A.—The Public

| TOWNS. | School population between 5 and 21 years of age. | PUPILS ATTENDING | | | | | |
|--------------------------|--|------------------------------|---------------------------------------|------------------------------|--|-------|--------|
| | | Pupils under 5 years of age. | Pupils between 5 and 21 years of age. | Pupils over 21 years of age. | Total number of Pupils of all ages attending school. | Boys. | Girls. |
| 1 Almonte | 994 | | 622 | | 622 | 331 | 291 |
| 2 Amherstburg | 1131 | | 680 | | 680 | 366 | 314 |
| 3 Barrie | 1814 | | 1149 | 1 | 1150 | 585 | 565 |
| 4 Berlin | 1775 | 1 | 1015 | | 1016 | 531 | 485 |
| 5 Blenheim | 470 | | 401 | | 401 | 188 | 213 |
| 6 Bothwell | 329 | | 240 | | 240 | 116 | 124 |
| 7 Bowmanville | 892 | | 754 | | 754 | 389 | 365 |
| 8 Brampton | 726 | | 760 | | 760 | 401 | 359 |
| 9 Brockville | 2381 | | 1694 | | 1694 | 829 | 865 |
| 10 Chatham | 2872 | | 2042 | 1 | 2043 | 991 | 1052 |
| 11 Clinton | 1300 | | 640 | | 640 | 309 | 331 |
| 12 Cobourg | 1472 | | 984 | | 984 | 485 | 499 |
| 13 Collingwood | 1315 | | 1143 | | 1143 | 601 | 542 |
| 14 Cornwall | 1866 | | 1290 | 1 | 1291 | 663 | 628 |
| 15 Dresden | 577 | | 547 | | 547 | 269 | 278 |
| 16 Dundas | 1157 | | 900 | 13 | 913 | 464 | 449 |
| 17 Durham | 331 | | 300 | | 300 | 149 | 151 |
| 18 Galt | 2161 | | 1384 | | 1384 | 698 | 686 |
| 19 Goderich | 1217 | | 1013 | | 1013 | 508 | 505 |
| 20 Harriston | 616 | | 480 | | 480 | 238 | 242 |
| 21 Ingersoll | 1200 | | 961 | | 961 | 504 | 457 |
| 22 Kincardine | 1038 | | 783 | | 783 | 386 | 397 |
| 23 Lindsay | 1669 | | 1439 | | 1439 | 653 | 786 |
| 24 Listowel | 1153 | | 624 | | 624 | 327 | 297 |
| 25 Meaford | 600 | | 526 | | 526 | 268 | 258 |
| 26 Milton | 460 | | 347 | | 347 | 173 | 174 |
| 27 Mitchell | 1192 | | 567 | | 567 | 259 | 308 |
| 28 Mount Forest | 806 | | 608 | | 608 | 315 | 293 |
| 29 Napanee | 893 | | 853 | | 853 | 434 | 419 |
| 30 Newmarket | 550 | 5 | 467 | | 472 | 266 | 206 |
| 31 Niagara | 504 | | 257 | | 257 | 129 | 128 |
| 32 Niagara Falls | 755 | | 577 | | 577 | 279 | 298 |
| 33 Oakville | 516 | | 412 | | 412 | 209 | 203 |
| 34 Orangeville | 925 | | 712 | | 712 | 363 | 349 |
| 35 Orillia | 1446 | | 944 | 1 | 945 | 486 | 459 |
| 36 Oshawa | 1634 | | 975 | | 975 | 490 | 485 |
| 37 Owen Sound | 1517 | | 1136 | | 1136 | 586 | 550 |
| 38 Palmerston | 475 | | 432 | | 432 | 212 | 220 |
| 39 Paris | 1085 | | 769 | | 769 | 378 | 391 |
| 40 Parkdale | 978 | | 873 | | 873 | 428 | 445 |
| 41 Pembroke | 844 | 4 | 826 | 2 | 832 | 437 | 395 |
| 42 Penetanguishene | 472 | | 236 | | 236 | 111 | 125 |
| 43 Perth | 1264 | | 659 | 2 | 661 | 331 | 330 |
| 44 Peterboro' | 2608 | | 1944 | | 1944 | 969 | 975 |
| 45 Petrollea | 1199 | | 986 | | 986 | 505 | 481 |
| 46 Picton | 618 | | 591 | | 591 | 294 | 297 |
| 47 Port Arthur | 1311 | | 692 | | 692 | 389 | 303 |
| 48 Port Hope | 2350 | | 1076 | | 1076 | 520 | 556 |
| 49 Prescott | 603 | | 584 | | 584 | 311 | 273 |
| 50 Rat Portage | 230 | | 184 | | 184 | 87 | 97 |
| 51 Ridgetown | 657 | | 523 | | 523 | 277 | 246 |
| 52 Sandwich | 341 | | 253 | | 253 | 128 | 125 |
| 53 Sarnia | 1752 | | 1271 | | 1271 | 656 | 615 |
| 54 Seaforth | 824 | | 664 | | 664 | 305 | 359 |
| 55 Simcoe | 820 | | 559 | | 559 | 310 | 249 |
| 56 Smith's Falls | 616 | | 550 | | 550 | 285 | 265 |
| 57 St. Mary's | 964 | | 923 | | 923 | 465 | 458 |
| 58 Strathroy | 1233 | | 800 | 1 | 801 | 414 | 387 |

Schools of Ontario.

THE PUBLIC SCHOOLS.

| NUMBER OF PUPILS ATTENDING SCHOOL. | | | | | | Number of children between 7 and 13 years of age not attending any school for 100 days during the year. | Number of children between 7 and 13 years of age not attending any school during the year. | Average attendance of pupils. | Percentage of average attendance to total number attending school. |
|------------------------------------|----------------|-----------------|------------------|------------------|-----------------------------|---|--|-------------------------------|--|
| Less than 20 days during the year. | 20 to 50 days. | 51 to 100 days. | 101 to 150 days. | 151 to 200 days. | 201 days to the whole year. | | | | |
| 1 | 40 | 86 | 211 | 126 | 132 | 27 | | 396 | 61 |
| 2 | 27 | 101 | 154 | 148 | 249 | 1 | | 368 | 54 |
| 3 | 75 | 128 | 236 | 222 | 476 | 13 | 42 | 657 | 57 |
| 4 | 51 | 108 | 214 | 277 | 359 | 7 | 138 | 545 | 54 |
| 5 | 30 | 41 | 112 | 103 | 103 | 12 | | 201 | 50 |
| 6 | 14 | 10 | 57 | 57 | 98 | 4 | 40 | 140 | 58 |
| 7 | 21 | 54 | 131 | 163 | 385 | | | 500 | 66 |
| 8 | 53 | 56 | 112 | 163 | 376 | | | 496 | 66 |
| 9 | 41 | 160 | 300 | 366 | 780 | 47 | | 1083 | 64 |
| 10 | 139 | 235 | 457 | 483 | 716 | 13 | 264 | 1189 | 58 |
| 11 | 30 | 64 | 115 | 139 | 286 | 6 | 80 | 392 | 61 |
| 12 | 52 | 88 | 235 | 245 | 335 | 29 | 68 | 604 | 61 |
| 13 | 97 | 153 | 256 | 247 | 390 | | 388 | 611 | 54 |
| 14 | 102 | 189 | 320 | 269 | 389 | 22 | | 690 | 54 |
| 15 | 52 | 61 | 128 | 136 | 170 | | 166 | 260 | 48 |
| 16 | 81 | 159 | 258 | 259 | 156 | | 161 | 532 | 58 |
| 17 | 21 | 41 | 79 | 71 | 88 | | 11 | 166 | 35 |
| 18 | 73 | 150 | 237 | 289 | 583 | 52 | 236 | 861 | 62 |
| 19 | 62 | 97 | 166 | 226 | 450 | 12 | 38 | 620 | 61 |
| 20 | 40 | 66 | 103 | 104 | 167 | | 120 | 257 | 54 |
| 21 | 44 | 108 | 205 | 210 | 389 | 5 | 176 | 565 | 59 |
| 22 | 47 | 105 | 151 | 196 | 284 | | 182 | 416 | 53 |
| 23 | 65 | 123 | 300 | 350 | 568 | 3 | 137 | 859 | 60 |
| 24 | 23 | 64 | 116 | 139 | 231 | 51 | 101 | 369 | 59 |
| 25 | 12 | 52 | 128 | 158 | 173 | 3 | 88 | 348 | 66 |
| 26 | 18 | 32 | 60 | 78 | 156 | 3 | 47 | 219 | 63 |
| 27 | 16 | 64 | 111 | 124 | 251 | 1 | | 354 | 63 |
| 28 | 33 | 64 | 130 | 137 | 241 | 3 | 65 | 356 | 59 |
| 29 | 50 | 96 | 194 | 247 | 266 | | 181 | 440 | 52 |
| 30 | 39 | 70 | 97 | 91 | 172 | 3 | 82 | 264 | 56 |
| 31 | 9 | 24 | 73 | 56 | 92 | 3 | | 150 | 58 |
| 32 | 39 | 60 | 110 | 113 | 236 | 19 | | 337 | 58 |
| 33 | 21 | 34 | 89 | 105 | 158 | 5 | 48 | 253 | 62 |
| 34 | 53 | 84 | 170 | 172 | 233 | | 175 | 385 | 54 |
| 35 | 49 | 89 | 168 | 208 | 388 | 43 | 135 | 555 | 59 |
| 36 | 28 | 79 | 187 | 170 | 481 | 30 | 140 | 644 | 66 |
| 37 | 90 | 130 | 252 | 256 | 398 | 10 | 263 | 655 | 58 |
| 38 | 24 | 104 | 59 | 87 | 124 | 34 | 61 | 222 | 51 |
| 39 | 27 | 96 | 155 | 137 | 319 | 35 | | 465 | 60 |
| 40 | 67 | 123 | 210 | 155 | 318 | | | 482 | 55 |
| 41 | 26 | 45 | 192 | 259 | 273 | 37 | | 560 | 68 |
| 42 | 39 | 40 | 48 | 45 | 62 | 2 | 75 | 106 | 45 |
| 43 | 32 | 64 | 135 | 112 | 310 | 8 | 60 | 406 | 62 |
| 44 | 107 | 242 | 503 | 499 | 579 | 14 | | 1156 | 60 |
| 45 | 52 | 101 | 187 | 217 | 400 | 29 | 185 | 644 | 66 |
| 46 | 32 | 58 | 118 | 146 | 228 | 9 | 92 | 387 | 66 |
| 47 | 76 | 114 | 188 | 164 | 145 | 5 | 200 | 321 | 47 |
| 48 | 42 | 90 | 194 | 257 | 493 | | 158 | 690 | 64 |
| 49 | 24 | 64 | 120 | 135 | 236 | 5 | 56 | 355 | 63 |
| 50 | 45 | 53 | 24 | 35 | 21 | 6 | | 90 | 49 |
| 51 | 34 | 67 | 121 | 117 | 184 | | 75 | 286 | 55 |
| 52 | 21 | 36 | 70 | 69 | 57 | | 83 | 133 | 53 |
| 53 | 81 | 152 | 267 | 299 | 462 | 10 | 192 | 703 | 55 |
| 54 | 21 | 57 | 100 | 124 | 356 | 6 | 86 | 403 | 61 |
| 55 | 24 | 72 | 104 | 117 | 235 | 7 | 54 | 336 | 60 |
| 56 | 34 | 43 | 81 | 134 | 214 | 44 | 87 | 344 | 62 |
| 57 | 55 | 97 | 277 | 266 | 228 | | 368 | 461 | 50 |
| 58 | 33 | 88 | 156 | 165 | 354 | 5 | 155 | 478 | 60 |

I.—TABLE A.—The Public

| TOWNS—Continued. | School population between 5 and 21 years of age. | PUPILS ATTENDING | | | | | |
|---|--|------------------------------|---------------------------------------|------------------------------|--|--------|--------|
| | | Pupils under 5 years of age. | Pupils between 5 and 21 years of age. | Pupils over 21 years of age. | Total number of pupils of all ages attending school. | Boys. | Girls. |
| 59 Thorold | 862 | | 625 | | 625 | 300 | 325 |
| 60 Tilsonburg | 519 | | 451 | | 451 | 228 | 223 |
| 61 Trenton | 1013 | | 946 | | 946 | 492 | 454 |
| 62 Walkerton | 1100 | | 619 | | 619 | 323 | 296 |
| 63 Waterloo | 839 | | 529 | | 529 | 276 | 253 |
| 64 Welland | 541 | | 342 | | 342 | 174 | 168 |
| 65 Whitby | 658 | 1 | 676 | | 677 | 372 | 305 |
| 66 Windsor | 1792 | | 1316 | | 1316 | 627 | 689 |
| 67 Wingham | 751 | | 509 | | 509 | 273 | 286 |
| 68 Woodstock | 1423 | | 1340 | | 1340 | 678 | 662 |
| Totals | 72996 | 11 | 52974 | 22 | 53007 | 26793 | 26214 |
| TOTALS. | | | | | | | |
| 1 Counties, etc. | 424578 | 796 | 360211 | 344 | 361351 | 192641 | 168710 |
| 2 Cities | 85573 | 40 | 58050 | 10 | 58100 | 29741 | 28359 |
| 3 Towns | 72996 | 11 | 52974 | 22 | 53007 | 26793 | 26214 |
| 4 Grand total, 1885 | 583147 | 847 | 471235 | 376 | 472458 | 249175 | 223283 |
| 5 " 1884 | | 1115 | 465374 | 428 | 466917 | 244532 | 222385 |
| 6 Increase | | | 5861 | | 5541 | 4643 | 898 |
| 7 Decrease | | 268 | | 52 | | | |
| 8 Percentage of grand total as compared with total attendance | | $\frac{18}{100}$ | $99\frac{74}{100}$ | $\frac{2}{100}$ | | 53 | 47 |

NOTE.—In calculating the average attendance, the Tables A, B, C, D, E, include the statistics of Roman Catholic

Schools of Ontario.

THE PUBLIC SCHOOLS.

NUMBER OF PUPILS ATTENDING SCHOOL.

| Less than 20 days during the year. | | 20 to 50 days. | 51 to 100 days. | 101 to 150 days. | 151 to 200 days. | 201 days to the whole year. | Number of children between 7 and 13 years of age not attending any school for 100 days during the year. | Number of children between 7 and 13 years of age not attending any school during the year. | Average attendance of pupils. | Percentage of average attendance to total number attending school. |
|------------------------------------|-------|----------------|-----------------|------------------|------------------|-----------------------------|---|--|-------------------------------|--|
| 59 | 46 | 83 | 138 | 137 | 199 | 22 | 111 | ..... | 404 | 65 |
| 60 | 43 | 63 | 96 | 87 | 159 | 3 | 115 | ..... | 265 | 59 |
| 61 | 93 | 171 | 231 | 199 | 252 | ..... | 202 | ..... | 488 | 52 |
| 62 | 44 | 76 | 138 | 136 | 225 | ..... | ..... | ..... | 345 | 56 |
| 63 | 25 | 34 | 89 | 135 | 239 | 7 | 93 | ..... | 351 | 66 |
| 64 | 38 | 60 | 109 | 73 | 61 | 1 | 143 | 45 | 181 | 53 |
| 65 | 31 | 51 | 186 | 158 | 251 | ..... | 136 | ..... | 400 | 59 |
| 66 | 87 | 159 | 257 | 235 | 578 | ..... | 410 | 175 | 874 | 66 |
| 67 | 32 | 46 | 110 | 123 | 198 | ..... | ..... | ..... | 297 | 59 |
| 68 | 50 | 125 | 248 | 296 | 618 | 3 | 182 | ..... | 844 | 63 |
| 3122 | | 5999 | 11333 | 12051 | 19783 | 719 | 6951 | 386 | 31224 | 59 |
| | | | | | | | | | | |
| 1 | 37516 | 65353 | 95750 | 79546 | 72400 | 10786 | 83688 | 5192 | 158547 | 44 |
| 2 | 2929 | 6514 | 12673 | 11828 | 23217 | 939 | 630 | 100 | 36136 | 62 |
| 3 | 3122 | 5999 | 11333 | 12051 | 19783 | 719 | 6951 | 386 | 31224 | 59 |
| 4 | 43567 | 77866 | 119756 | 103425 | 115400 | 12444 | 91269 | 5678 | 225907 | 48 |
| 5 | 40761 | 76124 | 114974 | 103997 | 112539 | 18522 | 90959 | 6230 | 221861 | 48 |
| 6 | 2806 | 1742 | 4782 | ..... | 2861 | ..... | 310 | ..... | 4046 | ..... |
| 7 | ..... | ..... | ..... | 572 | ..... | 6078 | ..... | 552 | ..... | ..... |
| | | | | | | | | | | |
| 9 | | 17 | 25 | 22 | 24 | 3 | ..... | ..... | ..... | ..... |

divisor used is the legal number of teaching days.

Separate Schools which are, however, given separately in Table F.

II.—TABLE B.—The

NUMBER OF PUPILS IN THE

| COUNTIES (Including Incorporated Villages but not Cities or Towns.) | READING. | | | | | | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. |
|--|---------------------|----------------------|-------------|-------------|-------------|-------------|-----------|----------|-------------|----------|------------|
| | 1st Reader, Part I. | 1st Reader, Part II. | 2nd Reader. | 3rd Reader. | 4th Reader. | 5th Reader. | | | | | |
| 1 Brant..... | 736 | 550 | 853 | 1185 | 766 | 219 | 4309 | 4309 | 4309 | 2694 | 4309 |
| 2 Bruce..... | 3863 | 2481 | 3351 | 3631 | 2331 | 274 | 14985 | 14645 | 15147 | 11362 | 9345 |
| 3 Carleton..... | 1882 | 1256 | 1943 | 2432 | 1770 | 89 | 7449 | 7786 | 7778 | 2928 | 4204 |
| 4 Dufferin..... | 1321 | 885 | 1233 | 1418 | 846 | 46 | 4784 | 5299 | 5125 | 3694 | 3253 |
| 5 Dundas..... | 1138 | 827 | 1355 | 1072 | 722 | 100 | 4366 | 4423 | 4884 | 2360 | 3099 |
| 6 Durham..... | 1290 | 945 | 1421 | 1676 | 1019 | 265 | 6264 | 6241 | 6179 | 2600 | 4140 |
| 7 Elgin..... | 1604 | 1023 | 1795 | 1752 | 1698 | 180 | 7478 | 7639 | 7636 | 7160 | 5790 |
| 8 Essex..... | 2874 | 1998 | 1961 | 1647 | 1079 | 183 | 8936 | 8300 | 9294 | 5720 | 5974 |
| 9 Frontenac..... | 1578 | 977 | 1555 | 1547 | 953 | 40 | 5395 | 5569 | 5718 | 3833 | 4008 |
| 10 Glengarry..... | 1230 | 721 | 1132 | 1035 | 746 | 42 | 4115 | 4277 | 4338 | 2355 | 2845 |
| 11 Grenville..... | 1045 | 675 | 1090 | 1476 | 1382 | 59 | 4810 | 4832 | 4961 | 2142 | 2925 |
| 12 Grey..... | 3771 | 2518 | 3737 | 4187 | 2810 | 133 | 14509 | 15253 | 15233 | 10637 | 9406 |
| 13 Haldimand..... | 1206 | 840 | 1405 | 1251 | 1057 | 229 | 5606 | 5714 | 5574 | 3185 | 3855 |
| 14 Haliburton..... | 399 | 253 | 369 | 330 | 155 | ... | 1192 | 1306 | 1182 | 174 | 631 |
| 15 Halton..... | 1239 | 905 | 982 | 1044 | 781 | 39 | 4847 | 4951 | 4966 | 4473 | 2663 |
| 16 Hastings..... | 2946 | 1730 | 2090 | 2119 | 1119 | 199 | 8618 | 9473 | 9540 | 6996 | 6069 |
| 17 Huron..... | 3208 | 2152 | 2901 | 4237 | 3078 | 428 | 15007 | 15290 | 15276 | 11693 | 10761 |
| 18 Kent..... | 2317 | 1557 | 2237 | 2331 | 1736 | 187 | 8970 | 9357 | 9422 | 6574 | 6081 |
| 19 Lambton..... | 2813 | 1866 | 2373 | 2378 | 1915 | 258 | 10630 | 10980 | 11266 | 8341 | 7565 |
| 20 Lanark..... | 1230 | 985 | 1553 | 1612 | 859 | 114 | 5742 | 5864 | 5911 | 3380 | 3600 |
| 21 Leeds..... | 1309 | 870 | 1370 | 1749 | 1481 | 29 | 5225 | 5571 | 5534 | 2308 | 4062 |
| 22 Lennox and Addington..... | 1121 | 681 | 1091 | 1694 | 974 | 51 | 5006 | 5437 | 5318 | 2594 | 3213 |
| 23 Lincoln..... | 1016 | 623 | 916 | 1082 | 1015 | 50 | 4140 | 4176 | 4293 | 2867 | 2940 |
| 24 Middlesex..... | 3116 | 2351 | 3303 | 2960 | 2750 | 512 | 13362 | 14101 | 14283 | 13407 | 8661 |
| 25 Norfolk..... | 1533 | 1156 | 1596 | 1859 | 1593 | 131 | 6840 | 6969 | 7117 | 4447 | 4664 |
| 26 Northumberland..... | 1613 | 1169 | 1814 | 2021 | 1453 | 113 | 7193 | 7527 | 7495 | 4113 | 5485 |
| 27 Ontario..... | 2202 | 1486 | 1841 | 2455 | 2282 | 151 | 8863 | 9552 | 9538 | 7157 | 5806 |
| 28 Oxford..... | 1844 | 1247 | 1724 | 2350 | 1657 | 243 | 8337 | 8202 | 8581 | 5515 | 5477 |
| 29 Peel..... | 1352 | 1076 | 1010 | 1277 | 851 | 61 | 4859 | 5349 | 5311 | 4247 | 3273 |
| 30 Perth..... | 1732 | 1241 | 1712 | 2807 | 926 | 595 | 8091 | 8456 | 8308 | 4449 | 5115 |
| 31 Peterborough..... | 1266 | 929 | 1332 | 1388 | 745 | 37 | 4055 | 4964 | 5115 | 2140 | 3889 |
| 32 Prescott and Russell..... | 3440 | 1527 | 1671 | 1665 | 1248 | 127 | 6964 | 8021 | 8439 | 3657 | 4532 |
| 33 Prince Edward..... | 584 | 439 | 904 | 948 | 1133 | 90 | 3808 | 3930 | 3849 | 3316 | 3202 |
| 34 Renfrew..... | 2063 | 1446 | 1865 | 1899 | 1395 | 92 | 6634 | 7147 | 7156 | 3649 | 4764 |
| 35 Simcoe..... | 3670 | 2462 | 3664 | 3747 | 2618 | 145 | 14616 | 14957 | 14785 | 8587 | 9369 |
| 36 Stormont..... | 1074 | 755 | 1087 | 1056 | 704 | 20 | 4337 | 3904 | 3884 | 1003 | 2573 |
| 37 Victoria..... | 2072 | 1807 | 2085 | 2145 | 1393 | 59 | 7838 | 8148 | 8323 | 4804 | 5537 |
| 38 Waterloo..... | 1940 | 1245 | 1649 | 1937 | 1075 | 118 | 7323 | 7921 | 7893 | 6446 | 5396 |
| 39 Welland..... | 1009 | 671 | 1066 | 1431 | 1272 | 142 | 4673 | 4912 | 4995 | 3940 | 3410 |
| 40 Wellington..... | 2769 | 1912 | 2688 | 2993 | 1786 | 279 | 11475 | 11757 | 11698 | 6388 | 7276 |
| 41 Wentworth..... | 1312 | 796 | 1124 | 1546 | 1388 | 109 | 6136 | 6369 | 6460 | 3439 | 3830 |
| 42 York..... | 2898 | 2071 | 2634 | 3057 | 2602 | 264 | 11798 | 12206 | 11974 | 8631 | 8628 |
| 43 Districts..... | 2009 | 1408 | 1835 | 1897 | 591 | 318 | 6501 | 6216 | 5914 | 2718 | 3198 |
| Total..... | 80634 | 54512 | 75317 | 84323 | 59754 | 6811 | 316536 | 327240 | 330002 | 212123 | 214823 |
| CITIES. | | | | | | | | | | | |
| 1 Belleville..... | 572 | 342 | 467 | 486 | 338 | ..... | 2145 | 2205 | 2193 | 2009 | 1508 |
| 2 Brantford..... | 506 | 398 | 389 | 749 | 364 | 43 | 2424 | 2369 | 2424 | 2369 | 2339 |
| 3 Guelph..... | 444 | 299 | 305 | 824 | 381 | ..... | 2148 | 2177 | 2025 | 1974 | 1467 |
| 4 Hamilton..... | 2069 | 1469 | 1355 | 1959 | 1031 | 180 | 7868 | 7147 | 7973 | 7682 | 4567 |
| 5 Kingston..... | 703 | 443 | 589 | 846 | 468 | 319 | 3308 | 3328 | 3328 | 3186 | 2368 |
| 6 London..... | 1569 | 1017 | 976 | 1572 | 778 | ..... | 5680 | 5553 | 5401 | 4765 | 3854 |
| 7 Ottawa..... | 1607 | 1146 | 1256 | 1068 | 407 | 297 | 4707 | 5277 | 5352 | 4941 | 3599 |
| 8 St. Catharines..... | 575 | 282 | 391 | 457 | 366 | ..... | 2032 | 2071 | 2071 | 1797 | 1302 |
| 9 St. Thomas..... | 649 | 404 | 663 | 433 | 286 | ..... | 2435 | 2435 | 2435 | 2435 | 2369 |
| 10 Stratford..... | 470 | 231 | 351 | 550 | 264 | ..... | 1866 | 1866 | 1866 | 1841 | 1393 |
| 11 Toronto..... | 5792 | 3196 | 5011 | 4152 | 2233 | 993 | 20980 | 20201 | 21198 | 20471 | 20437 |
| Total..... | 14956 | 9527 | 11753 | 13096 | 6936 | 1832 | 55593 | 54629 | 56266 | 53470 | 45203 |

Public Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

| | Music. | Grammar and Com- position. | English History. | Canadian History. | Object Lessons. | Temperance and Hygiene. | Domestic Economy (for girls). | Drill and Calis- thenes. | Book-keeping. | Algebra. | Geometry and Mensuration. | Euclid. | Elementary Physics. | Agriculture. |
|----|--------|-------------------------------|------------------|-------------------|-----------------|----------------------------|----------------------------------|-----------------------------|---------------|----------|------------------------------|---------|------------------------|--------------|
| 1 | 1608 | 1805 | 1056 | 1341 | 1305 | 507 | ..... | 1170 | 225 | 173 | 525 | 143 | 91 | ..... |
| 2 | 4859 | 7319 | 2183 | 2195 | 6092 | 1619 | 332 | 2400 | 363 | 311 | 703 | 274 | 120 | ..... |
| 3 | 1110 | 3748 | 1092 | 656 | 1621 | 252 | 91 | 806 | 155 | 214 | 437 | 190 | 26 | 37 |
| 4 | 2518 | 2716 | 833 | 825 | 2605 | 1038 | 42 | 1742 | 104 | 86 | 231 | 82 | 21 | 4 |
| 5 | 1019 | 2812 | 810 | 693 | 1816 | 41 | ..... | 978 | 62 | 87 | 201 | 75 | 38 | ..... |
| 6 | 730 | 3190 | 1020 | 350 | 1051 | 213 | ..... | 1175 | 128 | 213 | 290 | 181 | 33 | ..... |
| 7 | 2112 | 4860 | 1616 | 2209 | 5562 | 715 | 45 | 2497 | 266 | 193 | 635 | 173 | 160 | 169 |
| 8 | 2901 | 4294 | 1171 | 1605 | 3479 | 1604 | 366 | 1523 | 90 | 92 | 186 | 97 | 144 | 1 |
| 9 | 1360 | 2736 | 740 | 786 | 1682 | 286 | 222 | 715 | 62 | 48 | 70 | 33 | 9 | ..... |
| 10 | 407 | 2367 | 713 | 578 | 2547 | 234 | ..... | 127 | 50 | 36 | 107 | 32 | 5 | ..... |
| 11 | 320 | 2405 | 949 | 591 | 624 | 70 | ..... | 303 | 89 | 61 | 166 | 64 | 33 | ..... |
| 12 | 4644 | 7531 | 2491 | 2746 | 5050 | 1375 | 59 | 2969 | 388 | 241 | 700 | 179 | 86 | 122 |
| 13 | 1383 | 2767 | 1067 | 249 | 1696 | 219 | ..... | 1979 | 127 | 135 | 273 | 116 | 43 | ..... |
| 14 | 93 | 425 | 92 | 51 | 10 | 20 | ..... | 55 | 5 | 7 | 1 | 6 | ..... | ..... |
| 15 | 1765 | 2349 | 686 | 663 | 3591 | 703 | 45 | 1569 | 179 | 93 | 217 | 96 | 23 | ..... |
| 16 | 2960 | 5394 | 1073 | 1327 | 4572 | 773 | 1 | 3798 | 310 | 174 | 377 | 174 | 52 | ..... |
| 17 | 6981 | 8670 | 3337 | 4508 | 7625 | 5530 | 94 | 5110 | 594 | 568 | 1914 | 536 | 211 | 23 |
| 18 | 3604 | 7206 | 1637 | 1433 | 3920 | 1410 | 108 | 1816 | 253 | 230 | 476 | 254 | 97 | 1 |
| 19 | 3377 | 6950 | 1984 | 1920 | 4820 | 1810 | 116 | 3779 | 320 | 288 | 723 | 251 | 117 | ..... |
| 20 | 722 | 2925 | 993 | 1309 | 2097 | 268 | 19 | 520 | 63 | 113 | 92 | 114 | 30 | ..... |
| 21 | 509 | 3204 | 1226 | 750 | 985 | 220 | 16 | 575 | 83 | 85 | 79 | 53 | 17 | ..... |
| 22 | 562 | 2809 | 897 | 357 | 1293 | 183 | ..... | 741 | 77 | 66 | 88 | 58 | 32 | 4 |
| 23 | 504 | 2454 | 919 | 543 | 1406 | 680 | ..... | 821 | 113 | 70 | 136 | 63 | 14 | ..... |
| 24 | 5193 | 8413 | 2976 | 1046 | 4963 | 2642 | 47 | 5315 | 459 | 469 | 854 | 508 | 202 | 39 |
| 25 | 1667 | 3232 | 1082 | 545 | 865 | 233 | 63 | 1537 | 313 | 135 | 211 | 127 | 55 | ..... |
| 26 | 1215 | 3835 | 1425 | 1135 | 2381 | 495 | ..... | 2584 | 266 | 155 | 298 | 153 | 56 | ..... |
| 27 | 3629 | 4949 | 2082 | 978 | 3592 | 1131 | 92 | 2161 | 281 | 222 | 485 | 187 | 72 | 40 |
| 28 | 1599 | 4660 | 1830 | 1369 | 2813 | 735 | ..... | 1879 | 301 | 288 | 700 | 212 | 337 | 79 |
| 29 | 1121 | 2386 | 906 | 1084 | 1978 | 385 | ..... | 1282 | 100 | 55 | 198 | 47 | 21 | ..... |
| 30 | 3109 | 4621 | 1475 | 1435 | 2760 | 834 | 60 | 1841 | 130 | 485 | 870 | 451 | 17 | 68 |
| 31 | 217 | 3053 | 620 | 409 | 1042 | ..... | ..... | 568 | 41 | 40 | 231 | 41 | 2 | ..... |
| 32 | 1334 | 3679 | 757 | 720 | 3690 | 441 | 139 | 1394 | 85 | 47 | 173 | 36 | 23 | ..... |
| 33 | 682 | 2613 | 979 | 844 | 1327 | 1751 | ..... | 787 | 204 | 117 | 235 | 103 | 45 | ..... |
| 34 | 527 | 4045 | 1094 | 1068 | 1978 | ..... | 78 | 639 | 137 | 78 | 151 | 47 | 8 | ..... |
| 35 | 6007 | 7567 | 2810 | 3153 | 5897 | 3244 | 270 | 5146 | 316 | 223 | 475 | 203 | 120 | 73 |
| 36 | 261 | 2031 | 602 | 366 | 570 | 53 | 61 | 352 | 95 | 53 | 122 | 47 | 3 | ..... |
| 37 | 2188 | 4020 | 1340 | 1137 | 1325 | 469 | ..... | 715 | 325 | 193 | 300 | 128 | 152 | 88 |
| 38 | 4048 | 3845 | 958 | 1290 | 3375 | 1829 | 173 | 2171 | 210 | 152 | 541 | 116 | 69 | 58 |
| 39 | 2284 | 2888 | 993 | 652 | 2139 | 671 | 37 | 1937 | 271 | 135 | 139 | 64 | 152 | 130 |
| 40 | 3664 | 5945 | 1927 | 2638 | 3340 | 1123 | 87 | 2464 | 264 | 247 | 674 | 204 | 109 | ..... |
| 41 | 1165 | 3498 | 1252 | 1017 | 1595 | 595 | 37 | 1310 | 127 | 122 | 490 | 114 | 39 | ..... |
| 42 | 3892 | 7075 | 2613 | 2392 | 5178 | 2050 | 285 | 4151 | 309 | 210 | 521 | 226 | 82 | ..... |
| 43 | 2410 | 2176 | 691 | 839 | 2800 | 618 | 28 | 1118 | 310 | 39 | 118 | 29 | 8 | ..... |
| | 91660 | 175467 | 56997 | 51802 | 119057 | 39069 | 3013 | 76519 | 8650 | 7049 | 15413 | 6287 | 2975 | 936 |
| 1 | 1130 | 1063 | 328 | 57 | 979 | ..... | ..... | 1353 | ..... | ..... | 57 | ..... | ..... | ..... |
| 2 | 2287 | 1186 | 429 | 697 | 1715 | 1626 | 58 | 2302 | 121 | 49 | 58 | 3 | ..... | ..... |
| 3 | 1154 | 1224 | 242 | 114 | 871 | 377 | 67 | 1902 | 21 | 21 | 21 | 3 | ..... | ..... |
| 4 | 5071 | 3344 | 1075 | 2065 | 5340 | 25 | 465 | 5688 | 70 | 70 | 70 | 50 | 45 | ..... |
| 5 | 2744 | 2010 | 736 | 379 | 2398 | 631 | 492 | 2226 | 213 | 230 | 278 | 278 | 125 | ..... |
| 6 | 5453 | 2614 | 1087 | 204 | 2406 | 1376 | 64 | 3329 | 80 | 256 | 379 | 162 | ..... | ..... |
| 7 | 3795 | 3301 | 655 | 903 | 2156 | ..... | 1034 | 2088 | 621 | 370 | ..... | 280 | ..... | ..... |
| 8 | 534 | 2071 | 436 | 110 | 1609 | 728 | 223 | 534 | 252 | 25 | 531 | 25 | 4 | ..... |
| 9 | 884 | 1112 | 258 | 143 | 988 | 50 | 149 | 515 | 115 | ..... | ..... | ..... | ..... | ..... |
| 10 | 1580 | 1264 | 264 | 186 | 1258 | 108 | 92 | 1866 | ..... | ..... | ..... | ..... | ..... | ..... |
| 11 | 20885 | 19633 | 1858 | 3157 | 16146 | 8572 | 4270 | 19519 | 1651 | 1625 | 1806 | 1049 | 38 | ..... |
| | 45517 | 38822 | 7368 | 8015 | 35866 | 13493 | 6914 | 41322 | 3144 | 2696 | 3200 | 1850 | 212 | ..... |

II.—TABLE B.—The

NUMBER OF PUPILS IN THE

| TOWNS. | READING. | | | | | | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. |
|--------------------------|------------------------|-------------------------|-------------|-------------|-------------|-------------|-----------|----------|-------------|----------|------------|
| | 1st Reader, Part I. | 1st Reader, Part II. | 2nd Reader. | 3rd Reader. | 4th Reader. | 5th Reader. | | | | | |
| 1 Almonte | 126 | 133 | 143 | 139 | 81 | ..... | 622 | 622 | 622 | 223 | 622 |
| 2 Amherstburg | 168 | 128 | 149 | 120 | 97 | 18 | 637 | 642 | 654 | 362 | 298 |
| 3 Barrie | 354 | 175 | 224 | 215 | 182 | ..... | 1068 | 1068 | 1150 | 1068 | 520 |
| 4 Berlin | 391 | 111 | 214 | 170 | 130 | ..... | 963 | 1015 | 980 | 942 | 478 |
| 5 Blenheim | 73 | 67 | 101 | 77 | 56 | 27 | 401 | 401 | 401 | 401 | 280 |
| 6 Bothwell | 80 | 17 | 59 | 56 | 20 | 8 | 220 | 240 | 230 | 230 | 104 |
| 7 Bowmanville | 185 | 122 | 144 | 172 | 131 | ..... | 711 | 671 | 711 | 661 | 374 |
| 8 Brampton | 175 | 204 | 147 | 130 | 104 | ..... | 585 | 662 | 687 | 760 | 381 |
| 9 Brockville | 427 | 318 | 299 | 398 | 244 | 8 | 1570 | 1375 | 1588 | 308 | 1171 |
| 10 Chatham | 522 | 321 | 432 | 444 | 324 | ..... | 1991 | 1991 | 1991 | 1943 | 1738 |
| 11 Clinton | 158 | 122 | 72 | 206 | 82 | ..... | 482 | 423 | 640 | 640 | 368 |
| 12 Cobourg | 192 | 186 | 226 | 224 | 147 | 9 | 984 | 928 | 984 | 893 | 825 |
| 13 Collingwood | 299 | 169 | 232 | 294 | 149 | ..... | 1143 | 1143 | 1143 | 1143 | 577 |
| 14 Cornwall | 424 | 178 | 311 | 211 | 167 | ..... | 1245 | 1225 | 1291 | 1291 | 651 |
| 15 Dresden | 148 | 112 | 93 | 81 | 89 | 24 | 346 | 346 | 346 | 346 | 334 |
| 16 Dundas | 163 | 124 | 194 | 257 | 175 | ..... | 900 | 830 | 900 | 543 | 533 |
| 17 Durham | 47 | 39 | 92 | 69 | 38 | 15 | 253 | 214 | 300 | 300 | 300 |
| 18 Galt | 374 | 183 | 213 | 399 | 149 | 66 | 1358 | 1363 | 1388 | 1323 | 700 |
| 19 Goderich | 142 | 207 | 206 | 268 | 190 | ..... | 1013 | 1013 | 1013 | 529 | 662 |
| 20 Harriston | 111 | 95 | 116 | 85 | 73 | ..... | 376 | 369 | 369 | 480 | 274 |
| 21 Ingersoll | 178 | 132 | 219 | 218 | 214 | ..... | 951 | 961 | 961 | 908 | 908 |
| 22 Kincardine | 152 | 91 | 207 | 216 | 117 | ..... | 783 | 783 | 783 | 705 | 482 |
| 23 Lindsay | 357 | 202 | 258 | 328 | 249 | 45 | 1439 | 1314 | 1439 | 1278 | 938 |
| 24 Listowel | 115 | 100 | 149 | 194 | 66 | ..... | 624 | 509 | 509 | 409 | 342 |
| 25 Meaford | 96 | 27 | 145 | 149 | 89 | 20 | 455 | 526 | 526 | 215 | 336 |
| 26 Milton | 102 | 78 | 60 | 67 | 22 | 18 | 347 | 347 | 347 | 347 | 246 |
| 27 Mitchell | 123 | 141 | 114 | 148 | 41 | ..... | 517 | 567 | 567 | 567 | 303 |
| 28 Mount Forest | 143 | 95 | 146 | 154 | 70 | ..... | 570 | 608 | 608 | 608 | 370 |
| 29 Napanee | 173 | 93 | 252 | 157 | 178 | ..... | 779 | 853 | 853 | 853 | 533 |
| 30 Newmarket | 86 | 71 | 123 | 131 | 61 | ..... | 440 | 452 | 472 | 433 | 253 |
| 31 Niagara | 56 | 41 | 54 | 73 | 33 | ..... | 237 | 257 | 257 | 257 | 201 |
| 32 Niagara Falls | 126 | 162 | 117 | 88 | 84 | ..... | 479 | 489 | 474 | 509 | 260 |
| 33 Oakville | 82 | 96 | 82 | 82 | 70 | ..... | 412 | 412 | 412 | 396 | 234 |
| 34 Orangeville | 179 | 150 | 131 | 126 | 126 | ..... | 712 | 712 | 712 | 712 | 455 |
| 35 Orillia | 217 | 158 | 211 | 181 | 178 | ..... | 762 | 945 | 945 | 863 | 490 |
| 36 Oshawa | 229 | 179 | 245 | 259 | 63 | ..... | 881 | 933 | 949 | 925 | 595 |
| 37 Owen Sound | 255 | 193 | 269 | 266 | 153 | ..... | 936 | 1136 | 1136 | 1077 | 688 |
| 38 Palmerston | 201 | 74 | 107 | 28 | 22 | ..... | 432 | 432 | 432 | ..... | 231 |
| 39 Paris | 143 | 133 | 156 | 230 | 107 | ..... | 769 | 769 | 769 | 396 | 707 |
| 40 Parkdale | 240 | 156 | 152 | 160 | 105 | 60 | 873 | 873 | 873 | 873 | 633 |
| 41 Pembroke | 285 | 119 | 182 | 131 | 115 | ..... | 771 | 771 | 771 | 538 | 578 |
| 42 Penetanguishene | 124 | 49 | 28 | 17 | 14 | 4 | 175 | 175 | 175 | 150 | 63 |
| 43 Perth | 128 | 87 | 174 | 163 | 109 | ..... | 661 | 661 | 661 | 588 | 446 |
| 44 Peterboro' | 502 | 303 | 485 | 354 | 293 | 7 | 1944 | 1901 | 1901 | 1901 | 1428 |
| 45 Petrolia | 260 | 168 | 220 | 178 | 160 | ..... | 986 | 986 | 986 | 986 | 986 |
| 46 Picton | 146 | 87 | 143 | 120 | 95 | ..... | 578 | 578 | 578 | 552 | 405 |
| 47 Port Arthur | 218 | 152 | 136 | 107 | 70 | 9 | 692 | 692 | 692 | 452 | 322 |
| 48 Port Hope | 221 | 149 | 209 | 225 | 180 | 92 | 1076 | 1076 | 1076 | 1076 | 706 |
| 49 Prescott | 107 | 120 | 90 | 99 | 168 | ..... | 584 | 584 | 584 | 584 | 427 |
| 50 Rat Portage | 73 | 44 | 36 | 13 | 18 | ..... | 184 | 184 | 184 | 184 | 124 |
| 51 Ridgetown | 107 | 74 | 143 | 101 | 98 | ..... | 416 | 443 | 523 | 523 | 272 |
| 52 Sandwich | 78 | 37 | 31 | 70 | 37 | ..... | 232 | 232 | 238 | 168 | 132 |
| 53 Sarnia | 366 | 154 | 316 | 242 | 193 | ..... | 1118 | 1236 | 1271 | 1082 | 1149 |
| 54 Seaforth | 136 | 109 | 138 | 133 | 148 | ..... | 664 | 664 | 664 | 664 | 281 |
| 55 Simcoe | 99 | 85 | 140 | 125 | 110 | ..... | 559 | 559 | 559 | 110 | 325 |
| 56 Smith's Falls | 130 | 162 | 63 | 115 | 80 | ..... | 550 | 550 | 550 | 46 | 382 |
| 57 St. Mary's | 161 | 131 | 221 | 267 | 143 | ..... | 877 | 877 | 896 | 784 | 716 |
| 58 Strathroy | 167 | 125 | 207 | 133 | 169 | ..... | 801 | 801 | 801 | 801 | 509 |

Public Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

| | Music. | Grammar and Composition. | English History. | Canadian History. | Object Lessons. | Temperance and Hygiene. | Domestic Economy (for girls). | Drill and Calisthenics. | Book-keeping. | Algebra. | Geometry and Mensuration. | Euclid. | Elementary Physics. | Agriculture. |
|----|--------|--------------------------|------------------|-------------------|-----------------|-------------------------|-------------------------------|-------------------------|---------------|----------|---------------------------|---------|---------------------|--------------|
| 1 | | 240 | 71 | 86 | 212 | | | | | | | | | |
| 2 | 255 | 243 | 123 | 72 | 439 | | 83 | 206 | 32 | 27 | 27 | 22 | 6 | |
| 3 | 272 | 424 | 87 | 141 | 545 | | 32 | 78 | 20 | | | | | |
| 4 | 364 | 297 | 118 | 129 | 897 | | 97 | 248 | | | | | | |
| 5 | 345 | 160 | 83 | | 122 | | | | 27 | 27 | 27 | 27 | 27 | |
| 6 | | 84 | 18 | 18 | | | | 150 | | 8 | 18 | 8 | 3 | |
| 7 | 471 | 289 | 58 | | 274 | | | | | | | | | |
| 8 | 760 | 234 | 234 | 130 | 656 | 381 | | 760 | | | | | | |
| 9 | 40 | 671 | 231 | 80 | 205 | 110 | 157 | 220 | 10 | 8 | 8 | 8 | | |
| 10 | 1937 | 1685 | 450 | 173 | 1480 | 1065 | 654 | 1641 | | | | | | |
| 11 | 640 | 368 | 82 | 60 | 550 | 288 | | 640 | | | | | | |
| 12 | 241 | 701 | 162 | 188 | 732 | | | 690 | 40 | 40 | 40 | 40 | 6 | |
| 13 | 90 | 490 | 74 | 149 | | | | 90 | | | | | | |
| 14 | 863 | 651 | 163 | 297 | 1110 | | | 433 | | | 77 | | | |
| 15 | 334 | 334 | 66 | 30 | 334 | | | 346 | 24 | 24 | 66 | 24 | 24 | |
| 16 | 566 | 534 | 262 | 148 | 492 | | 65 | 890 | 12 | | | | | |
| 17 | 214 | 214 | 122 | 122 | 178 | | | | 53 | 15 | 15 | 15 | | |
| 18 | 614 | 564 | 215 | 100 | 498 | 178 | | 50 | 3 | 14 | 86 | 10 | | |
| 19 | | 495 | 182 | 274 | 99 | 49 | 66 | 120 | | | | | | |
| 20 | 407 | 274 | 73 | | 407 | 128 | | 348 | | | | | | |
| 21 | 711 | 651 | 224 | 331 | 740 | 353 | | 853 | | | 8 | | | |
| 22 | 542 | 373 | 117 | 62 | 590 | | | 106 | | | | | | |
| 23 | 864 | 800 | 288 | 266 | 270 | | | 1174 | 113 | 59 | 150 | 59 | 49 | |
| 24 | 342 | 409 | 66 | 62 | 364 | | | | | | | | | |
| 25 | 215 | 336 | 151 | 151 | 229 | | | | 20 | 20 | 70 | 20 | | |
| 26 | 347 | 245 | 40 | 58 | 347 | 58 | | 347 | 18 | 18 | 18 | 18 | 20 | |
| 27 | 416 | 227 | 41 | 110 | 295 | | | 567 | | | | | | |
| 28 | 364 | 370 | 70 | 224 | 384 | | | 608 | 4 | 4 | | 4 | 70 | |
| 29 | 305 | 399 | 223 | 45 | 69 | | | 236 | 35 | | | | | |
| 30 | 256 | 253 | 61 | 110 | 333 | | | 281 | | | | | | |
| 31 | | 146 | 33 | | 111 | 60 | | | | | | | | |
| 32 | 364 | 250 | 84 | 75 | 439 | 75 | | 429 | 81 | | 75 | | | |
| 33 | 284 | 228 | 91 | 24 | 345 | | 20 | 66 | | | | | | |
| 34 | 591 | 581 | 126 | | 586 | | | 641 | | | | | | |
| 35 | 36 | 442 | 178 | 201 | 48 | | | | | | 20 | | | |
| 36 | 127 | 480 | 63 | 162 | 76 | | | 127 | | | | | | |
| 37 | | 437 | 204 | 104 | 503 | 1055 | | 61 | 61 | | | | | |
| 38 | 282 | 231 | 157 | | 275 | | | 275 | | 22 | 22 | | | |
| 39 | 98 | 466 | 128 | 120 | 286 | | 18 | 98 | 38 | | 6 | | | |
| 40 | 873 | 477 | 165 | 325 | 708 | 477 | 336 | 873 | 60 | 60 | 60 | 60 | 60 | |
| 41 | 415 | 552 | 153 | 83 | 653 | | | 241 | | | | | | |
| 42 | 200 | 63 | 18 | 18 | | | | | 16 | 3 | | 3 | 2 | |
| 43 | 125 | 446 | 147 | 155 | 340 | | | 531 | | | | | | |
| 44 | 458 | 1248 | 300 | 297 | 1766 | 501 | 458 | 1711 | 7 | 7 | 7 | 7 | 7 | |
| 45 | 900 | 488 | 308 | 311 | 986 | | | 986 | | | | | 100 | |
| 46 | 538 | 405 | 95 | 142 | 366 | 502 | | 502 | | | 79 | | | |
| 47 | 235 | 237 | 64 | 72 | 370 | 32 | 62 | 249 | 5 | 5 | | | | |
| 48 | | 706 | 166 | 180 | | 74 | | | 74 | 59 | | 59 | | |
| 49 | 384 | 497 | 168 | 157 | 254 | | | | 5 | | 168 | | | |
| 50 | 184 | 49 | 31 | 31 | 106 | | | 75 | | | | | | |
| 51 | 461 | 272 | 62 | 31 | 211 | | | 244 | | 25 | | | | |
| 52 | 227 | 113 | 25 | 57 | 253 | 253 | 25 | 253 | 24 | | | | | |
| 53 | 1037 | 602 | 162 | 140 | 798 | | 65 | 1037 | | | | | | |
| 54 | 664 | 148 | 148 | | 664 | | | 383 | | | 69 | | | |
| 55 | 240 | 250 | 110 | 110 | | | | | | | | | | |
| 56 | 470 | 80 | 195 | 85 | 470 | | | | | | | | | |
| 57 | 923 | 431 | 253 | 300 | 723 | | | | | | | | | |
| 58 | 632 | 302 | 80 | | 499 | | | 499 | | | | | | |

II.—TABLE B.—The

NUMBER OF PUPILS IN THE

| TOWNS—Continued. | READING. | | | | | | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. |
|--|------------------------|-------------------------|-------------|-------------|-------------|-------------|-----------|----------|-------------|----------|------------|
| | 1st Reader, Part I. | 1st Reader, Part II. | 2nd Reader, | 3rd Reader. | 4th Reader. | 5th Reader. | | | | | |
| 59 Thorold..... | 135 | 74 | 114 | 175 | 106 | 21 | 625 | 605 | 615 | 572 | 495 |
| 60 Tilsonburg..... | 131 | 143 | 60 | 40 | 77 | ..... | 451 | 451 | 451 | 451 | 451 |
| 61 Trenton..... | 332 | 157 | 186 | 152 | 119 | ..... | 946 | 946 | 946 | 946 | 608 |
| 62 Walkerton..... | 202 | 66 | 128 | 133 | 90 | ..... | 619 | 619 | 619 | 619 | 325 |
| 63 Waterloo..... | 106 | 79 | 117 | 99 | 128 | ..... | 486 | 486 | 529 | 529 | 282 |
| 64 Welland..... | 47 | 39 | 44 | 166 | 46 | ..... | 342 | 342 | 342 | 20 | 146 |
| 65 Whitby..... | 130 | 79 | 105 | 184 | 179 | ..... | 563 | 660 | 660 | 613 | 460 |
| 66 Windsor..... | 203 | 243 | 327 | 376 | 167 | ..... | 979 | 1009 | 1029 | 1089 | 978 |
| 67 Wingham..... | 92 | 73 | 94 | 136 | 82 | 32 | 509 | 509 | 509 | 509 | 274 |
| 68 Woodstock..... | 365 | 238 | 307 | 241 | 189 | ..... | 1340 | 1340 | 1340 | 1340 | 1340 |
| Total..... | 12863 | 8729 | 11308 | 11565 | 8059 | 483 | 49994 | 50356 | 51542 | 44594 | 45005 |
| TOTALS. | | | | | | | | | | | |
| 1 Counties, etc..... | 80634 | 54512 | 75317 | 84323 | 59754 | 6811 | 316536 | 327240 | 330002 | 212123 | 214823 |
| 2 Cities..... | 14956 | 9527 | 11753 | 13096 | 6936 | 1832 | 55593 | 54629 | 56266 | 53470 | 45203 |
| 3 Towns..... | 12863 | 8729 | 11308 | 11565 | 8059 | 483 | 49994 | 50356 | 51542 | 44594 | 45005 |
| 4 Grand Total, 1885..... | 108453 | 72768 | 98378 | 108984 | 74749 | 9126 | 422123 | 432225 | 437810 | 310187 | 305031 |
| 5 " " 1884..... | 167722 | | 106017 | 112873 | 70713 | 9592 | 410992 | 416588 | 422076 | 247715 | 280953 |
| 6 Increase..... | 13499 |  | ..... | ..... | 4036 | ..... | 11131 | 15637 | 15734 | 62472 | 24078 |
| 7 Decrease..... | ..... |  | 7639 | 3889 | ..... | 466 | ..... | ..... | ..... | ..... | ..... |
| 8 Percentage of grand total as compared with total attendance..... | 38 | | 21 | 23 | 16 | 2 | 90 | 92 | 93 | 66 | 65 |

Public Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

| | Music. | Grammar and Composition. | English History. | Canadian History. | Object Lessons. | Temperance and Hygiene. | Domestic Economy (for girls) | Drill and Calisthenics. | Bookkeeping. | Algebra. | Geometry and Mensuration. | Euclid. | Elementary Physics. | Agriculture. |
|----|--------|--------------------------|------------------|-------------------|-----------------|-------------------------|------------------------------|-------------------------|--------------|----------|---------------------------|---------|---------------------|------------------|
| 59 | 438 | 173 | 108 | 131 | 523 | 443 | 111 | 142 | 42 | 29 | 95 | 30 | ..... | ..... |
| 60 | 451 | 451 | 77 | 77 | 191 | ..... | ..... | 451 | 40 | 40 | ..... | 40 | ..... | ..... |
| 61 | 716 | 499 | 71 | ..... | 312 | ..... | ..... | 643 | ..... | ..... | ..... | ..... | ..... | ..... |
| 62 | 292 | 223 | 52 | 90 | 375 | 223 | ..... | 619 | ..... | ..... | ..... | ..... | ..... | ..... |
| 63 | 572 | 227 | 128 | ..... | 339 | ..... | ..... | 354 | ..... | ..... | ..... | ..... | ..... | ..... |
| 64 | 70 | 46 | 20 | 20 | 86 | ..... | ..... | 86 | ..... | ..... | 20 | ..... | ..... | ..... |
| 65 | 282 | 423 | 126 | 206 | 350 | 146 | ..... | 351 | ..... | ..... | ..... | ..... | ..... | ..... |
| 66 | 78 | 562 | 212 | 78 | 583 | 95 | 100 | ..... | 11 | 4 | 21 | 4 | ..... | ..... |
| 67 | 395 | 250 | 114 | 161 | 395 | ..... | ..... | 124 | 32 | 32 | ..... | 32 | 32 | ..... |
| 68 | 1340 | 1340 | 189 | 306 | 1216 | 1340 | ..... | 1340 | ..... | ..... | ..... | ..... | ..... | ..... |
| | 28157 | 27836 | 8966 | 7865 | 29057 | 8386 | 2349 | 24483 | 907 | 550 | 1252 | 490 | 406 | ..... |
| 1 | 91660 | 175467 | 56997 | 51802 | 119057 | 39069 | 3013 | 76519 | 8650 | 7049 | 15413 | 6287 | 2975 | 936 |
| 2 | 45517 | 38822 | 7368 | 8915 | 35866 | 13493 | 6914 | 41322 | 3144 | 2696 | 3200 | 1850 | 312 | ..... |
| 3 | 28157 | 27836 | 8966 | 7865 | 29057 | 8386 | 2349 | 24483 | 907 | 550 | 1252 | 490 | 406 | ..... |
| 4 | 165334 | 242125 | 73331 | 67682 | 183980 | 60948 | 12276 | 142324 | 12701 | 10295 | 19865 | 8627 | 3593 | 936 |
| 5 | 150510 | 220566 | 94754 | | 179346 | 52966 | 14184 | 101847 | ..... | 10064 | 10884 | ..... | 1848 | 489 |
| 6 | 14824 | 21599 | 46259 | | 4634 | 7952 | ..... | 40477 | ..... | 231 | 8981 | ..... | 1745 | 447 |
| 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1908 | ..... | ..... | ..... | ..... | ..... | ..... |
| 8 | 35 | 51 | 16 | 14 | 38 | 13 | 3 | 30 | 3 | 2 | 4 | 2 | 1 | $\frac{20}{100}$ |

III.—TABLE C.—The Public

PUBLIC SCHOOL

| TOTAL. | TOTAL. | | | ANNUAL | |
|----------------------------|------------------------|-------|---------|----------------------|----------------------------------|
| | Public School Teachers | Male. | Female. | Highest Salary paid. | Average Salary of Male Teacher.* |
| | | | | \$ | \$ |
| 1 Counties, etc..... | 5668 | 2462 | 3206 | 900 | 405 |
| 2 Cities | 820 | 131 | 689 | 1200 | 776 |
| 3 Towns | 730 | 151 | 579 | 1000 | 612 |
| 4 Grand Total, 1885 | 7218 | 2744 | 4474 | 1200 | 427 |
| 5 " 1884 | 7085 | 2789 | 4296 | 1200 | 426 |
| 6 Increase..... | 133 | | 178 | | 1 |
| 7 Decrease | | 45 | | | |
| 8 Percentage of Total..... | | 38 | 62 | | |

* In calculating the average salaries, those of such R. C. Separate

† There are, in addition, 65 teachers holding 1st Class Provincial

Schools of Ontario.

TEACHERS.

| SALARIES. | | CERTIFICATES. | | | | | | | |
|------------------------------------|---|-------------------------------|------------------------|------------------------|----------------------------|----------------------------|------------|------------------------|---------------------|
| Average Salary of Female Teacher.* | No. of Teachers who have attended Normal Schools. | Total number of Certificates. | Provincial 1st Class.† | Provincial 2nd Class.† | 1st Class Co. Board (old). | 2nd Class Co. Board (old). | 3rd Class. | Temporary Certificates | Other Certificates. |
| 1 267 | 1385 | 5668 | 101 | 1608 | 100 | 69 | 3302 | 463 | 25 |
| 2 359 | 477 | 820 | 104 | 417 | 7 | 3 | 85 | 3 | 201 |
| 3 287 | 299 | 730 | 49 | 333 | 36 | 12 | 205 | 34 | 61 |
| 4 281 | 2161 | 7218 | 254 | 2358 | 143 | 84 | 3592 | 500 | 287 |
| 5 279 | 1941 | 7085 | 235 | 2237 | 168 | 118 | 3420 | 623 | 284 |
| 6 2 | 220 | 133 | 19 | 121 | ..... | ..... | 172 | ..... | 3 |
| 7 ..... | ..... | ..... | ..... | ..... | 25 | 34 | ..... | 123 | ..... |
| 8 | 30 | ..... | 3 | 33 | 2 | 1 | 50 | 7 | 4 |

School Teachers as are members of religious orders, are omitted.

Certificates, and 30 holding 2nd Class, employed in the High Schools.

IV.—TABLE D.—The Public

| TOTALS. | TOTAL. | SCHOOL HOUSES. | | | | | | | TITLE. | |
|-----------------------------|----------------------------|-------------------------|---|--------|--------|--------|-------|--------|-----------|---------|
| | Number of School Sections. | Number of Schools open. | Number of Schools closed or not reported. | Brick. | Stone. | Frame. | Log. | Total. | Freehold. | Rented. |
| 1 Total Counties, etc | 5068 | 5020 | 48 | 1690 | 461 | 2263 | 612 | 5026 | 4912 | 114 |
| 2 " Cities, | 178 | 178 | ..... | 188 | 29 | 11 | ..... | 178 | 174 | 4 |
| 3 " Towns, | 197 | 197 | ..... | 126 | 26 | 43 | 2 | 197 | 193 | 4 |
| 4 Grand Total, 1885..... | 5443 | 5395 | 48 | 1954 | 516 | 2317 | 614 | 5401 | 5279 | 122 |
| 5 " 1884..... | 5375 | 5316 | 59 | 1879 | 511 | 2323 | 631 | 5344 | 5203 | 141 |
| 6 Increase..... | 68 | 79 | ..... | 75 | 5 | ..... | ..... | 57 | 76 | ..... |
| 7 Decrease..... | ..... | ..... | 11 | ..... | ..... | 6 | 17 | ..... | ..... | 16 |
| 8 Percentage of Total ..... | ..... | 99 | 1 | 36 | 10 | 43 | 11 | ..... | 98 | 2 |

Schools of Ontario.

| SCHOOL VISITS. | | | | EXAMINATIONS, PRIZES. | | LECTURES. | | | PRAYERS. | MAPS. | TREES | AVERAGE DAYS OPEN. | |
|----------------|-----------|----------------|--------|--------------------------|--|-------------|----------------|--------|--|-------------------------------|-----------------------|---------------------------------------|---|
| Inspectors. | Trustees. | Other persons. | Total. | Number of Examinations. | Number of Schools distributing Prizes. | Inspectors. | Other persons. | Total. | Number of Schools in which authorized Scripture Readings and Prayers are used. | Number of Schools using Maps. | Total Number of Maps. | Number of Trees planted on Arbor Day. | Average Number of legal teaching days open. |
| 1 9718 | 14002 | 39219 | 62939 | 6098 | 1367 | 327 | 128 | 455 | 4442 | 4837 | 35916 | 37783 | 208 |
| 2 2118 | 2016 | 2898 | 7032 | 245 | 149 | 6 | 10 | 16 | 116 | 178 | 1801 | 10 | 204 |
| 3 1526 | 1595 | 3527 | 6648 | 295 | 54 | 20 | 14 | 34 | 185 | 202 | 2399 | 1147 | 207 |
| 4 13362 | 17613 | 45644 | 76619 | 6638 | 1570 | 353 | 152 | 505 | 4743 | 5217 | 40116 | 38940 | 208 |
| 5 13038 | 16656 | 46486 | 76180 | 6618 | 1535 | 341 | 156 | 497 | ..... | 5163 | 40022 | ..... | 208 |
| 6 324 | 957 | ..... | 439 | 20 | 35 | 12 | ..... | 8 | ..... | 54 | 94 | 38940 | ..... |
| 7 | ..... | 842 | ..... | ..... | ..... | ..... | 4 | ..... | ..... | ..... | ..... | ..... | ..... |
| 8 17 | 23 | 60 | ..... | ..... | 29 | 70 | 30 | ... | *92 | 97 | ..... | ..... | ..... |

* In this column Separate Schools are not included.

V.—TABLE E.—The Public

| COUNTIES. (Including Incorporated Villages, but not Cities or Towns.) | RECEIPTS. | | | | | |
|---|--|-------------------------------|-----------|--|--|--|
| | For Teachers' Salaries. (Legislative Grants.) | | | Municipal School Grants and As- sessments. | Clergy Reserves Fund Balances and other Sources. | Total Receipts for all Public School Pur- poses. |
| | Public Schools. | R. C. Separate Schools. | Total. | | | |
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 1 Brant | 2184 00 | | 2184 00 | 24615 26 | 12475 41 | 39274 67 |
| 2 Bruce | 6703 00 | 125 50 | 6828 50 | 78977 00 | 20974 48 | 106779 98 |
| 3 Carleton | 4115 00 | 351 50 | 4466 50 | 44985 01 | 25817 64 | 75270 15 |
| 4 Dufferin | 3320 00 | | 3320 00 | 27772 65 | 7849 88 | 38942 53 |
| 5 Dundas | 2533 00 | | 2533 00 | 27660 77 | 4732 07 | 34925 84 |
| 6 Durham | 3248 50 | | 3248 50 | 44031 39 | 6685 88 | 53965 77 |
| 7 Elgin | 3977 00 | | 3977 00 | 47331 64 | 18889 93 | 69698 57 |
| 8 Essex | 4613 00 | 161 00 | 4774 00 | 53804 30 | 15748 10 | 74326 40 |
| 9 Frontenac | 3309 86 | 101 00 | 3410 86 | 33016 25 | 9145 20 | 45572 31 |
| 10 Glengarry | 2425 00 | 230 50 | 2655 50 | 22824 97 | 5319 81 | 30800 28 |
| 11 Grenville | 2279 00 | 20 50 | 2299 50 | 26719 93 | 7256 70 | 36276 13 |
| 12 Grey | 7237 00 | 216 00 | 7453 00 | 79852 51 | 21781 25 | 109086 76 |
| 13 Haldimand | 2917 00 | | 2917 00 | 36944 09 | 10457 32 | 50318 41 |
| 14 Haliburton | 1974 80 | | 1974 80 | 7038 70 | 2069 92 | 11083 42 |
| 15 Halton | 2363 00 | | 2363 00 | 28052 76 | 7645 37 | 38061 13 |
| 16 Hastings | 5613 00 | | 5613 00 | 53353 46 | 16395 53 | 75361 99 |
| 17 Huron | 7104 00 | 106 50 | 7210 50 | 84077 68 | 16242 39 | 107530 57 |
| 18 Kent | 4267 00 | 252 00 | 4519 00 | 55194 46 | 25729 54 | 85443 00 |
| 19 Lambton | 5267 00 | 47 50 | 5314 50 | 72412 52 | 19712 74 | 97439 76 |
| 20 Lanark | 3538 00 | 2 00 | 3540 00 | 35896 96 | 8066 61 | 47502 97 |
| 21 Leeds | 3793 60 | 12 50 | 3806 10 | 35453 27 | 10532 33 | 49791 70 |
| 22 Lennox and Addington | 2961 50 | 34 00 | 2995 50 | 30928 88 | 12665 70 | 46590 08 |
| 23 Lincoln | 2513 00 | 98 00 | 2611 00 | 30705 89 | 11740 17 | 45057 06 |
| 24 Middlesex | 7742 00 | 139 50 | 7881 50 | 92261 53 | 21800 33 | 121943 36 |
| 25 Norfolk | 3523 00 | 21 00 | 3544 00 | 41199 50 | 18161 49 | 62904 99 |
| 26 Northumberland | 4058 00 | 107 00 | 4165 00 | 46399 93 | 14004 06 | 64568 99 |
| 27 Ontario | 5765 50 | 30 00 | 5795 50 | 59843 28 | 14837 12 | 80475 90 |
| 28 Oxford | 4259 00 | | 4259 00 | 55419 70 | 20322 46 | 80001 16 |
| 29 Peel | 2600 00 | 21 00 | 2621 00 | 30239 45 | 11184 29 | 44044 74 |
| 30 Perth | 4209 00 | 76 00 | 4285 00 | 52494 76 | 15681 64 | 72461 40 |
| 31 Peterborough | 3161 00 | 43 00 | 3204 00 | 31758 32 | 6226 46 | 41188 78 |
| 32 Prescott and Russell | 4145 00 | 382 50 | 4527 50 | 39972 25 | 8040 69 | 52540 44 |
| 33 Prince Edward | 2051 00 | | 2051 00 | 27142 61 | 8217 56 | 37411 17 |
| 34 Renfrew | 6132 50 | 309 00 | 6441 50 | 38655 29 | 11257 36 | 56354 15 |
| 35 Simcoe | 8643 75 | 59 50 | 8703 25 | 80169 28 | 32433 41 | 121305 94 |
| 36 Stormont | 1895 00 | 132 50 | 2027 50 | 22657 77 | 3259 71 | 27944 98 |
| 37 Victoria | 4687 00 | | 4687 00 | 50664 29 | 18536 16 | 73887 45 |
| 38 Waterloo | 3661 00 | 287 00 | 3948 00 | 50928 86 | 23076 28 | 77953 14 |
| 39 Welland | 2868 00 | 46 50 | 2914 50 | 31084 89 | 19712 09 | 53711 48 |
| 40 Wellington | 5560 00 | 257 50 | 5817 50 | 69327 45 | 23486 59 | 98631 54 |
| 41 Wentworth | 3307 00 | 19 00 | 3326 00 | 33249 15 | 19365 08 | 55940 23 |
| 42 York | 7047 00 | 75 00 | 7122 00 | 71571 14 | 31592 21 | 110285 35 |
| 43 Districts | 14084 00 | 257 75 | 14341 75 | 52816 07 | 16161 45 | 83319 27 |
| Total | 187655 01 | 4022 25 | 191677 26 | 1959506 87 | 634789 81 | 2785973 94 |
| CITIES. | | | | | | |
| 1 Belleville | 1004 00 | 267 50 | 1271 50 | 2677 27 | 12883 59 | 16832 36 |
| 2 Brantford | 1550 00 | 168 00 | 1718 00 | 14630 02 | 2698 22 | 19046 24 |
| 3 Guelph | 1140 00 | 225 00 | 1365 00 | 15466 16 | 784 37 | 17615 53 |
| 4 Hamilton | 4436 00 | 922 50 | 5358 50 | 46139 61 | 40373 42 | 91871 53 |
| 5 Kingston | 1629 00 | 576 50 | 2205 50 | 20040 44 | 1711 62 | 23957 56 |
| 6 London | 3545 00 | 476 50 | 4021 50 | 32249 52 | 14298 54 | 50569 56 |
| 7 Ottawa | 1854 00 | 2192 50 | 4046 50 | 44563 00 | 9647 64 | 58257 14 |
| 8 St. Catharines | 979 00 | 367 00 | 1346 00 | 14824 75 | 1540 05 | 17710 80 |
| 9 St. Thomas | 1443 00 | 147 00 | 1590 00 | 14751 42 | 3039 87 | 19381 29 |
| 10 Stratford | 1083 00 | 222 00 | 1305 00 | 9268 49 | 1492 33 | 12065 82 |
| 11 Toronto | 12164 00 | 2126 00 | 14290 00 | 215575 68 | 40450 47 | 270316 15 |
| Total | 30827 00 | 7690 50 | 38517 50 | 430186 36 | 128920 12 | 597623 98 |

Schools of Ontario.

EXPENDITURE.

| | For Teachers' Salaries. | | For Maps, Apparatus, Prizes and Libraries. | | For Sites and Building School-houses. | | For Rents and Repairs, Fuel and other expenses. | | Total Expenditure for all Public School Purposes. | | Balances. | | Average Cost per Pupil. | | | |
|---------|-------------------------|----|--|----|---------------------------------------|----|---|----|---|----|-----------|----|-------------------------|----|----|----|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. |
| 1 | 24858 | 17 | 230 | 38 | 1348 | 12 | 7468 | 91 | 33905 | 58 | 5369 | 09 | 7 | 87 | 11 | 61 |
| 2 | 70601 | 69 | 278 | 06 | 10180 | 15 | 12911 | 28 | 93971 | 18 | 12808 | 80 | 5 | 90 | 13 | 23 |
| 3 | 38862 | 03 | 559 | 69 | 17958 | 93 | 10421 | 33 | 67801 | 98 | 7468 | 17 | 7 | 23 | 17 | 14 |
| 4 | 23945 | 56 | 486 | 29 | 3435 | 82 | 5616 | 06 | 33483 | 73 | 5458 | 80 | 5 | 83 | 15 | 97 |
| 5 | 25269 | 64 | 12 | 50 | 2851 | 89 | 3688 | 60 | 31822 | 63 | 3103 | 21 | 6 | 10 | 13 | 61 |
| 6 | 39336 | 81 | 276 | 97 | 1033 | 75 | 747 | 40 | 48124 | 93 | 5840 | 84 | 7 | 27 | 16 | 38 |
| 7 | 43178 | 34 | 306 | 61 | 4935 | 90 | 11005 | 95 | 59426 | 80 | 10271 | 77 | 7 | 38 | 15 | 96 |
| 8 | 46220 | 31 | 759 | 78 | 6021 | 60 | 10490 | 17 | 63491 | 86 | 10834 | 54 | 6 | 52 | 14 | 90 |
| 9 | 29150 | 62 | 118 | 55 | 3056 | 72 | 6284 | 39 | 38610 | 28 | 6962 | 03 | 5 | 80 | 16 | 01 |
| 10 | 20266 | 91 | 80 | 07 | 4258 | 33 | 3239 | 58 | 27844 | 89 | 2955 | 39 | 5 | 67 | 12 | 55 |
| 11 | 26820 | 21 | 25 | 00 | 339 | 56 | 5237 | 07 | 32421 | 84 | 3854 | 29 | 5 | 61 | 13 | 31 |
| 12 | 72511 | 04 | 504 | 48 | 10674 | 60 | 13427 | 88 | 97118 | 00 | 11968 | 76 | 5 | 66 | 14 | 79 |
| 13 | 32054 | 53 | 103 | 86 | 3815 | 05 | 5509 | 69 | 41573 | 13 | 8745 | 28 | 6 | 91 | 14 | 48 |
| 14 | 7446 | 52 | 67 | 96 | 279 | 40 | 1616 | 21 | 9410 | 09 | 1673 | 33 | 6 | 25 | 20 | 73 |
| 15 | 27169 | 32 | 97 | 43 | 1248 | 00 | 5020 | 56 | 33535 | 31 | 4525 | 82 | 6 | 72 | 14 | 57 |
| 16 | 51306 | 36 | 309 | 04 | 4249 | 30 | 7498 | 20 | 63362 | 90 | 11999 | 09 | 6 | 21 | 14 | 48 |
| 17 | 79512 | 65 | 445 | 01 | 3096 | 62 | 11852 | 42 | 94906 | 70 | 12623 | 87 | 5 | 93 | 12 | 75 |
| 18 | 49155 | 33 | 664 | 52 | 7120 | 75 | 12102 | 66 | 69043 | 26 | 16399 | 74 | 6 | 66 | 16 | 19 |
| 19 | 62387 | 90 | 614 | 09 | 8402 | 59 | 13161 | 07 | 84565 | 65 | 12874 | 11 | 7 | 29 | 14 | 86 |
| 20 | 32133 | 69 | 180 | 90 | 2654 | 27 | 7490 | 50 | 42459 | 36 | 5043 | 61 | 6 | 68 | 13 | 49 |
| 21 | 34360 | 25 | 62 | 55 | 2638 | 56 | 6668 | 45 | 43729 | 81 | 6061 | 89 | 6 | 42 | 15 | 18 |
| 22 | 27783 | 90 | 109 | 15 | 6278 | 42 | 6148 | 74 | 40320 | 21 | 6269 | 87 | 7 | 19 | 17 | 89 |
| 23 | 27006 | 91 | 69 | 12 | 1107 | 88 | 4915 | 98 | 33099 | 89 | 11957 | 17 | 7 | 04 | 15 | 44 |
| 24 | 84449 | 30 | 453 | 22 | 4590 | 95 | 15427 | 87 | 104921 | 34 | 17022 | 02 | 7 | 00 | 14 | 40 |
| 25 | 36574 | 61 | 278 | 37 | 4323 | 65 | 7152 | 17 | 48328 | 80 | 14576 | 19 | 6 | 14 | 14 | 41 |
| 26 | 41700 | 47 | 367 | 93 | 6711 | 91 | 8484 | 89 | 57265 | 20 | 7303 | 79 | 7 | 00 | 15 | 29 |
| 27 | 52451 | 23 | 699 | 43 | 5756 | 51 | 12494 | 04 | 71401 | 21 | 9074 | 69 | 6 | 86 | 14 | 32 |
| 28 | 50699 | 87 | 333 | 88 | 4378 | 53 | 9185 | 17 | 64597 | 45 | 15403 | 71 | 7 | 13 | 14 | 69 |
| 29 | 30398 | 20 | 157 | 48 | 331 | 24 | 6234 | 64 | 37121 | 56 | 6923 | 18 | 6 | 60 | 16 | 21 |
| 30 | 44655 | 58 | 749 | 45 | 8757 | 77 | 8805 | 32 | 62968 | 12 | 9493 | 28 | 6 | 98 | 14 | 32 |
| 31 | 28906 | 91 | 148 | 89 | 2416 | 88 | 5404 | 54 | 36787 | 22 | 4311 | 56 | 6 | 47 | 15 | 04 |
| 32 | 34444 | 48 | 605 | 78 | 5733 | 84 | 6462 | 13 | 47246 | 23 | 5294 | 21 | 4 | 88 | 11 | 94 |
| 33 | 25802 | 56 | 17 | 65 | 1694 | 00 | 4823 | 56 | 32337 | 77 | 5073 | 40 | 7 | 89 | 17 | 63 |
| 34 | 35904 | 06 | 202 | 21 | 6567 | 97 | 5687 | 39 | 48361 | 63 | 7992 | 52 | 5 | 52 | 14 | 36 |
| 35 | 70620 | 91 | 643 | 90 | 19058 | 11 | 17116 | 13 | 107439 | 05 | 13866 | 89 | 6 | 59 | 15 | 64 |
| 36 | 19092 | 31 | 36 | 23 | 3330 | 74 | 3007 | 78 | 25467 | 06 | 2477 | 92 | 5 | 42 | 13 | 55 |
| 37 | 47402 | 41 | 272 | 62 | 8586 | 58 | 9233 | 55 | 65495 | 16 | 8302 | 29 | 6 | 85 | 17 | 18 |
| 38 | 46962 | 83 | 307 | 25 | 2285 | 29 | 11425 | 44 | 60980 | 81 | 16972 | 33 | 7 | 66 | 14 | 42 |
| 39 | 29491 | 26 | 35 | 73 | 967 | 65 | 6667 | 81 | 37162 | 45 | 16549 | 03 | 6 | 65 | 16 | 14 |
| 40 | 60055 | 65 | 593 | 44 | 11585 | 53 | 13494 | 52 | 85729 | 14 | 12902 | 40 | 6 | 90 | 14 | 86 |
| 41 | 33540 | 98 | 580 | 25 | 5743 | 84 | 7866 | 23 | 47731 | 30 | 8208 | 93 | 7 | 61 | 16 | 55 |
| 42 | 68096 | 17 | 867 | 33 | 7166 | 96 | 15904 | 02 | 92034 | 48 | 18250 | 87 | 6 | 80 | 15 | 41 |
| 43 | 49007 | 15 | 512 | 27 | 12640 | 18 | 9655 | 67 | 71815 | 27 | 11504 | 00 | 8 | 91 | 24 | 76 |
| 1781595 | 63 | | 14225 | 32 | 229614 | 34 | 363875 | 97 | 2389311 | 26 | 396662 | 68 | 6 | 61 | 15 | 07 |
| 1 | 10323 | 31 | | | 1630 | 00 | 3851 | 72 | 15805 | 03 | 1027 | 33 | 7 | 12 | 12 | 48 |
| 2 | 10552 | 88 | 1392 | 79 | 337 | 05 | 6567 | 09 | 18849 | 81 | 196 | 43 | 7 | 69 | 12 | 07 |
| 3 | 10478 | 74 | 54 | 25 | 702 | 00 | 5267 | 71 | 16502 | 70 | 1112 | 83 | 7 | 32 | 12 | 30 |
| 4 | 40333 | 04 | 584 | 84 | 31921 | 53 | 17439 | 80 | 90879 | 21 | 992 | 32 | 11 | 24 | 17 | 57 |
| 5 | 14227 | 18 | 318 | 67 | 1138 | 75 | 7776 | 08 | 23460 | 68 | 496 | 88 | 6 | 97 | 11 | 44 |
| 6 | 21520 | 59 | 67 | 74 | 2059 | 99 | 10306 | 53 | 33954 | 85 | 16614 | 71 | 5 | 74 | 10 | 60 |
| 7 | 27587 | 80 | 714 | 36 | 7047 | 22 | 17364 | 60 | 52713 | 98 | 5543 | 16 | 8 | 67 | 14 | 16 |
| 8 | 12000 | 85 | 2 | 10 | | | 4391 | 67 | 16394 | 62 | 1316 | 18 | 7 | 91 | 12 | 60 |
| 9 | 9622 | 40 | 41 | 43 | 4862 | 74 | 2313 | 68 | 16840 | 25 | 2541 | 04 | 6 | 91 | 11 | 80 |
| 10 | 8087 | 25 | 40 | 92 | 420 | 00 | 2791 | 48 | 11339 | 65 | 726 | 17 | 6 | 08 | 9 | 72 |
| 11 | 130901 | 89 | 1362 | 67 | 50898 | 37 | 57757 | 21 | 240920 | 14 | 29396 | 01 | 11 | 27 | 17 | 30 |
| 296235 | 93 | | 4579 | 77 | 101017 | 65 | 135827 | 57 | 537660 | 92 | 59963 | 06 | 9 | 25 | 14 | 88 |

V.—TABLE E.—The Public

| TOWNS. | RECEIPTS. | | | | | |
|--------------------------|--|-------------------------------|---------|--|--|--|
| | For Teachers' Salaries. (Legislative Grants.) | | | Municipal School Grants and As- sessments. | Clergy Reserves Fund, Balances and other Sources. | Total Receipts for all Public School Pur- poses. |
| | Public Schools. | R. C. Separate Schools. | Total. | | | |
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 1 Almonte | 299 00 | 91 00 | 390 00 | 4555 24 | 2045 55 | 6990 79 |
| 2 Amherstburg | 138 00 | 179 00 | 317 00 | 2953 89 | 2402 03 | 5672 92 |
| 3 Barrie | 644 00 | 102 50 | 746 50 | 5369 53 | 660 09 | 6776 12 |
| 4 Berlin | 655 00 | 99 50 | 754 50 | 6746 83 | 3756 21 | 11257 54 |
| 5 Blenheim | 179 00 | ..... | 179 00 | 1256 32 | 1845 52 | 3280 84 |
| 6 Bothwell | 132 00 | ..... | 132 00 | 1702 42 | 4920 82 | 6755 24 |
| 7 Bowmanville | 493 00 | ..... | 493 00 | 3082 00 | 313 23 | 4788 23 |
| 8 Brampton | 553 00 | ..... | 553 00 | 5125 00 | 113 92 | 5791 92 |
| 9 Brockville | 787 00 | 256 00 | 1043 00 | 9354 60 | 1467 25 | 11864 85 |
| 10 Chatham | 1166 00 | 166 50 | 1332 50 | 15163 83 | 10545 62 | 27041 95 |
| 11 Clinton | 504 00 | ..... | 504 00 | 3050 00 | 236 14 | 3790 14 |
| 12 Cobourg | 647 00 | 167 00 | 814 00 | 4500 00 | 1461 81 | 6775 81 |
| 13 Collingwood | 693 00 | ..... | 693 00 | 8002 00 | 2076 71 | 10771 71 |
| 14 Cornwall | 514 00 | 322 50 | 836 50 | 3484 13 | 3809 46 | 8130 09 |
| 15 Dresden | 222 00 | ..... | 222 00 | 3000 00 | 2290 54 | 5512 54 |
| 16 Dundas | 368 00 | 164 50 | 532 50 | 4074 80 | 9082 22 | 13689 52 |
| 17 Durham | 290 00 | ..... | 290 00 | 1500 00 | 509 36 | 2299 36 |
| 18 Galt | 853 00 | 75 50 | 928 50 | 8059 07 | 3252 83 | 12240 40 |
| 19 Goderich | 597 00 | 66 00 | 663 00 | 4630 82 | 550 19 | 5844 01 |
| 20 Harriston | 253 00 | ..... | 253 00 | 2162 90 | 62 64 | 2478 54 |
| 21 Ingersoll | 672 00 | 65 00 | 737 00 | 4584 61 | 1233 23 | 6554 84 |
| 22 Kincardine | 498 00 | ..... | 498 00 | 3641 00 | 922 09 | 5061 09 |
| 23 Lindsay | 602 00 | 276 00 | 878 00 | 9196 00 | 1384 86 | 11458 86 |
| 24 Listowel | 334 00 | ..... | 334 00 | 2782 23 | 62 50 | 3178 73 |
| 25 Meaford | 255 00 | ..... | 255 00 | 2777 63 | 39 81 | 3072 44 |
| 26 Milton | 316 00 | ..... | 316 00 | 400 00 | 2275 43 | 2991 43 |
| 27 Mitchell | 314 00 | ..... | 314 00 | 3311 00 | 119 40 | 3744 40 |
| 28 Mount Forest | 429 00 | ..... | 429 00 | 2164 60 | 874 00 | 3467 60 |
| 29 Napanee | 564 00 | ..... | 564 00 | 4300 00 | 374 89 | 5238 89 |
| 30 Newmarket | 337 00 | 44 00 | 381 00 | 2956 55 | 1839 09 | 5176 64 |
| 31 Niagara | 186 00 | ..... | 186 00 | 1300 00 | 405 62 | 1891 62 |
| 32 Niagara Falls | 218 09 | 36 00 | 254 09 | 2951 00 | 3251 02 | 6456 02 |
| 33 Oakville | 190 00 | 32 00 | 222 00 | 1981 06 | 240 22 | 2443 28 |
| 34 Orangeville | 535 00 | ..... | 535 00 | 4216 00 | 774 97 | 5525 97 |
| 35 Orillia | 386 00 | 91 50 | 477 50 | 4369 21 | 68 15 | 4914 86 |
| 36 Oshawa | 503 00 | 82 50 | 585 50 | 5632 11 | 507 83 | 6725 44 |
| 37 Owen Sound | 734 00 | 35 50 | 769 50 | 6032 46 | 293 08 | 7095 04 |
| 38 Palmerston | 227 00 | ..... | 227 00 | 1999 54 | 37 37 | 2263 91 |
| 39 Paris | 383 00 | 59 50 | 442 50 | 4394 22 | 3345 70 | 8182 42 |
| 40 Parkdale ..... | ..... | ..... | 6630 00 | 6630 00 | 5287 46 | 11917 46 |
| 41 Pembroke | 220 00 | 171 50 | 391 50 | 5882 06 | 5321 79 | 11595 35 |
| 42 Penetanguishene | 234 00 | ..... | 234 00 | 1371 73 | 54 06 | 1659 79 |
| 43 Perth | 547 00 | 96 50 | 643 50 | 4647 04 | 1467 00 | 6757 54 |
| 44 Peterboro' | 661 00 | 362 00 | 1023 00 | 9649 81 | 1834 25 | 12507 06 |
| 45 Peterborough | 386 00 | ..... | 386 00 | 5500 00 | 273 00 | 6159 00 |
| 46 Picton | 456 00 | 51 50 | 507 50 | 4653 78 | 483 86 | 5645 14 |
| 47 Port Hope | 875 00 | ..... | 875 00 | 6400 00 | 342 09 | 7617 09 |
| 48 Prescott | 388 00 | 138 00 | 526 00 | 2621 87 | 204 71 | 3352 58 |
| 49 Port Arthur | 477 00 | 183 05 | 660 05 | 4410 61 | 4391 19 | 9461 85 |
| 50 Ridgetown | 201 00 | ..... | 201 00 | 2110 73 | 423 63 | 2735 36 |
| 51 Rat Portage | 31 00 | 94 50 | 125 50 | 560 00 | 163 29 | 848 79 |
| 52 Sandwich | 153 00 | ..... | 153 00 | 156 00 | 2272 80 | 2581 80 |
| 53 Sarnia | 808 00 | 115 00 | 923 00 | 6166 28 | 819 07 | 7908 35 |
| 54 Seaforth | 315 00 | ..... | 315 00 | 2500 00 | 714 75 | 3529 75 |
| 55 Simcoe | 484 00 | ..... | 484 00 | 4621 00 | ..... | 5105 00 |
| 56 Smiths Falls | 279 00 | ..... | 279 00 | 2719 20 | 117 04 | 3115 24 |
| 57 St. Mary's | 408 00 | 49 50 | 457 50 | 4426 90 | 500 76 | 5385 16 |
| 58 Strathroy | 659 00 | ..... | 659 00 | 4250 00 | 410 84 | 5319 84 |

Schools of Ontario.

EXPENDITURE.

| | For Teachers' Salaries. | | For Maps, Apparatus, Prizes and Libraries. | | For Sites and Building School-houses. | | For Rents and Repairs, Fuel and other expenses. | | Total Expenditure for all Public School Purposes. | | Balances. | | Average Cost per Pupil. | | | |
|----|-------------------------|----|--|----|---------------------------------------|----|---|----|---|----|-----------|----|-------------------------|-----------------------|----|----|
| | \$ | c. | % | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | On Total Attendance | On Average Attendance | | |
| 1 | 3715 | 40 | 81 | 43 | 15 | 95 | 987 | 49 | 4800 | 27 | 2190 | 52 | 7 | 71 | 12 | 12 |
| 2 | 3254 | 91 | 6 | 00 | 1736 | 85 | 663 | 96 | 5666 | 72 | 6 | 20 | 8 | 34 | 15 | 40 |
| 3 | 5312 | 50 | 23 | 60 | | | 1395 | 72 | 6736 | 82 | 39 | 30 | 5 | 86 | 10 | 25 |
| 4 | 5268 | 66 | 45 | 97 | 3239 | 59 | 2206 | 71 | 10760 | 93 | 496 | 61 | 10 | 59 | 19 | 74 |
| 5 | 1678 | 34 | | | 384 | 00 | 356 | 30 | 2418 | 64 | 862 | 20 | 6 | 03 | 12 | 03 |
| 6 | 1101 | 37 | 15 | 33 | 2373 | 00 | 316 | 20 | 3805 | 90 | 2949 | 34 | 15 | 86 | 27 | 18 |
| 7 | 3813 | 54 | | | | | 846 | 77 | 4660 | 31 | 127 | 92 | 6 | 18 | 9 | 32 |
| 8 | 3505 | 00 | | | 352 | 50 | 1193 | 03 | 5050 | 53 | 741 | 39 | 6 | 18 | 10 | 18 |
| 9 | 7857 | 25 | 99 | 51 | 220 | 00 | 3618 | 05 | 11794 | 81 | 70 | 04 | 6 | 96 | 10 | 89 |
| 10 | 13433 | 48 | 24 | 72 | | | 5258 | 07 | 18716 | 27 | 8325 | 68 | 9 | 16 | 15 | 74 |
| 11 | 2954 | 45 | 101 | 25 | | | 653 | 20 | 3708 | 90 | 81 | 24 | 5 | 80 | 9 | 46 |
| 12 | 4595 | 00 | | | | | 1375 | 94 | 5970 | 94 | 804 | 87 | 6 | 07 | 9 | 89 |
| 13 | 4190 | 00 | | | 5210 | 45 | 917 | 74 | 10318 | 19 | 453 | 52 | 9 | 03 | 16 | 89 |
| 14 | 4375 | 00 | | | | | 3114 | 78 | 7489 | 78 | 640 | 31 | 5 | 80 | 10 | 86 |
| 15 | 2308 | 76 | 6 | 50 | | | 589 | 72 | 2904 | 98 | 2607 | 56 | 5 | 31 | 11 | 18 |
| 16 | 3725 | 00 | 5 | 75 | 7676 | 00 | 1523 | 72 | 12950 | 47 | 759 | 05 | 14 | 16 | 24 | 30 |
| 17 | 1328 | 08 | 25 | 15 | | | 946 | 13 | 2299 | 36 | | | 7 | 66 | 13 | 85 |
| 18 | 6896 | 05 | 71 | 20 | 767 | 51 | 1550 | 51 | 9235 | 27 | 2955 | 13 | 6 | 71 | 10 | 78 |
| 19 | 4124 | 33 | | | | | 1703 | 68 | 5828 | 01 | 16 | 00 | 5 | 75 | 9 | 40 |
| 20 | 1875 | 00 | | | | | 514 | 34 | 2389 | 34 | 89 | 20 | 4 | 98 | 9 | 29 |
| 21 | 5185 | 00 | 43 | 00 | 107 | 90 | 901 | 37 | 6237 | 27 | 317 | 57 | 6 | 49 | 11 | 04 |
| 22 | 3144 | 29 | | | | | 1241 | 34 | 4385 | 63 | 675 | 46 | 5 | 60 | 10 | 55 |
| 23 | 6212 | 43 | 150 | 14 | 369 | 54 | 4273 | 71 | 11005 | 82 | 453 | 04 | 7 | 65 | 12 | 81 |
| 24 | 2542 | 72 | | | | | 622 | 26 | 3164 | 98 | 13 | 75 | 5 | 07 | 8 | 58 |
| 25 | 2235 | 00 | | | | | 829 | 31 | 3064 | 31 | 8 | 13 | 5 | 63 | 8 | 52 |
| 26 | 1900 | 00 | | | 370 | 90 | 413 | 69 | 2684 | 59 | 306 | 84 | 7 | 74 | 12 | 26 |
| 27 | 2837 | 50 | 11 | 80 | | | 860 | 86 | 3710 | 16 | 34 | 24 | 6 | 54 | 10 | 48 |
| 28 | 2512 | 50 | | | | | 881 | 78 | 3394 | 28 | 73 | 32 | 5 | 58 | 9 | 53 |
| 29 | 3693 | 61 | | | | | 1538 | 35 | 5231 | 96 | 6 | 93 | 6 | 13 | 11 | 89 |
| 30 | 2513 | 00 | 35 | 50 | 30 | 50 | 797 | 09 | 3376 | 09 | 1800 | 55 | 7 | 15 | 12 | 79 |
| 31 | 1150 | 00 | | | | | 278 | 58 | 1428 | 58 | 463 | 04 | 5 | 56 | 9 | 52 |
| 32 | 2385 | 82 | 47 | 89 | | | 1824 | 61 | 4258 | 32 | 2197 | 70 | 7 | 33 | 12 | 64 |
| 33 | 1797 | 00 | 40 | 34 | 100 | 00 | 505 | 94 | 2443 | 28 | | | 5 | 93 | 9 | 65 |
| 34 | 3884 | 96 | | | 21 | 00 | 1303 | 56 | 5209 | 52 | 316 | 45 | 7 | 31 | 13 | 53 |
| 35 | 3716 | 71 | | | 124 | 87 | 1002 | 92 | 4844 | 50 | 70 | 36 | 5 | 13 | 8 | 73 |
| 36 | 4749 | 16 | 5 | 60 | | | 1807 | 31 | 6562 | 07 | 163 | 37 | 6 | 73 | 10 | 19 |
| 37 | 5319 | 25 | | | | | 1748 | 29 | 7067 | 54 | 27 | 50 | 6 | 22 | 10 | 79 |
| 38 | 1708 | 70 | | | | | 541 | 58 | 2250 | 28 | 13 | 63 | 5 | 21 | 10 | 13 |
| 39 | 3625 | 00 | 31 | 85 | | | 943 | 54 | 4606 | 39 | 3576 | 03 | 5 | 99 | 9 | 91 |
| 40 | 5363 | 73 | 94 | 15 | 4461 | 87 | 1721 | 30 | 11641 | 05 | 276 | 41 | 13 | 34 | 24 | 15 |
| 41 | 4041 | 00 | 32 | 42 | 4967 | 61 | 1687 | 58 | 10728 | 61 | 866 | 74 | 12 | 89 | 19 | 16 |
| 42 | 723 | 00 | | | 65 | 00 | 473 | 89 | 1261 | 89 | 397 | 90 | 5 | 31 | 11 | 90 |
| 43 | 3250 | 00 | | | 1756 | 95 | 898 | 67 | 5905 | 62 | 851 | 92 | 8 | 93 | 14 | 55 |
| 44 | 8692 | 51 | 104 | 26 | 58 | 33 | 3481 | 79 | 12336 | 94 | 170 | 12 | 6 | 34 | 10 | 67 |
| 45 | 3371 | 59 | | | | | 2713 | 97 | 6085 | 56 | 73 | 44 | 6 | 16 | 9 | 45 |
| 46 | 4032 | 68 | 54 | 65 | | | 1188 | 85 | 5276 | 18 | 368 | 96 | 8 | 93 | 13 | 64 |
| 47 | 6390 | 00 | | | 204 | 40 | 963 | 02 | 7557 | 42 | 59 | 67 | 7 | 02 | 10 | 95 |
| 48 | 2400 | 00 | 9 | 25 | | | 794 | 15 | 3203 | 40 | 149 | 18 | 5 | 48 | 8 | 77 |
| 49 | 3521 | 25 | 38 | 69 | 3275 | 55 | 1623 | 69 | 8459 | 18 | 1002 | 67 | 12 | 22 | 26 | 35 |
| 50 | 2300 | 00 | | | | | 430 | 79 | 2730 | 79 | 4 | 57 | 4 | 24 | 9 | 54 |
| 51 | 558 | 48 | 32 | 25 | 14 | 10 | 175 | 79 | 780 | 62 | 68 | 17 | 4 | 24 | 8 | 66 |
| 52 | 1786 | 60 | 70 | 00 | | | 682 | 80 | 2539 | 40 | 42 | 40 | 10 | 03 | 19 | 09 |
| 53 | 5189 | 34 | 11 | 00 | | | 2264 | 30 | 7464 | 64 | 443 | 71 | 5 | 09 | 10 | 62 |
| 54 | 2526 | 50 | | | | | 621 | 21 | 3141 | 71 | 388 | 04 | 4 | 74 | 7 | 80 |
| 55 | 2550 | 00 | 8 | 00 | 1608 | 00 | 789 | 00 | 4955 | 00 | 150 | 00 | 8 | 86 | 14 | 74 |
| 56 | 2355 | 00 | | | | | 711 | 84 | 3066 | 84 | 48 | 40 | 5 | 58 | 8 | 91 |
| 57 | 3058 | 28 | 10 | 50 | 6 | 00 | 1823 | 44 | 4898 | 22 | 486 | 94 | 5 | 31 | 10 | 63 |
| 58 | 4101 | 08 | | | 159 | 29 | 806 | 93 | 5067 | 30 | 252 | 54 | 6 | 32 | 16 | 01 |

V.—TABLE E.—The Public

| TOWNS.— <i>Continued.</i> | RECEIPTS. | | | | | |
|---------------------------------|--|-------------------------------|-----------|--|---|--|
| | For Teachers' Salaries. (Legislative Grants.) | | | Municipal School Grants and As- sessments. | Clergy Reserves Fund, Balances and other Sources. | Total Receipts for all Public School Pur- poses. |
| | Public Schools. | R. C. Separate Schools. | Total. | | | |
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 59 Thorold | 241 00 | 103 50 | 344 50 | 3294 16 | 657 22 | 4295 88 |
| 60 Tilsonburg | 267 00 | ..... | 267 00 | 1809 45 | 479 22 | 2555 67 |
| 61 Trenton | 266 00 | 144 50 | 410 50 | 5013 30 | 741 41 | 6165 21 |
| 62 Walkerton | 660 00 | ..... | 660 00 | 2768 80 | 2596 91 | 6025 71 |
| 63 Waterloo | 300 00 | ..... | 300 00 | 3400 00 | 430 79 | 4130 79 |
| 64 Welland | 437 00 | ..... | 437 00 | 2000 00 | 965 93 | 3402 93 |
| 65 Whitby | 498 00 | 49 50 | 547 50 | 4974 71 | 471 14 | 5993 35 |
| 66 Windsor | 1091 00 | ..... | 1091 00 | 10413 17 | 1761 33 | 13265 50 |
| 67 Wingham | 278 00 | ..... | 278 00 | 3164 75 | 168 66 | 3611 41 |
| 68 Woodstock ¹ | 963 00 | ..... | 963 00 | 6650 00 | 2011 06 | 9624 06 |
| Total | 30253 00 | 3971 05 | 34224 05 | 290427 95 | 104816 66 | 429468 66 |
| TOTALS. | | | | | | |
| 1 Total Counties | 187655 01 | 4022 25 | 191677 26 | 1959506 87 | 634789 81 | 2785973 94 |
| 2 " Cities | 30827 00 | 7690 50 | 38517 50 | 430186 36 | 128920 12 | 597623 98 |
| 3 " Towns | 30253 00 | 3971 05 | 34224 05 | 290427 95 | 104816 66 | 429468 66 |
| 4 Grand Total, 1885 | 248735 01 | 15683 80 | 264418 81 | 2680121 18 | 868526 59 | 3813066 58 |
| 5 " " 1884 | 252339 45 | 14744 79 | 267084 24 | 2675621 46 | 780432 93 | 3723138 63 |
| 6 Increase ..... | ..... | 939 01 | ..... | 4499 72 | 88093 66 | 89927 95 |
| 7 Decrease | 3604 44 | ..... | 2665 43 | ..... | ..... | ..... |
| Percentage of Total | 6.52 | .41 | 6.93 | 70.31 | 22.76 | ..... |

Schools of Ontario.

EXPENDITURE.

| For Teachers' Salaries. | For Maps, Apparatus, Prizes and Libraries, &c. | For Sites and Building School-houses. | For Rents and Repairs, Fuel and other expenses. | Total Expenditure for all Public School Purposes. | Balances. | Average Cost per Pupil. | |
|-------------------------|--|---------------------------------------|---|---|-----------|-------------------------|-----------------------|
| | | | | | | On Total Attendance | On Average Attendance |
| \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 59 3145 16 | | | 724 15 | 3869 31 | 426 57 | 6 19 | 9 58 |
| 60 2020 00 | | | 266 76 | 2286 76 | 268 91 | 5 07 | 8 63 |
| 61 3666 49 | 26 98 | 454 44 | 1780 00 | 5927 91 | 237 30 | 6 26 | 12 15 |
| 62 2676 00 | | 17 07 | 2632 89 | 5325 96 | 699 75 | 8 61 | 15 44 |
| 63 2885 38 | | | 945 84 | 3831 22 | 299 57 | 7 24 | 10 91 |
| 64 2185 00 | 6 00 | | 1157 01 | 3348 01 | 54 92 | 9 79 | 18 49 |
| 65 4540 00 | 44 70 | | 1339 47 | 5924 17 | 69 18 | 8 75 | 14 81 |
| 66 7385 84 | | 2623 36 | 2951 50 | 12960 70 | 304 80 | 9 85 | 14 83 |
| 67 1987 50 | | | 1570 00 | 3557 50 | 53 91 | 7 00 | 11 98 |
| 68 6096 84 | | | 3037 24 | 9134 08 | 489 98 | 6 82 | 10 82 |
| 249218 02 | 1426 38 | 42772 58 | 92311 02 | 385728 00 | 43740 66 | | |
| 1 1781595 63 | 14225 32 | 229614 34 | 363875 97 | 2389311 26 | 396662 68 | 6 61 | 15 07 |
| 2 296235 93 | 4579 77 | 101017 65 | 135827 57 | 537660 92 | 59963 06 | 9 25 | 14 88 |
| 3 249218 02 | 1426 38 | 42772 58 | 92311 02 | 385728 00 | 43740 66 | 7 28 | 12 35 |
| 4 2327049 58 | 20231 47 | 373404 57 | 592014 56 | 3312700 18 | 500366 40 | 7 01 | 14 66 |
| 5 2296027 14 | 17732 15 | 341198 00 | 625904 75 | 3280862 04 | 442276 59 | 7 02 | 14 79 |
| 6 31022 44 | 2499 32 | 32206 57 | | 31838 14 | 58089 81 | | |
| 7 | | | 33890 19 | | | 01 | 13 |
| 70.25 | .61 | 11.28 | 17.86 | | | | |

VI.—TABLE F.—The Roman Catholic

| COUNTIES. (Including Incorporated Villages, but not Cities or Towns.) | Number of Schools. | RECEIPTS. | | | | EXPEN | | |
|--|--------------------|--|---|--|------------------------|--------------------------|--|---|
| | | Amount of Legislative Grant for Teachers Salaries. | Amount received from School Rate on Superintenders. | Amount subscribed, and from other sources. | Total Amount Received. | Amount paid to Teachers. | Amount paid for Maps, Apparatus, Prizes and Libraries. | Amount paid for Sites and building School-Houses. |
| | | £ c. | £ c. | £ c. | £ . | £ c. | £ c. | £ c. |
| 1 Bruce | 3 | 125 50 | 1188 26 | 1345 27 | 2659 03 | 885 00 | | 1510 38 |
| 2 Carleton | 7 | 351 50 | 1819 08 | 115 56 | 2286 14 | 1571 44 | 12 50 | 16 00 |
| 3 Essex | 5 | 161 00 | 1961 18 | 1071 86 | 3194 04 | 1917 17 | 20 00 | 812 20 |
| 4 Frontenac | 5 | 101 00 | 1331 04 | 382 09 | 1814 13 | 1062 00 | 1 25 | |
| 5 Glengarry | 5 | 230 50 | 1134 37 | 390 50 | 1755 37 | 1088 50 | 2 50 | |
| 6 Grenville | 1 | 20 50 | 105 00 | 42 40 | 167 90 | 140 00 | | |
| 7 Grey | 9 | 216 00 | 2323 96 | 500 21 | 3040 17 | 2336 63 | 5 00 | 218 40 |
| 8 Huron | 4 | 106 50 | 1483 42 | 266 12 | 1856 04 | 1310 00 | 27 15 | 189 00 |
| 9 Kent | 6 | 252 00 | 2703 55 | 2343 27 | 5298 82 | 2457 00 | 180 09 | 1686 11 |
| 10 Lambton | 2 | 47 50 | 555 83 | 188 12 | 791 45 | 570 00 | | |
| 11 Lanark | 1 | 2 00 | 122 00 | 9 00 | 133 00 | 131 00 | | |
| 12 Leeds | 3 | 12 50 | 362 94 | 19 61 | 395 05 | 237 90 | | 45 00 |
| 13 Lennox & Addington. | 2 | 34 00 | 515 74 | 27 56 | 577 30 | 368 50 | | |
| 14 Lincoln | 2 | 98 00 | 847 81 | 478 39 | 1424 20 | 848 00 | 11 50 | |
| 15 Middlesex | 5 | 139 50 | 1199 61 | 897 77 | 2296 88 | 1480 00 | 10 50 | 606 00 |
| 16 Norfolk | 1 | 21 00 | 262 33 | 315 51 | 598 84 | 155 13 | | 384 51 |
| 17 Northumberland | 5 | 107 00 | 1579 16 | 183 79 | 1869 95 | 1199 16 | 20 50 | 137 75 |
| 18 Ontario | 1 | 30 00 | 530 20 | 30 00 | 590 20 | 396 00 | 5 35 | 4 50 |
| 19 Peel | 1 | 21 00 | 133 33 | 97 76 | 252 09 | 187 50 | 6 00 | |
| 20 Perth | 3 | 76 00 | 1025 31 | 190 47 | 1300 78 | 862 50 | 18 73 | 223 20 |
| 21 Peterborough | 2 | 43 00 | 495 21 | 468 20 | 946 41 | 410 00 | | 400 00 |
| 22 Prescott and Russell. | 14 | 382 50 | 2928 89 | 501 83 | 3813 22 | 2366 85 | 15 98 | 592 50 |
| 23 Prewire | 4 | 309 00 | 2427 73 | 249 14 | 2985 87 | 2120 50 | 26 70 | 10 25 |
| 24 Simcoe | 2 | 59 50 | 496 05 | 301 58 | 857 13 | 550 00 | | 225 93 |
| 25 Stormont | 4 | 132 50 | 941 84 | 513 34 | 1587 68 | 1007 46 | 5 50 | 78 26 |
| 26 Waterloo | 6 | 287 00 | 2243 57 | 1114 19 | 3644 76 | 2063 21 | 14 00 | 417 95 |
| 27 Welland | 1 | 46 50 | 417 00 | 276 38 | 739 88 | 350 00 | | |
| 28 Wellington | 7 | 257 50 | 2479 34 | 169 26 | 2906 10 | 1998 33 | | 333 00 |
| 29 Wentworth | 1 | 19 00 | 158 14 | 75 36 | 252 50 | 225 00 | | |
| 30 York | 2 | 75 00 | 206 60 | 429 83 | 711 43 | 505 00 | | 54 95 |
| 31 Districts | 3 | 257 75 | 1464 91 | 38 94 | 1761 60 | 1022 60 | 57 54 | |
| Total | 117 | 4022 25 | 35443 40 | 12982 31 | 52447 96 | 31816 38 | 440 79 | 7945 89 |
| CITIES. | | | | | | | | |
| 1 Belleville | 5 | 267 50 | 2535 00 | 1325 49 | 4127 99 | 1673 50 | | 1630 00 |
| 2 Brantford | 1 | 168 00 | 897 02 | 764 12 | 1829 14 | 979 05 | 77 43 | 337 05 |
| 3 Guelph | 3 | 225 00 | 2965 38 | 697 37 | 3887 75 | 1700 00 | 54 25 | 702 00 |
| 4 Hamilton | 6 | 922 50 | 6500 00 | 8273 19 | 15695 69 | 3000 00 | 232 08 | 9725 82 |
| 5 Kingston | 4 | 576 50 | 3240 44 | 807 69 | 4624 63 | 2603 00 | 32 39 | 138 75 |
| 6 London | 4 | 476 50 | 2929 52 | 1062 89 | 4468 91 | 1925 00 | 37 74 | 1642 50 |
| 7 Ottawa | 13 | 2192 50 | 12963 00 | 3617 03 | 18772 53 | 11198 55 | 490 00 | 321 00 |
| 8 Stratford | 2 | 222 00 | 1568 49 | 1047 43 | 2837 92 | 1425 00 | 40 92 | 420 00 |
| 9 St. Catharines | 5 | 367 00 | 2445 75 | 915 69 | 3728 44 | 2125 00 | 2 10 | |
| 10 St. Thomas | 1 | 147 00 | 800 00 | 24 95 | 971 95 | 800 00 | 14 68 | 19 75 |
| 11 Toronto | 13 | 2126 00 | 18282 13 | 36123 52 | 56531 65 | 14430 15 | 340 97 | 31416 34 |
| Total | 57 | 7690 50 | 55126 73 | 54659 37 | 117476 60 | 41859 25 | 1322 56 | 46353 21 |

Separate Schools of Ontario.

| EXPENDITURE. | | | AVERAGE COST PER PUPIL. | | PUPILS. | | | | | |
|---------------------------------|------------------------|-----------|-------------------------|------------------------|-------------------|-------|--------|---------------------|--|----|
| Amount paid for other purposes. | Total Amount Expended. | Balances. | On Total Attendance. | On Average Attendance. | Number of Pupils. | Boys. | Girls. | Average Attendance. | Percentage of Average to Total Attendance. | |
| £ c. | £ c. | £ c. | £ c. | £ c. | | | | | | |
| 1 | 159 33 | 2554 71 | 104 32 | 8 71 | 16 81 | 291 | 156 | 135 | 152 | 53 |
| 2 | 530 82 | 2130 76 | 155 38 | 2 93 | 5 78 | 726 | 345 | 381 | 369 | 51 |
| 3 | 338 24 | 3087 61 | 106 43 | 8 90 | 14 36 | 347 | 188 | 159 | 215 | 63 |
| 4 | 480 08 | 1543 33 | 270 80 | 6 10 | 12 06 | 253 | 128 | 125 | 128 | 51 |
| 5 | 467 13 | 1558 13 | 197 24 | 3 34 | 6 52 | 467 | 237 | 230 | 239 | 51 |
| 6 | 20 23 | 160 23 | 7 67 | 3 33 | 10 00 | 48 | 27 | 21 | 16 | 33 |
| 7 | 268 95 | 2822 98 | 217 19 | 5 75 | 15 26 | 491 | 270 | 221 | 185 | 38 |
| 8 | 267 68 | 1793 83 | 62 21 | 7 44 | 15 33 | 241 | 118 | 123 | 117 | 49 |
| 9 | 484 15 | 4807 35 | 491 47 | 8 23 | 21 55 | 584 | 298 | 286 | 223 | 38 |
| 10 | 174 67 | 744 67 | 46 78 | 6 41 | 13 28 | 116 | 60 | 56 | 56 | 48 |
| 11 | 2 00 | 133 00 | ..... | 6 33 | 16 62 | 21 | 10 | 11 | 8 | 38 |
| 12 | 73 54 | 356 44 | 38 61 | 3 49 | 12 71 | 102 | 63 | 39 | 28 | 28 |
| 13 | 118 83 | 487 33 | 89 97 | 7 06 | 16 23 | 69 | 35 | 34 | 30 | 44 |
| 14 | 266 36 | 1125 86 | 298 34 | 6 70 | 13 73 | 168 | 100 | 68 | 82 | 49 |
| 15 | 128 84 | 2225 34 | 11 54 | 9 16 | 16 13 | 243 | 130 | 113 | 138 | 57 |
| 16 | 39 45 | 579 09 | 19 75 | 10 74 | 30 54 | 54 | 36 | 18 | 19 | 35 |
| 17 | 323 72 | 1681 13 | 188 82 | 8 40 | 16 81 | 200 | 108 | 92 | 100 | 50 |
| 18 | 172 12 | 577 97 | 12 23 | 5 61 | 9 80 | 103 | 59 | 44 | 59 | 57 |
| 19 | 15 00 | 208 50 | 43 59 | 4 52 | 13 89 | 46 | 22 | 24 | 15 | 33 |
| 20 | 135 94 | 1240 37 | 60 41 | 8 00 | 18 23 | 155 | 77 | 78 | 68 | 44 |
| 21 | 48 51 | 858 51 | 87 90 | 9 86 | 23 83 | 87 | 48 | 39 | 36 | 42 |
| 22 | 391 86 | 3367 19 | 446 03 | 4 11 | 8 48 | 820 | 399 | 421 | 397 | 49 |
| 23 | 610 37 | 2767 82 | 218 05 | 4 10 | 8 33 | 674 | 343 | 331 | 332 | 49 |
| 24 | 81 20 | 857 13 | ..... | 9 02 | 16 17 | 95 | 52 | 43 | 53 | 56 |
| 25 | 374 19 | 1465 41 | 122 27 | 4 58 | 8 23 | 320 | 151 | 169 | 178 | 56 |
| 26 | 560 39 | 3055 55 | 589 21 | 5 21 | 11 45 | 587 | 322 | 265 | 267 | 45 |
| 27 | 305 56 | 655 56 | 84 32 | 5 66 | 13 12 | 116 | 62 | 54 | 50 | 43 |
| 28 | 302 46 | 2633 79 | 272 31 | 4 52 | 9 21 | 583 | 287 | 296 | 286 | 56 |
| 29 | 27 50 | 252 50 | ..... | 10 50 | 14 00 | 24 | 15 | 9 | 18 | 77 |
| 30 | 151 48 | 711 43 | ..... | 4 28 | 10 60 | 166 | 94 | 72 | 67 | 40 |
| 31 | 424 44 | 1504 58 | 257 02 | 5 01 | 9 01 | 300 | 150 | 150 | 166 | 55 |
| | 7745 04 | 47948 10 | 4499 86 | 5 64 | 11 70 | 8497 | 4390 | 4107 | 4097 | 48 |
| 1 | 616 68 | 3920 18 | 207 81 | 9 82 | 15 00 | 399 | 196 | 203 | 262 | 66 |
| 2 | 435 01 | 1828 54 | 00 60 | 6 17 | 11 43 | 297 | 139 | 158 | 160 | 54 |
| 3 | 471 62 | 2927 87 | 959 88 | 7 76 | 12 67 | 377 | 217 | 160 | 231 | 61 |
| 4 | 1786 93 | 14744 83 | 950 86 | 10 27 | 17 90 | 1436 | 543 | 893 | 824 | 57 |
| 5 | 1353 61 | 4127 75 | 496 88 | 4 50 | 8 60 | 918 | 470 | 448 | 480 | 52 |
| 6 | 768 00 | 4373 24 | 95 67 | 5 38 | 10 29 | 813 | 427 | 386 | 425 | 52 |
| 7 | 6762 98 | 18772 53 | ..... | 5 92 | 9 92 | 3357 | 1742 | 1615 | 1892 | 56 |
| 8 | 250 00 | 2135 92 | 702 00 | 6 51 | 11 24 | 328 | 182 | 146 | 190 | 58 |
| 9 | 902 73 | 3029 83 | 698 61 | 5 67 | 10 56 | 534 | 311 | 223 | 287 | 54 |
| 10 | 131 86 | 966 29 | 5 66 | 3 46 | 6 62 | 279 | 130 | 149 | 146 | 52 |
| 11 | 8083 24 | 54270 70 | 2260 95 | 17 16 | 26 60 | 3163 | 1652 | 1511 | 2040 | 65 |
| | 21562 66 | 111097 68 | 6378 92 | 9 33 | 16 01 | 11901 | 6009 | 5892 | 6937 | 58 |

VI.—TABLE F.—The Roman Catholic

| COUNTIES. (Including Incorporated Villages, but not Cities or Towns.) | TEACHERS. | | | | | NUMBER IN THE | | | | | |
|--|---------------------|-------|---------|----------------------|------------------------|---------------|-----------|----------|-------------|----------|------------|
| | Number of Teachers. | Male. | Female. | Average Salary—Male. | Average Salary—Female. | Reading. | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. |
| | | | | £ | ¢ | | | | | | |
| 1 Bruce | 5 | 1 | 4 | 360 | 131 | 291 | 291 | 291 | 273 | 149 | 142 |
| 2 Carleton | 10 | 1 | 9 | 230 | 166 | 726 | 574 | 604 | 600 | 195 | 244 |
| 3 Essex | 6 | 3 | 3 | 375 | 238 | 347 | 329 | 343 | 312 | 84 | 158 |
| 4 Frontenac | 5 | 5 | 5 | 238 | 238 | 253 | 218 | 219 | 217 | 122 | 163 |
| 5 Glengarry | 8 | 1 | 7 | 450 | 134 | 467 | 417 | 422 | 411 | 225 | 224 |
| 6 Grenville | 1 | 1 | 1 | 168 | 168 | 48 | 43 | 43 | 43 | 12 | 12 |
| 7 Grey | 9 | 2 | 7 | 365 | 210 | 491 | 424 | 399 | 459 | 282 | 308 |
| 8 Huron | 4 | 1 | 3 | 350 | 333 | 241 | 230 | 237 | 237 | 110 | 159 |
| 9 Kent | 7 | 3 | 4 | 409 | 245 | 584 | 416 | 422 | 471 | 188 | 321 |
| 10 Lambton | 2 | 1 | 1 | 330 | 240 | 116 | 68 | 83 | 73 | 48 | 48 |
| 11 Lanark | 3 | 1 | 1 | 180 | 180 | 21 | 21 | 15 | 15 | 15 | 9 |
| 12 Leeds | 1 | 3 | 3 | 171 | 171 | 102 | 64 | 65 | 55 | 6 | 25 |
| 13 Lennox & Addington. | 2 | 2 | 2 | 186 | 186 | 69 | 58 | 58 | 59 | 48 | 41 |
| 14 Lincoln | 2 | 2 | 2 | 400 | 400 | 168 | 168 | 136 | 136 | 82 | 124 |
| 15 Middlesex | 5 | 5 | 5 | 296 | 296 | 243 | 213 | 224 | 220 | 117 | 130 |
| 16 Norfolk | 5 | 1 | 1 | 250 | 250 | 54 | 40 | 40 | 45 | 23 | 23 |
| 17 Northumberland | 5 | 1 | 4 | 250 | 245 | 200 | 160 | 185 | 190 | 42 | 118 |
| 18 Ontario | 1 | 1 | 1 | 396 | 396 | 103 | 83 | 103 | 103 | 103 | 81 |
| 19 Peel | 1 | 1 | 1 | 230 | 230 | 46 | 45 | 40 | 40 | 12 | 30 |
| 20 Perth | 3 | 1 | 2 | 350 | 271 | 155 | 120 | 155 | 155 | 99 | 54 |
| 21 Peterborough | 2 | 1 | 1 | 300 | 200 | 87 | 77 | 73 | 77 | 5 | 36 |
| 22 Prescott and Russell. | 15 | 3 | 12 | 224 | 144 | 820 | 345 | 550 | 584 | 112 | 139 |
| 23 Renfrew | 8 | 2 | 6 | 425 | 205 | 674 | 559 | 655 | 482 | 380 | 334 |
| 24 Simcoe | 2 | 1 | 1 | 400 | 150 | 95 | 80 | 80 | 65 | 8 | 52 |
| 25 Stormont | 7 | 1 | 6 | 325 | 152 | 320 | 216 | 196 | 264 | 21 | 93 |
| 26 Waterloo | 9 | 9 | 9 | 258 | 258 | 587 | 478 | 544 | 516 | 213 | 236 |
| 27 Welland | 1 | 1 | 1 | 350 | 350 | 116 | 54 | 54 | 75 | 5 | 2 |
| 28 Wellington | 8 | 3 | 5 | 328 | 207 | 583 | 537 | 561 | 561 | 184 | 380 |
| 29 Wentworth | 1 | 1 | 1 | 225 | 225 | 24 | 22 | 20 | 24 | 24 | 11 |
| 30 York | 2 | 2 | 2 | 220 | 220 | 166 | 159 | 159 | 166 | 1 | 65 |
| 31 Districts | 4 | 2 | 2 | 400 | 275 | 300 | 185 | 194 | 246 | 22 | 70 |
| Total | 140 | 32 | 108 | 352 | 206 | 8497 | 6694 | 7170 | 7174 | 2877 | 3792 |
| CITIES. | | | | | | | | | | | |
| 1 Belleville | 6 | 1 | 5 | 480 | 208 | 399 | 399 | 399 | 399 | 203 | 237 |
| 2 Brantford | 4 | 1 | 3 | 500 | 160 | 297 | 272 | 217 | 272 | 217 | 187 |
| 3 Guelph | 7 | 1 | 6 | 500 | 200 | 377 | 371 | 341 | 341 | 228 | 188 |
| 4 Hamilton | 23 | 1 | 22 | 700 | 100 | 1436 | 1436 | 1340 | 1326 | 1284 | 959 |
| 5 Kingston | 16 | 6 | 10 | 240 | 115 | 918 | 870 | 890 | 890 | 813 | 654 |
| 6 London | 12 | 1 | 11 | 700 | 114 | 813 | 790 | 790 | 790 | 702 | 329 |
| 7 Ottawa | 58 | 16 | 42 | 265 | 154 | 3357 | 1998 | 2568 | 2643 | 2032 | 2241 |
| 8 Stratford | 6 | 1 | 5 | 500 | 160 | 328 | 328 | 328 | 328 | 303 | 248 |
| 9 St. Catharines | 9 | 3 | 6 | 334 | 188 | 534 | 465 | 534 | 534 | 260 | 400 |
| 10 St. Thomas | 4 | 4 | 4 | 200 | 200 | 279 | 279 | 279 | 279 | 279 | 213 |
| 11 Toronto | 58 | 19 | 39 | 250 | 206 | 3163 | 2937 | 2158 | 3155 | 2428 | 2394 |
| Total | 203 | 50 | 153 | 296 | 160 | 11901 | 10145 | 9844 | 10957 | 8749 | 8050 |

Separate Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

MAPS AND PRIZES.

| | Music. | Grammar and Composition. | English History. | Canadian History. | Object Lessons. | Temperance and Hygiene. | Domestic Economy (Girls). | Drill (with Calisthenics). | Book-keeping. | Algebra. | Mensuration. | Euclid. | Elementary Physics. | No. of Maps. | No. of Schools using Maps. | No. of Schools giving Prizes. |
|----|--------|--------------------------|------------------|-------------------|-----------------|-------------------------|---------------------------|----------------------------|---------------|----------|--------------|---------|---------------------|--------------|----------------------------|-------------------------------|
| 1 | 7 | 118 | ..... | 47 | 156 | ..... | 175 | 191 | 47 | ..... | ..... | ..... | ..... | 16 | 3 | 1 |
| 2 | ..... | 326 | 30 | 65 | 364 | 100 | 40 | ..... | ..... | 2 | 17 | 6 | ..... | 26 | 7 | 4 |
| 3 | 148 | 144 | 20 | 60 | 83 | 145 | ..... | 95 | ..... | ..... | ..... | ..... | ..... | 39 | 4 | 4 |
| 4 | 144 | 150 | 33 | 31 | 83 | ..... | 50 | 91 | ..... | 2 | ..... | 2 | ..... | 31 | 4 | 2 |
| 5 | ..... | 193 | 56 | 9 | 278 | ..... | ..... | ..... | 9 | 6 | 26 | ..... | ..... | 14 | 2 | ..... |
| 6 | ..... | 14 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 1 |
| 7 | 95 | 242 | 70 | 97 | 290 | 122 | 15 | 118 | ..... | 6 | 22 | 6 | ..... | 40 | 9 | 2 |
| 8 | 79 | 145 | 51 | 66 | 60 | 93 | 49 | 101 | 14 | 8 | 19 | 8 | 8 | 28 | 4 | 2 |
| 9 | 186 | 255 | 91 | 50 | 92 | 91 | ..... | 61 | 17 | ..... | 5 | 1 | ..... | 30 | 6 | 2 |
| 10 | ..... | 50 | 10 | 10 | 59 | 73 | ..... | ..... | 8 | 8 | 8 | 8 | ..... | 8 | 2 | ..... |
| 11 | 9 | ..... | 5 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 12 | 11 | 32 | 21 | 9 | ..... | ..... | 1 | 1 | 10 | 5 | ..... | ..... | ..... | 11 | 2 | ..... |
| 13 | 6 | 38 | 7 | 5 | 31 | ..... | ..... | 50 | 3 | 2 | 3 | 2 | ..... | 17 | 2 | 2 |
| 14 | 6 | 110 | 18 | 12 | 82 | ..... | ..... | 112 | 13 | ..... | ..... | ..... | ..... | 31 | 5 | ..... |
| 15 | 156 | 137 | 51 | 15 | 105 | 1 | 1 | 89 | ..... | 3 | 1 | 3 | ..... | 6 | 1 | 1 |
| 16 | ..... | 23 | 13 | 25 | 25 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 26 | 5 | 2 |
| 17 | ..... | 96 | 20 | 24 | 7 | ..... | ..... | 33 | 3 | ..... | 2 | ..... | ..... | 9 | 1 | ..... |
| 18 | ..... | 81 | 26 | 26 | 77 | 103 | ..... | ..... | ..... | ..... | 26 | 4 | ..... | 5 | 1 | ..... |
| 19 | 40 | 21 | 4 | 4 | ..... | ..... | ..... | ..... | ..... | 1 | 1 | ..... | ..... | 18 | 3 | 1 |
| 20 | ..... | 60 | 20 | ..... | 105 | ..... | ..... | ..... | 1 | 2 | ..... | ..... | ..... | 4 | 1 | 1 |
| 21 | ..... | 27 | 4 | ..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... | ..... | ..... | 36 | 8 | 1 |
| 22 | 4 | 241 | 13 | 63 | 102 | 50 | 7 | ..... | 3 | ..... | ..... | ..... | ..... | 25 | 4 | 2 |
| 23 | 135 | 365 | 51 | 52 | 287 | ..... | 75 | 66 | ..... | 32 | 18 | ..... | ..... | 7 | ..... | 1 |
| 24 | ..... | 54 | 17 | 24 | ..... | ..... | ..... | ..... | ..... | ..... | 3 | ..... | ..... | 22 | 4 | 2 |
| 25 | 34 | 104 | 20 | 16 | 33 | 21 | 61 | 80 | 11 | 6 | 3 | 5 | ..... | 28 | 6 | 4 |
| 26 | 403 | 223 | 8 | 51 | 254 | ..... | 173 | 180 | 3 | 2 | ..... | ..... | ..... | 11 | 1 | ..... |
| 27 | 116 | 21 | 7 | 7 | 14 | ..... | ..... | ..... | 7 | 7 | ..... | ..... | ..... | 51 | 7 | 2 |
| 28 | 133 | 343 | 128 | 87 | 325 | 115 | 37 | 199 | 2 | 14 | 55 | 13 | 1 | 4 | 1 | 1 |
| 29 | ..... | 11 | 4 | 4 | 24 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 13 | 2 | 1 |
| 30 | ..... | 74 | 1 | ..... | 95 | ..... | ..... | 98 | ..... | ..... | ..... | ..... | ..... | 22 | 3 | 2 |
| 31 | ..... | 76 | ..... | 19 | 148 | 22 | ..... | 40 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 1712 | 3774 | 801 | 881 | 3182 | 936 | 684 | 1605 | 153 | 106 | 206 | 61 | 9 | 579 | 103 | 41 |
| | | | | | | | | | | | | | | | | |
| 1 | 289 | 157 | 57 | 57 | 162 | ..... | ..... | 150 | 12 | 3 | 57 | ..... | ..... | 10 | 5 | 5 |
| 2 | 135 | 187 | 110 | ..... | ..... | 52 | 58 | 150 | ..... | ..... | 12 | 3 | ..... | 22 | 1 | 1 |
| 3 | 188 | 188 | 41 | ..... | ..... | 377 | 67 | 260 | 21 | 21 | 21 | 3 | ..... | 21 | 3 | ..... |
| 4 | 1088 | 862 | 268 | 259 | 780 | 25 | 320 | 982 | 70 | 70 | 70 | 50 | 45 | 10 | 6 | 6 |
| 5 | 776 | 610 | 118 | 289 | 841 | 545 | 328 | 799 | 37 | 39 | 37 | 37 | 39 | 85 | 4 | 4 |
| 6 | 763 | 329 | 113 | 204 | ..... | ..... | ..... | 743 | 35 | 24 | 30 | 25 | ..... | 20 | 4 | ..... |
| 7 | 2266 | 1943 | 180 | 623 | 2156 | 447 | 1034 | 1712 | 341 | 90 | 281 | ..... | ..... | 139 | 13 | 13 |
| 8 | 265 | 248 | 41 | 96 | 283 | 108 | 92 | 328 | ..... | ..... | ..... | ..... | ..... | 23 | 2 | ..... |
| 9 | 534 | 400 | 139 | 110 | 534 | 534 | 223 | 534 | 69 | 25 | 69 | 25 | 4 | 40 | 5 | 5 |
| 10 | 279 | 183 | 22 | 28 | 165 | 50 | 149 | 279 | ..... | ..... | ..... | ..... | ..... | 9 | 1 | 1 |
| 11 | 2671 | 1975 | 375 | 1010 | 2148 | 1063 | 1099 | 2471 | 239 | 135 | 244 | 135 | 38 | 264 | 10 | 10 |
| | 9254 | 7082 | 1464 | 2676 | 7069 | 3201 | 3370 | 8258 | 824 | 407 | 821 | 278 | 126 | 643 | 54 | 45 |

VI.—TABLE F.—The Roman Catholic

| TOWNS. | Number of Schools. | RECEIPTS. | | | | EXPEN | | |
|------------------------|--------------------|--|---|--|------------------------|--------------------------|--|---|
| | | Amount of Legislative Grant for Teachers Salaries. | Amount received from School Rate on Superintenders. | Amount subscribed, and from other sources. | Total Amount Received. | Amount paid to Teachers. | Amount paid for Maps, Apparatus, Prizes and Libraries. | Amount paid for Sites and building School-Houses. |
| | | | | | | | | |
| 1 Almonte | 1 | 91 00 | 526 75 | 743 53 | 1361 28 | 572 77 | 15 00 | 15 95 |
| 2 Amherstburg | 2 | 179 00 | 1141 89 | 865 59 | 2186 48 | 1338 75 | 6 00 | 525 20 |
| 3 Barrie | 1 | 102 50 | 806 04 | 248 64 | 1157 18 | 925 00 | 28 60 | ..... |
| 4 Berlin | 2 | 99 50 | 1075 08 | 3509 21 | 4683 79 | 600 00 | 37 22 | 2739 59 |
| 5 Brockville | 3 | 256 00 | 1654 60 | 1321 46 | 3232 06 | 1561 00 | 99 51 | 220 00 |
| 6 Chatham | 1 | 166 50 | 1653 83 | 370 83 | 2191 16 | 1933 48 | 24 72 | ..... |
| 7 Cobourg | 1 | 167 00 | 800 00 | 35 00 | 1002 00 | 700 00 | ..... | ..... |
| 8 Cornwall | 3 | 322 50 | 2233 03 | 524 93 | 3080 46 | 1650 00 | ..... | ..... |
| 9 Dundas | 2 | 164 50 | 874 80 | ..... | 1039 30 | 850 00 | 5 75 | 16 00 |
| 10 Galt | 1 | 75 50 | 216 00 | 149 00 | 440 50 | 190 00 | 13 90 | 100 95 |
| 11 Goderich | 1 | 66 00 | 360 00 | 50 00 | 476 00 | 400 00 | ..... | ..... |
| 12 Ingersoll | 1 | 65 00 | 620 56 | 90 02 | 775 58 | 675 00 | ..... | ..... |
| 13 Lindsay | 2 | 276 00 | 1672 81 | 1148 38 | 3097 19 | 1593 75 | 3 40 | ..... |
| 14 Newmarket | 1 | 44 00 | 306 55 | 28 00 | 378 55 | 245 00 | ..... | 30 30 |
| 15 Niagara Falls | 1 | 36 00 | 451 00 | 280 29 | 767 29 | 423 82 | ..... | ..... |
| 16 Oakville | 1 | 32 00 | 217 53 | 182 47 | 432 00 | 287 00 | 7 00 | 100 00 |
| 17 Orillia | 1 | 91 50 | 837 21 | 68 15 | 996 86 | 580 00 | ..... | 124 87 |
| 18 Oshawa | 1 | 82 50 | 482 77 | 72 43 | 637 70 | 400 00 | 5 60 | ..... |
| 19 Owen Sound | 1 | 35 50 | 452 70 | 97 39 | 585 59 | 385 00 | ..... | ..... |
| 20 Paris | 1 | 59 50 | 392 74 | 364 52 | 816 76 | 400 00 | ..... | ..... |
| 21 Pembroke | 1 | 171 50 | 2761 00 | 1054 42 | 3986 92 | 1645 00 | 32 42 | 1487 21 |
| 22 Perth | 1 | 96 50 | 575 00 | 36 00 | 707 50 | 600 00 | ..... | 6 00 |
| 23 Peterborough | 3 | 362 00 | 2674 81 | 787 96 | 3824 77 | 2276 50 | 104 26 | 58 38 |
| 24 Picton | 1 | 51 50 | 653 78 | ..... | 705 28 | 550 00 | ..... | ..... |
| 25 Port Arthur | 1 | 183 05 | 910 61 | 1100 53 | 2194 19 | 750 00 | 38 69 | 758 00 |
| 26 Prescott | 1 | 138 00 | 741 72 | 491 60 | 1371 32 | 1073 00 | ..... | ..... |
| 27 Rat Portage | 1 | 94 50 | 150 00 | ..... | 244 50 | 230 00 | ..... | ..... |
| 28 Sarnia | 2 | 115 00 | 733 26 | 297 00 | 1145 26 | 750 00 | 11 00 | ..... |
| 29 St. Mary's | 1 | 49 50 | 361 59 | 24 81 | 435 90 | 366 66 | ..... | 6 00 |
| 30 Thorold | 2 | 103 50 | 528 46 | 536 04 | 1168 00 | 1000 00 | ..... | ..... |
| 31 Trenton | 1 | 144 50 | 1875 00 | 382 35 | 2401 85 | 1250 65 | 20 13 | 204 44 |
| 32 Whitby | 1 | 49 50 | 300 38 | 299 15 | 649 03 | 475 00 | ..... | ..... |
| Total | 44 | 3971 05 | 29041 50 | 15159 70 | 48172 25 | 26677 38 | 453 20 | 6392 89 |
| TOTALS. | | | | | | | | |
| 1 Counties, etc. | 117 | 4022 25 | 35443 40 | 12982 31 | 52447 96 | 31816 38 | 440 79 | 7945 89 |
| 2 Cities | 57 | 7690 50 | 55126 73 | 54659 37 | 117476 60 | 41859 25 | 1322 56 | 46353 21 |
| 3 Towns | 44 | 3971 05 | 29041 50 | 15159 70 | 48172 25 | 26677 38 | 453 20 | 6392 89 |
| 4 GRAND TOTAL, 1885.. | 218 | 15683 80 | 119611 63 | 82801 38 | 218096 81 | 100353 01 | 2216 55 | 60691 99 |
| 5 Do. 1884.. | 207 | 14744 79 | 113221 73 | 62487 71 | 190454 23 | 95616 15 | 2100 81 | 36720 27 |
| 6 INCREASE | 11 | 939 01 | 6389 90 | 20313 67 | 27642 58 | 4736 86 | 115 74 | 23971 72 |
| 7 DECREASE ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

Separate Schools of Ontario.

| DITURE. | | | AVERAGE COST PER PUPIL. | | PUPILS. | | | | | |
|---------------------------------|------------------------|-----------|-------------------------|------------------------|-------------------|-------|--------|---------------------|--|-------|
| Amount paid for other purposes. | Total Amount Expended. | Balances. | On Total Attendance. | On Average Attendance. | Number of Pupils. | Boys. | Girls. | Average Attendance. | Percentage of Average to Total Attendance. | |
| \$ c. | \$ c. | \$ c. | | | | | | | | |
| 1 | 528 60 | 1132 32 | 228 96 | 7 00 | 11 92 | 162 | 88 | 74 | 95 | 59 |
| 2 | 310 33 | 2180 28 | 6 20 | 5 85 | 11 53 | 318 | 169 | 149 | 189 | 60 |
| 3 | 164 28 | 1117 88 | 39 30 | 7 00 | 10 55 | 160 | 89 | 71 | 106 | 66 |
| 4 | 810 37 | 4187 18 | 496 61 | 23 26 | 49 26 | 180 | 83 | 97 | 85 | 47 |
| 5 | 1281 51 | 3162 02 | 70 04 | 7 37 | 12 80 | 429 | 178 | 251 | 247 | 58 |
| 6 | 200 04 | 2158 24 | 32 92 | 6 60 | 11 42 | 327 | 159 | 168 | 189 | 58 |
| 7 | 302 00 | 1002 00 | ..... | 4 50 | 6 51 | 223 | 105 | 118 | 154 | 69 |
| 8 | 1108 22 | 2758 22 | 322 24 | 3 88 | 7 51 | 711 | 376 | 335 | 367 | 52 |
| 9 | 121 69 | 993 44 | 45 86 | 3 40 | 5 98 | 293 | 185 | 108 | 166 | 57 |
| 10 | 30 85 | 335 70 | 104 80 | 3 16 | 4 19 | 106 | 41 | 65 | 80 | 76 |
| 11 | 60 00 | 460 00 | 16 09 | 3 83 | 6 76 | 120 | 54 | 66 | 68 | 57 |
| 12 | 79 81 | 754 81 | 20 77 | 7 00 | 11 26 | 108 | 57 | 51 | 67 | 62 |
| 13 | 1439 10 | 3036 25 | 60 94 | 5 62 | 9 17 | 540 | 203 | 337 | 331 | 61 |
| 14 | 41 05 | 316 35 | 62 20 | 3 90 | 7 35 | 81 | 46 | 35 | 43 | 53 |
| 15 | 226 17 | 649 99 | 117 30 | 4 71 | 7 92 | 138 | 64 | 74 | 82 | 60 |
| 16 | 38 00 | 432 00 | ..... | 6 55 | 11 08 | 66 | 32 | 34 | 39 | 60 |
| 17 | 221 95 | 926 82 | 70 04 | 5 58 | 8 20 | 166 | 81 | 85 | 113 | 68 |
| 18 | 149 55 | 555 15 | 82 55 | 4 37 | 6 53 | 127 | 59 | 68 | 85 | 67 |
| 19 | 187 94 | 572 94 | 12 65 | 7 07 | 15 48 | 81 | 35 | 46 | 37 | 47 |
| 20 | 138 31 | 538 31 | 278 45 | 5 48 | 7 57 | 98 | 55 | 43 | 71 | 72 |
| 21 | 804 95 | 3969 58 | 17 34 | 9 52 | 15 51 | 417 | 241 | 176 | 256 | 61 |
| 22 | 61 50 | 667 50 | 40 00 | 6 67 | 7 94 | 130 | 61 | 69 | 84 | 65 |
| 23 | 1255 61 | 3694 75 | 130 02 | 5 19 | 8 27 | 711 | 328 | 383 | 447 | 63 |
| 24 | 155 28 | 705 28 | ..... | 7 93 | 13 07 | 89 | 49 | 40 | 54 | 60 |
| 25 | 647 50 | 2194 19 | ..... | 8 81 | 19 41 | 249 | 128 | 121 | 113 | 49 |
| 26 | 251 15 | 1324 15 | 47 17 | 6 42 | 10 10 | 206 | 114 | 92 | 131 | 64 |
| 27 | 14 50 | 244 50 | ..... | 4 06 | 7 62 | 60 | 28 | 32 | 35 | 58 |
| 28 | 178 65 | 939 65 | 205 61 | 4 00 | 9 70 | 234 | 131 | 103 | 97 | 42 |
| 29 | 21 53 | 394 19 | 41 71 | 4 38 | 7 43 | 90 | 39 | 51 | 53 | 58 |
| 30 | 168 00 | 1168 00 | ..... | 6 42 | 10 71 | 182 | 74 | 108 | 109 | 60 |
| 31 | 858 23 | 2333 45 | 68 40 | 7 70 | 13 41 | 303 | 158 | 145 | 174 | 57 |
| 32 | 104 85 | 579 85 | 69 18 | 6 67 | 12 35 | 87 | 47 | 40 | 47 | 54 |
| | 11961 52 | 45484 99 | 2687 26 | 6 32 | 10 80 | 7192 | 3557 | 3635 | 4214 | 59 |
| | | | | | | | | | | |
| 1 | 7745 04 | 47948 10 | 4499 86 | 5 64 | 11 70 | 8497 | 4390 | 4107 | 4097 | 48 |
| 2 | 21562 66 | 111097 68 | 6378 92 | 9 33 | 16 01 | 11901 | 6009 | 5892 | 6937 | 58 |
| 3 | 11961 52 | 45484 99 | 2687 26 | 6 32 | 10 80 | 7192 | 3557 | 3635 | 4214 | 59 |
| | | | | | | | | | | |
| 4 | 41269 22 | 204530 77 | 13566 04 | \$ c. | \$ c. | 27590 | 13956 | 13634 | 15248 | 55 |
| 5 | 42039 88 | 176477 11 | 13977 12 | 7 41 | 13 41 | 27463 | 13703 | 13760 | 14560 | 53 |
| | | | | 6 42 | 12 12 | | | | | |
| | | | | | | | | | | |
| 6 | ..... | 28053 66 | ..... | 0 99 | 1 29 | 127 | 253 | ..... | 688 | 2 |
| 7 | 777 66 | ..... | 411 08 | ..... | ..... | ..... | ..... | 126 | ..... | ..... |

VI.—TABLE F.—The Roman Catholic

| TOWNS. | TEACHERS. | | | | | NUMBER IN THE | | | | | |
|-----------------------|---------------------|-------|---------|----------------------|------------------------|---------------|-----------|----------|-------------|----------|------------|
| | Number of Teachers. | Male. | Female. | Average Salary—Male. | Average Salary—Female. | Reading. | Spelling. | Writing. | Arithmetic. | Drawing. | Geography. |
| | | | | | | | | | | | |
| 1 Almonte..... | 12 | 1 | 1 | 425 | 200 | 162 | 162 | 162 | 162 | 125 | 116 |
| 2 Amherstburg..... | 6 | 1 | 5 | 488 | 170 | 318 | 275 | 280 | 292 | 78 | 107 |
| 3 Barrie..... | 3 | 1 | 2 | 425 | 200 | 160 | 78 | 78 | 160 | 78 | 78 |
| 4 Berlin..... | 13 | 3 | 3 | 200 | 200 | 180 | 127 | 179 | 144 | 106 | 73 |
| 5 Brockville..... | 1 | 1 | 6 | 450 | 200 | 429 | 305 | 335 | 323 | 240 | 210 |
| 6 Chatham..... | 5 | 1 | 4 | 700 | 300 | 327 | 327 | 327 | 327 | 327 | 208 |
| 7 Cobourg..... | 3 | 3 | 3 | 234 | 223 | 223 | 223 | 167 | 223 | 132 | 223 |
| 8 Cornwall..... | 7 | 1 | 6 | 600 | 200 | 711 | 665 | 625 | 711 | 711 | 365 |
| 9 Dundas..... | 4 | 1 | 3 | 500 | 134 | 293 | 280 | 210 | 280 | 130 | 129 |
| 10 Galt..... | 1 | 1 | 1 | 325 | 106 | 80 | 85 | 80 | 80 | 45 | 42 |
| 11 Goderich..... | 2 | 2 | 2 | 200 | 120 | 120 | 120 | 120 | 120 | 120 | 86 |
| 12 Ingersoll..... | 2 | 2 | 2 | 338 | 108 | 98 | 108 | 108 | 108 | 55 | 55 |
| 13 Lindsay..... | 10 | 1 | 9 | 750 | 220 | 540 | 540 | 540 | 540 | 504 | 416 |
| 14 Newmarket..... | 1 | 1 | 1 | 245 | 81 | 81 | 61 | 81 | 81 | 42 | 42 |
| 15 Niagara Falls..... | 3 | 3 | 3 | 168 | 138 | 40 | 50 | 35 | 70 | 40 | 40 |
| 16 Oakville..... | 2 | 2 | 2 | 150 | 66 | 66 | 66 | 66 | 66 | 50 | 41 |
| 17 Orillia..... | 2 | 2 | 2 | 290 | 166 | 166 | 166 | 166 | 166 | 89 | 132 |
| 18 Oshawa..... | 2 | 2 | 2 | 200 | 127 | 101 | 85 | 101 | 75 | 75 | 71 |
| 19 Owen Sound..... | 1 | 1 | 1 | 300 | 81 | 81 | 81 | 81 | 81 | 22 | 40 |
| 20 Paris..... | 2 | 2 | 2 | 200 | 98 | 98 | 98 | 98 | 98 | 85 | 85 |
| 21 Pembroke..... | 6 | 2 | 4 | 425 | 231 | 417 | 356 | 356 | 356 | 123 | 179 |
| 22 Perth..... | 2 | 1 | 1 | 400 | 200 | 130 | 130 | 130 | 130 | 57 | 85 |
| 23 Peterborough..... | 11 | 1 | 10 | 650 | 236 | 711 | 711 | 668 | 668 | 668 | 478 |
| 24 Picton..... | 2 | 2 | 2 | 275 | 89 | 76 | 76 | 76 | 76 | 50 | 36 |
| 25 Port Arthur..... | 3 | 3 | 3 | 250 | 249 | 249 | 249 | 249 | 249 | 249 | 119 |
| 26 Prescott..... | 4 | 1 | 3 | 500 | 190 | 206 | 206 | 206 | 206 | 206 | 119 |
| 27 Rat Portage..... | 1 | 1 | 1 | 350 | 60 | 40 | 31 | 40 | 40 | 26 | 26 |
| 28 Sarnia..... | 3 | 1 | 2 | 450 | 150 | 234 | 199 | 199 | 234 | 45 | 112 |
| 29 St. Mary's..... | 1 | 1 | 1 | 350 | 90 | 90 | 90 | 90 | 90 | 90 | 59 |
| 30 Thorold..... | 4 | 1 | 3 | 500 | 167 | 182 | 182 | 162 | 172 | 129 | 150 |
| 31 Trenton..... | 4 | 1 | 3 | 500 | 190 | 303 | 303 | 303 | 303 | 303 | 303 |
| 32 Whitby..... | 1 | 1 | 1 | 300 | 87 | 63 | 70 | 70 | 70 | 23 | 55 |
| Total..... | 110 | 16 | 94 | 511 | 219 | 7192 | 6518 | 6363 | 6692 | 4949 | 4280 |
| TOTALS. | | | | | | | | | | | |
| 1 Counties, etc..... | 140 | 32 | 108 | 352 | 206 | 8497 | 6694 | 7170 | 7174 | 2877 | 3792 |
| 2 Cities..... | 203 | 50 | 153 | 296 | 160 | 11901 | 10145 | 9844 | 10957 | 8749 | 8050 |
| 3 Towns..... | 110 | 16 | 94 | 511 | 219 | 7192 | 6518 | 6363 | 6692 | 4949 | 4280 |
| | | | | | | | | | | | |
| 4 GRAND TOTAL, 1885.. | 453 | 98 | 355 | 358 | 190 | 27590 | 23357 | 23377 | 24823 | 16575 | 16122 |
| 5 DO. 1884.. | 427 | 95 | 332 | 351 | 188 | 27463 | 23125 | 23139 | 23705 | 12220 | 15108 |
| | | | | | | | | | | | |
| 6 INCREASE..... | 26 | 3 | 23 | 7 | 2 | 127 | 232 | 238 | 1118 | 4355 | 1014 |
| 7 DECREASE..... | | | | | | | | | | | |

Separate Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

MAPS AND PRIZES.

| Music. | Grammar and Composition. | English History. | Canadian History. | Object Lessons. | Temperance and Hygiene | Domestic Economy (Girls). | Drill (with Calisthenics). | Book-keeping. | Algebra. | Mensuration. | Euclid. | Elementary Physics. | No. of Maps. | No. of Schools using Maps. | No. of Schools giving Prizes. | |
|--------|--------------------------|------------------|-------------------|-----------------|------------------------|---------------------------|----------------------------|---------------|----------|--------------|---------|---------------------|--------------|----------------------------|-------------------------------|-----|
| 1 | 90 | 13 | 10 | 102 | | | | | | | | | 5 | 1 | 1 | |
| 2 | 110 | | 9 | 138 | | 83 | 226 | 14 | 9 | 9 | 4 | | 18 | 12 | 15 | |
| 3 | 78 | 20 | 46 | 27 | | 32 | 78 | 20 | | | | | 10 | 1 | 1 | |
| 4 | 179 | 49 | 11 | 180 | | 97 | | | | | | | 11 | 2 | 2 | |
| 5 | 40 | 26 | 35 | 205 | 110 | 157 | 220 | 10 | 8 | 8 | 8 | | 17 | 3 | | |
| 6 | 327 | 155 | 155 | 66 | 327 | 112 | 327 | | | | | | 9 | 1 | | |
| 7 | | 140 | 40 | 132 | 56 | | 223 | 40 | 40 | 40 | 40 | 6 | 9 | 1 | 1 | |
| 8 | 283 | 365 | 86 | 154 | 530 | | 433 | | | | | | 10 | 3 | | |
| 9 | 79 | 130 | 129 | 84 | 128 | 65 | 230 | 12 | | | | | 14 | 2 | 2 | |
| 10 | 75 | 42 | 12 | 20 | 39 | 12 | 50 | 3 | | | | | 5 | 1 | 1 | |
| 11 | 21 | 49 | 99 | 49 | 66 | 120 | | | | | | | 9 | 1 | | |
| 12 | 108 | 55 | 32 | 32 | 80 | | | | | 8 | | | 9 | 1 | | |
| 13 | 337 | 434 | 162 | 95 | 120 | | 389 | 113 | 59 | 86 | 59 | 49 | 75 | 2 | | |
| 14 | | 42 | 3 | 3 | | | | | | | | | 7 | 1 | 1 | |
| 15 | | 30 | 9 | | | | | 6 | | | | | 10 | 1 | 1 | |
| 16 | 66 | 35 | 24 | 24 | 66 | 20 | 66 | | | | | | 5 | 1 | 1 | |
| 17 | 36 | 84 | 36 | 36 | 48 | | | | | 20 | | | 8 | 1 | | |
| 18 | 127 | 61 | 21 | 30 | 76 | | 127 | | | | | | 13 | 1 | | |
| 19 | | 40 | 8 | 8 | | | | | | | | | 4 | 1 | | |
| 20 | 98 | 49 | 38 | 38 | 60 | 18 | 98 | 38 | | 6 | | | 8 | 1 | 1 | |
| 21 | | 153 | 88 | | 238 | | 241 | | | | | | 29 | 1 | 1 | |
| 22 | | 85 | 57 | 57 | 130 | | | | | | | | 8 | 1 | | |
| 23 | 458 | 460 | 67 | 102 | 533 | 501 | 458 | 711 | 7 | 7 | 7 | 7 | 36 | 3 | 3 | |
| 24 | 36 | 36 | 16 | 6 | | | | | | | | | 7 | 1 | 1 | |
| 25 | 235 | 119 | 17 | 25 | 130 | 32 | 62 | 249 | 5 | 5 | | | 3 | 1 | | |
| 26 | 6 | 119 | 44 | 33 | | | | | 5 | | 44 | | 18 | 1 | | |
| 27 | | 22 | 27 | 7 | | | | 10 | | | | | 2 | 1 | 1 | |
| 28 | | 83 | 8 | 15 | 66 | 65 | | | | | | | 13 | 2 | 2 | |
| 29 | 90 | 36 | 20 | | 90 | | | | | | | | 9 | 1 | | |
| 30 | 142 | 98 | 31 | 56 | 80 | 92 | 142 | 32 | 19 | 20 | 20 | | 18 | 2 | | |
| 31 | 303 | 194 | | | | | | | | | | | 6 | 1 | 1 | |
| 32 | | 55 | 18 | | | | | | | | | | 7 | 1 | 1 | |
| | 3124 | 3662 | 1306 | 1210 | 3515 | 1104 | 1261 | 3810 | 315 | 147 | 246 | 138 | 62 | 412 | 44 | 24 |
| 1 | 1712 | 3774 | 801 | 881 | 3182 | 936 | 684 | 1605 | 153 | 106 | 206 | 61 | 9 | 579 | 103 | 41 |
| 2 | 9254 | 7082 | 1464 | 2676 | 7069 | 3201 | 3370 | 8258 | 824 | 407 | 821 | 278 | 126 | 643 | 54 | 45 |
| 3 | 3124 | 3662 | 1306 | 1210 | 3515 | 1104 | 1261 | 3810 | 315 | 147 | 246 | 138 | 62 | 412 | 44 | 24 |
| 4 | 14090 | 14518 | 3571 | 4767 | 13766 | 5241 | 5315 | 13673 | 1292 | 660 | 1273 | 477 | 197 | 1634 | 201 | 110 |
| 5 | 12328 | 13637 | 7996 | | 13797 | 5082 | 5344 | 9106 | 686 | | | | 186 | 1640 | 193 | 111 |
| 6 | 1762 | 881 | 342 | | | 159 | | 4567 | | | | | 11 | | 8 | |
| 7 | | | | | 31 | | 29 | | 26 | | | | | 6 | | 1 |

VII.—TABLE G.—The

| HIGH SCHOOLS. | RECEIPTS. | | | | | EXPENDITURE. | | | |
|-----------------------|---|-------------------|---------|-----------------------------|-----------------|---------------------|------------------------------|--|--------------------------------|
| | Legislative Grant for Teachers' salaries. | Municipal Grants. | Fees. | Balances and other sources. | Total Receipts. | Teachers' Salaries. | Building, Rent, and Repairs. | Maps, Apparatus, Prizes and Libraries. | Fuel, Books and Contingencies. |
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| 1 Alexandria | 500 00 | 855 07 | ..... | 413 92 | 1768 99 | 1285 00 | 50 40 | ..... | 184 08 |
| 2 Almonte | 505 00 | 2305 38 | ..... | 519 00 | 3329 38 | 2083 30 | 600 00 | 30 00 | 8 75 |
| 3 Arnprior | 500 00 | 1935 26 | ..... | 217 37 | 2652 63 | 1500 00 | 56 49 | ..... | 225 48 |
| 4 Aylmer | 557 66 | 1170 00 | 69 00 | 1295 89 | 3092 55 | 2097 28 | ..... | 36 50 | 958 77 |
| 5 Barrie, C. I. | 1456 84 | 2491 84 | 578 75 | 1146 77 | 5674 20 | 3882 25 | 63 76 | ..... | 1728 19 |
| 6 Beamsville | 500 00 | 900 00 | ..... | 320 67 | 1720 67 | 1225 00 | 0 50 | 55 84 | 439 33 |
| 7 Belleville | 962 94 | 2422 01 | 96 00 | ..... | 3480 95 | 3316 59 | 164 36 | ..... | ..... |
| 8 Berlin | 935 91 | 2602 57 | 750 25 | 937 35 | 5226 08 | 3900 00 | 578 78 | 139 40 | 452 03 |
| 9 Bowmanville | 923 00 | 3520 61 | ..... | 269 10 | 4712 71 | 3200 00 | ..... | ..... | 543 32 |
| 10 Bradford | 500 00 | 1100 00 | 315 00 | 107 67 | 2022 67 | 1615 00 | 65 29 | ..... | 125 43 |
| 11 Brampton | 1062 79 | 3354 38 | 671 25 | 261 89 | 5350 31 | 3612 50 | 192 43 | ..... | 488 58 |
| 12 Brantford, C. I. . | 1775 16 | 6149 84 | 2313 00 | 1291 94 | 11529 94 | 6970 93 | 281 88 | 33 53 | 4243 60 |
| 13 Brighton | 500 00 | 1500 00 | ..... | 710 11 | 2710 11 | 1440 24 | 374 88 | ..... | 257 83 |
| 14 Brockville | 763 25 | 1900 00 | 159 00 | 791 45 | 3613 70 | 2800 00 | 7 87 | ..... | 420 85 |
| 15 Caledonia | 563 57 | 1313 57 | 637 00 | 94 07 | 2608 21 | 2159 96 | 125 44 | ..... | 295 30 |
| 16 Campbellford .. | 500 00 | 500 00 | 165 00 | 661 14 | 1826 14 | 1650 00 | ..... | ..... | 176 14 |
| 17 Carleton Place .. | 500 00 | 1700 00 | ..... | 506 09 | 2706 09 | 1600 00 | 128 56 | 49 95 | 693 46 |
| 18 Cayuga | 500 00 | 1080 00 | ..... | 414 47 | 1994 47 | 1380 00 | 64 35 | 35 00 | 135 13 |
| 19 Chatham | 1109 38 | 3000 00 | 861 00 | 329 49 | 5299 87 | 3966 96 | 127 92 | 180 64 | 834 16 |
| 20 Clinton | 1095 88 | 2495 88 | 670 00 | 1413 63 | 5675 39 | 3700 00 | 127 32 | 10 00 | 391 12 |
| 21 Cobourg, C. I. . | 1268 11 | 3700 00 | 1026 50 | 11688 32 | 17682 93 | 3770 82 | ..... | 29 95 | 1382 16 |
| 22 Colborne | 500 00 | 950 00 | 6 00 | 962 04 | 2418 04 | 1087 44 | 6 25 | 25 00 | 951 95 |
| 23 Collingwood, C. I | 1685 00 | 3885 00 | 845 65 | 7037 19 | 13452 84 | 5049 80 | 228 23 | 60 00 | 8114 81 |
| 24 Cornwall | 684 19 | 3101 93 | 44 00 | ..... | 3830 12 | 2299 97 | 41 88 | ..... | 716 04 |
| 25 Dundas | 505 09 | 1556 00 | 222 75 | 3290 23 | 5573 98 | 1700 00 | 2977 75 | ..... | 437 23 |
| 26 Dumville | 500 00 | 1100 00 | ..... | 3655 34 | 5255 34 | 1366 67 | 3590 16 | ..... | 114 88 |
| 27 Elora | 500 00 | 1000 00 | ..... | 1431 08 | 2931 08 | 1300 00 | ..... | ..... | 198 37 |
| 28 Essex Centre ..... | ..... | 300 00 | ..... | ..... | 300 00 | 150 00 | 24 00 | ..... | ..... |
| 29 Farmersville | 562 08 | 1572 08 | 77 00 | 555 89 | 2767 05 | 2000 00 | 24 55 | ..... | 566 06 |
| 30 Fergus | 500 00 | 1133 00 | 39 00 | 33 64 | 1705 64 | 1258 33 | ..... | 6 90 | 342 75 |
| 31 Galt, C. I. | 1729 67 | 3529 67 | 1532 08 | 1624 57 | 8415 99 | 5640 00 | 244 80 | 164 67 | 2364 41 |
| 32 Gananoque | 500 00 | 1045 23 | ..... | 197 08 | 1742 31 | 1600 00 | ..... | ..... | 32 17 |
| 33 Goderich | 1142 94 | 2662 94 | ..... | 467 31 | 4273 19 | 3380 20 | 41 70 | ..... | 610 88 |
| 34 Grimsby | 500 00 | 1010 75 | 234 50 | 196 78 | 1942 03 | 1417 50 | 232 96 | ..... | 75 87 |
| 35 Guelph | 982 92 | 3110 89 | 428 50 | 761 37 | 5283 68 | 3616 65 | 336 87 | 194 56 | 966 41 |
| 36 Hamilton, C. I. . | 2255 00 | 11360 39 | 1815 75 | 150 00 | 15581 14 | 10968 24 | 4249 34 | ..... | 363 56 |
| 37 Harrison | 650 00 | 1550 00 | 532 87 | 342 17 | 3075 04 | 2445 83 | 38 10 | 19 20 | 473 24 |
| 38 Hawkesbury | 500 00 | 1100 00 | 23 00 | 56 99 | 1679 99 | 1416 67 | ..... | ..... | 237 27 |
| 39 Ingersoll | 666 50 | 3431 73 | 63 00 | 7 28 | 4168 51 | 2873 99 | 714 70 | 151 05 | 428 77 |
| 40 Iroquois | 500 00 | 950 00 | 92 00 | 195 78 | 1737 78 | 1300 00 | 13 53 | ..... | 180 79 |
| 41 Kemptville | 540 00 | 891 05 | 122 00 | 52 00 | 1605 05 | 1350 00 | 34 25 | 111 05 | 109 75 |

High Schools.

| EXPENDITURE. | | NO. OF PUPILS ATTENDING. | | | Average attendance. | Percentage of average attendance to total attendance. | CHARGES PER TERM. | COST PER PUPIL. | |
|--------------------|-----------|--------------------------|--------|--------|---------------------|---|--|----------------------|------------------------|
| Total Expenditure. | Balances. | Boys. | Girls. | Total. | | | | On Total Attendance. | On Average Attendance. |
| § c. | § c. | | | | | | § c. | § c. | |
| 1 | 1519 48 | 249 51 | 20 | 23 | 43 | 24 | 56 Free | 35 35 | 63 33 |
| 2 | 2722 05 | 607 33 | 66 | 73 | 139 | 90 | 65 Free | 19 58 | 30 25 |
| 3 | 1782 97 | 869 66 | 24 | 32 | 56 | 32 | 58 Free | 31 84 | 55 72 |
| 4 | 3092 55 | | 65 | 72 | 138 | 80 | 57 Free | 22 40 | 38 65 |
| 5 | 5674 20 | | 86 | 73 | 159 | 91 | 57 \$8 per annum | 35 68 | 62 24 |
| 6 | 1720 67 | | 22 | 13 | 35 | 20 | 58 Free | 49 14 | 86 00 |
| 7 | 3480 95 | | 126 | 148 | 274 | 149 | 55 Free res.; \$6, \$4 non-res. | 12 70 | 23 36 |
| 8 | 5070 21 | 155 87 | 74 | 32 | 106 | 61 | 60 \$7 1st ½ year; \$5 2nd ½ year. | 47 83 | 83 12 |
| 9 | 3743 32 | 969 39 | 61 | 41 | 102 | 53 | 52 Free | 36 70 | 70 62 |
| 10 | 1895 72 | 216 95 | 46 | 29 | 75 | 39 | 52 \$6 per annum | 24 08 | 46 31 |
| 11 | 4293 51 | 1056 80 | 98 | 99 | 197 | 110 | 56 \$5 per annum | 21 79 | 39 04 |
| 12 | 11520 94 | | 138 | 152 | 290 | 174 | 60 Res. \$10; non-res. \$16 | 39 76 | 65 27 |
| 13 | 2072 95 | 637 16 | 43 | 21 | 64 | 34 | 53 Free | 32 39 | 60 97 |
| 14 | 3228 72 | 384 98 | 77 | 74 | 151 | 82 | 54 Free res.; \$1 per mo. non-res. | 21 38 | 39 38 |
| 15 | 2580 70 | 27 51 | 49 | 54 | 103 | 89 | 86 \$2.50 and \$2. | 25 05 | 29 00 |
| 16 | 1826 14 | | 38 | 42 | 80 | 47 | 59 \$2 res. per an.; \$4 non-res p. an | 22 82 | 38 85 |
| 17 | 2471 97 | 234 12 | 40 | 35 | 75 | 53 | 71 Free | 32 96 | 46 64 |
| 18 | 1615 48 | 378 99 | 18 | 22 | 40 | 23 | 58 Free | 40 37 | 70 22 |
| 19 | 5109 68 | 190 19 | 88 | 104 | 192 | 119 | 62 \$2, \$2, \$3 | 2; 62 | 42 94 |
| 20 | 4228 44 | 1446 95 | 71 | 49 | 120 | 71 | 59 \$3, \$3, \$4, sen.; \$2, \$2, \$3 jun. | 35 23 | 59 55 |
| 21 | 17682 93 | | 80 | 48 | 128 | 76 | 59 \$12 res. p. an.; \$14 non-res. p. an | 13 81 | 23 26 |
| 22 | 2070 64 | 347 40 | 26 | 22 | 48 | 27 | 56 Free | 43 12 | 76 66 |
| 23 | 13452 84 | | 175 | 115 | 290 | 139 | 48 \$5.25, \$3.25 | 46 39 | 96 78 |
| 24 | 3057 89 | 772 23 | 39 | 59 | 98 | 52 | 53 Free | 31 22 | 58 81 |
| 25 | 5114 98 | 459 00 | 35 | 40 | 75 | 40 | 53 50 cts. per month | 68 20 | 127 88 |
| 26 | 5071 71 | 183 63 | 24 | 31 | 55 | 42 | 77 Free | 92 22 | 120 76 |
| 27 | 1498 37 | 1432 71 | 24 | 31 | 55 | 43 | 78 Free | 27 24 | 34 84 |
| 28 | 174 00 | 126 00 | 6 | 13 | 19 | 15 | 80 Free | 9 16 | 11 60 |
| 29 | 2590 61 | 176 44 | 66 | 54 | 120 | 60 | 50 Free | 21 59 | 43 18 |
| 30 | 1607 98 | 97 66 | 57 | 58 | 115 | 67 | 58 Free | 14 00 | 24 01 |
| 31 | 8413 88 | 2 11 | 99 | 65 | 164 | 101 | 61 \$14 per annum | 51 31 | 83 31 |
| 32 | 1632 17 | 110 14 | 44 | 30 | 74 | 44 | 60 Free | 22 05 | 37 09 |
| 33 | 4032 78 | 240 41 | 86 | 90 | 176 | 101 | 58 Free | 22 91 | 40 60 |
| 34 | 1726 33 | 215 70 | 30 | 31 | 61 | 38 | 62 \$7 per annum | 28 30 | 45 42 |
| 35 | 5114 49 | 169 19 | 139 | 107 | 246 | 145 | 59 Free res.; \$1.50 pr. m. non-res | 20 80 | 35 27 |
| 36 | 15581 14 | | 254 | 264 | 518 | 314 | 61 Free res.; \$6, \$10 non-res | 30 08 | 49 62 |
| 37 | 2976 37 | 98 67 | 78 | 59 | 137 | 70 | 51 \$2, \$2, \$2.50 | 21 72 | 42 51 |
| 38 | 1653 94 | 26 05 | 19 | 16 | 35 | 25 | 71 Free | 47 26 | 66 16 |
| 39 | 4168 51 | | 75 | 95 | 170 | 103 | 61 \$2 | 24 52 | 40 46 |
| 40 | 1494 32 | 243 46 | 33 | 46 | 79 | 43 | 55 \$1 | 18 91 | 34 74 |
| 41 | 1605 05 | | 55 | 46 | 101 | 57 | 57 \$4 per mo. non-res | 15 89 | 28 16 |

VII.—TABLE G.—The

| HIGH SCHOOLS. | RECEIPTS. | | | | | EXPENDITURE. | | | | |
|-------------------------|---|-------------------|---------|-----------------------------|-----------------|---------------------|-----------------------------|--|--------------------------------|--|
| | Legislative Grant for Teachers' salaries. | Municipal Grants. | Fees. | Balances and other sources. | Total Receipts. | Teachers' Salaries. | Building, Rent and Repairs. | Maps, Apparatus, Prizes and Libraries. | Fuel, Books and Contingencies. | |
| | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | |
| 42 Kincardine..... | 603 23 | 2203 23 | | 173 31 | 2979 77 | 2384 82 | 250 14 | | 311 48 | |
| 43 Kingston, C. I. . . | 1584 38 | 2500 00 | 1643 15 | 386 73 | 6114 26 | 4207 62 | 131 50 | 447 06 | 1077 56 | |
| 44 Lindsay..... | 1062 50 | 2983 94 | | 260 00 | 4306 44 | 3633 33 | 54 55 | | 618 56 | |
| 45 Listowel..... | 532 50 | 1431 85 | 414 50 | 50 65 | 2429 50 | 1800 24 | 244 27 | | 258 12 | |
| 46 London, C. I. . . . | 1775 00 | 4680 00 | 654 00 | 3745 46 | 10854 46 | 7068 64 | 317 15 | 271 29 | 539 55 | |
| 47 Markham..... | 500 00 | 700 00 | 283 05 | 663 28 | 2146 33 | 1649 71 | 86 63 | | 185 38 | |
| 48 Mitchell..... | 500 00 | 1450 00 | 40 00 | 30 27 | 2020 27 | 1600 00 | 34 62 | | 263 37 | |
| 49 Morrisburg..... | 505 21 | 1664 82 | | | 2170 03 | 2000 00 | | | 170 03 | |
| 50 Mount Forest . . . | 1027 91 | 2027 91 | 673 45 | 182 13 | 3911 40 | 3333 65 | 81 89 | 39 10 | 403 95 | |
| 51 Napanee..... | 923 57 | 2698 57 | 2 00 | 9 18 | 3633 32 | 2900 26 | 84 25 | 24 75 | 617 05 | |
| 52 Newburgh..... | 500 00 | 769 83 | 24 00 | 31 88 | 1325 71 | 1163 69 | 9 40 | | 152 62 | |
| 53 Newcastle..... | 500 00 | 1100 00 | | 244 17 | 1844 17 | 1150 00 | 62 10 | | 220 40 | |
| 54 Newmarket..... | 523 63 | 700 00 | 816 50 | 441 07 | 2481 20 | 2139 00 | 62 75 | | 279 45 | |
| 55 Niagara..... | 500 00 | 1000 00 | | 360 95 | 1860 95 | 1625 00 | 11 17 | 14 85 | 60 91 | |
| 56 Niagara Falls, S. . | 500 00 | 989 37 | | 296 55 | 1785 92 | 1325 00 | 144 22 | 34 48 | 256 50 | |
| 57 Norwood..... | 591 67 | 1572 79 | | | 2164 46 | 1619 50 | 238 24 | 40 97 | 265 75 | |
| 58 Oakville..... | 532 50 | 1543 48 | 47 75 | 40 18 | 2163 91 | 1800 00 | 35 77 | 16 66 | 311 48 | |
| 59 Oakwood..... | 500 00 | 900 00 | 32 00 | 142 48 | 1574 48 | 1325 00 | 14 63 | | 123 68 | |
| 60 Omeme..... | 500 00 | 2155 00 | | 634 11 | 3289 11 | 1250 00 | 1275 00 | | 714 65 | |
| 61 Orangeville..... | 623 19 | 6918 00 | 444 50 | 371 12 | 8356 81 | 2500 00 | 5037 93 | 300 00 | 515 70 | |
| 62 Orillia..... | 631 63 | 1681 63 | 180 00 | 600 12 | 3093 38 | 2508 17 | 78 49 | | 506 72 | |
| 63 Oshawa..... | 788 67 | 2539 33 | | | 3328 00 | 2766 67 | 150 27 | | 411 06 | |
| 64 Ottawa, C. I. . . . | 1955 00 | 5703 95 | 3082 70 | 880 11 | 11621 76 | 7365 89 | 216 13 | 250 53 | 1763 98 | |
| 65 Owen Sound..... | 1109 38 | 4674 77 | 83 00 | 30 00 | 5897 15 | 4367 50 | 291 61 | 377 74 | 860 30 | |
| 66 Paris..... | 510 21 | 1710 21 | | 688 06 | 2908 48 | 1750 00 | 2 50 | 72 87 | 355 10 | |
| 67 Parkhill..... | 500 00 | 1000 00 | 52 00 | 150 92 | 1702 92 | 1270 00 | 75 00 | 94 69 | 93 46 | |
| 68 Pembroke..... | 803 70 | 2466 89 | | 7247 77 | 20518 36 | 2450 00 | 5969 03 | | 266 66 | |
| 69 Perth, C. I. | 1112 79 | 3041 93 | 492 00 | 1907 30 | 6554 02 | 3452 67 | 2784 23 | | | |
| 70 Peterboro', C. I. . | 1533 54 | 4450 00 | 709 75 | 1332 31 | 8025 60 | 4437 66 | 700 00 | | 2698 40 | |
| 71 Petrolia..... | 527 82 | 2717 82 | | 866 13 | 4111 77 | 2367 74 | 580 11 | 79 50 | 447 30 | |
| 72 Picton..... | 825 42 | 2525 42 | 75 00 | 2312 36 | 5738 20 | 2743 33 | 215 76 | 266 82 | 2186 18 | |
| 73 Port Dover..... | 500 00 | 500 00 | 27 09 | 640 26 | 1667 26 | 1500 00 | 37 71 | | 129 55 | |
| 74 Port Hope..... | 896 91 | 2350 00 | 1032 75 | 263 52 | 4543 18 | 3126 66 | 1010 47 | | 358 32 | |
| 75 Port Perry..... | 934 25 | 2359 25 | 40 00 | 14 99 | 3348 49 | 2868 50 | 199 20 | | 250 00 | |
| 76 Port Rowan..... | 500 00 | 500 00 | 23 00 | 487 47 | 1510 47 | 1358 77 | | | 151 70 | |
| 77 Prescott..... | 500 00 | 1288 35 | 64 40 | 49 33 | 1902 08 | 1516 65 | 47 03 | 71 92 | 218 51 | |
| 78 Renfrew..... | 500 00 | 1748 58 | | 380 65 | 2629 23 | 1750 00 | 81 93 | 12 03 | 232 93 | |
| 79 Richmond Hill . . | 505 38 | 1000 00 | 403 10 | 278 35 | 2186 83 | 1848 40 | 132 11 | | 175 78 | |
| 80 Ridgeway..... | 750 60 | 9264 90 | 92 08 | 4951 25 | 15058 83 | 3403 10 | 8658 46 | | 2670 57 | |
| 81 Sarnia..... | 832 16 | 2821 91 | | 625 31 | 4279 38 | 3129 17 | 370 41 | | 779 80 | |
| 82 Seaford..... | 815 05 | 2299 37 | 665 50 | 81 00 | 3860 92 | 3034 17 | 210 15 | 75 63 | 371 34 | |
| 83 Simcoe..... | 740 90 | 1913 76 | | | 2654 66 | 2338 00 | 10 55 | | 306 11 | |
| 84 Smiths' Falls..... | 500 00 | 2380 23 | 24 00 | | 2904 23 | 1600 00 | 896 85 | 20 05 | 387 33 | |

High Schools.

| EXPENDITURE. | | NO. OF PUPILS ATTENDING. | | | Average Attendance. | Percentage of average attendance to total attendance. | CHARGES PER TERM. | COST PER PUPIL. | |
|--------------------|-----------|--------------------------|---------|--------|---------------------|---|-------------------|----------------------|------------------------|
| Total Expenditure. | Balances. | Boys. | Girls. | Total. | | | | On Total Attendance. | On Average Attendance. |
| \$ c. | \$ c. | | | | | | \$ c. | \$ c. | |
| 42 | 2946 44 | 33 33 | 63 48 | 111 | 65 | 59 Free | 26 54 | 45 32 | |
| 43 | 5863 74 | 250 52 | 115 55 | 170 | 79 | 47 \$5.25 | 34 49 | 74 23 | |
| 44 | 4306 44 | | 71 75 | 146 | 82 | 56 Free | 29 49 | 52 51 | |
| 45 | 2302 63 | 126 87 | 75 55 | 130 | 57 | 44 \$1 per month | 17 71 | 40 40 | |
| 46 | 8196 63 | 2657 83 | 171 198 | 369 | 204 | 55 \$3 non-res. | 22 21 | 40 17 | |
| 47 | 1921 72 | 224 61 | 57 27 | 84 | 50 | 60 \$3 | 22 88 | 38 44 | |
| 48 | 1897 99 | 122 28 | 64 49 | 113 | 65 | 58 Free | 16 88 | 29 29 | |
| 49 | 2170 03 | | 71 70 | 141 | 85 | 60 Free | 15 39 | 25 53 | |
| 50 | 3858 59 | 52 81 | 50 56 | 106 | 73 | 69 \$2 | 36 40 | 52 85 | |
| 51 | 3626 31 | 7 01 | 64 92 | 156 | 94 | 60 Free | 23 24 | 38 57 | |
| 52 | 1325 71 | | 20 30 | 50 | 41 | 81 Free | 26 52 | 32 34 | |
| 53 | 1432 50 | 411 67 | 30 25 | 55 | 33 | 60 Free | 26 04 | 43 40 | |
| 54 | 2481 20 | | 71 68 | 139 | 82 | 59 \$3 | 17 85 | 30 25 | |
| 55 | 1711 43 | 149 52 | 19 18 | 37 | 17 | 47 Free | 46 24 | 100 65 | |
| 56 | 1760 20 | 25 72 | 35 47 | 82 | 43 | 52 Free | 21 46 | 40 93 | |
| 57 | 2164 46 | | 27 33 | 60 | 29 | 48 Free | 36 03 | 74 65 | |
| 58 | 2163 91 | | 20 40 | 60 | 30 | 50 \$1, \$2 | 36 03 | 72 06 | |
| 59 | 1463 31 | 111 17 | 40 22 | 62 | 35 | 56 Free | 23 60 | 41 80 | |
| 60 | 3239 65 | 49 46 | 22 26 | 48 | 25 | 52 Free | 67 50 | 129 60 | |
| 61 | 8353 63 | 3 18 | 68 55 | 123 | 70 | 57 \$3, \$2 | 67 92 | 119 34 | |
| 62 | 3093 38 | | 59 54 | 113 | 67 | 59 25 cts. per month | 27 37 | 46 16 | |
| 63 | 3328 00 | | 81 83 | 164 | 103 | 63 Free | 20 29 | 32 31 | |
| 64 | 9596 53 | 2025 23 | 194 74 | 268 | 155 | 58 \$15 per an res.; \$27 do non-res | 35 83 | 61 91 | |
| 65 | 5897 15 | | 133 156 | 289 | 135 | 47 Free | 20 45 | 43 68 | |
| 66 | 2180 47 | 728 01 | 18 43 | 61 | 39 | 64 Free | 35 74 | 55 90 | |
| 67 | 1533 15 | 169 77 | 44 43 | 87 | 52 | 60 \$1 per half-year | 17 62 | 29 48 | |
| 68 | 8685 69 | 1832 67 | 52 45 | 97 | 71 | 73 Free | 89 55 | 122 34 | |
| 69 | 6236 90 | 317 12 | 74 100 | 174 | 100 | 57 \$4 | 35 84 | 62 37 | |
| 70 | 7836 06 | 189 54 | 111 91 | 202 | 104 | 52 50 cts. res.; \$1 non-res. | 33 84 | 75 34 | |
| 71 | 3474 65 | 637 12 | 63 71 | 134 | 78 | 58 Free | 25 92 | 44 54 | |
| 72 | 5412 09 | 326 11 | 65 95 | 160 | 89 | 56 Free | 33 82 | 60 81 | |
| 73 | 1667 26 | | 36 29 | 65 | 38 | 58 Free | 25 65 | 43 87 | |
| 74 | 4495 45 | 47 73 | 87 68 | 155 | 103 | 67 \$9 res.; \$11 non-res. | 29 00 | 43 62 | |
| 75 | 3317 70 | 30 79 | 64 50 | 114 | 73 | 64 Free | 29 20 | 45 45 | |
| 76 | 1510 47 | | 20 25 | 45 | 26 | 58 Free | 33 55 | 58 08 | |
| 77 | 1854 11 | 47 97 | 40 45 | 85 | 51 | 60 Free res.; \$1 per mo. non-res. | 21 81 | 35 36 | |
| 78 | 2076 89 | 552 34 | 41 60 | 101 | 68 | 67 Free | 20 56 | 30 44 | |
| 79 | 2156 29 | 30 54 | 35 66 | 101 | 56 | 55 \$2.50 | 21 34 | 38 49 | |
| 80 | 14732 13 | 326 70 | 82 120 | 202 | 115 | 57 Free | 72 93 | 128 10 | |
| 81 | 4279 38 | | 80 121 | 201 | 116 | 58 Free | 21 29 | 36 90 | |
| 82 | 3691 29 | 169 63 | 67 65 | 132 | 80 | 61 \$2.66, \$3.33, \$4 | 28 00 | 46 15 | |
| 83 | 2654 66 | | 59 67 | 126 | 72 | 57 Free | 21 07 | 36 87 | |
| 84 | 2904 23 | | 34 34 | 68 | 47 | 69 Free | 42 71 | 61 78 | |

VII.—TABLE G.—The

| HIGH SCHOOLS. | RECEIPTS. | | | | | EXPENDITURE. | | | | |
|---------------------------------|---|-------------------|----------|-----------------------------|-----------------|---------------------|-----------------------------|--|--------------------------------|--|
| | Legislative Grant for Teachers' salaries. | Municipal Grants. | Fees. | Balances and other sources. | Total Receipts. | Teachers' Salaries. | Building, Rent and Repairs. | Maps, Apparatus, Prizes and Libraries. | Fuel, Books and Contingencies. | |
| | £ c. | £ c. | £ c. | £ l. | £ c. | £ c. | £ c. | £ c. | £ c. | |
| 85 Smithville | 500 00 | 915 00 | | 416 34 | 1831 34 | 1332 16 | 9 13 | 11 00 | 10 48 | |
| 86 Stratford, C. I. . . . | 1820 63 | 2912 50 | 400 00 | 3137 14 | 8270 27 | 5900 50 | 561 96 | 188 62 | 763 17 | |
| 87 Strathroy, C. I. . . . | 1333 29 | 2833 29 | 1353 00 | 823 31 | 6342 89 | 4345 66 | 822 46 | 328 53 | 548 59 | |
| 88 Streetsville..... | 500 00 | 1300 00 | | 106 93 | 1906 93 | 1300 00 | 80 10 | | 160 06 | |
| 89 St. Catharines, C. I..... | 1723 54 | 5269 75 | 724 50 | 136 50 | 7854 29 | 6110 00 | 750 29 | | 240 00 | |
| 90 St. Mary's, C.I. . . . | 1297 50 | 2550 00 | 811 50 | 68 33 | 4727 33 | 3979 99 | 73 05 | | 595 82 | |
| 91 St. Thomas, C.I. . . . | 1775 00 | 5398 58 | 25 00 | 150 00 | 7348 58 | 6105 00 | 249 97 | | 993 61 | |
| 92 Sydenham | 532 50 | 1200 00 | 48 60 | 282 47 | 2062 97 | 1625 00 | 151 42 | | 286 55 | |
| 93 Thorold..... | 562 08 | 1062 08 | | 979 34 | 2603 50 | 1705 00 | 78 52 | | 176 30 | |
| 94 Toronto, C. I. . . . | 1775 00 | 5393 00 | 7394 10 | 336 17 | 14898 27 | 12240 34 | 495 19 | 313 70 | 1322 25 | |
| 95 Trenton..... | 500 00 | 1814 75 | | 348 84 | 2663 59 | 2009 98 | 141 06 | | 490 87 | |
| 96 Uxbridge | 883 07 | 2133 07 | 274 75 | 41 38 | 3332 27 | 3115 00 | | 18 15 | 191 98 | |
| 97 Vankleekhill... . . | 500 00 | 1008 85 | | 539 48 | 2048 33 | 1421 90 | 76 49 | 7 14 | 50 25 | |
| 98 Vienna | 500 00 | 1059 41 | | | 1559 41 | 1374 61 | | | 184 80 | |
| 99 Walkerton..... | 1052 66 | 2202 66 | 675 50 | 3459 47 | 7390 29 | 3570 00 | 161 94 | 59 15 | 3509 43 | |
| 100 Wardsville..... | 500 00 | 823 45 | | 1405 58 | 2729 03 | 1270 00 | | 62 25 | 935 81 | |
| 101 Waterdown | 546 25 | 796 25 | 331 09 | 159 69 | 1833 28 | 1685 00 | | 11 37 | 136 91 | |
| 102 Welland | 543 60 | 2043 60 | | 302 64 | 2889 84 | 2250 00 | 173 59 | | 466 25 | |
| 103 Weston..... | 500 00 | 809 00 | 344 00 | 283 95 | 1936 95 | 1600 00 | 137 84 | 16 25 | 110 73 | |
| 104 Whitby, C. I. . . . | 1494 19 | 3310 79 | 630 50 | | 5495 48 | 4943 00 | 70 06 | | 482 42 | |
| 105 Williamstown... . . | 500 00 | 750 00 | | 494 35 | 1744 35 | 1185 57 | 5 30 | 90 00 | 193 23 | |
| 106 Windsor..... | 843 42 | 2036 83 | 60 40 | | 2990 65 | 2503 65 | | 47 16 | 439 84 | |
| 107 Woodstock... . . | 1045 26 | 2945 26 | 389 00 | 226 93 | 4606 45 | 3710 00 | 123 27 | 151 22 | 547 95 | |
| 1 Total, 1885..... | 86169 48 | 242732 28 | 40032 37 | 89956 65 | 458940 78 | 294077 99 | 50865 05 | 5148 22 | 79670 61 | |
| 2 Total, 1884..... | 85206 38 | 220668 66 | 34287 66 | 67815 17 | 407977 87 | 282775 95 | 34013 21 | 1873 82 | 66763 45 | |
| 3 Increase | 963 10 | 22113 62 | 5744 71 | 22141 48 | 50962 91 | 11302 04 | 16851 84 | 3274 40 | 12907 16 | |
| 4 Decrease | | | | | | | | | | |
| Percentage of total.. | 19 | 52 | 9 | 20 | | 68 | 12 | 1 | 19 | |

High Schools.

| EXPENDITURE. | | NO. OF PUPILS ATTENDING. | | | Average Attendance. | Percentage of average attendance to total attendance. | CHARGES PER TERM. | COST PER PUPIL. | |
|--------------------|-----------|--------------------------|--------|--------|---------------------|---|--------------------------------|----------------------|------------------------|
| Total Expenditure. | Balances. | Boys. | Girls. | Total. | | | | On Total Attendance. | On Average Attendance. |
| \$ c. | \$ c. | | | | | | \$ c. | \$ c. | |
| 85 1442 77 | 388 57 | 32 | 36 | 68 | 43 | 63 Free | 21 21 | 33 53 | |
| 86 7414 25 | 856 02 | 135 | 160 | 295 | 165 | 56 \$2, \$1., res.; \$6, \$4, non-res.. | 25 13 | 44 93 | |
| 87 6045 24 | 297 65 | 140 | 130 | 270 | 159 | 59 \$8 per an., sen.; \$5 per an., jun | 22 39 | 38 03 | |
| 88 1540 16 | 366 77 | 39 | 29 | 68 | 37 | 55 Free; \$16 per an | 22 65 | 41 61 | |
| 89 7100 29 | 754 00 | 127 | 124 | 251 | 145 | 58 Free | 28 28 | 48 96 | |
| 90 4648 86 | 78 47 | 92 | 100 | 192 | 131 | 68 Free, res.; \$6, \$4, non-res.... | 24 20 | 35 48 | |
| 91 7348 58 | | 171 | 170 | 341 | 198 | 58 Free | 21 55 | 37 11 | |
| 92 2062 97 | | 36 | 40 | 76 | 45 | 59 Free | 27 14 | 45 84 | |
| 93 1959 82 | 643 68 | 28 | 40 | 68 | 46 | 68 Free | 28 82 | 42 60 | |
| 94 14371 48 | 526 79 | 365 | 257 | 622 | 303 | 49 \$5, \$4.33, \$4 | 23 11 | 47 43 | |
| 95 2641 91 | 21 68 | 44 | 39 | 83 | 42 | 51 Free | 31 83 | 62 90 | |
| 96 3325 13 | 7 14 | 59 | 42 | 101 | 58 | 57 \$1.50 | 32 92 | 57 33 | |
| 97 1555 78 | 492 55 | 35 | 50 | 85 | 48 | 56 Free | 18 31 | 32 42 | |
| 98 1559 41 | | 21 | 27 | 48 | 26 | 54 Free | 32 50 | 60 00 | |
| 99 7300 52 | 89 77 | 110 | 87 | 197 | 110 | 56 \$3, \$2 | 37 05 | 66 36 | |
| 100 2268 06 | 460 97 | 38 | 31 | 69 | 31 | 45 Free | 32 87 | 73 16 | |
| 101 1833 28 | | 60 | 33 | 93 | 50 | 54 \$2, \$2.50 | 19 72 | 36 68 | |
| 102 2889 84 | | 37 | 60 | 117 | 66 | 37 Free | 24 70 | 43 79 | |
| 103 1864 82 | 72 13 | 38 | 30 | 68 | 40 | 59 \$2 | 27 41 | 46 60 | |
| 104 5495 48 | | 93 | 84 | 177 | 106 | 60 \$2 | 31 05 | 51 85 | |
| 105 1479 10 | 265 25 | 30 | 43 | 73 | 36 | 49 Free | 20 26 | 41 08 | |
| 106 2990 65 | | 51 | 85 | 136 | 83 | 61 Free | 22 00 | 36 02 | |
| 107 4532 44 | 74 01 | 71 | 92 | 163 | 99 | 61 \$1 | 27 80 | 45 78 | |
| 1 429761 87 | 29178 91 | 7259 | 6991 | 14250 | 8207 | C.I. 56 { 64 free..... } H.S. 58 { 43 fee..... } | C.I. ...33 38 H.S. ...28 57 | 59 51 48 98 | |
| | | | | | | Av. 58 | Av. 30 16 | 52 36 | |
| 2 385426 43 | 22551 44 | 6386 | 6351 | 12737 | 7302 | C.I. 55 { 67 free..... } H.S. 59 { 39 fee..... } | C.I. ...30 98 H.S. ...29 89 | 56 79 50 87 | |
| | | | | | | Av. 57 | Av. ...30 26 | 52 78 | |
| 3 44335 44 | 6627 47 | 873 | 640 | 1513 | 905 | { C.I. 1 } Av. 1 { 4 free..... } | C.I. ... 2 40 | 2 72 | |
| 4 | | | | | | H.S. 1 { 3 free..... } | H.S. ... 1 32 Av. ... 0 10 | 1 89 0 42 | |
| | | 58 | 42 | | | | | | |

VIII.—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

| HIGH SCHOOLS. | SUBJECTS. | | | | | | | | | | | | |
|---------------------------|-------------|------------------------------|---------------------|-----------------|----------------|-------------|---------------|--------------------------------|-------------|------------|------------------|-------------|----|
| | In Reading. | In Orthography and Orthoëpy. | In English Grammar. | In Composition. | In Literature. | In History. | In Geography. | In Arithmetic and Mensuration. | In Algebra. | In Euclid. | In Trigonometry. | In Physics. | |
| 1 Alexandria | 43 | 43 | 43 | 43 | 26 | 43 | 43 | 43 | 43 | 42 | ..... | 26 | |
| 2 Almonte | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 122 | 122 | ..... | 31 | |
| 3 Arnprior | 56 | 56 | 56 | 56 | 31 | 56 | 56 | 56 | 56 | 56 | ..... | 31 | |
| 4 Aylmer | 138 | 138 | 138 | 138 | 138 | 138 | 138 | 138 | 138 | 138 | 4 | 102 | |
| 5 Barrie C. I. | 153 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 151 | 151 | 10 | 79 | |
| 6 Beamsville | 28 | 30 | 32 | 32 | 32 | 30 | 28 | 28 | 28 | 31 | 1 | 20 | |
| 7 Belleville | 267 | 267 | 267 | 267 | 270 | 265 | 265 | 272 | 262 | 240 | 6 | 114 | |
| 8 Berlin | 103 | 102 | 105 | 106 | 106 | 105 | 103 | 105 | 96 | 76 | 4 | 38 | |
| 9 Bowmanville | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 100 | 75 | 8 | 20 | |
| 10 Bradford | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 3 | 56 | |
| 11 Brampton | 197 | 193 | 197 | 197 | 197 | 197 | 197 | 197 | 193 | 193 | 5 | 197 | |
| 12 Brantford C. I. | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 10 | 110 | |
| 13 Brighton | 49 | 47 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | ..... | 16 | |
| 14 Brockville | 151 | 144 | 151 | 151 | 151 | 151 | 151 | 144 | 151 | 143 | 5 | 45 | |
| 15 Caledonia | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 3 | 70 | |
| 16 Campbellford | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 65 | 1 | 80 |
| 17 Carleton Place | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | ..... | 43 | |
| 18 Cayuga | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | ..... | 15 | |
| 19 Chatham | 122 | 122 | 134 | 122 | 134 | 134 | 134 | 134 | 62 | 67 | 1 | 77 | |
| 20 Clinton | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 20 | 89 | |
| 21 Cobourg C. I. | 65 | 65 | 108 | 108 | 78 | 105 | 100 | 115 | 84 | 87 | 3 | 40 | |
| 22 Colborne | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 2 | 6 | |
| 23 Collingwood C. I. | 232 | 232 | 290 | 290 | 290 | 290 | 290 | 261 | 289 | 285 | 24 | 141 | |
| 24 Cornwall | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | ..... | 51 | |
| 25 Dundas | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | ..... | 18 | |
| 26 Dunnville | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | ..... | 16 | |
| 27 Elora | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 68 | 68 | ..... | 40 | |
| 28 Essex Centre | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | ..... | 19 | |
| 29 Farmersville | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 2 | 10 | |
| 30 Fergus | 115 | 45 | 115 | 115 | 100 | 115 | 115 | 115 | 93 | 87 | ..... | 26 | |
| 31 Galt C. I. | 138 | 138 | 163 | 163 | 151 | 151 | 151 | 163 | 151 | 151 | 13 | 67 | |
| 32 Gananoque | 74 | 73 | 73 | 73 | 73 | 73 | 73 | 74 | 74 | 68 | 1 | 36 | |
| 33 Goderich | 140 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 165 | 8 | 40 | |
| 34 Grimsby | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 59 | 56 | ..... | 36 | |
| 35 Guelph | 246 | 246 | 246 | 246 | 246 | 246 | 246 | 246 | 246 | 196 | 10 | 51 | |
| 36 Hamilton C. I. | 518 | 488 | 518 | 518 | 518 | 418 | 518 | 518 | 520 | 368 | 10 | 100 | |
| 37 Harrison | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 133 | 132 | 2 | 122 | |
| 38 Hawkesbury | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | ..... | 35 | |
| 39 Ingersoll | 165 | 165 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 168 | 14 | 35 | |
| 40 Iroquois | 70 | 75 | 78 | 78 | 70 | 78 | 78 | 79 | 79 | 63 | 1 | 60 | |

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.

| | In Chemistry. | In Botany. | In Latin. | In Greek. | In French. | In German. | In Writing. | In Book-keeping and Commercial Transactions. | In Drawing. | In Music. | In Precis Writing and Indexing. | In Phonography. | In Commercial Course. | Preparing for University Matriculation. | | Preparing for a Learned Profession. | Preparing for a Teacher—Non-professional Examination. |
|--------|---------------|------------|-----------|-----------|------------|------------|-------------|--|-------------|-----------|---------------------------------|-----------------|-----------------------|---|-------|-------------------------------------|---|
| | | | | | | | | | | | | | | Jun. | Sen. | | |
| 1 8 | ..... | 13 | ..... | 25 | ..... | 43 | 26 | 43 | 13 | ..... | ..... | ..... | 10 | 2 | ..... | 2 | 21 |
| 2 14 | ..... | 60 | 8 | 77 | 11 | 139 | 139 | 139 | ..... | ..... | ..... | ..... | ..... | 17 | ..... | 4 | 100 |
| 3 35 | ..... | 22 | 2 | 42 | ..... | 56 | 56 | 56 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10 |
| 4 63 | 94 | 29 | 9 | 38 | ..... | 67 | 114 | 132 | 42 | ..... | ..... | ..... | ..... | 6 | ..... | 5 | 97 |
| 5 38 | 53 | 84 | 17 | 82 | 6 | 118 | 150 | 130 | 47 | ..... | ..... | ..... | ..... | 12 | ..... | 8 | 51 |
| 6 4 | 4 | 12 | 1 | 9 | 14 | 28 | 28 | 28 | 20 | 28 | ..... | ..... | 5 | 3 | ..... | 2 | 12 |
| 7 63 | 20 | 74 | 18 | 110 | 12 | 200 | 123 | 252 | 43 | ..... | ..... | ..... | 37 | 10 | 3 | 1 | 50 |
| 8 52 | ..... | 30 | 4 | 25 | 50 | 102 | 83 | 95 | 26 | ..... | ..... | ..... | 15 | 5 | 4 | 6 | 34 |
| 9 20 | 10 | 25 | 2 | 25 | 12 | 98 | 92 | 80 | ..... | 80 | ..... | ..... | 50 | 8 | ..... | 1 | 16 |
| 10 28 | ..... | 44 | 6 | 31 | 3 | 75 | 75 | 75 | ..... | 75 | ..... | ..... | 2 | 12 | ..... | 4 | 26 |
| 11 10 | 73 | 80 | 6 | 89 | 6 | 120 | 73 | 190 | 73 | ..... | ..... | ..... | 10 | 8 | ..... | 3 | 73 |
| 12 32 | ..... | 105 | 21 | 112 | 30 | 290 | 290 | 290 | ..... | ..... | ..... | ..... | ..... | 9 | ..... | 15 | 85 |
| 13 12 | 19 | 33 | 10 | 12 | ..... | 48 | 48 | 49 | ..... | ..... | ..... | ..... | ..... | 3 | ..... | 4 | 26 |
| 14 75 | 14 | 72 | 8 | 88 | 4 | 117 | 143 | 143 | 40 | 1 | ..... | ..... | 8 | 14 | ..... | 13 | 50 |
| 15 32 | 70 | 35 | 7 | 20 | ..... | 103 | 70 | 103 | 103 | ..... | ..... | ..... | ..... | 10 | ..... | 19 | 70 |
| 16 20 | 60 | 14 | 8 | ..... | ..... | 80 | 50 | 50 | ..... | ..... | ..... | ..... | ..... | 5 | ..... | ..... | 48 |
| 17 21 | 21 | 22 | 4 | 23 | ..... | 75 | 75 | 75 | ..... | ..... | ..... | ..... | ..... | 4 | ..... | ..... | 25 |
| 18 | 1 | 19 | 3 | 35 | ..... | 40 | 40 | 35 | ..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... | 9 |
| 19 25 | ..... | 34 | 7 | 54 | 11 | 57 | 120 | 122 | ..... | ..... | ..... | ..... | ..... | 9 | 1 | 3 | 42 |
| 20 89 | ..... | 45 | 12 | 40 | ..... | 120 | 120 | 89 | 89 | ..... | ..... | ..... | ..... | 11 | 2 | ..... | 89 |
| 21 16 | 4 | 65 | 45 | 34 | 18 | 32 | 39 | 28 | 128 | ..... | ..... | ..... | ..... | 29 | ..... | 10 | 29 |
| 22 19 | 9 | 29 | 2 | 16 | ..... | 48 | 48 | 48 | ..... | ..... | ..... | ..... | ..... | 4 | ..... | 16 | 21 |
| 23 131 | 30 | 80 | 21 | 80 | 8 | 232 | 248 | 232 | ..... | 38 | ..... | ..... | 38 | 17 | ..... | 5 | 162 |
| 24 18 | ..... | 26 | 7 | 55 | 1 | 98 | 44 | 57 | ..... | ..... | ..... | ..... | ..... | 7 | ..... | 7 | 65 |
| 25 | 18 | 29 | 8 | 26 | ..... | 75 | 71 | 75 | ..... | ..... | ..... | ..... | 71 | 14 | ..... | 14 | 36 |
| 26 10 | 12 | 12 | ..... | 8 | ..... | 55 | 28 | 55 | ..... | 55 | ..... | ..... | 28 | 2 | ..... | ..... | 16 |
| 27 40 | ..... | 18 | 1 | 47 | 20 | ..... | 60 | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 28 | ..... | 7 | ..... | 11 | ..... | 19 | ..... | 19 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 19 |
| 29 20 | 20 | 56 | 1 | 44 | ..... | 120 | 39 | 39 | ..... | ..... | ..... | ..... | ..... | 2 | ..... | 6 | 39 |
| 30 14 | 7 | 32 | 9 | 41 | ..... | 115 | 83 | 115 | 24 | ..... | ..... | ..... | ..... | 2 | 1 | ..... | 30 |
| 31 53 | 27 | 54 | 15 | 72 | 34 | 128 | 181 | 147 | 67 | ..... | ..... | ..... | 12 | 31 | 7 | 43 | 80 |
| 32 3 | ..... | 17 | 7 | 50 | ..... | 74 | 74 | 73 | 14 | ..... | ..... | ..... | ..... | 2 | ..... | 8 | 17 |
| 33 24 | 30 | 45 | 9 | 70 | 12 | 60 | 65 | 120 | ..... | ..... | ..... | ..... | ..... | 6 | 2 | 8 | 66 |
| 34 6 | ..... | 27 | 4 | 30 | 2 | 61 | 61 | 61 | 61 | ..... | ..... | ..... | ..... | 5 | ..... | 10 | 26 |
| 35 40 | ..... | 67 | 12 | 75 | 32 | 150 | 124 | 230 | ..... | ..... | ..... | ..... | ..... | 9 | ..... | ..... | 74 |
| 36 51 | 12 | 122 | 30 | 100 | 35 | 259 | 210 | 400 | 315 | 170 | 70 | 110 | 20 | ..... | ..... | 7 | 95 |
| 37 39 | 28 | 18 | 10 | 27 | 9 | ..... | 99 | 134 | 61 | ..... | ..... | ..... | 7 | ..... | ..... | 5 | 80 |
| 38 9 | 20 | 15 | 1 | 6 | ..... | 35 | 14 | 35 | 35 | ..... | ..... | ..... | 20 | 3 | ..... | 7 | 20 |
| 39 40 | 45 | 58 | 6 | 45 | 1 | 160 | 162 | 162 | 120 | ..... | ..... | ..... | 30 | 4 | ..... | 5 | 45 |
| 40 12 | 30 | 13 | 1 | 22 | ..... | 60 | 60 | 78 | ..... | ..... | ..... | ..... | 5 | 1 | ..... | 10 | 60 |

VIII.—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

| HIGH SCHOOLS. | SUBJECTS. | | | | | | | | | | | |
|--------------------------|-------------|-------------------------------|---------------------|-----------------|----------------|-------------|---------------|--------------------------------|-------------|------------|------------------|-------------|
| | In Reading. | In Orthography and Orthocopy. | In English Grammar. | In Composition. | In Literature. | In History. | In Geography. | In Arithmetic and Mensuration. | In Algebra. | In Euclid. | In Trigonometry. | In Physics. |
| 41 Kemptville..... | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | ..... | 80 |
| 42 Kincardine..... | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 3 | 80 |
| 43 Kingston C. I..... | 45 | 45 | 170 | 170 | 170 | 170 | 74 | 170 | 170 | 170 | 20 | 36 |
| 44 Lindsay..... | 109 | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 146 | 8 | 78 |
| 45 Listowel..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 64 | 64 | 1 | 68 |
| 46 London C. I..... | 80 | 369 | 369 | 369 | 180 | 369 | 369 | 369 | 360 | 360 | 4 | 70 |
| 47 Markham..... | 78 | 84 | 84 | 84 | 49 | 84 | 84 | 84 | 84 | 83 | 2 | 48 |
| 48 Mitchell..... | 111 | 111 | 113 | 113 | 113 | 113 | 113 | 113 | 80 | 78 | 2 | 54 |
| 49 Morrisburg..... | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 9 | 120 |
| 50 Mount Forest..... | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 70 | 106 | 2 | 28 |
| 51 Napanee..... | 156 | 156 | 156 | 156 | 156 | 156 | 156 | 156 | 156 | 156 | 10 | 80 |
| 52 Newburgh..... | 52 | 52 | 52 | 52 | 30 | 52 | 52 | 52 | 52 | 52 | 2 | 30 |
| 53 Newcastle..... | 42 | 34 | 42 | 42 | 34 | 42 | 42 | 34 | 42 | 42 | ..... | 19 |
| 54 Newmarket..... | 130 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 130 | 136 | 1 | 80 |
| 55 Niagara..... | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 37 | 33 | 27 | 1 | 32 |
| 56 Niagara Falls, S..... | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 80 | 72 | ..... | 18 |
| 57 Norwood..... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 35 | 35 | ..... | 33 |
| 58 Oakville..... | 45 | 35 | 60 | 60 | 35 | 60 | 60 | 60 | 60 | 60 | 1 | 20 |
| 59 Oakwood..... | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 1 | 47 |
| 60 Omemece..... | 34 | 34 | 34 | 34 | 34 | 30 | 30 | 34 | 30 | 34 | ..... | 20 |
| 61 Orangeville..... | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 6 | 98 |
| 62 Orillia..... | 110 | 110 | 112 | 113 | 113 | 109 | 111 | 113 | 110 | 112 | 3 | 47 |
| 63 Oshawa..... | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 163 | 162 | 8 | 80 |
| 64 Ottawa C. I..... | 201 | 268 | 268 | 268 | 268 | 268 | 268 | 268 | 268 | 268 | 16 | 29 |
| 65 Owen Sound..... | 235 | 235 | 235 | 235 | 235 | 240 | 240 | 244 | 244 | 244 | ..... | 100 |
| 66 Paris..... | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | ..... | 16 |
| 67 Parkhill..... | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | ..... | 35 |
| 68 Pembroke..... | 128 | 109 | 128 | 117 | 105 | 121 | 115 | 128 | 128 | 128 | ..... | 116 |
| 69 Perth C. I..... | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 171 | 174 | 16 | 11 |
| 70 Peterboro' C. I..... | 197 | 143 | 197 | 197 | 197 | 197 | 197 | 197 | 164 | 141 | 4 | 62 |
| 71 Petrolea..... | 134 | 134 | 134 | 134 | 134 | 134 | 134 | 134 | 133 | 123 | 1 | 58 |
| 72 Picton..... | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 2 | 84 |
| 73 Port Dover..... | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | ..... | 60 |
| 74 Port Hope..... | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | ..... | 57 |
| 75 Port Perry..... | 110 | 114 | 114 | 114 | 114 | 114 | 98 | 114 | 114 | 114 | 16 | 64 |
| 76 Port Rowan..... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 2 | 22 |
| 77 Prescott..... | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 70 | 2 | 37 |
| 78 Renfrew..... | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 98 | 98 | ..... | 101 |
| 79 Richmond Hill..... | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 95 | 93 | 2 | 83 |
| 80 Ridgetown..... | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 6 | 202 |
| 81 Sarnia..... | 201 | 201 | 201 | 201 | 161 | 201 | 01 | 201 | 201 | 201 | ..... | 118 |

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.

| In Chemistry. | | In Botany. | | In Latin. | | In Greek. | | In French. | | In German. | | In Writing. | | In Book-keeping and Commercial Transactions. | | In Drawing. | | In Music. | | In Précis Writing and Indexing. | | In Phonography. | | In Commercial Course. | | Preparing for University Matriculation. | | Preparing for a Learned Profession. | | Preparing for a Teacher—Non-professional Examination. | | | |
|---------------|-------|------------|-----|-----------|-------|-----------|-------|------------|-----|------------|-------|-------------|-------|--|-------|-------------|-------|-----------|-------|---------------------------------|-------|-----------------|-------|-----------------------|-------|---|-------|-------------------------------------|-------|---|-------|-------|-----|
| | | | | | | | | | | | | | | | | | | | | | | | | | | Jun. | Sen. | | | | | | |
| 41 | 22 | 68 | 31 | 2 | 25 | ..... | 101 | 96 | 101 | 34 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 64 | | |
| 42 | 35 | 58 | 29 | 7 | 27 | ..... | 50 | 102 | 111 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 84 | | |
| 43 | 48 | 18 | 128 | 16 | 136 | 56 | 38 | 35 | 46 | 18 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 123 | | |
| 44 | 42 | 47 | 31 | 4 | 52 | 21 | 84 | 84 | 125 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 102 | | |
| 45 | 3 | 46 | 14 | 3 | ..... | ..... | 68 | 68 | 68 | 68 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 | | |
| 46 | 60 | 10 | 110 | 18 | 130 | 28 | 300 | 340 | 350 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 100 | | |
| 47 | 25 | 44 | 56 | ..... | 31 | ..... | 56 | 84 | 68 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 31 | | |
| 48 | 23 | 35 | 16 | ..... | 18 | ..... | 32 | 111 | 111 | 113 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 50 | | |
| 49 | 22 | 41 | 58 | 11 | 60 | 3 | 141 | 132 | 135 | 50 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 44 | | |
| 50 | 50 | 30 | 36 | 3 | 27 | 5 | 106 | 36 | 106 | 60 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 60 | | |
| 51 | 30 | 18 | 60 | 34 | 90 | ..... | ..... | 80 | 156 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 50 | | |
| 52 | 13 | 30 | 12 | 2 | 10 | ..... | 52 | 40 | 52 | 52 | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 50 | | |
| 53 | 12 | 22 | 6 | 3 | 18 | ..... | 8 | 8 | 42 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 28 | | |
| 54 | 43 | 50 | 42 | 4 | 35 | 8 | 130 | 122 | 136 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 75 | | |
| 55 | 4 | 14 | 6 | 4 | 21 | ..... | 37 | 14 | 20 | 23 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4 | | |
| 56 | 10 | ..... | 28 | 1 | 39 | 8 | 82 | 82 | 75 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 36 | | |
| 57 | 15 | 20 | 5 | ..... | 10 | ..... | 60 | 60 | 60 | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 55 | | |
| 58 | 14 | ..... | 9 | 3 | 31 | ..... | 50 | 50 | 55 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 28 | | |
| 59 | 17 | 12 | 18 | 2 | 23 | ..... | 62 | 62 | 62 | 62 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 32 | | |
| 60 | ..... | 15 | 7 | 4 | 11 | ..... | 34 | 20 | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 | | |
| 61 | 34 | 46 | 34 | 14 | 28 | 8 | 55 | 117 | 117 | 25 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 35 | | |
| 62 | 35 | 2 | 48 | 15 | 53 | 2 | 99 | 91 | 113 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 55 | | |
| 63 | 48 | ..... | 51 | 13 | 87 | 10 | 164 | 163 | 164 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 35 | | |
| 64 | 50 | 26 | 201 | 21 | 210 | 23 | 223 | 259 | 66 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 53 | | |
| 65 | 29 | 81 | 140 | 8 | 102 | 21 | 150 | 208 | 215 | 39 | 3 | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 50 | | |
| 66 | 12 | 12 | 41 | | 15 | | 61 | 49 | 61 | | | | | | | | | | | | | | | | | | | | | | | 15 | |
| 67 | 21 | 21 | 24 | | 33 | 5 | 87 | 87 | 87 | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| 68 | 30 | 28 | 66 | 16 | 46 | | 128 | 128 | 128 | | | | | | | | | | | | | | | | | | | | | | | 25 | |
| 69 | 35 | 11 | 53 | 6 | 105 | 19 | 174 | 161 | 43 | | | | | | | | | | | | | | | | | | | | | | | 39 | |
| 70 | 42 | | 91 | 8 | 138 | 9 | 190 | 90 | 143 | | | | | | | | | | | | | | | | | | | | | | | 6 | |
| 71 | 39 | 22 | 58 | | 44 | 7 | 134 | 134 | 133 | | | | | | | | | | | | | | | | | | | | | | | 66 | |
| 72 | 36 | 35 | 32 | 9 | 46 | 8 | 160 | 90 | 160 | | | | | | | | | | | | | | | | | | | | | | | 75 | |
| 73 | 18 | 16 | 15 | 1 | 27 | 8 | 47 | 64 | 62 | | | | | | | | | | | | | | | | | | | | | | | 20 | |
| 74 | 57 | | 42 | 12 | 82 | 3 | 98 | 133 | 155 | | | | | | | | | | | | | | | | | | | | | | | 46 | |
| 75 | 64 | 35 | 38 | 8 | 48 | 6 | 108 | 108 | 108 | 102 | | | | | | | | | | | | | | | | | | | | | | 62 | |
| 76 | 15 | 15 | 12 | 2 | 9 | | 45 | 30 | 45 | 25 | | | | | | | | | | | | | | | | | | | | | | 25 | |
| 77 | 14 | 15 | 26 | | 40 | | 85 | 58 | 85 | 61 | | | | | | | | | | | | | | | | | | | | | | 10 | |
| 78 | 11 | 8 | 18 | 4 | 23 | | 101 | 84 | 101 | | | | | | | | | | | | | | | | | | | | | | | 32 | |
| 79 | 31 | 11 | 57 | 13 | 37 | 2 | 67 | 80 | 101 | 45 | 2 | | | | | | | | | | | | | | | | | | | | | 35 | |
| 80 | 48 | 45 | 43 | 10 | 80 | 12 | 150 | 202 | 202 | | | | | | | | | | | | | | | | | | | | | | | 68 | |
| 81 | 50 | 78 | 57 | | 107 | 17 | 201 | 201 | 201 | 201 | | | | | | | | | | | | | | | | | | | | | | | 109 |

VIII.—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

| HIGH SCHOOLS. | SUBJECTS. | | | | | | | | | | | |
|---------------------------------------|-------------|------------------------------|-------------|-----------------|----------------|-------------|---------------|--------------------------------|-------------|------------|------------------|-------------|
| | In Reading. | In Orthography and Orthoëpy. | In Grammar. | In Composition. | In Literature. | In History. | In Geography. | In Arithmetic and Mensuration. | In Algebra. | In Euclid. | In Trigonometry. | In Physics. |
| 82 Seaforth..... | 123 | 123 | 129 | 129 | 131 | 131 | 129 | 131 | 131 | 131 | 7 | 78 |
| 83 Simcoe..... | 126 | 126 | 126 | 126 | 126 | 126 | 126 | 126 | 120 | 120 | ..... | 60 |
| 84 Smith's Falls..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | ..... | 47 |
| 85 Smithville..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | ..... | 68 |
| 86 Stratford C. I..... | 282 | 292 | 295 | 295 | 295 | 293 | 293 | 287 | 288 | 288 | 8 | 93 |
| 87 Strathroy C. I..... | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 260 | 260 | 6 | 190 |
| 88 Streetsville..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 64 | 64 | ..... | 25 |
| 89 St. Catharines C.I. | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 220 | 220 | 25 | 78 |
| 90 St. Mary's C. I.... | 192 | 192 | 192 | 192 | 192 | 192 | 192 | 192 | 192 | 192 | 8 | 171 |
| 91 St. Thomas C. I.... | 341 | 341 | 341 | 341 | 341 | 341 | 341 | 341 | 341 | 262 | 6 | 240 |
| 92 Sydenham..... | 75 | 75 | 76 | 75 | 76 | 75 | 75 | 76 | 76 | 76 | 5 | 75 |
| 93 Thorold..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 60 | ..... | 6 |
| 94 Toronto C. I..... | 532 | 300 | 500 | 532 | 532 | 532 | 532 | 532 | 532 | 520 | 35 | 462 |
| 95 Trenton..... | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 83 | 83 | 83 | 5 | 15 |
| 96 Unbridge..... | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 95 | 8 | 35 |
| 97 Walkleekhill | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 82 | 85 | ..... | 23 |
| 98 Vienna..... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 42 | ..... | 7 |
| 99 Walkerton..... | 197 | 197 | 197 | 197 | 162 | 197 | 197 | 197 | 197 | 197 | 5 | 123 |
| 100 Wardsville..... | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | ..... | 32 |
| 101 Waterdown..... | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | ..... | 68 |
| 102 Welland..... | 115 | 117 | 117 | 117 | 85 | 117 | 117 | 116 | 116 | 113 | 2 | 8 |
| 103 Weston..... | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 3 | 9 |
| 104 Whitby..... | 161 | 161 | 170 | 170 | 177 | 170 | 170 | 170 | 177 | 177 | 11 | 88 |
| 105 Williamstown | 71 | 70 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 71 | ..... | 39 |
| 106 Windsor..... | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 1 | 65 |
| 107 Woodstock..... | 160 | 160 | 163 | 163 | 163 | 160 | 160 | 160 | 163 | 163 | 4 | 88 |
| 1 Total, 1885..... | 13253 | 13217 | 13942 | 14022 | 13497 | 13912 | 13885 | 14017 | 13633 | 13166 | 461 | 6939 |
| 2 " 1884..... | 11792 | ..... | 12577 | 12525 | 12046 | 12393 | 12448 | 12638 | 11490 | 11002 | ..... | ..... |
| 3 Increase..... | 1461 | ..... | 1365 | 1497 | 1451 | 1519 | 1437 | 1379 | 2143 | 2164 | ..... | ..... |
| 4 Decrease..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 5 Percentage of total attendance..... | 93 | 93 | 98 | 98 | 94 | 98 | 97 | 98 | 96 | 92 | 3 | 49 |

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.

| In Chemistry. | In Botany. | In Latin. | In Greek. | In French. | In German. | In Writing. | In Book-keeping and Commercial Transactions. | In Drawing. | In Music. | In Précis Writing and Indexing. | In Phonography. | In Commercial Course. | Preparing for University Matriculation. | Preparing for a Learned Profession. | Preparing for a Teacher—Non-Professional Examination. | |
|---------------|------------|-----------|-----------|------------|------------|-------------|--|-------------|-----------|---------------------------------|-----------------|-----------------------|---|-------------------------------------|---|------|
| 82 43 | 10 | 39 | 9 | 57 | 4 | 121 | 102 | 121 | 60 | 17 | .... | 88 | 4 | .... | 12 | 88 |
| 83 30 | 30 | 33 | 8 | 45 | 25 | 126 | 126 | 126 | 40 | .... | .... | 10 | 21 | .... | 1 | 50 |
| 84 19 | 4 | 32 | 10 | 31 | .... | 68 | 68 | 68 | .... | .... | .... | .... | 10 | .... | 1 | 33 |
| 85 20 | 48 | 9 | 2 | 8 | .... | 68 | 25 | 68 | 60 | .... | .... | 3 | 3 | .... | 1 | 35 |
| 86 63 | 53 | 97 | 17 | 81 | 147 | 289 | 257 | 289 | 209 | .... | 13 | .... | 15 | 3 | 20 | 100 |
| 87 70 | 210 | 90 | 18 | 70 | 12 | 240 | 240 | 240 | 90 | .... | .... | 80 | 18 | .... | 12 | 150 |
| 88 24 | 25 | 28 | 3 | 24 | 8 | 68 | 68 | 64 | .... | 4 | .... | 1 | 4 | .... | .... | 30 |
| 89 40 | 32 | 78 | 37 | 98 | 17 | 200 | 200 | 200 | 108 | .... | .... | 20 | 20 | 1 | 10 | 72 |
| 90 67 | 90 | 65 | 15 | 78 | 11 | 192 | 171 | 171 | 105 | 22 | .... | .... | 19 | 2 | 5 | 95 |
| 91 123 | 84 | 128 | 12 | 153 | 34 | 341 | 257 | 293 | 253 | .... | 30 | 127 | 10 | .... | 25 | 156 |
| 92 19 | 2 | 22 | 4 | 19 | .... | 73 | 73 | 73 | 29 | .... | .... | .... | 3 | 2 | 3 | 43 |
| 93 12 | 6 | 15 | .... | 50 | .... | 68 | 45 | 35 | .... | 45 | .... | 8 | 8 | .... | 8 | 20 |
| 94 389 | 70 | 275 | 44 | 355 | 82 | 450 | 500 | 350 | .... | .... | 61 | .... | .... | .... | .... | .... |
| 95 7 | 15 | 20 | 6 | 33 | 2 | 78 | 78 | 78 | 78 | .... | .... | .... | 3 | .... | 6 | 28 |
| 96 30 | .... | 62 | 10 | 68 | 12 | 45 | 65 | 87 | .... | 35 | .... | .... | .... | .... | 2 | 30 |
| 97 15 | 20 | 25 | 2 | 40 | .... | 85 | 20 | 23 | 23 | 5 | .... | 5 | .... | .... | .... | 80 |
| 98 17 | .... | 13 | 1 | 25 | .... | 48 | 48 | 48 | .... | .... | .... | .... | 1 | .... | 1 | 42 |
| 99 36 | 28 | 48 | 13 | 23 | 58 | 197 | 143 | 182 | 29 | .... | .... | .... | 14 | .... | 45 | 92 |
| 100 37 | 20 | 22 | .... | 7 | .... | 43 | 37 | 69 | .... | .... | .... | .... | .... | .... | 4 | 34 |
| 101 15 | 15 | 29 | 2 | 18 | .... | 93 | 77 | 93 | .... | .... | .... | .... | 2 | .... | .... | .... |
| 102 | 8 | 87 | 15 | 14 | 21 | 113 | 85 | 91 | .... | .... | .... | 17 | 11 | .... | 5 | 27 |
| 103 9 | .... | 50 | 4 | 16 | .... | 68 | 68 | 35 | .... | .... | .... | .... | 4 | .... | 6 | 40 |
| 104 47 | .... | 86 | 22 | 84 | 12 | 161 | 161 | 161 | 75 | .... | 65 | 10 | 9 | 7 | 4 | 60 |
| 105 3 | 10 | 15 | 6 | 40 | 2 | .... | 70 | 70 | .... | 5 | .... | .... | 4 | .... | .... | 21 |
| 106 25 | 22 | 18 | 2 | 43 | .... | 100 | 131 | 136 | 60 | .... | .... | 20 | 2 | 1 | .... | 50 |
| 107 45 | 60 | 28 | 9 | 57 | 12 | 159 | 159 | 159 | 45 | .... | .... | 28 | 3 | 3 | 35 | 60 |
| 1 3612 | 2685 | 4937 | 903 | 5528 | 1111 | 11463 | 11145 | 12150 | 3547 | 621 | 482 | 1643 | 741 | 58 | 763 | 5237 |
| 2 3046 | 1880 | 4454 | 927 | 5119 | 1089 | .... | 7407 | 8126 | 3428 | .... | .... | .... | .... | .... | .... | .... |
| 3 566 | 805 | 483 | .... | 409 | 22 | .... | 3738 | 4024 | 119 | .... | .... | .... | .... | .... | .... | .... |
| 4 .... | .... | .... | 24 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 5 25 | 19 | 35 | 6 | 39 | 8 | 80 | 79 | 85 | 25 | 4 | 3 | 12 | 5 | 100 | 5 | 38 |

IX.—TABLE I.—The

MISCELLANEOUS

| HIGH SCHOOLS. | Brick, Stone or Frame. | Freehold or Rented. | Size of Playground. | Schools under United Boards. | Number of Maps in School. | Number of Globes in School. | Schools in which there are daily prayers. | Number of pupils who matriculated at any University. |
|----------------------------|------------------------|---------------------|---------------------|------------------------------|---------------------------|-----------------------------|---|--|
| | | | acres. | | | | | |
| 1 Alexandria | B. | F. | 4/5 | ..... | 12 | 1 | ..... | 1 |
| 2 Almonte | S. | R. | 1 | 1 | 12 | 1 | 1 | 5 |
| 3 Arnprior | B. | F. | 1/2 | 1 | 15 | 1 | ..... | ..... |
| 4 Aylmer | B. | F. | 1/2 | ..... | 12 | 1 | 1 | 2 |
| 5 Barrie, C. I. | B. | F. | 3 | ..... | 20 | ..... | ..... | 5 |
| 6 Beamsville | B. | R. | 2 1/2 | 1 | 18 | 2 | 1 | 1 |
| 7 Belleville | B. | F. | 1 1/2 | 1 | 25 | 2 | 1 | 5 |
| 8 Berlin | B. | F. | 6 | ..... | 12 | 1 | 1 | 2 |
| 9 Bowmanville | B. | F. | 1 1/2 | 1 | 12 | 1 | ..... | 2 |
| 10 Bradford | B. | F. | 2 | ..... | 10 | 2 | ..... | 6 |
| 11 Brampton | B. | F. | 5 | ..... | 30 | 1 | 1 | 1 |
| 12 Brantford, C. I. | B. | F. | 1 | ..... | 20 | 1 | 1 | 6 |
| 13 Brighton | B. | F. | 1 1/2 | 1 | 28 | 1 | 1 | 2 |
| 14 Brockville | S. | F. | 1 1/2 | ..... | 24 | 1 | 1 | ..... |
| 15 Caledonia | B. | F. | 3/4 | 1 | 15 | 1 | 1 | ..... |
| 16 Campbellford | S. | F. | 1/2 | 1 | 12 | 1 | ..... | 1 |
| 17 Carleton Place | S. | F. | 1 1/4 | 1 | 18 | ..... | 1 | 6 |
| 18 Cayuga | B. | F. | 1 1/2 | ..... | 17 | 1 | ..... | ..... |
| 19 Chatham | B. | F. | 5 | ..... | 24 | 3 | 1 | 1 |
| 20 Clinton | B. | F. | 3 1/4 | ..... | 12 | 2 | 1 | 6 |
| 21 Cobourg, C. I. | B. | F. | 2/5 | ..... | 36 | 2 | 1 | 12 |
| 22 Colborne | B. | F. | 1 | 1 | 3 | ..... | 1 | 3 |
| 23 Collingwood, C. I. | B. | F. | 1 | ..... | 28 | 2 | 1 | 4 |
| 24 Cornwall | B. | F. | 1 4/5 | ..... | 26 | 1 | 1 | 5 |
| 25 Dundas | B. | F. | 4/5 | 1 | 30 | 2 | 1 | 2 |
| 26 Dunnville | B. | F. | 1/2 | ..... | 16 | ..... | 1 | 2 |
| 27 Elora | S. | R. | 1 | ..... | 16 | 1 | 1 | 1 |
| 28 Essex Centre | F. | R. | 2/5 | ..... | 12 | 1 | 1 | ..... |
| 29 Farmersville | S. | F. | 2 | 1 | 10 | 1 | 1 | 3 |
| 30 Fergus | B. | F. | 1 | 1 | 13 | 1 | 1 | ..... |
| 31 Galt, C. I. | S. | F. | 8 1/2 | ..... | 52 | 4 | 1 | 10 |
| 32 Gananoque | S. | F. | 1 | 1 | 31 | ..... | 1 | ..... |
| 33 Goderich | B. | F. | 1 1/2 | ..... | 18 | 2 | 1 | 3 |
| 34 Grimsby | F. | F. | 1 | ..... | 12 | 2 | 1 | ..... |
| 35 Guelph | S. | F. | 4 | 1 | 25 | 1 | 1 | 2 |
| 36 Hamilton, C. I. | S. | F. | 1 | 1 | 30 | 2 | 1 | 8 |
| 37 Harriston | B. | F. | 3 | ..... | 14 | 1 | 1 | 3 |
| 38 Hawkesbury | B. | F. | 1 1/2 | 1 | 25 | 2 | 1 | 3 |
| 39 Ingersoll | B. | F. | 2 1/2 | 1 | 15 | 1 | 1 | 1 |
| 40 Iroquois | S. | F. | 1 | ..... | 12 | 1 | 1 | 2 |

High Schools

INFORMATION.

| Number of pupils who entered mercantile life. | | Number of pupils who became occupied with agriculture. | Number of pupils who joined any learned profession. | Number of pupils who left for other occupations. | Number of pupils in Preparatory Department. | Number of Masters and Teachers. | Salary of Head Master. | HEAD MASTERS AND THEIR UNIVERSITIES. |
|---|-------|--|---|--|---|---------------------------------|------------------------|--|
| | | | | | | | % | |
| 1 | 3 | 8 | 1 | 4 | ..... | 2 | 850 | W. D. Johnston, B.A., <i>Toronto.</i> |
| 2 | 2 | ..... | 3 | 4 | ..... | 3 | 1000 | P. C. McGregor, B.A., <i>Queen's.</i> |
| 3 | 5 | ..... | 4 | 12 | ..... | 2 | 875 | L. C. Corbett, B.A., <i>Toronto.</i> |
| 4 | 4 | 7 | 6 | 20 | ..... | 3 | 1200 | W. W. Rutherford, B.A., <i>Toronto.</i> |
| 5 | 5 | 3 | 19 | ..... | ..... | 4 | 1500 | H. B. Spotton, M.A., <i>Toronto.</i> |
| 6 | 2 | 3 | 2 | 1 | ..... | 2 | 750 | A. W. Keavley, B.A., <i>Toronto.</i> |
| 7 | 12 | 5 | 5 | 50 | ..... | 4 | 1100 | G. S. Wright, M.A., <i>Toronto.</i> |
| 8 | 14 | 4 | 1 | ..... | ..... | 4 | 1400 | J. W. Connor, B.A., <i>Toronto.</i> |
| 9 | 12 | 12 | ..... | 12 | ..... | 3 | 1400 | W. W. Tamblyn, M.A., <i>Toronto.</i> |
| 10 | 2 | 7 | 6 | 8 | ..... | 2 | 1000 | W. Forrest, M.D., B.A., <i>Toronto.</i> |
| 11 | 6 | 4 | 1 | 40 | ..... | 4 | 1100 | A. Murray, M.A., <i>Aberdeen.</i> |
| 12 | ..... | ..... | 2 | ..... | ..... | 7 | 1500 | W. Oliver, B.A., <i>Toronto.</i> |
| 13 | 2 | 1 | 4 | 5 | ..... | 2 | 750 | S. T. Hopper, B.A., <i>Victoria.</i> |
| 14 | 13 | 4 | 4 | 15 | ..... | 3 | 1200 | A. W. Burt, B.A., <i>Toronto.</i> |
| 15 | 9 | 12 | 1 | 4 | ..... | 3 | 1030 | L. A. Kennedy, M.A., <i>Victoria.</i> |
| 16 | 6 | 6 | ..... | 40 | ..... | 2 | 1050 | A. G. Knight, B.A., <i>Victoria.</i> |
| 17 | 5 | 3 | 7 | 2 | ..... | 2 | 900 | J. R. Johnston, B.A., <i>Queen's.</i> |
| 18 | 2 | ..... | ..... | 7 | ..... | 2 | 860 | A. Cole, B.A., <i>Toronto.</i> |
| 19 | ..... | ..... | ..... | ..... | ..... | 6 | 1200 | A. W. A. Finlay, B.A., <i>Victoria.</i> |
| 20 | 10 | 8 | 6 | 23 | ..... | 4 | 1200 | J. Turnbull, B.A., <i>Toronto.</i> |
| 21 | 8 | 5 | ..... | 38 | 47 | 4 | 1200 | D. C. McHenry, M.A., <i>Victoria.</i> |
| 22 | 2 | 3 | 2 | 3 | ..... | 2 | 823 | J. S. Bellamy, B.A., <i>Victoria.</i> |
| 23 | 4 | 4 | 6 | 9 | ..... | 5 | 1556 | W. Williams, B.A., <i>Toronto.</i> |
| 24 | 4 | ..... | ..... | ..... | ..... | 3 | 1000 | J. Smith, M.A., <i>Aberdeen.</i> |
| 25 | 5 | 5 | 5 | 11 | ..... | 2 | 1100 | J. D. Bissonnette, B.A., <i>Queen's.</i> |
| 26 | 3 | 1 | ..... | ..... | ..... | 2 | 800 | J. P. Hume, B.A., <i>Queen's.</i> |
| 27 | 10 | 15 | 6 | 4 | ..... | 2 | 900 | D. Mackay, B.A., <i>Toronto.</i> |
| 28 | ..... | ..... | ..... | ..... | ..... | 2 | 1000 | A. Weir, B.A., <i>Toronto.</i> |
| 29 | 10 | 5 | 3 | 25 | ..... | 2 | 1000 | W. Johnston, M.A., <i>Victoria.</i> |
| 30 | 6 | 14 | 14 | 18 | ..... | 2 | 1000 | C. F. McGillivray, M.A., <i>Toronto.</i> |
| 31 | 12 | 7 | 11 | 8 | ..... | 5 | 1600 | T. Carscadden, M.A., <i>Toronto.</i> |
| 32 | 4 | 2 | 3 | 6 | ..... | 2 | 1000 | W. K. T. Smellie, B.A., <i>Toronto.</i> |
| 33 | 4 | 1 | ..... | 27 | ..... | 4 | 1200 | H. I. Strang, B.A., <i>Toronto.</i> |
| 34 | ..... | 5 | 2 | 3 | ..... | 2 | 825 | C. W. Mulloy, B.A., <i>Toronto.</i> |
| 35 | 24 | 30 | ..... | ..... | ..... | 5 | 1050 | W. Tytler, B.A., <i>Toronto.</i> |
| 36 | 100 | ..... | 12 | 20 | ..... | 15 | 1400 | P. S. Campbell, B.A., <i>Toronto.</i> |
| 37 | 10 | 14 | 3 | 25 | ..... | 3 | 1200 | J. McMurchie, B.A., <i>Toronto.</i> |
| 38 | 1 | ..... | 4 | 4 | ..... | 2 | 900 | J. A. Houston, B.A., <i>Trinity.</i> |
| 39 | 10 | 5 | 24 | 10 | ..... | 4 | 1000 | F. W. Merchant, M.A., <i>Victoria.</i> |
| 40 | 6 | 10 | ..... | 12 | ..... | 2 | 800 | W. A. Whitney, M.A., <i>Victoria.</i> |

IX.—TABLE I.—The

MISCELLANEOUS

| HIGH SCHOOLS. | Brick, Stone or Frame. | Freehold or Rent-d. | Size of Playground. | Schools under United Boards. | Number of Maps in School. | Number of Globes in School. | Schools in which there are daily prayers. | Number of pupils who matriculated at any University. |
|------------------------------|------------------------|---------------------|---------------------|------------------------------|---------------------------|-----------------------------|---|--|
| | | | acres. | | | | | |
| 41 Kemptville..... | B. | F. | 2 | 1 | 12 | 1 | 1 | ..... |
| 42 Kincardine..... | B. | F. | 1 $\frac{3}{4}$ | 1 | 25 | 1 | 1 | 1 |
| 43 Kingston, C. I..... | S. | F. | 1 | ..... | 24 | 2 | 1 | 23 |
| 44 Lindsay..... | B. | F. | 8 | 1 | 40 | 2 | 1 | 4 |
| 45 Listowel..... | B. | F. | 2 | ..... | 12 | 1 | 1 | ..... |
| 46 London, C. I..... | B. | F. | 2 $\frac{1}{2}$ | 1 | 18 | 2 | 1 | 3 |
| 47 Markham..... | B. | F. | 2 | ..... | 23 | 2 | 1 | ..... |
| 48 Mitchell..... | B. | F. | ..... | ..... | 22 | 2 | 1 | ..... |
| 49 Morrisburg..... | B. | F. | ..... | 1 | 18 | ..... | 1 | 3 |
| 50 Mount Forest..... | F. | R. | 3 $\frac{3}{8}$ | ..... | 14 | 1 | 1 | 2 |
| 51 Napanee..... | B. | F. | 7 $\frac{1}{4}$ | 1 | 36 | 2 | 1 | 2 |
| 52 Newburgh..... | S. | F. | 1 | 1 | 5 | 1 | 1 | ..... |
| 53 Newcastle..... | B. | F. | 1 | 1 | 20 | 1 | 1 | 1 |
| 54 Newmarket..... | B. | F. | 2 | ..... | 25 | 1 | 1 | 3 |
| 55 Niagara..... | B. | F. | ..... | ..... | 22 | 2 | 1 | ..... |
| 56 Niagara Falls, South..... | F. | F. | 2 $\frac{1}{2}$ | ..... | 10 | 1 | 1 | ..... |
| 57 Norwood..... | B. | F. | 1 | 1 | 12 | 1 | 1 | ..... |
| 58 Oakville..... | B. | F. | 1 $\frac{1}{2}$ | 1 | 4 | 2 | 1 | 1 |
| 59 Oakwood..... | B. | F. | 1 | ..... | 12 | 1 | 1 | 1 |
| 60 Omemee..... | F. | F. | ..... | 1 | 15 | ..... | 1 | ..... |
| 61 Orangeville..... | B. | F. | 1 $\frac{1}{2}$ | ..... | 28 | 1 | 1 | 2 |
| 62 Orillia..... | B. | F. | 3 | ..... | 10 | 1 | 1 | 2 |
| 63 Oshawa..... | B. | F. | 3 $\frac{1}{2}$ | 1 | 12 | 1 | 1 | 3 |
| 64 Ottawa, C. I..... | S. | F. | 1 $\frac{1}{2}$ | ..... | 25 | 3 | 1 | 5 |
| 65 Owen Sound..... | B. | F. | 4 $\frac{1}{2}$ | 1 | 30 | 2 | 1 | 3 |
| 66 Paris..... | B. | F. | 1 $\frac{1}{2}$ | 1 | 26 | 1 | 1 | ..... |
| 67 Parkhill..... | B. | R. | 1 | 1 | 6 | 2 | 1 | 1 |
| 68 Pembroke..... | B. | R. | 1 | 1 | 3 | ..... | 1 | 2 |
| 69 Perth, C. I..... | B. | F. | 5 $\frac{1}{2}$ | 1 | 13 | 1 | 1 | 6 |
| 70 Peterboro', C. I..... | B. | R. | 2 | 1 | 50 | 1 | 1 | 5 |
| 71 Petrolia..... | B. | F. | 2 | ..... | 10 | ..... | 1 | ..... |
| 72 Picton..... | B. | F. | ..... | ..... | 10 | 1 | 1 | 1 |
| 73 Port Dover..... | B. | F. | 2 | 1 | 20 | 2 | 1 | 2 |
| 74 Port Hope..... | B. | F. | ..... | ..... | 15 | 2 | 1 | 2 |
| 75 Port Perry..... | B. | F. | 1 $\frac{1}{2}$ | 1 | 24 | 1 | 1 | ..... |
| 76 Port Rowan..... | B. | F. | 2 $\frac{1}{4}$ | 1 | 20 | 1 | 1 | 1 |
| 77 Prescott..... | S. | R. | ..... | 1 | 26 | 3 | 1 | ..... |
| 78 Renfrew..... | B. | F. | 3 | 1 | 8 | ..... | 1 | ..... |
| 79 Richmond Hill..... | B. | R. | 1 | 1 | 24 | 1 | 1 | 4 |
| 80 Ridgetown..... | B. | F. | 14 | ..... | 16 | 1 | 1 | 3 |
| 81 Sarnia..... | B. | F. | 14 | 1 | 28 | 4 | 1 | ..... |

High Schools.

INFORMATION.

| Number of pupils who entered mercantile life. | | Number of pupils who became occupied with agriculture. | | Number of pupils who joined any learned profession. | | Number of pupils who left for other occupations. | | Number of pupils in Preparatory Department. | | Number of Masters and Teachers. | | Salary of Head Master. | | HEAD MASTERS AND THEIR UNIVERSITIES. | |
|---|-------|--|-------|---|-------|--|------|--|--|---------------------------------|--|------------------------|--|--------------------------------------|--|
| | | | | | | | | | | | | \$ | | | |
| 41 | 2 | 1 | 20 | 1 | ..... | 2 | 800 | W. S. Cody, B.A., <i>Toronto.</i> | | | | | | | |
| 42 | 5 | 3 | ..... | 4 | ..... | 4 | 1100 | B. Freer, B.A., <i>Trinity.</i> | | | | | | | |
| 43 | 15 | ..... | 1 | 4 | 24 | 8 | 1300 | A. P. Knight, M.A., <i>Queen's.</i> | | | | | | | |
| 44 | 15 | 6 | ..... | 15 | ..... | 4 | 1200 | W. O'Connor, M.A., <i>Queen's, Ireland.</i> | | | | | | | |
| 45 | ..... | ..... | ..... | 25 | ..... | 2 | 1000 | A. B. McCallum, M.A., <i>Queen's.</i> | | | | | | | |
| 46 | ..... | ..... | ..... | ..... | ..... | 8 | 1200 | Rev. F. L. Checkley, B.A., <i>Trinity.</i> | | | | | | | |
| 47 | 2 | 10 | ..... | 16 | ..... | 2 | 900 | C. R. Gunne, B.A., <i>Trinity.</i> | | | | | | | |
| 48 | 5 | 4 | 11 | 11 | ..... | 2 | 900 | W. Elliot, B.A., <i>Toronto.</i> | | | | | | | |
| 49 | 3 | 4 | 20 | 7 | ..... | 2 | 1250 | J. S. Jamieson, M.A., <i>Victoria.</i> | | | | | | | |
| 50 | 5 | 6 | 3 | 30 | ..... | 4 | 1150 | J. Reid, B.A., LL.B., <i>Toronto.</i> | | | | | | | |
| 51 | ..... | ..... | ..... | ..... | ..... | 4 | 1200 | C. Fessenden, B.A., <i>Toronto.</i> | | | | | | | |
| 52 | ..... | 3 | ..... | 5 | ..... | 2 | 800 | D. Hicks, B.A., <i>Toronto.</i> | | | | | | | |
| 53 | 2 | 2 | 1 | 1 | ..... | 2 | 800 | W. W. Jardine, B.A., <i>Toronto.</i> | | | | | | | |
| 54 | 2 | 6 | 15 | 10 | ..... | 3 | 1000 | J. E. Dickson, B.A., <i>Toronto.</i> | | | | | | | |
| 55 | 4 | 3 | ..... | 11 | ..... | 2 | 900 | A. Andrews, <i>Certificate.</i> | | | | | | | |
| 56 | 4 | 6 | ..... | 20 | ..... | 2 | 800 | M. M. Fenwick, B.A., <i>Toronto.</i> | | | | | | | |
| 57 | 5 | 4 | 10 | 2 | ..... | 2 | 1200 | J. Davidson, M.A., <i>Victoria.</i> | | | | | | | |
| 58 | 5 | 5 | 6 | 10 | ..... | 2 | 1050 | N. J. Wellwood, B.A., <i>Toronto.</i> | | | | | | | |
| 59 | ..... | ..... | ..... | ..... | ..... | 2 | 800 | J. C. Pomeroy, B.A., <i>Albert.</i> | | | | | | | |
| 60 | ..... | ..... | ..... | ..... | ..... | 2 | 850 | J. A. Tanner, M.A., <i>Trinity.</i> | | | | | | | |
| 61 | 7 | 3 | 18 | 11 | ..... | 3 | 1200 | A. Steele, B.A., <i>Toronto.</i> | | | | | | | |
| 62 | 15 | 18 | 4 | 19 | ..... | 3 | 1000 | J. Ryerson, B.A., <i>Toronto.</i> | | | | | | | |
| 63 | 5 | 10 | 5 | 12 | ..... | 4 | 1300 | L. C. Smith, B.A., <i>Victoria.</i> | | | | | | | |
| 64 | 39 | 11 | 6 | 46 | ..... | 7 | 1800 | J. Macmillan, B.A., <i>Toronto.</i> | | | | | | | |
| 65 | 30 | 40 | 10 | 30 | ..... | 5 | 1200 | H. De La Matter, <i>Certificate.</i> | | | | | | | |
| 66 | 3 | 4 | 4 | 6 | ..... | 2 | 1100 | J. W. Acres, B.A., L.R.C.P., <i>Trinity.</i> | | | | | | | |
| 67 | 4 | 12 | 14 | ..... | ..... | 2 | 800 | E. M. Bigg, M.A., <i>Toronto.</i> | | | | | | | |
| 68 | 20 | 5 | 11 | 12 | ..... | 3 | 1050 | E. Odhum, M.A., <i>Victoria.</i> | | | | | | | |
| 69 | 5 | 13 | ..... | 17 | ..... | 4 | 1200 | W. Rothwell, B.A., <i>Queen's.</i> | | | | | | | |
| 70 | ..... | ..... | ..... | ..... | ..... | 5 | 1200 | W. Tassie, M.A., LL.D., <i>Toronto.</i> | | | | | | | |
| 71 | 2 | 2 | ..... | 35 | ..... | 3 | 1100 | S. Phillips, B.A., <i>Victoria.</i> | | | | | | | |
| 72 | ..... | ..... | ..... | ..... | ..... | 3 | 1200 | R. Dobson, B.A., <i>Victoria.</i> | | | | | | | |
| 73 | ..... | ..... | ..... | ..... | ..... | 2 | 1000 | R. A. Barron, B.A., <i>Toronto.</i> | | | | | | | |
| 74 | 15 | ..... | 3 | 5 | ..... | 4 | 1300 | A. Purslow, M.A., LL.D., <i>Victoria.</i> | | | | | | | |
| 75 | 8 | 12 | 6 | 30 | ..... | 3 | 1400 | D. McBride, B.A., <i>Victoria.</i> | | | | | | | |
| 76 | 5 | 4 | 4 | 5 | ..... | 2 | 900 | A. G. MacKay, M.A., <i>Toronto.</i> | | | | | | | |
| 77 | 3 | ..... | ..... | 12 | ..... | 2 | 1000 | M. McPherson, M.A., <i>Victoria.</i> | | | | | | | |
| 78 | 3 | 5 | 23 | 5 | ..... | 3 | 900 | C. McDowell, B.A., <i>Queen's.</i> | | | | | | | |
| 79 | 2 | 3 | 6 | 15 | ..... | 2 | 1000 | J. McBride, M.A., B.Sc., <i>Toronto.</i> | | | | | | | |
| 80 | 6 | 8 | 5 | 5 | ..... | 5 | 1200 | G. A. Chase, B.A., <i>Toronto.</i> | | | | | | | |
| 81 | 27 | 16 | 4 | 18 | ..... | 4 | 1200 | W. Sinclair, B.A., <i>Toronto.</i> | | | | | | | |

IX.—TABLE. I.—The

MISCELLANEOUS

| HIGH SCHOOLS. | | Brick, Stone or Frame. | Freehold or Rented. | Size of Playground. | Schools under United Boards. | Number of Maps in School. | Number of Globes in School. | Schools in which there are daily prayers. | Number of pupils who matriculated at any University. |
|---------------|-----------------------|------------------------|---------------------|---------------------|------------------------------|---------------------------|-----------------------------|---|--|
| | | | | acres. | | | | | |
| 82 | Seaforth | B. | F. | 3 $\frac{3}{4}$ | 1 | 34 | 1 | 1 | 4 |
| 83 | Simcoe | B. | F. | 1 | 1 | 20 | 1 | 1 | 1 |
| 84 | Smith's Falls | B. | F. | 1 | 1 | 9 | 1 | 1 | 1 |
| 85 | Smithville | F. | F. | 1 | 1 | 20 | 1 | 1 | 1 |
| 86 | Stratford, C. I. | B. | F. | 3 $\frac{1}{2}$ | 1 | 31 | 2 | 1 | 4 |
| 87 | Strathroy, C. I. | B. | F. | 1 $\frac{1}{2}$ | 1 | 12 | 2 | 1 | 5 |
| 88 | Streetsville | B. | F. | 1 | 1 | 17 | 2 | 1 | 1 |
| 89 | St. Catharines, C. I. | B. | F. | 1 | 1 | 25 | 3 | 1 | 12 |
| 90 | St. Mary's, C. I. | B. | F. | 2 | 1 | 19 | 2 | 1 | 6 |
| 91 | St. Thomas, C. I. | B. | F. | 2 | 1 | 16 | 2 | 1 | 3 |
| 92 | Sydenham | S. | F. | 1 $\frac{1}{2}$ | 1 | 16 | 1 | 1 | 2 |
| 93 | Thorold | B. | F. | 2 $\frac{1}{2}$ | 1 | 18 | 1 | 1 | 2 |
| 94 | Toronto, C. I. | B. | F. | 2 | 1 | 54 | 2 | 1 | 15 |
| 95 | Trenton | B. | F. | 3 $\frac{5}{8}$ | 1 | 16 | 1 | 1 | 5 |
| 96 | Uxbridge | B. | F. | 2 $\frac{1}{2}$ | 1 | 20 | 1 | 1 | 6 |
| 97 | Vankleekhill | B. | F. | 3 $\frac{3}{4}$ | 1 | 16 | 1 | 1 | 1 |
| 98 | Vienna | B. | F. | 1 $\frac{1}{2}$ | 1 | 28 | 1 | 1 | 1 |
| 99 | Walkerton | B. | F. | 1 $\frac{1}{4}$ | 1 | 17 | 1 | 1 | 4 |
| 100 | Wardsville | B. | F. | 2 | 1 | 13 | 1 | 1 | 1 |
| 101 | Waterdown | S. | F. | 3 $\frac{3}{4}$ | 1 | 16 | 1 | 1 | 1 |
| 102 | Welland | B. | F. | 1 | 1 | 12 | 2 | 1 | 1 |
| 103 | Weston | B. | F. | 1 $\frac{1}{4}$ | 1 | 18 | 1 | 1 | 3 |
| 104 | Whitby | B. | F. | 1 | 1 | 64 | 1 | 1 | 8 |
| 105 | Williamstown | B. | F. | 1 | 1 | 26 | 1 | 1 | 3 |
| 106 | Windsor | B. | F. | 1 | 1 | 21 | 1 | 1 | 1 |
| 107 | Woodstock | B. | F. | 1 | 1 | 20 | 2 | 1 | 3 |
| | | B. S. F. | F. R. | acres. | | | | | |
| 1 | Total, 1885 | 84 17 6 | 97 10 | 195 | 53 | 2123 | 141 | 98 | 290 |
| 2 | Total, 1884 | 81 19 6 | 99 7 | 188 | 54 | 2133 | 152 | 90 | 266 |
| 3 | Increase | 3 | 3 | 7 | | | | 8 | 24 |
| 4 | Decrease | 2 | 2 | | 1 | 10 | 11 | | |

High Schools.

INFORMATION.

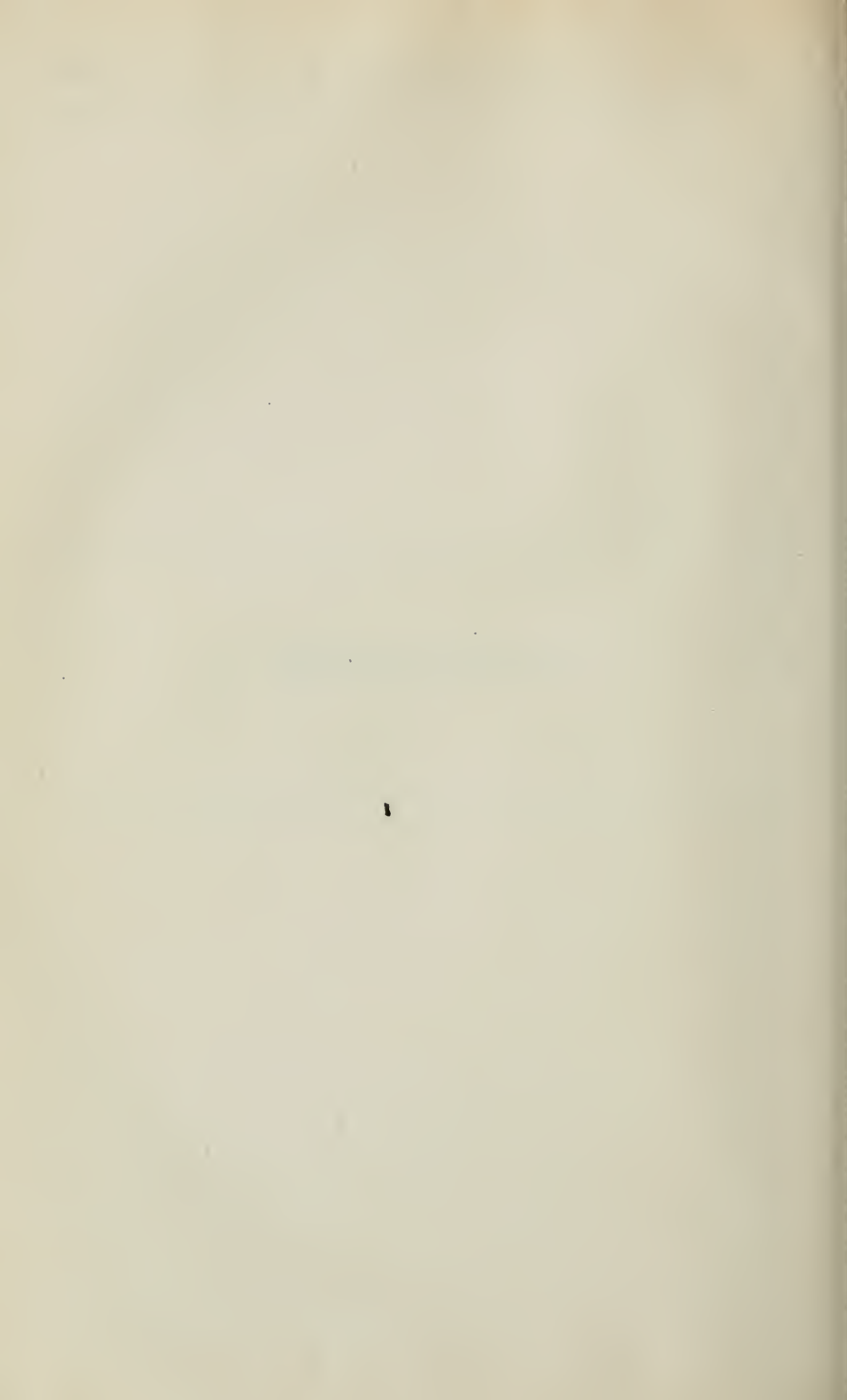
| Number of pupils who entered mer- cantile life. | | Number of pupils who became occu- pied with agriculture. | | Number of pupils who joined any learned profession. | | Number of pupils who left for other occupations. | | Number of pupils in Preparatory Department. | | Number of Masters and Teachers. | | Salary of Head Master. | | | |
|--|-------|---|-------|--|-------|---|-------|--|--|---------------------------------|--|--------------------------------------|--|-----------------|--|
| | | | | | | | | | | | | HEAD MASTERS AND THEIR UNIVERSITIES. | | | |
| | | | | | | | | | | | | § | | | |
| 82 | 4 | 2 | 12 | 1 | ..... | 4 | 1200 | J. C. Harstone, B.A., <i>Toronto</i> . | | | | | | | |
| 83 | 10 | 10 | 3 | 30 | ..... | 3 | 1200 | D. S. Paterson, B.A., <i>Toronto</i> . | | | | | | | |
| 84 | 1 | ..... | ..... | 5 | ..... | 2 | 1000 | N. Robertson, B.A., <i>Toronto</i> . | | | | | | | |
| 85 | ..... | 10 | ..... | 12 | ..... | 2 | 800 | A. C. Crosby, B.A., <i>Albert</i> . | | | | | | | |
| 86 | 19 | 13 | 40 | 20 | ..... | 7 | 1400 | W. McBride, M.A., <i>Toronto</i> . | | | | | | | |
| 87 | 20 | 20 | 10 | 70 | ..... | 5 | 1400 | J. E. Wetherell, B.A., <i>Toronto</i> . | | | | | | | |
| 88 | 1 | ..... | ..... | 1 | ..... | 2 | 750 | A. B. Cooke, B.A., <i>Trinity</i> . | | | | | | | |
| 89 | 20 | 5 | 40 | 50 | ..... | 7 | 1600 | J. Henderson, M.A., <i>Toronto</i> . | | | | | | | |
| 90 | 12 | 5 | 3 | 15 | ..... | 5 | 1200 | I. M. Levan, B.A., <i>Toronto</i> . | | | | | | | |
| 91 | 30 | 40 | 12 | 80 | ..... | 7 | 1580 | J. Millar, B.A., <i>Toronto</i> . | | | | | | | |
| 92 | 2 | ..... | ..... | 17 | ..... | 2 | 1200 | | | | | | | | |
| 93 | 6 | 10 | 2 | 6 | ..... | 2 | 1167 | J. E. Burgess, M.A., <i>Queen's</i> . | | | | | | | |
| 94 | 44 | 3 | 42 | 44 | 90 | 12 | 2350 | A. McCulloch, M.A., <i>Queen's</i> . | | | | | | | |
| 95 | 3 | 2 | ..... | 18 | ..... | 3 | 1000 | A. McMurchy, M.A., <i>Toronto</i> . | | | | | | | |
| 96 | ..... | ..... | 2 | 20 | ..... | 3 | 1300 | B. N. Davis, B.A., <i>Queen's</i> . | | | | | | | |
| 97 | ..... | ..... | ..... | ..... | ..... | 2 | 850 | J. J. Magee, B.A., <i>Toronto</i> . | | | | | | | |
| 98 | 2 | 2 | 4 | 2 | ..... | 2 | 850 | A. H. Watson, B.A., <i>Toronto</i> . | | | | | | | |
| 99 | 16 | 9 | 8 | 32 | ..... | 4 | 1100 | A. Miller, M.A., <i>Victoria</i> . | | | | | | | |
| 100 | 3 | 5 | 4 | 20 | ..... | 2 | 800 | J. Morgan, M.A., <i>Toronto</i> . | | | | | | | |
| 101 | 8 | 8 | 22 | 8 | ..... | 2 | 900 | W. G. MacLachlan, B.A., <i>Toronto</i> . | | | | | | | |
| 102 | 12 | 15 | 14 | 27 | ..... | 3 | 1200 | A. Crichton, B.A., <i>Toronto</i> . | | | | | | | |
| 103 | 9 | 15 | ..... | 15 | ..... | 2 | 1200 | J. M. Dunn, B.A., LL.B., <i>Toronto</i> . | | | | | | | |
| 104 | 8 | 10 | 14 | 8 | ..... | 7 | 1550 | G. Wallace, B.A. <i>Dublin</i> . | | | | | | | |
| 105 | ..... | ..... | 12 | ..... | ..... | 2 | 850 | L. E. Embree, B.A., <i>Toronto</i> . | | | | | | | |
| 106 | 4 | ..... | 12 | 37 | ..... | 3 | 1100 | J. A. Monroe, B.A., <i>Victoria</i> . | | | | | | | |
| 107 | 12 | 10 | 6 | 28 | ..... | 4 | 1200 | A. Sinclair, M.A., <i>Toronto</i> . | | | | | | | |
| | | | | | | | | | | | | 61 Toronto. | | 2 Aberdeen. | |
| | | | | | | | | | | | | 20 Victoria. | | 1 Dublin. | |
| | | | | | | | | | | | | 11 Queen's. | | 1 Queen's, I. | |
| | | | | | | | | | | | | 7 Trinity. | | 2 Certificates. | |
| | | | | | | | | | | | | 2 Albert. | | | |
| | | | | | | | | | | | | Av. | | | |
| 1 | 856 | 636 | 639 | 1481 | 161 | 365 | 1104 | High. sal. H. M., \$2,350. Low. H. M., \$750 | | | | | | | |
| 2 | 730 | 571 | 927 | 1004 | 182 | 358 | 1098 | High. sal. H. M., \$2,350. Low. H. M., \$750 | | | | | | | |
| 3 | 126 | 65 | ..... | 477 | ..... | 7 | 6 | | | | | | | | |
| 4 | ..... | ..... | 288 | ..... | 21 | ..... | ..... |  |  |  |  |  |  |  |  |

X.—TABLE K.—A GENERAL STATISTICAL ABSTRACT, exhibiting the comparative state and progress of Education in Ontario, as connected with Public, Separate and High Schools; also, Normal and Model Schools. From the years 1876 to 1885, inclusive, compiled from Returns in the Education Department.

| No. | SUBJECTS COMPARED. | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 |
|-----|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------|
| 1 | Population | | 1913460 | | | | | | | | 1885 (5-21) |
| 2 | Population between the ages of five and sixteen years, up to 1884; and five to twenty-one, subsequently | 502250 | 494804 | 492360 | 494424 | 489924 | 484224 | 483817 | 478791 | 471287 | 581947 |
| 3 | County High Schools | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 106 | 107 |
| 4 | Normal and Model Schools..... | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| 5 | Total Public Schools in operation..... | 4875 | 4955 | 4813 | 4932 | 4941 | 5043 | 5013 | 5058 | 5109 | 5177 |
| 6 | Total Roman Catholic Separate Schools..... | 167 | 185 | 177 | 191 | 196 | 195 | 190 | 194 | 207 | 218 |
| 7 | Grand Total of all Schools in operation | 5150 | 5248 | 5098 | 5231 | 5245 | 5348 | 5313 | 5362 | 5428 | 5508 |
| 8 | Total Pupils attending County High Schools | 8541 | 9229 | 10374 | 12136 | 12910 | 13136 | 12848 | 11843 | 12737 | 14250 |
| 9 | Total Students and Pupils attending Normal and Model Schools | 694 | 656 | 608 | 820 | 1090 | 1116 | 1059 | 1098 | 1093 | 1063 |
| 10 | Total Pupils attending Public Schools..... | 465243 | 465908 | 463405 | 462233 | 457734 | 451449 | 445364 | 438192 | 439454 | 444868 |
| 11 | Total Pupils attending Roman Catholic Separate Schools | 25294 | 24952 | 25610 | 24779 | 25311 | 24819 | 26148 | 26177 | 27463 | 27590 |
| 12 | Grand Total, Students and Pupils attending Public, Separate and High, Normal and Model Schools | 499772 | 500745 | 500197 | 499968 | 497045 | 490520 | 484919 | 477310 | 480747 | 487771 |
| 13 | Total amount paid for the Salaries of Public and Separate School Teachers..... | 1838321 | 1938069 | 2011208 | 2072822 | 2113180 | 2106019 | 2144448 | 2210187 | 2296027 | 2327050 |
| 14 | Total amount paid for the erection or repairs of Public and Separate School-Houses, and for Libraries and Apparatus, Books, Fuel, Stationery, &c | 1168135 | 1035390 | 878139 | 760262 | 708872 | 738252 | 882526 | 898243 | 984835 | 985650 |

| | | | | | | | | | | |
|--|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 15 Grand Total paid for Public and Separate School Teachers' Salaries, the erection and repairs of School-Houses, and for Libraries and Apparatus, etc | \$3006456 | 2973489 | 2889347 | 2833084 | 2822052 | 2844271 | 3026974 | 3108430 | 3280862 | 3312700 |
| 16 Total amount paid for High School Teachers' Salaries | \$195906 | 211607 | 225010 | 241097 | 247894 | 257218 | 253864 | 266317 | 282776 | 294078 |
| 17 Total amount paid for erection or repairs of High School-Houses, Maps, Apparatus, Prizes, Fuel, Books, etc. | \$109042 | 132102 | 173000 | 159691 | 166035 | 88632 | 89857 | 82630 | 102690 | 135688 |
| 18 Amount paid for other educational purposes | \$227548 | 257240 | 263510 | 235600 | 232172 | 233209 | 235814 | 240597 | 238469 | 243092 |
| 19 Grand Total paid for educational purposes | \$3538952 | 3574438 | 3548867 | 3469472 | 3468153 | 3423330 | 3606509 | 3697974 | 3904797 | 3985553 |
| 20 Total Public School Teachers. | 6185 | 6468 | 6473 | 6596 | 6747 | 6922 | 6857 | 6911 | 7085 | 7218 |
| 21 Total Male Teachers. | 2780 | 3020 | 3060 | 3153 | 3264 | 3362 | 3062 | 2829 | 2789 | 2744 |
| 22 Total Female Teachers. | 3405 | 3448 | 3413 | 3443 | 3483 | 3560 | 3795 | 4082 | 4296 | 4474 |
| 23 Average number of days each Public School has been kept open. | 205 | 204 | 206 | 208 | 208 | 208 | 206 | 207 | 208 | 208 |

APPENDICES.



APPENDICES.

APPENDIX A.—*PROCEEDINGS FOR THE YEAR 1886.*

1. *ORDERS IN COUNCIL*

- I. FIFTH READER CONTINUED TO BE AUTHORIZED TILL FIRST DAY OF JULY, 1886 (9th January, 1886).

- II. RATIFICATION OF AGREEMENT BETWEEN THE MINISTER OF EDUCATION AND THE FREE LIBRARY OF TORONTO, FOR THE TRANSFER OF CERTAIN SPECIFICATIONS OF PATENTS OF INVENTIONS (13th January, 1886).

- III. ESTABLISHMENT OF A HIGH SCHOOL IN THE VILLAGE OF DUTTON (13th January, 1886.)

- IV. INGERSOLL HIGH SCHOOL TO RANK AS A COLLEGIATE INSTITUTE (21st January, 1886).

- V. SURRENDER OF CERTAIN HIGH SCHOOL LANDS OF THE TOWN OF DUNDAS (6th January, 1886).

- VI. RIDGETOWN HIGH SCHOOL TO RANK AS A COLLEGIATE INSTITUTE (16th February, 1886).

- VII. DR. S. P. MAY APPOINTED COMMISSIONER TO THE COLONIAL AND INDIAN EXHIBITION (19th March, 1886).

- VIII. THE REV. GEORGE GRANT, M.A., APPOINTED PUBLIC SCHOOL INSPECTOR FOR THE DISTRICT OF PARRY SOUND (30th March, 1886).

- IX. GRATUITY TO DONALD BARRON (29th April 1886).

- X. ORDER OF 24TH JUNE, 1885, ABOLISHING THE HIGH SCHOOL AT VIENNA, RESCINDED (29th April, 1886).

- XI. GRATUITY TO MRS. SARAH McLEAN, WIDOW OF PETER McLEAN, LATE INSPECTOR OF THE DISTRICTS OF ALGOMA AND PARRY SOUND (5th May, 1886).

- XII. DONALD McCaig, Esquire, appointed Public School Inspector for the District of Algoma (5th May, 1886).
- XIII. JOHN CHARLES ROBERTSON, B.A., exempted from attendance at a Training Institute (20th May, 1886).
- XIV. RATIFICATION OF AGREEMENTS BETWEEN THE MINISTER OF EDUCATION AND THE CANADA PUBLISHING COMPANY (LIMITED), AND THE COPP, CLARK COMPANY (LIMITED), FOR THE PUBLICATION OF THE CANADIAN DRAWING COURSE AND THE PUBLIC SCHOOL HISTORY OF ENGLAND AND CANADA, RESPECTIVELY (22nd May, 1886).
- XV. ESTABLISHMENT OF A HIGH SCHOOL IN THE VILLAGE OF GEORGETOWN (22nd October, 1886).
- XVI. APPOINTMENT OF ROBERT BRIGHTON AS NIGHT WATCHMAN OF THE NORMAL SCHOOL, OTTAWA (12th November, 1886).
- XVII. WOODSTOCK HIGH SCHOOL TO RANK AS A COLLEGIATE INSTITUTE (26th November, 1886).

2. MINUTES OF DEPARTMENT.

- I. MANUAL OF HYGIENE AUTHORIZED FOR USE IN SCHOOLS (7th April, 1886).
- II. REGULATIONS RESPECTING MECHANICS' INSTITUTES AND ART SCHOOLS (7th May, 1886).
- III. APPOINTMENT OF WILLIAM ALEXANDER AS PUBLIC SCHOOL INSPECTOR OF THE TOWN OF LISTOWEL (19th May, 1886).
- IV. AUTHORIZATION OF THE PUBLIC SCHOOL HISTORY OF ENGLAND AND CANADA, AND THE REMOVAL OF CREIGHTON'S EPOCH PRIMER OF ENGLISH HISTORY, EDITH THOMPSON'S HISTORY OF ENGLAND, AND COLLIER'S HISTORY OF THE BRITISH EMPIRE, FROM THE AUTHORIZED LIST OF BOOKS AFTER 1ST JULY, 1877 (21st May, 1886).
- V. LITERATURE SELECTIONS FOR TEACHERS' EXAMINATIONS, 1887 (7th September, 1886).
- VI. ESTABLISHMENT OF TRAINING INSTITUTES AT KINGSTON, HAMILTON, GUELPH, AND STRATHROY (7th September, 1886).
- VII. MATTHEW MCKAY'S STATUS AS A TEACHER RESTORED (17th November, 1886).

3. CIRCULARS FROM THE MINISTER.

TEACHERS' READING COURSE.

The course of Study and Training prescribed for teachers by the Education Department is designed as a test of their ability to teach intelligently every subject on the Programme of studies for Public Schools. It is presumed that in obtaining the knowledge requisite for this purpose a desire has been implanted for higher attainments, and that in no case will the mind be allowed to lapse into a state of dullness or inactivity. The experience, however, of many of our best teachers shows that the tendency of their daily duties—largely because of their routine character—is to produce that mental lassitude so fatal to all intellectual culture and development.

By the establishment of Teachers' Institutes this tendency has been to a large extent corrected. They have, already, by means of mutual association and the friendly discussion of educational matters, stimulated many to greater exertions, and aroused the enthusiasm of even the most zealous members of the profession. But the Institute, valuable as it no doubt is, can do but little comparatively towards supplying that mental equipment which every teacher so much requires. Two or three days in the year should not suffice when the harvest is so great and the consequences of its not being garnered so disastrous to society. There is then but one alternative—the teacher must himself become a student. With him mental torpidity must be impossible. After setting apart as much time as may be necessary for rest and recreation, he should apply the remainder in preparing for the school room by private study. If he is to stimulate others, his own mind must be active.

In order to give definiteness to the efforts of teachers in this direction, I have arranged a Course of Reading, by means of which, while not ignoring professional obligations, they may carry on daily the work of self-culture, and at the same time learn to regard their vocation from a higher standpoint. The course extends over three years, and embraces pedagogics, science and literature. It can be mastered in the allotted time, without difficulty—one hour per day being quite sufficient. It will be observed that the books in the Professional Course are those already used at the Normal School and Training Institutes, so that by taking them up in the Reading Course, the work required for entering the higher grades of the profession, is simply prepared in advance.

As the Course is purely voluntary no examination will be held in connection with it. Should, however, the teachers of any Inspectoral Division agree to read the Course with this end in view, and should the County Board of Examiners make adequate provision for such examination, the Department would recognize by special certificate this additional element of professional culture. Such a certificate would no doubt be duly appreciated by trustees and the public generally, as it would entitle the holder to a strong claim upon their liberality. It will be the duty of the Directors of Teachers' Institutes to make such comments and give such directions to teachers in regard to the best methods of profiting by this Course as they may deem expedient.

In recommending to the profession the Course of Reading outlined, I do not wish to be regarded as imposing a task from which there is no advantage to be gained. The status of the teacher depends mainly upon his own exertions. To repress his individuality, or by Departmental restraints to endeavour to make each teacher the counterpart of every other, would be to secure uniformity by the sacrifice of power. I fully recognize that each member of the profession is a separate and distinct unit. To direct these separate units in such a way as to conserve their force for the public good and their own prosperity is the only object in view. Whether successful or not in this will depend upon their co-operation; the experiment is at least worth trying.

LIST OF BOOKS RECOMMENDED.

NOTE.—It would be well for teachers of each class to confine themselves to the Course of Professional Reading prescribed for their particular class. In the other subjects it is recommended to take one-third of the books in Science and Literature each year. The Directors of Institutes will take *Hopkins* and *Fitch* as the groundwork of some of their lectures, beginning in January, 1886.

PEDAGOGICS.

Third Class Teachers.

(Two books to be taken in one year in the order given).

1. Outlines of the Study of Man—*Hopkins*.
2. Lectures—*Fitch*.
3. Educational Reformers—*Quick*.
4. Psychology of Cognition—*Jardine*.
5. Education as a Science—*Bain*.
6. Education—*Spencer*.

These text-books are all on the Normal School Course for Second Class Teachers.

Second Class Teachers.

(Two books to be taken in one year in the order given).

1. Systems of Education—*J. Gill*.
2. Lectures on the History of Education—*Jos. Payne*.
3. The Action of Examinations—*H. Latham*.
4. School Management—*Joseph Landon*.
5. Teachers' Manual and Method of Organization—*R. Robinson*.
6. Culture demanded by Modern Life—*E. L. Youmans*

The text-books named are all on the Professional Course for First Class Teachers.

First Class Teachers.

1. Psychology—*Sully*.
2. Greek Education—*Mahaffy*.
3. History of Pedagogy—*Hailman*.
4. Mental Physiology—*Carpenter*.
5. Education and Educators—*Kay*.
6. The Schoolmaster—*Ascham*.

PHYSICAL SCIENCE AND NATURAL HISTORY.

(Six books to be taken in one year in the order given).

1. The Fairy Land of Science—*Buckley*.
2. Ants, Bees and Wasps—*Sir John Lubbock*.
3. Sound Bodies for our Boys and Girls—*Blaikie*.
4. Forms of Water—*Tyndall*.
5. Physiography—*Huxley*.
6. Heat as a Mode of Motion—*Tyndall*.
7. Methods of Study in Natural History—*Agassiz*.
8. Homes without Hands—*Woods*.
9. Elements of Physical Geography—*Geikie*.
10. Physical Geography of the Sea—*Maury*.
11. The Races of Man—*Peschel*.
12. Connection of the Physical Sciences—*Somerville*.
13. Common Sense of the Exact Sciences—*Clifford*.

14. Physical Forces—*Faraday*.
15. The Sun—*Proctor*.
16. Wild Animals, their Life and Habits—*Wolf*.
17. Flowers and their Pedigrees—*Grant Allen*.
18. Health—*Corfield*.

LITERATURE AND HISTORY.

(Eight books to be taken in one year in the order given).

1. Julius Cæsar—*Shakespeare*.
2. Every-day English—*R. G. White*.
3. Selections from Wordsworth—*Matthew Arnold*.
4. Milton and Wordsworth—*English Men of Letters*.
5. Industrial Biography—*Smiles*.
6. Short History of the English People—*Green*.
7. Montcalm and Wolfe—*Parkman*.
8. The English Constitution—*Bagehot*.
9. Macaulay's Life and Letters—*Trevelyan*.
10. Getting on in the World—*Matthews*.
11. Walks about Rome—*Hare*.
12. Words and their Uses—*R. G. White*.
13. Johnson's Lives of the Poets—*Matthew Arnold*.
14. Expansion of England—*Seeley*.
15. Words and Places—*Taylor*.
16. English Literature (condensed)—*Taine*.
17. The United Netherlands—*Motley*.
18. Oliver Cromwell—*Carlyle*.
19. Life of Johnson—*Boswell (Murray's Edition)*.
20. Language and Languages—*Farrar*.
21. Paradise Lost—*Milton*.
22. Life and Correspondence of Thomas Arnold—*A. P. Stanley*.
23. In Memoriam and the Princess—*Tennyson*.
24. Nicholas Nickleby—*Dickens*.

MEMORANDUM ON THE EXAMINATION IN PHYSICS.

For candidates for Third Class Certificates, the examination in Physics will be wholly directed to testing whether the candidates have clear ideas respecting some of the more obvious properties of matter and an accurate non-quantitative knowledge of the more elementary facts and laws of Physics. If any arithmetical questions are proposed, they will be very elementary. The teaching should be by observation and experiment.

Candidates for Second Class Certificates are supposed to continue their qualitative study of Physics, but to prepare them for the quantitative study of the subject, they are required by the Programme to take the most elementary part of the Kinematics of a point, the Dynamics (Kinetics and Statics) of a Particle, and the Statics of a Fluid. The examination papers for Second Class will consequently be composite, containing what have above been called qualitative questions and a few quantitative or mathematical problems, but the latter will be elementary and easy.

In teaching the subject there should, therefore, be a combination of the experimental and the rational methods, but less attention should be given to Statics than this subject has received in the past.

TORONTO, January, 1886.

MEMORANDUM *re* ELECTION OF SCHOOL TRUSTEES.

With reference to your inquiry the Minister desires me to state that the law requires (Section 95-96) that the term of office of Trustees in towns and villages shall now be for two years instead of three years as heretofore, but does not direct specifically the mode

in which the change shall be effected. Following the principle laid down in Section 95, sub-section 2, the Minister recommends that the two Trustees who would under the former law have served a third year shall decide by lot which shall retire so that the new Board will consist of three newly elected Trustees, together with the two who are serving a second year and one of the Trustees elected for a third year. The lot may be cast as may be arranged.

TORONTO, January, 1886.

TO PUBLIC SCHOOL TRUSTEES, INSPECTORS AND TEACHERS.

By a Minute of the Education Department adopted 21st May, it was ordered:—

That the "Public School History of England and Canada," published by The Copp, Clark Company (Limited), at thirty-five cents per copy, be authorized for use in the Public and High Schools of Ontario, subject to the regulations of the said Department.

The Department further orders that "Creighton's Epoch Primer of English History" authorized in 1879, "Edith Thompson's History of England," authorized in 1877, and "Collier's History of the British Empire," authorized in 1867, be removed from the list of authorized books, on and after the first day of July, 1887.

TORONTO, May 1886.

CIRCULAR TO PUBLIC SCHOOL INSPECTORS.

SIR,—The Drawing Classes conducted at the Education Department, Toronto, during the last two summers will not be continued during the current year. It is nevertheless desirable in order still further to qualify teachers in this subject, that facilities of some kind should be offered for their self-improvement. Instead of the classes formerly taught at the Department it is now proposed to give a grant to each Inspectoral Division in which a class is formed for instruction in elementary drawing.

The conditions on which such classes may be formed are:—

1. The class must consist of at least ten persons holding a public school teacher's certificate.
2. The teacher in charge must possess a legal certificate to teach drawing; or be approved of by the Education Department.
3. At least thirty lessons of two hours each must be given.
4. Teachers who attend this course will be allowed to write at the Departmental examination in Drawing in April, 1887.
5. The Primary Drawing Course only shall be taught.
6. A grant of \$20 will be made for each class of ten pupils, but only one class will be paid for in any Inspectoral Division.

Will you be good enough to inform the teachers of your Inspectorate of these proposals in order that they may make the necessary arrangements for organizing classes.

TORONTO, May 1st, 1886.

APPORTIONMENT OF LEGISLATIVE PUBLIC SCHOOL GRANT FOR 1886.

The apportionment of the Grant to the several Municipalities is based upon the latest Returns of Population for the year 1885, and the division between the Public and Separate Schools on the average attendance of that year, as reported by the Inspectors, Public School Boards, and Separate School Trustees respectively.

While the Separate Schools will receive their portion of the Grant direct from the Department, that of the Public Schools will be paid, according to this Schedule, through the respective County, City, Town and Village Treasurers.

The County Councils—whose duty it is to raise from the several townships in their counties a sum at least equal to the amounts respectively apportioned to each county—are reminded that *all the supporters of Roman Catholic Separate Schools are exempt* from any rate to be levied for this purpose.

TORONTO, May, 1886.

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES FOR 1886, for which an assessment is to be made by the County Council, in the several townships in each county, sufficient to raise an amount at least equal to the amount apportioned to each county.

All Roman Catholic Separate School supporters are exempted from any rate for such purpose.

1. COUNTY OF BRANT.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------|-----------------------|
| Brantford | \$804 00 |
| Burford | 626 00 |
| Dumfries, South | 440 00 |
| Oakland | 107 00 |
| Onondaga | 173 00 |
| Total | \$2150 00 |

2. COUNTY OF BRUCE.

| | |
|-------------------------------|----------|
| Albemarle | \$133 00 |
| Amabel | 267 00 |
| Arran | 373 00 |
| Brant | 611 00 |
| Bruce | 493 00 |
| Carrick | 510 00 |
| Culross | 408 00 |
| Eastnor | 134 00 |
| Elderslie | 400 00 |
| Greenock | 386 00 |
| Huron | 517 00 |
| Kincardine | 480 00 |
| Kinloss | 328 00 |
| Lindsay and St. Edmunds | 66 00 |
| Saugeen | 251 00 |

Total..... \$5357 00

3. COUNTY OF CARLETON.

| | |
|--------------------|----------|
| Fitzroy | \$293 00 |
| Gloucester | 649 00 |
| Goulbourn | 356 00 |
| Gower, North | 380 00 |
| Huntley | 313 00 |
| March | 109 00 |
| Marlborough | 234 00 |
| Nepean | 742 00 |
| Osgoode | 540 00 |
| Torbolton | 150 00 |

Total..... \$3766 00

4. COUNTY OF DUFFERIN.

| | |
|-----------------------|----------|
| Amaranth | \$426 00 |
| Garafraxa, East | 359 00 |
| Luther, East | 249 00 |
| Melancthon | 439 00 |
| Mono | 584 00 |
| Mulmur | 640 00 |

Total..... \$2697 00

5. COUNTY OF ELGIN.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|-------------------------|-----------------------|
| Aldbrough | \$602 00 |
| Bayham | 480 00 |
| Dorchester, South | 213 00 |
| Dunwich | 480 00 |
| Malahide | 519 00 |
| Southwold | 557 00 |
| Yarmouth | 600 00 |

Total..... \$3451 00

6. COUNTY OF ESSEX.

| | |
|--|----------|
| Anderdon | \$237 00 |
| Colchester, North | 163 00 |
| Colchester, South | 319 00 |
| Gosfield | 455 00 |
| Maidstone | 341 00 |
| Malden, including new R. C. 3, B. Malden | 130 00 |
| Mersea | 455 00 |
| Rochester | 269 00 |
| Sandwich, East | 569 00 |
| “ West | 323 00 |
| Tilbury, West | 390 00 |

Total..... \$3651 00

7. COUNTY OF FRONTENAC.

| | |
|-----------------------------|----------|
| Barrie | \$ 62 00 |
| Bedford | 178 00 |
| Clarendon and Miller | 115 00 |
| Hinchinbrooke | 161 00 |
| Howe Island | 53 00 |
| Kennebec | 139 00 |
| Kingston | 366 00 |
| Loughborough | 252 00 |
| Olden | 111 00 |
| Oso | 102 00 |
| Palmerston and Canoto | 94 00 |
| Pittsburg | 333 00 |
| Portland | 298 00 |
| Storrington | 272 00 |
| Wolfe Island | 157 00 |

Total..... \$2693 00

8. COUNTY OF GREY.

| | |
|-------------------|----------|
| Artemesia | \$476 00 |
| Bentinck | 598 00 |
| Collingwood | 529 00 |
| Derby | 251 00 |

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES—*Continued.*8. COUNTY OF GREY—*Continued.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------|-----------------------|
| Egremont | 453 00 |
| Euphrasia | 398 00 |
| Glenglg | 433 00 |
| Holland | 563 00 |
| Keppel | 413 00 |
| Normanby | 583 00 |
| Osprey | 466 00 |
| Proton | 370 00 |
| Sarawak | 130 00 |
| St. Vincent | 466 00 |
| Sullivan | 449 00 |
| Sydenham | 473 00 |
| Total | \$7051 00 |

9. COUNTY OF HALDIMAND.

| | |
|---------------------|-----------|
| Canborough | \$134 00 |
| Cayuga, North | 229 00 |
| South | 109 00 |
| Dunn | 108 00 |
| Moulton | 226 00 |
| Oneida | 267 00 |
| Rainham | 239 00 |
| Seneca | 306 00 |
| Sherbrooke | 54 00 |
| Walpole | 538 00 |
| Total | \$2210 00 |

10. COUNTY OF HALIBURTON.

| | |
|---|----------|
| Anson and Hindon | \$ 34 00 |
| Cardiff | 69 00 |
| Clyde, Bruton, Dudley, Dysart, Harcourt, Harburn, Eyre, Guilford, Havelock, etc. | 121 00 |
| Glamorgan | 54 00 |
| Lutterworth | 51 00 |
| Minden | 143 00 |
| Monmouth | 42 00 |
| Snowdon | 99 00 |
| Stanhope, Sherbourne and McClintock .. | 63 00 |
| Total | \$676 00 |

11. COUNTY OF HALTON.

| | |
|-------------------|-----------|
| Esquesing | \$570 00 |
| Nassagaweya | 358 00 |
| Nelson | 420 00 |
| Trafalgar | 527 00 |
| Total | \$1875 00 |

12. COUNTY OF HASTINGS.

| | |
|-----------------------------------|----------|
| Carlow and Mayo | \$113 00 |
| Elzevir and Grimsthorpe | 150 00 |
| Faraday and Dunganon | 142 00 |
| Hungerford | 519 00 |
| Huntingdon | 297 00 |
| McClure, Wicklow and Bangor | 83 00 |
| Herschel and Monteaigle | 157 00 |

12. COUNTY OF HASTINGS—*Continued.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|----------------------------------|-----------------------|
| Madoc | 351 00 |
| Marmora and Lake | 252 00 |
| Rawdon | 383 00 |
| Sidney | 512 00 |
| Thurlow | 582 00 |
| Tudor, Limerick and Cashel | 173 00 |
| Wollaston | 84 00 |
| Tyendinaga | 573 00 |
| Total | \$4371 00 |

13. COUNTY OF HURON.

| | |
|----------------------|-----------|
| Ashfield | \$467 00 |
| Colborne | 306 00 |
| Goderich | 346 00 |
| Grey | 501 00 |
| Hay | 446 00 |
| Howick | 652 00 |
| Hullett | 375 00 |
| McKillop | 425 00 |
| Morris | 411 00 |
| Stanley | 315 00 |
| Stephea | 442 00 |
| Tuckersmith | 386 00 |
| Turnberry | 344 00 |
| Usborne | 329 00 |
| Wawanosh, East | 276 00 |
| West | 267 00 |
| Total | \$6288 00 |

14. COUNTY OF KENT.

| | |
|---------------------|-----------|
| Camden | \$346 00 |
| Chatham | 613 00 |
| Dover | 448 00 |
| Harwich | 609 00 |
| Howard | 453 00 |
| Orford | 383 00 |
| Raleigh | 487 00 |
| Romey | 133 00 |
| Tilbury, East | 356 00 |
| Zone | 159 00 |
| Total | \$3987 00 |

15. COUNTY OF LAMBTON.

| | |
|-------------------|-----------|
| Bosanquet | \$358 00 |
| Brooke | 386 00 |
| Dawn | 251 00 |
| Enniskillen | 319 00 |
| Euphemia | 317 00 |
| Moore | 574 00 |
| Plympton | 516 00 |
| Sarnia | 267 00 |
| Sombra | 351 00 |
| Warwick | 453 00 |
| Total | \$3792 00 |

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES—*Continued.*

16. COUNTY OF LANARK.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|---------------------------------------|-----------------------|
| Bathurst | \$333 00 |
| Beckwith | 215 00 |
| Burgess, North | 118 00 |
| Dalhousie and Sherbrooke, North | 268 00 |
| Darling | 82 00 |
| Drummond | 285 00 |
| Elmsley, North | 139 00 |
| Lanark | 236 00 |
| Lavant | 78 00 |
| Montague | 291 00 |
| Pakenham | 234 00 |
| Ramsay | 327 00 |
| Sherbrooke, South | 112 00 |
| Total: | \$2718 00 |

17. COUNTY OF LEEDS.

| | |
|----------------------------------|-----------|
| Bastard and Burgess, South | \$408 00 |
| Crosby, North | 195 00 |
| Crosby, South | 234 00 |
| Elizabethtown | 667 00 |
| Elmsley, South | 110 00 |
| Escott, Front | 152 00 |
| Kitley | 275 00 |
| Leeds and Lansdowne, Front | 414 00 |
| " " Rear | 307 00 |
| Yonge and Escott, Rear | 257 00 |
| Yonge, Front | 181 00 |
| Total | \$3200 00 |

18. COUNTY OF GRENVILLE.

| | |
|---------------------|-----------|
| Angusta | \$615 00 |
| Edwardsburg | 523 00 |
| Gower, South | 111 00 |
| Oxford Rideau | 410 00 |
| Wolford | 254 00 |
| Total | \$1913 00 |

19. COUNTY OF LENNOX AND
ADDINGTON.

| | |
|---------------------------------------|-----------|
| Adolphustown | \$ 89 00 |
| Amherst Island | 136 00 |
| Anglesea, Effington and Kaladar | 124 00 |
| Camden, East | 639 00 |
| Denbigh, Abinger and Ashby | 83 00 |
| Ernestown | 501 00 |
| Fredericksburg, North | 209 00 |
| " South | 169 00 |
| Richmond | 328 00 |
| Sheffield | 264 00 |
| Total | \$2542 00 |

20. COUNTY OF LINCOLN.

| | |
|--------------------|----------|
| Caistor | \$254 00 |
| Clinton | 267 00 |
| Gainsborough | 346 00 |

20. COUNTY OF LINCOLN—*Continued.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------|-----------------------|
| Grantham | 267 00 |
| Grimby, North | 119 00 |
| " South | 184 00 |
| Louth | 224 00 |
| Niagara | 226 00 |
| Total | \$1887 00 |

21. COUNTY OF MIDDLESEX.

| | |
|-------------------------|-----------|
| Adelaide | \$388 00 |
| Biddulph | 307 00 |
| Caradoc | 638 00 |
| Delaware | 214 00 |
| Dorchester, North | 468 00 |
| Ekfrid | 348 00 |
| Lobo | 347 00 |
| London | 1093 00 |
| McGillivray | 496 00 |
| Metcalfe | 227 00 |
| Mosa | 328 00 |
| Nissouri, West | 453 00 |
| Westminster | 995 00 |
| Williams, East | 293 00 |
| " West | 199 00 |
| ● Total | \$6794 00 |

22. COUNTY OF NORFOLK.

| | |
|---------------------|-----------|
| Charlottetown | \$478 00 |
| Houghton | 241 00 |
| Middleton | 428 00 |
| Townsend | 557 00 |
| Walsingham | 629 00 |
| Windham | 515 00 |
| Woodhouse | 319 00 |
| Total | \$3167 00 |

23. COUNTY OF NORTHUMBERLAND.

| | |
|-----------------------|-----------|
| Alnwick | \$139 00 |
| Brighton | 379 00 |
| Cramahe | 389 00 |
| Haldimand | 601 00 |
| Hamilton | 552 00 |
| Monaghan, South | 133 00 |
| Murray | 387 00 |
| Percy | 390 00 |
| Seymour | 413 00 |
| Total | \$3383 00 |

24. COUNTY OF DURHAM.

| | |
|------------------|-----------|
| Cartwright | \$282 00 |
| Cavan | 421 00 |
| Clarke | 607 00 |
| Darlington | 617 00 |
| Hope | 559 00 |
| Manvers | 423 00 |
| Total | \$2909 00 |

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES—*Continued.*

25. COUNTY OF ONTARIO.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------|-----------------------|
| Brock | \$542 00 |
| Mara | 330 00 |
| Pickering | 859 00 |
| Rama | 131 00 |
| Reach | 576 00 |
| Scott | 293 00 |
| Seugog Island | 71 00 |
| Thorah | 196 00 |
| Uxbridge | 490 00 |
| Whitby, East | 400 00 |
| Whitby | 373 00 |
| Total | \$4261 00 |

26. COUNTY OF OXFORD.

| | |
|----------------------|-----------|
| Blandford | \$224 00 |
| Blenheim | 665 00 |
| Dereham | 489 00 |
| Nissouri, East | 333 00 |
| Norwich, North | 280 00 |
| “ South | 359 00 |
| Oxford, North | 173 00 |
| “ East | 251 00 |
| “ West | 304 00 |
| Zorra, East | 468 00 |
| “ West | 343 00 |
| Total | \$3889 00 |

27. COUNTY OF PEEL.

| | |
|-----------------------|-----------|
| Albion | \$418 00 |
| Caledon | 508 00 |
| Chinguacousy | 637 00 |
| Gore of Toronto | 144 00 |
| Toronto | 682 00 |
| Total | \$2389 00 |

28. COUNTY OF PERTH.

| | |
|-----------------------|-----------|
| Blanchard | \$384 00 |
| Downie | 463 00 |
| Easthope, North | 318 00 |
| “ South | 225 00 |
| Ellice | 335 00 |
| Elma | 493 00 |
| Fullarton | 320 00 |
| Hibbert | 360 00 |
| Logan | 373 00 |
| Mornington | 400 00 |
| Wallace | 410 00 |
| Total | \$4081 00 |

29. COUNTY OF PETERBOROUGH.

| | |
|--|----------|
| Asphodel | \$206 00 |
| Belmont and Methuen | 230 00 |
| Burleigh, Anstruther and Chandos | 145 00 |
| Douro | 266 00 |
| Dummer | 267 00 |

29. COUNTY OF PETERBOROUGH—*Con.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|----------------------------|-----------------------|
| Ennismore | 122 00 |
| Galway and Cavendish | 95 00 |
| Harvey | 134 00 |
| Monaghan, North | 101 00 |
| Otonabee | 461 00 |
| Smith | 361 00 |
| Total | \$2388 00 |

30. COUNTY OF PRESCOTT.

| | |
|--|-----------|
| Alfred | \$309 00 |
| Caledonia | 171 00 |
| Hawkesbury, East | 317 00 |
| Hawkesbury, West (\$31 arrears) | 259 00 |
| Longueuil | 142 00 |
| Plantaganet, North | 453 00 |
| Plantaganet, South, including R. C., No. 7 | 332 00 |
| Total | \$1983 00 |

31. COUNTY OF RUSSELL.

| | |
|------------------|-----------|
| Cambridge | \$166 00 |
| Clarence | 642 00 |
| Cumberland | 459 00 |
| Russell | 381 00 |
| Total | \$1648 00 |

32. COUNTY OF PRINCE EDWARD.

| | |
|------------------------|-----------|
| Ameliasburg | \$396 00 |
| Athol | 172 00 |
| Hallowell | 404 00 |
| Hillier | 232 00 |
| Marysburg, North | 190 00 |
| “ South | 259 00 |
| Sophiasburg | 362 00 |
| Total | \$2015 00 |

33. COUNTY OF RENFREW.

| | |
|--|----------|
| Admaston | \$282 00 |
| Algona, South | 94 00 |
| Alice and Fraser | 210 00 |
| Bagot and Blithfield | 121 00 |
| Brougham | 58 00 |
| Bromley | 210 00 |
| Brudenell and Lynedoch | 145 00 |
| Grattan | 146 00 |
| Griffith and Matawatchesan | 78 00 |
| Hagarty, Jones, Sherwood, Richards and Burns | 206 00 |
| Head, Clara and Maria | 40 00 |
| Horton | 161 00 |
| McNab | 438 00 |
| Pembroke | 92 00 |
| Petawawa and McKay | 52 00 |
| Radcliffe and Raglan | 94 00 |
| Rolph, Wylie and Buchanan | 89 00 |
| Ross | 306 00 |

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES—*Continued.*33. COUNTY OF RENFREW—*Continued.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------------------|-----------------------|
| Sebastopol | 79 00 |
| Stafford | 104 00 |
| Westmeath | 373 00 |
| Wilberforce and Algona, North..... | 269 00 |
| Total..... | \$3647 00 |

34. COUNTY OF SIMCOE.

| | |
|--|-----------|
| Adjala | \$245 00 |
| Cardwell | 53 00 |
| Essa | 522 00 |
| Flos | 368 00 |
| Gwillimbury, West | 353 00 |
| Humphrey | 44 50 |
| Innisfil | 700 00 |
| Medonte | 352 00 |
| Monck | 79 00 |
| Morrison | 86 00 |
| Muskoka | 121 00 |
| Nottawasaga | 756 00 |
| Orillia and Matchedash | 414 00 |
| Oro | 514 00 |
| Sunnidale | 346 00 |
| Tay | 324 00 |
| Tiny (\$133 Arrears), including R. C. 2, Tiny | 540 00 |
| Tecumseth | 627 00 |
| Tossorontio | 146 00 |
| Vespra | 357 00 |
| Watt | 106 00 |
| Wood and Medora..... | 97 00 |
| Total..... | \$7150 00 |

35. COUNTY OF STORMONT.

| | |
|------------------|-----------|
| Cornwall | \$433 00 |
| Finch | 340 00 |
| Osnabruck | 658 00 |
| Roxborough | 497 00 |
| Total..... | \$1928 00 |

36. COUNTY OF DUNDAS.

| | |
|--------------------|-----------|
| Matilda | \$551 00 |
| Mountain | 390 00 |
| Williamsburg | 518 00 |
| Winchester | 537 00 |
| Total..... | \$1996 00 |

37. COUNTY OF GLENGARRY.

| | |
|----------------------|-----------|
| Charlottenburg | \$675 00 |
| Kenyon | 624 00 |
| Lancaster | 504 00 |
| Lochiel | 478 00 |
| Total..... | \$2281 00 |

38. COUNTY OF VICTORIA.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|----------------------------------|-----------------------|
| Bexley | \$ 96 00 |
| Carden and Dalton | 155 00 |
| Draper and Oakley | 168 00 |
| Eldon | 374 00 |
| Emily | 333 00 |
| Fenelon | 357 00 |
| Laxton, Digby and Longford | 109 00 |
| Macauley | 108 00 |
| McLean and Ridout | 90 00 |
| Mariposa | 622 00 |
| Ops | 401 00 |
| Ryde | 85 00 |
| Somerville | 168 00 |
| Stephenson | 107 00 |
| Verulam | 270 00 |
| Total..... | \$3443 00 |

39. COUNTY OF WATERLOO.

| | |
|-----------------------|-----------|
| Dumfries, North | \$338 00 |
| Waterloo | 841 00 |
| Wellesley | 551 00 |
| Wilnot | 605 00 |
| Woolwich | 677 00 |
| Total..... | \$3012 00 |

40. COUNTY OF WELLAND.

| | |
|-------------------|-----------|
| Bertie | \$506 00 |
| Crowland | 159 00 |
| Humberstone | 348 00 |
| Pelham | 294 00 |
| Stamford | 243 00 |
| Thorold | 266 00 |
| Wainfleet | 388 |
| Willoughby | 133 00 |
| Total..... | \$2337 00 |

41. COUNTY OF WELLINGTON.

| | |
|-----------------------|-----------|
| Arthur | \$409 00 |
| Eramosa | 413 00 |
| Erin | 519 00 |
| Garafraza, West | 413 00 |
| Guelph | 317 00 |
| Lutler, West | 226 00 |
| Maryborough | 440 00 |
| Minto | 463 00 |
| Nichol | 257 00 |
| Peel | 468 00 |
| Pilkington | 227 00 |
| Puslinch | 427 00 |
| Total..... | \$4579 00 |

PUBLIC SCHOOL APPORTIONMENT TO COUNTIES—*Continued.*

42. COUNTY OF WENTWORTH.

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|-------------------------|-----------------------|
| Ancaster | \$559 00 |
| Barton | 533 00 |
| Beverley | 626 00 |
| Binbrook | 213 00 |
| Flamborough, East | 321 00 |
| “ West | 383 00 |
| Glanford | 226 00 |
| Saltfleet | 318 00 |
| Total..... | \$3179 00 |

43. COUNTY OF YORK.

| | |
|------------------------|----------|
| Etobicoke | \$890 00 |
| Georgina | 308 00 |
| Gwillimbury, East..... | 460 00 |
| “ North | 251 00 |

43. COUNTY OF YORK.—*Continued.*

| <i>Municipalities.</i> | <i>Apportionment.</i> |
|------------------------|-----------------------|
| King | 759 00 |
| Markham | 694 00 |
| Scarborough..... | 507 00 |
| Vaughan | 671 00 |
| Whitchurch | 531 00 |
| York | 1171 00 |
| Total..... | \$5742 00 |

44. DISTRICTS.

| | |
|---|-----------|
| Algoma, exclusive of Port Arthur and Rat Portage, but including Roman Catholic Separate Schools | \$1500 00 |
| Nipissing, including R. C. Sep. Schools.. | 500 00 |
| Parry Sound, “ “ .. | 1000 00 |
| Total..... | \$3000 00 |

APPORTIONMENT TO ROMAN CATHOLIC SEPARATE SCHOOLS FOR 1886, PAYABLE THROUGH THIS DEPARTMENT.

| <i>School Sections.</i> | <i>Apportionment.</i> | |
|---|-----------------------|---------|
| Adjala | 10 | \$36 00 |
| Alfred | 3 | 12 00 |
| " 7 (with 8, Plantagenet, South) | 23 00 | |
| " | 7 | 30 00 |
| Anderdon | 3 & 4 | 30 00 |
| Artemesia, 6 (1), with 7, Glenelg | 6 00 | |
| " | 6(2) | 9 00 |
| Arthur | 6 | 42 00 |
| Asphodel | 4 | 24 00 |
| Biddulph | 6 | 30 00 |
| " 9 (with 1, McGillivray) | 9 00 | |
| Bonfield 1, (included in grant to Nipissing District) | | |
| Brighton | 1(15) | 9 00 |
| Burgess, North | 6 | 9 00 |
| Cambridge | 6 & 7 | 48 00 |
| Caledonia | 3, 4, & 10 | 37 00 |
| Carrick | 1 | 34 00 |
| " | 2 | 22 00 |
| " | 14 | 72 00 |
| Charlottenburg | 15 | 25 00 |
| Colchester, North | 7 | 37 00 |
| Cornwall | 1 | 21 00 |
| " | 16 | 73 00 |
| Crosby, North | 4 | 31 00 |
| Downie | 9 | 26 00 |
| Edwardsburg | 2 | 19 00 |
| Ellice | 7 | 24 00 |
| Finch | 5 | 55 00 |
| Flamborough, West | 5 | 20 00 |
| Glenelg | 5 | 20 00 |
| " 7, (with 6, Artemesia (1)) | 6 00 | |
| Gloucester | 4, 5, & 12 | 13 00 |
| " | 14 | 50 00 |
| Grattan, etc. | 1 | 80 00 |
| Haldimand | 21 | 21 00 |
| Harwich | 9 | 29 00 |
| Hawkesbury, East | 2 | 44 00 |
| " | 4 | 16 00 |
| " | 7 | 79 00 |
| " | 10 | 22 00 |
| " | 12 | 6 00 |
| " | 15 | 24 00 |
| " | 16 | 17 00 |
| Holland | 3 | 23 00 |
| Hullett | 2 | 11 00 |
| Innisfil 12, (with town of Barrie) | | 11 00 |
| Kingston | 8 | 17 00 |
| Kitley | 7 | 1 00 |
| Laucaster | 14 | 34 00 |
| Lochiel | 12 | 15 00 |
| Maidstone 4, (with 2, Rochester) | | 29 00 |
| Malden A | 3 | 70 00 |
| " B 3, (included in grant to Town'ip) | | |
| Mara | 3 | |
| March | 3 | 68 00 |
| Mattawa, 1 (included in grant to District of Nipissing) | | 25 00 |

| <i>School Sections.</i> | <i>Apportionment.</i> | |
|--|---|--------|
| Moore | 3, 4, & 5 | 18 00 |
| Mornington | 4 | 22 00 |
| McGillivray 1, (with 9, Biddulph) | | 10 00 |
| McKillop | 1 | 28 00 |
| Nepean | 7 | 34 00 |
| " | 15 | 211 00 |
| Nichol | 1 | 33 00 |
| Nipissing R. C. S. S. (included in grant to District of Parry Sound) | | |
| Normanby | 5 | 34 00 |
| " | 10 | 30 00 |
| Osgoode | 1 | 26 00 |
| " | 15 | 8 00 |
| Otonabee | 10 | 20 00 |
| Peel | 8 | 5 00 |
| " | 12 | 32 00 |
| Percy | 5 | 18 00 |
| Percy, 12 (with 12 Seymour) | | 6 00 |
| Plantagenet, North | 9 | 30 00 |
| " | South 7, included in grant to Township. | |
| " | South, 8 (with 7 Alfred) | 10 00 |
| Proton | 6 | 38 00 |
| Raleigh | 4 | 48 00 |
| " | 5 | 17 00 |
| " | 6 | 48 00 |
| Richmond | 10 & 17 | 9 00 |
| Rochester, 2 (with 4 Maidstone) | | 25 00 |
| Roxboro' | 12 | 48 00 |
| Seymour, 12 (with 12 Percy) | | 8 00 |
| Sheffield | 5 | 28 00 |
| Sombra | 5 | 35 00 |
| Springer, 1 (included in grant to District of Nipissing) | | |
| Stafford | 2 | 35 00 |
| Stephen | 6 | 46 00 |
| Sydenham | 7 | 20 00 |
| " | 14 (2) | 19 00 |
| Tilbury, West 1 (with 1 Tilbury East) | | 23 00 |
| " East, 1 (with 1 Tilbury West) | | 42 00 |
| Tiny 2, included in grant to Township | | |
| Toronto Gore | 6 | 15 00 |
| Vespra | 7 | 13 00 |
| Waterloo | 13 | 85 00 |
| Wawanosh, West | 1 | 26 00 |
| Wellesley | 5 | 20 00 |
| " | 9 & 10 | 28 00 |
| " | 11 | 61 00 |
| " | 12 | 18 00 |
| Westminster | 13 | 18 00 |
| Williams, West | 10 | 30 00 |
| Wilmot | 15½ | 34 00 |
| Windham | 8 | 21 00 |
| Wolfe Island | 1 | 16 00 |
| " | 2 | 28 00 |
| " | 4 | 45 00 |
| Yonge and Escott R | 4 | 5 00 |
| York | 1 | 53 00 |

APPORTIONMENT TO CITIES, TOWNS AND VILLAGES FOR 1886.

| | Public Schools. | | Separate Schools. | | Total. | |
|-----------------------|-----------------|----|-------------------|----|---------|----|
| | \$ | c. | \$ | c. | \$ | c. |
| CITIES. | | | | | | |
| Belleville | 1085 | 00 | 270 | 00 | 1355 | 00 |
| Brantford | 1441 | 00 | 179 | 00 | 1620 | 00 |
| Guelph | 1125 | 00 | 234 | 00 | 1359 | 00 |
| Hamilton | 4519 | 00 | 814 | 00 | 5333 | 00 |
| Kingston | 1405 | 00 | 474 | 00 | 1879 | 00 |
| London | 2994 | 00 | 479 | 00 | 3473 | 00 |
| Ottawa | 1997 | 00 | 2374 | 00 | 4371 | 00 |
| St. Catharines | 998 | 00 | 319 | 00 | 1317 | 00 |
| St. Thomas | 1311 | 00 | 158 | 00 | 1469 | 00 |
| Stratford | 952 | 00 | 217 | 00 | 1169 | 00 |
| Toronto | 12640 | 00 | 2266 | 00 | 14906 | 00 |
| Total | \$30467 | 00 | \$7784 | 00 | \$38251 | 00 |
| TOWNS. | | | | | | |
| Almonte | \$290 | 00 | \$ 91 | 00 | \$381 | 00 |
| Amherstburg | 156 | 00 | 164 | 00 | 320 | 00 |
| Barrie | 488 | 00 | 94 | 00 | 582 | 00 |
| Berlin | 550 | 00 | 102 | 00 | 652 | 00 |
| Blenheim | 194 | 00 | | | 194 | 00 |
| Bothwell | 132 | 00 | | | 132 | 00 |
| Bowmanville | 478 | 00 | | | 478 | 00 |
| Brampton | 435 | 00 | | | 435 | 00 |
| Brockville | 868 | 00 | 256 | 00 | 1124 | 00 |
| Chatham | 912 | 00 | 173 | 00 | 1085 | 00 |
| Clinton | 353 | 00 | | | 353 | 00 |
| Cobourg | 497 | 00 | 170 | 00 | 667 | 00 |
| Collingwood | 718 | 00 | | | 718 | 00 |
| Cornwall | 337 | 00 | 382 | 00 | 719 | 00 |
| Dresden | 243 | 00 | | | 243 | 00 |
| Dundas | 342 | 00 | 155 | 00 | 497 | 00 |
| Durham | 139 | 00 | | | 139 | 00 |
| Galt | 726 | 00 | 74 | 00 | 800 | 00 |
| Goderich | 476 | 00 | 59 | 00 | 535 | 00 |
| Harriston | 252 | 00 | | | 252 | 00 |
| Ingersoll | 497 | 00 | 67 | 00 | 564 | 00 |
| Kincardine | 365 | 00 | | | 365 | 00 |
| Lindsay | 435 | 00 | 263 | 00 | 698 | 00 |
| Listowel | 359 | 00 | | | 359 | 00 |
| London, East | 600 | 00 | | | 600 | 00 |
| Meaford | 254 | 00 | | | 254 | 00 |
| Mitchell | 312 | 00 | | | 312 | 00 |
| Milton | 169 | 00 | | | 169 | 00 |
| Mount Forest | 278 | 00 | | | 278 | 00 |
| Napanee | 443 | 00 | | | 443 | 00 |
| Newmarket | 211 | 00 | 41 | 00 | 252 | 00 |
| Niagara | 185 | 00 | | | 185 | 00 |
| Niagara Falls | 219 | 00 | 70 | 00 | 289 | 00 |
| Oakville | 190 | 00 | 35 | 00 | 225 | 00 |
| Orangeville | 415 | 00 | | | 415 | 00 |
| Orillia | 410 | 00 | 96 | 00 | 506 | 00 |
| Oshawa | 497 | 00 | 76 | 00 | 573 | 00 |
| Owen Sound | 582 | 00 | 35 | 00 | 617 | 00 |
| Palmerston | 226 | 00 | | | 226 | 00 |
| Parkhill | 173 | 00 | 33 | 00 | 206 | 00 |
| Paris | 376 | 00 | 68 | 00 | 444 | 00 |
| Pembroke | 239 | 00 | 201 | 00 | 440 | 00 |
| Penetanguishene | 231 | 00 | | | 231 | 00 |
| Perth | 390 | 00 | 102 | 00 | 492 | 00 |
| Peterborough | 662 | 00 | 418 | 00 | 1080 | 00 |
| Petrollea | 384 | 00 | | | 384 | 00 |
| Pictou | 315 | 00 | 51 | 00 | 366 | 00 |
| Port Arthur | 503 | 00 | 273 | 00 | 776 | 00 |
| Port Hope | 723 | 00 | | | 723 | 00 |

APPORTIONMENT TO CITIES, ETC.—*Continued.*

| | Public Schools. | | Separate Schools. | | Total. | |
|--------------------------|-----------------|----|-------------------|----|---------|----|
| | \$ | c. | \$ | c. | \$ | c. |
| TOWNS— <i>Continued.</i> | | | | | | |
| Prescott | 240 | 00 | 135 | 00 | 375 | 00 |
| Rat Portage | 41 | 00 | 19 | 00 | 60 | 00 |
| Ridgetown | 200 | 00 | | | 200 | 00 |
| Sandwich | 152 | 00 | | | 152 | 00 |
| Sarnia | 641 | 00 | 103 | 00 | 744 | 00 |
| Seaforth | 338 | 00 | | | 338 | 00 |
| Simcoe | 349 | 00 | | | 349 | 00 |
| Smith's Falls | 297 | 00 | | | 297 | 00 |
| St. Mary's | 401 | 00 | 52 | 00 | 453 | 00 |
| Strathroy | 482 | 00 | | | 482 | 00 |
| Thorold | 256 | 00 | 94 | 00 | 350 | 00 |
| Tilsonburg | 268 | 00 | | | 268 | 00 |
| Trenton | 386 | 00 | 214 | 00 | 600 | 00 |
| Uxbridge | 267 | 00 | | | 267 | 00 |
| Walkerton | 376 | 00 | | | 376 | 00 |
| Waterloo | 329 | 00 | | | 329 | 00 |
| Welland | 286 | 00 | | | 286 | 00 |
| Whitby | 337 | 00 | 45 | 00 | 382 | 00 |
| Windsor | 978 | 00 | | | 978 | 00 |
| Wingham | 263 | 00 | | | 263 | 00 |
| Woodstock | 841 | 00 | | | 841 | 00 |
| Total | \$26957 | 00 | \$4211 | 00 | \$31168 | 00 |
| INCORPORATED VILLAGES. | | | | | | |
| Acton | \$124 | 00 | | | \$124 | 00 |
| Ailsa Craig | 97 | 00 | | | 97 | 00 |
| Alexandria | 17 | 00 | 112 | 00 | 129 | 00 |
| Alliston | 215 | 00 | | | 215 | 00 |
| Alvinston | 123 | 00 | | | 123 | 00 |
| Arkona | 76 | 00 | | | 76 | 00 |
| Arnprior | 195 | 00 | 114 | 00 | 309 | 00 |
| Arthur | 97 | 00 | 60 | 00 | 157 | 00 |
| Ayr | 135 | 00 | | | 135 | 00 |
| Ashburnham | 186 | 00 | | | 186 | 00 |
| Aurora | 245 | 00 | | | 245 | 00 |
| Aylmer | 252 | 00 | | | 252 | 00 |
| Bath | 70 | 00 | | | 70 | 00 |
| Bayfield | 76 | 00 | | | 76 | 00 |
| Beamsville | 92 | 00 | | | 92 | 00 |
| Beaverton | 124 | 00 | | | 124 | 00 |
| Beeton | 96 | 00 | | | 96 | 00 |
| Belle River | 96 | 00 | | | 96 | 00 |
| Blyth | 119 | 00 | | | 119 | 00 |
| Bobcaygeon | 111 | 00 | | | 111 | 00 |
| Bolton | 95 | 00 | | | 95 | 00 |
| Bracebridge | 185 | 00 | | | 185 | 00 |
| Bradford | 124 | 00 | | | 124 | 00 |
| Brighton | 242 | 00 | | | 242 | 00 |
| Brussels | 170 | 00 | | | 170 | 00 |
| Burlington | 140 | 00 | | | 140 | 00 |
| Caledonia | 120 | 00 | | | 120 | 00 |
| Campbellford | 226 | 00 | | | 226 | 00 |
| Cannington | 128 | 00 | | | 128 | 00 |
| Cardinal | 84 | 00 | | | 84 | 00 |
| Carleton Place | 391 | 00 | | | 391 | 00 |
| Cayuga | 106 | 00 | | | 106 | 00 |
| Chesley | 173 | 00 | | | 173 | 00 |
| Chippewa | 84 | 00 | | | 84 | 00 |
| Clifford | 80 | 00 | | | 80 | 00 |
| Colborne | 119 | 00 | | | 119 | 00 |
| Deseronto | 294 | 00 | | | 294 | 00 |
| Drayton | 105 | 00 | | | 105 | 00 |
| Dunnville | 221 | 00 | | | 221 | 00 |
| Elora | 144 | 00 | 44 | 00 | 188 | 00 |

APPORTIONMENT TO CITIES, ETC.—*Continued.*

| | Public Schools. | | Separate Schools. | | Total. |
|--|-----------------|----|-------------------|----|--------|
| | \$ | c. | \$ | c. | \$ c. |
| <i>INCORPORATED VILLAGES.—Continued.</i> | | | | | |
| Embro..... | 71 | 00 | | | 71 00 |
| Erin..... | 72 | 00 | | | 72 00 |
| Essex Centre..... | 158 | 00 | | | 158 00 |
| Exeter..... | 230 | 00 | | | 230 00 |
| Fenelon Falls..... | 175 | 00 | | | 175 00 |
| Fergus..... | 206 | 00 | 14 | 00 | 220 00 |
| Forest..... | 202 | 00 | | | 202 00 |
| Fort Erie..... | 101 | 00 | | | 101 00 |
| Gananoque..... | 386 | 00 | | | 386 00 |
| Garden Island..... | 64 | 00 | | | 64 00 |
| Georgetown..... | 209 | 00 | | | 209 00 |
| Glencoe..... | 107 | 00 | | | 107 00 |
| Gravenhurst..... | 152 | 00 | | | 152 00 |
| Grimby..... | 96 | 00 | | | 96 00 |
| Hastings..... | 67 | 00 | 39 | 00 | 106 00 |
| Hawkesbury..... | 194 | 00 | | | 194 00 |
| Hespeler..... | 143 | 00 | | | 143 00 |
| Holland Landing..... | 61 | 00 | | | 61 00 |
| Iroquois..... | 133 | 00 | | | 133 00 |
| Kemptville..... | 150 | 00 | | | 150 00 |
| Kingsville..... | 128 | 00 | | | 128 00 |
| Lakefield..... | 144 | 00 | | | 144 00 |
| Lanark..... | 95 | 00 | | | 95 00 |
| Leamington..... | 173 | 00 | | | 173 00 |
| L'Orignal..... | 105 | 00 | | | 105 00 |
| London West..... | 219 | 00 | | | 219 00 |
| Lucan..... | 127 | 00 | | | 127 00 |
| Lucknow..... | 181 | 00 | | | 181 00 |
| Madoc..... | 136 | 00 | | | 136 00 |
| Markham..... | 135 | 00 | | | 135 00 |
| Merrickville..... | 111 | 00 | | | 111 00 |
| Merritton..... | 175 | 00 | 52 | 00 | 227 00 |
| Midland..... | 213 | 00 | | | 213 00 |
| Millbrook..... | 144 | 00 | | | 144 00 |
| Milverton..... | 91 | 00 | | | 91 00 |
| Morrisburg..... | 241 | 00 | | | 241 00 |
| Newboro'..... | 47 | 00 | | | 47 00 |
| Newburgh..... | 94 | 00 | | | 94 00 |
| Newbury..... | 66 | 00 | | | 66 00 |
| Newcastle..... | 119 | 00 | | | 119 00 |
| New Edinburg..... | 155 | 00 | | | 155 00 |
| New Hamburg..... | 174 | 00 | | | 174 00 |
| Niagara Falls South..... | 125 | 00 | | | 125 00 |
| Norwich..... | 174 | 00 | | | 174 00 |
| Norwood..... | 119 | 00 | | | 119 00 |
| Oilsprings..... | 81 | 00 | | | 81 00 |
| Omenee..... | 90 | 00 | | | 90 00 |
| Paisley..... | 143 | 00 | | | 143 00 |
| Parkdale..... | 394 | 00 | | | 394 00 |
| Pelee Island..... | 40 | 00 | | | 40 00 |
| Point Edward..... | 206 | 00 | | | 206 00 |
| Portsmouth..... | 71 | 00 | 35 | 00 | 106 00 |
| Port Colborne..... | 126 | 00 | 39 | 00 | 165 00 |
| Port Dalhousie..... | 102 | 00 | 31 | 00 | 133 00 |
| Port Dover..... | 136 | 00 | | | 136 00 |
| Port Elgin..... | 227 | 00 | | | 227 00 |
| Port Perry..... | 244 | 00 | | | 244 00 |
| Port Stanley..... | 70 | 00 | | | 70 00 |
| Preston..... | 204 | 00 | | | 204 00 |
| Renfrew..... | 146 | 00 | 86 | 00 | 232 00 |
| Richmond..... | 53 | 00 | | | 53 00 |
| Richmond Hill..... | 119 | 00 | | | 119 00 |
| Sault Ste. Marie..... | 249 | 00 | | | 249 00 |
| Shelburne..... | 142 | 00 | | | 142 00 |
| Southampton..... | 148 | 00 | | | 148 00 |
| Springfield..... | 61 | 00 | | | 61 00 |

APPORTIONMENT TO CITIES, ETC.—*Continued.*

| | Public Schools. | | Separate Schools. | | Total. | |
|--|-----------------|----|-------------------|----|---------|----|
| | \$ | c. | \$ | c. | \$ | c. |
| INCORPORATED VILLAGES— <i>Continued.</i> | | | | | | |
| Stayner..... | 136 | 00 | | | 136 | 00 |
| Stirling..... | 110 | 00 | | | 110 | 00 |
| Stouffville..... | 126 | 00 | | | 126 | 00 |
| Streetsville..... | 102 | 00 | | | 102 | 00 |
| Tara..... | 89 | 00 | | | 89 | 00 |
| Teeswater..... | 142 | 00 | | | 142 | 00 |
| Thamesville..... | 94 | 00 | | | 94 | 00 |
| Theford..... | 98 | 00 | | | 98 | 00 |
| Tiverton..... | 85 | 00 | | | 85 | 00 |
| Tottenham..... | 72 | 00 | | | 72 | 00 |
| Vienna..... | 56 | 00 | | | 56 | 00 |
| Wallaceburg..... | 174 | 00 | 36 | 00 | 210 | 00 |
| Wardsville..... | 57 | 00 | | | 57 | 00 |
| Waterdown..... | 94 | 00 | | | 94 | 00 |
| Waterford..... | 160 | 00 | | | 160 | 00 |
| Watford..... | 146 | 00 | | | 146 | 00 |
| Wellington..... | 74 | 00 | | | 74 | 00 |
| Weston..... | 99 | 00 | 34 | 00 | 133 | 00 |
| Warton..... | 167 | 00 | | | 167 | 00 |
| Woodbridge..... | 142 | 00 | | | 142 | 00 |
| Woodville..... | 69 | 00 | | | 69 | 00 |
| Wyoming..... | 97 | 00 | | | 97 | 00 |
| Wroxeter..... | 59 | 00 | | | 59 | 00 |
| Total..... | \$17745 | 00 | \$696 | 00 | \$18441 | 00 |

SUMMARY OF APPORTIONMENT FOR 1886.

| COUNTIES. | Public | Separate | Total. |
|------------------------------|-----------|----------------|-----------|
| | Schools. | Schools. | |
| | § c. | § c. | § c. |
| Brant | 2150 00 | | 2150 00 |
| Bruce | 5357 00 | 128 00 | 5485 00 |
| Carleton | 3766 00 | 367 00 | 4133 00 |
| Dufferin | 2697 00 | | 2697 00 |
| Elgin | 3451 00 | | 3451 00 |
| Essex | 3651 00 | 214 00 | 3865 00 |
| Frontenac | 2693 00 | 106 00 | 2799 00 |
| Grey | 7051 00 | 205 00 | 7256 00 |
| Haldimand | 2210 00 | | 2210 00 |
| Haliburton | 676 00 | | 676 00 |
| Halton | 1875 00 | | 1875 00 |
| Hastings | 4371 00 | | 4371 00 |
| Huron | 6288 00 | 111 00 | 6399 00 |
| Kent | 3987 00 | 184 00 | 4171 00 |
| Lambton | 3792 00 | 53 00 | 3845 00 |
| Lanark | 2718 00 | 9 00 | 2727 00 |
| Leeds | 3200 00 | 37 00 | 3237 00 |
| Grenville | 1913 00 | 19 00 | 1932 00 |
| Lennox and Addington | 2542 00 | 37 00 | 2579 00 |
| Lincoln | 1887 00 | | 1887 00 |
| Middlesex | 6794 00 | 97 00 | 6891 00 |
| Norfolk | 3167 00 | 21 00 | 3188 00 |
| Northumberland | 3383 00 | 62 00 | 3445 00 |
| Durham | 2909 00 | | 2909 00 |
| Ontario | 4261 00 | 68 00 | 4329 00 |
| Oxford | 3889 00 | | 3889 00 |
| Peel | 2389 00 | 15 00 | 2404 00 |
| Perth | 4081 00 | 72 00 | 4153 00 |
| Peterborough | 2388 00 | 44 00 | 2432 00 |
| Prescott | 1983 00 | 350 00 | 2333 00 |
| Russell | 1648 00 | 48 00 | 1696 00 |
| Prince Edward | 2015 00 | | 2015 00 |
| Renfrew | 3647 00 | 115 00 | 3762 00 |
| Simcoe | 7150 00 | 60 00 | 7210 00 |
| Stormont | 1928 00 | 197 00 | 2125 00 |
| Dundas | 1996 00 | | 1996 00 |
| Glengarry | 2281 00 | 74 00 | 2355 00 |
| Victoria | 3443 00 | | 3443 00 |
| Waterloo | 3012 00 | 245 00 | 3257 00 |
| Welland | 2337 00 | | 2337 00 |
| Wellington | 4579 00 | 112 00 | 4691 00 |
| Wentworth | 3179 00 | 20 00 | 3199 00 |
| York | 5742 00 | 53 00 | 5795 00 |
| Districts— | | | |
| (a) Algoma | 1500 00 | | 1500 00 |
| (b) Nipissing | 500 00 | | 500 00 |
| (c) Parry Sound | 1000 00 | | 1000 00 |
| | | Total, \$3,000 | |
| | 147476 00 | 3123 00 | 150599 00 |
| GRAND TOTALS. | | | |
| Counties and Districts | 147476 00 | 3123 00 | 150599 00 |
| Cities | 30467 00 | 7784 00 | 38251 00 |
| Towns | 26957 00 | 4211 00 | 31168 00 |
| Villages | 17745 00 | 696 00 | 18441 00 |
| Grand Total | 222645 00 | 15814 00 | 238459 00 |

TO HEAD MASTERS OF HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

DEAR SIR:—As my answers to a number of enquiries made since the reopening of the High Schools are of general interest, I have deemed it advisable to embody them in a circular, as follows:—

1. The Senate of Toronto University having changed the selection from Shakespeare, previously announced for Matriculation, the Literature for First Class Teachers for 1886-7, in addition to Thomson's Seasons and Southey's Life of Nelson as prescribed, will be "The Merchant of Venice."

2. Hereafter, as for 1886-1887, the Literature Texts for Third Class Certificates will be taken from the authorized High School Reader; and, as in the case of those for the Entrance Examination, about half for one examination will be repeated for that next ensuing. Head-Masters are required to use these selections in their first forms (see Reg. 98. Form I, 5); and, to enable them to do so with the utmost advantage, some of the selections are, and will be, especially adapted for pupils just promoted from the Fourth Class of the Public Schools.

3. A candidate may write for a Second Class Non-professional Certificate without previously taking a Third Class Non-Professional Certificate.

4. While there is nothing in the Regulations to prevent a candidate from writing for a Second and a Third Class Non-professional Certificate in the same year, it is, in most cases, undesirable that he should do so, and Head-Masters may (see Reg. 96) refuse to prepare the same candidate for both examinations in the same year, should the circumstances of his school or the capacity of the candidate render this course advisable.

5. Two examiners will hereafter be required to set each paper, both for the Entrance Examination to High Schools and for Teachers' Certificates.

6. Candidates for Teachers' Certificates will be allowed a choice of questions within certain limitations, that is to say, while an examination paper may consist of twelve questions, the maximum marks may be obtained by answering eight or nine. This will give greater freedom to the examiner and the teacher, and reduce the risk of failure on the part of a candidate who understands the subject.

7. The examination on the Principles of Reading for both Second and Third Class Certificates will be based on the Introduction to the High School Reader—the questions for Second Class being distinct from those for Third Class, and of a more comprehensive character. For the way in which it is intended that the teacher should use this Introduction, I refer you to the preface of the Reader and to the Introduction itself.

8. The examination papers in English Grammar will be constructed in accordance with the view that, while the subject is a science which is capable of important practical applications, it has a distinct value as a means of mental training, to which the practical applications are subordinate in a High School course of study. Less importance will be attached to formal parsing and analysis than has hitherto been usual, and candidates will be expected to be able to state the principles of the subject, as far as possible in their own language, and to show in other ways that they have not attempted to substitute for real learning the *memoriter* recitation of definitions and rules.

9. A general literary acquaintance with scientific facts is undoubtedly of practical value, and the High School programme recognizes this; but the main reason for the introduction of the study of Science into our schools is the mental discipline to be obtained therefrom. The training of the reasoning powers and the acquisition of the scientific habit of mind are the objects with special reference to which the method of instruction should be chosen, and these will also be the main objects of the examination papers. The recent half-yearly reports have shown me that, with few exceptions, the High Schools are now fairly equipped with scientific apparatus; this summer an opportunity was afforded High School Masters of obtaining a practical knowledge of Botany; and the examiners will assume henceforth that Chemistry and Physics have been taken up experimentally and Botany practically. In this connection I would remind you that *Reynolds' Experimental Chemistry* has been prescribed for the teacher's use only, to show how the course is limited and to supply him with a guide as to method. It is not

expected that either teacher or pupil will perform all the experiments contained in the book. Others may be substituted that illustrate the same principles; some may be performed by the teacher in the class, alone or with the pupils' assistance; and others again may be performed by the pupil alone, the results being reported to the teacher and discussed in the class. The importance of the subject under consideration and the time at the class's disposal will of course determine how many experiments should be taken up. I may add that the examiners for Second Class Certificates will assume only such a knowledge of Chemistry as may be acquired in one year's course.

10. As regards English Literature, both prose and poetry, the teacher's great object should be to lead his pupils to understand and appreciate fully the author's meaning. This involves, of course, the careful study of the form in which the author expresses himself. Paraphrasing; the different nature of synonyms; the explanation of allusions; the discussion of proper names and of historical points; the study of figurative language, of paragraph construction, and of metrical form—should all be conducted primarily with this object in view. The biography of the writers and the history of the periods in which they lived should be taken up specially in the Literature class, only in so far as they have a bearing upon the meaning or the form of the texts. To secure as far as possible the permanence of the pupil's impressions, he should be required to memorize carefully the finest passages in both the prose and the poetry. The prose selections, however, for all grades of certificates, are intended to serve an additional purpose. Appreciation should beget imitation, and every High School pupil should aim at becoming at least a fair writer of English prose. The prose selections should be studied in the Composition classes as models of style, and the merits and, it may be, the defects, of the author's paragraphs and sentences, and the influence of the same upon his style should be carefully noted. Indeed, to obtain the utmost advantage from the study of Literature, the teacher of that subject should also be the teacher of Composition.

11. The subject for the themes for Composition on the Composition papers for Third, Second, and First C. Certificates, will be based on the prose selections for these Certificates respectively.

12. The paper in Algebra will contain about an equal number of questions in *pure* and *applied* Algebra; respecting Geography it is to be understood that the course for Second Class Teachers includes that prescribed for Third Class, according to the usual practice.

13. It is intended to adopt for candidates for Second Class Certificates the papers for Pass Matriculation set by the University examiners in Latin, French, and German; papers for the Third Class candidates will be set by the Departmental examiners in these subjects as formerly.

As many valuable hints are given by the High School Inspectors in regard to methods of teaching and the objects to be aimed at in the study of the various subjects in the High School Course, I would respectively refer you to my Report of last year, 1885, for fuller details than can conveniently be given in this circular.

TORONTO, September, 1886.

TO COUNTY INSPECTORS.

DEAR SIR:—I think the time has come when concerted effort should be made to introduce vocal music into all the public schools. Although the course of public instruction in the Provincial Normal and Model Schools is designed to qualify teachers in training for teaching this subject, still the limited number of pupils in the public schools who, according to my report, received instruction from year to year, has impressed me with the necessity of asking Inspectors specially to urge it upon the attention of teachers in their various inspectorates. Out of a registered school population of 466,917 only 150,510 were reported as studying music.

Be good enough to supply the information asked for below at your earliest convenience, in order that I may ascertain more accurately what is done, with a view to consider more fully the best remedy to apply.

State number of schools in your inspectorate in which vocal music is studied and supply following details:—

1. The aggregate number of pupils taught.
.....
2. What proportion receive regular lessons in singing by note?
.....
3. What is the average time per week devoted to music in the classes in which singing by note is practised?
.....
4. How many classes are taught by special teachers of music?
.....
5. How many classes are taught by the regular teachers?
.....

SYSTEMS.

6. Are any classes taught by the tonic-sol-fa method?
.....
7. What are the principal music text books used?
.....
8. Would you approve of making the study of music compulsory in the County Model Schools?
.....

TORONTO, November, 1886.

TEACHERS' INSTITUTES, 1887.

The success which has attended the Institutes held during the year and the resolutions passed expressing approval of the services rendered by the Directors are very gratifying, and strengthen the conviction that the teachers of the Province appreciate the object for which they were originally established. Still it is to be remembered that their success must continue to depend mainly upon the assistance and active co-operation of Inspectors and Teachers—the object of the Department being to assist, not to supersede local effort.

Inspectors are requested to see that due notice is given of the Public Lecture. Successful evening meetings will greatly aid in creating a deeper interest in Education, and in forming a heartier sympathy and co-operation with the teacher in his arduous work.

It is hoped that Inspectors and Teachers will endeavour to awaken more interest in the "Teachers' Reading Course," and secure its adoption in every Inspectoral Division in the Province. For 1887 the Directors will discuss "Hopkins' Outline Study of Man" and "Fitch's Lectures on Teaching." Teachers should come prepared, by a careful reading of these works, to discuss the principles of teaching so ably set forth by the authors of these two books. The Directors will take up as one of the subjects requiring special attention "School exercises for Friday afternoon."

Dr. McLellan will attend the Institutes named in the first column, Mr. Tilley those in the second, and for the remaining meetings special provision will be made, of which Inspectors will be notified by the Department.

One annual meeting must be held in each Inspectoral Division, but the holding of other meetings is left with the Association. Township or District meetings should be encouraged.

All the Institutes cannot possibly be held at the most favorable seasons of the year, but it is hoped that the dates assigned for the meetings will be accepted as the best arrangement that can be made.

The place at which the Institute is to be held will be selected by the County Inspector on consultation with the Directors. Programmes should be issued at least one month before the date of the Institute.

TORONTO, November, 1886.

TEACHERS' INSTITUTES.

Dates of Annual Meetings, 1887.

| JANUARY. | I. | II. | III. | IV. |
|---------------------|---------------------|--------------------|----------------------|----------------|
| 20th and 21st | South York | North York. | | |
| 27th and 28th..... | Halton | Dufferin. | | |
| FEBRUARY. | | | | |
| 3rd and 4th | East Grey..... | Haldimand. | | |
| 10th and 11th..... | East Victoria..... | Lincoln. | | |
| 17th and 18th..... | West Victoria..... | Glengarry. | | |
| 24th and 25th..... | Waterloo..... | Carleton. | | |
| MARCH. | | | | |
| 3rd and 4th | S. Wellington | East Middlesex. | | |
| APRIL. | | | | |
| 21st and 22nd..... | Elgin | Lennox & Addington | | |
| 28th and 29th..... | West Kent..... | West Middlesex... | Lanark..... | North Essex. . |
| MAY. | | | | |
| 5th and 6th..... | North Hastings..... | Brant | Prescott & Russell.. | South Essex. |
| 12th and 13th..... | South Hastings..... | Norfolk | Dundas | East Kent. |
| 19th and 20th..... | Leeds | Frontenac | Renfrew | East Bruce. |
| 26th and 27th..... | Grenville..... | Muskoka..... | Ontario | West Bruce. |
| JUNE. | | | | |
| 2nd and 3rd | Stormont..... | South Grey..... | Peel | Welland. |
| 9th and 10th..... | Northumberland.... | South Simcoe..... | West Huron. | |
| 16th and 17th..... | Durham..... | North Simcoe. | | |
| 23rd and 24th..... | Peterboro | North Grey. | | |
| SEPTEMBER. | | | | |
| 15th and 16th. | Welland. | | | |
| 22nd and 23rd | Haliburton. | | | |
| 29th and 30th..... | Perth. | | | |
| OCTOBER. | | | | |
| 6th and 7th | Wentworth. | | | |
| 13th and 14th..... | East Huron. | | | |
| 20th and 21st..... | N. Wellington. | | | |
| 27th and 28th..... | Lambton. | | | |
| NOVEMBER. | | | | |
| 3rd and 4th | Oxford. | | | |
| 10th and 11th..... | Prince Edward. | | | |

4.—CONFIRMATION OF BY-LAWS.

The following is a list of the By-laws confirmed during 1886.

| Municipality passing By-law. | Date of Application to confirm. | School Corporation affected. | Other Municipalities concerned. | How disposed of. |
|----------------------------------|---------------------------------|--|---------------------------------|--|
| Township of Armour. | February 10th, 1886. | 2 Armour and Union 1 Armour and Strong | ..... | By-law No. 45, Confirmed 20th April, 1886. |
| Township of N. Plantagenet | April 20th, 1886 | School Section No. 1, and Protestant Separate School No. 1. | ..... | By-law No. 240, Confirmed June 7th, 1886. |
| do | do | Sections 3, 6, 12 & 15. | ..... | By-law No. 241, Confirmed June 7th, 1886. |

APPENDIX B.—PROVINCIAL NORMAL AND MODEL SCHOOLS.

1.—THE TORONTO NORMAL SCHOOL.

1. *Staff of the Toronto Normal School, 1886.*

| | |
|-----------------------------|--------------------------------------|
| Thomas Kirkland, M. A. | Principal. |
| James Carlyle, M. D. | Mathematical Master. |
| J. H. McFaul. | Drawing Master, and in Model School. |
| S. H. Preston. | Music “ “ |
| Sergt. T. Parr. | Drill and Calisthenics “ “ |

2.—*Students in the Toronto Normal School, 1886.*

| | ADMITTED. | |
|----------------------|-----------|---------|
| | Male. | Female. |
| First Session..... | 38 | 81 |
| Second Session | 37 | 83 |
| Total..... | 75 | 164 |

2.—THE OTTAWA NORMAL SCHOOL.

1.—*Staff of the Ottawa Normal School, 1886.*

| | |
|--------------------------------|---|
| John A. MacCabe, M. A. | Principal. |
| Geo. Baptie, M. A., M. B. | Science Master. |
| Wm. Scott, B.A. | Mathematical Master. |
| R. H. Whale. | Drawing Master, and in Model School. |
| W. G. Workman. | Music “ “ “ |
| E. B. Cope. | Drill and Calisthenics Master, and in Model School. |

2. *Students in the Ottawa Normal School, 1886.*

| | ADMITTED. | |
|----------------------|-----------|---------|
| | Male. | Female. |
| First Session | 42 | 53 |
| Second Session | 68 | 37 |
| Total | 110 | 90 |

3.—THE TORONTO MODEL SCHOOL.

1. *Staff of the Toronto Model School, 1886.*

| | |
|-------------------------|-------------------------------------|
| Charles Clarkson, B. A. | Head Master, Boys' Model School. |
| Angus McIntosh | First Assistant, " " |
| James McLurg | Second " " " |
| Miss Hattie McLellan | Third " " " |
| " Margaret T. Scott | Head Mistress, Girls' Model School. |
| " K. F. Hagarty | First Assistant, " " |
| " M. Meehan | Second " " " |
| " J. Meneilley | Third " " " |
| " C. M. Hart | Kindergarten Teacher. |

2. *Number of Pupils in 1886.*

| | | |
|------------|-------------|-------------|
| Boys, 144. | Girls, 186. | Total, 330. |
|------------|-------------|-------------|

4.—THE OTTAWA MODEL SCHOOL.

1. *Staff of the Ottawa Model School, 1886.*

| | |
|---------------------|-------------------------------------|
| Edwin D. Parlow | Head Master, Boys' Model School. |
| Thomas Swift | First Assistant, " " |
| R. H. Cowley | Second " " " |
| Miss M. Thomson | Third " " " |
| " Adeline Shenick | Head Mistress, Girls' Model School. |
| " Mary G. Joyce | First Assistant, " " |
| " Margaret A. Mills | Second " " " |
| " M. E. Butterworth | Third " " " |
| " E. Bolton | Kindergarten Teacher. |

Number of Pupils in 1886.

| | | |
|------------|-------------|-------------|
| Boys, 174. | Girls, 154. | Total, 328. |
|------------|-------------|-------------|

SCHEDULE A.—STATISTICS OF

| NAME OF MODEL SCHOOL. | No. of Student Teachers on Roll. | | | | No. who withdrew during the term. | No. that passed Final Examination. | | | | No. of Lectures on Education. | No. of Lectures on School Law. | No. of Lectures on Hygiene. | No. of Lessons taught by each Student. | No. of Departments used. | No. of Assistants with required qualification. |
|-----------------------------|----------------------------------|----------|--------------------------|------------------|-----------------------------------|------------------------------------|----------|--------------------------|------------------|-------------------------------|--------------------------------|-----------------------------|--|--------------------------|--|
| | Males. | Females. | Increase over last year. | No. that failed. | | Males. | Females. | Increase over last year. | No. that failed. | | | | | | |
| 1 Barrie | 26 | 11 | 15 | | | 26 | 11 | 15 | | 40 | 10 | 20 | 26 | 12 | 6 |
| 2 Beansville | 17 | 9 | 8 | 4 | 1 | 16 | 8 | 8 | 3 | 18 | 10 | 10 | 30 | 3 | 3 |
| 3 Berlin | 11 | 4 | 7 | | 1 | 10 | 4 | 6 | | 75 | 4 | 10 | 40 | 10 | 6 |
| 4 Bracebridge | | | | | | | | | | | | | | | |
| 5 Bradford | 22 | 14 | 8 | 4 | | 22 | 14 | 8 | 4 | 45 | 13 | 26 | 30 | 4 | 4 |
| 6 Brampton | 20 | 9 | 11 | | | 15 | 7 | 8 | 5 | 26 | 5 | 20 | 30 | 5 | 5 |
| 7 Brantford | 31 | 5 | 26 | 2 | 1 | 30 | 5 | 25 | 2 | 54 | 16 | 35 | 38 | 7 | 7 |
| 8 Caledonia | 31 | 11 | 20 | 9 | | 28 | 9 | 19 | 6 | 60 | 20 | 30 | 20 | 4 | 4 |
| 9 Chatham | 49 | 27 | 22 | 13 | | 49 | 27 | 22 | 13 | 65 | 18 | 26 | 32 | 14 | 11 |
| 10 Clinton | 35 | 22 | 13 | 7 | | 35 | 22 | 13 | 11 | 35 | | | 26 | 8 | 7 |
| 11 Cobourg | 28 | 14 | 14 | | | 24 | 11 | 13 | 2 | 60 | 10 | 20 | 30 | 10 | 10 |
| 12 Cornwall | 9 | 4 | 5 | | | 8 | 3 | 5 | 1 | 30 | 12 | 25 | 30 | 6 | 3 |
| 13 Durham | 12 | 8 | 4 | | | 12 | 8 | 4 | | 36 | 30 | 24 | 36 | 4 | 3 |
| 14 Farmersville | 32 | 10 | 22 | | | 32 | 10 | 22 | | 70 | 8 | 12 | 19 | 3 | 3 |
| 15 Forest | 27 | 15 | 12 | 9 | | 27 | 15 | 12 | 14 | 52 | 15 | 25 | 31 | 5 | 4 |
| 16 Galt | 12 | 1 | 11 | | | 11 | | 11 | 1 | 40 | 8 | 12 | 28 | 7 | 7 |
| 17 Goderich | 33 | 17 | 16 | 6 | | 33 | 17 | 16 | 14 | 56 | 6 | 20 | 30 | 7 | 6 |
| 18 Hamilton | 40 | 11 | 29 | 23 | 1 | 39 | 11 | 28 | 22 | 120 | 20 | 23 | 20 | all | 9 |
| 19 Ingersoll | 20 | 6 | 14 | 5 | | 20 | 6 | 14 | 7 | 30 | 5 | 20 | 33 | 12 | 9 |
| 20 Kincardine | 31 | 22 | 9 | 2 | | 28 | 19 | 9 | 3 | 42 | 5 | 12 | 38 | 10 | 7 |
| 21 Kingston | 23 | 4 | 19 | 4 | 2 | 21 | 4 | 17 | 2 | 60 | 12 | 20 | 25 | 11 | 11 |
| 22 Lindsay | 33 | 17 | 16 | 10 | | 33 | 17 | 16 | 11 | 45 | 5 | 24 | 20 | 11 | 8 |
| 23 London | 39 | 7 | 32 | 2 | 1 | 31 | 7 | 24 | | 80 | 4 | 10 | 35 | 5 | 4 |
| 24 Madoc | 41 | 22 | 19 | 4 | | 41 | 22 | 19 | 6 | 40 | 20 | 26 | 16 | 5 | 4 |
| 25 Martintown | 7 | 4 | 3 | | | 7 | 4 | 3 | | 40 | 10 | 15 | 40 | 3 | 1 |
| 26 Milton | 18 | 9 | 9 | | | 18 | 9 | 9 | | 135 | 16 | 22 | 29 | 6 | 3 |
| 27 Mitchell | 24 | 13 | 11 | | | 19 | 11 | 8 | 5 | 43 | 9 | 13 | 30 | 8 | 7 |
| 28 Morrisburg | 19 | 5 | 14 | | | 17 | 4 | 13 | 2 | 80 | 12 | 33 | 22 | 7 | 4 |
| 29 Mount Forest | 40 | 17 | 23 | | | 40 | 17 | 23 | 5 | 30 | 8 | 8 | 23 | 8 | 3 |
| 30 Napanee | 27 | 8 | 19 | | | 27 | 8 | 19 | | 20 | 5 | 12 | 30 | 6 | 4 |
| 31 Newmarket | 27 | 14 | 13 | 4 | | 25 | 13 | 12 | 2 | 60 | 10 | 15 | 30 | 5 | 4 |
| 32 Norwood | 21 | 8 | 13 | 12 | | 21 | 8 | 13 | 13 | 60 | 8 | 12 | 32 | 4 | 2 |
| 33 Orangeville | 24 | 13 | 11 | 5 | | 24 | 13 | 11 | 5 | 95 | 20 | 36 | 30 | 8 | 8 |
| 34 Owen Sound | 35 | 15 | 20 | 13 | | 35 | 15 | 20 | 17 | 50 | 10 | 20 | 34 | 7 | 5 |
| 35 Parkdale | 37 | 23 | 14 | 10 | | 35 | 22 | 13 | 11 | 72 | 15 | 22 | 29 | 10 | 8 |
| 36 Perth | 36 | 12 | 24 | 3 | 1 | 35 | 12 | 23 | 4 | 48 | 7 | 27 | 28 | 7 | 7 |
| 37 Picton | 21 | 11 | 10 | 2 | | 21 | 11 | 10 | 2 | 65 | 1 | 38 | 26 | 8 | 7 |
| 38 Port Hope | 27 | 11 | 16 | 3 | | 25 | 11 | 14 | 2 | 52 | 15 | 26 | 28 | 12 | 7 |
| 39 Port Perry | 27 | 18 | 9 | 11 | | 27 | 18 | 9 | 11 | 60 | 13 | 26 | 30 | 5 | 3 |
| 40 Prescott | 22 | 8 | 14 | 5 | | 21 | 7 | 14 | 4 | 60 | 26 | 40 | 32 | 6 | 6 |
| 41 Renfrew | 70 | 14 | 56 | 21 | 1 | 69 | 14 | 55 | 20 | 35 | 5 | 10 | 30 | 5 | 3 |
| 42 St. Thomas | 50 | 25 | 25 | | 9 | 35 | 15 | 20 | | 6 | 60 | 8 | 12 | 20 | 8 |
| 43 Sarnia | 27 | 9 | 18 | 2 | 1 | 25 | 7 | 18 | 3 | 1 | 80 | 9 | 42 | 41 | 9 |
| 44 Simcoe | 29 | 16 | 13 | 13 | | 29 | 16 | 13 | 13 | 55 | 10 | 20 | 32 | 7 | 6 |
| 45 Stratford | 47 | 25 | 22 | | | 41 | 22 | 19 | | 6 | 50 | 20 | 25 | 30 | 18 |
| 46 Strathroy | 38 | 21 | 17 | 4 | 1 | 24 | 14 | 10 | 1 | 13 | 40 | 8 | 24 | 35 | 8 |
| 47 Toronto | 22 | 22 | 22 | | 1 | 21 | | 21 | | 1 | 60 | 6 | 20 | 45 | 10 |
| 48 Vankleekhill | 29 | 8 | 21 | 5 | | 29 | 8 | 21 | 7 | 60 | 30 | 50 | 31 | 4 | 4 |
| 49 Welland | 18 | 5 | 13 | | | 18 | 5 | 13 | | 20 | 5 | 20 | 30 | 4 | 3 |
| 50 Walkerton | 35 | 15 | 20 | | | 32 | 12 | 20 | | 3 | 44 | 7 | 19 | 30 | 7 |
| 51 Whitby | 26 | 14 | 12 | 10 | 1 | 25 | 14 | 11 | 9 | 56 | 16 | 20 | 28 | 4 | 3 |
| 52 Windsor | 21 | 5 | 16 | 4 | | 19 | 4 | 15 | 3 | 2 | 20 | 15 | 15 | 22 | 7 |
| 53 Woodstock | 22 | 11 | 11 | 2 | 1 | 21 | 11 | 10 | 1 | 35 | 10 | 25 | 30 | 7 | 7 |
| Total | 1468 | 627 | 841 | 233 | 23 | 1376 | 582 | 794 | 253 | 72 | 2764 | 585 | 1117 | | |

COUNTY MODEL SCHOOLS, 1886.

| | Time given daily by Principal to Lectures, etc. | Was Assistant provided? | To what extent was Principal relieved each day. | Is separate room provided? | Is this room in the school building? | Was Vocal Music taught? | Was Drill taught? | Allowance to Assistants for Model School work. | Allowance to Principals for Model School work. |
|----|---|-------------------------|---|----------------------------|--------------------------------------|-------------------------|-------------------|--|--|
| | | | | | | | | £ c. | £ c. |
| 1 | 3 hrs. | yes | 3 hours | yes | yes | yes | yes | 150 00 | |
| 2 | all day | " | " | " | " | " | " | 100 00 | 200 00 |
| 3 | " | " | " | " | " | no | " | 150 00 | 150 00 |
| 4 | | | | | | | | | |
| 5 | all day | yes | all day | yes | yes | yes | yes | 75 00 | |
| 6 | " | " | " | " | " | " | " | 150 00 | 150 00 |
| 7 | " | " | " | " | " | no | " | | 175 00 |
| 8 | " | " | " | " | " | " | " | 125 00 | |
| 9 | 3 hrs. | " | 3 hours | " | no | yes | " | 200 00 | |
| 10 | all day | " | all day | " | " | " | " | 100 00 | 25 00 |
| 11 | 4 hrs. | " | 4 hours | " | " | no | no | | |
| 12 | 2½ hrs. | " | 2½ hours | " | " | " | " | 50 00 | 45 00 |
| 13 | 3 hrs. | " | 3 hours | " | yes | yes | " | 150 00 | |
| 14 | all day | " | all day | " | " | no | " | 75 00 | |
| 15 | 3 hrs. | " | 3 hours | " | no | " | " | 65 00 | |
| 16 | 3 hrs. | " | " | " | yes | " | " | 100 00 | 50 00 |
| 17 | 4 hrs. | " | 4 hours | " | " | yes | yes | 50 00 | |
| 18 | all day | " | all day | " | " | " | " | 200 00 | 300 00 |
| 19 | " | " | " | " | no | " | " | 140 00 | |
| 20 | 4½ hrs. | " | 4½ hours | " | yes | no | no | 130 00 | |
| 21 | 4 hrs. | " | 4 hours | " | " | " | yes | 120 00 | |
| 22 | 2½ hrs. | " | 2½ hours | " | " | " | no | | 200 00 |
| 23 | " | " | " | " | " | " | yes | 80 00 | 120 00 |
| 24 | 3 hrs. | " | all day | " | " | yes | " | | |
| 25 | " | no | " | " | " | " | no | 25 00 | 100 00 |
| 26 | all day | yes | all day | " | " | no | yes | 120 00 | 50 00 |
| 27 | " | " | " | " | " | " | no | 130 00 | |
| 28 | " | " | " | " | " | " | Calisthenics | 150 00 | |
| 29 | 2½ hrs. | " | " | " | " | yes | yes | 130 00 | 100 00 |
| 30 | all day | " | " | " | " | no | " | 120 00 | |
| 31 | 3 hrs. | " | " | " | " | " | " | 100 00 | |
| 32 | " | " | 4½ hours | " | " | " | " | 90 00 | 150 00 |
| 33 | all day | " | all day | " | " | yes | " | 135 00 | |
| 34 | " | " | " | " | " | no | " | 150 00 | |
| 35 | " | " | " | " | " | yes | " | 180 00 | |
| 36 | " | " | " | " | " | no | " | 100 00 | |
| 37 | " | " | " | " | " | yes | " | | |
| 38 | " | " | " | " | " | no | no | | 100 00 |
| 39 | 3 hrs. | " | 3 hours | " | " | yes | yes | 100 00 | 100 00 |
| 40 | all day | " | all day | " | " | " | no | 125 00 | 200 00 |
| 41 | 3 hrs. | " | 3 hours | " | " | " | yes | 100 00 | |
| 42 | all day | " | all day | " | " | " | " | 125 00 | |
| 43 | 4 hrs. | " | " | " | " | " | " | 150 00 | |
| 44 | all day | " | " | " | no | " | " | 150 00 | |
| 45 | 5½ hrs. | " | " | " | yes | no | no | 75 00 | 50 00 |
| 46 | 3 hrs. | " | 3 hours | " | " | yes | " | 100 00 | |
| 47 | | | | | | | | | |
| 48 | all day | " | all day | " | " | " | yes | 130 00 | |
| 49 | 3 hrs. | " | 3 hours | " | no | no | " | 78 00 | |
| 50 | all day | " | all day | " | yes | " | no | 138 00 | |
| 51 | 4 hrs. | " | 3 hours | " | " | yes | yes | 125 00 | 100 00 |
| 52 | all day | " | all day | " | " | no | no | 150 00 | 100 00 |
| 53 | " | " | " | " | " | " | " | 125 00 | |

SCHEDULE B.

| NAME OF MODEL SCHOOL. | NAME OF PRINCIPAL. | CLASS OF CERTIFICATE. |
|--------------------------|-----------------------|--------------------------|
| Barrie | T. O. Steele | 1st Class A. |
| Beamsville | A. E. Caverhill | 1st " C. |
| Berlin | J. Suddaby | 1st " C. |
| Bracebridge | | |
| Bradford | J. Day | 1st " A. |
| Brampton | H. Morton | 1st " " |
| Brantford | W. Wilkinson | M. A. |
| Caledonia | J. Rowat | 1st Class A. |
| Chatham | G. B. Kirk | 1st " A. |
| Clinton | W. R. Lough | 1st " C. |
| Cobourg | A. Barber | 1st " C. |
| Cornwall | P. Talbot | 1st " C. |
| Durham | J. Winterborn | 1st " A. |
| Farmersville | T. M. Porter | 1st " C. |
| Forest | C. S. Falconer | 1st " C. |
| Galt | R. Alexander | 1st " B. |
| Goderich | A. Embury | 1st " A. |
| Hamilton | G. W. Johnston | 1st " " |
| Ingersoll | H. F. McDiarmid | 1st " " |
| Kincardine | F. C. Powell | 1st " B. |
| Kingston | R. K. Row | 1st " B. |
| Lindsay | R. Lees | 1st " C. |
| London | W. J. Carson | 1st " A. |
| Madoc | D. Marshall | 1st " B. |
| Martintown | Alexander Kennedy | 1st " " |
| Milton | H. Gray | 1st " " |
| Mitchell | Samuel Nethercott | 1st " B. |
| Morrisburg | Gideon E. Broderick | 1st " A. |
| Mount Forest | S. B. Westervelt | 1st " " |
| Napanee | J. Bowerman | 2nd " " |
| Newmarket | W. Rannie | 1st " C. |
| Norwood | A. Hutchinson | 1st " C. |
| Orangeville | M. N. Armstrong | 1st " " |
| Owen Sound | T. Frazer | 1st " " |
| Parkdale | J. A. Wismer | 1st " " |
| Perth | M. M. Jaques | 1st " " |
| Picton | R. F. Greenlees | 1st " A. |
| Port Hope | F. Wood | 1st " " |
| Port Perry | A. M. Rae | 1st " C. |
| Prescott | C. McPherson | 1st " B. |
| Renfrew | W. H. Harlton | 1st " A. |
| St. Thomas | N. M. Campbell | 1st " " |
| Sarnia | Alexander Wark | 1st " B. |
| Simcoe | George Sharman | 1st " B. |
| Stratford | C. W. Chadwick | 1st " A. |
| Strathroy | Thomas Dunsmore | 1st " C. |
| Toronto | R. W. Doan | 1st " B. |
| Vankleekhill | R. J. Sangster | 1st " C. |
| Welland | R. Grant | 1st " C. |
| Walkerton | W. R. Telford | 1st " B. |
| Whitby | J. Brown | 1st " " |
| Windsor | J. Duncan | 1st " " |
| Woodstock | G. Van Slyke | 1st " A. |

APPENDIX D.—TEACHERS' INSTITUTES.

1. ONTARIO TEACHERS' ASSOCIATION, 1886.

Extract from the proceedings of Convention held on the 10th, 11th and 12th days of August, 1886.

The Convention met on Tuesday, August 10th, 1886.

The President, Mr. S. McAllister, in the chair.

RESOLUTIONS ADOPTED.

By the Association.

Resolved, That the regulations in force in 1883 be restored, requiring that no candidate shall be permitted to present himself for non-professional examination for Second Class Teachers' certificates until one year shall have elapsed from the time of his obtaining his Third Class non-professional certificate; provided, however, that should any candidate obtain forty per cent. of the aggregate number of marks at any Third Class non-professional examination, he shall be permitted to write at the Second Class non-professional examination in any subsequent year, one year's notice to be given before such regulation shall come in force.

Resolved, That whereas the prize system in operation in our schools and colleges involves the expenditure of a large amount of money that should be devoted to better uses in advancing the interests of education;

And whereas, the incentives employed and the motives thus appealed to, tend to retard rather than aid the teacher in trying to employ the higher methods of culture;

And whereas, competitive examinations are not sufficiently reliable in case of awarding prizes;

And whereas, the awarding of scholarships ostensibly to aid needy students, is ineffectual and misleading:

It is the opinion of this Association—

1. That prizes, scholarships and medals should be abolished in all our educational institutions.

2. That public money now devoted to this purpose should be used to increase the general efficiency of the Provincial University.

3. That prize money now derived from private sources, supplemented by as much more as may be available, should be used (a) to establish a beneficiary fund for needy and worthy students, to be disbursed according to a plan similar to that in operation at Yale College, including the principle of loans to such students, based on *moral worth, present need, and reputable scholarship*, and independently of competitive examinations; (b) Any available surplus to be used to encourage *original research and special post graduate work*.

4. That instead of the present system of prizes, scholarships and medals, honor students should be classified in such a way that the highest distinction in the University shall be attainable by all whose scholarship reaches a certain standard, say that of present gold medallists (or higher if necessary).

Subordinate honors to be decided in a similar manner—the principle here involved to apply also to matriculation and ordinary sessional examinations.

5. That a copy of these resolutions be sent to the authorities of each university in Ontario, as the expressed opinion of this Association.

Report of Committee on President's Address (adopted).

That it is not creditable to our Province that the percentage of average attendance at our Public Schools should be so small, viz.: forty-eight per cent. of those registered, and that there are 90,959 pupils between the ages of seven and thirteen years, who have not attended school the minimum number of days required by law, besides those who have not entered the schools. As stated by the Minister of Education in his last report, "one great problem requiring our attention is how to increase the average attendance." The greater regularity of attendance shown by the statistics of other countries should stimulate us to investigate, and, if possible, to remove the causes that operate against a more regular attendance at the Schools of Ontario. In the words of the Address, "The law of compulsory education is not a dead letter there (Australia, etc.), as it is allowed to be with us." Undoubtedly there is an aversion on the part of trustees to compel their neighbors' children to attend school, but the clauses of the law relating to compulsory education are inoperative chiefly for the reasons that, at least so far as they relate to rural schools, they are not practicable, owing to the incompleteness of the census returns, and the inadequacy of the machinery provided to convict and punish offenders.

It is some gratification, however, to know that the percentage of average attendance is steadily, if but slowly, increasing, and further, that the actual condition of affairs is better than would appear from the official report, because the average is reckoned upon the total number registered between the ages of five and twenty-one, whereas many thousands of those who attend but a few days in the year are under seven years of age and over fifteen, and who in many instances are better out of than in the public schools: therefore we beg to recommend to the Honorable the Minister of Education that the public reports should be made to state the average attendance of those who are properly of public school age, namely, of pupils from seven to fifteen years, inclusive, as showing more correctly the extent to which our people are availing themselves of the means provided by the nation for public school education.

Reports respecting Teachers' Associations were received from :

| | | |
|--------------------------|----------------------|-------------------------|
| Mr. McMillan | Ottawa | Representing 50 Members |
| " Alexander | Waterloo | " 80 " |
| Dr. Kelly | Brant | " 120 " |
| Mr. Ramage | S. Grey | " 100 " |
| " N. McKinnon | W. Bruce | " 80 " |
| " Geo. Lindsay | E. Grey | " 70 " |
| " McEwan | S. Hastings | " 120 " |
| " J. B. Hume | Haldimand | " 105 " |
| " J. W. Morgan | W. Huron | " 85 " |
| " John Elliott | W. Grey | " 100 " |
| " F. L. Michell | Lanark | " 126 " |
| " Chenay | N. Essex | " 100 " |
| " D. H. Hunter | Oxford | " 170 " |
| " W. J. Osborne | Prince Edward | " 96 " |
| " J. W. Henstridge | Frontenac | " 140 " |
| " J. H. Moffat | Carleton | " 126 " |
| " J. W. Smith | S. Essex | " 80 " |
| " J. S. Deacon } | Halton | " 85 " |
| " R. Coats } | | |
| " David Nairn | S. Wellington | " 120 " |
| " W. E. Norton | E. Lambton | " 100 " |
| " J. F. Ballard | Wentworth | " 110 " |
| " W. E. Tilley | Durham | " 125 " |
| " W. H. Ballard | Hamilton | " 120 " |
| " A. Barber | Northumberland | " 130 " |
| " D. Marshall | N. Hastings | " 60 " |

PUBLIC SCHOOL SECTION.

Report of Committee on the Kindergarten System (adopted.)

1. That in our opinion the success attending the introduction of a modified form of the Kindergarten in the schools of Berlin, Galt and Dundas, proves that it may be successfully introduced into town, village and also rural schools ; also that the Hon. Minister of Education be requested to take such steps as will secure the bringing of the subject before every county association which has not yet considered the matter.

2. We are also of the opinion that if a Kindergarten class were established in Toronto, to commence, say at the close of the schools in June, to continue some two or three weeks, it would prove to be a great help to those teachers who are anxious to obtain a knowledge of Kindergarten methods, and we doubt not would be largely attended.

3. It would be desirable that the Minister of Education should aid school officials in securing a supply of Kindergarten material, either by money grant or by selling such material at cost.

Resolved, That it would be in the interests of true teaching to have the "marking system" abolished, so far as it relates to the unwritten work of the pupils.

HIGH SCHOOL SECTION.

Resolved, That the Senate of Toronto University be requested to make the work in Classics for Junior Matriculation with Honors, the same as that of the First Year Pass.

Resolved, That the Senate of Toronto University be requested to apply to the classification of pass candidates, the same principle as that now applied to the classification of honor candidates in the fourth year.

The Committee on Constitution, By-laws and Rules of Order for the Section, presented the following draft, which was adopted :—

THE HIGH SCHOOL SECTION OF THE ONTARIO TEACHERS' ASSOCIATION—CONSTITUTION AND BY-LAWS.

I.—MEMBERS.

The High School Section of the Ontario Teachers' Association shall consist of :—

- (a) All qualified Teachers in the High Schools and Collegiate Institutes in Ontario ;
- (b) All other Teachers in Colleges and Secondary Schools, who have applied for admission to membership, and who have been duly accepted by a majority vote of the members present at any regular meeting of the Section.

II.—FEES.

All members shall pay to the Section Treasurer an annual fee of 50 cents. No members shall have the right of voting, or of holding office, until this fee has been paid.

III.—OFFICERS.

(a) The officers of the Section shall be a Chairman, a Secretary-Treasurer, five Directors, and a Legislative Committee.

(b) These officers shall be elected annually by ballot, at the last regular meeting of the Section.

(c) Every candidate for office must be nominated by a member of the Section before a ballot is taken.

IV.—MEETINGS.

This Section shall meet annually, and shall have at least three regular sessions during the morning of the days of meeting of the General Association. Each session shall begin at the hour of 10 a.m. Ten members shall form a quorum. Special meetings of the Section may be held when necessary, and regular sessions may begin at an earlier hour than 10 a.m., when a majority of the members so decide.

V.—DUTIES OF OFFICERS.

Duties of Chairman.

The Chairman shall preside at all meetings of the Section, and at all meetings of the Executive of the Section, and shall perform such other duties as by custom devolve upon a presiding officer. In the absence of the Chairman, a *pro tempore* chairman may be appointed on nomination, the Secretary-Treasurer putting the question.

Duties of Secretary-Treasurer.

The Secretary-Treasurer shall keep a full and correct record of the proceedings of the Section; shall give a copy of the Section minutes to the Secretary of the General Association; shall conduct such correspondence as the Section Executive may assign; shall receive from members their annual fee, and shall pay over to the Treasurer of the General Association all moneys received; and shall give to the Chairman of the Section, whenever required to do so, a list of names of members qualified to vote and hold office.

Duties of the Directors.

The Chairman, the Secretary-Treasurer and the five Directors, shall constitute the Executive Committee of the Section. The members of the Executive Committee of the Section are members of the General Executive Committee. The Executive of the Section shall have power to fill all vacancies occurring in the interim between the annual meetings. This Committee shall have charge of the general interests of the Section; shall arrange the programme for the annual meetings; and shall do everything possible to advance the interests of the Section.

The Legislative Committee.

The Legislative Committee of the Section shall represent the Section in all matters pertaining to educational legislation.

VI.—AMENDMENTS TO CONSTITUTION AND BY-LAWS.

Amendments to the Constitution and By-Laws may be made at any regular meeting by a two-thirds vote, provided notice of the proposed amendment or amendments has been given at the previous meeting.

VII.—RULES OF ORDER.

The Rules of Order of the General Association shall be the Rules of Order of the High School Section.

VIII.—ORDER OF BUSINESS.

The Order of Business of ordinary meetings shall be :

- (a) Roll of Officers called.
- (b) Reading of Minutes.
- (c) Reading of Communications.
- (d) Reports of Committees.
- (e) Business arising out of the Minutes.
- (f) Election of New Members.
- (g) Reading of papers announced in annual programme.
- (h) New Business.
- (i) Election of Officers.
- (j) Adjournment.

NOTE.—This Order of Business may at any time be altered by a majority vote.

Resolved. (1) Inasmuch as it is impossible for any examiner to set papers uniform, or nearly uniform, from year to year, while the average of thousands of candidates is nearly uniform ; therefore, be it resolved that in the opinion of this Section it is desirable that to some extent the candidates should be made the standard of qualification. (2) Inasmuch as the candidates at the departmental examinations have been taught by masters who do not all follow the same line of thought, and it is not desirable that all masters should be forced to teach in the same way ; therefore this Section would recommend that two or more examiners set questions on the same paper, and that each paper contain more questions than the candidate is permitted to attempt.

Resolved, That in the opinion of this Section a County Board of Examiners, composed only of the head-masters of High Schools or Collegiate Institutes and the Public School Inspectors within the county, should read the answers of candidates for admission to High Schools, and that the Board of Examiners should have the full discretionary power of passing any pupil they think able to keep up with High School Work.

Resolved, That a Committee be appointed to wait on the Minister of Education after his return, and to call his attention to the objectionable character of many of the papers at the recent departmental examinations for admission to the High Schools, and for teachers' non-professional certificates.

Resolved, That while the High School masters have the undoubted right, individually and collectively, of expressing their opinion, adversely if need be, in regard to the character of examination papers and any other papers affecting their interests, it is desirable that in all correspondence conducted by teachers, the language and the sentiments expressed should be such as become scholars and gentlemen, and this Section hereby records its disapproval of the charges of corrupt motives made against two of the examiners.

Resolved, That the play of Shakespeare, chosen for honor junior matriculation of 1887, viz., Timon of Athens, is quite unfit to be read in mixed classes ; it is suggested that some other play be, if possible, substituted for it.

INSPECTORS' SECTION.

Resolved, That the Minister of Education is respectfully requested to have a Model Kindergarten conducted during the summer holidays, next year, which should be attended by the primary teacher of each Model School in which there is not a regular Kindergarten, and by such other teachers as may wish to attend.

Resolved, That no Third Class Certificate should be renewed without re-attendance at a Model School, except on the recommendation of the Inspector, under whom the teacher has taught during the three years' term of his expired certificate.

Resolved, That the Minister of Education be requested to provide as formerly General Registers for the Public Schools, and that the form be modified so as to render it more practicable for use in connection with the present system of reporting attendance.

Report of Committee on Entrance Examinations (adopted.)

Your Committee beg to report that they have, in obedience to your wishes, not only discussed the general question of the entrance examination, but that they have gone more particularly into the specific questions referred by you to them.

They have therefore the honor to report, That the entrance examination should be retained, not only from its usefulness in connection with High Schools, with which view of the case our Section is not so immediately concerned, but because it has also served a most useful purpose with respect to Public School work, as forming a test of that work, and a certain educational status to which pupils in rural schools might be urged to attain. They feel at the same time that it has been, and is open to grave objections under its present management as viewed from this latter standpoint, and the criticisms made and improvements suggested by your Committee largely owe their existence to the fact that it is our duty to consider the question chiefly as related to Public Schools, to which it may readily be made a most important aid.

Having defined their general position, your Committee desire to say:—

1. That whereas uniformity in the results is desirable, and is insisted on by the Departmental *Regulations*, it has by no means been obtained, and that this is due not altogether nor chiefly to the various styles of marking adopted by the different High School Entrance Boards or to their regulations.

2. That they most strongly approve of the *general tendency* of the papers set at the last Entrance Examination, but that they find it impossible to resist an endorsement of at least some of the complaints made to your Section, and referred to us with respect to individual papers and questions. On these points they find:—

(a) Whilst the direction to which the papers in Literature and Grammar pointed was unquestionably good, they are in the meantime too difficult.

(b) The History paper was decidedly too difficult.

(c) The Grammar paper was misleading on account of the style in which some of the questions were put.

(d) That two lists of isolated words (given for spelling or for pronunciation) on the Orthography and Orthoëpy papers should never have been given.

Viewing, then, these defects chiefly as they affect the Examination in its higher relation to Public Schools, your Committee would suggest as reforms necessary to restore public confidence in the Examination:—

1. That the standard as set down should not be lowered an iota, but that the questions should be kept rigidly within the prescribed limits, viz., the work set down for IV. C asses in Public Schools.

2. That the language in which these questions are clothed should (taking into consideration the nervous flurry of most children at an examination) be easily within the comprehension of an average pupil properly prepared, so that no explanations on the part of the local examiners should be rendered necessary.

3. That there should be a Board of Examiners in each county, to consist of the Inspector or Inspectors, and the High School Head Master or Head Masters.

4. That in the preparation of the papers and the revision of the work, two Public School Inspectors should be associated with those now composing the Board, so that the higher end of the Entrance Examination (its relation to the Public Schools) should be more fully met. Your Committee feel that at present this phase of the question must necessarily be largely lost sight of by gentlemen who for years have had no connection with Public Schools, but who have achieved their well-deserved distinction by a thorough knowledge of High School work, and by a keen interest in and intense devotion to that particular branch of labor in the educational field. Your Committee feel sure that the High School Inspectors would be glad of the addition of two of our number as being likely to make the results of the Entrance Examination more harmonious and symmetrical with reference to the diverse and sometimes conflicting interests affected by such an examination.

5. Finally it is recommended that the Minister should, on the nomination of this Section, appoint an Inspector, who shall hold office for two years, two Inspectors being appointed the first year, one of whom shall retire by lot at the end of that year.

2.—TEACHERS' INSTITUTES—FINANCIAL STATEMENT, 1885.

| NAME OF INSTITUTE. | No. of Institutes. | Total Number of Members. | Government Grant. | | Municipal Grant. | | Members' Fees. | | Balances and other sources. | | Total Receipts. | | Printing and Postage. | | Libraries, Educational Journals, etc. | | Miscellaneous. | | Total Expenditure. | | Balances. | | |
|--------------------------------|--------------------|--------------------------|-------------------|----|------------------|-------|----------------|-------|-----------------------------|----|-----------------|----|-----------------------|-------|---------------------------------------|-------|----------------|----|--------------------|----|-----------|-----|----|
| | | | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. | £ | c. |
| 1 Brant..... | 1 | 120 | 25 | 00 | 25 | 00 | 26 | 50 | 35 | 03 | 111 | 53 | 6 | 00 | 59 | 11 | 1 | 50 | 66 | 61 | 44 | 92 | |
| 2 Bruce, East..... | 1 | 114 | 25 | 00 | 25 | 00 | ..... | ..... | 89 | 02 | 139 | 02 | 14 | 51 | 28 | 30 | 14 | 30 | 57 | 11 | 81 | 91 | |
| 3 Bruce, West..... | 1 | 71 | 25 | 00 | 25 | 00 | 17 | 75 | 171 | 29 | 239 | 04 | 24 | 45 | 102 | 25 | 109 | 04 | 235 | 74 | 3 | 30 | |
| 4 Carleton..... | 1 | 126 | 25 | 00 | 25 | 00 | ..... | ..... | 108 | 66 | 138 | 66 | 16 | 55 | 20 | 00 | 49 | 75 | 86 | 30 | 72 | 36 | |
| 5 Dufferin..... | 1 | 89 | 25 | 00 | 25 | 00 | 17 | 50 | 6 | 22 | 73 | 72 | 9 | 72 | 60 | 00 | ..... | 69 | 72 | 4 | 00 | | |
| 6 Dundas..... | 1 | 95 | 25 | 00 | 25 | 00 | 6 | 00 | 15 | 56 | 71 | 56 | 13 | 80 | ..... | ..... | 19 | 75 | 33 | 55 | 38 | 01 | |
| 7 Durham..... | 1 | 120 | 25 | 00 | 25 | 00 | 18 | 25 | 41 | 12 | 169 | 37 | 22 | 00 | ..... | ..... | 42 | 17 | 64 | 17 | 45 | 20 | |
| 8 Elgin..... | 1 | 175 | 25 | 00 | 25 | 00 | ..... | ..... | 62 | 08 | 112 | 08 | 53 | 50 | ..... | ..... | 15 | 00 | 68 | 50 | 43 | 58 | |
| 9 Essex, North..... | 1 | 100 | 25 | 00 | 25 | 00 | ..... | ..... | 51 | 24 | 126 | 24 | ..... | ..... | ..... | ..... | 81 | 00 | 81 | 00 | 45 | 24 | |
| 10 Essex, South..... | 1 | 73 | 25 | 00 | 50 | 00 | ..... | ..... | 120 | 14 | 195 | 14 | 41 | 85 | ..... | ..... | 35 | 20 | 77 | 05 | 118 | 09 | |
| 11 Frontenac..... | 1 | 22 | 25 | 00 | ..... | ..... | 5 | 75 | 33 | 68 | 64 | 43 | 11 | 25 | ..... | ..... | 35 | 00 | 48 | 75 | 15 | 68 | |
| 12 Glengarry..... | 1 | 80 | 25 | 00 | ..... | ..... | ..... | ..... | 63 | 55 | 88 | 55 | 10 | 56 | ..... | ..... | 31 | 00 | 47 | 56 | 40 | 99 | |
| 13 Grenville..... | 1 | 60 | 25 | 00 | ..... | ..... | ..... | ..... | 21 | 84 | 46 | 84 | 4 | 75 | ..... | ..... | 5 | 88 | 23 | 81 | 23 | 00 | |
| 14 Grey, East *..... | 1 | 60 | 25 | 00 | | | | | 194 | 91 | 219 | 91 | 15 | 60 | 39 | 00 | | 41 | 00 | 95 | 60 | 124 | 31 |
| 15 Grey, West..... | 1 | 70 | 25 | 00 | ..... | ..... | ..... | ..... | 40 | 29 | 65 | 29 | 1 | 25 | ..... | ..... | 1 | 08 | 2 | 33 | 62 | 96 | |
| 16 Grey, South..... | 1 | 100 | 25 | 00 | 25 | 00 | 7 | 75 | 27 | 50 | 82 | 25 | 4 | 45 | 15 | 65 | 30 | 10 | 50 | 20 | 35 | 05 | |
| 17 Haldimand..... | 1 | 126 | 25 | 00 | 25 | 00 | ..... | ..... | 119 | 59 | 169 | 59 | 2 | 75 | ..... | ..... | 5 | 20 | 7 | 45 | 161 | 64 | |
| 18 Haliburton..... | 1 | 46 | 25 | 00 | ..... | ..... | ..... | ..... | 80 | 95 | 105 | 95 | 13 | 97 | 26 | 28 | 10 | 50 | 50 | 75 | 55 | 20 | |
| 19 Halton..... | 1 | 70 | 25 | 00 | 25 | 00 | 6 | 50 | 51 | 94 | 108 | 44 | 7 | 41 | ..... | ..... | 19 | 25 | 26 | 66 | 81 | 78 | |
| 20 Hastings, North..... | 1 | 70 | 25 | 00 | 25 | 00 | ..... | ..... | 7 | 25 | 119 | 18 | 16 | 22 | 3 | 75 | 3 | 00 | 22 | 97 | 96 | 21 | |
| 21 Hastings, South..... | 1 | 120 | 25 | 00 | 25 | 00 | 19 | 50 | 19 | 50 | 69 | 50 | 40 | ..... | ..... | ..... | 19 | 25 | 19 | 65 | 49 | 85 | |
| 22 Huron, North..... | 1 | 53 | 25 | 00 | ..... | ..... | 44 | 50 | 74 | 81 | 144 | 31 | 9 | 35 | ..... | ..... | 104 | 75 | 114 | 10 | 30 | 21 | |
| 23 Huron, West..... | 1 | 120 | 25 | 00 | 25 | 00 | 8 | 50 | 169 | 54 | 298 | 04 | 62 | 53 | 23 | 40 | 62 | 40 | 106 | 33 | 121 | 71 | |
| 24 Kent, East..... | 1 | 80 | 25 | 00 | 25 | 00 | 7 | 50 | 123 | 23 | 189 | 73 | 11 | 50 | 52 | 50 | 27 | 75 | 91 | 75 | 88 | 98 | |
| 25 Kent, West..... | 1 | 70 | 25 | 00 | 25 | 00 | ..... | ..... | 91 | 81 | 141 | 81 | 8 | 90 | ..... | ..... | 17 | 00 | 25 | 90 | 115 | 91 | |
| 26 Lambton, East *..... | 1 | 97 | 25 | 00 | 25 | 00 | 27 | 10 | 35 | 24 | 87 | 34 | 15 | 39 | 14 | 75 | 23 | 40 | 57 | 14 | 30 | 20 | |
| 27 Lambton, West..... | 1 | 110 | 25 | 00 | ..... | ..... | ..... | ..... | 157 | 80 | 182 | 80 | 14 | 95 | 19 | 50 | 57 | 85 | 57 | 85 | 124 | 95 | |
| 28 Leeds..... | 1 | 120 | 25 | 00 | 25 | 00 | ..... | ..... | 251 | 05 | 275 | 05 | 6 | 00 | ..... | ..... | 2 | 00 | 8 | 00 | 268 | 05 | |
| 29 Lennox..... | 1 | 119 | 25 | 00 | ..... | ..... | 76 | 75 | 175 | 54 | 277 | 29 | 10 | 79 | 175 | 92 | 8 | 25 | 194 | 96 | 82 | 33 | |
| 30 Lennox and Addington *..... | 1 | 100 | 25 | 00 | ..... | ..... | ..... | ..... | 42 | 90 | 67 | 90 | 9 | 50 | ..... | ..... | 8 | 25 | 10 | 00 | 37 | 90 | |
| 31 Lincoln..... | 1 | 109 | 25 | 00 | 25 | 00 | ..... | ..... | 57 | 52 | 107 | 52 | 13 | 65 | ..... | ..... | 9 | 00 | 22 | 65 | 84 | 87 | |
| 32 Middlesex, East..... | 1 | 119 | 25 | 00 | ..... | ..... | 32 | 75 | 68 | 92 | 126 | 67 | 82 | 10 | ..... | ..... | 28 | 00 | 110 | 10 | 16 | 57 | |
| 33 Middlesex, West..... | 1 | 110 | 25 | 00 | 100 | 00 | 33 | 25 | 51 | 95 | 210 | 20 | 33 | 75 | ..... | ..... | 141 | 20 | 174 | 45 | 35 | 25 | |

| | | | | | | | | | | |
|----------------------------------|-------|-------|---------|--------|---------|---------|---------|---------|---------|---------|
| 34 Norfolk | 1 | 129 | 25 00 | 17 50 | 65 39 | 107 89 | 45 02 | 36 55 | 81 57 | 26 32 |
| 35 Northumberland | 1 | 126 | 25 00 | 16 75 | 69 51 | 136 26 | 19 55 | 21 00 | 106 97 | 71 56 |
| 36 Ontario | 1 | 65 | 25 00 | 21 50 | 90 89 | 162 39 | 13 02 | 68 50 | 104 70 | 55 42 |
| 37 Oxford | 1 | 100 | 25 00 | 25 00 | 63 44 | 113 44 | 10 04 | 89 30 | 111 59 | 1 85 |
| 38 Peel | 1 | 47 | 25 00 | 52 80 | 87 35 | 190 15 | 9 00 | 93 59 | 114 02 | 76 13 |
| 39 Perth* | 1 | 170 | 25 00 | ..... | 74 67 | 99 67 | 16 12 | 61 50 | 77 62 | 22 05 |
| 40 Peterborough* | 1 | 50 | 25 00 | ..... | 118 30 | 143 30 | 18 25 | 7 30 | 62 65 | 80 65 |
| 41 Prescott and Russell | 1 | 141 | 25 00 | ..... | 57 50 | 82 50 | 14 70 | 37 10 | 62 65 | 57 47 |
| 42 Prince Edward* | 1 | 90 | 25 00 | ..... | 91 42 | 116 42 | 5 90 | 10 33 | 25 63 | 57 47 |
| 43 Renfrew | 1 | 50 | 25 00 | ..... | 30 51 | 75 51 | 12 54 | ..... | 36 65 | 79 77 |
| 44 Simcoe, North | 1 | 140 | 25 00 | 3 75 | 90 62 | 144 37 | 5 30 | 14 00 | 26 51 | 48 97 |
| 45 Simcoe, South | 1 | 47 | 25 00 | 71 25 | 128 27 | 249 52 | 6 86 | 31 60 | 63 70 | 80 67 |
| 46 Stormont | 1 | 36 | 25 00 | 36 00 | 47 58 | 133 58 | 6 21 | 7 00 | 128 98 | 120 54 |
| 47 Victoria, East | 1 | 68 | 25 00 | 10 00 | 72 18 | 107 18 | 2 82 | 53 50 | 71 22 | 62 36 |
| 48 Victoria, West | 1 | 67 | 25 00 | 25 00 | 93 45 | 143 45 | 4 50 | 21 90 | 24 32 | 82 86 |
| 49 Waterloo | 1 | 53 | 25 00 | 38 00 | 95 28 | 158 28 | 15 80 | 8 25 | 12 75 | 130 70 |
| 50 Welland | 1 | 95 | 25 00 | ..... | 15 19 | 40 19 | 2 36 | 112 68 | 128 48 | 29 80 |
| 51 Wellington, North | 1 | 107 | 25 00 | 34 50 | 56 14 | 115 64 | 9 94 | 37 25 | 39 61 | 58 |
| 52 Wellington, South | 1 | 115 | 25 00 | 33 00 | 86 64 | 169 64 | 6 30 | 20 45 | 30 39 | 85 25 |
| 53 Wentworth | 1 | 112 | 25 00 | 25 00 | 66 03 | 91 03 | 18 25 | 11 40 | 81 90 | 87 74 |
| 54 York, North | 1 | 83 | 25 00 | 81 01 | 84 52 | 215 53 | 6 95 | 41 13 | 59 38 | 31 65 |
| 55 District of Algona* | 1 | 53 | 25 00 | ..... | 25 00 | 50 00 | 3 53 | 23 00 | 203 10 | 12 43 |
| 56 District of Muskoka* | 1 | 50 | 25 00 | 25 00 | 84 66 | 134 66 | 17 50 | 7 50 | 11 03 | 38 97 |
| 57 District of Parry Sound | 1 | 70 | 25 00 | 6 40 | 20 48 | 51 88 | 2 40 | 55 47 | 72 97 | 61 69 |
| 58 City of Hamilton | 1 | 97 | 25 00 | ..... | 70 19 | 95 19 | 2 14 | 5 00 | 51 88 | 65 00 |
| 59 City of Kingston | 1 | 33 | 25 00 | ..... | 75 41 | 100 41 | 7 30 | 3 25 | 30 19 | 59 76 |
| 60 City of London | 1 | 48 | 25 00 | ..... | 212 73 | 237 73 | ..... | 5 90 | 40 65 | 59 76 |
| 61 City of Ottawa | 1 | 60 | 25 00 | ..... | 10 87 | 35 87 | 1 85 | 23 50 | 64 01 | 173 72 |
| 62 City of St. Catharines* | 1 | 50 | 50 00 | ..... | 100 00 | 150 00 | 10 00 | 10 30 | 15 90 | 19 97 |
| 63 City of Toronto | 1 | 200 | 25 00 | 45 75 | 154 25 | 225 00 | 9 75 | 40 00 | 100 00 | 50 00 |
| 64 Ontario Teachers' Association | 1 | ..... | 200 00 | 54 00 | 612 02 | 866 02 | 133 26 | 57 50 | 117 65 | 107 35 |
| Total, 1885 | 64 | 5666 | 1800 00 | 885 31 | 5667 34 | 9252 65 | 965 56 | 1636 21 | 4587 10 | 4664 78 |
| Total, 1884 | 64 | 5189 | 2027 06 | 676 05 | 6210 36 | 9423 47 | 1088 74 | 1500 09 | 4875 43 | 4948 04 |
| Increase | 477 | ..... | 390 00 | 209 26 | 543 02 | 170 82 | 123 18 | 136 12 | ..... | 116 74 |
| Decrease | ..... | ..... | 227 06 | ..... | ..... | ..... | ..... | 300 50 | 287 56 | ..... |

* Estimated. Returns not having been sent in, although repeatedly applied for.

APPENDIX E.

ADMISSION of Candidates to Collegiate Institutes and High Schools.

| SCHOOLS AT WHICH EXAMINATIONS WERE HELD. | December, 1885. | | July, 1886. | |
|---|------------------|---------|-------------|---------|
| | Examined. | Passed. | Examined. | Passed. |
| | Alexandria | 28 | 11 | 46 | 14 |
| Almonte | 34 | 16 | 41 | 18 |
| Arnprior | 14 | 10 | 62 | 28 |
| Aylmer | 36 | 18 | 37 | 20 |
| Barrie, C. I. | 62 | 18 | 96 | 30 |
| Beamsville | 7 | 4 | 22 | 11 |
| Belleville | 124 | 47 | 150 | 31 |
| Berlin | 36 | 19 | 85 | 32 |
| Bowmanville | 35 | 20 | 34 | 18 |
| Bradford | 41 | 19 | 65 | 19 |
| Brampton | 67 | 17 | 49 | 12 |
| Brantford, C. I. | 98 | 64 | 108 | 74 |
| Brighton | 23 | 11 | 47 | 17 |
| Brockville | 29 | 8 | 56 | 16 |
| Caledonia | 46 | 20 | 86 | 34 |
| Campbellford | 43 | 24 | 73 | 19 |
| Carleton Place | 28 | 18 | 35 | 19 |
| Cayuga | 23 | 9 | 32 | 10 |
| Chatham | 105 | 35 | 128 | 58 |
| Clinton | 27 | 18 | 67 | 44 |
| Cobourg, C. I. | 47 | 34 | 54 | 31 |
| Colborne | 28 | 21 | 44 | 8 |
| Collingwood, C. I. | 59 | 25 | 71 | 26 |
| Cornwall | 52 | 21 | 81 | 30 |
| Dundas | 17 | 4 | 55 | 19 |
| Dunnville | 28 | 12 | 29 | 7 |
| Dutton | 40 | 11 | 59 | 34 |
| Elora | 22 | 16 | 24 | 18 |
| Essex Centre | 48 | 17 | 85 | 27 |
| Farmersville | 50 | 29 | 61 | 26 |
| Fergus | 19 | 11 | 41 | 19 |
| Galt, C. I. | 46 | 22 | 95 | 33 |
| Gananoque | 39 | 16 | 28 | 7 |
| Goderich | 72 | 20 | 103 | 37 |
| Grimsby | 21 | 11 | 15 | 7 |
| Guelph, C. I. | 89 | 56 | 138 | 65 |
| Hamilton, C. I. | 51 | 63 | 155 | 83 |
| Harriston | 132 | 23 | 42 | 16 |
| Hawkesbury | 21 | 13 | 23 | 8 |
| Ingersoll | 54 | 13 | 73 | 21 |
| Iroquois | 45 | 17 | 61 | 12 |
| Kemptville | 39 | 14 | 63 | 25 |
| Kincardine | 88 | 21 | 95 | 38 |
| Kingston, C. I. | 65 | 20 | 96 | 36 |
| Lindsay | 45 | 23 | 79 | 22 |
| Listowel | 55 | 35 | 81 | 16 |
| London, C. I. | 110 | 76 | 103 | 28 |

ADMISSION of Candidates, etc.—*Continued.*

| SCHOOLS AT WHICH EXAMINATIONS WERE HELD. | December, 1885. | | July, 1886. | |
|---|-----------------|---------|-------------|---------|
| | Examined. | Passed. | Examined. | Passed. |
| Markham | 53 | 29 | 100 | 28 |
| Mitchell | 35 | 12 | 41 | 13 |
| Morrisburg | 49 | 25 | 64 | 32 |
| Mount Forest | 40 | 17 | 30 | 12 |
| Napanee | 86 | 36 | 96 | 23 |
| Newburgh | 47 | 17 | 61 | 15 |
| Newcastle | 26 | 13 | 22 | 15 |
| Newmarket | 63 | 27 | 74 | 17 |
| Niagara | 9 | 5 | 13 | 6 |
| Niagara Falls South | 25 | 2 | 41 | 21 |
| Norwood | 32 | 16 | 34 | 14 |
| Oakville | 18 | 12 | 26 | 13 |
| Oakwood | 73 | 40 | 68 | 12 |
| Omeme | 33 | 16 | 30 | 5 |
| Orangeville | 72 | 22 | 87 | 19 |
| Orillia | 69 | 19 | 73 | 30 |
| Oshawa | 151 | 32 | 63 | 19 |
| Ottawa, C. I. | 116 | 71 | 135 | 46 |
| Owen Sound | 13 | 43 | 113 | 39 |
| Paris | 32 | 17 | 31 | 11 |
| Parkhill | 68 | 37 | 70 | 16 |
| Pembroke | 35 | 22 | 74 | 37 |
| Perth, C. I. | 46 | 24 | 53 | 25 |
| Peterborough, C. I. | 88 | 55 | 114 | 48 |
| Petrolea | 66 | 22 | 71 | 22 |
| Picton | 59 | 16 | 79 | 35 |
| Port Dover | 30 | 7 | 33 | 20 |
| Port Hope | 53 | 29 | 48 | 21 |
| Port Perry | 60 | 39 | 51 | 19 |
| Port Rowan | 18 | 4 | 33 | 11 |
| Prescott | 37 | 18 | 41 | 14 |
| Renfrew | 56 | 29 | 69 | 35 |
| Richmond Hill | 26 | 12 | 51 | 9 |
| Ridgetown | 47 | 11 | 57 | 27 |
| Sarnia | 71 | 31 | 79 | 45 |
| Seaforth | 50 | 30 | 50 | 17 |
| Simcoe | 66 | 30 | 76 | 30 |
| Smith's Falls | 28 | 10 | 33 | 18 |
| Smithville | 34 | 14 | 41 | 17 |
| Stratford, C. I. | 172 | 31 | 125 | 31 |
| Strathroy, C. I. | 25 | 38 | 115 | 43 |
| Streetsville | 43 | 19 | 58 | 9 |
| St. Catharines, C. I. | 63 | 28 | 79 | 35 |
| St. Marys, C. I. | 57 | 33 | 64 | 30 |
| St. Thomas, C. I. | 80 | 55 | 175 | 90 |
| Sydenham | 37 | 6 | 40 | 17 |
| Thorold | 126 | 12 | 22 | 8 |
| Toronto, C. I. | 51 | 99 | 147 | 68 |
| Trenton | 36 | 13 | 62 | 17 |
| Uxbridge | 34 | 20 | 47 | 23 |
| Vankleekhill | 37 | 9 | 35 | 6 |
| Vienna | 15 | 3 | 28 | 13 |

ADMISSION of Candidates, etc.—*Continued.*

| SCHOOLS AT WHICH EXAMINATIONS WERE HELD. | December, 1885. | | July, 1886. | |
|---|-----------------|---------|-------------|---------|
| | Examined. | Passed. | Examined. | Passed. |
| Walkerton | 29 | 15 | 59 | 35 |
| Wardsville | 49 | 17 | 40 | 27 |
| Waterdown | 61 | 16 | 52 | 14 |
| Welland | 48 | 20 | 56 | 23 |
| Weston | 29 | 9 | 44 | 22 |
| Whitby, C. I. | 62 | 19 | 88 | 42 |
| Williamstown | 27 | 12 | 39 | 6 |
| Windsor | 71 | 22 | ..... | ..... |
| Woodstock | 57 | 33 | 81 | 62 |
| OTHER PLACES. | | | | |
| Alliston | 54 | 20 | 68 | 28 |
| Ameliasburg | 14 | 6 | 26 | 7 |
| Arthur ..... | ..... | ..... | 11 | 6 |
| Bancroft | 4 | 3 | 5 | 0 |
| Blenheim | 12 | 4 | 20 | 9 |
| Bolton | 20 | 3 | 19 | 11 |
| Charleston | 7 | 2 | 9 | 1 |
| Deseronto | 11 | 5 | 34 | 5 |
| Drayton ..... | ..... | ..... | 27 | 12 |
| Dresden ..... | ..... | ..... | 25 | 8 |
| Durham | 20 | 12 | 29 | 16 |
| Erin ..... | ..... | ..... | 31 | 15 |
| Exeter | 20 | 11 | 26 | 11 |
| Florence ..... | ..... | ..... | 31 | 11 |
| Forest ..... | ..... | ..... | 61 | 13 |
| London, East | 125 | 53 | 122 | 41 |
| Lucan | 52 | 13 | 59 | 15 |
| Madoc | 35 | 11 | 57 | 5 |
| Markdale | 23 | 6 | ..... | ..... |
| Millbrook | 30 | 13 | ..... | ..... |
| Milton | 34 | 20 | 50 | 25 |
| Paisley | 66 | 25 | 49 | 27 |
| Palmerston ..... | ..... | ..... | 24 | 11 |
| Penetanguishene | 28 | 7 | 21 | 5 |
| Port Arthur | 7 | 6 | ..... | ..... |
| Shelburne | 23 | 5 | 30 | 9 |
| Stayner ..... | ..... | ..... | 42 | 14 |
| Stirling | 34 | 12 | 19 | 0 |
| Sutton West ..... | ..... | ..... | 4 | 1 |
| Tara ..... | ..... | ..... | 32 | 14 |
| Thamesville ..... | ..... | ..... | 38 | 12 |
| Thornbury | 35 | 14 | ..... | ..... |
| Tilsonburg ..... | ..... | ..... | 41 | 28 |
| Tweed | 9 | 4 | 25 | 7 |
| Wallaceburg | 12 | 2 | 13 | 4 |
| Watford ..... | ..... | ..... | 70 | 21 |
| West Winchester | 40 | 11 | 52 | 23 |
| Wingham | 44 | 28 | 59 | 35 |

SUMMARY OF THE FOREGOING.

| | | | | |
|--|-------|-------|-------|-------|
| Collegiate Institutes | 1587 | 831 | 2021 | 884 |
| High Schools | 3890 | 1659 | 5005 | 1843 |
| Other places | 759 | 296 | 1229 | 450 |
| Grand total | 6236 | 2786 | 8255 | 3177 |
| <i>Comparison with December, 1884, and July, 1885.</i> | | | | |
| Increase | 486 | ..... | 831 | ..... |
| Decrease ..... | ..... | 104 | ..... | 805 |

APPENDIX F.—CERTIFICATES.

(Continued from the Report of 1885).

1. NAMES OF PERSONS WHO HAVE RECEIVED INSPECTORS' CERTIFICATES.

NOTE.—All Inspectors will be *ex-officio* members of the Board of Examiners for their respective Counties

| | | |
|---|---|--|
| Campbell, Neil W. Fenwick, M. M., B.A. Griffin, Albert D. Harlton, W. H. | Murray, R. W. McKay, Alex. Grant. McIntosh, Angus. Park, Robert. | Robb, David. Spankie, William, B.A., M.D. Stirling, John. Turner, J. B. |
|---|---|--|

2. NAMES OF PERSONS WHO HAVE RECEIVED EXAMINERS' CERTIFICATES.

| | | |
|---|---|--|
| Cheswright, Richard C. Falconer, Charles S. Gray, Henry. Gray, James, M.A. | Hume, J. P. Harrison, C. W., B.A. May, William F. | Martin, Stephen. Morgan, James W. Poole, J. B., B.A. |
|---|---|--|

3.—NAMES OF PERSONS WHO HAVE RECEIVED HIGH SCHOOL MASTERS' CERTIFICATES.

| | | |
|--|--|--|
| Burt, Arthur W., B.A. Burns, William, B.A. Cruickshank, G. R., B.A. Cameron, John H., B.A. DeGuerre, Ambrose, B.A. Follick, Thomas H., B.A. | Fotheringham, J. T., B.A. Gray, James, M.A. Halliday, Henry, B.A. Halls, Samuel P., B.A. Little, D. C., B.A. Maxwell, D. A., B.A. | McIntyre, James M., M.A. Perry, S. W., B.A. Skinner, D. S., B.A. Twohey, W. J. J., B.A. Wilkins, David Francis, B.A. |
|--|--|--|

4.—NAMES OF PERSONS WHO HAVE QUALIFIED AS HIGH SCHOOL ASSISTANTS.

| | | |
|--|--|---|
| Barclay, William Barclay Craig. Cornwall, Leslie John. Coates, Daniel Horsum, B.A. Crawford, John. Colbeck, Franklin Charles, B.A. Charles, Henrietta. Davidson, Hugh, B.A. Dewar, Wm., B.A. Fish, Jasper Nobles. Fife, Jas. Alex., B.A. Greenwood, Wm. John, B.A. Gourlay, Richard, B.A. | Gray, Robt. Alex., B.A. Garvin, Jno. Wm. Horsey, Herbert Edward, B.A. Johnston, Geo. Wesley, B.A. Kerr, Chas. Staple. Lillie, Jno. Turner, B.A. Marshall, John, B.A. Moore, Arthur Heron, B.A. Murphy, Stephen Henry, B.A. McKay, Alex. Charles, B.A. McMillan, Jas. Alex. MacPherson, Fred. F., B.A. | Nicol, Wm., B.A. Passmore, Albert Daniel, B.A. Patterson, Richard Allan, B.A. Robertson, Jno. Charles, B.A. Simpson, Nelson, B.A. Stephen, Wm., B.A. Short, James, B.A. Spooner, Margaret M., B.A. White, James, B.A. Wilson, Gilbert Daniel, B.A. |
|--|--|---|

5.—CERTIFICATES GRANTED.

| THIRD, SECOND AND FIRST CLASS. | Male. | Female. | Total. |
|--|-------|---------|--------|
| Third Class, by County Boards, as per County Model School Reports, p. 28. | 582 | 794 | 1376 |
| Second Class, by Department, viz: | | | |
| Ottawa Normal School | 99 | 105 | 204 |
| Toronto Normal School | 84 | 157 | 241 |
| First Class, by Department | 36 | 9 | 45 |
| Total | 801 | 1065 | 1866 |

District Certificates granted under Regulations approved May, 1883.

| COUNTY OR DISTRICT. | Number of Candidates. | Number who obtained Certificates. |
|---------------------|-----------------------|-----------------------------------|
| Hastings | 16 | 16 |
| Renfrew | 105 | 71 |

6.—LIST OF PROVINCIAL CERTIFICATES GRANTED BY THE EDUCATION DEPARTMENT.

Certificate granted by the Minister of Education, 5th April, 1886, to Candidate who passed the Second Class Professional Examination.

Second Class.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|---------------------|--------|-----|-------|--------|
| 7197 | Bateman, Frank..... | B | | | |

Certificate granted by the Minister of Education, 7th May, 1886, to Candidate exempted from attending a Normal School.

Second Class.

7198 | Hobbs, Alfred Thomas..... | A ||

Certificates granted by the Minister of Education, 18th June, 1886, to Candidates who passed the Second Class Professional Examination, June, 1886.

TORONTO NORMAL SCHOOL.

Second Class.

| | | | | | |
|------|---------------------------------|---|------|-------------------------------|---|
| 7199 | Bell, Thomas | A | 7243 | Powell, Annie Auta | A |
| 7200 | Blair, Frederick | A | 7244 | Riddell, Elizabeth | A |
| 7201 | Bothwell, John Alex..... | A | 7245 | Riggins, Grace Adelaide | A |
| 7202 | Catley, Henry | A | 7246 | Read, Ida Jane | A |
| 7203 | Dandeno, James Brown..... | A | 7247 | Reinhart, Phœbe | A |
| 7204 | Eggleton, Charles Sydney | A | 7248 | Sanson, Ellen | A |
| 7205 | Gray, John Aikman | A | 7249 | Sheehan, Catharine | A |
| 7206 | Graham, Louis Hartley | A | 7250 | Thompson, Jessie | A |
| 7207 | Hamilton, Hugh Geo | A | 7251 | Taylor, Jane | A |
| 7208 | Millington, James Wm..... | A | 7252 | Taylor, Ada Elizabeth | A |
| 7209 | Meade, Robert | A | 7253 | Thompson, Catharine | A |
| 7210 | McGregor, Duncan | A | 7254 | Whyte, Ellen Priscilla | A |
| 7211 | McAlpine, Walter Simon | A | 7255 | Weir, Susannah | A |
| 7212 | McNamara, Albert Thomas | A | 7256 | Wilson, Alice | A |
| 7213 | McDonald, John Alex | A | 7257 | Weir, Ann | A |
| 7214 | Oliver, Joseph Byron | A | 7258 | Allen, George Powell | B |
| 7215 | Reynolds, Aaron Kilborn | A | 7259 | Burke, James | B |
| 7216 | Seaton, Edward Thos | A | 7260 | Bowie, James | B |
| 7217 | Talbot, Henry James | A | 7261 | Coombs, Joseph Henry | B |
| 7218 | Theobald, Geo. Richard..... | A | 7262 | Doupe, Nathan | B |
| 7219 | Anderson, Elizabeth Ellen | A | 7263 | Elliott, Matthew | B |
| 7220 | Appelbe, Minnie | A | 7264 | Earney, Thomas Richard | B |
| 7221 | Burke, Rose | A | 7265 | Grant, Charles | B |
| 7222 | Beattie, Nellie Cecelia | A | 7266 | Holland, Charles | B |
| 7223 | Baird, Catharine Lavina | A | 7267 | Hamlen, Robertson..... | B |
| 7224 | Bartrop, Susanna Hayden | A | 7268 | Hall, William | B |
| 7225 | Baillie, Mary | A | 7269 | Jamieson, Geo. W | B |
| 7226 | Chapman, Emma Dora | A | 7270 | McPherson, John G | B |
| 7227 | Climie, Jessie Rose | A | 7271 | Shearer, Thomas | B |
| 7228 | Currelley, Tillie J. D | A | 7272 | Solmes, Wm. Richard..... | B |
| 7229 | Cogan, Mary | A | 7273 | Wade, Geo. Harrison | B |
| 7230 | Eagle, Annie Louise | A | 7274 | Watson, John | B |
| 7231 | Fyle, Rebecca Catharine | A | 7275 | Wanless, James..... | B |
| 7232 | Gould, Wilhelmina Fordyce | A | 7276 | Wilson, Eli | B |
| 7233 | Goodwin, Mary Amelia | A | 7277 | Wilson, George | B |
| 7234 | Hyndman, Margaret T | A | 7278 | Burritt, Mary Ada | B |
| 7235 | Kennedy, Edith Alice..... | A | 7279 | Butchart, Martha..... | B |
| 7236 | Marshall, Jeanette..... | A | 7280 | Baxter, Alice | B |
| 7237 | Moir, Mary Ann | A | 7281 | Brown, Mary Ann | B |
| 7238 | Munro, Margaret K | A | 7282 | Bowes, Annie R | B |
| 7239 | McKechnie, Catharine Jane | A | 7284 | Barrington, Sarah E | B |
| 7240 | McCallam, Margaret | A | 7285 | Cameron, Sarah | B |
| 7241 | Nicol, Mary Euphemia | A | 7286 | Carey, Annie | B |
| 7242 | Preston, Emeline Augusta | A | 7287 | Chapman, Annie | B |

PROVINCIAL CERTIFICATES.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|------------------------|--------|------|------------------------------|--------|
| 7288 | Duncan, Jane E. W. | B | 7305 | McPherson, Edith | B |
| 7289 | Douglass, Margaret | B | 7306 | McKim, Elizabeth | B |
| 7290 | English, Annie | B | 7307 | McColl, Annie | B |
| 7291 | Evans, Bella | B | 7308 | McMaster, Henrietta | B |
| 7292 | Evans, Annie | B | 7309 | Noecker, Mary Emma | B |
| 7293 | Ferguson, Edith Annie | B | 7310 | Ross, Robina | B |
| 7294 | Grieve, Isabella | B | 7311 | Rutherford, Theresa Mary | B |
| 7295 | Halls, Zaidee | B | 7312 | Sutherland, Catharine Gordon | B |
| 7296 | Harrison, Persie A. | B | 7313 | Spark, Georgina | B |
| 7297 | Kennedy, Charlotte I. | B | 7314 | Stalker, Sarah | B |
| 7298 | Keith, Agnes W. | B | 7315 | White, Beatrice Maud | B |
| 7299 | Kelley, Louisa Matilda | B | 7316 | Walter, Matilda Eliza | B |
| 7300 | Livingston, Margaret | B | 7317 | Wildren, Ethel Bertha | B |
| 7301 | Morrison, Jean | B | 7318 | Walker, Eliza Ann | B |
| 7302 | Mulholland, Sophia J. | B | 7319 | Woolcott, Minnie | B |
| 7303 | Morrison, Annie | B | 7320 | Wright, Ellen Mennon | B |
| 7304 | Misener, Ruth Vrooman | B | 7321 | Whittington, Annie Jane | B |

OTTAWA NORMAL SCHOOL.

| | | | | | |
|------|------------------------------|---|------|---------------------------|---|
| 7322 | Brown, George Lang | A | 7372 | McRobie, Elizabeth M. | A |
| 7323 | Bruder, William John | A | 7373 | Phillips, Alice Henrietta | A |
| 7324 | Carr, Wm. Thornton | A | 7374 | Rees, Laura W. | A |
| 7325 | Campbell, Calvin Victor | A | 7375 | Rose, Cassie | A |
| 7326 | Campbell, Walter Albert | A | 7376 | Skinner, Barbara | A |
| 7327 | Campbell, William John | A | 7377 | Smith, Annie G. | A |
| 7328 | Corbett, Matthew | A | 7378 | Stevens, Ann E. | A |
| 7329 | Field, John Morden | A | 7379 | Taylor, Elizabeth G. | A |
| 7330 | Francis, James | A | 7380 | Tyle, Menia S. | A |
| 7331 | Harnwell, Henry James | A | 7381 | Woods, Louise M. | A |
| 7332 | Morris, Frederick | A | 7382 | Yemen, Jane F. | A |
| 7333 | McDonald, Neil | A | 7383 | Asselstine, David P. | B |
| 7334 | McGinnis, John | A | 7384 | Baker, Frank G. H. | B |
| 7335 | McQueen, James Faulkner | A | 7385 | Beavis, Reuben B. | B |
| 7336 | Parker, John Robert | A | 7386 | Brown, Henry | B |
| 7337 | Ramsay, George Henry | A | 7387 | Donoher, Thomas | B |
| 7338 | Scoville, Holland R. | A | 7388 | Lochart, Alfred | B |
| 7339 | Stewart, Wm. Albert | A | 7389 | Morrison, Wm. George | B |
| 7340 | Thompson, Wm. James | A | 7390 | McDonald, James | B |
| 7341 | Thorne, James | A | 7391 | Walker, Edward M. | B |
| 7342 | Tremear, Charles H. | A | 7392 | White, Robert Oliver | B |
| 7343 | Wilson, John Tully | A | 7393 | Wight, Edward C. | B |
| 7344 | Boles, Charlotte | A | 7394 | Blair, Margaret Ann | B |
| 7345 | Brown, Minnie | A | 7395 | Buck, Josephine | B |
| 7346 | Burrows, Annie | A | 7396 | Coleman, Esther J. | B |
| 7347 | Campbell, Elizabeth Margaret | A | 7397 | Crawford, Bessie A. | B |
| 7348 | Crosby, Annie | A | 7398 | Estey, Catharine J. | B |
| 7349 | Egge, Margaret | A | 7399 | Evans, Annie P. | B |
| 7350 | Giles, Edith | A | 7400 | Gertley, Eliza | B |
| 7351 | Hamilton, Ida | A | 7401 | Gilles, Catharine M. | B |
| 7352 | Harley, Janet | A | 7402 | Givlin, Ella | B |
| 7353 | Hewton, Sarah | A | 7403 | Henry, Margaret | B |
| 7354 | Hislop, Mary Jane | A | 7404 | Hepburn, Janet | B |
| 7355 | Inkster, Elsie | A | 7405 | Hoover, Mary E. | B |
| 7356 | Johnston, Emily | A | 7406 | Howard, Emma | B |
| 7357 | Johnston, Mary | A | 7407 | Jack, Jennie | A |
| 7358 | Kennedy, Martha | A | 7408 | Johnston, Jane | B |
| 7359 | Long, Margaret | A | 7409 | Morrisette, Lilla | B |
| 7360 | Lovick, Charlotte | A | 7410 | McDougall, Ellen | B |
| 7361 | LeRicheux, Ada E. | A | 7411 | McGrath, Margaret | B |
| 7362 | Macklin, Nellie | A | 7412 | McLaurin, Elizabeth | B |
| 7363 | Mark, Harriet | A | 7413 | McRae, Alice | B |
| 7364 | Martin, Jennie | A | 7414 | McRobie, Nellie | B |
| 7365 | Murray, Bella | A | 7415 | Ritchie, Jean | B |
| 7366 | McDonald, Minnie | A | 7416 | Ryan, Nettie | B |
| 7367 | McKague, Elizabeth | A | 7417 | Shea, Margaret | B |
| 7368 | McLaren, Catharine | A | 7418 | Smith, Nettie | B |
| 7369 | McLellan, Elizabeth | A | 7419 | Thompson, Henrietta | B |
| 7370 | McLennan, Jennie | A | 7420 | Young, Annie Ida | B |
| 7371 | McNulty, Annie | A | | | |

PROVINCIAL CERTIFICATES.

Certificates granted by the Minister of Education, 11th August, 1886, to Candidates who passed the First Class Examinations, July, 1886.

Professional.

First Class.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|----------------------|--------|------|----------------------|--------|
| 7421 | Broderick, Gideon E. | A | 7428 | Park, Robert | A |
| 7422 | Bruce, Edward Wesley | A | 7429 | Robb, David | A |
| 7423 | Campbell, Neil W. | A | 7430 | Connolly, John | B |
| 7424 | Griffin, Albert D. | A | 7431 | Markle, Jacob H. | B |
| 7425 | Murray, Robert W. | A | 7432 | Sharman, George | B |
| 7426 | MacLean, Hugh S. | A | 7433 | Watson, Robert Bruce | B |
| 7427 | McIntosh, Angus | A | | | |

Non-Professional.

| | | | | | |
|-------|-------------------------|---|------|-----------------------|---|
| 7434 | Ireland, William W. | A | 7483 | Jones, Samuel S. | C |
| 7435 | Longman, Edwin | A | 7484 | Lawlor, Frances A. | C |
| 7436 | McKim, Isabella F. | A | 7485 | Lund, Hannah | C |
| 7437 | Stuart, James Russel | A | 7486 | Luck, Lavinus Harry | C |
| 7438 | Sinclair, Arthur H. | A | 7487 | Moore, Addison E. | C |
| 7439 | Sterling, John | A | 7488 | Mance, Cora | C |
| 7440 | Smith, Allen C. | A | 7489 | Middlebro, Thomas | C |
| 7441 | Allan, Thomas | B | 7490 | Marshall, George E. | C |
| 7442 | Knight, William W. | B | 7491 | Mather, Oliver T. | C |
| 7443 | Middlebro, Thomas | B | 7492 | McArthur, John | C |
| 7444 | Norris, James | B | 7493 | McPhail, Alexander C. | C |
| 7445 | Alexander, Robert | C | 7494 | McConachie, Robert G. | C |
| 7446 | Annis, Mary | C | 7495 | McIntyre, Alexander | C |
| 7447 | Crawford, Edward F. W. | C | 7496 | McDonald, Nerva | C |
| 7448 | Caulfield, May Kate | C | 7497 | Norrish, Enos J. | C |
| 7449 | Campbell, Mary R. S. | C | 7498 | Nicklin, Benjamin J. | C |
| 7450 | Callander, Cyrus N. | C | 7499 | Noble, Orlando | C |
| 7451 | Colborne, Griffith J. | C | 7500 | Nelson, John | C |
| 7452 | Cronk, Phoebe Jane | C | 7501 | Oldham, Maria | C |
| 7452½ | Brough, Thomas A. | C | 7502 | Odell, Albert | C |
| 7453 | Bowerman, Lucy | C | 7503 | Paull, Hannah M. | C |
| 7454 | Boyes, Robert | C | 7504 | Preston, Louie | C |
| 7455 | Brown, Malcolm D. | C | 7505 | Pringle, John | C |
| 7456 | Brien, Fred G. | C | 7506 | Perry, Joseph F. | C |
| 7457 | Barnard, Annie D. | C | 7507 | Rogers, Joseph W. | C |
| 7458 | Birchard, Alexander F. | C | 7508 | Rogers, James C. | C |
| 7459 | Bunnell, Effie | C | 7509 | Reid, Peter J. | C |
| 7460 | Breuls, Ira D. | C | 7510 | Rowlands, Ernest J. | C |
| 7461 | Bennett, Josiah | C | 7511 | Rothwell, Grace | C |
| 7462 | Bruce, Llewella | C | 7512 | Rose, Ada E. | C |
| 7463 | Doyle, Anna M. | C | 7513 | Smith, James H. | C |
| 7464 | Dickinson, James A. | C | 7514 | Stirling, John | C |
| 7465 | Elliott, Walter H. | C | 7515 | Shine, Timothy W. | C |
| 7466 | Eldon, Robert H. | C | 7516 | Scales, Annie | C |
| 7467 | Fenney, Nettie | C | 7517 | Stuart, Alice | C |
| 7468 | Foster, James M. | C | 7518 | Smith, Peter | C |
| 7469 | Galbraith, Robert | C | 7519 | Stewart, John Smith | C |
| 7470 | Gray, George A. | C | 7520 | Smith, Thomas C. | C |
| 7471 | Gray, John Stuart | C | 7521 | Stothers, Robert | C |
| 7472 | Harding, Alice | C | 7522 | Smallfield, Amy E. | C |
| 7473 | Haynes, Edward M. | C | 7523 | Sherman, Edward C. | C |
| 7474 | Hinde, Edward W. | C | 7524 | Taylor, Stephen Y. | C |
| 7475 | Hoidge, Thomas Benjamin | C | 7525 | Tier, William | C |
| 7476 | Harvey, James A. | C | 7526 | Ventress, Amon B. | C |
| 7477 | Hislop, Jean | C | 7527 | Vokes, Robert E. | C |
| 7478 | Inman, William | C | 7528 | Williamson, George W. | C |
| 7479 | Johnston, James Linton | C | 7529 | Waddell, Thomas L. | C |
| 7480 | Jamieson, Rosina | C | 7530 | Walker, Katharine | C |
| 7481 | Johnston, George | C | 7531 | York, Henry Edward | C |
| 7482 | Johnston, Henry | C | | | |

PROVINCIAL CERTIFICATES.

Certificates granted by the Minister of Education to Candidates who passed the Second Class Professional Examination, June 18th, 1886.

OTTAWA NORMAL SCHOOL.

Second Class.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|-------------------------|--------|------|------------------------|--------|
| 7532 | Lee, Thomas N. | B | 7536 | Lough, Mary E. | B |
| 7533 | Thompson, Charles | B | 7537 | Quinn, Annie | A |
| 7534 | Wren, John Thomas | B | 7538 | Webbe, Dora M. C. | B |
| 7535 | Greig, Annie M. | B | 7539 | Spankie, Minnie. | B |

TORONTO NORMAL SCHOOL.

Second Class.

7540 | Buchanan, Thomas | B ||

Certificate granted by the Minister of Education to Candidate who has taken the required standing at the Matriculation Examination held at Queen's College, July, 1886, for I. Class Non-Professional standing, 12th October, 1886.

First Class.

7541 | Peck, Wallace..... | C ||

Certificate granted 23rd December, 1886, by the Minister of Education to Candidate who has passed the First Class Professional Examination December, 1885.

First Class.

7542 | Snell, Joseph A | A ||

Certificates granted by the Minister of Education, 17th December, 1886, to Candidates who passed the Second Class Professional Examination.

TORONTO NORMAL SCHOOL.

Second Class.

| | | | | | |
|------|-----------------------------|---|------|----------------------------|---|
| 7543 | Alexander, John A | A | 7568 | Dickson, Annie | A |
| 7544 | Burchill, John | A | 7569 | Duncan, Nellie O. | A |
| 7545 | Charlesworth, John W | A | 7570 | Farrelly, Elizabeth | A |
| 7546 | Callander, Cyrus N | A | 7571 | Green, Matilda E. | A |
| 7547 | Elliott, Walter H | A | 7572 | Gauld, Elizabeth | A |
| 7548 | Falconer, Wm. J | A | 7573 | Hammill, Nettie | A |
| 7549 | Graham, Jas. R | A | 7574 | Mans, Emma A | A |
| 7550 | Hutchison, Foster D | A | 7575 | Moore, Gertrude W | A |
| 7551 | Hind, Japheth | A | 7576 | Moir, Agnes C | A |
| 7552 | Hay, James Wm. | A | 7577 | McCallum, Isabella | A |
| 7553 | Hinde, Edward Wm. | A | 7578 | McCallum, Catharine | A |
| 7554 | Harper, John A | A | 7579 | McLung, Christina J | A |
| 7555 | Ingall, Elmer E | A | 7580 | MacFarlane, Rachel M. | A |
| 7556 | Miller, Amasa Bishop | A | 7581 | McMaster, Minnie H | A |
| 7557 | MacEwan, Alex | A | 7582 | McLean, Barbara | A |
| 7558 | Rowan, Wm. Henry | A | 7583 | Nevills, Alice | A |
| 7559 | Rutherford, Jas. C | A | 7584 | Osborne, Lillian | A |
| 7560 | Strike, Alfred J. H | A | 7585 | Penwarden, Naomi | A |
| 7561 | Scroggie, Geo. Edward | A | 7586 | Phillips, Stella | A |
| 7562 | Silcox, Sidney | A | 7587 | Somerville, Belle | A |
| 7563 | Sproule, Archibald L | A | 7588 | Small, Mary L | A |
| 7564 | Smith, Wilson Robert | A | 7589 | Sturrocks, Laura | A |
| 7565 | Bale, Lida | A | 7590 | Tier, Margaret Brown | A |
| 7566 | Black, Isabel B | A | 7591 | Tiger, Nellie | A |
| 7567 | Cowan, Margaret | A | 7592 | Watson, Bertha G | A |

PROVINCIAL CERTIFICATES.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|-----------------------|--------|------|-------------------------|--------|
| 7593 | Wiggins, Charlotte | A | 7628 | Dingwall, Bella | B |
| 7594 | Zealand, Ida | A | 7629 | Disher, Jeanie | B |
| 7595 | Amos, Walter | B | 7630 | Dobie, Annie P. | B |
| 7596 | Braendle, Moses E. | B | 7631 | Downie, Mary T. | B |
| 7597 | Becker, Wm Henry | B | 7632 | Dyer, Minnie F. | B |
| 7598 | Carrie, James G. | B | 7633 | Flaws, Annabella | B |
| 7599 | Galbraith, Robert | B | 7634 | Forbes, Justina M. | B |
| 7600 | Graham, John C. | B | 7635 | Frame, Elizabeth | B |
| 7601 | Harvey, James Albert | A | 7636 | Glenn, Elizabeth | B |
| 7602 | Musgrove, George J. | B | 7637 | Gould, Ida Vincent M. | B |
| 7603 | Musgrove, Edward | B | 7638 | Gregory, Annie | B |
| 7604 | Malone, John | B | 7639 | Hunter, Margaret | B |
| 7605 | Murchison, Roderick | B | 7640 | Johnson, Jane E. | B |
| 7606 | McDonald, Donald A. | B | 7641 | Langstaff, Mary L. | B |
| 7607 | McCormack, Thomas | B | 7642 | Laing, Eliza | B |
| 7608 | Oliver, James Albert | B | 7643 | Murphy, Mary | B |
| 7609 | Peacock, Albert | B | 7644 | Mahoney, Mary | B |
| 7610 | Parker, Fred | B | 7645 | Mullin, Agnes A. | B |
| 7611 | Pardo, Thomas L. | B | 7646 | McBain, Jessie | B |
| 7612 | Rogers, John | B | 7647 | McDougall, Sarah N. | B |
| 7613 | Saigeon, Henry Jas. | B | 7648 | McLeisch, Elizabeth | B |
| 7614 | Smith, Thomas C. | B | 7649 | McKenzie, Laura C. | B |
| 7615 | Whittington, Wm. Jas. | B | 7650 | McNeill, Mary | B |
| 7616 | Ainslie, Annie | B | 7651 | McWilliams, Margaret C. | B |
| 7617 | Anthony, Sadie | B | 7652 | Pearse, Jane | B |
| 7618 | Ball, Jane Irene | B | 7653 | Porter, Lottie V. | B |
| 7619 | Bright, Florence E. | B | 7654 | Rankin, Lillias P. | B |
| 7620 | Bonis, Margaret | B | 7655 | Robertson, Agnes | B |
| 7621 | Bowman, Sarah E. | B | 7656 | Shain, Frances A. | B |
| 7622 | Charlton, Jennie | B | 7657 | Wallace, Margaret I. | B |
| 7623 | Cleveland, Julia K. | B | 7658 | Walkington, Janet | B |
| 7624 | Crowley, Minnie | B | 7659 | Walton, Sarah | B |
| 7625 | Cruickshank, Jean | B | 7660 | Wilson, Janet A. | B |
| 7626 | Davidson, Lillie | B | 7787 | Burt, Catharine | A |
| 7627 | Dingle, Hattie M. | B | | | |

OTTAWA NORMAL SCHOOL.

| | | | | | |
|------|----------------------|---|------|------------------------|---|
| 7661 | Anderson, John M. | A | 7690 | Weatherhead, John B. | A |
| 7662 | Baldwin, Carman B. | A | 7691 | Boyd, Annie A. | A |
| 7663 | Barragar, David | A | 7692 | Chamberlain, Mary L. | A |
| 7664 | Becker, Burton C. H. | A | 7693 | Cousin, Elizabeth L. | A |
| 7665 | Callary, Albert L. | A | 7694 | Davidson, Margaret M. | A |
| 7666 | Cameron, Casey M. | A | 7695 | Living, Florence M. | A |
| 7667 | Campbell, Angus | A | 7696 | Myers, Nellie A. | A |
| 7668 | Edsall, Julius M. | A | 7697 | McLennan, Elizabeth | A |
| 7669 | Hammond, Wm. | A | 7698 | McMichael, Margaret J. | A |
| 7670 | Hall, John Thomas | A | 7699 | Palmer, Annie B. | A |
| 7671 | Herbert, Robert | B | 7700 | Patterson, Maud | A |
| 7672 | Hicks, H. Elgin | A | 7701 | Pettit, Bessie M. | A |
| 7673 | Hough, Wm. Bell | A | 7702 | Phillips, Louise H. | A |
| 7674 | Jenkins, Wm. H. | A | 7703 | Purdy, R. E. Gertrude | A |
| 7675 | Johnston, George | A | 7704 | Rogers, Isabel H. | A |
| 7676 | Jory, E. Newton | A | 7705 | Underwood, Addie M. | A |
| 7677 | Leggatt, John | A | 7706 | Anderson, Wm. J. | B |
| 7678 | Long, Samuel | A | 7707 | Anthony, Wm. H. | B |
| 7679 | Massey, Daniel W. | A | 7708 | Baikie, Daniel | A |
| 7680 | McDonald, James V. | A | 7709 | Bentley, David B. | B |
| 7681 | Nichol, Charles O. | A | 7710 | Brien, F. Graham | A |
| 7682 | Pakenham, Wm. | A | 7711 | Connor, Wm. M. | B |
| 7683 | Shaw, Charlton | A | 7712 | Convey, George | B |
| 7684 | Sills, W. Ryerson | A | 7713 | Darling, Hiram | B |
| 7685 | Small, Wm. A. D. | A | 7714 | Dean, Reuben G. | A |
| 7686 | Smith, Peter | A | 7715 | Elliott, Thomas | B |
| 7687 | Teetzal, Manson D. | A | 7716 | Fallis, Wesley | B |
| 7688 | Thompson, Robert | A | 7717 | Gowan, Peter | B |
| 7689 | Thompson, Peter J. | A | 7718 | Hardy, Wm. A. G. | A |

PROVINCIAL CERTIFICATES.

| No. | Name. | Grade. | No. | Name. | Grade. |
|------|----------------------|--------|------|-----------------------|--------|
| 7719 | Haynes, Edward M. | A | 7738 | Clark, Lanra A. | B |
| 7720 | Hunter, Thomas John | B | 7739 | Eyres, Mary L. | B |
| 7721 | Jones, James Edward | B | 7740 | Fair, Rebecca | B |
| 7722 | Kerr, John James | B | 7741 | Fripp, Edith E. | B |
| 7723 | Latta, Samuel J. | B | 7742 | Fulford, Carrie E. | B |
| 7724 | Leavitt, Wm. Ezra. | B | 7743 | Hall, Margaret E. | B |
| 7725 | Liddle, Wm. H. | B | 7744 | Hishon, Mary E. | B |
| 7726 | Moffatt, Wm. A. | B | 7745 | Kee, Alice M. | B |
| 7727 | Maloney, Paul J. | B | 7746 | McGregor, Margaret C. | B |
| 7728 | Morrice, Charles D. | B | 7747 | KcIntosh, Jemima | B |
| 7729 | Moyer, Isaac M. | B | 7748 | Peters, Williamina | B |
| 7730 | Merrill, Arthur L. | B | 7749 | Patterson, Matilda | A |
| 7731 | McVicar, John | B | 7750 | Potter, Clara H. | B |
| 7732 | Rundell, John A. | B | 7751 | Rose, Ada E. | A |
| 7733 | Simpson, Wm. J. | B | 7752 | Scarlett, Minnie B. | B |
| 7734 | Smelsor, Fred. G. H. | B | 7753 | Sharpe, V. C. E. | B |
| 7735 | Woods, James | B | 7754 | White, Carrie M. | B |
| 7736 | Yeo, Wm. Thomas | B | 7755 | Yeomans, Nettie C. | A |
| 7737 | Brosnahan, Margaret | A | | | |

Certificates granted by the Minister of Education, 18th December, 1886, to candidates who passed the First-Class Professional Examination.

| | | | | | |
|------|--------------------------|---|------|--------------------------|---|
| 7756 | Longman, Edwin | A | 7772 | Porter, Thomas M. | C |
| 7757 | Smith, Allen C. | A | 7773 | Porter, Thomas | C |
| 7758 | Stirling, John | A | 7774 | Rowlands, Ernest James | C |
| 7759 | Stuart, James Russell | A | 7775 | Sills, W. Ryerson | C |
| 7760 | McKim, Isabella Fanny | A | 7776 | Smith, Wilson Robert | C |
| 7761 | Middlebro, Thomas | B | 7777 | Ventress, Amon Byron | C |
| 7762 | Norris, James | B | 7778 | Wherry, Alex. | C |
| 7763 | Breuls, Ira Delas | C | 7779 | Barr, Agnes | C |
| 7764 | Brough, Thomas Allardyce | C | 7780 | Gillespie, Fanny Leonard | C |
| 7765 | Collins, Thomas James | C | 7781 | Lund, Hannah | C |
| 7766 | Dickinson, James Arthur | C | 7782 | McDonald, Nerva | C |
| 7767 | Elliott, Walter Herman | C | 7783 | Paul, Hannah Mary | C |
| 7768 | Haight, Wm. A. | C | 7784 | Rose, Ada E. | C |
| 7769 | Innes, Alex. Richey | C | 7785 | Smallfield, Amy Eden | C |
| 7770 | Jewett, Albert E. | C | 7786 | Symington, Margaret P. | C |
| 7771 | Kaiser, Jessie Bennett | C | | | |

7. TEMPORARY AND EXTENDED CERTIFICATES ISSUED DURING 1886.

| COUNTIES. | Temporary Certificates authorized by the Minister of Education during the year 1886. | Third Class Certificates extended by the Minister of Education during the year 1886. |
|----------------------------------|--|--|
| Brant | .. | 1 |
| Bruce | 1 | 4 |
| Carleton | 13 | 5 |
| Dundas | 3 | 1 |
| Essex | 16 | 8 |
| Frontenac | .. | 6 |
| Glengarry | 9 | 13 |
| Grenville and 2 Leeds..... | 29 | 1 |
| Grey | 16 | 14 |
| Haldimand..... | .. | 1 |
| Haliburton | 1 | .. |
| Halton | .. | 1 |
| Hastings | 21 | 5 |
| Huron | 4 | .. |
| Kent | 11 | 11 |
| Lambton..... | 1 | 1 |
| Lanark..... | 26 | 14 |
| Leeds, No. 1..... | 2 | 19 |
| Lennox and Addington | 1 | 6 |
| Lincoln | .. | 4 |
| Middlesex..... | .. | 7 |
| Norfolk | 24 | 1 |
| Northumberland | .. | 1 |
| Ontario | .. | 3 |
| Oxford | .. | 1 |
| Peel | 1 | 3 |
| Perth | 1 | 1 |
| Prescott and Russell | 3 | 3 |
| Prince Edward | 1 | 4 |
| Renfrew | .. | 5 |
| Simcoe | 5 | 5 |
| Stormont | 13 | 9 |
| Waterloo | 2 | .. |
| Welland | 2 | 17 |
| Wellington | 1 | 4 |
| Wentworth | 1 | 16 |
| York | 2 | 5 |
| Districts | 49 | 2 |
| Eastern Ontario R. C. S. S | .. | 1 |
| Totals, 1886 | 259 | 203 |
| “ 1880 | 310 | 409 |
| Decrease, 1886 | 51 | 206 |

Of those receiving Temporary Certificates in 1886, 154 had previous experience in teaching.

Of the 203 teachers whose Third Class Certificates were extended, 21 had attained Second Class non-professional standing. Their periods of previous service were:—

| | |
|-----------------------------|-----|
| Three years and under | 112 |
| Four to six years..... | 61 |
| Seven years and over..... | 30 |
| | 203 |

APPENDIX G.—*SUPERANNUATED TEACHERS, TEACHERS WITHDRAWING FROM THE FUND.*

I. SUPERANNUATED TEACHERS.

(CONTINUED FROM LAST REPORT).

Allowances granted during 1886.

| No. | NAME. | Age. | Year of Teaching in Ontario. | Amount of Superannuation Allowance. |
|---------|-----------------------------|------|------------------------------|-------------------------------------|
| 774 | Daniel Wright..... | 74 | 18 | \$ c. 108 00 |
| 775 | Ellen Bowes..... | 51 | 21½ | 129 00 |
| 776 | William Boal ... | 33 | 10 | 66 50 |
| 777 | William Noble..... | 51 | 22½ | 135 00 |
| 778 | Alex. T. Rothwell..... | 54 | 20½ | 129 00 |
| 779 | Roderick Ferguson..... | 56 | 30 | 180 00 |
| 780 | James McGurn..... | 50 | 32 | 205 50 |
| 781 | Charles Shortt..... | 64 | 24½ | 168 50 |
| 782 | Samuel Joyce..... | 64 | 22 | 152 00 |
| 783 | Chas. MacKinnon..... | 61 | 19 | 114 00 |
| 784 | Stephen Henry Leighton..... | 51 | 21 | 146 00 |
| 785 | Clara Louisa Brown..... | 39 | 13 | 90 00 |
| 786 | Edwin W. Pillar..... | 60 | 30 | 193 00 |
| 787 | Stephen B. Cameron..... | 62 | 35 | 210 00 |
| 788 | J. W. Bingham..... | 50 | 26½ | 175 00 |
| 789 | Samuel Rothwell..... | 61 | 24 | 164 00 |
| 790 | Jeremiah George House..... | 62 | 37 | 246 00 |
| 791 | Wm. H. Bly..... | 60 | 27 | 184 00 |
| 792 | Eli Masales..... | 60 | 34 | 225 00 |
| 793 | Jno. Drummond..... | 59 | 32 | 201 00 |
| 794 | Jno. Clarke..... | 67 | 8½ | 51 00 |
| 795-397 | Jno. Mitchell..... | 58 | 21½ | 147 50 |
| 796 | Jno. Parke..... | 60 | 34½ | 235 50 |
| 379 | James Hodgson..... | 75 | 33½ | 234 50 |
| 797 | Alex. T. Leitch..... | 47 | 19 | 130 00 |
| 798 | Jno. N. Dochstader..... | 46 | 23 | 138 00 |
| 799 | Jas. McLean..... | 39 | 13½ | 93 50 |
| 800 | *Gilbert French..... | 50 | 24½ | 155 50 |

* First payment to commence with January, 1887.

(2) Summary for Years 1876 to 1886.

| YEAR. | No. of Teachers on List. | Expenditure for the year | | Gross contributions to the Fund. | | Amount refunded to Teachers. | |
|-----------|--------------------------------|--------------------------------|----|--|----|------------------------------------|----|
| | | \$ | c. | \$ | c. | \$ | c. |
| 1876..... | 266 | 31,768 | 82 | 12,647 | 25 | 1,252 | 83 |
| 1877..... | 293 | 35,484 | 35 | 14,283 | 25 | 1,576 | 07 |
| 1878..... | 339 | 41,318 | 95 | 13,767 | 12 | 1,591 | 64 |
| 1879..... | 360 | 43,774 | 50 | 14,064 | 84 | 2,237 | 79 |
| 1880..... | 391 | 48,229 | 13 | 15,816 | 45 | 3,252 | 92 |
| 1881..... | 399 | 49,129 | 83 | 14,197 | 75 | 2,872 | 13 |
| 1882..... | 422 | 51,000 | 00 | 13,501 | 08 | 3,660 | 10 |
| 1883..... | 422 | 51,500 | 00 | 12,515 | 50 | 3,763 | 01 |
| 1884..... | 443 | 54,233 | 93 | 15,802 | 50 | 4,037 | 59 |
| 1885..... | 423 | 55,003 | 09 | 11,525 | 50 | 10,593 | 30 |
| 1886..... | 440 | 58,791 | 37 | 18,095 | 29 | 6,046 | 05 |

2.—TEACHERS WHO WITHDREW THEIR SUBSCRIPTIONS FROM THE FUND DURING 1886.

| Counties. | No. | Counties. | No. |
|---------------------------|-----|------------------|-----|
| Glengarry..... | 5 | Brant..... | 7 |
| Stormont..... | 8 | Lincoln..... | 9 |
| Dundas..... | 2 | Welland..... | 11 |
| Prescott and Russell..... | 10 | Haldimand..... | 7 |
| Carleton..... | 24 | Norfolk..... | 8 |
| Grenville..... | 6 | Oxford..... | 28 |
| Leeds..... | 6 | Waterloo..... | 21 |
| Lanark..... | 6 | Wellington..... | 26 |
| Renfrew..... | 10 | Dufferin..... | 8 |
| Frontenac..... | 8 | Grey..... | 29 |
| Lennox and Addington..... | 8 | Perth..... | 22 |
| Prince Edward..... | 7 | Huron..... | 33 |
| Hastings..... | 14 | Bruce..... | 25 |
| Northumberland..... | 17 | Middlesex..... | 27 |
| Durham..... | 20 | Elgin..... | 11 |
| Peterborough..... | 17 | Kent..... | 13 |
| Victoria..... | 21 | Lambton..... | 14 |
| Ontario..... | 20 | Essex..... | 21 |
| York..... | 19 | Algoma..... | 3 |
| Peel..... | 10 | Parry Sound..... | 1 |
| Simcoe..... | 28 | | |
| Halton..... | 8 | Total..... | 607 |
| Wentworth..... | 9 | | |

APPENDIX H.—INSPECTION OF SCHOOLS.

1. PUBLIC SCHOOL INSPECTION.

(1) *List of Inspectors.*

| NAME. | JURISDICTION. | POST OFFICE. |
|---|--|-----------------|
| Donald McDiarmid, M.D. | Glenarry | Athol. |
| Alexander McNaughton | Stormont | Cornwall. |
| Arthur Brown | Dundas | Morrisburg. |
| William J. Summerby | Prescott and Russell..... | Russell. |
| Odilon Duford (Assistant for French Schools) | " | Curran. |
| Archibald Smirle | Carleton | Ottawa. |
| Robert Kinney, M.D. | Leeds, No. 1 | Brockville. |
| Rev. George Blair, M.A. | " No. 2, and Grenville | Prescott. |
| Frank L. Michell, M.A. | Lanark | Perth. |
| Robert George Scott, B.A. | Renfrew and District of Nipissing | Pembroke. |
| William Spankie, B.A., M.D. | Frontenac | Kingston. |
| Frederick Burrows | Lennox and Addington | Napanee. |
| William Mackintosh | North Hastings | Madoc. |
| John Johnston | South Hastings | Belleville. |
| Gilbert D. Platt, B.A. | Prince Edward | Pictou. |
| Edward Scarlett | Northumberland | Cobourg. |
| William E. Tilley, M.A. | Durham | Bowmanville. |
| James Coyle Brown | Peterboro' | Peterboro'. |
| Charles D. Curry, B.A. | Haliburton | Minden. |
| James H. Knight | East Victoria | Lindsay. |
| Henry Reazin | West Victoria | Linden Valley. |
| James McBrien | Ontario | Prince Albert. |
| A. B. Davidson, B.A. | North York | Newmarket. |
| David Fotheringham | South York | Toronto. |
| Donald J. McKinnon | Peel and City of St. Catharines | Brampton. |
| James C. Morgan, M.A. | South Simcoe and District of Muskoka | Barrie. |
| Rev. Thomas McKee | North Simcoe | Barrie. |
| J. Scott Deacon | Halton | Milton. |
| Joseph H. Smith | Wentworth | Ancaster. |
| Michael Joseph Kelly, M.D. | Brant | Brantford. |
| James B. Grey | Lincoln | St. Catharines. |
| James H. Ball, M.A. | Welland | Thorold. |
| Clarke Moses | Haldimand | Caledonia. |
| J. J. Wadsworth, M.A., M.B. | Norfolk | Simcoe. |
| William Carlyle | Oxford | Woodstock. |
| Thomas Pearce | Waterloo | Berlin. |
| David P. Clapp, B.A. | North Wellington | Harriston. |
| J. J. Craig | South Wellington | Fergus. |
| Nathaniel Gordon | Dufferin | Orangeville. |
| Thomas Gordon | West Grey | Owen Sound. |
| Andrew Grier | East Grey | Thornbury. |
| Neil W. Campbell | South Grey | Durham. |
| William Alexander | Perth | Stratford. |
| Donald McG. Malloch | North Huron | Clinton. |
| John Elgin Tom | South Huron | Exeter. |
| W. S. Clendening | East Bruce | Walkerton. |
| Alexander Campbell | West Bruce | Kincardine. |
| John Dearness | East Middlesex | London. |
| Joseph S. Carson | West Middlesex | Strathroy. |
| Welbern Atkin | Elgin | St. Thomas. |
| W. H. G. Colles | East Kent | Chatham. |
| Wilnot M. Nichols, B.A. | West Kent | Blenheim. |
| Charles A. Barnes, B.A. | Lambton, No. 1 | Forest. |
| John Brebner | Lambton, No. 2 | Sarnia. |
| Theodule Girardot | Essex, No. 1 | Sandwich. |
| David A. Maxwell | Essex, No. 2 | Amherstburg. |
| Donald McCaig | District of Algoma | Rockwood. |
| Rev. George Grant, M.A. | District of Parry Sound | Simcoe. |

List of Inspectors—Continued.

| NAME. | JURISDICTION. | POST OFFICE. |
|-------------------------------------|-----------------|----------------|
| Rev. R. Torrance | City of | Guelph. |
| W. H. Ballard, M.A. | " | Hamilton. |
| W. G. Kidd | " | Kingston. |
| J. B. Boyle | " | London. |
| John C. Glashan | " | Ottawa. |
| John McLean | " | St. Thomas. |
| James L. Hughes | " | Toronto. |
| Rev. A. McColl | Town of | Chatham. |
| Rev. Robert Rodgers | " | Collingwood. |
| R. B. Carman, M.A. | " | Cornwall. |
| Rev. George Washington | " Meaford | Mono Road. |
| Rev. James Gordon, M.A. | " | Niagara Falls. |
| Rev. S. H. Eastman | " | Oshawa. |
| James Stratton | " | Peterboro'. |
| Thomas Hilliard | " | Waterloo. |
| Richard Harcourt, B.A., M.P.P. | " | Welland. |
| J. C. Patterson, M.P. | " | Windsor. |

NOTE.—Other Cities and Towns are under the Inspectors of their respective districts.

Roman Catholic Separate School Inspectors.

James F. White, Toronto.

Cornelius Donovan, M.A., Hamilton.

County Model School Inspector.

John J. Tilley, Toronto.

High School Inspectors.

John E. Hodgson, M.A., Toronto.

John Seath, B.A., Toronto.

Inspector of Normal Schools and Director of Teachers' Institutes.

James A. McLellan, LL.D., Toronto.

(2) Extracts from Reports of Public School Inspectors.

COUNTY OF RENFREW, AND DISTRICT OF NIPISSING.

*Extract from Report of R. George Scott, Esq., Inspector.**County of Renfrew.*

Certificates.—As the result of the examinations held last summer, and subsequently at the end of the Model School term, there is now a full supply of qualified teachers for the schools of this county, and a surplus. This is the first time that this end has been attained, and the consummation is owing to the introduction of the District Certificate examination. Without this examination there would be no possible means of supplying the schools with legally qualified teachers.

Work of the Schools.—Taking a general survey of the schools of the county, I have to report that they are steadily approximating to a uniform standard of arrangement and classification. The general character of the work done is improving, and the number of pupils from rural schools coming up for admission to the High Schools is increasing.

Buildings and Furniture.—During the year ten new school-houses were built. They are all commodious and comfortable buildings, well lighted, and each one suitable to the requirements of its particular locality.

A steady improvement is taking place also in the matter of school furniture, and as the old cumbrous and unsuitable wooden desks wear out, they are being replaced by improved iron-framed desks.

The people deserve great praise for the willingness with which these improvements are provided. In no case has any semblance of compulsion been necessary, but in some cases they have anticipated or exceeded suggestions from me.

There have been no school difficulties or complications during the year.

District of Nipissing.

The seven schools reported may be divided into the following groups:—

1. No. 1 Mattawa.....in Mattawa Village.
- “ 1 Springer.....in Sturgeon Falls Village.
- “ 1 Widdifield.....in North Bay Village.

2. No. 1 Ferris.....
- “ 1 McKim.....in Sudbury.

3. No. 2 Bonfield.....Rural.
- “ 1 Lyell, etc..... “

Those of the first group are strong and efficient schools, engaging good teachers, and paying good salaries.

Mattawa and North Bay have commodious and well equipped schools. Each of them employ an assistant teacher.

Sturgeon Falls' school-house, a very fair frame building. Equipment reasonably good, and no doubt will be improved as required.

No. 1. Ferris.—The school-house is an utterly unsuitable building, and of little or no value. It was originally located to suit the settlement at La Vase Creek. When the Canadian Pacific Railway was built, the track passed so close to the school-house as to render it advisable to change the school site. Before a new site was selected, the Northern & Pacific Junction Railway joined the Canadian Pacific Railway in the section about a mile and a-quarter west of the school-house. A population began to centre round the Junction, and of course a dispute arose as to where the new site should be selected, so that at present the ultimate location of the school is undetermined. I hope, however, that this year the matter will be settled, and a proper school-house built, after which there is no reason why a thriving school should not exist here.

No. 1. McKim.—Sudbury.—The school-house is an unsuitable building, badly lighted, and furnished with bad desks, and a small useless blackboard. Seven good new maps. Until shortly before my visit the premises had been rented from the C. P. R., but the Trustees informed me that they had concluded the purchase of the property and were then expecting the deed.

The population of the place is sufficiently large to support a good school, but as a great portion of it is French, a teacher who cannot speak that language labors under a disadvantage, especially with the young children when they first come to school, most of whom do not speak English or understand it. Apart from her want of knowledge of the French language, the teacher was thoroughly competent and efficient.

No. 2. Benfield.—School-house convenient to a station on the C. P. R. This school is subjected to all the unfavorable conditions of a rural school in a new settlement; still the people manifest a lively interest in its success, and as good work is being done as could reasonably be expected under the circumstances.

No. 1. Lyell and Murchison.—This is the weakest and most remote school in the district. The population of the section is small, and the section itself too poor to pay a good teacher. Even if a good salary were offered it is very doubtful if a competent teacher could be induced to go to a place so far out of the way, and so difficult of access. As yet very little, if any, good has resulted from this school. The settlers, however, have resolved to strain a point, and if possible, get a competent teacher.

COUNTY OF BRANT.

Extract from Report of M. J. Kelly, Esq., M.D., Inspector.

The progress of the Public Schools of the County and of the Town of Paris, in the interval since the date of my last report has been, on the whole, highly satisfactory, as I think, the result will show. The equipment of the several school houses, which was fully reported last year is constantly improving, as is the character of the work done therein. The order and management of the schools is generally good. Where frequent changes are made and inexperienced teachers employed it is not to be expected that proficiency will invariably mark such a policy. Between twenty and thirty new recruits are added to the profession every year in this county, and of course, as in other walks of life, "The many fail, the few succeed." Failure at the outset does not however necessarily mean failure altogether. A bad impression may be removed, loss of prestige may be regained, if the teacher is possessed of the requisite tact, honesty and ability. To be successful he must be, as the French say, "*en rapport*" with the pupils; to be permanently successful he must be a gentleman first and a scholar afterwards. I make these observations here because I have heard within the last few months, complaints of the want of success of a few of our young teachers, and I desire to enter a plea in their behalf, which my experience in the past warrants.

During the last half of the year, copies of the new School Law and Scripture Readings were mailed or otherwise sent to the Secretary-Treasurer of the several school sections of the county. The new Compendium of School Law and Regulations is a great improvement on the old one; and the topics being better arranged under their respective headings, the ordinary lay reader will encounter much less difficulty in finding and understanding what he wants. The new Scripture Readings, too, will be found serviceable. The selections are from the Old and New Testaments—are arranged in lessons of suitable length under appropriate headings, and have received the approval of a syndicate of clergymen of the several churches. They are under the following headings: Part I—Historical. Part II—Devotional, Didactic, Prophetic, Moral. Part III—The Gospels. Part IV—The Acts of the Apostles. Part V—Selections from the Epistles. It is the duty of all public school teachers to open their schools with the Lord's Prayer and to close them with the reading of the Scriptures, the Lord's Prayer, or the prayer sanctioned by the Department of Education.

1. *Teachers' Certificates.*—Seventy-four teachers were employed in the schools of the county during the year with the following grades of certificates:

(1) Provincial first class, 4. (2) Provisional second class, 36. (3) Old Country Board first class, 1. (4) New County Board third class, 32. (5) Interim, 1. The first class teachers were employed in No. 1, Oakland, No. 8, South Dumfries, No. 20, Brantford and No. 16, Burford. The whole number of teaching days in the year is 220. The average number of days during which the schools were kept open was 210.

2. Drawing is on the new programme to be taught in all the classes of the Public Schools. The study of this subject has received a great impetus of late from the establishment of the Royal Society of Canada under the auspices of the

Marquis of Lorne and Her Royal Highness the Princess Louise, and the Ontario School of Art under the patronage of the present Minister of Education. The fact that some knowledge of the art of drawing has now become indispensable to the successful pursuit of many of the industrial arts, is a sufficient warranty for its encouragement. Specimens of the work done in our public schools have been sent to the Department in Toronto for transmission to the Colonial Exhibition soon to be opened. Photographs of the city school buildings were also sent for the same purpose. I would gladly have added photographs of many of our rural school houses, which would have reflected credit on the county, but the trustees to whom I spoke about the matter complained of the expense.

School Houses and Equipment.

3. (1) *Brantford*.—No new school houses were erected during the year, but several have received additional equipment. In Langford school a large new stove has been provided. There are nice flower pots in front of the school-house, but some more trees are needed in grounds, as several of those planted several years ago have died. In No. 16 Brantford there are 6 framed chromos, 6 framed mottoes, curtains on windows, 5 statuette of poets and a library. The grounds have been reinclosed by a nice, new picket fence. Some new maps are needed and a larger globe. Evergreen trees in the grounds also desirable. They have not yet decided on a site for a new school house in No. 4. In No. 5 (Mount Pleasant) more equipment is required and the outhouses are in a bad state. No. 6. Since my last report 8 framed mottoes and 2 framed chromos have been purchased. There is also a good clock, a twelve-inch globe, with a nice stand for it. The grounds should be enlarged and the window shutters painted. No. 7 (Burtch School) has a very large attendance, 76 pupils being present at my last visit. An assistant has been since employed. Mr. Dale who had taught in the section 7 years ago is again the Principal. Evergreen trees have been planted in the grounds of No. 8, a well equipped school. In No. 9 the library needs additional books. A new globe is also required. In No. 12, one of the best furnished schools in the county, 20 new Windsor chairs have been added to the equipment. In No. 17 since last report, 8 additional framed chromos, among them one of the Queen and one of the Prince of Wales, have been purchased, making now 11 in all, also a new chandelier with 3 lamps. In No. 18 a new shed has been built. In No. 20, one of our best schools, in addition to the equipment reported last year, there have been provided new maps of the world and of the British Isles, new music books, new tablets, a museum case and a second book case, also a statuette of Dickens.

(2) *S. Dumfries*.—No. 2 has been furnished with an organ, a small globe, and some new maps. A library is about to be added. Evergreen trees have been planted in the grounds. No. 5 (Silver Street School).—To the equipment of this school has been added, since last report, 8 framed mottoes and 8 framed chromos. A new globe is needed. In No. 6, the furnace which seemed to be a very fine one, not having given satisfaction, recourse has been had to stoves. No additional equipment. No. 7 (Harrisburg) has been supplied with a small library. The trustees promise to plant trees in the grounds next "Arbor Day." No. 8 (St. George) has added to its equipment four framed chromes, one being of the Queen. No. 10 (Turnbull's or Little's School) has been provided with a fine large globe, a numeral frame and 4 nicely framed chromos. It has storm windows. There are evergreen trees among the maples in the fine play grounds. No. 12 (Ayr Road School) has slatted blinds on windows, but still needs a library and chromos. The teachers have been changed in the last two schools, gentlemen succeeding ladies. No. 131 (Bruce School) has been supplied with a new outhouse and a considerable addition has been made to the library. Classification somewhat defective. In No. 14 (Glenmorris) floor and walls clean, a number of flowers in pots on window sills. In grounds many young maples planted. Attendance usually large. Chromos needed to adorn the school room. In No. 27 (McLean's School) furniture good, as is also the heating apparatus, good clock, window curtains, 6 chairs for visitors, nice arm chair, small globe on iron stand. The library is large but more books on history, and dictionaries are desirable. Chromos and museum case needed. Trees should be planted on the north and east sides of the grounds. School, though small, is doing well under the present teacher.

(3) *Burford*.—In No. 1 there is a clock, globe, numeral frame, tablets, window curtains, maps enough, cupola and bell, wood house; the needs are dictionaries, a library, trees in the play ground. No. 3 (Princeton).—The teachers were changed in this school at the close of the year, a gentleman with a second class certificate succeeding a young lady with a third. The average attendance is about 40, clock and library, but no globe, dictionaries, chromographs, floor dirty, desks and seats satisfactory. No. 4 (Gobles), a new clock has been purchased, also window curtains and new tablet cards. A library, dictionaries and chromographs still required. The teacher, a young lady, who has been in charge several years, is still doing admirable work; several of her pupils have passed the departmental examinations at Woodstock. No. 5 (Block).—This school has a clock, globe, natural history plates, window curtains, but lacks dictionaries, library and chromographs. The grounds need a new fence and trees. The average attendance is about 20 pupils doing fair work. No. 6, (Force's) house needs painting, school supplied with new seats and desks, a clock, sufficient maps, floor and walls clean. Trees planted on "Arbor Day" and fence repaired; new well and pump; still needs a library, dictionaries and chromos. No. 7 (Cooley Pond).—This school has been furnished with new desks and seats, a clock, window curtains, dictionaries and good maps and presses, lacks a library and chromos; a number of additional trees planted on "Arbor Day" and flower beds made. A good well and pump and a new gate. Averages about 36 pupils. No. 8 (Burford Village).—Nothing worthy of note has been added to the equipment of this school since the date of my last report. It has nearly a complete outfit. The grounds have been somewhat improved. In the matter of progress the school still holds its own, as the results of the entrance and teachers examination show. No. 9 (Salem School).—This school has been supplied during the year with a clock, large bell in cupola, book-case and library, 4 framed chromographs, 2 framed mottoes, evergreen triangles on walls and a new woodhouse; still needs a globe and dictionaries; progress satisfactory. Subjects well taught, especially drill. No. 11 (Metcalf's).—The basement and vestibule of the school house are paved with brick. The fine school-room is heated from the basement by a large "North" heater. A library, dictionaries and chromographs needed; progress satisfactory; work done, good and thorough. No. 13 (Harley).—No improvement to be noted in the equipment of this school; still needs globe, dictionaries, and library; floor still dirty. No. 14 (New Durham).—No material addition has been made to the internal equipment during the year; additional trees have been planted in the grounds and flower beds made; a new woodhouse erected; average attendance about 40 pupils; progress and discipline satisfactory. No. 15 (Fairfield).—This school has been supplied with good desks and seats, dictionaries and maps, a new clock, a fine bell, cost \$30, and cupola; new woodhouse; trees planted in grounds; still lack a library and chromographs. Order and progress satisfactory. No. 16 (Northfield).—Large school-room fairly well equipped; needs new and more modern style of desks, and more trees in the grounds. Attendance is large, averaging about 50. Teachers changed at midsummer; school doing well under its new management. No. 18 (Scotland).—Rooms in fair order, clocks now in both; one framed chromograph, good fence, grounds divided, plenty of trees, but no evergreen ones; good well and woodhouse. Attendance fair, order excellent; dictionaries needed and more chromos. Teachers changed at close of year. No. 19 (Hatchley).—School-room clean and generally well furnished, windows curtained, 4 lamps suspended from ceiling, good organ; a globe needed and maps of the United States, North and South America. Ventilators in side walls and opening in ceiling. Meetings held in school room; result—gate left open and trees and flower beds injured. Fair work done. No. 20 (Hedgers).—In addition to the equipment mentioned in my last report, there are now an orrery, a tellurian, a numeral frame and a full supply of maps, also dictionaries. To the maples in the grounds are now added evergreen trees and rose-bushes. The teacher who has been in charge for several years and under whose management the school has taken a foremost place, left in October to complete his Arts course in the University of Toronto. No. 21 (Miles School) Union with No. 5 Oakland.—School room clean and well furnished, has now a library, cupola and bell; still doing work under an active, earnest, energetic teacher. No. 22 (Kelvin).—To the equipment may now be added a cupola and bell and in the grounds evergreen trees; still needed a globe, a library and chromographs, No. 23

(Trimbles).—This school, which is fairly furnished, now boasts of a new clock and fine maps of the Dominion and the United States. Progress satisfactory. No. 24 (Cathcart).—Added here since date of last report, a new press, a small globe, Stormonth's dictionary, a clock which does not go, a new woodhouse and a new closet; grounds not yet enclosed. A library and chromographs still required. No. 25 (Mount Zion).—Here, in addition to the library (which should be enlarged), there are a large dictionary and six framed mottoes. A clock is needed and new maps and chromos. There are flower beds in play grounds. No. 26 (Tansley's).—School-room furnished fairly well, floor clean, but walls want whitewashing; curtains on windows, maps enough, globe still out of repair; needs a clock, library, dictionaries, chromos and more chairs; a woodhouse and good fence, but more trees in the grounds desirable. The average attendance should be over 30. Work done, satisfactory; order good.

(4) *Onondaga*.—No. 2 (Middleport).—Nothing added to the equipment of the school room here since date of last report. The library should be enlarged, and dictionaries, chromographs, etc., supplied. The floor, too, should be scrubbed and swept more frequently. Some trees were planted in the grounds on "Arbor Day" but more are needed. No. 4 (New England).—Walls whitewashed, floor clean, a good clock, a small globe, a pronouncing dictionary, a new calculator, new door and new locks. Grounds well planted; circular flower pots in front of school house; order and management of school excellent. No. 3 (Mulligan's).—This school has a small library, good globe, new tablets, good well, cupola and bell; outhouses satisfactory; needs dictionaries, chromographs, etc., also trees in the play grounds; doing very satisfactory work. No. 5 (Onondaga Village).—Teachers were changed here at the close of the year. A library and dictionaries still needed. Equipment otherwise good; attendance usually large; work done satisfactory. No. 6 (Hunter School).—This school needs addition to its library, a globe, dictionaries, chromographs, some new maps and more trees in the play ground; of those planted some years ago only three survive. Fair work done.

(5) *Oakland*.—No. 1 (Union with 2 Townsend).—The position of seats and desks changed—pupils now facing the north. Woodwork of school-room painted blue, also of lobby. New floor; blackboards repaired, 2 new stoves, cupola and bell, new woodhouse painted brown with white cornices; grounds well planted with trees. A well furnished and well managed school. No. 2 (Oakland Village).—This school has been supplied with new pupils' and teacher's desks, grounds reinforced by a new picket fence painted white. Approach to grounds is by stile and not by gate. Additional trees planted and flower beds in grounds. There are needed a library, globe, new maps, clock needs repair; generally a satisfactory school. No. 4 (Thompson's School).—A fairly equipped school; 2 dictionaries in 4 vols., globe and maps enough, seats and desks need repairing, 2 new brick outhouses erected, also new woodhouse. New pump, plenty of trees in play grounds. Teachers changed at close of year.

4. *Arbor Day*.—The Minister of Education has appointed a day in May of each year to be observed in all rural public schools, and to be known as "Arbor Day." During the forenoon the teacher is expected to instruct his pupils in relation to the benefit of arboriculture, etc., and with them and the trustees to devote the afternoon of the day to tree planting, laying out flower beds and cleaning up the school yard. On last "Arbor Day" 397 trees were planted in the school grounds of the county. Our grounds had been already very generally planted, else the number would doubtless have been greater.

5. *County Model School*.—The session of this school, lasting three months, was held during the last half of the year. Twenty-eight candidates attended the lectures, all of whom passed the professional examination at the close.

6. *Entrance Examinations, etc.*—At the first examination at Midsummer 121 candidates wrote in Brantford, the largest number that has yet written at any single time here—49 boys and 72 girls. Of the total 72 came from the rural schools and the balance from the Central and Separate schools of the city. 108 passed. Of the successful candidates S. S. No. 21, Burford, sent up 2; No. 20, Burford, 4; No. 5, Onondaga, 4. No. 18, Brantford, 2; No. 2, Brantford, 4; No. 12, Brantford, 8; No. 4, Brantford,

1; No. 16, Brantford, 3; No. 1, Brantford, 1; No. 8, Burford, 7; No. 24, Burford, 3; No. 14, Burford, 1; No. 15, Burford, 1; No. 25, Burford, 1; No. 8, S. Dumfries, 3; No. 3, Onondaga, 1; No. 2, Onondaga, 2; No. 4, Onondaga, 1; No. 6, Onondaga, 4; Norwich school, 5; Jerseyville, 2; Beaconsfield, 2. At Paris No. 11, S. Dumfries, passed 2. At the December examinations 98 wrote in Brantford and 71 were provisionally passed. The following schools outside of Brantford passed candidates as under:—Mohawk Institute, 4; No. 6, South Dumfries, 1; No. 4, Brantford, 2; No. 8, Brantford, 1; No. 9, Brantford, 1; No. 10, Brantford, 3; No. 12, Brantford, 1; No. 16, Brantford, 2; No. 20, Brantford, 1; No. 1, Brantford, 2; No. 3, Burford, 1; No. 19, Burford, 1; No. 15, Burford, 1; No. 8, Burford, 1; No. 17, Burford, 1; No. 4, Onondaga, 1; Jerseyville, 1; Alberton, 1; Springfield, 1. At Paris No. 1, Brantford passed 1, and No. 12, South Dumfries, 2.

The Langford School passed 2 for 3rd class certificates, the Burford School 1. No. 20, Burford, 2 for 2nd class and 1 for 3rd, and No. 12, Burford, 1 for 2nd.

These results indicate unmistakably the progress of the Public Schools of this County.

7. *Indian Schools.*—The 12 Indian Schools in the Township of Tuscarora were inspected in June, and a report of their state of efficiency and progress sent to the Minister.

8. *Uniform Promotion Examinations.*—These were held the last two days of March last year and will be held on the same days this year. The question papers have been already mailed to the several schools.

9. *City of Brantford.*—In its early days Brantford seems to have possessed no organized system of public instruction. A remote hamlet of the old Gore District, nestling on the banks of the Grand River, and surrounded by the red men, it possessed few advantages beyond those of trade with the Indians and such as the navigation of those days afforded. Ancaster and Hamilton were the favored places. Although the school-master was abroad, his presence was fitful and his stay usually short.

The first school in what is now the city of Brantford was held in a two story frame building on the market square, and which served for town hall, court room, meeting-house and school-house. This was about 1826.

The first grammar school in Brantford was held in the small frame cottage on Nelson street, where the fine residence of J. H. Stratford, Esq., now stands. This was taught by Mr. Richard Tyner, an honor graduate of old King's College, Toronto, in 1853-4-5.

In the following year the grammar school was united with the common schools of the town, and remained so for nearly ten years, when a separation took place. Since then the High School has become a Collegiate Institute; the small brick cottage in the East Ward, with its two teachers, has been exchanged for the present elegant and commodious structure on George street, with a staff consisting of a head master, first and second classical masters, a first and second mathematical master, a master for the modern languages, an English master, and a teacher of painting and drawing. The attendance approaches 300.

In 1852 there were three public school houses in Brantford, with six teachers, and a total enrolled attendance of 785 pupils. In 1885 there were four school houses, superior and spacious brick buildings, with thirty teachers and an enrolled attendance of 2,152 pupils. The average attendance at the first date was 324 or 41 per cent.; at the last date it was about 70 per cent. The amount paid in salaries in 1852 was \$1,860; last year it was \$9,720. The amount received from legislative and municipal grants was \$1,272, against \$3,200 from the same sources in 1885.

Two promotion examinations were held during the past year, just before the close of the half-yearly terms, with the following results: Number of pupils examined at the close of the first half-year, 849, number passed, 585; at close of second half-year, 1,356 examined, and passed 574.

The number that passed at the entrance examination to the Collegiate Institute in July, was 38, in December, 37.

At the County Model School, the session of which extended over three months, 28 candidates attended, all of whom passed the third-class teacher's professional examination at the close.

Nothing has transpired during the year in connection with the teaching and discipline of the schools calling for special mention in this report.

14. *Town of Paris.*—The schools of Paris have made very satisfactory progress during the year. At the midsummer departmental examinations the High School won high distinction. The ten public schools of the town are well taught and well managed. The order is generally excellent. The financial position is also encouraging. The receipts during the year from all sources were \$7,365.66. The expenditure \$4,068.08, leaving in hand a balance of \$3,297.58. The amount paid in salaries (public school department) was \$3,225. The highest salary paid male teacher (only one in the schools) was \$600. Highest salary paid female teacher \$350. Eight out of the ten teachers received a Normal School training. Eight hold 2nd class provincial certificates. Two, 3rd class provincial certificates. 671 pupils were registered during the year—223 boys and 348 girls. The attendance is fairly regular. There are 126 in 1st part of First Reader; 117 in 2nd part; 140 in 2nd class; 198 in 3rd and 90 in 4th class. From the senior 4th class 26 pupils passed the entrance examination during the year.

COUNTY OF CARLETON

Extract from Report of A. Smirle, Esq., Inspector.

1st. *Teachers' Salaries.*—Compared with adjacent counties, the salaries might be considered good; but, when compared with the remuneration received in other professions or employments, for less arduous labor, it is clear that the Public School teacher is underpaid. In the rural districts, where the cost of living is never calculated, it is not easy to convince trustees that less than \$400 a year is inadequate compensation for the services of a qualified teacher. This state of things will continue until teachers set a proper value upon their services, and by a united effort demand salaries in some degree commensurate with the cost of living, and the increased outlay in preparing themselves for the work. Speaking in a general way, I find that a good teacher usually commands a fair salary. Having once made his usefulness felt in the neighborhood, his trustees are reluctant to part with him; but when a change has to be made, there is always a disposition to throw the situation open to competition, the lowest offer receiving the appointment, regardless of differences in the qualifications, teaching experience, and indeed all else than salary. Our people do not discriminate between the trained and the untrained teacher. They place the Third Class, or for that matter the "Permit," in competition with the highest grade of certificate. I am not an advocate of fixing, or even supplementing salaries by legislation, but I am of opinion that some effort should be made to elevate the standard by which the public judge of the efficiency of a teacher, also to cultivate a more liberal spirit on the part of trustees in estimating the value of his services. A judicious distribution of professional literature amongst the trustees of rural sections, would, no doubt, have a good effect. It seems to me that we might revert to the old system of supplying, gratuitously, each board of trustees with a good educational periodical. I feel sure such would be read with much deeper interest than the *Journal of Education* was in former years. Trustees appreciate gifts of this kind, and through such a channel, I have no doubt, the way would be opened to many a useful reform.

2nd. *Teachers' Certificates.*—It will be seen from the reports that there has been quite an increase in the number of teachers holding the higher grades of certificate. We have this year two Provincial Firsts, and forty-eight Seconds, as compared with one First, and thirty-nine Seconds in the previous year. We have still twenty-six "Permits" in the inspectorate, a number, in my opinion, by far too large, when the circumstances justifying the issue of such are fully taken into account. There are at the present time

about ten sections in the county, which, from sparseness of population, contracted bounds, or other unavoidable cause, are not able to offer sufficient inducement to secure the services of a legally qualified teacher; but then there are at least twenty others which, from force of habit, or over-indulgence, are always on the list of applicants for unlicensed teachers; and so persistent are they that, in some instances, schools are allowed to remain closed for a few weeks at the beginning of the year, in order to strengthen their claims to favorable consideration.

3rd. *School Population and Pupils.*—The information given in the report under this heading I consider fairly accurate, with the exception of column No. 28, which asks for the “number of persons of all classes and creeds between the ages of five and twenty-one years resident in the section on the 31st December.” I have reason to believe in many cases the figures given are largely the result of guess-work. Generally the estimate is too low, being made to correspond with the total number entered on the register for the year, a state of things, which in point of fact, very rarely occurs. In cases where trustees are too conscientious to approximate, the blame is usually thrown upon the assessors.

The attendance of pupils shows a small decrease since last report. This, I believe, to be largely due to the late spring, and prolonged harvest. I noticed that the “winter classes” were nearly a month later in being formed in the rural schools than they were in the previous year. The extending of the holidays by trustees, in the suburban schools, will also help to account for the falling off. Apart from all these considerations, however, the attendance should be larger and much more regular. The compulsory clauses of the school law have not, to my knowledge, been enforced in any part of the inspectorate; still the very fact that such a law exists, has to some extent improved the attendance. The weak point seems to be the want of an executive officer. The statutes also appear to be so guarded that it would be almost impossible to prove negligence, and to secure a conviction. Trustees, I fear, will never undertake voluntarily, such an unpopular work.

4th. *School Accommodation* is rapidly improving. In the Townships of Osgoode, Gloucester and Nepean alone, there will be an aggregate of 15 new school houses completed within the space of three years, and all of a roomy and substantial character. My experience goes to prove that, if we can only give the country a supply of spirited teachers, active and earnest workers, there will be no trouble in securing accommodation and appliances for carrying on the work. There is no more important factor in the make-up of a teacher, than the possession of power to enlist the sympathy of the people in his work, and thus to arouse them to a sense of their responsibilities in the matter of educating their children. He who can do this may accomplish a great deal in the way of improving school accommodation, and providing properly equipped schools.

5th. *Model School Work.*—My last report upon this subject shows that the result of the session's work was most satisfactory. I regret, however, to have to state now, that we are likely to be without a Model School for the next year, the trustees of New Edinburgh having declined to allow their school to be used longer for that purpose. There are but two schools in the county that come up to the requirements of the law, and neither of these is available, owing to the prevalence of a feeling that it is detrimental to the progress of a school to place the classes, even occasionally, in the hands of students. The very fact of a large and populous county like Carleton, having no school coming up to the requirements of the law (the two previously mentioned are suburban schools), to my mind suggests the idea that the requirements of the law are too high. I cannot see that it is necessary to have every Model School graded—in fact, it seems to me, that as Third Class teachers are almost exclusively employed in rural sections, it would be much more practical that they should receive their professional training in an ungraded school. There they would see and perform work similar to what they are most likely to engage in. I repeat here what I have substantially affirmed in a previous report, viz.:—*That neither our Provincial nor County Model Schools can, under existing circumstances, properly exemplify rural school work.* Sound Model School practice is a very important part of the professional training of a teacher, but in order that the student may get the full benefit of such practice, he should be trained in a school which is a pattern or model after which he can fashion his own classes. I think it may be safely said that a student, who has had three months' professional training in a well classified rural school, under competent

instruction, is more likely to succeed in rural school work than one who has taken the usual County Model School course. Why then ask for so high a standard in a County Model School? Would not a school with *three, two, or even one* teacher accomplish the end in view, provided an additional room and an assistant were available during the term? I hold in high estimation the services rendered to the cause of education by our Model School masters and their assistants, but, to me, it has always appeared an anomaly, that no attempt should be made to illustrate the organizations, classification, and practical working of the country school. Until this is accomplished the Model School will fall far short of its mission, and the teachers sent out therefrom will charge these institutions with having in a measure, taken up valuable time to no practical purpose.

COUNTY OF DUNDAS.

Extract from Report of Arthur Brown, Esq., Inspector.

It will be seen that the standing for the County for 1885 is somewhat below that of 1884, while that for the townships is higher. The falling off is due to the villages of Morrisburg and Iroquois, and was caused, I think, by a lack of teaching equipment. An additional division of the Morrisburg Public School was opened last fall; the Iroquois School Board propose to open another in their school, and these will remove the difficulty referred to.

It is a significant fact that, of the 39 schools which advanced their standing in 1885, only 15 changed their teacher, or a little less than 40 per cent.; while of the 27 schools in which a lower standing was made, 23 or nearly 90 per cent. changed teachers.

The number of promotions made in 1885 compares favorably with that of the previous year, and corresponds with a similar increase in those who passed the Entrance Examinations to the High Schools of the County. The latter were for 1884, 78, and for 1885, 128. Both of these indicate efficient work in the Public Schools.

The average attendance of pupils has recovered from the depression of 1884, and for the year lately closed was in advance of that of 1883.

Considerable improvement in school accommodation has been made in the last two years. In No. 3 Williamsburg, an ample site has been bought, and a very handsome school-house built; in No. 7, Matilda, the school site has been enlarged; in No. 8, Matilda, an ample site has been secured, and one of the most roomy, comfortable, and best ventilated school-houses that can be found any where, has been erected; in No. 3, Winchester, an additional lot has been bought, and a tasty school house for the Primary Divisions of the School, has been built; in No. 2, Mountain, a large and substantial stone school house has been erected; in No. 18, Mountain, a new site has been purchased and fenced, and a comfortable school-house built. In many sections trees have been planted, houses and grounds improved, and in not a few cases, needed improvements in other sections are promised for the current year.

On the whole, I think substantial progress has been made during the past year in the way of better teaching, more regular attendance of pupils, increased numbers passing Entrance Examinations, fewer changes of teachers, better remuneration for efficient teachers, improvement in school houses and their surroundings, and greater interest by trustees and parents in the success of their schools. I have to thank trustees, and parents generally, for their kind co-operation in all efforts to promote the efficiency of school work.

COUNTY OF DURHAM.

Extract from Report of W. E. Tilley, Esq., Inspector.

This Report is not prepared with special reference to the system of promotion examinations in the rural schools, but for the purpose of calling attention to some

matters pertaining to the well-being of all the schools under my charge, especially to such items as relate to the health and comfort of the pupils.

On my first visit, after my appointment in June, 1884, I found the schools, generally, in charge of efficient and pains-taking teachers; whose efforts, for many years prior to that time, directed and strengthened by the able and energetic supervision of my predecessor, Mr. J. J. Tilley, had given the schools of Durham a high rank among the public schools of the Province. I believe that this standard of efficiency has been maintained and a fair degree of progress made during the past two years. The teachers, in my opinion, are earnestly endeavoring to do their work well, and the trustees, with few exceptions, display a deep interest in the welfare of their schools.

School-Houses, Furniture and Requisites.

There are in this Inspectorate, 104 school-houses, of which 70 are brick, 33 frame or concrete, and 1 stone. Some are in good repair and are very suitable for school purposes, but many are not what they should be, considering the comparatively short time they have been in use. Some were badly built, or have been badly cared for, the foundations being defective, and the walls, in consequence, warped and cracked. Very frequently the water from the eave troughs, instead of being conveyed to a drain, is allowed to wash out holes at the corners of the building, and, by the aid of frost, after working its way beneath the foundation, to twist the walls and ruin the structure. A rural school-room is seldom easily heated in winter, as the walls are all exposed to the weather. This difficulty is greatly increased when the foundation and the walls are defective, the windows loose or panes of glass broken, the doors out of repair or lacking proper fastenings, and the floor thin and worn through in places. Storm windows should be more generally used than they are.

Much has been done during the two years towards improving the school buildings and furniture. Some rooms have been re-plastered and others lined with narrow boards, neatly painted. In several schools, new seats and desks of modern pattern,—models of neatness and convenience, have been provided. Some sections, however, are much behind in this respect. It is still possible to find schools in which the teacher's desk is nearly four feet high, and where the only seat for either teacher or visitor is a rickety stool, nearly double the height of an ordinary chair. The blackboards, in some instances, are all that can be desired, but in others they are neither good in quality nor convenient for use. Frequently they are too high, quite out of the reach of pupils; to overcome this defect, high clumsy benches are placed against the walls, which generally add to the inconvenience of using the boards freely by either the teacher or the pupils. The blackboard should extend completely across one end of the school-room; the north end, if not broken by door or window, is preferable; it should be at least four feet wide, with its lower edge within twenty-seven inches of the floor or platform. Where a platform is supplied, it should be not less than five feet wide, nor more than five inches high, and should extend the whole length of the blackboard.

The schools are fairly well supplied with maps, though too many of them still lack good maps of the World, Dominion of Canada, and Ontario; several are without convenient globes for use in teaching geography, and but few are supplied with a good dictionary or a gazetteer.

The school law provides that there shall be at least 250 cub. ft. of air space for each pupil, where the ventilation is such as to cause a complete change in the air of the room not less than *three times* an hour; the ventilation to be effected by adjusting the windows, both sashes, by weights and pulleys. The Provincial Board of Health recommends 1000 cub. ft. and, with a good deal of emphasis, gives 500 cub. ft. as the minimum for each child, where the air is changed *six times* an hour. The trustees can readily determine whether or not their rooms satisfy the legal requirements as regards size. The question of ventilation is not so easily determined; it should be remembered, however, that school-room ventilation is frequently very imperfect.

School Grounds and their Conveniences.

The school sites are generally well located, high, dry, and easy of access. There are instances, however, where the selections were made without due care; the yards being either low and swampy, or situated on hillsides where the land is light and easily furrowed by the spring and the fall freshets, while some are very inconvenient to reach in winter, as the roads leading to them are not much used.

The usual size of the grounds in rural sections, is one-half acre, which in my opinion is much too small. Neither baseball, football, nor cricket, can be played with satisfaction in grounds of less than two acres, especially when provision is made for school-house, wood-house, well, and outbuildings; proper portions fenced off or screened as private resorts for the girls and the boys respectively; and all surrounded and ornamented with trees and shrubs. The water supply, too often, is far from being satisfactory; in many yards there is no well, and frequently where a well has been provided, the water is unfit for use. This is the case, not only where the trustees, through carelessness or indifference, have allowed the pump to get out of order, or the covering of the well to become defective, but also where, apparently, they have done all that can be expected of them to provide good water. It may be the result of some lack of care in finishing the well; perhaps it was not lined with water-lime, the earth around it raised to throw off the surface water, and the platform tightly laid to prevent the waste water from the pump leaking through, and mingling again with the water in the well. The health of the pupils, especially in rural sections where children take their dinners and hence are away from home comforts all day, demands that a good well and other conveniences be provided in each school yard. The closets commonly are too small, too much exposed, rough in construction and untidily kept. They are frequently without doors that can be properly fastened, or walks leading to them, and hence in winter are unfit for use. In many sections, the accommodation in this respect has been greatly improved, but much still remains to be done before it will be in keeping with the wealth and comfort indicated by the home surroundings of the pupils.

Arbor Day.

There were 1,139 trees planted on Arbor Day, 1885, a large proportion of which are still living, judging from the reports lately received from the teachers on last Arbor Day. I cannot give the exact number for this year, 1886, as the returns are not quite complete, but estimate that at least 1,000 trees were planted. If, therefore the necessary grounds were provided by the trustees, which could be done in most sections at a comparatively small outlay, the teachers, pupils, and ex-pupils, with their many friends, in a few years, would have them in good order by their efforts on these occasions. Frequently, in rural sections, the school yard is the only place for public games of any kind, hence all should take a pride in having it neat and convenient, to be used not by the pupils only, but by the people of the section, also, on all proper occasions. I have thought it best to give here some extracts, from the reports of the teachers this year, to show what a pleasant and profitable outing last Arbor Day was in their sections. A double effect is secured by these exercises, as pupils who take an active part in improving their school surroundings, will be equally interested in keeping them neat and tidy throughout the year. In schools where taste and neatness are displayed in connection with the school premises, the pupils are generally well behaved, and in my opinion, do their school work much more thoroughly and pleasantly than they otherwise would. The following extracts are selected with a view to variety, both in locality and circumstances, two at least being taken from each township. For want of space the number is necessarily limited; I have therefore withheld the names of the teachers who sent them and the number of the sections to which they refer.

Male Teacher.—"We planted no trees, none required. Walls and ceilings whitened; floor scrubbed and room decorated with evergreens, mottoes, etc. Yard thoroughly cleaned and a new sidewalk built from the school house to the front gate. We are to have a new fence as soon as a man can be secured to build it."

Male Teacher.—"We had a pleasant time on Arbor Day this year. Ten trees and some shrubs were planted, the yard made more level and some parts gravelled. Twelve trees out of the twenty planted last year are still living. After the work was finished, the visitors were asked to be seated and to listen to readings, dialogues, and recitations by the pupils. Every one went away pleased with the way the day had been spent."

Male Teacher.—"Two trees were planted on Arbor Day and the old trees trimmed. The yard was thoroughly cleaned, low places filled up, trees all protected, boards nailed on the walks and the fences, and a number of plants placed in the school-room. Several of the parents took an active part in the proceedings, which were brought to a close by the boys playing a game of football. Our yard is good but too small."

Female Teacher.—"I felt almost discouraged at the prospect before us last Friday; the children and myself tried hard to get the parents to help us this year. They all professed to sympathize with the movement, but were too busy. However, the children were eager to do what they could, and some ex-pupils volunteered their help. I taught till 11:30 and then we all went to the woods for trees, but as most of my helpers were young, we had to be content with small trees. In the afternoon we cleaned the yard of chips, which was no light task as the wood last winter was all cut on the grounds; planted twenty-five trees, most of them maples; set fire to some stumps and rooted out one or two. Eight trees of last year's planting are still alive."

Male Teacher.—"On Arbor Day this year twelve trees were planted, besides a number of lilacs, rose bushes, and other flowering shrubs. A small flower garden was also laid out and planted with flowers, seeds, etc. The wood was neatly piled and all the stones and sticks picked off the yard; the fence repaired, and the gate fastened with a chain and weight, so that it might not be left open. Flowers also were brought and placed on the teacher's desk. A programme of readings, recitations, etc., had been arranged for the last hour of the day, but lack of time causing it to be postponed till next Friday afternoon, a short spelling match was substituted. The trustees were all present during part of the day."

Female Teacher.—"We had quite a pleasant Arbor Day this year; we planted twenty-six trees, made two rockeries in which we planted flowers, thoroughly cleaned the yard, repaired the fence, and decorated the school-room. In fact our time seemed to pass away so quickly that we almost forgot about dinner. We left the school grounds about half-past four, and although tired, we felt better for our change of work. *Change is rest.*"

Female Teacher.—"There are fifty-six trees of last year's planting still alive. This year we planted no trees, but the boys raked the yard, piled the wood neatly in the shed, and decorated the room with cedar. The girls washed the windows and the wood-work, scrubbed the floor and varnished the stove. We are getting some new pictures for the school-room, which were not quite ready on Arbor Day, but will be in a few days."

Male Teacher.—"We began work with fifty-one pupils. We removed stones from the yard and repaired the fence in the forenoon. The yard was quite covered with stones when we started. In the afternoon we went for trees and planted twenty-four maples, fifteen balsams, and one spruce, in all forty trees. The school-room also was washed by the scholars, after having been lime-washed and a little plastering done. The ceilings are now clean and white. We have some plants in the room and a few pictures on the walls; we intend to decorate with evergreens."

Female Teacher.—"There are forty-three trees living of the forty-eight planted last year. This year we planted a hedge along the west side of the yard—108 evergreens in all; levelled the yard in front of the school-house, and cleaned up generally."

Female Teacher.—"I have just come from school, pleased with the work of the day. My pupils too, were delighted; they all brought shrubs, roots, and flower seeds with them. We cleaned up the yard, planted the shrubs, roots, etc.; then all went to the woods for trees. We brought back twelve maples and planted them along the fence. My pupils worked hard, and I think all went home ready for a good night's sleep."

Male Teacher.—"This year on Arbor Day, we planted one hundred evergreens; there were already fourteen maples on the grounds; school yard made neat and tidy; floors cleaned and walls whitewashed; outbuildings and fences in good condition."

Male Teacher.—"There are seventeen good trees on the ground. I think most of them were planted last year. I planted twenty young maples this year with the assistance of my pupils, all of which are small. We made four flower beds, converted an old stump into a flower pot, took out another stump, and cleaned the grounds generally."

Male Teacher.—"On Arbor Day this year, there were sixteen maples planted and some flower beds formed. The yard was cleaned and the school-room tidied up; the floor repaired and the stove and pipes cleaned. The scholars turned out in full force and worked well. It is, I believe, the first time Arbor Day has been kept in this section. All are pleased with the results."

Female Teacher.—"The pupils and myself cleaned the school-room and decorated it with evergreens. The yard was raked, all rubbish burned, and some artistic flower beds made in front of the school. One of the trustees, with the school boys, planted forty-two trees—some maples and some ironwood. Several ex-pupils took a very active part in the work."

Male Teacher.—"Five trees of last year's planting are now alive. This year we planted six more, made three flower beds and planted them; thoroughly cleaned the school-room, and decorated it with evergreens. The scholars brought a nice lot of flowers for the windows. A few loads of gravel would be a benefit to the yard in some places, and especially the immediate approaches to the school-room. Improved ventilation also would make the school work, if not more effective, at least more pleasant."

Promotion Examinations.

The nature of these examinations and the purposes for which they were established, were fully set forth in the reports of my predecessor of 1882 and 1883. I shall not, therefore, refer to them at any length here. At each of the four examinations held since my appointment, an average of 700 pupils wrote and 550 passed. I have endeavored to remove any element tending to make the examinations competitive in their working, and hence the results as regards the respective schools have not been published; with the results placed before the public, and comparisons instituted, the temptation to overcrowding in work and hence to injudicious promotions becomes, in my opinion, too great, especially in the case of inexperienced teachers.

Besides conducting the two promotion examinations, I have visited each school and department twice each year.

COUNTY OF ELGIN.

Extract from Report of W. Aiken, Esq., Inspector.

While last year I reported forty-five temporary certificates, this year I am pleased to say that I have none to report. All the teachers are of second or third class. As a result of this change a great difference is noticeable in the character of the work done. More teachers are looking forward to remaining in the profession a longer time, and are trying to make themselves familiar with the best methods of teaching.

My work in the schools is largely taken up with methods; as yet I have given little attention to the progress made by individuals in the classes.

The Teachers' Institutes are recognized by the teachers as great helps to them.

In addition to the County Institute, I am organizing Township Institutes throughout the county, hoping to get the teachers to take up the excellent reading course mapped out by the Department, systematically. Already it is bearing fruit. Another object of the Township Institute is to give the young teacher an opportunity to talk about his work. If he talks about it, I am sure he thinks about it.

As for our excellent Model School, one of the greatest helps the Department has given the teacher, is filling our schools in Elgin with a superior class of young teachers.

You will see that all pupils are not reported as taking spelling, writing, drawing, and arithmetic. One of the greatest difficulties I have met is to get teachers to follow the Provincial programme as laid down by the Department. I shall soon have this properly arranged.

Irregular attendance exists in Elgin as elsewhere.

Compulsory Education is still a dead letter in Elgin. Ninety-seven children between the ages of seven and thirteen were not at school at all during the year, and 1,705 attended less than 100 days, as required by law.

Our schools in Elgin are becoming better equipped with the necessary apparatus, as advised in the Regulations.

Before closing I wish to mention the system of promotion examinations we have adopted in Elgin.

While I am not in sympathy with the percentage examinations, especially with Junior classes, the classification was so unintelligent, and teachers in most cases so powerless to make proper classification, that something was necessary to set the classes in order. We therefore decided to adopt a plan of setting papers for the teachers, leaving the examining and promotion in their hands.

Both teachers and pupils show more interest in their work.

Altogether I look upon the past year as a prosperous one in our Elgin Schools.

COUNTY OF HALTON.

Extract from Report of J. S. Deacon, Esq., Inspector.

The Late Inspector.—The sudden death of our late Inspector, after nearly fourteen years of faithful service in that office, rendered the year a painfully eventful one in the educational history of the County.

The late Robert Little needs no marble or granite to perpetuate the memory of his untiring labors in the cause of education. The many commodious school-houses, erected in Halton since 1871, are substantial monuments of his perseverance. The successful training of two generations of pupils to habits of neatness, accuracy, and industry, is a work whose importance can scarcely be over-estimated.

I never met with Mr. Little; but the documents left to his successor in office, convince me that his labors were simply herculean, and in attending to even the minutest details he acted on the principle "That whatever is worth doing at all is worth doing well."

Inspection.—I inspected all of the eighty-five schools and departments of the county before the Christmas vacation, and made notes of the attendance, management, grounds, etc.

I examined every class pretty thoroughly in reading, writing, spelling, and arithmetic, and arrived at the following conclusions:

Reading is very well taught in about 40 per cent. of the schools; monotony and indistinctness are too prevalent in the others. Correct spelling, by dictation, varied by classes from 40 to 100 per cent., the average being about 75, which may be considered very good.

Writing was judged from the dictation exercises and from the copy books. The slate work was generally very neat and the writing good; the copy books were not remarkable either for neatness or for good writing. I would estimate the slate work at an average of 75 per cent., and that upon the copy books at 35.

In several schools the slate work in Writing and Arithmetic was worth from 90 to 100 per cent. for neatness.

Slate Arithmetic varied in correctness, by classes, from nothing to 90 per cent., the average being about 40.

Mental Arithmetic is well taught in less than 25 per cent. of the schools.

There is great need of improvement in Practical Arithmetic, both mental and written.

So far as time permitted, I gave oral exercises, more or less thorough, in Geography, History, Grammar, and Composition, to the third and fourth classes of nearly every school. My object in these oral drills was: (*a*) to develop and test the thinking capacities of the pupils, (*b*) to enable me to form an estimate of the mental training they had received, and (*c*) to test, incidentally, their knowledge of these subjects.

Comment upon this portion of my inspection is reserved for a future report.

In respect to order, the schools may be classified thus; 25 per cent., excellent; 40 per cent., good; 30 per cent., fair; and 5 per cent., very bad.

There are many excellent teachers laboring under serious disadvantages, such as (*a*) mismanagement of previous teachers; (*b*) irregular attendance; (*c*) unsuitable accommodation; (*d*) too many pupils for one teacher, etc., etc.

Change of Teachers.—A serious hindrance to the progress of rural schools is the frequent change of teachers.

Many sections seem to have contracted the habit of changing teachers every year. Very often, these changes are made for the most trivial reasons; the teacher may have succeeded admirably in his management of the school, but, unfortunately, he has given offence by his outspoken opinions or by his impartial dealings, to some one in authority, and he is compelled to seek a new field of labor, without the satisfaction of knowing *why* he is dismissed. Sometimes the change is made for financial reasons, the gain varying from ten dollars to fifty. Trustees are liable to consider as *equal* all teachers holding the same grade of certificate; some go further, placing on the same basis, *all who hold legal certificates* of any class, or grade. Such reasoning is no less fallacious than the argument that all physicians who have taken their degree, can be equally skilful in practice; that a minister who can produce his certificate of ordination, is competent to fill any pulpit; or that any lawyer who has been admitted to the bar, is qualified to undertake the conduct of a case involving fine points in constitutional law.

There were 36 changes at the end of 1885, 30 being in the rural schools, as follows: Trafalgar, 4; Nelson, 6; Nassagaweya, 6; and Esquesing, 14. Of the thirty-six teachers who retired from their schools, 3 went to study medicine, 7 to take charge of other schools in the county, and 13 to secure higher certificates.

Trustee Elections.—It is to be regretted that so little interest is taken in the election of school trustees. Frequently the office goes begging. As a consequence, the incumbent neither prizes his office, nor attends to its duties. The School Law imposes as a duty upon trustees, the frequent visitation of their schools. Nine of our schools were unvisited by trustees during 1885, and nineteen received less than one visit from each trustee. The number of visits to the eighty-five schools was 239, and of others 1,365; total for the year, 1,604.

School Houses.—In the sixty sections of the County there are sixty-one Public School-houses, of which twenty-five are brick, thirteen stone, and twenty-three frame or concrete. Many of these are in excellent condition; the class-rooms present a bright, inviting appearance; the fences, gates, and outbuildings are in good order, and the enclosures are in many cases planted with shade trees. These buildings are a credit to the sections in which they are located, and it is not unlikely that they add five to ten per cent. to the market value of farms in their neighborhood.

Considering the small amount of assessable property in S. S. No. 12, Esquesing, No. 2, Nelson, and No. 7, Nassagaweya, these sections deserve special mention for the excellence and neatness of their school accommodation. Preparations are being made to build a new school-house in S. S. No. 6, Nassagaweya.

There still remains in Halton, half a-dozen school houses, that for sanitary reasons, if for no other, should be completely renovated, or banished from human sight. A few excellent structures have a neglected appearance; the gates broken down; the yard bare; the fastenings off the door; the hooks broken; the windows dingy; the walls black, and the floor sadly in need of scrubbing. A very small outlay would dispel the gloom, and with it the lurking germs of disease.

Arbor day was observed in twenty-six sections, and 662 trees were planted; about eighty per cent. of these are reported as still living. Five sections report their grounds as previously planted with shade trees.

The average attendance in Milton was 64 per cent. of the number enrolled; in Oakville, 63; Georgetown, 58; Burlington, 53; Nelson, 51; Esquesing, 48; Acton, 46; Trafalgar, 46; Nassagaweya, 44; and in the whole county, 50.

Teachers Certificates and Salaries.—(a) There were eighty-five teachers employed during last half of 1885. Of these forty-two were male teachers, and forty-three female.

(b) Three teachers held First Class Certificates; thirty-six, Second Class; three First Class (old County Board); and forty-three, Third Class. Twenty-nine had attended a Normal School, decrease, six.

(c) The highest salary paid a male teacher was \$650. The average salary of male teachers in the townships, including the incorporated villages, was \$432, decrease, \$7.00; of female teachers, \$309, decrease, \$12.00.

Entrance Examinations.—At the High School Entrance Examinations in July there were at Oakville twenty-eight candidates, of whom seventy-five per cent. passed, and at Milton, twenty-five, of whom fifty-six per cent. passed.

In December, there were at Oakville twenty-six candidates, of whom twelve, or about forty-six per cent. passed; and at Milton, thirty-four candidates, of whom twenty, or nearly fifty-nine per cent. passed.

Total Entrance Candidates, 113, of whom sixty-seven, or fifty-nine per cent. were successful.

Model School.—The Model School at Milton, under the management of Mr. Gray, is doing excellent work. I visited the school twice during the term which lasted from the 8th of September to the 10th of December. Seven ladies and twelve gentlemen were in attendance as teachers-in-training.

The Principal spent the first three weeks, and a portion of each week thereafter, in illustrating correct methods of teaching. The students made notes of these lessons for their future guidance, upon which they were afterwards examined. From a minute inspection of these note-books, I formed a very favorable opinion of the quality and quantity of work done by the Principal and his students. The oral and written examination lasted three days, after which the answers were read by the Board of Examiners. The subjects of examination were: Theory of Education; Methods; School Law; Physiology and Hygiene; Drawing; Military Drill; Calisthenics and Practical Teaching. All the students received Third Class Certificates. Eleven of them are now engaged in the schools of this county.

Teachers' Institute.—The Teachers' Institute is in a flourishing condition. It possesses a good library, consisting chiefly of professional works.

The annual meeting was indefinitely postponed on account of the late Inspector's death, just previous to the date fixed for its session.

The semi-annual session was held in Milton on the 29th and 30th of October. Valuable papers were read by Messrs. Cook and Galbraith, of Streetsville High School, on History and Industrial Design, and by Wm. Houston, M.A., Toronto, on "Spelling Reform" and the Teaching of English. The subjects of Orthœpy, Literature, and Geography, were introduced by local members of the Institute. The attendance was large, and the discussions were earnest and practical.

COUNTY OF LANARK.

Extract from Report of F. L. Mitchell, Esq., Inspector.

1. Summary.—County Financial Statement.

During 1885 the following sums were expended :

| | |
|------------------------|-------------|
| Total expenditure..... | \$42,326 36 |
| Total receipts..... | 47,003 33 |

I regret to have to report a decrease in the amount of the Legislative Grant. The larger the amount received from the central Government, the more equitable must be the cost of primary education to the country at large. The Municipal Grant depends upon the amount granted by the Central Government, and the larger this grant the more equitable the cost of Education to the county. Doubtless this decrease was unavoidable, but let us hope that it will not be permanent.

A step was made towards equalizing the art of instruction to all sections in the Act of last session, wherein it was made possible for each Municipal Council to grant the sum of \$100 to each section of a municipality towards the cost of maintaining a school. But as this clause is optional, it will, I fear, be not generally applied. Our grants bear a very insignificant proportion to the amount required for school purposes, as compared to those of other counties.

The amount paid for school buildings, sites, etc., during 1885 is about double that of 1884. Improvement in these matters goes on apace. Good school houses are common, if not general, and the trustees generally keep the school premises in good condition.

The amount paid for libraries, maps, etc., is in excess of that for 1884, though it is still disgracefully small for a county of the stability, wealth, and intelligence of Lanark. Supplementary education in the shape of healthy literature, will, I doubt not, soon be recognized as an indispensable adjunct to our Public School system. A good library should be found in each school section of the county.

2. *Summary.—Teachers' Salaries, Certificates, etc.*

The number of teachers employed in the rural schools during 1885 was 141, viz.: 1 Provincial First; 8 Provincial Second; 3 Old County Board First-Class; 101 Third-Class, and 28 temporarily certificated. Besides these the schools in the towns of Almonte and Smith's Falls have been placed under my superintendence. In these 17 teachers are employed.

The rural schools do not take advantage of the higher graded teachers prepared at the training institutions of Toronto and Ottawa. Very few Normal School trained teachers are employed in the county. There are many sections in which such teachers could be employed with advantage to all, but for the sake of a few dollars salary, teachers of an inferior grade are selected, to the detriment not only of the wealthy sections, but also of the poorer, which is thus deprived of a teacher possessing a professional training of any kind, and is forced to seek for one holding a permit only.

Professional skill seems to be ignored by the majority of trustees when engaging teachers. The salaries of male teachers range from \$600 to \$200; of females, from \$350 to \$250. The average annual salary of male teachers was \$345; that of females, \$200—in both cases a slight advance over those of 1884. The township of Pakenham paid the highest average salary (\$450) to male teachers, and the township of Ramsay to female teachers (\$221). The highest salary paid male teachers was \$600 in Almonte, Smith's Falls, Carleton Place and Pakenham.

3. *Summary.—School Divisions and Sections, School Houses, School Visits, Examinations, etc.*

The boundaries of the rural schools remain as at last report. The number of school sites is 123. In S. S. No. 1, Dalhousie, there are two sites, owing to the large size of the section, and two teachers were employed during 1885. The school law requires that when the school population exceeds 75, the area of the school site must be one acre. In several sections this clause has not been observed. In too many cases the ground chosen for the school site is utterly useless for this or any other purpose.

The number of schools and departments in operation in 1885 was 186, inclusive of those in the towns and incorporated villages.

The number of school houses was 134; 9 brick, 18 stone, 84 frame, 23 log. All the schools and premises are reported as freeholds.

The number of school visitors was 1094—an increase over 1884. The school would be much benefited by a more frequent and systematic visitation on the part of Trustees, Reeves, Councillors, Magistrates, etc.

The number of examinations (165) does not average two to each school. The regulation requires a public examination at the close of each term. The attendance at these examinations is in too many cases disgracefully small.

The number of lectures was 22; number of schools in which prizes were given, 77; and number of trees planted on Arbor Day, 1,040.

4. *Summary.—Maps, Libraries, Globes, etc.*

There are 813 Maps supplied for the use of the schools, or about 6 to each school, and 44 globes in use in the schools of the county.

Every school is supplied with one or more blackboards, but too frequently these are found either inadequate as to size, or almost useless as to condition. Tablet Reading Lessons and Numeral Frames are provided in many of the schools.

5. *Summary.—School Population and Pupils, etc.*

The number of persons between 5 and 21 was 7,785, according to the assessment of 1885. Of these 6,332 were entered upon the school register, 3,194 males and 3,138 females. The law requires that all pupils between 7 and 13 shall attend school at least 100 days. The number that did not observe the law in 1885 was 1,615. Trustees have now full authority to impose a rate of *one dollar a month* upon the parent of each child not attending the minimum of time required by law (chap. 49 sec. 217). If it is conceded that education is necessary to enable persons to perform the duties of citizenship, then such criminal neglect as reported above should not be tolerated. Parents who refuse to educate the children under their charge, not only wrong themselves but wrong the children and wrong the State.

The following shows the attendance in each township and incorporated village:—

| | No. Enrolled. | No. not Complying. |
|---------------------------------------|------------------|-----------------------|
| Bathurst | 591 | 137 |
| Beckwith and C. Place | 1057 | 165 |
| Burgess, North | 259 | 92 |
| Dalhousie and N. Sherbrooke | 573 | 141 |
| Darling | 185 | 96 |
| Drummond | 472 | 56 |
| Elmsley, North | 367 | 148 |
| Lanark and Lanark Village | 632 | 146 |
| Lavant | 147 | 55 |
| Montague | 572 | 181 |
| Pakenham | 553 | 181 |
| Ramsay | 642 | 140 |
| Sherbrooke, S. | 283 | 74 |

Or an average of about 25 per cent. for the County. It is to be hoped that with so simple a mode of punishing delinquents in this regard the evil will soon be eradicated from the school system.

The number of teaching days for the first half was 125, for the second 95—total, 220, in the rural schools. In the incorporated village of Carleton Place the numbers were 123 and 84 respectively, or 207 for the entire year. The average time that the schools were kept open was 202. Elmsley again headed the list with an average of 218, and South Sherbrooke is lowest with 195.

The attendance of the 6,332 pupils enrolled during the year was as follows:—

| | |
|---|------|
| (a) Less than 20 days in attendance | 536 |
| (b) Between 20 and 50 days | 1032 |
| (c) " 51 and 100 days | 1589 |
| (d) " 100 and 150 days | 1469 |
| (e) " 151 and 200 days | 1366 |
| (f) Over 201 days | 340 |

The return shows one-quarter who did not attend any school during the year. The daily average attendance during the first half was 3133.67; during the second half 3158.42. This was about an average of 3146.04, or about 48 per cent. of the total number of pupils enrolled were at school each day. The average for the province for 1884 was 42 per cent. in rural schools.

6. Summary.—Classification of Pupils.

Arranged according to classes the pupils are divided as follows:—Part I. Class, 1,223; Part II. Class, 980; Class II., 1,549; Class III., 1,610; Class IV., 856; Class V., 115. The regulations, though framed with the view of affording a systematically graded and comprehensive course of study, allow modifications where circumstances seem to warrant. The subjects comprised in the curriculum for the first four classes constitute programme I. Those of the fifth class are similar to the work prescribed for third-class certificates; those of sixth class to the work for second-class certificates. Few pupils outside of the graded schools of Pakenham and Lanark take fifth class work. The official programme and instructions therefor are now in the hands of every teacher in the county. It is hoped that trustees will see that they are followed in so far as circumstances admit.

Miscellaneous.

VENTILATION, ETC.—I regret that more attention is not paid to school ornamentation, ventilation, and sanitation generally. The desiderata for a satisfactory school house in these respects are:—

1. The buildings should be constructed so as to be easily heated during the coldest weather, and the heat should be screened to secure uniformity of temperature to all portions of the room.

2. The building and outbuildings should be cleaned monthly, and swept and dusted once each day, either after the dismissal of the pupils or before their arrival. Care should be taken that the dust is entirely removed from the atmosphere before the room is occupied by the pupils.

3. The windows should in all cases be easily lowered from the top. The top sash should be made fast to a rope running over a pulley above the frame of the window, and thus the teacher could manipulate it from the floor.

4. A thermometer should be placed in each school and department, and trustees should insist on an equable temperature being maintained, not only for the comfort, but for the existence of the children. More teachers and pupils are rendered useless by badly ventilated school-rooms than from long hours of study, cramming, badly constructed desks, or any of the possible bug-bears so frequently complained of.

RELIGIOUS INSTRUCTION.—During the last year the authorized Scripture Readings were distributed throughout the county. Their object is to present the truths of the Bible in the form of complete lessons, with a view to the moral education of the pupils. The subject-matter was pronounced satisfactory by representatives of the leading denominations before the issue of the work. The regulations respecting the use of these readings are clear and explicit.

THE PUBLIC SCHOOLS ACT.—Copies of this Act in a compendious and neat form were distributed to the several School Boards of the county during 1885.

THE NEW REGISTERS.—Registers for the year are now provided. Such also contain the blank forms of the semi-annual and annual reports. The attendance for the first half is to be filled in and the register sent to the Public School Inspector as soon after the close of the half-year as possible. The register is returned to the teacher for use during the last half-year, when the blanks for the last half and annual report are filled in and the whole returned to the Inspector. New registers are provided annually. A pay-roll for the township instead of cheques to each section is now used for the distribution of the school grants.

ENTRANCE EXAMINATIONS.—Two Entrance Examinations were held during 1885—one in June and one in December. One hundred and eighty-four presented themselves in June, of whom one hundred and eleven were successful. In December, one hundred and thirty-six presented themselves and sixty-six were successful.

TEACHERS' EXAMINATIONS.—The Non-Professional Examinations for Teachers' Third and Second Class Certificates are held at each High School in the month of July. The programme of study can be found in the Official Regulations, page 133. Certificates obtained at these examinations give the holders thereof no authority to teach. Attendance at the Model School is compulsory.

MODEL SCHOOL.—This School is especially intended as a training institution in the professional work of the teacher, and the curriculum of study is framed towards that object. Practical teaching, either by the Principal or candidates, forms a leading feature. In our County Model School the Principal devotes his entire time and attention to Model School work. An extra teacher is provided by the Board to enable him to do so. Under this wise arrangement the Model School is in a very satisfactory condition. Thirty-one candidates were in training during last session, of whom twenty-nine were successful. There is now one annual session of 13 weeks, beginning on the second Thursday of September.

TEACHERS' ASSOCIATION.—The annual meeting was held in Perth under the direction of Mr. Tilley, Inspector of Model Schools. A very large attendance listened to a lengthy and entertaining programme during the two days of the meeting. A public lecture was delivered by Inspector Tilley, entitled, "Relation of Education to the State," which also was well received.

INSPECTION.—During the year I visited each school twice, though in one or two cases the school was closed at my last visit. I made also as many supplementary visits as time would permit. My examinations are partly oral, and partly done from papers placed upon the blackboard. Spelling in the majority of schools is greatly improved. The reading, too, was better than usual. Drawing is now taught in nearly every school. Writing is not taught satisfactorily. Time is given for the pupils to write, but many teachers do not *teach* writing. Arithmetic is generally well and practically taught. Composition and grammar are not taught intelligently in many of our schools. The subject matter of the lessons and appreciation of the work read are attended to much better than formerly. On the whole I am glad to be able to report substantial progress in the general methods of teaching amongst the teachers.

COUNTY OF ONTARIO.

Extract from Report of James McBrien, Esq., Inspector.

Surroundings.—A man's surroundings have much to do with the formation of his character. His mental pictures of his environment become the furniture of his soul, and either elevate or degrade him to a very great extent. "I am a part of everything with which I come in contact," so saith Tennyson. His daily associations with his surroundings, by virtue of the law of repetition, assimilated him to them, that is to say, form his tastes, habits, and character. Let us see, then, how this law of our existence is being carried into effect; for it is manifest that the surroundings of children should be made as choice and elevating as our means will admit.

Previous to Arbor Day, fifty school sections had planted out trees to the amount of 1,312, now living and growing in rural sections.

This number would give on an average about 11 trees to every school section in the county. According to the returns of trustees, 940 more were planted out on Arbor Day, making the noble sum of 2,252; or in other words about 20 trees for every section in the county. Some school sections have been enlarged and nicely prepared for planting next spring. The people of No. 6, Township of Northbridge, at their last annual meeting,

voted \$25 to be expended in ornamenting their school grounds. Three cheers for the people of No. 6, Uxbridge. I hope to have dozens of others to cheer for, before this year is ended. The Trustees of No. 5, Un. E. Whitby; of No. 6, E. Whitby; of No. 1, Un. and No. 8, Pickering; of No. 7, Uxbridge; of No. 6, Reach; of Nos. 2 and 3, Thorah; and No. 5, Scott: all these and many others are worthy of honorable mention as leaders in the laudable and beneficial work of beautifying their school grounds. These are home-like, beautiful, and attractive. What improvement and progress from their former condition, which resembled a barn-yard!

However, the wheels of progress are revolving rapidly in this age. The establishment of Arbor Day, marks a new era in the history of the surroundings of our Canadian schools. The children of unborn generations, sitting beneath the grateful shade, sheltered from the heat of a boiling sun, will sing their songs of thankfulness for the institution of Arbor Day. They will be as happy, joyous, and free as the birds on the branches above them, warbling forth the blessedness which must be expressed. The conditions in which they must luxuriate are educationally suitable to them.

English.—The increased attention given to this subject by the Education Department meets the unqualified approbation of all except the lop-sided educational crank.

The influence of our educational system works from the top to the bottom as well as from the bottom to the top; hence the increased attention given to the study of English in our High Schools has a very salutary effect on the English of the Public School. The pupils of the Public Schools already have a clearer and more definite use of language than formerly. Thus they are daily receiving the key that will unlock any other subject they wish to study, and the basis for all future improvement. I am fully persuaded that if pupils had a readier and more definite use of English before they began the translation of Latin and Greek, their progress would be much more rapid and delightful; because they would not be harassed for want of tools to work with.

Drawing.—There is marked improvement in Drawing in consequence of the Art School established by the Department. Although the object in view is not to make skilful artisans nor accomplished artists, the cultivation of this subject may result in the attainment of both these objects. The educational effect is to cultivate the eye and the hand, that is to say, the taste, judgment, and habit of close observation. These are apt to lead to the cultivation of the higher arts, and thus save our country from the disgrace of importing her skilled artisans, etc. We are manifestly marching on the right line.

The frequent change of teachers, the so-called cheap teacher, the irregularity of attendance of the pupils—let these formidable and giant evils be removed so that our school system shall have fair-play.

COUNTY OF YORK, NORTH.

Extract from Report of D. Fotheringham, Esq., Inspector.

I.—FINANCE.

| <i>Receipts.</i> | 1885. | 1884. |
|--------------------------|-------------|-------------|
| Balance on hand..... | \$7,241 71 | \$6,834 82 |
| Legislative grant..... | 3,909 15 | 3,950 87 |
| Municipal grant..... | 2,972 68 | 3,179 84 |
| Taxes on property..... | 33,984 78 | 34,823 54 |
| Clergy Reserve, etc..... | 9,190 53 | 6,851 74 |
| Total..... | \$57,298 85 | \$55,640 82 |
| In favour of 1885..... | 1,658 03 | |

| | <i>Expenditure.</i> | 1885. | 1884. |
|-------------------------|---------------------|-------------|-------------|
| Teachers' Salaries..... | | \$36,600 16 | \$38,014 53 |
| School Buildings..... | | 3,092 69 | 2,775 86 |
| Maps, etc..... | | 174 74 | 164 55 |
| Fuel, care, etc..... | | 8,432 00 | 7,375 78 |
| | | \$48,299 59 | \$48,330 72 |

II.—TEACHERS' SALARIES, CERTIFICATES, ETC.

| | | | | |
|-----------------------------------|-----------------|--------------|-------------|----------|
| Paid in 1885, to Males..... | \$22,608 00 | Females..... | \$14,767 00 | |
| “ 1884, “..... | 24,922 00 | “..... | 11,875 00 | |
| “ 1883, “..... | 27,614 00 | “..... | 9,555 00 | |
| No. Employed, 1885, Males..... | 53 | “..... | 51 | |
| “ 1884, “..... | 58 | “..... | 47 | |
| “ 1883, “..... | 65 | “..... | 36 | |
| Average Salary, 1885, Males .. | \$426 56 | “..... | \$289 55 | |
| “ 1884, “ .. | 429 69 | “..... | 252 66 | |
| “ 1883, “ .. | 424 83 | “..... | 265 62 | |
| Certificates, 1885, I. Class, 3.. | II. Class, 41.. | O.C.B., 4.. | III., 55.. | Inter. 1 |
| “ 1884, “ 3.. | “ 44.. | “ 3.. | “ 53.. | “ 2 |
| “ 1883, “ 3.. | “ 48.. | “ 6.. | “ 43.. | “ 2 |

III.—SCHOOL POPULATION, ATTENDANCE, ETC.

| | | | | |
|--------------------------------------|------------------|-------------------------|------------------|-------------|
| Enrolled in 1885..... | 7,201 ; | Average attendance..... | 3,422.50. | |
| “ 1884..... | 7,084 ; | “ “..... | 3,181.27. | |
| “ 1883..... | 6,926 ; | “ “..... | 3,107.60. | |
| Enrolled in 1885, in I. Bk., 2,659 ; | II. Bk., 1,604 ; | III. Bk., 1,620 ; | IV. Bk., 1,224 ; | V. Bk., 94. |
| Enrolled in 1884, in I. Bk., 2,559 ; | II. Bk., 1,772 ; | III. Bk., 190 ; | IV. Bk., 1,146 ; | V. Bk., 61. |
| Enrolled in 1883, in I. Bk., 2,324 ; | II. Bk., 1,588 ; | III. Bk., 1,815 ; | IV. Bk., 1,173 ; | V. Bk., 36. |

IV.—COMPARATIVE STATEMENT.

| | 1871. | 1885. |
|--|------------------|------------------|
| Population of the division (5-16) | 8,321 (about) | 7,300 |
| Average attendance | 3,120 | 3,422 |
| Percent of “ | 37 $\frac{1}{4}$ | 45 $\frac{1}{2}$ |
| Pupils in the division for each teacher | 105 | 73 |
| School districts or boards | 71 | 79 |
| “ sites adequate ($\frac{1}{2}$ acre or over) | 31 | 79 |
| “ houses “ | 31 | 79 |
| “ “ brick | 14 | 27 |
| “ “ frame | 53 | 55 |
| “ “ log | 4 | none. |
| “ “ total | 71 | 82 |
| “ “ built in 15 years | .. | 46 |
| “ “ enlarged in 15 years | .. | 26 |
| “ “ and sites, value | \$71,000 | \$160,000 |
| “ “ expended on in 15 years... .. | .. | \$100,000 |

| | 1871. | 1885. |
|---|----------|----------|
| School-house accommodation for pupils. | 6,468 | 11,414 |
| Teachers' salaries average, males | \$361 33 | \$426 56 |
| “ “ “ females..... | \$243 25 | \$289 55 |
| Certificates, Provincial I. and II..... | 20 | 44 |
| “ Old County Board | 42 | 4 |
| “ New County Board III | 21 | 55 |
| “ Interim | 2 | 1 |

From table No. 1, it will be seen that the receipts of 1885 exceeded those of 1884 by \$1,658.00, while the outlay was less by \$31.00. The amount paid on salaries was less by \$1,414.37; on building it was more by \$316.83; and on fuel, caretaking, etc., it was also more by \$1,056.22.

In the second table the principal point worthy of note is the steady increase in the proportion of lady teachers employed in the inspectorate.

The average salary of male teachers is a trifle lower than in 1884, while that of ladies is decidedly higher. This may be accounted for from the fact that trustees changing from one sex to the other, as a rule, give above the average for ladies, while they save considerable on the average for male teachers.

The third table meets the expectation expressed in the report for 1884 of an increase in the school population, which in ten or twelve years had fallen from 8,300 to 7,000.

It seems not inappropriate to compare the records of 1871 with those of fifteen years later, and I have therefore prepared table No. 4. This, in almost every particular, is highly gratifying, and little now remains to be done but to maintain the good condition of school property, advance the efficiency of the teaching staff and appliances, and secure greater regularity of attendance.

Some few school sections, large and formerly thinly settled, though supplied with new houses, have now become more thickly populated, and will require either to build a second house or be divided.

In only one or two cases have sections resisted to this day the pressure of the onward movement. One in the township of King is deprived of its grants for steadily resisting the demands of the laws of the Province and of health, though the present house, according to their own returns, was built before "The Rebellion of '37."

It will be seen on the erection of buildings and sites, that over \$100,000 have been spent in fifteen years, and that the value of property has during the same time doubled. Two good brick houses, built in No. 1 East Gwillimbury and Aurora have, during the year added their value to make the gratifying total of \$160,000.

That in Aurora deserves special notice, being one of the finest the Province can show in a country village, and costing \$12,000.

More than half our schools have been erected, and over one-third more enlarged in the fifteen years.

The improvement in accommodation is strikingly seen by comparing the air space provided now with that of 1871, knowing that while by law we require accommodation for 6,090, or two-thirds of our entire school population, we have the legal space for over 10,000 by the standard of 1871.

From hygienic considerations I do not think we have enough air space yet, for 250, the number of cubic feet of air now required for each of two-thirds of the entire school population, is notoriously inadequate for the purposes of health and comfort; and it is to be hoped our Legislature will soon yield to the wish of boards of health, doctors, and hygienists on this behalf.

Promotion Examinations.

These have now been conducted under the direction of the Teachers' Association for three and one-half years, and continue to give excellent satisfaction, and to improve the efficiency of school work.

At the seven examinations now held, 6,411 candidates have written, 33,337 papers have been sent out, and 3,078 certificates issued.

Teachers' Association.

First formed voluntarily, this organization, along with all others of the same character, is now demanded and supported by law. The usual attendance of teachers has now come up to seventy-five or eighty per cent. at our semi-annual meetings, which more than maintain their reputation for helpfulness and interest.

County Model School.

This institution holds a creditable position for good management and efficiency. Twenty-three students attended last session. All passed the final examination creditably. Most are now employed in the inspectorate, and their methods and manner compare favorably with those of young teachers trained elsewhere.

Allow me to state in conclusion that in the work of inspection during the fifteen years now ending, I have made about 3,000 official visits and hundreds of additional calls. I have made over 200,000 entries of the standing of pupils, from which the character of the work done in each school, and subject of study, could be ascertained and compared with that of any or all schools. In connection with official duties I have travelled 39,397 miles, apart from trips properly outside my work.

DISTRICT OF ALGOMA.

Extract from Report of Donald McCaig, Esq., Inspector.

I find that seventy-two schools in all have been reported as being in operation during a portion or the whole of the said year. These schools, attended by about 4,000 pupils between the ages of seven and twenty-one, have been taught by twenty-eight male and fifty female teachers, holding certificates classified as follows, viz.:

Four 2nd Class Provincial, holders having attended Normal School.

Five 2nd Class Provincial, holders having not attended Normal School.

Forty-eight 3rd Class District Board, holders having not attended Normal and Model Schools.

Fourteen Inspector's Interim Certificates, and

One 1st Class Old County Board, holder having not attended Normal and Model schools.

The total annual salaries paid to these teachers have amounted during the year to \$20,258. Of this, \$11,120 have been paid to female, and \$9,258 to male teachers, making an average annual salary of about \$225 to female and \$416 to male teachers, which compares very favorably with the salaries paid in Ontario, considering the character of the certificates and the recent date of the settlements in the district.

With regard to the financial condition of the district so far as the public schools are concerned, I find that about twenty-nine thousand dollars (\$29,080.77) is reported as being received from all sources during the year for educational purposes. Of this about twenty-five thousand has been expended, leaving a balance of nearly four thousand dollars still in the hands of the trustees of the different school sections in the district. This, for a portion of the country so newly and sparsely settled as many portions of Algoma, manifests a very hopeful and praiseworthy condition of the educational affairs of the district, reflecting very creditably on the zeal and energy put forth by the late Inspector, Peter Maclean, Esq., in the discharge of his duties. So far one of the chief obstacles to success is the want of some training institution for young teachers, who annually receive their non-professional certificates from the local board of the district. This ought, if possible, to be remedied in the immediate future, by the establishment of Model Schools at such

points as Sault Ste. Marie and Port Arthur, with one, perhaps, on the Manitoulin Island. This, I am satisfied, would be the most effective means of improving the teaching capabilities, and consequently the condition of the schools in the district. The Model and Normal schools of Ontario are too distant and expensive to meet the requirements of the people of Algoma, but the educational advantages to be derived from them are too well assured, for any portion of the Province to be educationally successful without them.

I will only notice further, that as shown by trustees' reports, there is a lack of sufficient maps and other apparatus, which might be remedied without any great outlay on the part of the ratepayers of the various school sections, but which would greatly facilitate the labor of teaching, and render it more valuable and instructive to the pupils.

First, with regard to schools and teachers, I find that in the district at present there are about 85 schools taught by about 95 teachers. Of these 85 schools, two that were open during the first half, have been closed for the second half-year, and six new schools are either now open or are likely to be shortly. These six schools include two on Rainy River and one at Chapleau, on the C. P. R. The other three are two new schools on Spanish River and one at Neepigon. The schools on Rainy River and at Chapleau may not yet be in operation, but are likely soon to be.

As to Teachers' Certificates, there are in the whole district one First Class Provincial Certificate, ten Second Class Provincial Certificates, seventy-eight Third Class District Certificates, and six permits. In the whole district there are but thirteen male teachers, and nine out of the eleven Provincial Certificates are held by these; only two Provincial Certificates being held by female teachers throughout the whole district. About 90 per cent., therefore, of the whole teaching force of Algoma is represented by young girls holding Third Class Certificates granted by the local Board. All these have received their entire training in a few of the better schools in the district, and have never seen any other teaching, or received any other training than that thus obtained. Under these circumstances the teaching, as a whole, is of a very low order; except in a few instances where natural aptitude overcomes the defects of training, or rather the lack of all training.

CITY OF LONDON.

Extract from Report of J. B. Boyle, Esq., Inspector.

The Board of Education has now in its employment sixty-two teachers engaged in the various classes in the Public Schools of the city, exclusive of the music and drawing masters. In addition to these, three officers and thirteen janitors are employed in the work, while the number of school-houses is thirteen, and the whole number of scholars entered on the registers during the year, who have attended for a longer or shorter period, 4,800—2,491 boys, and 2,309 girls. As the schools in No. 5 Ward were incorporated with those in the other parts of the city only during the second term of the year, the average daily must be taken for these terms separately. For the first six months of the year, the average daily was 2,244; and for the last four the average was 3,042. The highest average in the first half was in June, 2,480; and in the second half the highest was in November, 3,172. A more correct view of the attendance at these schools may be obtained by taking the rolls month by month, striking off the names of all pupils who have left, and adding such new scholars as have entered during the month. By this process we find the monthly average, or a very close approximation to the *bona fide* attendance for the first six months, to be 2,841; and for the second term 3,772. The attendance, on the whole, has been very satisfactory, though the smallpox scare and some other things tended to lower the average, and interfere with the regularity of attendance.

Of the sixty-two teachers, ten were male and fifty-two female. The average salary of the former, as paid last year, was \$635.00. These salaries, prior to the equalization that was made by the Board at the end of 1885, varied from \$900.00 to \$450.00; but,

for the current year, they will range from \$900.00 to \$600.00. The salaries of the female teachers averaged \$311.52, and varied from \$500.00 to \$250.00.

Of the ten male teachers in the employment of the Board during 1885, two held first-class certificates, and the others held second-class, grades A or B. Of the female teachers, five held first-class certificates of grades B or C, while twenty-three held second-class Provincial Certificates, grades A or B. Nearly all the remainder have second-class non-professional certificates, and four of these are attending the present session of the Normal School. By the end of the current year, very few of the teachers of the public schools of the city will be found without a Provincial Certificate of qualification. When the city teachers have shown such a laudable desire to secure a high rank in the profession, and prepare themselves thoroughly for the successful discharge of their high, onerous and most important duties, it ought to be a subject of serious consideration with the Board of Education and the community of London, whether the remuneration of these teachers be at all commensurate with the difficulties they have to encounter in the performance of their duties, the time, labor and expense incurred in preparation for the work of their profession, and the severe strain on both mind and body consequent upon the nature of their employment. We need not go outside of our own city to prove by absolute experience that none but an excellent constitution, physically considered, will long stand the strain to which it is subjected by the exhaustive nature of the employment. Many young and robust men enter the profession, and some with the intention of making this their life work; and yet we find them forced, after a few years spent in the performance of the arduous duties attached to this—one of the noblest of all professions, and the worst paid—to retire altogether from the work, or seek a relaxation, now and again, in order to recuperate. May we not ascribe the fact that so many young men who have, after diligent and long study, attained to the highest rank in the profession, thrown it up in disgust, to its offering neither honor nor a prospect of worldly independence? Will not these objections to the profession—the little honor, the less emolument to be gained, and the exhaustive nature of the work—account for the fact that, year by year, the best qualified young men are found withdrawing from the teachers' ranks, and seeking employment in more lucrative pursuits, and a more promising field for the display of their peculiar talents?

In this connection the following statistics may, perhaps, be found interesting to those who desire information respecting the progress of education in this Province. In 1872, the number of first-class certificates held by teachers then employed in Ontario was 307; in 1882, this number was reduced to 258, and in 1884, the number was still further reduced to 211, and this, too, notwithstanding the numbers added to the list, year by year, by the Normal Schools.

Again, in the year 1867, the number of male teachers in the Province was 2,849, and of females 2,041—the males predominating by 808. In 1872, the number of males was 2,626, and of females 2,850—showing the female teachers in excess of the males by 224. In 1882, the number of male teachers was 3,362, and the females 3,660; and again, in 1884, the whole number of male teachers employed in the public schools of Ontario was only 2,829, while the number of females employed has risen up to 4,082, or, in other words, the female teachers of the Province now number 1,253 more than the male teachers.

This remarkable change in the relative number of male and female teachers in the Province may be largely, if not entirely, accounted for by two important facts. The inducements held out by the profession are altogether inadequate to retain in the profession the best of the young men who enter it, and hence the annual decrease in the number of first-class certificates, and the still more strongly marked decrease in the number of male teachers. The other fact is one rather to be proud of than regretted. Experience has proved that the character and disposition of the female fit her better for dealing with youthful minds, and especially with the child mind, than do those of the male teacher. The little one turns trustingly and fondly to the female teacher; while, in most cases, it shrinks from contact with the sterner teacher of the other sex. In junior classes, therefore, the progress in learning, and especially in moral training, will be found in almost every case

equal, and in many decidedly superior, to that found under the male teacher. Besides, in very many of the rural schools throughout the country, the female teacher is found competent to manage pretty successfully all the classes from the fourth or fifth, and gives general satisfaction in the district in which she labors. It is evident, therefore, that if the profession of teaching is ever to become what it ought to be—the highest power for good in the country, and recognized and fostered as such—then it must be more liberally and generously supported, and they who labor in it must be held as entitled to a higher position than that which society now awards them.

The public morality of a people largely, and the general intelligence of a people mostly, may be safely ascribed to the teachers of the country, and the numbers are small indeed who will not ascribe the happiness and prosperity of a people principally to the influence of these two factors. As the workingmen of every free state may now be truly said to be, indirectly at least, the law-making power in the state, as they by their voice constitute the body which legislates for all, then assuredly they ought to be both thoughtful and intelligent men, that they may use wisely and honestly, for the interest of the country, the great trust reposed in their hands by the free and liberal constitution under which we live. But the preparation for the right use of the franchise by those who enjoy it is almost entirely the work of the public school teacher, and in this view, as in so many others, the teaching profession is entitled to more consideration at the hands of the people than is usually accorded to it.

As usual, two examinations for promotion were held during the year, with the result of filling all the class rooms in the Central School to their utmost capacity. The students that came up for examination were found, as a general thing, well prepared; but the very success of some of our best teachers at former examinations had left them with nothing in their classes but very young children, and they were thus placed at a disadvantage as compared with some of the pupils from other classes brought into competition with theirs. In the higher divisions, also, the work done evidenced careful and diligent training on the part of the teachers, and, taking into account the shortness of the session ending with December, the result must be held highly satisfactory.

Our system will never be complete until we shall have a Kindergarten class-room in connection with every primary school in the city. Had we only an opportunity of introducing one such class, public opinion would soon compel the general adoption of the system for the mental, moral and physical training of young children, and of preparing them for the successful prosecution of their studies in more advanced classes. Experience shows that the system spreads rapidly wherever introduced, and I have yet to hear of any city or town in the United States or Canada in which it has been abandoned after having had a fair trial.

By the union of London East with the city, three school-houses, thirteen class-rooms, thirteen teachers, and about 840 scholars additional, have been brought under the control of the Board. Of these three school-houses, only one is properly adapted to the work of teaching. The class-rooms are large, lofty, well lighted, and pretty well ventilated, while the halls are spacious and capable of affording ingress and egress to the pupils, without causing crowding or confusion in their passage to and from their respective class-rooms. The schools are graded as well as circumstances would permit, but from the small number of rooms and pupils, each teacher has to handle two or more classes, and this places him at a certain disadvantage as compared with facilities afforded under a more strict and accurate division of labor. We have only two, or at the most three, junior classes in the city schools, in which this evil of over-crowding is not experienced. Attempts are made, it is true, not to cure but to mitigate this evil, by permitting the infant classes to leave school at fifteen minutes to eleven, a.m., and at fifteen minutes to three, p.m., but still this does not afford the elder pupils the opportunity they ought to have to make that progress which is attainable where the classes are only moderately large. However, a very great improvement has taken place in this respect lately, by the efforts of the Board to extend and improve the class-room accommodation in the schools of the city, and there is no doubt this work of extension will continue until ample provision shall have been made to meet the requirements of the juvenile population of the city.

The following extracts from the annual report to the Department may be interesting as showing the number of days certain pupils have attended during the year:—

| | |
|--|------|
| No of pupils attending school less than 20 days during the year..... | 462 |
| “ “ from 21 to 50 days inclusive..... | 750 |
| “ “ between 51 and 100..... | 1592 |
| “ “ “ 101 and 150..... | 941 |
| “ “ “ 151 and 200..... | 1330 |
| “ “ “ 201 and whole year..... | 24 |
| Total..... | 5099 |

It would be somewhat difficult to arrange a schedule of teachers' salaries for last year, owing to the union of London East with the city and the numerous changes which have taken place. But the following will be found a pretty close approximation to the amount of salaries payable during the current year. Some small additions will have to be made to this on account of the teachers now in training in the two Normal Schools, and of some others who purpose attending one of these institutions during the succeeding session. Probably one or two teachers may have to be added to the staff, and a certain sum must be allowed for the pay of substitutes, but still the schedule I have presented will, I believe, be found correct as respects present arrangements. This list of salaries foots up a pretty large sum, and yet the average salaries in this city are less than the average in all the cities of Ontario taken collectively, both for male and female teachers. In the last published report of the Minister of Education, the average salary of male teachers in cities is given as \$764, and of female teachers \$362, while in our city for the last year the average for males, as already stated, was \$635, and for females \$311.52. The people of London cannot say, therefore, that their teachers are extravagantly paid as compared with other cities in the Province. In this schedule are included the salaries of sixty-three teachers; other expenses incidental to the working of our school system could only be estimated roughly and would be of little value at present.

SCHEDULE OF SALARIES FOR 1886.

| | | | | |
|----|-----------------------------|----------|-----------|-----------|
| 1 | Teacher at a salary of..... | \$900 00 | per annum | \$ 900 00 |
| 1 | “ | 800 00 | “ | 800 00 |
| 1 | “ | 750 00 | “ | 750 00 |
| 1 | “ | 650 00 | “ | 650 00 |
| 7 | “ | 600 00 | “ | 4,200 00 |
| 1 | “ | 255 00 | “ | 255 00 |
| 1 | “ | 500 00 | “ | 500 00 |
| 2 | “ | 450 00 | “ | 900 00 |
| 7 | “ | 400 00 | “ | 2,800 00 |
| 3 | “ | 375 00 | “ | 1,125 00 |
| 1 | “ | 425 00 | “ | 425 00 |
| 5 | “ | 350 00 | “ | 1,750 00 |
| 11 | “ | 300 00 | “ | 3,300 00 |
| 5 | “ | 275 00 | “ | 1,375 00 |
| 16 | “ | 250 00 | “ | 4,000 00 |

The staff of teachers is entitled to the respect of the Board and the gratitude of the community for faithful and efficient services during the year. The very few complaints that have reached me, the orderly character of the schools, and the general progress of the scholars, afford sufficient proof that the work of the teachers has been skilfully faithfully and energetically performed.

CITY OF TORONTO.

Extract from Report of James L. Hughes, Esq., Inspector.

Attendance.

The total number of pupils registered during the year was 18,214. Last year it was 17,579.

The average daily attendance was 12,484. Last year it was 11,758.

| | | | |
|-------|---------------------------------------|-----|----------|
| 667 | pupils attended school less than..... | 20 | days |
| 1,769 | “ “ between..... | 20 | and 50 “ |
| 3,417 | “ “ “ | 51 | “ 100 “ |
| 3,168 | “ “ “ | 101 | “ 150 “ |
| 9,193 | “ “ “ | 151 | “ 200 “ |

The number who attended school for over 100 days is 12,361, or more than 68 per cent. of the total registered number.

The comparatively large number who attended school for less than 100 days can be easily accounted for, when it is remembered that most of the scholars who leave school do so at the close of the first term. The report would appear more favorable if the year closed in July instead of December. The attendance was lessened by contagious diseases during the latter part of the year.

Attendance in the Various Classes.

The registered number in attendance during the year in the different grades was as follows :

| | |
|-----------------|-------|
| First Book..... | 7,710 |
| Second “ | 4,312 |
| Third “ | 3,501 |
| Fourth “ | 1,941 |
| Fifth “ | 750 |

I am glad to have to report that the number of pupils in the Fourth Book classes has increased during the year very considerably.

Lateness.

The punctuality of the pupils is of a most satisfactory character. The formation of the habit of punctuality is a most important part of the training of children, and our teachers give constant attention to the prompt attendance of their pupils.

| Date. | Average Attendance. |
|-----------|---------------------|
| 1875..... | 6,386 |
| 1876..... | 5,976 |
| 1877..... | 6,860 |
| 1878..... | 7,467 |
| 1879..... | 8,144 |
| 1880..... | 8,215 |
| 1881..... | 8,409 |
| 1882..... | 8,845 |
| 1883..... | 10,111 |
| 1884..... | 11,758 |
| 1885..... | 12,484 |

Certificates of Honor.

Certificates of Honor are awarded at the Christmas Vacation to such pupils only as have not been once absent or late, and whose conduct has been uniformly good; unless the absence or lateness shall have been occasioned by sickness of not more than three weeks continuance, to be certified in writing by the pupils' parents or guardians.

These certificates are of two grades, and named respectively First Honor Certificates, and Second Honor Certificates.

The First Honor Certificates are awarded to such pupils as have fulfilled the above-named conditions for two consecutive sessions.

The Second Honor Certificates are awarded to such pupils as have conformed to the said rules for one session during the year.

The following statement shows the number of Certificates given at the close of 1885. Thirty-two schools—First Honor, 2,067; Second Honor, 3,392; total, 5,459.

The Kindergarten.

The Kindergarten classes in Victoria and Niagara Street Schools were well attended during the year, and the effects of the training were satisfactory in the physical, mental, industrial, social and moral development of the children in attendance. The average attendance was, Victoria Street, 76; Niagara Street, 48. The training class consisted of fifteen young ladies in addition to the four paid Kindergartners in the employ of the Board.

It was decided in November to open a Kindergarten class in connection with the College Avenue School, for the children of the poorer class in the neighborhood. No class of children will receive more benefit from the Kindergarten training than the little ones whose mothers are occupied away from home in earning money, and who necessarily have to neglect their children.

Music.

Some improvement is being made in teaching music. The most encouraging feature in connection with the subject is the attitude of the teachers towards it. They are rapidly becoming interested in the teaching of music, and believe that they should do the work chiefly themselves. The annual concerts in connection with the closing exercises of the schools, in June, were most successful.

Drill and Physical Exercises.

The Annual Review and Competitions in Drill and Calisthenic Exercises took place in June. The School Games were held on the same day. A grand procession of about 8,000 children marched through the principal streets before the competitions began, and the appearance, bearing, carriage, and precision of step of the girls, as well as the boys, won the admiration of all spectators. There can be no doubt of the wisdom of directing special attention to the definite physical training of the pupils in our schools. The health of the children is a matter of vital importance, and even the moral characters of the children are directly affected by a system of physical drill which gives additional bodily vigor, and at the same time leads them to make the body act with proper precision in obedience to a definite exercise of will power. Action not only aids in expressing thought, it re-acts on thought to define it. The wide spreading of the arms in expressing the sentiment of freedom deepens the feeling and thought of freedom in the mind. To make a boy change his shuffling step and bent form to a definite use of his limbs and an erect, easy, active figure, will do a good deal towards removing his carelessness and general indefiniteness of character.

The Boys' Battalion was reviewed by Col. Denison, D. A. G., and the several companies executed the various movements in a manner which earned for them the earnest praises of the Inspecting Officer and the Judges.

The movements of the Girls' Classes were greatly admired.

The Boys' Battalion had the honor of taking part in the reception of the Toronto Volunteers on their return from the North-West after the suppression of the rebellion, and also on the return of C Company under command of Col. Otter. On both occasions they reflected credit on the careful training of Capt. Thompson—and Sergt.-Major Moulton, who drilled them during the absence of Capt. Thompson with his battalion in the North-West. General Middleton, during a brief visit to the city in September, inspected the boys of Ryerson, Wellesley, and Dufferin Schools, and expressed his surprise at the steadiness and proficiency of the companies. He highly approved of the teaching of drill in schools, and stated that he would gladly aid in securing the establishment of a Public School Battalion of Cadets by the Dominion Government.

Night Schools.

The total number registered during the term in each school was as follows :

| SCHOOLS. | MALES. | FEMALES. | TOTAL. |
|-----------------------------------|--------|----------|--------|
| Parliament Street..... | 163 | 65 | 228 |
| Elizabeth "..... | 134 | 32 | 166 |
| Niagara "..... | 94 | 41 | 135 |
| Bathurst "..... | 159 | 33 | 192 |
| Jesse Ketchum..... | 94 | 20 | 114 |
| Mabel Street..... | 19 | .. | 19 |
| Bolton "..... | 54 | 25 | 79 |
| Massey Manufacturing Company..... | 41 | .. | 41 |
| Total..... | 758 | 216 | 974 |

The average attendance for the entire term was :

| SCHOOLS. | MALES. | FEMALES. | TOTAL. |
|-----------------------------------|--------|----------|--------|
| Parliament Street..... | 82 | 45 | 127 |
| Elizabeth "..... | 63 | 20 | 83 |
| Niagara "..... | 54 | 21 | 75 |
| Bathurst "..... | 78 | 22 | 100 |
| Jesse Ketchum..... | 43 | 12 | 55 |
| Mabel Street..... | 7 | .. | 7 |
| Bolton "..... | 27 | 15 | 42 |
| Massey Manufacturing Company..... | 18 | .. | 18 |
| Total..... | 372 | 135 | 507 |

Teachers.

There were 233 teachers in the employ of the Board at the close of the year, exclusive of the special teachers in music and drawing.

There are 27 male and 206 female teachers employed.

School Accommodation.

Two new buildings were erected during the year, one containing twelve rooms, on Bolton Avenue, and one containing four rooms, on Morse Street. The Bolton Avenue school cost \$17,500, and that on Morse street cost \$9,500. The accommodation is still far below that required by law.

Progress of the Public Schools.

The increase in the attendance at our schools has been very rapid.

| | | | | | |
|---------|----------------------------|-----|--------|-----------------------|--------|
| In 1865 | the average registered No. | was | 3,248, | the daily attendance, | 2,251 |
| " 1875 | " | " | 6,447 | " | 5,386 |
| " 1885 | " | " | 13,905 | " | 12,318 |

The attendance has thus been considerably more than doubled during the past ten years.

2. ROMAN CATHOLIC SEPARATE SCHOOL INSPECTION.

Report of James F. White, Esq., Inspector.—Eastern Division.

SIR,—I have the honor to lay before you a report on the R. C. Separate Schools in Eastern Ontario visited by me in 1886.

This year has witnessed gratifying progress in connection with these schools in nearly all directions. There are in this district 115 schools having 285 teachers, a gain of five schools and ten teachers during the present year.

There has been considerable improvement in the accommodation; some of the old schools have been enlarged or repaired, and several fine buildings have been erected. Of the new school houses in towns, the first place is taken by those in Renfrew and Westport, which are large, substantial buildings well adapted for school purposes. But the improvement in rural sections has been relatively greater than in towns, and, in general, the new buildings are, as to style and comfort, far superior to the former country school-houses. Two of those in use this year are models of what such schools might be, viz., those at 10 Otonabee and 7 Nepean.

There is yet need for better accommodation in all the cities, though there is a wide difference as to the needs of the several places; Kingston is the best situated in this respect, and Ottawa the worst. However, it is highly probable that a marked improvement will be made in the buildings of the latter place during 1887. But even where poor accommodations have been suffered to remain unchanged year after year the blame does not in all cases rest wholly on the trustees. The required changes in the accommodation would generally necessitate a considerable increase in taxation, and this increase would, the trustees say, cause many ratepayers to withdraw their support from the school; and as this can easily be done, the attempted strict enforcement of the regulations in this regard would sometimes result in the breaking up of a school. But usually the trustees and supporters have made praiseworthy efforts to provide suitable buildings even at a considerable sacrifice.

In general there is a very respectable supply of furniture and the most necessary appliances for teaching; usually these are of the modern approved kind, but there yet remain in a few of the town and city schools the long unwieldy desks, and benches without backs. Comparatively few schools are supplied with standard dictionaries, gazetteers, encyclopædias, and other works of reference. There are very fair libraries in connection with some of the larger schools in the cities and chief towns. In Peterboro' there is a large, comfortable, well-furnished room devoted to this purpose, and papers and some magazines are furnished in addition to the books. Much good has resulted from these institutions, but their usefulness would be greatly increased if a substantial addition of good works were made every year, and care were taken in choosing such literature as is best suited to the needs of school children, not omitting to provide interesting and instructive reading for the younger classes. By a little extra effort fair libraries could be secured for many more schools; the expenditure of a comparatively small amount each year would supply a fresh stock of books, thus keeping up interest in the library. The benefits that could be derived from such educational helps it would be hard to over-estimate.

Usually the grading and classification have been made with care ; in some cases, however, reading has been apparently the sole basis for making promotions, and then pupils have been advanced into classes for which their acquirements in other subjects do not qualify them. Chiefly on account of the great diversity in the text books used it has not been possible for me to have promotions made by means of written examinations uniform for all the schools. But in the three larger places in this district—Toronto, Ottawa and Kingston—there are local inspectors, and promotions are made under their charge by means of written examinations.

In some of the girls' schools the programme of studies comprises the subjects for teachers' non-professional examinations. Year after year this work has been carried on with most gratifying success, and much praise is due to the teachers in such schools, especially when it is remembered that the task of preparing the pupils in the several subjects of the examination falls usually upon a single teacher. The schools in Lindsay, Toronto, and Ottawa, have been the most successful in this undertaking. It is worthy of remark that while this work is successfully done in several girls' schools there is not now one school exclusively for boys where it is attempted. Judging from this fact one would conclude that the boys' schools are not fully equal to the girls', and an examination of the classes in some places bears out this conclusion. However, it should be remembered that, when able to pass the Entrance Examination, the boys have usually attended the High Schools. But the fact yet remains that at times the girls' classes are certainly more efficient than the boys' in the same place. Sometimes this is due to a larger staff, or superior grading ; but, from whatever cause it arises, the matter deserves the earnest attention of school authorities, for it does not seem right that boys, the future bread-winners, should not have opportunities, at least equal to those afforded girls, of obtaining a liberal education.

The statistics of the Separate Schools for 1885, published elsewhere in your report, show very encouraging progress in several respects. There has been some advance in the salaries, both of male and of female teachers ; there is a decided increase in the receipts and expenditures, the gain in the former arising principally from " amounts subscribed by supporters and from other sources " as distinct from either the Legislative grant or from the ordinary taxation on supporters ; the increase in expenditure has been caused chiefly by the sums spent on buildings. There is an increase, too, in the total number of pupils enrolled and in the average attendance, the latter having risen from 53 per cent. to 55 per cent. within a year. Though yet not wholly satisfactory it is very encouraging to notice the steady rise in this respect ; the average attendance in the Public Schools for the same year was 48 per cent. No attempt has, to my knowledge, been made to enforce the provisions of compulsory education. To the unwearied exertions of the teachers and the clergy, is due the increased regularity of attendance.

French Schools.—In some of the counties along the Ottawa River, but chiefly in the counties of Prescott and Russell, there are several Separate Schools in which French children form either the majority or the whole of those in attendance. In general, both the English and French languages are taught in all such schools ; sometimes the principal part of the studies is in English, and the subjects taught in French are reading, grammar, composition, and religious instruction—this, even when the great bulk of the pupils speak French as their mother tongue. In other cases the two languages receive about equal attention, and sometimes the greater part of the teaching and instruction is given in French. However, of the whole number of teachers in these French schools—thirty—there were but two or three who were teaching exclusively in French ; nor are these, I am told, schools in which English has never been taught, but the scarcity of teachers capable of giving instruction in both languages led to the engaging of those who knew only French, as that is the language of all the pupils in these particular schools.

As to these teachers' qualifications, many of them have diplomas obtained from Boards of Examiners in the Province of Quebec, several have certificates granted by the local Board in Prescott and Russell, and others have only temporary certificates. There are several difficulties to be overcome before there will be properly qualified teachers for such sections. The first is the lack of schools at which the French candidates can prepare for an examination to be conducted to a considerable extent in their own language. Many of

those now teaching have prepared themselves either by private study or by attendance at some of the higher schools in Quebec Province. Then the amount of salary usually paid is too small to require teachers to make an expensive preparation for the profession or to tempt them to remain long in it; in Prescott and Russell the average salary for a female teacher in the Separate Schools was, in 1885, but \$144 a year. Not alone in literary culture is an improvement needed in regard to these teachers, but in special preparation for their profession. Much good was expected to result from the training to be given in the French Model School, for the opening of which preparations had been made this year, but which will, I hope, be opened at latest in September, 1887. In this school instruction in the English subjects should be given as well as in the art of teaching; for only when the teachers have a proper knowledge of English can we hope for it to be taught with satisfactory results. Now while the general standing of these schools is not high there has been a certain advance in some of them since my first visit in 1882, and they are in about the same state of efficiency as the French Public Schools in these districts.

On the whole, there has been, during this year, a decided advance in the work of the Separate Schools.

TORONTO, December, 1886.

Report of Cornelius Donovan, Esq., M.A.—Western Division.

SIR,—I have the honor of submitting the following general remarks on the schools visited by me during the year 1886:—

STATISTICAL.

| | | |
|--------------------------------------|---------|-------------|
| Distance travelled..... | (about) | 4000 miles. |
| Classes visited..... | | 268 |
| Number of pupils registered..... | | 11587 |
| Number of pupils in attendance..... | | 8649 |
| Number of teachers..... | | 243 |
| Number of school buildings..... | | 118 |
| Number of classes visited twice..... | | 25 |

As I visited the Toronto schools this year at your direction, in order to equalize the number of teachers in the Province between the two Inspectors, an attendance of 2,085 pupils and fifty eight teachers (belonging to Toronto), must be deducted to show the statistics for what has hitherto been known as the Western Division. This being done, and the figures compared with those of last year's report, it will be found that there is an

| | |
|--------------------------------------|-------------|
| Increase in attendance of..... | 300 pupils. |
| Increase in number of teachers..... | 5 |
| Increase in number of buildings..... | 4 |

Extent and Character of the Accommodations.

About half the number of buildings are of brick or stone, and the remainder (except eight) are good substantial frame schools. I am happy to be able to report that their character is still improving. In Parkhill there is now a handsome brick school; Brechin has added a brick wing which has doubled its accommodation; No. 1 Hibbert has a new frame school, while Toronto has put up a substantial brick building on Hope street, which is calculated to give much needed relief to St. Mary's school. In some places, especially in cities and towns where the populations increase rapidly, overcrowding is still to be met with; but on the whole the accommodations are generally adequate and comfortable. In the comparatively few cases where defects exist, either in the buildings, equipments or grounds, attention has been directed to these defects, in the detailed reports sent to the Department during the year. Judging by the past, I have reason to believe that all improvements then suggested will be duly attended to.

Teachers and Pupils.

The continued increase in the attendance of pupils and in the number of teachers is a matter of gratification. But the increase of the latter does not always keep pace with that of the former; and in consequence, some teachers have classes altogether too large. All school authorities should be alive to the dangers of this state of affairs; because sooner or later, its evil effects are seen in the prematurely broken health of the teacher or in the backwardness of the pupils.

All the subjects of the public school programme are taught throughout this division; while some schools have fifth classes in which High School work is done to a considerable extent. The literary standing of the schools (with a few exceptions) is highly creditable, and, on the whole, they are making satisfactory progress. Besides the rather lengthy oral examination to which I subjected them at the time of my regular visit, I also tested their powers at written work by sending out, in June, examination papers in the principal subjects for classes III. and IV. The results, in general, were most creditable to both teachers and pupils.

The practice, prevailing in cities and towns, of withdrawing boys from school at an early age and putting them at work, is much to be deprecated. It may be a matter of necessity in some cases, but as a rule this need not be done. These children, often bordering on infancy, enter factories and other workshops, where they soon become physically and mentally dwarfed, and learn many things of which they ought to be utterly ignorant.

It gives me pleasure to again bear witness to the efficiency and zeal of the teachers as a body—the number of those whom I could characterize as being incompetent being few indeed. All who could do so, attended the county conventions and teachers' institutes; for those who were not in a position to attend these I endeavored to provide a substitute, by assembling as many as possible at convenient places and giving lectures bearing on school work. In these and in other cases, I readily perceived that the teachers in general were fully alive to the progressive tendency of the age in the matter of education.

On a general view of their status, I think, Sir, that you have reason to feel satisfied with the Separate Schools.

HAMILTON, December, 1886.

3. INDIAN SCHOOL INSPECTION.

Extracts from Reports of School Inspectors on Indian Schools.

JAMES F. WHITE, ESQ., INSPECTOR ROMAN CATHOLIC INDIAN SCHOOLS.

Wikwemikong (Boys).—This school is yet held in the same temporary quarters, to which it was removed on the burning of the school building proper. On my visit in June, thirty-five pupils were registered, with twenty-seven present, nearly all from the village. By far the greater number read in the First book, though a few were in the second and fourth classes. The teachers are Mr. Thos. J. Scanlan, ecclesiastic, and Mr. S. Dufresne. The former, who is principal, is full of energy and has improved the order and infused new life into the school. The regular industrial training has not been carried on to any great extent since the burning of the school, though some of the boys are learning shoemaking, blacksmithing, etc., under charge of former pupils of the institution. The state of instruction is, in general, satisfactory, though arithmetic and spoken English may yet be improved.

On my second visit I found the registered and the actual attendance thirty-five and thirty respectively. The teachers are the same and the accommodations remain unchanged, though the school house is expected to be ready for occupation before winter. An improvement was noticeable in several subjects, and the general work of the school was proceeding satisfactorily.

Wikwemikong (Girls).—This school is now held in the new building, which is large and comfortable, with high airy class-rooms. The school continues under charge of the Misses Nordend; Miss Miller is the superioress, and Miss Kintz the principal teacher; the assistant is a native, and she renders efficient help, especially in interpreting for the younger children. On my first visit there were forty-three registered and thirty present—nearly all in the First book. Of these, fourteen were boarders in the Institution, and the others from the village. School has been held for three hours each day, and to house work about an equal time is devoted. The pupils have the care of the school building and it was neat and clean; but no work in sewing, knitting, etc., was shown. The state of instruction is only fairly satisfactory; there has been too much learning by heart and not enough thorough teaching to make the children understand the meaning of what they learn and express it properly in English. The supply of maps, books, etc., was but fair.

On my September trip, I found Miss Lyman in charge as head teacher; she has had considerable experience as teacher, and seems earnest and energetic. On the register were forty-nine pupils, of whom sixteen are boarders; twenty-nine were present—none beyond the First reader. There are good blackboards around three sides of the room; some good maps, and fairly comfortable seats and desks; supplies of books and other requisites have been asked for. An improvement is shown in several subjects, notably in reading, dictation, and writing on slates. The school now promises to do good work, though considerable drill is needed in arithmetic and practical English.

Wikwemikonsing.—This school is in charge of Miss Bernard, a native, educated at Killarney. She has been here since October, 1885; her knowledge of English is not very extensive, and her capabilities for imparting instruction not very great. The house serves in part for a dwelling, and is neither clean nor comfortable. The furniture is fairly good; a large blackboard is needed. On the register were sixteen pupils, five of whom were present; all but two of the total number are in the First book. For several reasons the attendance has been very irregular, the indifference of the teacher to her work has been one great reason. The pupils know but very little about English, partly because the teacher has given all explanations and commands in the Indian tongue. The general standing of the school is very low, with no prospects for improvement until a better teacher has been secured.

On my second visit I found the house undergoing repairs, and in consequence there was no school that day. Not a great deal should be spent on the present building as it is not central, the greater number of the children coming from the settlement on the hill, fully a mile distant.

Buzwaks.—School is now held in the new building, which is of good size, neat and comfortable. Miss Agatha Gabow still continues in charge. There were nineteen pupils registered and seventeen present. The teacher is earnest and energetic, and merits much praise for the way in which she has conducted the school. The pupils have made very fair progress in the several branches taught, and understand English quite well. In addition, they have been taught to be neat in regard to their persons and to the school house.

On my visit in September, I found matters progressing very satisfactorily, though the attendance was not so large. The reading was done quite well, as was the dictation; writing on slates and copies was very good. In arithmetic the results were very fair; object and language lessons are taught, and the pupils sing. On the whole the work of this school has been successful.

South Bay.—In June I found that the teacher had been taken sick and had gone home to Cape Croker. Her place has been taken for the time by a male teacher, only fairly qualified. The school here cannot be regarded as a great success. There are about twenty-three children in the settlement who might attend, but school has been kept only part of the time each year, and the attendance at best has been very irregular.

When I went here in September, the school was not open, as most of the Indians with their families were absent from the settlement. Unless school is kept more regularly no progress can be expected.

West Bay.—Mr. Jonas L. Odjig was in charge of this school on my visit in June. He is a native, educated at Wikwemikong, and teaching since September, 1885. He has but

a limited knowledge of English, and gives most of his explanations in his native tongue. There were thirty-one children on the register and sixteen present; of the total number twelve are in Book II, and three in Book III. The building is large and comfortable, and a part of it serves as the teacher's residence. The supply of furniture and necessary appliances is quite respectable. On the day of my visit the larger and more advanced pupils were away; those present acquitted themselves only fairly well, showing the lack of careful teaching and proper drill. Indeed not much can be expected from this school until more regularity shall be secured in the attendance of teacher and pupils.

At the time of my visit in September, Mr. Odjig, though nominally the teacher, had not returned to his duties in the village.

Serpent River.—At the date of my inspection in June, the teacher—Mrs. Sophia Pelletier—was absent for a few days and her place was filled by her husband, a French half-breed. His knowledge of spoken English is quite good, but he lacks all experience as teacher. The building is small, serving as a school and the teacher's residence; it is not kept so clean as it might be. The furniture is respectable, though rather limited; yet, as the attendance is very irregular, it serves well enough. The state of instruction is not so satisfactory as could be desired; but until greater regularity in the attendance has been secured not much progress can be looked for.

In September, the teacher formerly at Mississaga—Mrs. Mary Cada—was in charge. No material change has taken place either in the attendance or the acquirements of the pupils. This is one of the places where the prospects are not very bright.

Mississaga.—Mrs. Mary Cada, white, educated at Chatham, was in charge in June. She has had an experience of seven years in teaching, two of which have been passed here. The attendance continues to be very irregular; the school lacks neatness in a marked degree, and but little progress has been made in school work.

In September, Miss Grace M. Patton, was found in charge. She is a white, has received a fair education and holds a permit from the former Inspector. She is earnest and energetic, with very fair teaching ability, much superior to the ordinary teacher in these schools. Several white children attend here, with the consent of the agent; in my opinion the Indian children will profit materially from their intercourse with them, and they receive a fair proportion of the teacher's attention in school. The total number of Indian children was twenty-one, of whom five are in Book II and one in Book III, the others in Book I; six only were present. These acquitted themselves with a fair degree of credit when the irregularity of attendance is considered. The school shows a decided advance since my former visit.

Sheshegwaning.—Though the Indians here had promised to engage a teacher and have their school open early in the year, I found in June that nothing had been done, as they were disappointed of the first teacher whom they thought of securing. The Indians hereabouts appear very careless concerning school matters, which is to be regretted as their children are bright and clever, above the ordinary native children on the other parts of the island.

In September they told me that they had engaged a young man who would soon come to open the school.

Garden River.—This school was visited only once this year, in September. Rev. Thos. Ouellet, S. J., has the school under his charge, while Miss McMahon does most of the teaching. The school-house is neat and comfortable, and well supplied with the necessary furniture and appliances for teaching. The registered number is fifty, of whom five are in Book II. and five in Book III; eighteen were present—a smaller number than usual, as the attendance here is more regular than in the ordinary Indian school. The usual work of instruction is proceeding with fair satisfaction; the pupils need more practice in expressing themselves in spoken and written English. In arithmetic they are slow; in spelling and writing but fair. They are neat in appearance and sing with considerable taste. Fr. Ouellett takes much interest in the school and will no doubt make it a success.

Sagamok.—In this settlement I found that they were only preparing to build their school house; they had most of the timber cut and in place in June, and the agent was getting the necessary lumber.

Though on my first visit the building was expected to be ready for the beginning of the second term, I found in September that the progress had not been very great, and that it would be some time before all would be ready to begin school.

White Fish Lake.—The teacher here is Miss Hourigan, a white, who has a fair education and whose work has been quite successful. At the time of my visit in September, she had not yet returned. The school building was undergoing repairs to make it comfortable for the winter.

Red Rock.—Mr. J. McKay is still in charge of this school; no great progress is being made, however. He has yet to look after the two settlements and the attendance is very irregular, even for an Indian school. When there are enough children in each settlement to require two separate teachers, then progress may be looked for; but at present one teacher, no matter how efficient, can make but little improvement.

Fort William (Girls).—The schools here were visited but once this year. The girls are under charge of the Sisters of St. Joseph, Sr. Ursula being the principal teacher. The building is neat, large and comfortable; the school-room is very well suited for the purpose. The supply of furniture and equipment is quite complete; some books, etc., were needed and they have been ordered. There were registered twenty-nine pupils with twenty-two present; these are classified up to the Third book inclusive. The pupils are many of them boarders, who learn something of housekeeping, etc., in addition to their school studies; they were very neat in appearance and polite in manner. Since my previous visit a considerable improvement is noticeable in all the subjects taken up. The teacher is capable and energetic and I expect to see this school reach quite a high standing.

(Boys).—This school continues under the charge of Mr. Thos. Stackum. The attendance is decreasing somewhat, as but eleven are now on the register; all are in Book I. They show some improvement in reading and in writing, but they do not remain long at school. The building is not so comfortable as it should be; better seats and desks should be provided, also a desk for the teacher. There is a fair supply of books, some of which are of old style no longer used in the public schools.

Cornwall Island.—On visiting this school in October, I found in charge Miss E. Foy, the same teacher who was here last year. She was educated in Hogansburgh, N.Y., and holds a temporary certificate from Inspector McNaughton. The building is not very comfortable as the plaster has fallen off in several places; it needs repair to make it suitable for occupation in winter. The school furniture and appliances are quite respectable; there is also a very fair supply of books, etc. The common complaint is made here of the irregularity of the attendance and of the indifference about coming on time. On the register are fourteen pupils; of these but five were present. In summer the attendance is much larger, twenty-five being registered for that time. The teacher is energetic and has fair aptitude for teaching, but yet the results are not very gratifying nor can much be hoped for until the children can be got to attend regularly.

Mattawa.—The Indian children here are in attendance at the Separate School, and have better opportunities than in the majority of their settlements. By their intercourse with the white children they have profited a great deal, in regard to learning English and in other ways.

Golden Lake.—This school I was unable to visit through want of time.

General Remarks.—In several of the schools I found, during my visits this year, a considerable improvement over their standing of last year; in some few, no improvement was noticeable. The great obstacle in the day schools is the irregularity of the pupils' attendance. In my last report I suggested that the payment of the annuity for each child should depend upon his attendance at school during the previous year for four or five months. I still think that a plan of this kind or the giving of an *extra grant* for regularity of attendance would lessen this evil to a considerable extent. Something, too, might be done by making the schools more attractive than many of them now are; not alone by making the buildings neater and more comfortable, but by having less dull monotony in the exercises and by introducing singing, recitations, etc., such things as are attractive in our Public Schools. Then, in the larger schools at least, there might be

some kind of school exhibitions and examinations three or four times a year. At these the parents might be induced to assist, by having the exercises enlivened by singing, recitations, etc., and prizes might be given for regularity of attendance and improvement in work.

To remove the indifference to their work shown by some teachers, I would suggest that the payment of their salaries depend upon the regularity with which they teach during the term; instead of being paid by the year the salary might be made so much a month, in which case some teachers would not be so frequently absent from their schools, sometimes for a considerable period. We cannot expect that children will acquire habits of regular attendance when teachers will take a holiday of a week or two on a flimsy pretense or without any excuse whatever. The teachers of all Indian schools should be made to pass some kind of qualifying examination; a low standard would of necessity have to be adopted at first, but this could gradually be raised. Arrangements might be made by which the Institutions at Wikwemikong and Sault Ste. Marie should prepare pupils for this examination and give them some instruction in regard to teaching. The record of the Mohawk Institute shows that this work could be done successfully.

There has been a great variety in the books used in these schools; of readers I have found no fewer than *six* different series in the schools visited by me; several of these are old kinds long since discarded in the Public Schools. To prevent this using of old or inferior kinds I have, on visiting the schools, found out the supplies needed and have ordered them from the Department. As it is often difficult, especially in winter, to send these supplies to several of the schools, I would recommend that a stock of the most necessary articles, such as books, slates, pens, ink, etc., be sent to the agents who would furnish them to the different schools when the list had been certified to by the Inspector. This would, I believe, prevent long, annoying delays in getting these requisites for school work, and would save considerable expense in the shipping.

A few of the schools were closed for some time during the cold weather because their supply of wood had given out, and no provision had been made for a new supply. As the school work is interrupted only too often, this cause of interruption might be prevented by having the Indians furnish the wood and paying them for it.

M. J. KELLY, ESQ., M.A., INSPECTOR, COUNTY OF BRANT.

Indian Reserve in the Township of Tuscarora.

These schools, twelve in number, were visited and inspected in the month of June.

1. *The Board School*, at the Council House, Ashwekan; Miss Floretta Maracle, teacher, at a salary of \$275 per annum. No notices had been sent to the teachers of the intended visits, as was done on previous occasions, so that the attendance, the appearance of the pupils and the results of the examinations may be taken as indicative of the everyday condition of the schools. The additional equipment of this school, since last visit, consists of a slate, blackboard and six new Windsor chairs. More maple trees have been planted on the play-ground.

The fourth class—three pupils, were examined in reading, spelling, English grammar, geography, arithmetic and writing; work fairly done, but scarcely up to that of last examination. The third class—five pupils—were examined in the same subjects with better relative results. The second class—nine pupils—read, spell, write and do work in simple addition and subtraction fairly well. The first class—twelve pupils—know the tablets pretty well and the Arabic numerals; 29 pupils present; order and attention, good; children clean in their persons and dressed as well as white children.

2. *Thomas School, Band School*.—Mr. John Miller, teacher; salary, \$250. A small

globe had been sent to this school, but was broken in transition. A hemispherical map of the world is needed, also new desks, as the children cannot write on those they have. There is only one closet, and no trees have yet been planted in the grounds.

There were 26 pupils present in four classes. The fourth class (six pupils) were examined in reading, spelling, writing (on slates), grammar and geography. The problems in arithmetic (including vulgar fractions and decimals) which I had written on the blackboard, the majority of the class found too difficult. In the other subjects the work was well done. The same may be said generally of the other classes. This school has improved since the last examination.

3. *Red Line School*.—Under C. M. Conference; Miss Cross, teacher; salary, \$250. The site of this school has been moved. It is now held in a new frame house near the Methodist Church and parsonage, on the Grand River. The school-room is painted blue and is furnished with desks and seats similar to those in the Board schools. New maps of Canada and Ontario have been supplied. Since the removal the attendance has been about twenty as the average. Thirteen present the day of my visit (9th June) in three classes, but six of these (the children) were white.

In the third class (two pupils, both white) the work was fairly done. The second class (four in attendance), the reading, spelling and arithmetic, satisfactory; the geography indifferent. The first class did fairly good work for that grade. The order, good, and the school doing much better than formerly; Gage's readers used. A return is made quarterly to the Rev. Dr. Sutherland, who transmits it to the Indian Department.

4. *No. 8 Board School*, near Kanyenga church and the Sour Springs. Miss Maggie Davis, teacher. Present, Rev. Mr. Carswell and Mrs. Carswell, Rev. R. Ashton and a few others. School-room clean and cheerful. Additional equipment since last visit, new platform for teacher's desk, platform for stove, new slate blackboard, half a dozen new chairs for visitors, outhouses satisfactory, a pretty pine grove surrounds the school house. Nineteen pupils present, in four classes. In the fourth class two, who do well in reading, spelling, and arithmetic, and fairly in grammar and geography. The principal fault in the reading was too great rapidity of utterance. Out of eight problems in arithmetic submitted, five were correctly solved. In the third class (three present) the reading, spelling and arithmetic, all well done. The second class (six present) and the first (eight present) read and spell fairly well. School better than when last examined.

5. *No. 6 Board School*.—The school is held in the church of Rev. Mr. Anthony's (Indian) Mission, situated in a nice grove on the Tuscarora side of the boundary between Brant and Haldimand, a short way from Caledonia. The teacher is Benjamin Carpenter (Indian), a man advanced in years and without a certificate, who taught the Indian school on the river below Newport many years ago. The church, a graceful structure, with neat spire, is painted white externally. Inside, the ceiling is white, the side walls and desks blue. Equipments, a good clock, blackboard, small globe, lamps, maps of Canada, United States, the World, Holy Land, large natural history chart and tablets of same. Twenty children present, in four classes. The parents are of the Cayuga, Onondaga and Mohawk tribes, most of the first two, pagans. After the examination we drove by the Long House of the Cayugas where they were celebrating the bean dance; not far from this is the Long House of the Onondagas. Nineteen pupils present in four classes. The reading in all the classes monotonous and too low. Spelling inferior, arithmetic inferior, children know nothing of grammar or geography. The pagan Indians are generally averse to the learning of the schools.

6. *No. 10 Board School*.—John Lichers (Indian), teacher; passed the entrance examination one and a-half years ago; subsequently attended the Brantford Collegiate Institute for one year and left on the 2nd June. Attendance usually from 34 to 43. In this school the reading and spelling generally good; arithmetic also satisfactory; grammar and geography, fair; order, good. Fine brick school-house, well equipped. Good grounds and outhouses.

7. *No. 5 Board School*.—Mrs. Etobico, teacher; fine frame house in nice grove; floor, desks and walls very clean; twenty pupils present, in four classes. Reading and spelling of the fourth class, good; geography and grammar, fair. The same may be said

of the third class, with the exception of the arithmetic, which is not quite so good as that in the fourth class. The first and second classes do fair work. Equipment of school-room is satisfactory. The grounds, which are high and dry, are not yet enclosed. This school was visited on the 15th of June.

8. *Stone Ridge School-House*.—Under C. M. Conference; Miss Elizabeth Hyndman (white), teacher; no certificate; house old; grounds not inclosed; no outhouses; the walls of school-room clean; floor still needs repairing; no globe, blackboard or tablets; Gage's books used; new desks and seats for pupils; new teacher's desk and stove since last visit; maps of the world and Canada; twelve pupils present, in three classes; spelling and reading, generally good; arithmetic, grammar and geography, fair. The senior pupils are just beginning to write. A new school house and more grounds needed.

9. *No. 3 Board School*.—Miss Susan Davis, teacher; salary, \$275 per annum. Since last visit, the additional equipment here has been two new slate blackboards, four new desks, new teacher's desk and platform, new press. Trees have been planted in the playground. Order, good; children well dressed and clean; thirty present, in five classes. In the fifth class the reading was fair, the spelling good. In arithmetic the pupils can do problems in reduction, compound rules and fractions readily and with neatness, can analyze and parse simple sentences in grammar accurately, and know geography fairly well. The fourth and third classes compare very well with the fifth. The first and second classes do fair work. On the whole a good school, well managed. The visit was made here on the 21st of June.

10. *No. 7 Board School*.—Miss Elizabeth Johnson, teacher; additional equipment new (teacher's) desk and platform; new slate blackboard, additional trees planted on play-grounds. This and all the other schools should have the new tablets; walls and floor clean; order, good. Twenty-four pupils present and 64 names on the roll.

Four classes.—In the fourth class, the reading, spelling, arithmetic, grammar and geography, were only fair. In the third class, the reading and spelling were better, but the grammar, etc., similar. In the first and second classes, only fair work done. Col. Gilkison accompanied me, to the last two schools.

11. *No. 9 Board School*.—Claybren Russell, teacher; 35 on the roll, 19 present; a number having gone to a pic-nic. The winter attendance of the school is 25 to 30; summer do 15 to 25. Col. Gilkison, local Superintendent of Indian Affairs, accompanied me, and as the distance was far and the roads bad, we were forced to take a team and carriage; 24 additional trees had been planted in the play-ground here; a new board walk made from the stile to the front door, and a new slate blackboard supplied in the school-room, the walls of which had been plastered anew. There are five classes in the school, in my opinion at least one too many. English is generally spoken in the neighborhood, and white blood predominates in the Indians hereabouts. As a result the children have not only fair complexions, but think and speak almost wholly in English. There are many bright ones among them. The reading and spelling very good, though with care and due attention they might be improved; arithmetic fairly taught and fair proficiency shown therein. The knowledge of English grammar evinced only middling; geography, fair; order good, as indeed it is in all these Indian schools.

12. *New Credit School*.—A Band School. This school chanced to be closed, the children being absent at a Sunday School pic-nic. The trustees, the principal of whom I met expressed regret at this, as they desired to witness the examination of the children. However, there was no help for it. The same teacher is still retained in this school. A new school-house is badly needed, and I hope to see one erected soon. These Indians are an Ojibewa tribe and have, therefore, no consanguineous relation to the Six Nations; they occupy a very fertile and picturesque portion of the reserve. This they got as a gift from the Iroquois. Not long ago they voted a considerable sum of money for the monument now in course of erection to the memory of Thyendinaga. This is to stand in Victoria Square in the City of Brantford, and will be completed before the end of next October. I have nothing further to say of the Tuscarora schools, except I think they might with advantage be placed on the same footing as the Public schools of the County. They have all been supplied by me with the new Public school registers.

JOHN BREBNER, ESQ., INSPECTOR, WEST LAMBTON.

Indian Schools on Walpole Island and Sarnia Reserve.

WALPOLE ISLAND.

Visited No. 1. Walpole Island, June 19th, and found fourteen boys and nine girls present; Mr. Joseph Noddie (Indian) teacher; he has attended Mount Elgin Institute and passed a fair examination in all the subjects he has to teach.

First Book, Part I.—(a) Five girls at first lesson; knew most of the words; were told too much by the teacher; no slates.

(b). One boy and three girls; reading better; no slates to write on.

(c) One girl; reads fairly; can point pictures or words named freely; spells fairly, write well, and does addition middling.

First Book, Part II.—Four big boys; know words and speak out well; spell middling, writes very well, arithmetic done well.

Second Book.—Three boys and one girl; know words but speak indistinctly; spelling good, writing very good, but some copy-books blotted; arithmetic middling, work correct but not so far advanced as should be. Boys, 16, 12 and 9 respectively; girl, 14.

Slates needed; work cannot be done without them; all should write and draw; copy-books needed.

No. 1. WALPOLE ISLAND.—Visited this school 24th November; Joseph Noddie (Indian), teacher. Present thirteen Indian boys and seven Indian girls; also two white girls.

First Book, Part I.—Fifteen pupils; reading poor, spelling none, writing good.

First Book, Part II.—Five pupils; reading good, spelling good, writing good, arithmetic, only middling (none far enough advanced).

Second Book.—One white girl; reading middling, spelling very bad, writing good, arithmetic fair.

Third Book.—One Indian boy, does well; reading good, spelling very good, writing fair, arithmetic fair.

This boy would make a fair scholar in any third-class, but he knows really nothing of geography, grammar (composition), and attends so little, that he cannot be expected to progress.

I have offered prizes of books to those who attend most regularly.

Mr. Noddie's English is not very good, but he understands it well.

In this school I again examined four men who would like to teach: Andrew Jacobs, good in English and composition; arithmetic, bad. Peter Thomas, fair in English and composition; arithmetic, very good. Joseph Noddie, poor in English and composition; arithmetic, best. Wm. Peters, good in English and composition; arithmetic, very good.

Messrs. Thomas and Peters have tried the Entrance Examination, but failed in grammar, history, literature, geography and drawing.

Visited Walpole Island No. 2., June 16th, p. m., and found twenty-four boys and twelve girls present. William Peters (Indian), teacher.

First Book, First Part.—(a). Two girls, one boy; reading indistinct and drawing, no slates.

(b) Two girls and seven boys; reading middling, no slates.

(c) One girl and three boys; reading better, writing good, no arithmetic.

(d) Five girls and four boys; reading middling, spelling middling, writing good, printing very good, but no arithmetic.

First Book, Second Part.—One boy; reading good, spelling middling, writing good, and arithmetic very good.

Second Book.—(a) Two boys; reading very good, spelling good, meanings of words middling, arithmetic good.

(b) One girl, six boys; reading very good, spelling good, arithmetic good, geography good, writing good. Girl 15 years of age.

Third Book.—One girl ; reading good, but indistinct, spelling very good, meanings very good, arithmetic, reduction very good, geography very good, writing very good. She is 13 years of age and attends regularly.

This school is clean and neat, but needs blinds and better furniture, (now only inch stuff), a map of the Dominion is needed, also books, slates and copy-books.

School doing well but poor attendance is the cause of much loss of labor.

NO. 2, WALPOLE ISLAND.—Visited this school 24th November ; William Peters (Indian), teacher. Present, nineteen boys and eleven girls.

First Book, Part I.—Twelve pupils ; reading good, spelling good, writing good, arithmetic (mental) fair.

First Book, Part II.—Seven pupils ; reading good, spelling fair, writing good, arithmetic good.

Second Book, junior.—Six pupils ; reading fair, spelling fair, writing good, arithmetic not so good as it should be.

Second Book, senior.—Four pupils ; reading good, spelling good, writing good, arithmetic good.

Third Book.—One girl ; reading, writing and arithmetic, all good ; spelling very good, geography fair. Wrote a well-worded, neat letter in proper form asking a friend to visit her for a holiday.

This school is doing well, and now the senior pupils understand what I say to them. I think Mr. Peters should now give less explanations in Indian to the seniors, but must continue with the little ones.

Furniture, far from suitable, but in good repair. Books, etc., needed in most of the classes.

I have offered books for regular attendance and the third-class pupil always gets the prize for her class.

The absence of *dinner baskets* indicates a probable reason for much of the partial attendance.

SARNIA RESERVE.

St. Clair School, Sarnia Reserve, was visited on June 21st, present four boys and five girls.

John Hanna (white man), third-class certificate obtained in Middlesex, 1857 ; has taught three winters in Michigan since his certificate expired (not Indian schools) does not know a word of the Indian language.

First Class, First Part.—Four girls and three boys ; one boy and one girl can read, the others spell the words on the card of lesson seven, first page, Gage's readers. In answer to my questions they answered a little in English : have seen a duck, but cannot tell where, have seen trees, but cannot tell where, nor what is made of trees, nor what grows on them ; could not tell what a bee is, nor where they are to be found. The above will show how little English they know, Arithmetic poor, writing middling, slates and pencils needed.

Second Book.—One boy and one girl ; reading fair, the girl speaks distinctly, the boy does not, spelling good, writing middling, arithmetic, addition well done, especially by the boy ; can do subtraction.

This school was closed from Thursday 18th March, to Tuesday, May 12th. It was closed when I visited it during that time ; I went to visit Walpole Island in March ; but was advised not to venture on the ice with horse and buggy.

I have given a small book to the pupil [in each class who attended most regularly during the interval between my visits, and in one school two boys in the same class were present every day this year.

Visited this school again on the 16th November. Present six boys and six girls.

First Book, Part I.—Three boys ; reading, indistinct, spelling on book, poor ; one boy spells well, and good in arithmetic, others poor.

First Book, Part II.—One boy, four girls; reading fair, but not understood; spelling good, arithmetic good, writing good.

Second Book.—One girl; reading good, spelling poor, arithmetic (addition only), good, writing.

Third Book.—Two boys, one girl; reading still indistinct but better, spelling fair, writing good, arithmetic (multiplication good, but division poorly done); no grammar, geography or composition.

As Mr. Hanna does not know anything of Indian he can give no explanations. He is very kind and children evidently like him.

School-house neat and clean, but needs painting. Furniture poor—seats far too high for children to rest feet on floor.

JOHN DEARNESS, ESQ., INSPECTOR, EAST MIDDLESEX.

Indian Schools, Oneida Reservation.

There has not been any change in the *personnel* of the teachers since my last report. The schools are surely, if slowly, improving. The equipment is in most particulars fairly satisfactory, and the teachers seem to know that it is absolutely useless to allow children to repeat words parrot-like, without the corresponding ideas.

Irregularity of attendance is the greatest obstacle to the success of these schools. Some remedy for it ought to be applied. I think if the teachers were supplied with attractive bright colored tickets to be used as rewards for regularity it would stimulate children, if not the parents, to greater regularity. Tardiness is another evil. Sometimes one or more of these schools do not open until ten o'clock. They seldom open sharp at nine, and I have seen pupils dropping in until eleven. The experiment of giving a pretty ticket to every child who is present at nine o'clock and remains the whole day, might be tried. The chief excuse for tardiness is that they do not know the time. There ought to be a good bell on each of the schools, which might be rung every morning at 8.30.

These schools are now well supplied with books, slates and maps. Each of them has a clock and, except No. 2, a globe. The blackboards in Nos. 1 and 3 are not very good. At my February visit, I took, at each of the schools, some creditable specimens of writing and letter-writing, drawing and map-drawing, to be sent to the Colonial Exhibition. The most of these specimens were made while I was at the school.

No. 1, Miss M. A. Beattie (white), teacher, 24th Feb.—12 present. Nineteen, largest attendance this winter to time of visit. School-room clean and tidy. The teacher has collected mottos, pictures, maps drawn by pupils and colored paper patterns, with which the walls are tastefully decorated. The closet (one) is in a dilapidated condition. The school-house is picturesquely situated on a high bank overlooking the Thames. The teacher promises to try to get a row of trees planted around the grounds on Arbor Day.

No. 2, John T. Schuyler (Indian Chief), teacher, 25th Feb.—18 pupils present; 27 registered. This school is now furnished with maps. The parents have bought the books themselves. The order is good and there is evidence of fair progress. The highest class (4 pupils present) can read intelligently in the Second Book, write compositions and letters, and perform operations in arithmetic as far as long division. Excepting the lowest class all the others can write in English, descriptions or relations of simple acts, such as: "The teacher put the slate and the book on the desk."

I again visited the Oneida Indian Schools on the 21st and 22nd September last.

School No. 1.—Miss Mary Beattie, teacher (white). Attendance small. A camp-meeting in the neighborhood has, for the past week or two, attracted several of the pupils from this and school No. 3. Miss Beattie has 16 pupils in Part I. of the First Book, 2 in the 2nd Part, 7 in the Second Book and 6 in the Third Book—31 in all. I examined the classes chiefly in speaking and writing English. In this, their most important school work, they are making fairly satisfactory progress. The teacher com-

plains of the great difficulty of keeping the school floor clean, owing to the community's using the school house as a lodge-room for Temperance, Foresters, Orange and other societies. She says the majority of the people of both sexes use tobacco; the floor at these meetings is made filthy by the copious expectorations of the tobacco chewers, and although she has remonstrated earnestly with them, they will neither desist from thus soiling the floor and furniture, nor clean the house after using it. This uncleanliness is, Miss Beattie says, the most disagreeable and discouraging obstacle in the way of her keeping the school in a satisfactory condition. I saw one of the prominent offenders (?) about it. He said, "no use, Indian must spit."

No. 2.—John T. Schuyler (Indian), teacher. I regret that I cannot yet report that the teacher of this school has passed the minimum examination required of the teachers of Indian schools.

The school was very clean and tidy; outbuildings clean; order excellent. Fifteen pupils present; eleven of them copied legibly a sentence written on the blackboard, but only five of them understood its meaning. The latter were able to describe in writing any simple act performed by myself or one of the pupils.

This school is not so well supplied with apparatus and other requisites as Nos. 1 and 3. I shall make a special report on its needs in a few weeks.

No. 3.—Elijah Sickles, teacher (Indian). Mr. Sickles passed the High School entrance examination at last midsummer. He seems to be working hard to advance his pupils. This school is now very well supplied with books, slates, maps, blackboards, globe and clock.

Twenty-one pupils present; two of them fairly thorough in arithmetic as far as division and read pretty well in the Third Book. Eight could describe simple acts in English. The teacher says he is "trying to teach them to understand what a thing means before they learn it by heart."

I think the Indian Schools would be stimulated and improved by apportioning even a small grant among them, on the basis of the average attendance of pupils and the qualifications of the teacher. Let, say, 75 per cent. of the grant be paid on average attendance, to go to the parents of the pupils, and the balance to be paid as a bonus to the teachers who work themselves up to the standard prescribed by the Department, and conduct their schools efficiently as per the Inspector's reports.

J. S. CARSON, ESQ., INSPECTOR, WEST MIDDLESEX.

Indian School, Mount Elgin.

The Mount Elgin Industrial Institution is now capable of giving adequate instruction to the children in attendance. The teacher has had three years' experience in a Public School, besides being an undergraduate of Toronto University. The frequent change of teacher is very detrimental to the progress of the pupils. The very able and skilful manager, Rev. Wm. Shepherd and myself are considering how best to meet this difficulty, and we are hopeful of reaching a satisfactory solution. The detailed report shows what appliances are yet needed.

The pupils are healthy, well clad, clean and, so far as I could judge, contented. Their wants appear to be fully met, in fact, to be an Indian child in this Institution is to know nothing of the hardships of many white children.

The other schools on the Reserve are all open. The attendance is irregular, punctuality is hardly known. I am sorry to say some of the teachers absent themselves from their schools for insufficient reasons. They are not making much progress in methods of teaching, at the same time some good work is being done, especially in Mr. Fisher's school.

R. GEO. SCOTT, ESQ., INSPECTOR, COUNTY OF RENFREW.

Indian School, Golden Lake Reserve.

I visited the school twice during the year, on the 15th of January and on the 9th of September.

At the first of these visits I found little, if any, change from the time of my previous visit, 11th November, 1885.

At my second visit a marked improvement in every respect was manifest.

There were eighteen pupils enrolled, six boys, twelve girls, of whom eleven were present.

The pupils are classified thus :

| | Part I. | Part II. | 2nd Book. | 3rd Book. | 4th Book. |
|---------------------------|---------|----------|-----------|-----------|-----------|
| On the Register | 7 | 2 | 3 | 5 | 4 |
| Present | 4 | 2 | 1 | 4 | .. |

Second Book.—Pupil read indifferently—could work subtraction accurately and neatly.

Third Book.—Reading very creditable ; the pupils understood English very fairly ; beginning division ; learn geography from an old map of the world ; writing good.

The writing of the boy in the 4th Book was very good.

The improvement in the school is chiefly owing to the fact that last fall the teacher began to learn the Indian language, and has systematically prosecuted her study of it ever since, so that she is now able to explain to the children in their own language the meanings of most of the words in the reading lessons. She promised me to continue her study of the language until she became able to converse freely with the pupils in it.

As a knowledge of the Indian language is a primary and paramount requisite for a teacher in this school, and as neither the Indian agent, Mr. Paul, nor myself know of any duly qualified teacher at all acquainted with it, I advised him in view of the progress Miss Stack (the present teacher) had made in learning it, to re-engage her for another year.

In a former report, I had expressed the opinion that the teacher's salary, \$150, was inadequate, and recommended that it should be increased. In July last, the Indian Agent wrote me that he had been notified by the Department of Indian Affairs that the sum of \$150 had been voted by Parliament to increase the salary to \$300. After my visit in September, I wrote to the agent recommending that Miss Stack should receive this increased salary.

A. McNAUGHTON, ESQ., INSPECTOR, COUNTY OF STORMONT.

Indian School, Cornwall Island.

I visited the school for Indian Protestant children on Cornwall Island, and found eight children present under the instruction of Mr. Louis Benedict, a native teacher well qualified for the office, who was educated at Brantford.

Two of the pupils were in the Second Class, and the remainder in the First Class.

The pupils showed considerable improvement in their knowledge and use of English, as well as in reading, spelling and arithmetic.

D. FOTHERINGHAM, ESQ., INSPECTOR, SOUTH YORK.

Indian School, Georgina Island.

I visited the Indian school on Georgina Island on the 5th May last. I found it in charge of Mr. Robert Mayes as before, with seven boys and six girls present.

The deportment and spirit were excellent, and the work fair, except in arithmetic, in which there seemed a lack of power to think independently, though the exercises were not of an unusual or difficult character. Writing and singing I found superior, and reading and definitions creditably intelligent.

The school would no doubt have taken a better average had it not suffered through sickness on the island, which, in addition to the indifference of some parents, rendered attendance irregular.

The teacher, too, had been sick for several weeks, and besides the school-house had been used in connection with some entertainment, which, all put together gave for the half-year up to the time of my visit 603 days of aggregate attendance, and 284 days of aggregate absence for the scholars on the roll.

C. A. BARNES, ESQ., INSPECTOR, EAST LAMTON.

Indian Schools at Kettle and Stoney Point.

Kettle Point.—I visited the Kettle Point School in the month of June, but found it closed on account of measles.

I visited it again November 2nd.

Attendance: number on the roll, eighteen; number present, nine.

III. Class.—Two pupils; reading and spelling fair, arithmetic good, writing on copies is very good. Geography in this class is not very good.

II. Class.—Two pupils; reading somewhat monotonous, spelling (oral) very fair, addition in arithmetic fair, writing very good; copies clean and free from blots.

II. Part of 1st Book.—Four pupils; reading not very good, oral spelling fair, writing on slates very fair, addition in arithmetic slow.

I. Part.—One pupil; doing fairly.

Equipment.—Seats and desks very good. The map of the Dominion is a very inferior one; it is too small, and the Provinces are not in their proper relative position to one another. The map of Ontario is a fair one.

I suggested in one of my previous reports that the blackboard should extend across the end of the room, but it has not been done. The piece now in the school-room is not worth much.

Mr. Herbert Johnson is, at present, teaching in this school, but as he has only been there a short time, he has scarcely become accustomed to his work. I think he will do very well.

A register is required.

Stoney Point.—The school at this reserve has been closed for some time.

They have erected a new building but it is not completed yet.

The building is about 24 ft. by 16 ft. with ceiling about 10 ft. high.

It will require 500 ft. or 600 ft. of flooring, and about 1,000 ft. for inside work to finish it. Also doors and windows. Ten desks for pupils, teacher's desk, two chairs, a good blackboard and stove, and the necessary school maps, books, etc., would put this school in good condition.

I think the Department of Indian Affairs should aid them in the completion of the building and in properly equipping it for school work.

Rev. Dr. Sutherland, Missionary Secretary of the Methodist Church, sent a letter to Chief Johnson, informing him that as soon as the building was ready another teacher would be engaged to conduct the school.

I have not visited this school during the present half-year as, I learned from Mr. A. English, Indian Agent, that nothing farther had been done with the building.

It is my intention to go out with Mr. English, when he next visits the reserve, to see if any immediate steps can be taken for completion of building, so that the school may be opened in January next.

JAMES MCBRIEN, ESQ., INSPECTOR, COUNTY OF ONTARIO.

Indian School, Township of Rama.

The school is taught by Miss S. E. Batty. She has not been professionally trained, and therefore the management, government and discipline, are not what we would like to

see. Fishing, hunting and sugar-making, are much more highly prized by the Indians than education. These pursuits appear to give them a distaste for school work. Hence, the attendance of the pupils is extremely irregular. At my last visit there were twenty-two present.

The equipment is very good. The school house is very comfortable and ample in accommodation.

The status in the various subjects is as follows :

- (1). Read fairly, but mechanically.
- (2). Spell fairly well.
- (3). Write very well.
- (4). Arithmetic, slow, inaccurate, etc.
- (5). Drawing, very good.
- (6). Geography, indifferent.
- (7). Grammar. There were no pupils present in this subject.

A. B. DAVIDSON, ESQ., INSPECTOR, NORTH YORK.

Indian School, Georgina Island.

On the 26th of October I visited the Indian school on Georgina Island. On reaching the island I was conducted by the chief to a neat, white-painted frame building, situated near the Mission Church and Council Hall, and surrounded by an unfenced play-ground, on which the Indian youth were earnestly engaged in a game of base ball.

I found in attendance at school fourteen boys and seven girls. The register shewed an average attendance for the session of seventeen. The number of boys of all ages on the roll was fifteen, and of girls, ten ; and the number of children of school age on the island is twenty-nine, and of all ages up to sixteen, forty-six.

The school-room is well lighted, heated and easily ventilated, and measures 27x24x10. It is supplied with excellent seats, desks and blackboard. On the walls hang maps of the World, Dominion and Ontario, all in good condition ; also a set of tablet lessons and a numeral frame, and on the teacher's desk stood a small globe.

All the classes were represented up to the Third Book, in all of which their proficiency in reading and arithmetic was fair, in writing and singing, excellent, especially the singing of the kindergarten songs. Geography and grammar are taught the more advanced classes, in which studies some of the pupils shewed considerable proficiency.

The chief and some of the parents were present and showed no little interest in the exercises.

The teacher, Robert Mayes, is missionary as well as teacher, and possesses that energy, tact and ability, which eminently fit him for the position.

DONALD McCAIG, ESQ., INSPECTOR OF ALGOMA.

Indian Protestant Schools, Algoma.

During the year 1886, only four Protestant Indian schools have been in operation in the district of Algoma. Of these, two are situated within about four miles of the village of Sault Ste. Marie, and the remaining two, not far from Little Current, on the north shore of Manitoulin Island. Another school, formerly in operation at Garden River, has been closed during the year.

Wawanosh Home for Indian Girls.—This is an English Church Mission Industrial school, situated about four miles from the village of Sault Ste. Marie. On my visit here (June 29th) I found twenty-four names on the register and twenty-one pupils present. Of those, I found nine in the 1st Book, ten in the 2nd, and two in the 3rd. The reading in all the classes was much below the average reading in the same classes among white children, arising chiefly from the fact that many of the pupils were only learning the language in which they were being taught.

The spelling throughout was much better than would have been expected from the character of the reading. A good beginning was also made in writing in the two higher classes, while those in the 1st Book had also made some progress in the formation of letters and words on their slates.

In arithmetic, little more than ability to do the mere mechanical work in the four simple rules had been attained. About the same may be said of geography—a few definitions and a little local geography being the extent in this branch.

The teacher, a Miss Cunningham, seemed to be fairly educated and very anxious for the improvement of her pupils, but, nevertheless, the standing of the school is not very satisfactory. The school-house is a very substantial stone structure, and the surroundings are very good, but the seating and internal arrangements are the contrary. Two long tables, with long backless benches for seats, and insufficient room, characterized the school-room.

Shingwauk Home for Indian Boys.—This is also an English Church Mission school under the same management as the girls' home, also industrial in its character. It is much more extensive than the former, and doing also better work. The main building consists of a very large substantial stone structure, containing, besides the school-room, sleeping-rooms, laundry, kitchen, dining-room, offices, etc. The grounds and surroundings are in good condition and well kept. In the immediate neighborhood are the workshops, consisting of shoemaker, blacksmith and carpenters' departments; farming and horticulture is also included in the course of training at this institution. (June 30th). When I visited this school I found on the register forty-nine names, and thirty-eight in attendance in the school-room. The others I learned were engaged in work about the various industrial departments. Of those present, two were in the 4th class, eight in the 3rd, eight in the 2nd, and twenty in the various divisions of the 1st. In the two higher classes the reading was fair, with the exception of a kind of monotonous drawl, which seems to prevail in all Indian schools. Spelling, both oral and from dictation, was better than would have been expected from the reading. Indian children seem to have a good idea of form, and appear to catch up the shapes of words easily. Writing, perhaps from the same cause, was fully up to the average.

In this school considerable progress has been made in arithmetic, so far as mere book work goes, the more advanced pupils being somewhat expert in mechanical operations in the compound rules, fractions and simple interest. But in any problems requiring analytical power, scarcely any attempts were made at solutions.

Geography and vocal music was also taught here with a fair amount of success. The present teacher, a Mr. Tinsdale, holds a 2nd class Normal School certificate, and had just entered upon his duties a short time previous to my visit.

Altogether the Shingwauk school is far in advance of any of the other Indian Protestant schools in the district. Here also the pupils learn much pertaining to the arts of civilized life, which must give them an immense advantage over their less favored brethren in the after business of life.

Sheguiandah Indian School.—This is also an English Church Mission school, but without the industrial features of the two former. On September 1st, when I visited this school, the blueberry harvest was just at its best, and with twenty-nine names on the register I found but four pupils present, Indians and their families being all absent from their homes on their berry-picking excursions, which would account in part for the condition of the school at this particular season. Judging, however, from the reports of the late Inspector (Mr. McLean), the evil of irregular attendance seems to be here at its maximum, for I find that at a visit in October, 1885, only five pupils are reported present, out of twenty-eight enrolled on the register. Of course, under these circumstances the standing of the school is very low. Of the few pupils present at the time of my visit in September last, scarcely one was able to read words of three letters. I believe the chief difficulty with Indian schools arises from the class of teachers employed. Here, if anywhere, energetic trained teachers are needed, who understand how to teach, and have an interest in their work; but instead of this, those who could find occupation no where else are employed.

The present teacher of the Sheguiandah school is a Mr. Fred. W. Sims, who holds only a permit to teach an Indian school.

Sucker Creek School.—This is a newly opened school, about three miles from Little Current, on the north shore of Manitoulin Island. I visited this school on the 2nd September, three days after it had been opened for the first time. The school-house, also, which is new, is surrounded by the most comfortable Indian settlement I had visited in the district. Here the Indians are engaged chiefly in agriculture, and at the time of my visit were busy cutting their harvest, which was very fair and of considerable extent. Of the school there is little to be said; it had only been open three days, and of thirty children in the section eighteen were present, just beginning their letters.

This school is taught by a Miss Lizzie May, also holding only a permit to teach an Indian school. Were I to suggest anything in the way of improvement in the management of those Indian schools, it would be that regularly qualified teachers should, if possible, be employed. I believe as matters now stand, money spent on these schools is almost thrown away.

W. H. G. COLLES, ESQ., INSPECTOR, EAST KENT.

Indian School, Moravian Reservation.

I visited the school on the second day of September, and found Mr. D. Edwards on the grounds at 8:30 a.m., and shortly after 9 o'clock twenty pupils were assembled—eleven boys and nine girls. Owing to an epidemic which fell upon this people lately, and caused school to be closed for some months, the pupils did not show much progress in school work. They can read well and intelligently in First, Second, and Third Books, can write and spell fairly, and can apply intelligently the simple rules in arithmetic. They can write a fair composition on familiar subjects, and they have a knowledge of local geography. Mr. Edwards has taken much pains to teach them writing, buying copy books himself for those who cannot obtain them from their parents.

They seem to enjoy reading in the New Testament, each reading a verse or two in the opening exercises. Mr. Edwards takes pains to give them sound moral, as well as mental training, and they seem to have very clear ideas of right and wrong.

It is difficult to keep these children regularly at school; naturally indolent, they avail themselves of every excuse, however trifling, to remain at home, and they leave school altogether for a life of idleness, as soon as they are sturdy enough to break away from parental control. Many keep their children at home to avoid buying a slate or copy-book, who would allow them to attend if these things were supplied. I would recommend that slate, copy-book, and reader be furnished by the agent, on the order of the teacher, for each child of school age on the reservation, and that these be kept in the school-house by the teacher. The price of these requisites could be deducted from the quarterly allowance. Having thus a "proprietary interest" in school they would attend much more regularly, would not be kept out for fear of having to buy these necessaries, and when in school would not be retarded for want of them.

The Natural History Chart supplied on my recommendation affords much interesting study; the children observe closely and draw very correct conclusions as to the animals represented. They are fond of reproducing some of the pictures on their slates, the sword-fish being their favorite so far, perhaps on account of its warlike construction, and the simplicity of the outline. Indians are supposed to be fond of high colors, but I did not find among the twenty children any article of a red color, except a light red wreath round a handkerchief on the neck of one of the girls; blue, brown, and grey are the colors chosen.

These children are very shy and very emotional; easily excited, easily led, and easily pleased or offended. A teacher could do much good by going about among the people and influencing them to habits of greater industry and more study; but the amount paid to Mr. Edwards—\$350—is not sufficient to warrant my asking him to perform this service in addition to his duties in the school-room.

APPENDIX I.—REPORT ON MECHANICS' INSTITUTES, FREE LIBRARIES
AND ART SCHOOLS.

REPORT OF DR. S. P. MAY, SUPERINTENDENT OF MECHANICS' INSTITUTES AND ART
SCHOOLS.

SIR,—I have the honor to submit herewith my report on the Mechanics' Institutes, Free Libraries, Art Schools and other institutions receiving Government aid in Ontario, for the year ending 1st May, 1886, and beg to direct your attention to the following:—

I.—Mechanics' Institutes.

1. *Institutes Reporting.*—The number of Institutes reporting for this year is 131. This is a slight improvement on last year, when only 122 returns were received in time for the annual report. The legal time for the Directors of Mechanics' Institutes to make returns to this Department is between the first day of May and the first day of November. Unfortunately some of the Inspectors overlook this, and the consequence is that the Department cannot make a complete annual statement showing the amounts from Government Grant paid to the Institutes, which should be laid before the Legislature for each year. It would greatly facilitate the work of the Department if the Directors would forward their reports soon after the annual meeting on the first of May; it would also be to their own advantage, as their share of the Government Grant would be in their hands at a much earlier date.

2. *Institutes not Reporting.*—Fifteen Institutes failed to report for this year. Probably some of them are closed; if so, the old officers to whom the blank forms are sent should notify the Department, so that its regulations might be carried out.

The new Act of 1886 will no doubt make a great improvement in this direction, as the Institutes are now paid on results, and on money previously raised from local efforts, they cannot as heretofore obtain large amounts from the Government Grant in anticipation of raising money as a set-off to that which has probably been already expended.

3. *Institutes Closed.*—Three Institutes are reported as closed. *Palmerston Mechanics Institute* is reported as having been closed two years, and the books, etc., are now liable to the disposal of this Department. *Picton Mechanics' Institute* was closed several years ago. I visited Picton in 1884 and found that the books had been sold to the High School. I called a public meeting at which the Institute was to be reorganized, new directors were elected, and the Chairman of the High School Board promised to return the books to the Institute. Since that time notice has been sent to the Department that the newly-appointed Secretary-Treasurer has absconded with the money which was collected. *Oshawa Mechanics' Institute* has been closed for several years. I visited the town in 1884 and found that Dr. Rae had purchased some 400 or 500 books, with the glass cases, for \$100; that he still held possession of them and was prepared to hand them over on payment of the sum advanced, if the Institute be reorganized. A Committee was appointed at a public meeting, but have not yet reported to this Department.

4. *New Institutes.*—It is gratifying to state that eight towns and villages availed themselves, during the year, of the liberal terms now offered by the Department for the establishment of Mechanics' Institutes:

5. *Classification of Institutes.*—Last year only forty-eight Mechanics' Institutes conducted Evening Classes; there are now fifty-eight reported.

6. *Receipts during the Year.*—The receipts for 1885-6, which includes the balances of previous year, are \$24,464 less than those of 1884-5. This is partially accounted for by the balances of 1885-6 being \$22,744 less than those of 1884-5.

The members' fees are slightly in excess of last year. This is accounted for by the increased number of Institutes reporting, and not from advanced fees, which still vary from twenty-five cents to \$2 per annum. An excellent plan has been adopted by some of the Institutes, where the municipality is liberal, of throwing the Reading Room open free.

The Municipal grants still exceeds the Legislative grants. This is an important factor in the success of Mechanics' Institutes. Wherever municipal authorities promote and encourage the work of the Institutes, they are sure to prosper, and the financial outlay is returned an hundred-fold by the improved morality of the people. It has even been remarked that this improvement is noticeable in the children of parents who make use of the Library and Reading Rooms.

7. *Expenditure during the year.*—The total expenditure is about \$23,000 less than that of the preceding year. There has been a reduction in the expenditure for books and miscellaneous, including fittings, etc.

8. *Donations of Books.*—The donations of books to Mechanics' Institutes are valued at \$521.

9. *Assets and Liabilities.*—It is gratifying to state that there has been an increase of over \$20,000 in the assets of Mechanics' Institutes during the year 1885-6, and at the same time a decrease of \$1,700 in the liabilities.

10. *Number of Members.*—The membership has increased in the proportion of 87 for each Institute reporting. The total number of members for 112 Institutes in 1884-5, was 16,259, an average of 138 members to each Institute. The total number of members for 131 Institutes in 1885-6, is 29,492, an average of 225 members to each Institute.

11. *Number of Volumes in Library, and number of volumes issued.*—There has been 33,877 volumes added to the library during 1885-6. It is to be regretted that about one-third of this number are works of fiction. The total number of volumes issued has increased from 528,971 for 112 institutes in 1884-5, to 679,096 volumes for 131 Institutes in 1885-6. There is a marked increase in the number of works of fiction issued; the total number was 414,935, nearly 54 per cent. of all the volumes issued. It must be remarked, however, that about 45 per cent. of the works of fiction issued by 131 Institutes and Free Libraries throughout this Province, were loaned by the Toronto Free Library. The total number of works of fiction is 11,453, and they issued 187,025, an average of about sixteen times for every work of fiction in the library.

12. *Reading Rooms.*—The Reading Rooms are gradually increasing in number, and there is an increase of eleven over the preceding year. There has been over 1,000 periodicals and newspapers added to the Reading Rooms during this year.

13. *Evening Classes.*—There is an increase of thirteen evening classes over preceding year. Twenty-four Institutes conducted classes in elementary subjects, and 51 Institutes conducted classes in drawing. The subjects taught in the drawing classes were the same as Grade B in the Art Schools, and the students in Mechanics' Institutes presented themselves for examination the same as Art School students.

Specimens of Examination work in drawing, including Freehand, Geometry, Perspective, Model Drawing, and Memory and Blackboard Drawing, were exhibited at the Colonial and Indian Exhibition in London, from the following Institutes :

| | | |
|-----------------|---------------|------------------|
| Aurora. | Goderich. | Prescott. |
| Ailsa Craig. | Guelph. | Preston. |
| Almonte. | Kemptville. | Penetanguishene. |
| Arnprior. | Mount Forest. | Richmond Hill. |
| Barrie. | Milton. | St. Cathrines. |
| Brantford. | Midland. | Schomberg. |
| Berlin. | Mitchell. | St. George. |
| Blyth. | Newmarket. | St. Marys. |
| Brockville. | Napanee. | Seaforth. |
| Carleton Place. | Orangeville. | Stouffville. |
| Cheltenham. | Orillia. | Smith's Falls. |
| Claude. | Paris. | Strathroy. |
| Durham. | Parkhill. | Stratford. |
| Elora. | Perth. | Streetsville. |
| Galt. | Peterboro'. | Whitby. |
| Garden Island. | Port Perry. | Woodstock. |
| Georgetown. | | |

Additional exhibits were also sent as follows :

Carleton Mechanics' Institute, specimens of Machine Drawing, Working Model of Locomotive Engine, Ornamental Inlaid Table, and Model of Shanty.

Guelph Free Library, specimens of Carving in Wood.

Garden Island Mechanics' Institute, Working Model of a Harbour Tug Engine, and a Model of a dram of timber as prepared for running the rapids.

Galt Mechanics' Institute, specimens of Machine Drawing.

Milton Mechanics' Institute, specimens of Freehand Drawing.

Port Perry Mechanics' Institute, specimens of Freehand, Perspective, Geometry and Mechanical Drawing, and Shading from the Flat.

Whitby Mechanics' Institute, specimens of Freehand, Perspective, Shading from the Round, and Outline from the Round.

The following extracts are from the British press :

"It should be noted to the credit of the Province, that the Ontario Government is very liberal in encouraging mechanics and artisans to improve their spare time by reading and studying the different branches of science applicable to their respective pursuits. It is mentioned in the Exhibition catalogue, prepared by Dr. May, that the Mechanics' Institutes receive Government aid. The value and extent of this pecuniary support may be gauged from the simple fact that last year no less than 147 of these institutes were in existence. Respecting the work accomplished at them, it is apparent that drawing, suitable for mechanics, is one of the most popular subjects of study. As many as fifty institutes send to the Exhibition specimens of examination work in freehand, geometrical, perspective, model and memory drawing. In addition, we notice the following :

Carleton Place Mechanics' Institute sent a large collection of specimens of machine drawing ; these, we understand, are chiefly done by workmen employed in the workshops of the Canadian Pacific Railway. They exhibit considerable skill, and reflect great credit on the teachers, who, we are informed, were trained at South Kensington. Probably the most interesting, ingenious and beautiful piece of work, showing industry and perseverance, is a working model of an English locomotive engine, made to the scale of one inch to the

foot, exhibited by Mr. Lacey R. Johnson, President of the Institute. This model has been greatly admired by persons interested in machinery, who pronounce it to be one of the most perfect and ingenious working models ever exhibited. This same institute also contributes a beautiful ornamental inlaid table, the work of Mr. A. Parker, and a model of dwelling-house or shanty, as built by the early settlers in Canada, by Mr. James McVety.

Guelph Free Library exhibits some very choice specimens of carving in wood by Mr. J. O'Brien and several students.

Garden Island Mechanics' Institute is well represented. Mr. Anthony Malone, President of the Institute, exhibits a perfect model of a drain of timber as prepared for running the rapids of the River St. Lawrence. Ten or more of these drains are lashed together and called a raft. It is remarkable that the rafting and forwarding of square hewn timber for the Quebec market was commenced at Garden Island, from which this model is sent.

Mr. Archibald Cumming exhibits a very beautiful working model of a harbour tug steam-engine from the same institute.

Galt Mechanics' Institute send some excellent specimens of machine drawing, done by workmen employed in the Grand Trunk Railway workshops.

Port Perry Mechanics' Institute exhibits a large collection of drawings, including freehand, linear perspective, practical geometry, mechanical drawings, shading, etc.

Whitby Mechanics' Institute contributes a collection of drawings in freehand perspective, and shading and outline from the round.

The people of Ontario are to be congratulated on the excellence of this portion of their exhibit, which has largely contributed to show visitors at the Exhibition the industry, zeal, and perseverance of the working classes of the Dominion in obtaining practical knowledge, invaluable to them in their daily life, and in rendering them intelligent and self-reliant citizens."

The Canadian *Gazette*, in a lengthy article on Education in Ontario, observes that since the time of Confederation, Mechanics' Institutes have been established, and an annual grant given to each institute by the local government, provided it supplies a library, reading room, and evening classes. This important branch of the public schools has been in the hands of the Provincial Education Department since 1880, and is now directed by the Minister of Education, to supply practical Education of value to adult artisans. There are about 150 of these mechanics' institutes in operation throughout Ontario in a population of only two millions, and of these over fifty are now branches of the Art schools. The work from several institutes is now on display in the Court. From it may be gathered that a practical knowledge of drawing is imparted—first, by freehand; second, by geometry and perspective; and, third, by industrial drawing. The industrial designs prepared at these mechanics' institutes have elicited general commendation. Mechanics, practical chemistry, and the various branches of physics, are also taught in these institutes, thus bearing directly upon the textile and other manufactures of the country.

The *Press* says the work from the Mechanics' Institutes has attracted a great deal of attention from manufacturers and others in connection with the growing recognition of the importance of training mechanics and artisans in industrial drawing.

II.—Art Schools.

Appendix I, Art Schools, shows the Course of Instruction, Purposes of the School, Occupations of Students and their purposes of study, Rules for Examination, number of Certificates granted, etc.

The examinations were held on the 1st and 2nd March for this year, in order that the students' work might be exhibited at the Colonial and Indian Exhibition in London, England.

In addition to the Art Schools and Mechanics' Institutes, twenty-eight Public and High Schools, Collegiate Institutes and Colleges, took part in the examinations.

The following is a list of the examination papers sent by the Department to seventy-eight Art Schools and Branch Art Schools on the 1st March, 1886 :—

GRADE B.

| | |
|-------------------------------------|--------|
| Freehand Drawing from the flat..... | 2,233 |
| Practical Geometry | 2,234 |
| Linear Perspective | 1,946 |
| Model Drawing..... | 2,067 |
| Memory and Blackboard Drawing | 1,869 |
| Total | 10,349 |

GRADE A.

| | |
|------------------------------|-----|
| Shading from flat | 112 |
| Outline from round | 123 |
| Shading from round | 109 |
| Drawing from Flowers..... | 91 |
| Advanced Perspective | 94 |
| Descriptive Geometry | 75 |
| Drawing from Dictation | 98 |
| Machine Drawing..... | 49 |
| Building Construction | 34 |
| Industrial Design..... | 129 |
| Total | 914 |

The number of Certificates granted will be enumerated in the Appendix.

Colonial and Indian Exhibition, London, 1886.

The students of Art Schools in Toronto, Ottawa, London, and Kingston, contributed largely to the success of the Educational Exhibit. The large collection of Drawings, Paintings, Carving on Wood, Modelling in Clay, Plaster Casts, Painting on China, etc., were much admired, and especially so the specimens of Industrial Designs, which were acknowledged by experts to be of considerable merit, and valuable exhibits from a new country, showing as they do that encouragement is given by the Government to the development of artistic work applicable to trades and manufactures.

The Marquis of Lorne was so much pleased with some of the designs for wall paper from Toronto, that he recommended me to place them in the hands of some English manufacturers. This I could not do, as they are the property of the students.

Before leaving England, having received an intimation that Her Majesty the Queen would be pleased to accept a few specimens of Art school work from Ontario, I selected some exhibits from the different departments, and forwarded them with a letter referring to our advancement in Industrial Art education during the past few years, and the great interest H. R. H. the Princess Louise and the Marquis of Lorne had taken in the promotion of Art work during their residence in Canada.

In reply, I received the following letter from General Sir Henry Ponsonby, Private Secretary to the Queen :—

OSBORNE, January 8th, 1886.

DEAR SIR,—The articles forwarded by you arrived here to-day, and I have given them to the Queen, who was very much pleased with them, and has commanded me to thank you for sending these well-executed specimens of the work of the Students of the Art Schools, Education Department, Toronto.

I have the honor to be, Dear Sir,
Yours faithfully,

(Signed) HENRY F. PONSONBY.

Each of the Art Schools had separate compartments for the display of their exhibits. The British press made frequent notice of the excellence of this section of the Educational Court.

The following extract is from the *Canadian Gazette* :—

“The work of these Art Schools of Ontario is such as would do credit to many older countries. The origin of some of the exhibits is interesting. In view of the Exhibition, the Ontario Manufacturers' Association offered medals for the best designs for various manufacturing purposes, and Dr. May, as Superintendent of Art Schools, at once issued circulars to the schools, notifying them to prepare forthwith various designs. The Toronto School designs were prepared for paper-hangings ; in Ottawa for iron-work, such as railings, fences, etc. ; in London, designs for sideboards, etc. ; and in the Kingston School for mantelpieces and overmantles. Considering, then, the fact that no selection is made in the exhibits in this class, all the competitive designs being shown, and that but a fortnight was allowed for the work, Ontario has reason to be proud of the result. It unquestionably forms a most important part of the Court. From the Toronto School of Art there also comes excellent work in electro-metallurgy taken from plaster casts and electrotypes from nature, as well as models in clay, and plaster casts from clay. Good industrial designs are also shown. The Art School of London comes out strongly in painting on china. Even the baking is done at the school, and the product is excellent, illustrating a frequent means of livelihood for young ladies in the Province. By the Kingston exhibits mechanical work is illustrated in such a way as to call forth the admiration of the Principal of the South Kensington Art Schools.

Extract from *Globe* :—

“The Industrial Art display does infinite credit to the Province and to the efforts of the Government to promote this branch of study, and is calculated even to a greater degree than the Art Exhibit in the Albert Hall to open the eyes of the British public to Canada's artistic progress of recent years. The Ontario School of Art, the Western School of Art, London, and the Ottawa and the Kingston Art Schools, send specimens of every class of work—in oil and water-colors, in freehand drawing, industrial designs, architectural and machine drawing, shading from the flat and from the antique, *repoussé* work, chasing in brass, modelling in clay and plaster casts from clay, electro-metallurgy, and carving in wood. Detailed references, as we have said above, are out of the question on the present occasion, but mention must be made of the high opinion expressed by competent authorities of the productions in industrial art ; of the interest aroused by the specimens of Examination work in the Elementary subjects, such as Geometry, Perspective and Model Drawing, of the admirable water-colors and painting on china, executed by the students of the London School of Art ; and of the excellent general work shown from Toronto, Kingston, and Ottawa.”

Extract from a Special Report on the Educational Court of Ontario, by Mr. H. C. Bowen, Principal of Finsbury Training College :—

“The machine drawing and the carving in wood sent in by the Mechanics' Institutes, formed a most interesting collection, including many specimens of really excellent work ; as did also their freehand drawings. But the most attractive and most memorable exhibit of all was the large and varied collection of art-work from the Art Schools of Toronto, London, Ottawa, and Kingston. The time at my disposal was all too short to allow of my doing full justice to all its many merits in detail. But the general impression made on me—especially in the case of Ottawa—was one of considerable pleasure, and—if I may be honest without offence—not a little surprise. The mere enumeration of the varieties of work from the Art Schools is sufficiently striking : life studies, oils and water-colors, freehand drawings of every kind, industrial designs, architectural and machine drawings, shading from the antique and from the flat, chasing in brass, modelling in clay and plaster casts from clay, carving in wood, painting on china, and even electro-

metallurgy and *repoussé* work. It is somewhat difficult to know what to mention amongst so much. I may say, however, that the advanced work generally of the Ontario School of Art (Toronto) was excellent; the wall-paper patterns showed great taste in design and coloring; the drawings from the antique were very good indeed, but perhaps a little too heavily shaded; and the wood-carving, metal-work, and plaster casts were in many cases highly creditable. I noticed, by the way, a portrait of Dr. May in plaster, which, though undoubtedly like, was by no means flattering. The Western School of Art (London) showed some very good painting on china. The Ottawa School of Art deserves very decided praise. The paintings of flowers and plants, with industrial designs invented from them, were delightful—excellent in form and composition and color. The life-studies were very good indeed, and the water-colors were highly creditable. The drawings of a wrought-iron fence, and the collection of industrial designs which were shown at the recent Antwerp Exhibition, deserve very decided praise. From the Kingston Art School the original designs for industrial uses were again strikingly good.”

Extract from *Morning Post* :—

“A very remarkable and deeply interesting exhibit is made by the Educational Department of the Province of Ontario, Canada, which is arranged in the space between the Canadian exhibits and the section devoted to New Zealand. Dr. Samuel Passmore May, Superintendent of the Mechanics’ Institutes and Art Schools, has arranged the display in a manner which reflects greatly upon his judgment and organizing power. The Court is decorated in an artistic manner, and embellished with busts of leading citizens who have devoted themselves in an especial manner to the advancement of education. The fine arts have not been neglected, and there are models, paintings, drawings from the life, casts in bronze, wood carvings, paintings on porcelain, and a variety of other interesting proofs of the zeal which is exercised in Toronto, as elsewhere in Canada, in all that concerns artistic training. Some of the paintings show considerable talent, but the wood carvings and bronze work are exceptionally excellent. One cannot help thinking, when examining the work here displayed, that the importation of a few well-trained Italian teachers of drawing, past masters in the art, such as are to be found in Rome or Florence, and who would willingly emigrate, would prove of inestimable advantage to the young Canadians, who have evidently talent, but which has not always been well developed, possibly from a lack of proper direction.”

Several other newspapers gave most favorable notices, which want of space forbids mention.

S. P. MAY.

January, 1887.

I.—MECHANICS' INSTITUTES.

The following abstracts are taken from the Mechanics' Institutes and Free Libraries Reports for the year. For details see Tables A, B, C.

1.—*Institutes Reporting, 1885-6.*

Number of Institutes reporting for this year. 131

2.—*Institutes not Reporting, 1885-6.*

Alexandria, Alliston, Bradford, Glencoe, Lancaster, Markham, Manitowaning, Merritton, Petrolea, Port Colborne, Sarnia, Thorold, Thunder Bay, Vittoria, Watford.

3.—*Institutes Reported Closed.*

Palmerston, Picton, Oshawa.

4.—*New Institutes Incorporated in 1886.*

Belmont, Beeton, Cobourg, Dresden, Niagara Falls South, Hamilton, Waterford, Lion's Head.

5.—*Classification of Institutes Reporting in 1885-6.*

| | |
|---|-----|
| Institutes with libraries, reading rooms, and evening classes | 40 |
| Institutes with libraries and reading rooms | 39 |
| Institutes with libraries and evening classes | 18 |
| Institutes with libraries only | 34 |
| Total | 131 |

6.—*Receipts during the Year 1885-6, together with Balance from previous Year.*

| | | |
|---------------------------------------|----------|----|
| Balances from previous year | \$10,381 | 17 |
| Members' fees | 14,503 | 92 |
| Legislative grants | 24,949 | 00 |
| Municipal grants | 26,122 | 56 |
| Fees from evening classes | 1,462 | 86 |
| Lectures and entertainments | 3,799 | 78 |
| Other sources | 11,917 | 28 |
| Total | \$93,136 | 57 |

Fees from Members.—The fees charged for membership vary from 25 cts. to \$2 per annum. The usual fee for library and reading room is \$1 per annum. In a few Institutes, where large municipal grants are made, the reading rooms are free to the public.

Municipal Grants.—It is very gratifying to state that no less than 59 Institutes have been assisted by municipal grants this year, the total exceeding the government aid given by about \$1,200.

7.—*Expenditure during the Year 1885-6, together with Balance on hand at close of Year.*

| | |
|-------------------------------------|--------------------|
| For rent, light and heating | \$10,224 70 |
| “ salaries | 17,320 09 |
| “ books (not fiction) | 18,476 61 |
| “ “ (fiction) | 5,399 06 |
| “ magazines, etc. | 7,297 93 |
| “ evening classes | 6,222 06 |
| “ lectures and entertainments | 2,293 77 |
| “ miscellaneous | 17,971 53 |
| “ balance on hand | 7,930 82 |
| Total | \$93,136 58 |

8.—*Donations of Books, 1885-6.*

21 Institutes received donations of books, value \$521 00

| | | | |
|-----------------------|---------|----------------------|----------|
| Almonte | \$15 00 | Seaforth | \$3 25 |
| Aurora | 1 25 | St Thomas, F L | 3 00 |
| Arnprior | 15 00 | Strathroy | 10 00 |
| Brantford F L | 6 00 | Toronto, F L | 227 50 |
| Essex Centre | 12 00 | Uxbridge | 10 00 |
| Guelph F L | 10 00 | Weston | 60 00 |
| Iroquois | 4 00 | Warton | 1 00 |
| Milton | 4 00 | Windermere | 22 00 |
| Niagara | 10 00 | Wroxeter | 12 00 |
| Penetanguishene | 75 00 | | |
| Peterboro' | 15 00 | | \$521 00 |
| Scarboro | 5 00 | | |

9.—*Assets and Liabilities in 1885-6.*

131 Institutes and public libraries have assets, value \$369,098 84
do do liabilities..... 95,256 42

10.—*Number of Members in 1885-6.*

Total number of members reported in 131 Institutes, 29,492. Showing an average of 225 members to each Institute, or an increase over previous years of an average of 87 per Institute.

11.—*Number of Volumes in Libraries, and Number of Volumes Issued.*

131 Institutes reported the number of volumes in Libraries, and the number of volumes issued during the year. This is an improvement on preceding reports.

| | No. of Volumes in Libraries. | No. of Volumes Issued. |
|-----------------------------------|---------------------------------|---------------------------|
| Biography | 22,096 | 21,045 |
| Fiction | 69,796 | 414,935 |
| History | 25,827 | 24,264 |
| Miscellaneous | 40,815 | 68,999 |
| Periodical Literature | 14,371 | 43,306 |
| Poetry and the Drama | 8,795 | 9,052 |
| Religious Literature | 8,587 | 9,210 |
| Science and Art | 27,632 | 25,607 |
| Voyages and Travels | 20,687 | 41,170 |
| Works of Reference | 24,715 | 15,289 |
| Details not given | 1,473 | 6,219 |
| Total number of Volumes | 264,794 | Total No. issued 679,096 |

The total amount expended for books in 1885-6 was \$23,875.67.
For details see Tables A and B.

12.—*Reading Rooms in 1885-6.*

79 Institutes reported having Reading Rooms—an increase of 11 over preceding year.

| | |
|---------------------------------|-------|
| Number of Periodicals | 1,147 |
| Number of Newspapers | 1,214 |

The total amount expended for Reading Rooms in 1885-6 was \$7,297.93.
For details see Tables A and B.

13.—*Evening Classes in 1885-6.*

24 Institutes conducted elementary classes in the following subjects:—Writing, Botany, Elocution, Phonography, Book-keeping, English Grammar, Arithmetic, Physiology, Wood-carving, Canadian History, Composition, and Spelling.

An increase of 6 Institutes; for details see Table C.

51 Institutes conducted classes in Drawing in the following subjects:—Free Hand Drawing, Practical Geometry, Linear Perspective, Model Drawing, Memory and Black-board Drawing, Architectural Drawing, Mechanical Drawing, Industrial Design, Machine Drawing.

An increase of 8 Institutes; for details see Table D.

A simultaneous examination was held in Drawing at the Institutes on the first and second days of March, 1886, under the supervision of presiding examiners appointed by the Minister of Education. The papers were returned to this Department for examination, and the results will be seen in Table E.

In addition to the sum of \$100 paid to each Institute for maintenance of Drawing Classes, one dollar was paid for each single certificate taken, or two dollars for two or more certificates. For details see Table E.

The total amount expended in 1885-6 for Evening Classes was \$6,222.06.

Candidates at the examination who were awarded five proficiency certificates, received Certificates of Grade B., qualifying them to teach Drawing in Public Schools and Mechanics' Institutes. See Register of Certificates on Art School Report.

TABLE A.—Receipts, Expenditure, Assets and Liabilities of

| INSTITUTES. | RECEIPTS DURING THE YEAR. | | | | | | | | | Rent, Light, and Heating. |
|--------------------------|---------------------------|----------------|--------------------|------------------|----------------------------|------------------------------|----------------|---------|--------|---------------------------|
| | Balance on hand. | Members' Fees. | Legislative Grant. | Municipal Grant. | Fees from Evening Classes. | Lectures and Entertainments. | Other sources. | Total. | | |
| | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | |
| 1 Ailsa Craig..... | 112 13 | 65 30 | 112 00 | | 31 00 | | 5 00 | 325 43 | 25 00 | |
| 2 Almonte..... | 13 33 | 78 50 | 407 00 | | 58 00 | 63 10 | 136 79 | 756 72 | 146 52 | |
| 3 Alton..... | 38 36 | 29 52 | 150 00 | | 4 81 | 13 87 | 39 50 | 276 06 | | |
| 4 Arkona..... | | 79 50 | 100 00 | 20 00 | | 73 15 | 25 | 274 90 | 36 50 | |
| 5 Arnprior..... | 29 23 | 127 55 | 162 00 | | 23 50 | 234 00 | 35 70 | 611 98 | 5 67 | |
| 6 Arthur..... | 40 93 | 64 75 | 100 00 | | | | 4 00 | 209 68 | 90 | |
| 7 Aylmer..... | 16 14 | 117 31 | 108 00 | 80 00 | 5 00 | 22 40 | 8 25 | 357 10 | 92 30 | |
| 8 Ayr..... | 22 54 | 88 75 | 150 00 | | | 46 20 | 20 00 | 327 49 | 63 94 | |
| 9 Aurora..... | 171 85 | 129 00 | 179 00 | | 11 75 | 14 90 | 18 50 | 525 00 | 23 91 | |
| 10 Barrie..... | 9 99 | 345 70 | 411 00 | 100 00 | 22 00 | 178 15 | 62 35 | 1129 19 | 179 20 | |
| 11 Belleville..... | 188 53 | 368 25 | 250 00 | 100 00 | | | 422 65 | 1329 43 | 459 45 | |
| 12 Berlin (F.L.)..... | | | 380 00 | 491 18 | | | | 871 18 | 57 61 | |
| 13 Blyth..... | 81 69 | 40 00 | 193 00 | | 45 00 | | 1 25 | 360 94 | 22 08 | |
| 14 Bolton..... | 5 51 | 67 00 | 150 00 | | | 2 21 | 6 00 | 230 72 | 12 00 | |
| 15 Bowmanville..... | 20 48 | 63 90 | 100 00 | 30 00 | | | 95 40 | 309 78 | 48 98 | |
| 16 Bracebridge..... | 373 21 | 48 50 | | | | 10 10 | | 331 81 | | |
| 17 Brampton..... | 141 60 | 182 00 | | | | 24 82 | 32 50 | 380 92 | 17 50 | |
| 18 Brantford (F.L.)..... | 92 90 | 7 00 | 414 00 | 1400 00 | 73 50 | | 252 33 | 2239 73 | 216 95 | |
| 19 Brighton..... | 3 61 | 60 20 | 120 00 | | | | 47 50 | 231 31 | 46 39 | |
| 20 Brockville..... | 23 47 | 250 00 | 375 00 | 100 00 | 34 00 | | | 785 47 | 100 00 | |
| 21 Brussels..... | 5 61 | 41 50 | 150 00 | 25 00 | | | 45 00 | 267 11 | 63 00 | |
| 22 Caledon..... | 112 81 | 30 60 | | | | 2 71 | 29 33 | 174 85 | 25 00 | |
| 23 Caledonia..... | 6 75 | 28 50 | 100 00 | | | 28 50 | | 163 75 | 3 65 | |
| 24 Campbellford..... | 66 08 | 95 81 | 250 30 | | | 49 40 | 23 68 | 484 97 | 40 00 | |
| 25 Carleton Place..... | 2 58 | 127 75 | 353 00 | 75 00 | 37 50 | 164 16 | 35 25 | 795 24 | 185 70 | |
| 26 Chatham..... | 56 33 | 349 00 | 250 00 | 100 00 | | 15 40 | 165 47 | 946 20 | 180 53 | |
| 27 Cheltenham..... | 1 71 | 27 59 | 222 00 | | 22 00 | | 29 08 | 302 38 | 2 00 | |
| 28 Clarksburg..... | 20 73 | 7 00 | | | | | | 27 73 | 10 00 | |
| 29 Claude..... | 9 07 | 29 00 | 168 00 | | 23 00 | | 25 00 | 254 07 | 25 00 | |
| 30 Clifford..... | | 50 00 | | | | 60 00 | | 110 00 | | |
| 31 Clinton..... | 13 78 | 100 00 | 250 00 | 100 00 | 8 00 | 154 05 | 103 81 | 729 64 | 78 91 | |
| 32 Colborne..... | 5 77 | 64 50 | 150 00 | 50 00 | | 55 | | 270 82 | 24 00 | |
| 33 Collingwood..... | 91 31 | 170 00 | 150 00 | 50 00 | | | | 461 31 | 78 32 | |
| 34 Columbus..... | 20 03 | 26 50 | | | | 11 00 | 28 00 | 85 53 | 13 00 | |
| 35 Deseronto..... | | 122 00 | | | | | 489 14 | 611 14 | 56 28 | |
| 36 Drayton..... | 27 04 | 86 00 | 300 00 | 50 00 | 25 00 | 113 95 | 86 59 | 688 58 | 68 28 | |
| 37 Dundas..... | 31 45 | 167 00 | 255 00 | 100 00 | | | 13 00 | 566 45 | 173 17 | |
| 38 Dunnville..... | 21 14 | 67 00 | 50 00 | | | | 16 11 | 154 25 | 62 00 | |
| 39 Durham..... | 3 36 | 54 00 | 102 00 | | | 85 12 | 8 00 | 252 48 | 19 25 | |
| 40 Elora..... | 6 02 | 144 38 | 403 00 | | 35 00 | 61 21 | 91 35 | 740 96 | 100 00 | |
| 41 Embro..... | 70 | 93 25 | 250 00 | 20 00 | | 13 05 | 3 58 | 380 58 | 55 38 | |
| 42 Ennotville..... | 19 83 | 19 25 | 50 00 | | | 45 91 | 20 00 | 154 99 | 30 | |
| 43 Essex Centre..... | | 294 00 | | | | | | 294 00 | 17 75 | |
| 44 Exeter..... | 122 58 | 77 75 | 136 00 | 25 00 | | 16 55 | | 377 88 | 28 00 | |
| 45 Fenelon Falls..... | | 103 00 | 200 00 | 60 00 | | 44 57 | 54 85 | 462 42 | 167 90 | |
| 46 Fergus..... | 36 87 | 76 25 | 300 00 | 75 00 | 18 00 | 5 85 | 10 82 | 522 79 | 62 68 | |
| 47 Forest..... | 85 67 | 58 68 | | 25 00 | | 20 00 | 290 00 | 479 35 | 108 00 | |
| 48 Galt..... | 3 42 | 430 90 | 376 00 | 10 00 | 64 50 | 49 16 | 150 00 | 1083 98 | 23 44 | |
| 49 Garden Island..... | | 195 00 | 407 00 | 178 28 | | | 291 65 | 1071 93 | 159 30 | |
| 50 Georgetown..... | 17 23 | 137 25 | 119 00 | 40 00 | | 15 00 | | 328 48 | 73 35 | |
| 51 Goderich..... | 153 47 | 93 00 | 420 00 | 100 00 | 73 50 | 108 70 | 42 08 | 990 75 | 127 42 | |
| 52 Gravenhurst..... | 56 31 | 16 00 | | | | 16 50 | 20 24 | 109 05 | 16 97 | |
| 53 Grimsby..... | 29 51 | 74 10 | 200 00 | 89 00 | | 61 19 | 3 57 | 457 37 | 46 36 | |
| 54 Guelph (F. L.)..... | | | 451 00 | 1588 10 | 70 00 | | 69 25 | 2178 35 | 349 91 | |
| 55 Harrison..... | 17 65 | 123 00 | | | | 8 33 | 201 45 | 350 43 | 108 83 | |
| 56 Hanover..... | 210 07 | 26 05 | | | | | | 236 12 | 20 00 | |

Mechanics' Institutes, for the year ending 1st May, 1886.

| EXPENDITURE DURING THE YEAR. | | | | | | | | | | ASSETS AND LIABILITIES. | |
|------------------------------|----------------------|------------------|------------------------------|------------------|------------------------------|----------------|------------------|---------|---------|-------------------------|--|
| Salaries. | Books (not fiction.) | Books (fiction.) | Magazines, News-papers, etc. | Evening Classes. | Lectures and Entertainments. | Miscellaneous. | Balance on hand. | Total. | Assets. | Liabilities. | |
| £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | £ s. c. | |
| 1 | 29 18 | 79 05 | 20 00 | 66 77 | 12 75 | 92 68 | 325 43 | 1598 68 | | | |
| 2 | 41 00 | 73 12 | 29 07 | 58 86 | 159 10 | 28 00 | 213 31 | 7 74 | 756 72 | 750 99 | |
| 3 | | 130 00 | 20 00 | | 25 00 | 60 98 | 40 08 | 276 06 | 695 49 | | |
| 4 | 17 00 | 100 20 | 9 80 | 23 41 | 63 55 | 20 02 | 4 42 | 274 90 | 603 87 | | |
| 5 | 44 00 | 69 94 | 23 08 | 65 57 | 127 10 | 240 30 | 36 32 | 611 98 | 393 00 | 124 12 | |
| 6 | 28 75 | 100 00 | 33 47 | | | | 46 56 | 209 68 | 600 00 | | |
| 7 | 60 00 | 70 78 | 6 00 | 49 00 | 9 65 | 18 00 | 29 04 | 22 93 | 357 10 | 2714 61 | |
| 8 | 16 50 | 93 48 | 28 99 | 65 74 | | 6 00 | 14 48 | 38 36 | 327 49 | 1000 00 | |
| 9 | 31 00 | 37 42 | 70 00 | | 72 15 | 46 10 | 183 88 | 60 64 | 525 00 | 2560 64 | |
| 10 | 212 40 | 148 75 | 37 00 | 82 25 | 132 00 | 22 50 | 226 71 | 88 38 | 1129 19 | 3319 38 | |
| 11 | 315 00 | 121 95 | 168 00 | 128 65 | | | 133 08 | 3 30 | 1329 43 | 4133 30 | |
| 12 | 220 50 | 270 54 | 18 00 | 71 60 | 133 90 | | 99 03 | | 871 18 | 3163 00 | |
| 13 | 20 00 | 96 45 | 16 75 | | 108 00 | | 19 16 | 78 50 | 360 94 | 708 50 | |
| 14 | | 133 90 | 36 97 | | | 12 00 | 18 23 | 17 62 | 230 72 | 741 62 | |
| 15 | 45 00 | 110 00 | 30 00 | | | | | 75 80 | 309 78 | 1630 00 | |
| 16 | 40 00 | 139 32 | 20 00 | | | | 7 45 | 124 44 | 331 81 | 1229 44 | |
| 17 | 15 00 | 190 32 | 34 25 | 52 90 | | | 64 89 | 6 06 | 350 92 | 706 06 | |
| 18 | 450 00 | 352 89 | 410 85 | 126 50 | 163 16 | | 121 91 | 397 47 | 2239 73 | 5997 47 | |
| 19 | 50 00 | 51 00 | 33 93 | 38 65 | | | 2 82 | 8 52 | 231 31 | 1088 52 | |
| 20 | 200 00 | 155 34 | 13 53 | 131 50 | 100 00 | 35 00 | 10 00 | 40 08 | 785 47 | 879 25 | |
| 21 | 20 00 | 126 13 | 37 00 | | | | 16 28 | 4 70 | 267 11 | 1194 70 | |
| 22 | | 91 78 | 20 96 | | | | 37 11 | | 174 85 | 811 43 | |
| 23 | | 104 80 | 26 20 | | | | 28 65 | 45 | 163 75 | 541 69 | |
| 24 | 40 00 | 13 00 | 7 96 | 50 00 | | 60 80 | 46 66 | 226 55 | 484 97 | 751 55 | |
| 25 | 102 27 | 81 50 | 20 00 | 52 70 | 108 00 | 128 65 | 116 42 | | 795 24 | 562 50 | |
| 26 | 177 00 | 185 06 | 239 75 | 148 80 | | | 15 12 | | 946 20 | 3223 25 | |
| 27 | 132 70 | 20 60 | | | 122 00 | | 25 08 | | 302 38 | 436 23 | |
| 28 | | 5 85 | 7 00 | | | | | 4 88 | 27 73 | 432 05 | |
| 29 | | | 9 50 | | 109 00 | | 39 67 | 70 90 | 254 07 | 1260 90 | |
| 30 | | 90 00 | 20 00 | | | | | | 110 00 | 110 00 | |
| 31 | 150 00 | 121 90 | 37 26 | 122 00 | 24 00 | 117 57 | 24 19 | 53 81 | 729 64 | 2465 56 | |
| 32 | | 110 00 | 40 00 | | | 13 25 | 50 10 | 33 47 | 270 82 | 473 47 | |
| 33 | 85 00 | 176 97 | 51 00 | 58 33 | | 10 00 | 1 69 | | 461 31 | 3050 00 | |
| 34 | 13 53 | 21 00 | 12 00 | | | 20 00 | 6 00 | | 85 53 | 740 00 | |
| 35 | 21 00 | 270 32 | 70 00 | 48 95 | | 14 00 | 129 83 | 76 | 611 14 | 440 28 | |
| 36 | | 203 10 | 40 00 | 39 50 | 75 00 | 66 03 | 196 67 | | 688 58 | 636 71 | |
| 37 | 50 00 | 138 50 | 45 27 | 73 60 | | | 49 35 | 36 56 | 566 45 | 9196 56 | |
| 38 | 13 25 | 60 07 | 14 93 | | | | 4 00 | | 154 25 | 1015 00 | |
| 39 | 36 55 | 4 25 | | | | 171 60 | | 20 83 | 252 48 | 8145 83 | |
| 40 | 40 00 | 154 44 | 29 74 | 115 00 | 135 96 | 26 50 | 135 41 | 3 91 | 740 96 | 6597 88 | |
| 41 | | 220 28 | 45 00 | 54 20 | | | 5 25 | 47 | 380 58 | 1412 73 | |
| 42 | 10 00 | 64 00 | 10 00 | | | 16 50 | 3 24 | 50 95 | 154 99 | 1515 00 | |
| 43 | 21 00 | 125 28 | 22 50 | 21 00 | | | 67 51 | 18 96 | 294 00 | 235 30 | |
| 44 | 15 00 | 207 25 | 25 95 | 18 50 | | 38 30 | 14 58 | 30 30 | 377 88 | 1342 50 | |
| 45 | 15 00 | 46 89 | 20 95 | 73 20 | | | 89 56 | 48 92 | 462 42 | 929 92 | |
| 46 | 78 10 | 173 55 | 40 00 | 47 50 | 50 00 | 16 00 | 32 44 | 22 52 | 522 79 | 3652 59 | |
| 47 | 25 00 | 137 97 | 40 00 | 48 00 | | | 54 70 | 65 68 | 479 35 | 1392 68 | |
| 48 | 210 00 | 209 80 | 60 00 | 135 40 | 167 16 | 61 10 | 216 71 | 37 | 1083 98 | 6130 37 | |
| 49 | 90 00 | 236 77 | 33 03 | 131 46 | 337 62 | 15 35 | 68 40 | | 1071 93 | 2500 00 | |
| 50 | 40 00 | 12 85 | | 31 50 | 108 30 | 12 00 | 33 56 | 16 92 | 328 48 | 886 92 | |
| 51 | 120 00 | 275 25 | 20 00 | 101 20 | 155 50 | 43 87 | 32 49 | 115 02 | 990 75 | 2072 60 | |
| 52 | 28 00 | 18 65 | 15 45 | 19 18 | | 8 55 | 2 25 | | 109 05 | 165 67 | |
| 53 | 100 00 | 163 80 | 60 00 | 26 20 | | 8 55 | 21 60 | 30 86 | 457 37 | 3212 70 | |
| 54 | 601 92 | 512 68 | 89 22 | 126 40 | 170 85 | | 327 37 | | 2178 35 | 4190 00 | |
| 55 | | 97 04 | 9 74 | 42 85 | | 1 55 | 90 92 | | 350 43 | 1130 00 | |
| 56 | | 49 50 | 14 30 | | | | 5 95 | 146 37 | 236 12 | 768 40 | |

TABLE A.—Receipts, Expenditure, Assets

| INSTITUTES. | RECEIPTS DURING THE YEAR. | | | | | | | | |
|-----------------------|---------------------------|----------------|--------------------|------------------|----------------------------|------------------------------|----------------|---------|---------------------------|
| | Balance on hand. | Members' Fees. | Legislative Grant. | Municipal Grant. | Fees from Evening Classes. | Lectures and Entertainments. | Other sources. | Total. | Rent, Light, and Heating. |
| | § c. | § c. | § c. | § c. | § c. | § c. | § c. | § c. | § c. |
| 57 Hespeler | 236 26 | 45 55 | | | 11 80 | 27 10 | 49 50 | 370 21 | 38 40 |
| 58 Ingersoll | 21 83 | 95 00 | 150 00 | | | | 28 69 | 295 52 | 71 36 |
| 59 Iroquois | | 66 00 | | | | 151 50 | 20 61 | 238 11 | |
| 60 Kemptville | 37 | 71 50 | 257 00 | | 23 00 | 24 03 | 33 95 | 409 85 | |
| 61 Kincardine | 9 62 | 114 91 | 200 00 | 50 00 | | 90 10 | | 464 63 | 58 43 |
| 62 Kingston | 187 75 | 725 00 | 300 00 | | 75 00 | 10 00 | 95 15 | 1392 90 | 297 59 |
| 63 Lindsay | 64 47 | 165 20 | 401 00 | 50 00 | 12 50 | | 87 91 | 781 08 | 153 64 |
| 64 London | | 497 00 | 400 00 | 200 00 | | | 2177 12 | 3274 12 | 185 83 |
| 65 Lucan | 33 57 | 36 40 | 70 00 | | | | | 139 97 | |
| 66 Meaford | 19 93 | 51 75 | 150 00 | 25 00 | | 27 60 | 50 00 | 324 28 | 73 27 |
| 67 Merrickville | 59 43 | 27 00 | 150 00 | | | 10 00 | | 246 43 | |
| 68 Midland | 10 06 | 97 15 | 358 00 | 20 00 | 25 00 | 234 80 | 22 05 | 707 06 | 142 29 |
| 69 Milton | 27 46 | 134 50 | 320 00 | | | 14 69 | 25 66 | 522 22 | |
| 70 Mitchell | 48 23 | 74 36 | 133 00 | 100 00 | 39 00 | 123 97 | 9 72 | 528 28 | 28 81 |
| 71 Mono Road | | 119 75 | | | | 15 00 | 40 29 | 175 04 | |
| 72 Mount Forest | 42 90 | 51 65 | 309 00 | | 16 00 | 19 90 | 13 00 | 452 45 | 46 50 |
| 73 Napanee | 170 21 | 215 00 | 352 00 | | | | 159 00 | 896 21 | 100 00 |
| 74 New Hamburg | 39 | 59 00 | 150 00 | | | 7 50 | 8 00 | 224 89 | 51 81 |
| 75 Newmarket | 16 34 | 36 00 | 150 00 | | | 44 55 | 1 55 | 248 44 | 20 00 |
| 76 Niagara | 8 44 | 57 27 | 100 00 | | | | 44 24 | 209 95 | 43 75 |
| 77 Niagara Falls | 88 57 | 46 00 | 250 00 | 300 00 | | | | 684 57 | 64 56 |
| 78 Norwich | 5 47 | 76 02 | 75 00 | 25 00 | | 19 60 | 38 44 | 239 53 | 33 15 |
| 79 Norwood | 180 57 | 27 00 | | | | | | 207 57 | 40 00 |
| 80 Oakville | 17 04 | 38 63 | 150 00 | | | | 12 50 | 218 19 | 2 00 |
| 81 Orangeville | 8 25 | 104 10 | 272 00 | | 24 50 | 26 32 | | 435 17 | 60 00 |
| 82 Orillia | 69 67 | 223 00 | 424 00 | 50 00 | 24 50 | 26 00 | 43 40 | 860 57 | 141 10 |
| 83 Owen Sound | 35 79 | 344 33 | 250 00 | | | 15 92 | 34 50 | 684 54 | 9 50 |
| 84 Paisley | | 28 50 | 150 00 | | 24 50 | 39 65 | 45 55 | 288 20 | |
| 85 Paris | 199 93 | 301 00 | 371 00 | 100 00 | | 53 13 | 93 02 | 1118 08 | 55 67 |
| 86 Parkdale | 6 98 | 90 25 | 200 00 | 500 00 | | 2 80 | | 800 03 | 128 38 |
| 87 Parkhill | 4 22 | 39 00 | 83 00 | | 48 00 | | 42 00 | 216 22 | 50 00 |
| 88 Penetanguishene | | 54 00 | 358 00 | 50 00 | 11 50 | 106 25 | | 579 75 | 80 00 |
| 89 Perth | 2 14 | 164 00 | 366 00 | 100 00 | | 102 50 | 4 25 | 738 89 | 136 72 |
| 90 Peterborough | 166 26 | 284 19 | 351 00 | 100 00 | 7 50 | | 61 23 | 970 18 | 149 30 |
| 91 Point Edward | 40 79 | 96 25 | 250 00 | | | 9 50 | 124 52 | 521 06 | 89 47 |
| 92 Port Elgin | 19 11 | 32 25 | | | | | 5 00 | 56 36 | 11 25 |
| 93 Port Hope | 65 89 | 323 50 | 250 00 | | | | 120 70 | 760 09 | 120 50 |
| 94 Port Perry | | 32 00 | 119 00 | | | | | 151 00 | 24 00 |
| 95 Prescott | 59 60 | 124 50 | 298 00 | | 27 00 | | 46 00 | 555 10 | 10 35 |
| 96 Preston | 3 27 | 80 00 | 307 00 | 200 00 | | | | 590 27 | 60 03 |
| 97 Renfrew | 44 55 | 62 00 | | 25 00 | | 12 13 | 10 78 | 154 46 | 9 50 |
| 98 Richmond Hill | 3 70 | 37 25 | 43 00 | | | | 7 23 | 91 18 | |
| 99 Ridgetown | 297 99 | 137 00 | 250 00 | | | 6 25 | 2 50 | 693 74 | 56 04 |
| 100 Scarboro | 43 43 | 59 67 | 100 00 | | | | 6 60 | 209 70 | 1 00 |
| 101 Schomberg | | 19 40 | 90 00 | | | | 2 24 | 111 64 | |
| 102 Seaforth | 196 21 | 367 50 | 496 00 | 100 00 | 112 00 | 198 47 | 71 30 | 1541 48 | 144 38 |
| 103 Simcoe (F.L.) | 71 13 | | 300 00 | 450 00 | 43 00 | | 158 77 | 1022 90 | 105 62 |
| 104 Smiths Falls | 4 30 | 207 00 | 360 00 | 100 00 | 11 00 | | 7 39 | 659 69 | 101 65 |
| 105 Stouffville | 14 08 | 96 50 | 258 00 | | 15 00 | 15 79 | 50 | 399 87 | 26 25 |
| 106 Stratford | | 32 75 | 210 00 | | | | | 242 75 | 3 80 |
| 107 Strathroy | 112 12 | 225 74 | 376 00 | 25 00 | 13 00 | 104 15 | 95 63 | 951 64 | 80 94 |
| 108 Streetsville | 11 58 | 60 00 | 232 00 | | 25 00 | 16 75 | | 345 33 | 47 20 |
| 109 St. Catharines | 96 17 | 232 75 | 363 00 | 200 00 | 48 00 | | 22 85 | 962 77 | 143 70 |
| 110 St. George | 1 71 | 60 79 | 364 00 | 40 00 | | 89 83 | 70 00 | 626 33 | 73 43 |
| 111 St. Marys | | 148 60 | 368 00 | 150 00 | 31 00 | | 430 69 | 1128 29 | 140 00 |
| 112 St. Thomas (F.L.) | 1253 92 | | 250 00 | | | | 75 80 | 1579 72 | 125 00 |

and Liabilities, etc.—Continued.

| EXPENDITURE DURING THE YEAR. | | | | | | | | | | ASSETS AND LIABILITIES. | |
|------------------------------|----------------------|------------------|------------------------------|------------------|------------------------------|----------------|------------------|---------|----------|-------------------------|--|
| Salaries. | Books (not fiction). | Books (fiction). | Magazines, News-papers, etc. | Evening Classes. | Lectures and Entertainments. | Miscellaneous. | Balance on hand. | Total. | Assets. | Liabilities. | |
| £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | |
| 57 | 41 67 | | 30 85 | 131 00 | 8 33 | 25 63 | 94 33 | 370 21 | 2200 00 | ..... |  |
| 58 | 50 00 | 34 35 | 17 86 | 20 00 | | 31 55 | 70 40 | 295 52 | 2119 25 | 100 24 | |
| 59 | 10 00 | 94 38 | 48 59 | 31 20 | 25 00 | 25 51 | 3 43 | 238 11 | 164 40 | 20 00 | |
| 60 | 30 00 | 163 37 | 71 91 | | 118 05 | 5 55 | 7 22 | 409 85 | 777 22 | ..... |  |
| 61 | 91 36 | 68 12 | 12 00 | 161 73 | | 1 87 | 27 57 | 464 63 | 1679 82 | 108 39 | |
| 62 | 372 50 | 125 00 | 150 00 | 150 00 | 118 00 | 128 43 | 31 38 | 1392 90 | 3309 63 | 135 00 | |
| 63 | 90 00 | 157 22 | 40 50 | 201 85 | 80 00 | 57 87 | | 781 08 | 1886 24 | 150 00 | |
| 64 | 348 55 | 136 35 | 25 00 | 101 00 | | 2477 39 | | 3274 12 | 27300 00 | 19073 34 | |
| 65 | 15 00 | 86 00 | 21 14 | | | 4 05 | 13 78 | 139 97 | 593 78 | ..... |  |
| 66 | | 99 18 | 2 94 | | | 78 53 | 70 36 | 324 28 | 1610 36 | ..... |  |
| 67 | | 76 89 | 42 00 | | | 6 82 | 105 72 | 246 43 | 505 72 | ..... |  |
| 68 | 111 00 | 125 80 | 33 09 | 52 50 | 145 75 | 28 94 | 13 84 | 767 06 | 438 84 | 52 50 | |
| 69 | 40 00 | 146 49 | 24 80 | 30 00 | 118 00 | 32 75 | 130 18 | 522 22 | 5308 18 | ..... |  |
| 70 | 106 00 | 137 69 | 65 22 | 100 00 | 50 00 | 29 75 | 10 81 | 528 28 | 2860 81 | 71 01 | |
| 71 | | 88 08 | 55 72 | | 20 83 | 10 37 | 4 | 175 04 | 149 84 | 18 00 | |
| 72 | 10 00 | 155 67 | 25 20 | 52 15 | 69 04 | 41 16 | 31 73 | 452 45 | 1320 00 | ..... |  |
| 73 | 37 49 | 173 31 | 53 31 | 84 83 | 114 00 | 74 86 | 258 41 | 896 21 | 1558 41 | 50 00 | |
| 74 | 10 00 | 60 00 | 40 00 | 12 85 | | 8 09 | 28 14 | 224 89 | 643 83 | ..... |  |
| 75 | 15 00 | | | | 98 00 | 22 90 | 64 54 | 248 44 | 814 54 | 85 47 | |
| 76 | 23 00 | 40 42 | 10 85 | 62 71 | | 29 22 | | 209 95 | 2050 00 | 40 74 | |
| 77 | 100 00 | 228 98 | 70 00 | 50 65 | | 50 58 | 119 80 | 684 57 | 3496 67 | ..... |  |
| 78 | 30 00 | 76 26 | 44 32 | 12 61 | | 28 18 | 15 01 | 239 53 | 1363 01 | ..... |  |
| 79 | 8 00 | 74 36 | 20 00 | 35 37 | | | 29 84 | 207 57 | 1689 84 | 7 00 | |
| 80 | | 164 29 | 36 20 | | | 11 55 | 4 15 | 218 19 | 1019 15 | 4 00 | |
| 81 | | 116 66 | 50 81 | | 100 25 | 100 25 | | 435 17 | 1478 91 | 110 07 | |
| 82 | 92 00 | 176 01 | 87 56 | 81 21 | 141 63 | 98 03 | 43 03 | 860 57 | 2343 03 | ..... |  |
| 83 | 50 00 | 87 00 | 30 50 | 50 00 | | 212 25 | 225 29 | 680 54 | 2625 29 | 200 00 | |
| 84 | 25 00 | 50 04 | 15 00 | | 58 05 | 19 13 | 114 48 | 288 20 | 1354 48 | ..... |  |
| 85 | 160 00 | 191 15 | 121 60 | 125 92 | 90 74 | 120 30 | 252 70 | 1118 08 | 8552 70 | ..... |  |
| 86 | 190 00 | 227 65 | 90 69 | 56 00 | | 25 30 | 77 01 | 800 03 | 1632 01 | ..... |  |
| 87 | | | 6 00 | | 75 00 | 75 15 | 10 07 | 216 22 | 1091 07 | ..... |  |
| 88 | 60 00 | 123 00 | 27 06 | 83 00 | 15 00 | 103 44 | 5 46 | 579 75 | 735 46 | 198 50 | |
| 89 | 92 50 | 178 36 | 50 00 | 55 85 | 103 80 | 28 64 | 13 92 | 738 89 | 1682 94 | 50 00 | |
| 90 | 156 00 | 259 85 | 38 85 | 136 46 | 50 00 | 70 74 | 108 98 | 970 18 | 5910 72 | 97 50 | |
| 91 | 76 66 | 260 31 | 50 00 | 42 76 | | 1 50 | 36 | 521 06 | 2050 36 | ..... |  |
| 92 | 10 00 | | | | | 28 50 | 6 61 | 56 36 | 806 61 | ..... |  |
| 93 | 216 00 | 120 07 | 70 98 | 138 38 | | 80 75 | 13 41 | 760 09 | 2174 41 | ..... |  |
| 94 | | | | | 109 00 | 11 44 | 6 56 | 151 00 | 1115 97 | 66 66 | |
| 95 | 48 00 | 227 38 | 40 00 | | 177 96 | 15 02 | 36 39 | 555 10 | 2359 98 | ..... |  |
| 96 | 60 00 | 142 18 | 29 91 | 93 57 | 112 50 | 55 88 | 36 23 | 590 27 | 7628 19 | ..... |  |
| 97 | 18 00 | 45 98 | 13 25 | | | 6 53 | 45 90 | 154 46 | 1882 50 | 141 65 | |
| 98 | 16 00 | | | | 35 10 | 4 57 | 35 51 | 91 18 | 1435 51 | 15 00 | |
| 99 | 56 25 | 300 00 | 44 20 | 79 97 | | 76 67 | 80 61 | 693 74 | 2155 61 | ..... |  |
| 100 | 2 00 | 121 20 | 41 78 | | | 32 00 | 11 72 | 209 70 | 1331 72 | ..... |  |
| 101 | 5 00 | 35 00 | | | 60 60 | 11 04 | | 111 64 | 475 00 | 2 24 | |
| 102 | 300 00 | 120 09 | 31 89 | 103 05 | 162 00 | 194 67 | 330 76 | 1541 48 | 4123 89 | 750 00 | |
| 103 | 137 50 | 162 68 | 42 93 | 113 05 | 93 00 | 357 78 | 10 34 | 1022 90 | 8667 84 | 1300 00 | |
| 104 | 112 00 | 194 22 | 33 71 | 87 60 | 104 15 | 54 90 | 1 46 | 689 69 | 3860 46 | ..... |  |
| 105 | 23 85 | 132 96 | 32 00 | 36 07 | 111 63 | 2 13 | 27 93 | 399 87 | 1577 93 | 26 20 | |
| 106 | 14 75 | 42 28 | | 26 15 | 36 00 | 118 89 | 88 | 242 75 | 3105 88 | ..... |  |
| 107 | 100 00 | 245 09 | 93 17 | 160 60 | 97 00 | 5 93 | 206 91 | 951 64 | 3756 91 | ..... |  |
| 108 | 30 00 | 62 47 | | 26 85 | 132 00 | 6 80 | 18 01 | 345 33 | 2274 01 | ..... |  |
| 109 | 225 91 | 243 92 | 30 00 | 85 00 | 82 50 | 108 40 | 43 34 | 962 77 | 3243 34 | ..... |  |
| 110 | 60 00 | 182 00 | 78 95 | 42 29 | 71 44 | 22 72 | 67 55 | 626 33 | 2180 44 | 55 00 | |
| 111 | 120 00 | 240 00 | 60 00 | 50 75 | 102 00 | 415 54 | | 1128 29 | 3610 00 | 384 69 | |
| 112 | 360 00 | 10 00 | | 106 45 | | 593 36 | 384 91 | 1579 72 | 1816 44 | ..... |  |

TABLE A.—Receipts, Expenditure, Assets

| INSTITUTES. | RECEIPTS DURING THE YEAR. | | | | | | | | Rent, Light, and Heating. |
|--------------------------|---------------------------|----------------|--------------------|------------------|----------------------------|------------------------------|----------------|----------|---------------------------|
| | Balance on hand. | Members' Fees. | Legislative Grant. | Municipal Grant. | Fees from Evening Classes. | Lectures and Entertainments. | Other sources. | Total. | |
| | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £. |
| 113 Teeswater | 9 41 | 44 00 | 100 00 | 15 00 | | 39 05 | | 207 46 | 15 00 |
| 114 Thorndale | 2 95 | 26 00 | | | | 16 50 | 4 20 | 49 65 | |
| 115 Toronto (F.L.) | 3182 69 | | 250 00 | 17226 00 | | | 3297 10 | 23955 79 | 1431 61 |
| 116 Trenton | | 321 40 | | 250 00 | | | | 571 40 | 15 52 |
| 117 Tilsonburg | 23 | 60 50 | | | | | 70 | 64 43 | 23 59 |
| 118 Uxbridge | 1 33 | 165 65 | 250 00 | | 45 50 | 198 63 | 222 75 | 883 86 | 334 38 |
| 119 Walkerton | 66 93 | 12 75 | 16 00 | | | | | 95 68 | 36 00 |
| 120 Wardsville | 8 48 | 13 00 | | | | | | 21 48 | |
| 121 Waterdown | 7 92 | 7 00 | 80 00 | | | | | 94 92 | |
| 122 Waterloo | 54 25 | 138 50 | 250 00 | 100 00 | | 7 60 | | 550 35 | 12 50 |
| 123 Welland | 22 94 | 67 25 | 250 00 | 200 00 | | | 82 00 | 622 19 | 86 10 |
| 124 Weston | 27 35 | 61 60 | 250 00 | 80 00 | | 13 80 | 32 15 | 464 90 | 92 00 |
| 125 Whitby | 34 25 | 93 50 | 310 00 | | 40 50 | | | 478 25 | 31 43 |
| 126 Warton | | 20 00 | | | | | | 20 00 | 20 00 |
| 127 Windermere | 100 00 | 35 25 | | 10 00 | | 40 50 | 50 95 | 236 70 | |
| 128 Wingham | 19 47 | 141 50 | 250 00 | 100 00 | | | 12 00 | 522 97 | 101 25 |
| 129 Woolbridge | 24 00 | 45 50 | | | | 2 25 | 35 00 | 106 75 | 3 60 |
| 130 Woodstock | 6 | 406 25 | 379 00 | 100 00 | 24 00 | | 146 33 | 1055 64 | 237 00 |
| 131 Wroxeter | 186 83 | 31 05 | 104 00 | | | | | 321 88 | 20 00 |
| Total | 10381 17 | 14503 92 | 2494 00 | 26122 56 | 1462 86 | 3799 78 | 11917 28 | 93136 57 | 10224 70 |

and Liabilities, etc.—Continued

| EXPENDITURE DURING THE YEAR. | | | | | | | | | | ASSETS AND LIABILITIES. | |
|------------------------------|----------------------|------------------|-----------------------------|------------------|------------------------------|----------------|------------------|----------|----------|-------------------------|--|
| Salaries. | Books (not fiction.) | Books (fiction.) | Magazines, Newspapers, etc. | Evening Classes. | Lectures and Entertainments. | Miscellaneous. | Balance on hand. | Total. | Assets. | Liabilities. | |
| £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | £ c. | |
| 113 | 10 00 | 119 43 | 27 72 | | | | 35 31 | 207 46 | 572 58 | | |
| 114 | 13 30 | 15 00 | 4 60 | | | 7 50 | 2 25 | 49 65 | 188 25 | 56 20 | |
| 115 | 8274 21 | 2576 08 | 600 00 | 1261 00 | | 7826 16 | 1986 73 | 23955 79 | 85372 83 | 69327 02 | |
| 116 | 20 00 | 227 86 | 63 67 | 73 89 | | 148 96 | 21 50 | 571 40 | 461 99 | | |
| 117 | 34 34 | | | 3 50 | | | | 61 43 | 300 00 | 26 00 | |
| 118 | 60 10 | 153 19 | 19 60 | 97 75 | 88 10 | 100 15 | 27 01 | 3 58 | 883 86 | 5103 58 | |
| 119 | | 53 00 | | | | | | 6 68 | 95 68 | 1031 68 | |
| 120 | 20 50 | | | | | | | 98 | 21 48 | 1337 77 | |
| 121 | | | | 26 10 | | | | 68 82 | 94 92 | 1568 82 | |
| 122 | 75 00 | 273 51 | 56 96 | 74 40 | | 13 55 | 32 48 | 11 95 | 530 35 | 2862 89 | |
| 123 | 81 00 | 279 30 | 73 69 | 46 88 | | | 55 22 | | 622 19 | 2410 66 | |
| 124 | 40 00 | 125 78 | 30 00 | 50 51 | | 24 00 | 102 61 | | 464 90 | 426 00 | |
| 125 | 52 00 | 79 00 | 1 65 | 17 55 | 141 25 | | 13 30 | 142 07 | 478 25 | 1751 07 | |
| 126 | | | | | | | | | 20 00 | 300 00 | |
| 127 | | 150 00 | 35 00 | 23 95 | | 7 50 | 20 25 | | 236 70 | 427 25 | |
| 128 | 52 00 | 131 73 | 27 35 | 95 55 | | | 24 60 | 90 49 | 522 97 | 2170 49 | |
| 129 | 11 00 | 42 00 | 8 00 | 1 00 | | 6 75 | 9 48 | 24 92 | 106 75 | 1083 42 | |
| 130 | 144 00 | 185 85 | 49 10 | 163 75 | 119 10 | | 156 84 | | 1055 64 | 3900 00 | |
| 131 | 5 00 | 200 00 | 51 09 | | | | 15 00 | 30 79 | 321 88 | 1393 62 | |
| | 17320 09 | 18476 61 | 5399 06 | 7297 93 | 6222 06 | 2293 77 | 17971 53 | 7930 82 | 93136 57 | 369098 84 | |
| | | | | | | | | | | 95256 43 | |

TABLE B.—Membership,

| MECHANICS' INSTITUTE. | Number of Members. | NUMBER OF VOLUMES IN LIBRARY. | | | | | | | | | Total number of Volumes. | |
|---------------------------|--------------------|-------------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|--------------------------|---------------------|
| | | Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | | Works of Reference. |
| 1 Ailsa Craig | 73 | 197 | 256 | 148 | 469 | 47 | 50 | 138 | 193 | 111 | 25 | 1634 |
| 2 Almonte | 100 | 74 | 143 | 175 | 108 | 87 | 21 | 116 | 115 | 57 | 43 | 939 |
| 3 Alton | 28 | 42 | 170 | 100 | 210 | 23 | 23 | 30 | 30 | 34 | 35 | 644 |
| 4 Arkona | 104 | 15 | 124 | 34 | 133 | 20 | 26 | 28 | 59 | 27 | 32 | 498 |
| 5 Arnprior | 115 | 12 | 146 | 45 | 78 | 200 | 26 | 2 | 32 | 18 | 6 | 565 |
| 6 Arthur | 65 | 62 | 225 | 76 | 232 | 34 | 27 | 65 | 36 | 83 | 14 | 820 |
| 7 Aylmer | 198 | 162 | 365 | 174 | 395 | 34 | 79 | 196 | 115 | 106 | 1626 | |
| 8 Ayr | 125 | 327 | 767 | 323 | 622 | 85 | 86 | 116 | 235 | 267 | 40 | 2868 |
| 9 Aurora | 129 | 80 | 125 | 80 | 160 | 28 | 28 | 75 | 60 | 15 | 623 | |
| 10 Barrie | 350 | 343 | 904 | 355 | 285 | 125 | 93 | 77 | 291 | 388 | 53 | 2914 |
| 11 Belleville | 186 | 80 | 800 | 203 | 350 | 150 | 60 | 50 | 90 | 105 | 154 | 2042 |
| 12 Berlin (P. L.) | 203 | 293 | 243 | 579 | 196 | 87 | 73 | 240 | 161 | 230 | 2255 | |
| 13 Blyth | 40 | 109 | 156 | 112 | 279 | 66 | 59 | 16 | 76 | 72 | 18 | 963 |
| 14 Bolton | 67 | 53 | 170 | 76 | 52 | 15 | 36 | 46 | 40 | 33 | 39 | 560 |
| 15 Bowmanville | 76 | 90 | 503 | 133 | 182 | 85 | 31 | 257 | 97 | 163 | 27 | 1568 |
| 16 Bracebridge | 56 | 69 | 283 | 92 | 177 | 63 | 51 | 88 | 64 | 88 | 64 | 887 |
| 17 Brampton | 184 | 112 | 137 | 156 | 294 | 5 | 39 | 34 | 174 | 193 | 67 | 1211 |
| 18 Brantford (P.L.) | 1963 | 539 | 1950 | 497 | 712 | 324 | 167 | 181 | 598 | 343 | 131 | 5442 |
| 19 Brighton | 103 | 100 | 323 | 146 | 171 | 55 | 38 | 35 | 136 | 110 | 39 | 1153 |
| 20 Brockville | 250 | 154 | 456 | 105 | 143 | 69 | 43 | 20 | 78 | 40 | 34 | 1142 |
| 21 Brussels | 74 | 187 | 108 | 117 | 162 | 27 | 64 | 38 | 179 | 81 | 40 | 1003 |
| 22 Caledon | 35 | 48 | 184 | 76 | 136 | 9 | 20 | 30 | 43 | 13 | 559 | |
| 23 Caledonia | 36 | 42 | 262 | 47 | 232 | 73 | 14 | 42 | 36 | 34 | 5 | 787 |
| 24 Campbellford | 102 | 148 | 337 | 272 | 418 | 52 | 47 | 6 | 285 | 40 | 40 | 1645 |
| 25 Carleton Place | 125 | 20 | 179 | 29 | 15 | 17 | 1 | 91 | 73 | 16 | 441 | |
| 26 Chatham | 302 | 245 | 789 | 344 | 310 | 65 | 83 | 40 | 201 | 104 | 54 | 2235 |
| 27 Cheltenham | 35 | 68 | 71 | 66 | 125 | 25 | 20 | 24 | 48 | 28 | 475 | |
| 28 Clarksburg | 15 | 32 | 136 | 29 | 51 | 16 | 29 | 34 | 25 | 19 | 371 | |
| 29 Claude | 56 | 89 | 144 | 109 | 215 | 21 | 23 | 21 | 113 | 78 | 16 | 829 |
| 30 Clifford | 50 | 25 | 160 | 5 | 100 | 25 | 50 | 40 | 25 | 5 | 435 | |
| 31 Clinton | 183 | 170 | 429 | 243 | 201 | 183 | 67 | 43 | 184 | 130 | 54 | 1704 |
| 32 Colborne | 57 | 46 | 675 | 72 | 200 | 22 | 58 | 56 | 51 | 1180 | | |
| 33 Collingwood | 115 | 375 | 544 | 444 | 483 | 286 | 107 | 106 | 474 | 493 | 168 | 3480 |
| 34 Columbus | 15 | | | | | | | | | | | 630 |
| 35 Deseronto | 122 | 18 | 120 | 59 | 71 | 30 | 18 | 14 | 32 | 362 | | |
| 36 Drayton | 107 | 56 | 221 | 48 | 109 | 24 | 29 | 23 | 61 | 40 | 19 | 630 |
| 37 Dundas | 128 | 692 | 930 | 622 | 1035 | 24 | 18 | 8 | 1271 | 944 | 220 | 5714 |
| 38 Dundas | 67 | 137 | 441 | 168 | 333 | 24 | 18 | 8 | 74 | 105 | 53 | 1361 |
| 39 Durham | 106 | 237 | 528 | 158 | 287 | 45 | 223 | 126 | 45 | 1649 | | |
| 40 Elora | 153 | 569 | 1247 | 558 | 973 | 506 | 174 | 155 | 1236 | 647 | 189 | 6254 |
| 41 Embro | 95 | 214 | 466 | 372 | 276 | 6 | 54 | 79 | 51 | 39 | 1457 | |
| 42 Ennotville | 50 | 124 | 206 | 108 | 136 | 125 | 42 | 130 | 158 | 68 | 51 | 1148 |
| 43 Essex Centre | 124 | 43 | 34 | 18 | 20 | 1 | 26 | 46 | 3 | 9 | 200 | |
| 44 Exeter | 61 | 109 | 481 | 116 | 235 | 37 | 77 | 84 | 132 | 137 | 77 | 1485 |
| 45 Fenelon Falls | 118 | 37 | 486 | 187 | 119 | 28 | 44 | 127 | 104 | 37 | 1169 | |
| 46 Fergus | 126 | 240 | 330 | 434 | 326 | 112 | 92 | 200 | 388 | 232 | 78 | 2432 |
| 47 Forest | 90 | 140 | 247 | 89 | 166 | 36 | 77 | 159 | 40 | 37 | 991 | |
| 48 Galt | 398 | 298 | 775 | 353 | 620 | 538 | 149 | 164 | 479 | 300 | 233 | 3909 |
| 49 Garden Island | 130 | 123 | 345 | 420 | 254 | 19 | 129 | 8 | 875 | 435 | 92 | 2700 |

Libraries and Reading Rooms, 1885-6.

| NUMBER OF VOLUMES ISSUED. | | | | | | | | | | | READING ROOM. | | |
|---------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|---------------------|--------------------------|------------------------|-----------------------|-----|
| Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | Works of Reference. | Total Number of Volumes. | Number of Periodicals. | Number of Newspapers. | |
| 1 | 52 | 675 | 55 | 410 | 165 | 30 | 64 | 75 | 135 | 10 | 1671 | ... | ... |
| 2 | 12 | 69 | 25 | 18 | 7 | 6 | 1 | 12 | 7 | ... | 157 | 8 | 23 |
| 3 | 18 | 519 | 27 | 108 | ... | 11 | ... | 33 | 29 | 2 | 747 | ... | ... |
| 4 | 18 | 243 | 65 | 160 | 38 | 40 | ... | 81 | 49 | ... | 694 | 9 | 8 |
| 5 | 26 | 477 | 34 | 86 | 221 | 33 | 1 | 29 | 107 | ... | 1014 | 9 | 15 |
| 6 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1217 | ... | ... |
| 7 | 106 | 1690 | 83 | 314 | 96 | 65 | ... | 113 | 270 | 30 | 2767 | 6 | 6 |
| 8 | 201 | 2212 | 111 | 395 | 408 | 53 | 58 | 80 | 347 | 8 | 4305 | 7 | 15 |
| 9 | 15 | 500 | 25 | 35 | ... | 5 | ... | 20 | 25 | ... | 625 | ... | ... |
| 10 | 261 | 3967 | 406 | 259 | 392 | 69 | 325 | 279 | 1821 | ... | 7779 | 19 | 7 |
| 11 | 240 | 1000 | 575 | 800 | 100 | 100 | 81 | 175 | 317 | 250 | 3638 | 10 | 27 |
| 12 | 66 | 3446 | 221 | 1380 | 72 | 53 | 68 | 175 | 567 | 152 | 6200 | 17 | 27 |
| 13 | 18 | 53 | 28 | 325 | 3 | 10 | 12 | 32 | 71 | 3 | 555 | ... | ... |
| 14 | 20 | 574 | 27 | 5 | 326 | 6 | 38 | 8 | 36 | 20 | 1060 | 12 | 3 |
| 15 | 37 | 932 | 41 | 55 | 15 | 19 | 297 | 26 | 143 | 3 | 1568 | ... | ... |
| 16 | 29 | 460 | 19 | 20 | ... | 9 | 13 | 17 | 51 | ... | 618 | ... | ... |
| 17 | 22 | 560 | 50 | 52 | ... | 2 | 1 | 15 | 149 | 5 | 856 | 10 | 8 |
| 18 | 1140 | 37963 | 1333 | 1662 | 2062 | 439 | 459 | 1139 | 1494 | ... | 47691 | 21 | 22 |
| 19 | 24 | 1288 | 47 | 118 | 54 | 29 | 47 | 38 | 122 | 12 | 1779 | 7 | 10 |
| 20 | 150 | 2580 | 200 | 520 | 200 | 100 | 100 | 150 | 200 | 100 | 4300 | 12 | 20 |
| 21 | 55 | 321 | 39 | 63 | 17 | 72 | 3 | 12 | 84 | 7 | 673 | ... | ... |
| 22 | 21 | 570 | 58 | 133 | 150 | 14 | 12 | 75 | 42 | ... | 1075 | ... | 1 |
| 23 | 17 | 391 | 32 | 207 | 30 | 10 | 12 | 17 | 29 | ... | 745 | ... | ... |
| 24 | 41 | 1069 | 79 | 75 | 813 | 31 | ... | 27 | 8 | ... | 2143 | 11 | 19 |
| 25 | 21 | 567 | 50 | 38 | ... | 29 | ... | 60 | 72 | ... | 837 | 4 | 16 |
| 26 | 159 | 5369 | 286 | 200 | ... | 60 | 35 | 245 | 280 | ... | 6634 | 14 | 13 |
| 27 | 26 | 55 | 34 | 49 | 20 | 14 | 12 | 33 | 48 | ... | 291 | ... | ... |
| 28 | 17 | 109 | 10 | 26 | ... | 11 | ... | 17 | 10 | ... | 200 | ... | ... |
| 29 | 19 | 130 | 16 | 36 | 30 | 5 | 8 | 14 | 16 | 2 | 276 | ... | ... |
| 30 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 31 | 488 | 1050 | 424 | 1040 | 1802 | 194 | 134 | 302 | 635 | 104 | 6173 | 23 | 10 |
| 32 | 38 | 1611 | 41 | 265 | 18 | 39 | ... | 58 | 81 | ... | 2151 | ... | ... |
| 33 | 239 | 783 | 426 | 639 | 208 | 117 | 138 | 420 | 672 | ... | 3642 | 16 | 12 |
| 34 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 100 | ... | ... |
| 35 | 13 | 484 | 21 | 306 | ... | 23 | ... | 28 | 23 | 1 | 899 | 6 | 48 |
| 36 | 55 | 757 | 29 | 61 | 123 | 13 | 24 | 35 | 106 | ... | 1203 | 11 | 10 |
| 37 | 153 | 1106 | 112 | 127 | ... | ... | ... | 163 | 588 | ... | 2249 | 7 | 8 |
| 38 | 173 | 1421 | 473 | 538 | 70 | 69 | 13 | 107 | 586 | 8 | 3458 | ... | ... |
| 39 | 267 | 2019 | 153 | 279 | ... | 94 | ... | 213 | 671 | 33 | 3729 | ... | ... |
| 40 | 109 | 2083 | 117 | 184 | 680 | 60 | 20 | 155 | 265 | 15 | 3688 | 23 | 13 |
| 41 | 480 | 775 | 205 | 185 | 28 | 65 | ... | 80 | 47 | ... | 1865 | 7 | 10 |
| 42 | 13 | 410 | 15 | 23 | 92 | 8 | 23 | 8 | 20 | 1 | 613 | ... | ... |
| 43 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 44 | 79 | 692 | 69 | 221 | 52 | 12 | 63 | 46 | 135 | 32 | 1401 | 2 | 4 |
| 45 | 62 | 1422 | 158 | 94 | ... | 16 | 27 | 108 | 371 | ... | 2258 | 13 | 22 |
| 46 | 116 | 1078 | 173 | 188 | 75 | 54 | 56 | 123 | 200 | 12 | 2075 | 12 | 18 |
| 47 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 7 |
| 48 | 295 | 5311 | 261 | 1631 | 1174 | 204 | 141 | 386 | 779 | 12 | 10185 | 33 | 8 |
| 49 | 244 | 828 | 247 | 63 | 28 | 56 | 6 | 162 | 198 | 8 | 1840 | 14 | 16 |

TABLE B.—Membership,

| MECHANICS' INSTITUTES. | Number of Members. | NUMBER OF VOLUMES IN LIBRARY. | | | | | | | | | Total Number of Volumes. | |
|-------------------------|--------------------|-------------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|--------------------------|---------------------|
| | | Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | | Works of Reference. |
| 50 Georgetown..... | 135 | 70 | 232 | 106 | 277 | ..... | 25 | 34 | 189 | 41 | 35 | 1009 |
| 51 Goderich..... | 105 | 234 | 437 | 254 | 323 | 81 | 89 | 111 | 271 | 188 | 61 | 2049 |
| 52 Gravenhurst..... | 16 | 19 | 71 | 16 | 28 | 203 | 6 | 18 | 18 | 14 | 8 | 401 |
| 53 Grimsby..... | 103 | 76 | 1543 | 141 | 644 | 590 | 39 | 37 | 160 | 201 | 84 | 3515 |
| 54 Guelph (P.L.)..... | 884 | 436 | 1045 | 419 | 442 | 427 | 104 | 201 | 468 | 414 | 210 | 4166 |
| 55 Hanover..... | 39 | 47 | 117 | 111 | 74 | 7 | 24 | 22 | 41 | 67 | 10 | 520 |
| 56 Harriston..... | 100 | 123 | 500 | 155 | 316 | 300 | 85 | 164 | 368 | 168 | 40 | 2219 |
| 57 Hespeler..... | 85 | 191 | 331 | 163 | 329 | 19 | 73 | ..... | 206 | 101 | 79 | 1492 |
| 58 Ingersol..... | 123 | 146 | 496 | 152 | 309 | 360 | 48 | ..... | 66 | 171 | 16 | 1764 |
| 59 Iroquois..... | 66 | 2 | 61 | 41 | 37 | 36 | 9 | 1 | 18 | 2 | 2 | 209 |
| 60 Kemptville..... | 70 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 843 |
| 61 Kincardine..... | 164 | 143 | 481 | 149 | 314 | 390 | 86 | 89 | 187 | 107 | 106 | 2052 |
| 62 Kingston..... | 346 | 360 | 1466 | 300 | 190 | 740 | 75 | 174 | 385 | 350 | 195 | 4235 |
| 63 Lindsay..... | 114 | 76 | 698 | 182 | 191 | ..... | 31 | ..... | 73 | 44 | 53 | 1348 |
| 64 London..... | 364 | 245 | 933 | 267 | 763 | 403 | 110 | 165 | 276 | 174 | 157 | 3493 |
| 65 Lucan..... | 60 | 95 | 140 | 110 | 115 | 10 | 36 | 40 | 51 | 59 | 24 | 680 |
| 66 Meaford..... | 102 | 95 | 318 | 110 | 180 | 2 | 48 | ..... | 74 | 73 | 40 | 940 |
| 67 Merrickville..... | 96 | 100 | 130 | 85 | 260 | 61 | 32 | 54 | 63 | 56 | 21 | 862 |
| 68 Midland..... | 100 | 48 | 147 | 39 | 88 | 5 | 27 | 57 | 63 | 38 | 16 | 528 |
| 69 Milton..... | 111 | 268 | 565 | 409 | 594 | 430 | 106 | 11 | 509 | 295 | 54 | 3241 |
| 70 Mitchell..... | 187 | 131 | 366 | 247 | 498 | 179 | 30 | 47 | 49 | 191 | 118 | 1856 |
| 71 Mono Road..... | 73 | 30 | 78 | 16 | 32 | ..... | 2 | 2 | 4 | 22 | 1 | 187 |
| 72 Mount Forest..... | 76 | 122 | 224 | 151 | 189 | ..... | 45 | 45 | 98 | 58 | 20 | 952 |
| 73 Napanee..... | 215 | 155 | 425 | 189 | 161 | ..... | 30 | ..... | 145 | 188 | ..... | 1293 |
| 74 New Hamburg..... | 70 | 51 | 231 | 39 | 196 | ..... | 21 | ..... | 19 | 16 | 11 | 584 |
| 75 Newmarket..... | 50 | 63 | 270 | 96 | 194 | 21 | 33 | 23 | 54 | 123 | 14 | 891 |
| 76 Niagara..... | 54 | 361 | 542 | 456 | 319 | 15 | 172 | ..... | 297 | 275 | 40 | 2477 |
| 77 Niagara Falls..... | 184 | 241 | 806 | 305 | 428 | ..... | 113 | ..... | 349 | 182 | 45 | 2469 |
| 78 Norwich..... | 97 | 92 | 484 | 100 | 219 | 66 | 34 | 106 | 61 | 86 | 40 | 1288 |
| 79 Norwood..... | 57 | 60 | 300 | 50 | 250 | 10 | 22 | 100 | 80 | 68 | 30 | 970 |
| 80 Oakville..... | 62 | 155 | 144 | 157 | 259 | 16 | 63 | 135 | 122 | 117 | 35 | 1203 |
| 81 Orangeville..... | 122 | 104 | 575 | 124 | 243 | ..... | 36 | 48 | 81 | 69 | 30 | 1310 |
| 82 Orillia..... | 229 | 142 | 534 | 174 | 260 | 20 | 69 | 27 | 269 | 226 | 29 | 1750 |
| 83 Owen Sound..... | 193 | 147 | 643 | 232 | 272 | 28 | 61 | 41 | 174 | 140 | 38 | 1776 |
| 84 Paisley..... | 114 | 150 | 250 | 200 | 130 | ..... | 50 | 60 | 280 | 80 | ..... | 1200 |
| 85 Paris..... | 223 | 410 | 769 | 526 | 517 | 311 | 216 | 294 | 465 | 358 | 261 | 4127 |
| 86 Parkdale..... | 103 | 52 | 56 | 631 | 26 | 61 | 68 | 38 | 14 | 263 | 63 | 1272 |
| 87 Parkhill..... | 74 | 82 | 125 | 174 | 70 | 89 | 43 | 71 | 175 | 69 | 30 | 928 |
| 88 Penetanguishene..... | 155 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 89 Perth..... | 163 | 200 | 459 | 245 | 600 | 37 | 68 | ..... | 150 | 203 | 25 | 1987 |
| 90 Peterborough..... | 281 | 426 | 734 | 322 | 2207 | 117 | 123 | 201 | 484 | 358 | 161 | 5133 |
| 91 Point Edward..... | 111 | 142 | 462 | 200 | 270 | ..... | 45 | 15 | 213 | 143 | 21 | 1511 |
| 92 Port Elgin..... | 24 | 202 | 224 | 169 | 362 | 15 | 70 | 52 | 198 | 152 | 44 | 1488 |
| 93 Port Hope..... | 162 | 253 | 886 | 187 | 268 | 5 | 37 | 9 | 176 | 195 | 45 | 2061 |
| 94 Port Perry..... | 53 | 159 | 213 | 14 | 147 | 45 | 55 | 71 | 146 | 35 | 28 | 913 |
| 95 Prescott..... | 130 | 251 | 486 | 184 | 337 | ..... | 77 | 53 | 142 | 272 | 28 | 1830 |

Libraries and Reading Rooms, 1885-6.

| NUMBER OF VOLUMES ISSUED. | | | | | | | | | | | | READING ROOM. | |
|---------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|---------------------|--------------------------|------------------------|-----------------------|-------|
| Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | Works of Reference. | Total Number of Volumes. | Number of Periodicals. | Number of Newspapers. | |
| 50 | 24 | 788 | 95 | 336 | ..... | 15 | 16 | 84 | 68 | 2 | 1428 | 2 | 9 |
| 51 | 77 | 1149 | 78 | 147 | 52 | 23 | 82 | 158 | 274 | ..... | 2040 | 19 | 18 |
| 52 | 14 | 91 | 5 | 3 | 5 | 3 | 1 | 6 | 9 | ..... | 137 | 5 | 11 |
| 53 | 161 | 671 | 187 | 674 | 56 | 56 | 30 | 444 | 345 | 47 | 2671 | 9 | ..... |
| 54 | 838 | 16152 | 783 | 849 | 2297 | 229 | 368 | 638 | 2565 | 2509 | 27228 | 14 | 28 |
| 55 | 28 | 124 | 61 | 24 | 22 | 5 | 6 | 23 | 60 | 1 | 354 | ..... | ..... |
| 56 | 110 | 1476 | 250 | 1228 | 94 | 25 | 85 | 238 | 832 | ..... | 4338 | 4 | 7 |
| 57 | 152 | 635 | 80 | 742 | 1114 | 60 | ..... | 192 | 175 | ..... | 3150 | 12 | 3 |
| 58 | 74 | 1746 | 163 | 284 | 1194 | 19 | ..... | 77 | 165 | ..... | 3722 | 9 | ..... |
| 59 | 6 | 263 | 24 | 102 | 45 | 9 | ..... | 27 | 8 | ..... | 484 | ..... | ..... |
| 60 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 61 | 106 | 1781 | 136 | 401 | 2442 | 61 | 25 | 108 | 168 | 29 | 5257 | 21 | 12 |
| 62 | 90 | 5994 | 198 | 320 | 3894 | 45 | 54 | 70 | 325 | 70 | 11060 | 27 | 16 |
| 63 | 117 | 1615 | 165 | 159 | ..... | 16 | ..... | 89 | 327 | ..... | 2488 | 14 | 15 |
| 64 | 92 | 2749 | 130 | 345 | 343 | 56 | 24 | 131 | 379 | ..... | 4249 | 18 | 31 |
| 65 | 110 | 210 | 100 | 50 | 5 | 40 | 152 | 30 | 100 | 15 | 812 | ..... | ..... |
| 66 | 16 | 918 | 72 | 36 | 100 | 11 | ..... | 20 | 47 | 5 | 1225 | ..... | ..... |
| 67 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 68 | 49 | 709 | 73 | 76 | 19 | 21 | 120 | 27 | 124 | ..... | 1218 | 7 | 8 |
| 69 | 70 | 1359 | 107 | 81 | 604 | 26 | 5 | 61 | 295 | ..... | 2608 | 1 | 9 |
| 70 | 53 | 1332 | 136 | 725 | 131 | 35 | 35 | 90 | 161 | ..... | 2698 | 11 | 10 |
| 71 | 46 | 253 | 9 | 66 | ..... | 2 | ..... | 6 | 40 | 2 | 424 | ..... | ..... |
| 72 | 55 | 423 | 56 | 105 | ..... | 20 | 18 | 80 | 47 | 4 | 808 | 1 | 14 |
| 73 | 289 | 1890 | ..... | 210 | ..... | 199 | ..... | 81 | 671 | ..... | 3340 | 8 | 13 |
| 74 | 14 | 453 | 35 | 206 | 24 | 6 | ..... | 32 | 1 | ..... | 771 | ..... | ..... |
| 75 | 18 | 623 | 50 | 107 | 37 | 4 | 22 | 28 | 183 | 4 | 1076 | ..... | 4 |
| 76 | 130 | 500 | 146 | 260 | 50 | 124 | ..... | 19 | 250 | 10 | 1489 | 15 | 4 |
| 77 | 100 | 1883 | 160 | 190 | ..... | 35 | ..... | 65 | 160 | ..... | 2593 | 8 | 4 |
| 78 | 38 | 1294 | 52 | 72 | 122 | 12 | 17 | 17 | 89 | ..... | 1713 | ..... | ..... |
| 79 | 24 | 668 | 12 | 45 | ..... | 10 | 30 | 12 | 73 | 10 | 884 | 8 | 2 |
| 80 | 25 | 171 | 35 | 37 | ..... | 21 | 12 | 11 | 44 | 13 | 369 | ..... | ..... |
| 81 | 33 | 1009 | 59 | 172 | ..... | 5 | 21 | 25 | 46 | 35 | 1405 | ..... | ..... |
| 82 | 110 | 2236 | 225 | 225 | 55 | 66 | 33 | 187 | 1204 | 2 | 4343 | 13 | 11 |
| 83 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4542 | 10 | 22 |
| 84 | 300 | 700 | 400 | 168 | ..... | 200 | 200 | 300 | ..... | ..... | 2268 | ..... | ..... |
| 85 | 140 | 3948 | 278 | 309 | 588 | 87 | 150 | 192 | 260 | ..... | 5952 | 18 | 27 |
| 86 | 171 | 1498 | 233 | 420 | 424 | 261 | 125 | 155 | 314 | 91 | 3692 | 6 | 9 |
| 87 | 28 | 467 | 69 | 138 | 20 | 22 | 18 | 73 | 45 | ..... | 880 | ..... | ..... |
| 88 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 89 | 136 | 2326 | 397 | 1299 | 138 | 72 | ..... | 110 | 833 | 15 | 5326 | 10 | 10 |
| 90 | 153 | 2801 | 186 | 3001 | 193 | 83 | 117 | 264 | 290 | ..... | 7088 | 27 | 16 |
| 91 | 19 | 1006 | 55 | 115 | ..... | 27 | 8 | 47 | 136 | 1 | 1414 | 4 | 9 |
| 92 | 12 | 30 | 5 | 20 | ..... | 2 | 2 | 4 | 23 | ..... | 98 | ..... | ..... |
| 93 | 160 | 3406 | 129 | 163 | 3 | 16 | 3 | 59 | 111 | ..... | 4050 | 24 | 18 |
| 94 | 54 | 382 | ..... | 61 | 13 | 5 | 8 | 39 | 10 | ..... | 572 | ..... | ..... |
| 95 | 30 | 1225 | 42 | 450 | ..... | 20 | 14 | 25 | 510 | 9 | 2325 | ..... | ..... |

TABLE B.—Membership,

| MECHANICS' INSTITUTES. | Number of Members. | NUMBER OF VOLUMES IN LIBRARY. | | | | | | | | | | |
|----------------------------|--------------------|-------------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|---------------------|--------------------------|
| | | Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | Works of Reference. | Total Number of Volumes. |
| 96 Preston..... | 103 | 448 | 412 | 411 | ..... | 140 | 776 | .... | 1070 | 569 | 107 | 3933 |
| 97 Renfrew..... | 62 | 162 | 472 | 205 | 291 | 180 | 65 | .... | 192 | 83 | 23 | 16 |
| 98 Richmond Hill..... | 40 | 66 | 171 | 97 | 417 | 192 | 35 | 12 | 49 | 31 | 55 | 1125 |
| 99 Ridgetown..... | 114 | 85 | 730 | 180 | 391 | 625 | 48 | 37 | 194 | 78 | 32 | 2400 |
| 100 Scarboro'..... | 56 | 226 | 394 | 240 | 251 | 95 | 54 | 323 | 205 | 217 | 4 | 069 |
| 101 Schomberg..... | 35 | 25 | 68 | 38 | 30 | ..... | 22 | 67 | 24 | 41 | 1 | 326 |
| 102 Seaforth..... | 368 | 293 | 846 | 371 | 211 | 237 | 66 | 103 | 341 | 73 | 39 | 2880 |
| 103 Simcoe (P.L.)..... | ..... | 275 | 1013 | 335 | 314 | 118 | 118 | 95 | 258 | 266 | 30 | 2822 |
| 104 Smith's Falls..... | 215 | 248 | 604 | 243 | 421 | 161 | 65 | 151 | 678 | 41 | 72 | 2984 |
| 105 Stouffville..... | 102 | 81 | 279 | 88 | 248 | 14 | 39 | 80 | 186 | 96 | 55 | 1166 |
| 106 Stratford..... | 127 | 195 | 1225 | 299 | 920 | 360 | 110 | 45 | 296 | 265 | 40 | 8775 |
| 107 Strathroy..... | 200 | 175 | 866 | 340 | 310 | 175 | 78 | 85 | 238 | 177 | 80 | 2524 |
| 108 Streetsville..... | 102 | 220 | 557 | 232 | 148 | 26 | 216 | 80 | 269 | 152 | 54 | 1934 |
| 109 St. Catharines..... | 314 | 543 | 1487 | 541 | 579 | 353 | 168 | 254 | 534 | 580 | 88 | 5133 |
| 110 St. George..... | 63 | 130 | 724 | 203 | 150 | 53 | 38 | 66 | 107 | 153 | 47 | 1671 |
| 111 St. Mary's..... | 165 | 430 | 700 | 520 | 1200 | 160 | 200 | 309 | 400 | 390 | 30 | 4439 |
| 112 St. Thomas (P.L.)..... | 1100 | 170 | 938 | 243 | 576 | 137 | 54 | 89 | 259 | 140 | 71 | 2677 |
| 113 Teeswater..... | 50 | 96 | 216 | 78 | 79 | 5 | 20 | 17 | 47 | 71 | .... | 629 |
| 114 Thorndale..... | 50 | 30 | 126 | 31 | 65 | ..... | 14 | 28 | 15 | 12 | ..... | 321 |
| 115 Toronto (P.L.)..... | 11844 | 1791 | 11453 | 1368 | 2715 | 1607 | 534 | 709 | 2085 | 517 | 17507 | 41286 |
| 116 Trenton..... | 170 | 31 | 132 | 40 | 48 | ..... | 29 | ..... | 53 | 23 | 11 | 367 |
| 117 Uxbridge..... | 176 | 380 | 1410 | 296 | 300 | 139 | 73 | 152 | 425 | 340 | 150 | 3665 |
| 118 Walkerton..... | 17 | 44 | 344 | 86 | 286 | ..... | 27 | ..... | 92 | 66 | ..... | 945 |
| 119 Wardsville..... | 13 | 150 | 207 | 237 | 418 | ..... | 136 | ..... | 177 | 155 | 100 | 1580 |
| 120 Waterdown..... | 20 | 75 | 75 | 300 | 309 | 120 | 110 | 75 | 120 | 100 | 100 | 1375 |
| 121 Waterloo..... | 139 | 123 | 909 | 262 | 1160 | 322 | 184 | 79 | 195 | 196 | 53 | 3483 |
| 122 Welland..... | 234 | 214 | 842 | 173 | 237 | 29 | 58 | 62 | 318 | 111 | 26 | 2070 |
| 123 Weston..... | 104 | 26 | 109 | 57 | 57 | ..... | 6 | 44 | 61 | 26 | 24 | 410 |
| 124 Whitby..... | 107 | 114 | 640 | 189 | 197 | 68 | 23 | ..... | 169 | 209 | 28 | 1637 |
| 125 Warton..... | 30 | 25 | 135 | 80 | 84 | 2 | 16 | 16 | 19 | 9 | 4 | 390 |
| 126 Windermere..... | 53 | 30 | 97 | 46 | 23 | 40 | 5 | 37 | 14 | 20 | ..... | 312 |
| 127 Wingham..... | 126 | 201 | 504 | 162 | 214 | 67 | 80 | ..... | 215 | 281 | 35 | 1759 |
| 128 Woodbridge..... | 50 | 32 | 108 | 69 | 97 | ..... | 21 | 11 | 41 | 32 | 22 | 433 |
| 129 Woodstock..... | 299 | 400 | 1386 | 350 | 410 | 58 | 81 | 175 | 354 | 379 | 209 | 3752 |
| 130 Wroxeter..... | 55 | 192 | 199 | 234 | 221 | 61 | 46 | 42 | 132 | 77 | 44 | 1248 |
| Total..... | 29492 | 22096 | 69796 | 25827 | 40815 | 14371 | 8795 | 8587 | 27632 | 20687 | 24715 | 264794 |

Libraries and Reading Rooms, 1885-6.

| NUMBER OF VOLUMES ISSUED. | | | | | | | | | | | READING ROOM. | | |
|---------------------------|----------|----------|----------------|------------------------|-----------------------|-----------------------|------------------|----------------------|---------------------|--------------------------|------------------------|-----------------------|-------|
| Biography. | Fiction. | History. | Miscellaneous. | Periodical Literature. | Poetry and the Drama. | Religious Literature. | Science and Art. | Voyages and Travels. | Works of Reference. | Total Number of Volumes. | Number of Periodicals. | Number of Newspapers. | |
| 96 | 146 | 1022 | 143 | ..... | 218 | 250 | ..... | 230 | 429 | 2 | 2440 | 23 | 13 |
| 97 | 26 | 1421 | 63 | 102 | 190 | 15 | ..... | 29 | 76 | 1 | 1923 | ..... | ..... |
| 98 | 14 | 105 | 24 | 160 | 157 | 4 | 7 | 9 | 14 | 3 | 497 | ..... | ..... |
| 99 | 91 | 1982 | 160 | 116 | 487 | 54 | ..... | 303 | 487 | 21 | 3701 | ..... | ..... |
| 100 | 80 | 792 | 75 | 193 | 380 | 4 | 149 | 80 | 114 | ..... | 1867 | ..... | ..... |
| 101 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 446 | ..... | ..... |
| 102 | 972 | 6130 | 1316 | 935 | 863 | 411 | 440 | 866 | 1500 | ..... | 13433 | 12 | 18 |
| 103 | 162 | 6178 | 197 | 275 | 83 | 134 | 117 | 248 | 636 | ..... | 8030 | 14 | 11 |
| 104 | 363 | 1813 | 311 | 747 | 721 | 69 | 64 | 723 | 283 | ..... | 5094 | 16 | 18 |
| 105 | 25 | 496 | 20 | 121 | ..... | 14 | 22 | 53 | 58 | ..... | 809 | 9 | 6 |
| 106 | 150 | 2500 | 250 | 850 | 500 | 120 | 30 | 230 | 250 | 25 | 4905 | ..... | ..... |
| 107 | 239 | 5295 | 521 | 289 | 607 | 161 | 78 | 209 | 672 | 23 | 8094 | 18 | 11 |
| 108 | 69 | 956 | 53 | 85 | ..... | 63 | 28 | 49 | 85 | ..... | 1388 | 5 | 4 |
| 109 | 687 | 3487 | 435 | 450 | 1343 | 144 | 894 | 282 | 988 | ..... | 8710 | 8 | 7 |
| 110 | 72 | 628 | 116 | 110 | 75 | 40 | 110 | 133 | 230 | 14 | 1528 | 8 | 8 |
| 111 | 100 | 3200 | 250 | 1000 | 75 | 173 | 138 | 400 | 450 | ..... | 5786 | 5 | 10 |
| 112 | 486 | 11295 | 507 | 1604 | 405 | 124 | 165 | 265 | 335 | ..... | 15186 | 36 | 30 |
| 113 | 90 | 265 | 62 | 66 | 40 | 27 | 12 | 18 | 105 | ..... | 685 | ..... | ..... |
| 114 | 14 | 173 | 17 | 23 | ..... | 2 | 9 | 6 | 10 | ..... | 254 | ..... | ..... |
| 115 | 6264 | 187025 | 6204 | 31740 | 11521 | 2341 | 2499 | 10908 | 8228 | 11201 | 277931 | 196 | 208 |
| 116 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8 | 24 |
| 117 | 104 | 2297 | 97 | 63 | 203 | 37 | 76 | 97 | 211 | 205 | 3390 | 14 | 13 |
| 118 | 5 | 287 | 17 | 132 | ..... | 6 | ..... | 20 | 56 | ..... | 523 | ..... | ..... |
| 119 | 80 | 40 | 99 | 213 | ..... | 45 | ..... | 15 | 83 | ..... | 575 | ..... | ..... |
| 120 | 16 | 588 | 23 | 110 | 20 | 6 | 19 | 13 | 19 | 2 | 816 | ..... | ..... |
| 121 | 84 | 2312 | 255 | 1061 | 656 | 158 | 25 | 88 | 534 | 12 | 5185 | 20 | 2 |
| 122 | 106 | 3463 | 91 | 48 | 20 | 47 | 26 | 127 | 49 | 4 | 3981 | 7 | 14 |
| 123 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 814 | 10 | 6 |
| 124 | 51 | 1861 | 147 | 209 | 507 | 18 | ..... | 124 | 205 | 40 | 3162 | ..... | ..... |
| 125 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 126 | 90 | 200 | 80 | 50 | ..... | 12 | 100 | 45 | 50 | ..... | 627 | 6 | 2 |
| 127 | 75 | 571 | 55 | 28 | 68 | 23 | ..... | 51 | 292 | ..... | 1163 | 12 | 28 |
| 128 | 15 | 114 | 26 | 87 | ..... | 18 | ..... | 54 | 35 | 20 | 367 | 3 | 1 |
| 129 | 405 | 8143 | 204 | 245 | 55 | 114 | 77 | 182 | 931 | ..... | 10356 | 37 | 12 |
| 130 | 13 | 155 | 58 | 28 | 27 | 5 | 2 | 3 | 20 | 2 | 313 | ..... | ..... |
| 21045 | 414035 | 24264 | 68999 | 43306 | 9052 | 9210 | 25607 | 41170 | 15289 | 679096 | 1147 | 1214 | |

TABLE C.—Evening Classes, 1885-6.

| INSTITUTE. | Number of Students. | SUBJECT TAUGHT. |
|----------------------|---------------------|---|
| Alton | 13 | Writing, Book-keeping and Arithmetic. |
| Almonte | 21 | do do |
| Amprior | 11 | do do |
| Barrie..... | 16 | do do |
| Brantford, P.L..... | 37 | do do |
| Brockville..... | 12 | Elocution. |
| Carleton Place..... | 17 | Book-keeping. |
| Clinton..... | 4 | do and Arithmetic. |
| Durham..... | 42 | Writing and Arithmetic. |
| Fergus..... | 22 | do Book-keeping, Arithmetic, Botany and Physiology. |
| Garden Island..... | 58 | do do and Grammar. |
| Goderich..... | 17 | Book-keeping. |
| Guelph, P.L..... | 16 | Wood Carving. |
| Hespeler..... | 59 | Writing, Book-keeping and Arithmetic. |
| Kingston..... | 125 | do do and Phonography. |
| Midland..... | 14 | do do |
| Napanee..... | 21 | do do and Grammar. |
| Orillia..... | 29 | do do |
| Paisley..... | 26 | Book-keeping, Arithmetic, Botany, Canadian History, Composition and Spelling. |
| Penetanguishene..... | 69 | Writing, Book-keeping and Arithmetic. |
| Preston..... | 25 | do do |
| Seaforth..... | 34 | do do, |
| Simcoe, P.L..... | 33 | do do |
| Whitby..... | 20 | do do |

TABLE D.—Evening Classes, 1885-6, Drawing.

| INSTITUTES. | Number of Students. | SUBJECT TAUGHT. |
|------------------|---------------------|---|
| Ailsa Craig | 31 | Freehand, Geometrical, Perspective, Model, Memory and Blackboard. |
| Almonte | 18 | do do do |
| Arnprior | 25 | do do do |
| Aurora | 27 | do do do |
| Barrie | 17 | do do do |
| Blyth | 15 | do do do |
| Brantford, P. L. | 51 | do do do |
| Brockville | 33 | do do do |
| Berlin, P. L. | 32 | do do do and Indus- trial Designs. |
| Carleton Place | 12 | Mechanical Drawing. |
| Cheltenham | 21 | Freehand, Geometrical, Perspective, Model, Memory and Blackboard Drawing. |
| Claude | 23 | do do do do |
| Durham | 42 | do do do do |
| Elora | 35 | do do do do |
| Galt | 28 | do do do do |
| Garden Island | 42 | and Machine and Architectural Drawing. |
| Georgetown | 40 | Freehand, Geometrical, Perspective, Model, Memory and Blackboard Drawing. |
| Goderich | 16 | do do do do |
| Guelph, P.L. | 85 | do do do do |
| Kemptville | 23 | do do do do |
| Lindsay | 22 | do do do do |
| Midland | 32 | do do do do |
| Milton | 28 | do do do do |
| Mitchell | 44 | do do do do |
| Mount Forest | 16 | do do do do |
| Newmarket | 15 | do do do do |
| Napanee | 9 | do do do do |
| Orangeville | 25 | do do do do |
| Orillia | 15 | do do do do |
| Paris | 33 | do do do do |
| Penetanguishene | 38 | Freehand. |
| Perth | 24 | Freehand, Geometrical, Perspective, Model, Memory and Blackboard Drawing. |
| Peterborough | 16 | Mechanical Drawing. |
| Parkhill | 48 | Freehand, Geometrical, Perspective, Model, Memory and Blackboard Drawing. |
| Port Perry | 19 | do do do do |
| Prescott | 27 | do do do do |
| Preston | 21 | do do do do |
| Richmond Hill | 28 | do do do do |
| Schomberg | 18 | do do do do |
| Seaforth | 132 | do do do do |
| Smith's Falls | 14 | do do do do |
| Stouffville | 19 | do do do do and Model. |
| Streetsville | 25 | do do do do Model, Memory and Blackboard Drawing. |
| Strathroy | 39 | do do do do |
| Stratford | 38 | do do do do |
| St. George | 30 | do do do do |
| St. Marys | 16 | do do do do |
| St. Catharines | 24 | do do do do |
| Uxbridge | 38 | do do do do |
| Woodstock | 12 | do do do do |
| Whitby | 25 | do do do do |

TABLE E.—Mechanics' Institutes Evening Classes in Drawing, shewing number of students attending the Examination, on 1st and 2nd March, 1886, Certificates taken and extra grants paid.

I. GRADE B.—ELEMENTARY.

| NAME OF INSTITUTE. | No. of Students for Examination. | NO. OF PROFICIENCY CERTIFICATES IN GRADE B TAKEN. | | | | | Total. | No. of Teachers' Certificates, Grade B. | Grant paid for Certificates. |
|-------------------------|----------------------------------|---|-----------|--------------|--------|---------|--------|---|------------------------------|
| | | Freehand. | Geometry. | Perspective. | Model. | Memory. | | | |
| 1 Aurora..... | 23 | 1 | 1 | | 2 | | 4 | | \$ 3 00 |
| 2 Ailsa Craig..... | 24 | 4 | 3 | 2 | 5 | | 14 | | 12 00 |
| 3 Almonte..... | 6 | 3 | | | 3 | 2 | 8 | | 7 00 |
| 4 Arnprior..... | 25 | 3 | 4 | | 3 | 3 | 13 | | 12 00 |
| 5 Barrie..... | 13 | 5 | 1 | | 6 | 2 | 14 | | 11 00 |
| 6 Berlin (P.L.)..... | 32 | 12 | 16 | 3 | 9 | 2 | 42 | 1 | 30 00 |
| 7 Blyth..... | 15 | 4 | 4 | | 5 | 2 | 15 | | 13 00 |
| 8 Brockville..... | 20 | 11 | 6 | | 10 | 4 | 31 | | 28 00 |
| 9 Brantford (P.L.)..... | 14 | 5 | 5 | 1 | 6 | 3 | 20 | 1 | 14 00 |
| 10 Cheltenham..... | 21 | | 1 | | 2 | | 3 | | 12 00 |
| 11 Claude..... | 22 | 4 | 2 | | 4 | | 10 | | 8 00 |
| 12 Durham..... | 18 | 5 | 11 | 5 | 11 | 4 | 36 | 2 | 22 00 |
| 13 Elora..... | 35 | 19 | 14 | 6 | 15 | 17 | 71 | 4 | 42 00 |
| 14 Galt..... | 28 | 8 | 8 | 3 | 10 | 6 | 35 | 2 | 26 00 |
| 15 Garden Island..... | 40 | 7 | | | | | 7 | | 7 00 |
| 16 Georgetown..... | 30 | 3 | 8 | 1 | 12 | 1 | 25 | | 19 00 |
| 17 Goderich..... | 17 | 4 | 2 | 4 | 12 | | 22 | | 20 00 |
| 18 Guelph (P.L.)..... | 85 | 16 | 22 | 5 | 18 | 10 | 75 | 2 | 51 00 |
| 19 Kemptville..... | 18 | 3 | 4 | | 2 | 4 | 13 | | 7 00 |
| 20 Lindsay..... | 16 | | | | | | | | |
| 21 Mount Forest..... | 7 | 2 | 3 | | 5 | 2 | 12 | | 9 00 |
| 22 Milton..... | 18 | 7 | 8 | 2 | 11 | 7 | 35 | 2 | 20 00 |
| 23 Midland..... | 28 | 5 | | | 4 | 1 | 10 | | 8 00 |
| 24 Mitchell..... | 31 | 10 | 15 | 7 | 8 | | 40 | | 31 00 |
| 25 Napanee..... | 11 | | 1 | 1 | | | 2 | | 2 00 |
| 26 Orangeville..... | 21 | 8 | 8 | | 9 | 5 | 30 | | 22 00 |
| 27 Orillia..... | 13 | 2 | 3 | 1 | 6 | 3 | 15 | 1 | 12 00 |
| 28 Paris..... | 11 | 4 | 1 | | 1 | 2 | 8 | | 8 00 |
| 29 Penetanguishene..... | 21 | 8 | | | | | 8 | | 8 00 |
| 30 Parkhill..... | 48 | 5 | 6 | | 13 | | 24 | 2 | 23 00 |
| 31 Perth..... | 22 | 5 | 4 | | | | 9 | | 9 00 |
| 32 Peterborough..... | 14 | | | | | | | | |
| 33 Port Perry..... | 16 | 3 | 14 | 2 | 6 | | 25 | | 19 00 |
| 34 Prescott..... | 19 | 6 | 2 | | 5 | 5 | 18 | 2 | 16 00 |
| 35 Preston..... | 22 | 4 | | | 3 | | 7 | | 7 00 |
| 36 Richmond Hill..... | 28 | 2 | 1 | | | | 3 | | 3 00 |

TABLE E.—Mechanics' Institutes Evening Classes in Drawing, etc.—*Continued.*

GRADE B.—ELEMENTARY.

| NAME OF INSTITUTE. | No. of Students for Examination. | NO. OF PROFICIENCY CERTIFICATES IN GRADE B TAKEN. | | | | | Total. | No. of Teachers' Certificates, Grade B. | Grant paid for Certificates. |
|-------------------------|----------------------------------|---|-----------|--------------|--------|---------|--------|---|------------------------------|
| | | Freehand. | Geometry. | Perspective. | Model. | Memory. | | | |
| 37 St. Catharines | 19 | 4 | 6 | 2 | 7 | 2 | 21 | | \$ c. |
| 38 St. George | 23 | 5 | 1 | ..... | 6 | 4 | 16 | 1 | 13 00 |
| 39 St. Marys | 17 | 5 | 3 | ..... | 11 | 3 | 22 | 1 | 14 00 |
| 40 Schomberg | 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 18 00 |
| 41 Seaforth | 132 | 19 | 30 | 2 | 26 | 31 | 108 | 2 | 84 00 |
| 42 Stouffville | 5 | 1 | ..... | ..... | 3 | 5 | 9 | ..... | 8 00 |
| 43 Smiths Falls | 14 | 4 | 4 | 2 | 5 | 2 | 17 | 1 | 10 00 |
| 44 Strathroy | 35 | 5 | 13 | 1 | 7 | 1 | 27 | 2 | 26 00 |
| 45 Streetsville | 24 | 12 | 12 | 4 | 10 | 2 | 40 | 1 | 32 00 |
| 46 Whitby | 20 | 5 | 13 | 4 | 8 | 6 | 36 | 1 | 24 00 |
| 47 Woodstock | 24 | 13 | 12 | ..... | 15 | 5 | 45 | 1 | 29 00 |

II. GRADE A.—ADVANCED.

| NAME OF INSTITUTE. | Shading flat. | Shading round. | Flower Drawing. | Machine Drawing. | Industrial Design. | Wood Carving. | Total. | No. of Teachers' Certificates, Grade B. | Grant paid for Certificates. |
|-----------------------------|---------------|----------------|-----------------|------------------|--------------------|---------------|--------|---|------------------------------|
| | | | | | | | | | |
| 1 Berlin Free Library | | | | | 5 | ..... | 5 | ..... | ..... |
| 2 Carleton Place | | | | 3 | ..... | ..... | 3 | ..... | 3 00 |
| 3 Guelph Free Library | | | | | | 7 | 7 | ..... | ..... |
| 4 Galt (M.I.) | | | | 4 | 2 | ..... | 6 | ..... | ..... |
| 5 Peterborough (M.I.) | | | | 1 | ..... | ..... | 1 | ..... | 1 00 |
| 6 St. Marys (M.I.) | 1 | 1 | 1 | ..... | ..... | ..... | 3 | ..... | ..... |

ASSOCIATION OF MECHANICS' INSTITUTES OF ONTARIO.

EIGHTEENTH ANNUAL AND FINAL REPORT.

In February last a meeting of the Executive Committee was held to confer with the Hon. the Minister of Education on the provisions of a Bill then about to be introduced to the Legislature, "Respecting Mechanics' Institutes and Art Schools." The Bill so introduced was passed and received His Honour the Lieutenant-Governor's assent on the 25th day of March last (see Stat. of Ontario, 49 Vic., chap. 35); and your Executive Committee, in view of the provision therein made that this Association shall cease to be a body corporate on and after the thirtieth day of September, 1886, did not feel that it would have been justified in asking the Associate Institutes to elect delegates and incur the expense of their attendance at an annual meeting in this city.

The Statute so enacted, and the full regulations for the conducting of Mechanics' Institutes and Art Schools, have been published in pamphlet form by the Hon. the Minister, and copies thereof have been supplied to the Mechanics' Institutes and other interested societies; and your committee trust that they will be found to be promotive of the best interests of these Associations.

Not having received the usual schedules of the Associate Institutes' Annual Reports, your committee is not prepared to furnish statistics of their respective standing and operations for the past year, except as to the several lectures delivered under the auspices of this Association. These, with the names of the lecturers and their subjects, are as follows:—

SCIENTIFIC AND ILLUSTRATED.

| Date. | Institute. | Lecturer. | Subject. |
|-------------|------------------|------------------------------|--|
| 1885. | | | |
| Oct. 27 .. | Colborne | Dr. S. P. May, C. L. H. | Science in Mechanics' Institutes |
| Nov. 4 .. | Almonte | " " " " | Importance of Art to Trade and Manufactures, etc. |
| " 5 .. | Brockville | " " " " | Science and Art and its Applications. |
| " 6 .. | Campbellford .. | " " " " | " " " " |
| " 9 .. | Deseronto | " " " " | How Science and Art can be promoted by Mechanics' Institutes, etc. |
| " 10 .. | Iroquois | " " " " | Science and Art, and its Applications. |
| " 11 .. | Garden Island .. | " " " " | " " " " |
| " 16 .. | Weston | " " " " | How Science and Art can be promoted by Mechanics' Institutes, etc. |
| 18 .. | Georgetown ... | " " " " | History of Science and Art. |
| 21 .. | Parkdale | " " " " | History of Design, and Science of Daily Life, |
| 30 .. | Waterloo | " " " " | Science and Art, and its Applications. |
| , ec. 4 .. | New Hamburg .. | " " " " | Practical Science. |
| " 7 .. | Woodbridge ... | " " " " | Science and Art, and its Applications. |
| " 11 .. | Stratford | " " " " | Science and Art, and Science of Common Things. |
| " 22 .. | Streetsville ... | Rev. H. Rose, M.A. | A Walk Through Rome. |
| 1866. | | | |
| Jan. 11 .. | Owen Sound... | Dr. S. P. May, C.L.H. | Science and Art, and its Applications. |
| " 14 .. | Arkona | Rev. Hugh Johnston, M.A. | From London to Jerusalem. |
| " 19 .. | Norwich | Com. Cheyne, R.N. | Search for Sir John Franklin. |
| " 19 .. | Arnprior | Dr. S. P. May, C.L.H. | History of Science and Art, etc. |
| " 20 .. | Carleton Place. | " " " " | " " " " |
| Feb. 19 .. | Exeter | Com. Cheyne, R.N. | Egypt and the late War. |
| " 22 .. | Barrie | H. B. Spotton, M.A. | Water. |
| Mar. 9 .. | Columbus | Com. Cheyne, R.N. | Travels in Canada, the Continent, and Cloudland. |
| " 16 .. | Ennotville | Rev. H. Rose, M.A. | A Walk through Rome. |
| " 22 .. | Seaforth | Dr. Campbell | Electricity and Magnetism. |
| " 25 .. | Elora | Rev. Hugh Rose, M.A. | Around the Bay of Naples. |
| April 16 .. | Caledonia | Com. Cheyne, R.N. | Egypt and the late War. |
| " 26 .. | Clinton | David Robb, Esq. | Physics and Chemistry. |
| May 11 .. | Mono Road.... | Com. Cheyne, R.N. | Egypt and the late War. |

SCIENTIFIC AND ILLUSTRATED—*Continued.*

GENERAL.

| Date. | Institute. | Lecturer. | Subject. |
|---------------------|------------------|------------------------|--|
| 1885. Dec. 3 .. | Kemptville | Rev. Dr. Moffatt | Self-Culture — the Mechanics' Institute, its Books, etc., as aids thereto. |
| 1886. Feb. 23 .. | Merrickville ... | “ | “ “ “ “ |
| “ 25 .. | Renfrew | “ | “ “ “ “ |
| April 26 .. | Napanee | “ | How Young Men May Rise, etc. |
| “ 27 .. | Caledon | “ | Self-Culture, etc., etc. |
| “ 28 .. | Bolton | “ | How Young Men may Rise, etc. |
| “ 29 .. | Oakville | “ | “ “ “ “ |
| “ 30 .. | Kingston | “ | “ “ “ “ |

The aggregate attendance reported at the thirty-seven lectures was 7,363, or an average of 199 persons for each.

ROLL AND RECORD BOOKS.

Forty-three of the associate Institutes applied for and were supplied with copies of the Roll and Record Books during the past year. Some few copies of the Accession Catalogue Books have also been furnished. The unsold copies of these books will be transferred to the Department of Education. The secretary of the Association will at all times be glad to give any information in his power in respect to these books, or on other Institute matters.

As the Association will soon become a thing of the past, it is to be hoped that some other agency will be used for occasionally bringing together the representative workers of the Institutes for the exchange of ideas in respect to the work in which they are severally engaged. The Institutes in the past have been doing good work, and generally under very adverse financial circumstances, and of apathy on the part of the general public, and especially of the mechanical and manufacturing classes; yet much has been accomplished in leading their members to habits of reading and study, and to aspire to become more useful and better citizens than they otherwise would have been. Many examples could be cited of attainment to excellence in professional, literary and mechanical pursuits, through the stimulus received from the use of and the attendance upon the libraries, reading-rooms, evening classes and lectures of these institutions.

The Board of Arts and Manufactures for Upper Canada began its useful existence in 1857, and continued until succeeded by your Association in 1868. These two organizations have contributed largely to the establishing and successful working of the Associate Institutes of the Province. The details of supervision will hereafter rest altogether in the Department of the Minister of Education.

All which is respectfully submitted.

W. R. HARRIS, B.D.,
President.

W. EDWARDS,
Secretary-Treasurer.

Toronto, September 14th, 1886.

 II.—ART SCHOOLS.

EIGHTH SESSION OF THE ONTARIO SCHOOL OF ART.

This session commenced on the 11th of January, 1886. There was no entrance examination, the teachers being empowered to advance students to the higher classes according to merit.

The following teachers were appointed for the session by the Minister of Education :—

Principal—Mr. W. Cruickshanks. *Assistants*—Mr. Arthur Reading, Miss Windeat, Miss Payne.

Painting in Oil and Water Colors and Modelling in Clay.

Miss Peel.

COURSE OF INSTRUCTION.

The course of instruction was the same as in the preceding session, viz :—

Elementary or Primary—Grade B.

1. Freehand Drawing from flat examples.
2. Practical Geometry.
3. Linear Perspective.
4. Model Drawing.
5. Memory and Blackboard Drawing.

Students must pass the necessary examinations in two of these subjects before they can be permitted to study in the advanced classes.

Second or High—Grade A.

1. Shading from flat examples.
2. Outline Drawing from the "Round" (casts or nature).
3. Shading from the "Round."
4. Drawing from flowers and objects of Natural History.
5. Advanced Perspective.
6. Descriptive Geometry and Topographical Drawing.
7. Drawing from dictation.
8. Machine Drawing.
9. Building Construction.
10. Industrial Design.

Special Subjects.

1. Painting in Oil and Water Colors.
2. Modelling in Clay and Wax.
3. Wood Engraving, including Pictorial Work.
4. Wood Carving.

TERMS.

Afternoon Classes in Drawing.—\$6 per term of thirty-six lessons.

Evening Classes in Drawing.—\$3 per term of thirty-six lessons.

Teachers and Normal School students were admitted to these classes at half rates.

Painting Classes.—\$2 per month—four lessons.

Modelling Classes.—\$6 per term of twenty lessons.

Wood Engraving Classes.—\$6 per term of twenty lessons.

Fees to be paid in advance.

The classes were conducted as follows :—

Afternoon Classes.—Mondays, Wednesdays, and Fridays, from 2 p.m. to 4 p.m.

Evening Classes.—Mondays, Wednesdays, and Fridays, 7.30 p.m. to 9.30 p.m.

Painting Classes.—Saturdays, 12 to 2 p.m.

Certificates and Awards open for competition to students in all Institutions in affiliation with the Ontario School of Art.

Gold Medal presented by the Honorable the Minister of Education for Advanced Course, Grade A.

Rules for Guidance of Competitors for the Gold Medal.

The candidates must be *bona fide* students in regular attendance at the affiliated Institution represented, as no teachers or outside students will be allowed to compete.

1. *Work done during the Session.*—There is no restriction as to the character or manner of execution, nor the time occupied in the studies of ornamental design, and outline and shading from the antique, done during the session.

2. *Time Study—Drawing from the Antique, full figure.*—The drawing shall not be less than two feet in height, on white paper, in chalk, either with or without the aid of stump, background shaded or plain. Work to be finished in thirty-six hours, regular school time, without assistance.

3. *Original Design.*—This is to be executed in pencil, on paper provided by the Department, size of drawing not less than six inches by four inches; time four hours. The designs recommended are those suitable for wall paper, carpets, oil cloth, or such like purposes.

A Bronze Medal for highest number of marks in Primary Grade B.

A Bronze Medal will also be given for the highest number of marks in Grade B from a Mechanic's Institute Student. As the Education Department will exhibit Art School work at the Colonial Exhibition in London in 1886, the work for competition for medals must be sent to the Department not later than 15th February, 1886.

A proficiency certificate will be awarded for each subject. Any pupil who passes in all the subjects in the Primary Course shall be entitled to a certificate known as Grade B; and any pupil who passes in the first eight subjects of the Advanced Course shall be awarded a certificate to be known as Grade A. Pupils holding certificates on Machine Drawing and Building Construction may omit Drawing from Flowers, and Drawing from Dictation, when competing for Certificate Grade A.

The holder of a Primary certificate will be legally qualified to teach Drawing in a High School, Model School or a Mechanics' Institute; the holder of an Advanced certificate in an Art School. The Education Department will accept a Primary certificate in lieu of the non-professional examination in Drawing for any class or grade of public school teacher's certificate.

Any college or private school may, for the purpose of taking the Departmental Examination, and with the consent of the Education Department, be affiliated with the Toronto Art School.

Purposes of the School.

The aim of the Ontario School of Art is to prepare such teachers as may be required for teaching industrial drawing in Public and High Schools, Mechanics' Institutes, and Industrial Art Schools; also, to provide technical instruction and art culture to persons employed in the various trades, manufactures, etc., requiring artistic skill.

The Educational Museum and Library.

The *Museum*, which is accessible to students for purposes of study, contains a collection of several thousand *Reproductions of Art*, consisting of Antiquities; Ancient and Modern Statuary; Paintings and Engravings of the celebrated masters of the Italian, German, Flemish, French and English Schools; Illustrations of Decorative Art, including Metal Work, Carved Ivory and Wood, Pottery, Porcelain and Glass, Textile Fabrics, Embroidery, Carvings on Ivory, Electrotypes, etc.

The *Library* contains a large collection of Publications on Art applied to Science and Manufactures, books of instruction on Drawing and Painting, and illustrated books containing etchings, engravings, and wood-cuts of the pictures and sculptures in the principal galleries of Europe.

The *Art School Rooms* are well equipped with modern Art Studies and appliances for the rapid advancement of students.

To prevent overcrowding, it has been decided to take only a limited number of students, who will be received in the order of their application.

The following detailed statement shows the numbers and occupation of the students in attendance this session, and their purpose of study:—

| OCCUPATION. | PURPOSE OF STUDY. | NUMBER OF STUDENTS. |
|-----------------------------------|-------------------|---------------------|
| <i>Afternoon Drawing Classes.</i> | | Males. |
| Art Students | Improvement | 2 |
| Baker | Technical | 1 |
| No occupation | Improvement | 2 |
| Stonecutter | Technical | 1 |
| | | — 6 |
| Music Teacher | Teaching | 1 |
| No occupation | do | 26 |
| do | Improvement | 15 |
| Public School Teachers | Teaching | 4 |
| | | — 46 |
| <i>Afternoon Modelling Class.</i> | | Males. |
| Designer | Teaching | 1 |
| | | — 1 |
| No occupation | Teaching | 2 |
| do | Improvement | 5 |
| | | — 7 |
| <i>Painting Class.</i> | | Females. |
| No occupation | Improvement | 9 |
| Public School Teachers | Teaching | 7 |
| | | — 16 |
| Total | | 76 |

Occupation of Students.—*Continued.*

| OCCUPATION. | PURPOSE OF STUDY. | No. OF STUDENTS. |
|---------------------------------|--------------------|------------------|
| <i>Evening Drawing Class.</i> | | Males. |
| Art Students | Improvement | 2 |
| Artist | Professional | 1 |
| Bookkeeper | Improvement | 1 |
| Bricklayer | Technical | 1 |
| Cabinet-maker | " | 1 |
| Draughtsmen | Improvement | 2 |
| Engravers | Technical | 8 |
| Lithographers | " | 2 |
| Machinist | " | 1 |
| No occupation | Improvement | 2 |
| Normal School Students | Teaching | 4 |
| Paper Hanger | Technical | 1 |
| Painter | " | 1 |
| Photographer | " | 1 |
| Physician | Improvement | 1 |
| School Boys | " | 11 |
| Public School Teacher | Teaching | 1 |
| Train Despatcher | Improvement | 1 |
| Wood Carvers | Technical | 2 |
| Wood Worker | " | 1 |
| | | — 45 |
| | | Females. |
| No occupation | Teaching | 11 |
| do | Improvement | 10 |
| Public School Teachers | Teaching | 7 |
| | | — 28 |
| <i>Evening Modelling Class.</i> | | Males. |
| Art Student | Teaching | 1 |
| Artist | Professional | 1 |
| Carpenter | Improvement | 1 |
| Designer | Teaching | 1 |
| Marble Cutters | Technical | 2 |
| Painter | Improvement | 1 |
| School Boy | " | 1 |
| | | — 8 |
| Total E. C | | 81 |

76 Students attended the afternoon classes ; 81 Students attended the evening classes.

A simultaneous examination was held on the 1st and 2nd days of March, 1886. The following list shows the certificates taken by the Ontario Art Schools and Institutes, Public, and High Schools and Colleges, affiliated therewith for examination purposes. (For Mechanics' Institute List see Table E).

ART EXAMINATION, 1ST AND 2ND MARCH, 1886.—GRADE B.—ELEMENTARY.

I.—Art Schools.

| NAME. | No. of Students for Examination. | NO. OF PROFICIENCY CERTIFICATES TAKEN IN GRADE B. | | | | | Total. | No. of Teachers' Certificates, Grade B. | Grant for Certificates. |
|-----------------|----------------------------------|---|-----------|--------------|--------|---------|--------|---|-------------------------|
| | | Freehand. | Geometry. | Perspective. | Model. | Memory. | | | |
| Kingston. | 65 | 22 | 18 | 4 | 34 | 23 | 101 | 7 | 117 |
| London. | 50 | 16 | 14 | 5 | 25 | 7 | 67 | 6 | 69 00 |
| Ottawa. | 46 | 17 | 6 | 4 | 6 | 7 | 40 | 1 | 69 00 |
| Toronto. | 82 | 39 | 18 | 5 | 48 | 23 | 131 | 5 | .... |
| *Hamilton. | 174 | 24 | 17 | 10 | 17 | 13 | 81 | 2 | 69 00 |

* By special arrangement this examination was held on 11th to 14th May, instead of 1st and 2nd of March.

II. GRADE A.—ART SCHOOLS, ADVANCED.

| NAME. | No. of Students for Examination. | NO. OF PROFICIENCY CERTIFICATES TAKEN IN GRADE A. | | | | | | | | | | | Total No. Proficiency Certificates. | Teachers' Certificates, Grade A. | | |
|-----------------|----------------------------------|---|----------------|----------------|-----------------|-----------------------|-----------------------|-------------------------|------------------|------------------------|--------------------|-----------------------|-------------------------------------|----------------------------------|-------------------------|--------------------|
| | | Shading Flat. | Outline Round. | Shading Round. | Flower Drawing. | Advanced Perspective. | Descriptive Geometry. | Drawing from Dictation. | Machine Drawing. | Building Construction. | Industrial Design. | Painting Oil Colours. | | | Painting Water Colours. | Modelling in Clay. |
| Kingston. | 40 | 11 | 1 | 9 | 18 | 2 | 1 | 15 | 1 | 2 | 3 | 6 | 2 | .... | 71 | .... |
| London. | 20 | 4 | 2 | 1 | 4 | 1 | 6 | .... | .... | .... | 1 | .... | .... | 3 | 21 | 1 |
| Ottawa. | 45 | 4 | 3 | 1 | 9 | .... | .... | .... | 4 | 2 | 6 | 3 | 2 | .... | 34 | .... |
| Toronto. | 39 | 8 | 16 | 3 | 9 | 6 | 5 | 9 | .... | 1 | 9 | 2 | .... | 8 | 76 | 1 |
| *Hamilton. | 2 | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... |

* Special Examination, 11th to 14th May, 1886.

ART EXAMINATION 1ST AND 2ND MARCH, 1886.

Public and High Schools, Collegiate Institutes and Colleges.—Grade B.

| NAME. | No. of Students for Examination. | NO. OF PROFICIENCY CERTIFICATES IN GRADE B TAKEN. | | | | | Total. | No. of Teachers' Certificates, Grade B. |
|----------------------------------|----------------------------------|---|-----------|--------------|--------|---------|--------|---|
| | | Freehand. | Geometry. | Perspective. | Model. | Memory. | | |
| Aylmer High School..... | 39 | 4 | 23 | 9 | 2 | | 38 | |
| Belleville "..... | 99 | 53 | 20 | 17 | 33 | 22 | 145 | 9 |
| Belleville Albert College..... | 26 | 5 | 1 | | 6 | 4 | 16 | |
| Bradford High School..... | 24 | 4 | 6 | 1 | 5 | 4 | 20 | |
| Brockville "..... | 61 | 17 | 17 | 1 | 24 | 11 | 70 | 1 |
| Chatham "..... | 50 | 13 | 2 | | 11 | 6 | 32 | |
| Fergus "..... | 26 | 3 | 9 | | 5 | | 17 | |
| Kemptville "..... | 19 | 4 | 3 | | 4 | 2 | 13 | |
| Kincardine "..... | 22 | 2 | 4 | 1 | 3 | 1 | 11 | |
| London Collegiate Institute..... | 53 | 14 | 11 | 3 | 6 | 2 | 38 | |
| Morrisburg High School..... | 48 | 17 | 14 | 3 | 18 | 9 | 61 | 1 |
| Milford Public School..... | 8 | 2 | 2 | 3 | 2 | | 9 | |
| Orangeville High School..... | 51 | 9 | 23 | 1 | 4 | 11 | 48 | 1 |
| Owen Sound Collegiate Institute. | 212 | 23 | 74 | 3 | 39 | 29 | 168 | 3 |
| Parkhill High School..... | 40 | 3 | 5 | 1 | 5 | 2 | 16 | |
| Port Perry "..... | 41 | 6 | 12 | 1 | | | 19 | |
| Pictou "..... | 3 | 2 | 1 | | 1 | | 4 | |
| Port Dover "..... | 19 | 3 | 3 | 2 | 10 | 3 | 21 | 1 |
| St. Thomas Alma College..... | 21 | 5 | 4 | 5 | 13 | 5 | 32 | 2 |
| " Collegiate Institute.. | 20 | 8 | 11 | 4 | 5 | 2 | 30 | |
| St. Marys "..... | 19 | 3 | 3 | | 3 | 1 | 10 | |
| Stratford "..... | 90 | 7 | 8 | | 39 | 10 | 64 | |
| Strathroy "..... | 50 | | 10 | | | | 10 | |
| Streetsville High School..... | 18 | 1 | 6 | | 4 | | 11 | |
| Toronto Wykeham Hall..... | 2 | 1 | | | 2 | | 3 | |
| Whitby Collegiate Institute..... | 61 | 19 | 18 | 5 | 14 | 18 | 74 | 7 |
| " Ont. Ladies College..... | 23 | 12 | 8 | 2 | 14 | 7 | 43 | 2 |
| Woodstock High School..... | 30 | 13 | 19 | 1 | 14 | 8 | 55 | |

HIGH SCHOOL AND COLLEGES.—GRADE A ADVANCED.

| NAME. | Shading Flat. | Outline Round. | Shading Round. | Flower Drawing. | Advanced Perspective. | Descriptive Geometry. | Drawing from Dictation. | Industrial Design. | Painting in Oil. | Painting in Water Colours. | Total No. of Grade A, Proficiency Certificates. | Teachers' Certificates, Grade A. |
|-----------------------------|---------------|----------------|----------------|-----------------|-----------------------|-----------------------|-------------------------|--------------------|------------------|----------------------------|---|----------------------------------|
| Belleville High School..... | 2 | | | | | | 3 | | | | 5 | |
| Stratford "..... | | | | | | | | 1 | | | 1 | |
| St. Thomas Alma College.. | 1 | | 2 | 3 | 2 | 1 | 1 | 2 | | | 12 | 1 |
| Whitby Ladies' College... | 4 | 2 | 1 | 3 | 1 | 1 | | | | 3 | 15 | |

MEDALS AND CERTIFICATES AWARDED.

Gold Medal, Carrie Lampman, Ottawa.

Gold Medal Certificate, Miss V. Howard, Toronto.

Silver Medal, Samuel Wright, Toronto. Design, Wall Paper.

" Mrs. E. A. Power, Kingston, " Oil Cloth.

" M. C. Edey, Ottawa, " Iron Fence.

Bronze Medal, Annie Dryden, Whitby Collegiate Institute.

" L. P. Snyder, Guelph Mechanics' Institute.

" Chas. E. Wrenshall, Kingston Art School.

Presented by the
Ontario Manu-
facturers' Asso-
ciation.

GRADE A CERTIFICATES.

J. A. E. Payne, Toronto.

J. R. Peel, London.

Eva M. Brooke, St. Thomas.

ONTARIO SCHOOL OF ART.

Grade B Certificates continued from page 202, Minister's Annual Report, 1885.

| NAME. | ADDRESS. | NAME. | ADDRESS. |
|--------------------------|----------------|---------------------------|-------------|
| <i>Males.</i> | | <i>Females.</i> | |
| A. G. Anderson | Port Dover. | G. Althouse | Strathroy. |
| George Anderson | Seaforth. | Mary Bull | Durham. |
| M. W. Althouse | Parkhill. | Rose Birmingham | Kingston. |
| John S. Barnard | Whitby. | Emma Clarke | Belleville. |
| R. J. Beeman | Toronto. | Minnie Ida Chimick | Elora. |
| Geo. L. Brown | Morrisburg. | Louise E. Cumming | Woodstock. |
| John H. Birkett | Kingston. | Emma Connor | Belleville. |
| J. T. Blandin | Belleville. | Mary S. Clarke | Belleville. |
| W. H. Croaker | Orillia. | M. Dawson | St. Mary's. |
| Jas. Carrie | Owen Sound. | Annie Dryden | Whitby. |
| A. S. Cruickshank | Hamilton. | E. H. Ferguson | Kingston. |
| Donald Davidson | Strathroy. | Florence Graham | Toronto. |
| Arthur Dundas | Whitby. | Eliza Ann Griffiths | London. |
| Jas. Dempster | Toronto. | Clara Horning | Brantford. |
| Edwin D. Eidt | Berlin. | Charlotte Jeffery | London. |
| George Emmett | Whitby. | Hette M. Jarvis | London. |
| J. W. Foster | Owen Sound. | Carrie Lampman | Ottawa. |
| Anthony Freeland | Prescott. | Polly Morton | Belleville. |
| James Garvin | Smith's Falls. | May Mitchell | Belleville. |
| W. J. Galbraith | Streetsville. | Kate McBride | London. |
| Harry Howell | St. George. | Susie McKay | St. Thomas. |
| Harry Horwood | Prescott. | E. Orr | Whitby. |
| Thos. C. Irwin | Owen Sound. | E. Pearson | Toronto. |
| J. Kelman | Galt. | E. A. Power | Kingston. |
| Fred. Luttrell | Guelph. | Jennie Pattison | Milton. |
| Jas. Lawlor | Whitby. | Doll Rombough | Durham. |
| Alex. Leith | Hamilton. | Minnie Robertson | Milton. |
| R. Mitchell | Elora. | Annie Strong | Toronto. |
| George McCrea | Brockville. | K. N. Snyder | Belleville. |
| W. J. McIlwraith | Galt. | Nettie Snyder | Elora. |
| H. B. McClellan | Orangeville. | Annie Simpson | Elora. |
| J. McFadgean | Seaforth. | Jennie Teeple | St. Thomas. |
| Albert McPherson | Parkhill. | E. Walker | Whitby. |
| J. R. Peel | London. | | |
| Thos. Power | Whitby. | | |
| R. K. Rows | Kingston. | | |
| Louie Richardson | Whitby. | | |
| L. P. Snyder | Guelph. | | |
| Henry Smith | Kingston. | | |
| Clarence Starr | Whitby. | | |
| J. K. Sutherland | Belleville. | | |
| Chas. E. Wrenshall | Kingston. | | |
| Cecil Webb | London. | | |
| Thos. Wickett | Belleville. | | |

ART CLASSES FOR TEACHERS—SUMMER OF 1886.

The following circular was sent on the 1st May, 1886, to the Public School Inspectors :—

Circular to Public School Inspectors.

SIR,—The Drawing Classes conducted at the Education Department, Toronto, during the last two summers will not be continued during the current year. It is nevertheless desirable, in order still further to qualify teachers in this subject, that facilities of some kind should be offered for their self-improvement. Instead of the classes formerly taught at the Department it is now proposed to give a grant to each Inspectoral Division in which a class is formed for instruction in elementary drawing.

The conditions on which such classes may be formed are :—

1. The class must consist of at least ten persons holding a public school teacher's certificate.
2. The teacher in charge must possess a legal certificate to teach drawing ; or to be approved of by the Education Department.
3. At least thirty lessons of two hours each must be given.
4. Teachers who attend this course will be allowed to write at the Departmental examination in Drawing in April, 1887.
5. The Primary Drawing Course only shall be taught.
6. A grant of \$20 will be made for each class of 10 pupils, but only one class will be paid for in any Inspectoral Division.

Will you be good enough to inform the teachers of your Inspectorate of these proposals, in order that they may make the necessary arrangements for organizing classes.

Yours truly,

GEO. W. ROSS,

Minister of Education.

Toronto, May 1st, 1886.

In response to this circular, Art Classes were formed in the following towns and villages :—

Summer Drawing Classes, 1886, in the following subjects :—

Freehand, Geometrical Perspective, Model, Memory, and Blackboard Drawing.

| PLACE. | Teacher and Qualification. | Number of Teachers in Class. | Number of Lessons. |
|---------------------|--|------------------------------|--------------------|
| Aurora | W. A. J. Martin, 2nd Class Certificate and passed in four subjects, Grade B..... | 10 | 30 |
| Barrie..... | D. A. Shaw, Grade B Certificate | 17 | 30 |
| Cannington | M. Nulling, do | 15 | 75 |
| Collingwood | Edward Ward, do | 13 | 60 |
| Prince Edward | W. S. Rose, do | 8 | 30 |
| Parkdale | R. W. Hicks, do | 13 | 30 |
| Sarnia | Messrs. Wark and Grant, Grade B Certificate..... | 11 | 30 |
| Stratford | Wm. Burns..... | 24 | 35 |
| Thornbury | W. H. Stevens, Grade B Certificate | 13 | 30 |

“The Toronto Art School” having become incorporated, under the Act of the Provincial Legislature, respecting Mechanics’ Institutes and Art Schools, is now carrying out the practical work in Toronto, heretofore under the management of the “Ontario Art School,” established in connection with the Education Department, and its report will appear with the reports of the other Art Schools established under that Act, so that the continued existence of the classes in connection with the “The Ontario School of Art” became unnecessary.

REPORT OF THE WESTERN SCHOOL OF ART AND DESIGN, LONDON, ONT.

SIR,—On behalf of the Board of Directors of the Western Ontario School of Art, I beg to submit the Annual Report of the School for the year ending the 21st of December, 1886 :

The School is governed by a board of directors, elected annually, the following being the names of those constituting the Board for the present year :

Col. J. W. Walker, President ; W. Saunders, Vice-President ; W. R. Meredith, M.P.P., Jas. Griffiths, R.C.A., Col. R. Lewis, D. McKenzie, M.P.P., John Marshall, Chas. Murray, J. R. Peel, J. H. Griffiths, S. K. Davidson, and Chas. Chapman.

The number of pupils in attendance during the year was 103 for the evening classes, at which the curriculum of studies as required by the Minister of Education, has been followed. A number of the pupils availed themselves of the opportunity to take the examinations in the various classes in which they were studying. The following members gained certificates of proficiency :

In Grade B.

| | | | |
|------------------------------|----|--------------------------|----|
| Freehand Drawing | 16 | Model Drawing | 25 |
| Practical Geometry | 14 | Memory Drawing | 7 |
| Linear Perspective | 5 | | |

In Grade A.

| | | | |
|----------------------------------|---|--------------------------------|---|
| Shading from the flat | 4 | Advanced Perspective | 1 |
| Outline Drawing from the Round | 4 | Descriptive Geometry | 6 |
| Shading from the Round | 1 | Industrial Design | 1 |
| Drawing from Flowers | 5 | Modelling in Clay | 3 |

Extra classes were also held for teaching painting on china, oil, and water colour painting, both from copy and natural objects, the number of pupils being 52. These classes being self-sustaining, the funds of the school are not used to assist in carrying them on.

At the request of the Minister of Education, a collection of the work of the pupils done in the school was collected and sent to the Educational Department, to be forwarded to the Indian and Colonial Exhibition as an exhibit of the work of this school. Thirteen cases were sent, comprising oil and water colour paintings, originals and from copies, crayon drawings from the flat and from models, mechanical and architectural drawings, industrial designs, modelling in clay, plaster casts, original and from copy, also a large assortment of painting on china. Considerable expense was incurred in preparing and sending the same, which the school could not well afford, as at the present time there is urgent need of additional funds for the purchase of models and other necessary appliances to enable the directors to carry on the school efficiently and progressively as would be most desirable.

The following is the Treasurer's report of the receipts and disbursements for the year :

Receipts.

| | |
|---|------------|
| Balance on hand 1st January, 1886..... | \$227 27 |
| Government grant..... | 500 00 |
| “ “ for certificates..... | 69 00 |
| Fees from pupils..... | 436 25 |
| Interest on deposits to July 1st, 1886..... | 11 27 |
| | 1,243 79 |
| Balance due Treasurer..... | 94 75 |
| | \$1,358 54 |

Expenditure.

| | |
|---|------------|
| Rent, fuel, light, etc..... | \$300 00 |
| Tuition..... | 756 00 |
| Printing and advertising..... | 22 58 |
| Studies and models..... | 39 50 |
| Sundry accounts..... | 48 83 |
| Plant..... | 41 98 |
| Expenses preparing and sending models and studies to Colonial Exhibition..... | 79 65 |
| Secretary and Treasurer's salary..... | 50 00 |
| | \$1,338 54 |

CHAS. CHAPMAN,
Secy-Treasurer.

London, 31st December, 1886.

ANNUAL REPORT OF THE ART ASSOCIATION, OTTAWA.

The School opened on the 15th September, 1885, and closed on the 4th April, 1886, having been opened for the usual period of six months, irrespective of the Christmas holidays.

The following have constituted the teaching staff during the past year: Mr. Charles Moss, head master; Mrs. Cowper Cox, Mr. G. W. Stalker, Mr. R. L. Paley, Mr. J. T. Bowerman, Mr. J. P. Lamb, Mr. W. H. Burns (clay modelling), Miss McDonald and Miss Barrett (art needlework).

The Industrial Art course is in accordance with the scheme laid down by the Ontario Government, with whose Art School this institution is in affiliation. It includes a machine drawing class, which has proved to be of high practical service to intending engineers, and has attracted to it several employees of the machine shops of the city; a class for architectural drawing, a clay modelling class, besides classes for the practice of freehand drawing and the study of design applied to textile fabrics, paper hangings, iron work, etc. Practical geometry and perspective have been taught as the special work of a master certified by the Education Department.

The fine Art course has included study from the antique cast, the draped figure, oils, water-colours and the nude model.

The total number of students attending during the whole or a portion of the session is 149—a number considerably in excess of that reached in former years, the number last

year reaching 87, and the year before 114. To this must be added the Art Needlework class in which the numbers aggregate 56. The various occupations of the students show the widely extended interest created by the institution. Its doors are open to all at a fee which is almost nominal: payment of \$1.00 a month entitling a student to instruction for 24 nights in all the branches of industrial art work taught. While the day classes are chiefly attended by ladies, the night industrial classes draw together men of all ages and positions, teachers, machinists, carpenters, builders, carriage painters, carvers, and even one "railway car conductor" who for some time pleasantly filled his leisure hours in the the school. A number of young lads have been regular attendants and the classes of freehand and design, geometry and perspective, have attracted also a large number of young ladies as students.

Of the 149 students attending the school the following is the division according to the subjects taken up: Freehand, 85; design, 20; geometry perspective, etc., 64; machine drawing, 21; drawing from the antique cast, 33; sketching from life, 18; Water colors, 20; oil colors, 8; drawing from the nude figure, 6; clay modelling, 4.

The total number of pupils presenting themselves for the Government examinations held on March 1st, 2nd and 3rd, was 46.

The number of Government certificates gained as the result of these examinations was 83, as against 51 last year, the highest number obtained by any individual pupil being seven out of nine subjects taken up.

The Education Department offered for competition amongst all the Art Schools of the the Province affiliated to its own school, and including that school, a gold medal for the best work from the antique cast and in design. The medal has been awarded to Miss Carrie Lampman of this school.

The Canadian Manufacturers' Association placed in the hands of the Education Department a silver medal, to be competed for amongst the pupils of the school, the subject being an "Iron Fence." Eight competitors sent in designs and the medal was awarded to Mr. M. C. Edey.

The school has sent to the Colonial and Indian Exhibition 86 specimens of the work of its pupils, viz: 28 studies from the antique, the draped figure and the nude; 27 designs, 12 water colours, 15 oil colour studies and 4 drawings of machinery.

The prizes gained by pupils of this school during the past session were presented by His Excellency the Marquis of Lansdowne, the Patron of the Association. His Excellency also presented the 83 certificates granted by the Ontario Government, together with the gold and silver medals gained by the pupils of the school.

The financial report of the Association's affairs is represented by the following summary, the accounts of the year having been duly audited and found correct. The auditors were Mr. J. H. Pinhey, Mr. F. Gourdeau and Mr. J. Armstrong.

TREASURER'S STATEMENT, 1885-6—RECEIPTS.

| | |
|---|------------|
| Balance from previous year | \$65 59 |
| Ontario Government grant | 400 00 |
| Ontario Government allowance for certificates gained. | 69 00 |
| Royal Canadian Academy grant for 1884-5 | 100 00 |
| Royal Canadian Academy grant for 1885-6 | 150 00 |
| Donations | 605 25 |
| Subscriptions | 250 00 |
| School fees | 620 67 |
| Net proceeds of theatrical entertainment | 102 47 |
| | \$2,362 98 |

EXPENDITURE.

| | |
|--------------------------------|------------|
| Salaries of Teachers..... | \$1,258 00 |
| Heating | 100 00 |
| Light | 119 90 |
| Printing and advertising..... | 91 90 |
| Stationery and material | 39 03 |
| Improvements to building | 210 58 |
| Improvements to drain | 58 75 |
| Furniture | 29 50 |
| Rent | 84 00 |
| Interest | 63 00 |
| Water rates, etc. | 16 71 |
| Insurance | 14 95 |
| Life models | 44 30 |
| Prizes (1885) | 32 50 |
| Miscellaneous | 42 98 |
| | \$2,206 10 |
| Balance on hand | 156 88 |

F. A. DIXON,
Secretary.

Ottawa, April, 1886.

REPORT OF THE KINGSTON ART SCHOOL FOR THE YEAR ENDING 1ST MAY, 1886.

SIR,—I beg to submit the following report in connection with the working of the Kingston Art School, for the year 1885-6.

The School opened in the beginning of October, 1885, and closed at the end of May 1886.

The staff consists of two teachers, Mr. H. W. Poor, Principal, and Miss C. Emmins, Assistant.

The pupils in the different classes were:

| | |
|--------------------------------|----|
| Advanced Class, Afternoon..... | 8 |
| “ “ Evening | 16 |
| Primary “ Afternoon..... | 18 |
| “ “ Evening | 13 |
| Painting “ | 24 |
| Sketching “ | 23 |

At the examinations the pupils took 163 Certificates (Proficiency); 2 Grade B Certificates; Bronze Medal for highest number of marks in Elementary subjects, and Silver Medal for Carpet design.

The Receipts for year were as follows:

| | |
|----------------------------|------------|
| Balance from 1884-5..... | \$155 76 |
| Subscriptions | 76 00 |
| Government grant..... | 400 00 |
| “ “ for Certificates | 117 00 |
| Fees from pupils | 632 85 |
| Proceeds of Concert | 33 50 |
| Balance | 227 78 |
| | \$1,642 89 |

Expenditure for Year.

| | |
|---|------------|
| Salary of Principal, eight months | \$800 00 |
| “ Assistant “ | 400 00 |
| “ Caretaker “ | 40 00 |
| Furniture | 141 54 |
| Gas and coal oil..... | 52 24 |
| Fuel | 60 00 |
| Printing | 48 75 |
| Rent | 60 00 |
| Examiners' fees .. | 14 80 |
| Sundries | 25 56 |
| | \$1,642 89 |

ASSETS AND LIABILITIES.

Assets.

| | | |
|-----------------------------|---------|----------|
| Cash on hand..... | \$76 19 | |
| Furniture, casts, etc | 253 20 | |
| | | \$329 39 |

Liabilities.

| | | |
|------------------------------|----------|----------|
| Accounts, etc., unpaid | \$308 20 | |
| Balance..... | 21 19 | |
| | | \$329 39 |

Certified correct,

W. B. WATERBURY,
Auditor.G. E. HAGUE,
Secretary.

Kingston, 1st Dec., 1886.

REPORT OF THE HAMILTON ART SCHOOL.

SIR,—On behalf of the Board of Trustees of the Art Association of this city, I have the honour to submit the report of the Hamilton Art School, for the first session just closed.

The school is governed by a Board of Trustees, the following being the names of those at present constituting the Board, viz. :—J. M. Gibson, M.P.P., President ; B. E. Charlton, Vice-President ; W. A. Robinson, Secretary-Treasurer ; T. H. Macpherson, (Chairman Board of Trade), Samuel Baker, (Manager N. & N. W. Railway), Rev. Samuel Lyle, A. T. Wood, John Knox, Richard Fuller, W. H. Judd, Alderman Bowes, Alderman Blaicker, Alexander Mackay (Mayor), Angus Sutherland, (Chairman Board of Education).

The “ Art Association ” was established on the 10th of October, 1885, for the purpose of establishing a well equipped Art School in this city.

The Art classes were opened in February, 1885, with 126 students, divided into an afternoon class of 38 students, and two evening classes of 44 students each. The applications for admission, however, were so numerous that the trustees were compelled to at once extend the school ; and consequently opened three more classes, consisting of a Saturday morning class, with 49 students, and two extra evening classes, with 34 in each, making a total of 243 students, who attended their classes throughout the session with remarkable regularity until the end of May, when the school was closed for the summer holidays.

The School was chiefly under the instruction of Miss Ida N. Banting, assisted by Miss Anslie Borrow ; the extra classes being instructed by Mr. W. S. Hicks.

The curriculum of study is the same as the "Ontario School of Art," and this being the first season of the school, it consisted chiefly of the Primary, or Grade B course. The classes were held three afternoons, one morning, and every night of the week during the session, the progress made being in every way satisfactory.

A Departmental examination was held in the school during the month of May, when twenty-four students received certificates of proficiency in Freehand, seventeen in Practical Geometry, ten in Linear Perspective, seventeen in Model Drawing, thirteen in Memory Drawing, and one student (having passed in all five subjects) received a full Teacher's Grade B certificate. Two students only, were examined in the advanced or Grade "A" course, one receiving a certificate for proficiency in "Shading from the Round," and one in "Flower Drawing."

It is the intention of the trustees to increase the usefulness of the school in 1886-7, by securing the services of a thoroughly qualified Head Master in addition to the instruction of the past session, so as to include all branches of Art School tuition.

The total amount of receipts and expenditure in connection with the Art School to date, is as follows :—

Receipts.

| | |
|---------------------------------------|------------|
| Students' fees | \$706 00 |
| On account of subscriptions | 511 00 |
| Interest from savings bank | 98 |
| | \$1,217 98 |

Expenditure.

| | |
|---|------------|
| Preliminary expenses and Clerk's assistance | \$53 89 |
| Advertising | 49 55 |
| Printing | 17 25 |
| Stationery, postage, etc. | 28 81 |
| Fitting up rooms | 59 69 |
| Furniture and teaching apparatus. | 351 90 |
| Rent, gas, water and attendance. | 229 64 |
| Teachers' salaries. | 367 00 |
| Cost of examinations. | 24 00 |
| Balance on hand | 36 25 |
| | \$1,217 98 |

W. A. ROBINSON,
Hon. Secy.-Treasurer.

Hamilton, 28th June, 1886.

ONTARIO SOCIETY OF ARTISTS.

Annual Report of the Vice-President for the year ending May 1st, 1886.

On behalf of the Executive Council, I have pleasure in laying before you the following report :—

Membership.—During the year five new members have been added to our roll of professional members, and one name erased for non-payment of fees.

The society is to be congratulated upon this increase, as it is felt that new members will, by their ability, be an honour to the profession.

Exhibitions.—Our last annual exhibition was held in conjunction with the Royal Canadian Academy, and the advance in quality of work was very decided, whilst the capacity of our gallery was taxed for space.

The financial arrangements was assumed by the Academy. At the beginning of the winter season it was thought desirable that a winter exhibition should be held, to give an opportunity of showing the summer's work and effecting sales thereof. Accordingly, an exhibition was held in December last, which may be regarded as a success. Whether the tax of two exhibitions a year upon the working powers of our members is desirable, remains for consideration.

Through the liberality of the *Century Company*, of New York, we have been enabled to set before the public an exhibition of drawings in black and white, being the originals of various illustrations which have appeared in that truly artistic publication. This exhibition has been a source of enjoyment to all who saw it, and will be long remembered.

Life Class.—In consequence of this class receiving so little attention from the majority of our members, it was deemed advisable to close it, and the students were accordingly notified to that effect.

Financial.—Your Committee have striven to exercise every economy in the expenditure of the funds of the Society, and trust that a perusal of the financial statement will meet with approbation.

During the year the Society, at its regular business meeting, determined to vest the management of the Society in the Executive Committee. The Committee will be increased by two, giving seven as the future number. How this change will benefit, remains to be seen, but every confidence is felt in the wisdom of the step. Important matters will have to be dealt with by the new Committee during the coming year. In our last report it was our duty to remark upon the effects of commercial depression upon the sale of pictures, and we are very sorry that a decided improvement cannot be reported at present, but we trust that the unwearied efforts of the Society, in educating the tastes of the people by good exhibitions, will be well rewarded in the near future.

(Signed) W. REVELL,
Vice-President.

Receipts and Expenditure for the Year ending May 1st, 1886.

| RECEIPTS. | \$ c. | EXPENDITURE. | \$ c. |
|------------------------------|----------|------------------------------|----------|
| Balance from 1885 | 794 92 | Rent and Insurance..... | 430 00 |
| Government Grant | 500 00 | Salaries and Caretaker | 445 00 |
| Fees, etc. | 550 00 | Repairs | 35 00 |
| Photographic Exhibition..... | 25 00 | Printing, etc..... | 60 00 |
| | | Heating, etc. | 60 00 |
| | | Loss, Winter Exhibition..... | 5 50 |
| | | Sundries | 50 00 |
| | | Balance | 784 42 |
| | 1,869 92 | | 1,869 92 |

PROVIDENT FUND.

| RECEIPTS. | § c. | EXPENDITURE. | § c. |
|-------------------------|--------|-----------------------------|--------|
| Balance from 1885 | 836 92 | Paid Mrs. Blackwell | 25 00 |
| Interest | 34 52 | Balance on hand | 846 44 |
| | 871 44 | | 871 44 |

(Signed) J. SMITH, }
 H. PERRÉ, } Auditors.

APPENDIX K.—*SCIENTIFIC SOCIETIES.*

REPORT OF THE CANADIAN INSTITUTE, TORONTO, FOR SESSION 1885-6.

The Council of the Canadian Institute have the honour to submit their 37th annual report.

The most noteworthy event in the history of the Institute during the past year has been the formation of a Biological Section, and the incorporation into the Institute of the Natural History Society of Toronto. The alterations in the regulations, rendered necessary by the change, came into force for the first time this year. It is to be hoped that the union will prove of benefit to all those interested in it.

An earnest effort has been made during the year to awaken public interest in the subject of local archæology—the study of the records, now so quickly being obliterated, of the aboriginal races of this country. It is much to be desired that the Ontario Government will see their way to assist, in some manner, this important object.

We have lost during the past year our lamented former President, Mr. J. M. Buchan, whose untimely death fell on us with startling suddenness.

It has been determined to fit up the Mansard story of the Institute Building as a Museum, immediately, and tenders for this purpose have been called for. Unfortunately it has been necessary to increase the mortgage debt of the Institute \$1,000 for this purpose.

It has also been resolved to make an effort to raise, by an appeal to the public, funds to the amount of \$10,000, for wiping out the mortgage debt of the Institute, for completing the building by the addition of a properly equipped Lecture Room in the rear, as included in the original plan, and for the extension of the Natural History and Archæological Museum by the purchase of specimens.

The usefulness of the Institute has been further extended by admitting, as associate members, at a nominal fee, a considerable number of youths, principally engaged in mechanical pursuits, who are thus encouraged to pursue scientific studies.

With regard to the list of exchanges it will be seen that the number has been doubled during the past year, and is now five times what it was four years ago.

Respectfully submitted,

W. H. ELLIS,
President.

JAS. BAIN JR.
Secretary.

APPENDIX I.

Treasurer in account with the Canadian Institute, Session 1885-6.*

| | |
|--|------------|
| To Balance on hand | \$ 23 63 |
| “ Annual subscriptions | 584 00 |
| “ Rents | 285 00 |
| “ Journals sold | 2 51 |
| “ Books and periodicals sold | 41 65 |
| “ Interest on deposits | 1 30 |
| “ Government grant | 750 00 |
| | \$1,688 09 |
| | \$1,688 09 |

| | |
|---|------------|
| By Salaries | \$344 00 |
| “ Periodicals | 69 90 |
| “ Interest on mortgage | 238 78 |
| “ Printing | 593 84 |
| “ Fuel, gas and water | 161 57 |
| “ Postage, post cards and delivering proceedings..... | 117 01 |
| “ Express charges | 19 04 |
| “ Stationery | 12 07 |
| “ Caretaker | 10 00 |
| “ Taxes | 11 07 |
| “ Discount on cheque | 25 |
| “ D. Boyle, for specimens | 15 00 |
| “ Refreshments (opening night)..... | 13 00 |
| “ Repairs | 19 51 |
| “ Balance on hand..... | 63 05 |
| | \$1,688 09 |

Examined and found correct.

(Signed,) W. HENDERSON, }
 T. B. BROWNING, } Auditors.

Assets.

| | |
|-------------------------|-------------|
| Building | \$11,000 00 |
| Warehouse..... | 720 00 |
| Ground | 2,500 00 |
| Library | 6,100 00 |
| Specimens | 1,300 00 |
| Personal property | 500 00 |
| | \$22,120 00 |

Liabilities.

| | |
|-------------------------------------|-------------|
| Mortgage | \$ 3,411 00 |
| Balance in favor of Institute | 18,709 00 |
| | \$22,120 00 |

APPENDIX II.

Donations and Exchanges :—Books and Pamphlets received from April 1st, 1885, to April 1st, 1886, as compared with the three preceding years.

| | 1882-83. | 1883-84. | 1884-85. | 1885-86. |
|--------------------------------|----------|----------|----------|----------|
| Canada | 30 | 90 | 110 | 129 |
| United States | 60 | 300 | 200 | 510 |
| Great Britain and Ireland..... | 100 | 200 | 160 | 344 |
| India and Australasia..... | 20 | 40 | 80 | 30 |
| Foreign | 70 | 170 | 180 | 489 |
| Total | 280 | 800 | 730 | 1502 |

APPENDIX III.

The number of Societies and Publications with which the Institute now exchanges is 328, shewing an increase of 168 during the year. They may be classified as follows:—

| | | | |
|--------------------------|----|-----------------------|-----|
| Canada | 20 | Netherlands | 8 |
| United States | 97 | Norway | 5 |
| Mexico | 1 | Portugal | 1 |
| Island of Cuba | 1 | Russia | 4 |
| South America | 4 | Spain | 4 |
| England | 36 | Sweden | 8 |
| Scotland | 11 | Switzerland | 5 |
| Ireland | 6 | Turkey | 1 |
| Austro-Hungary | 15 | Japan | 3 |
| Belgium | 4 | Java | 2 |
| Denmark | 4 | India | 3 |
| France | 26 | Australia | 4 |
| Algeria | 1 | New Zealand | 1 |
| Germany | 32 | Tasmania | 1 |
| Iceland | 1 | | |
| Italy | 19 | Total | 328 |

APPENDIX IV.

In the additions made to the Institute during my term of office, specimens illustrative of aboriginal and pioneer life occupy the first place.

In April of 1885, with the consent of the Council, I prepared a circular of which about one thousand copies were addressed to representative men of all classes throughout the Province, asking for information relative to localities connected with pre-historic and early historic events and requesting persons in possession of relics to forward them to the Institute for the purpose of enabling us to form an archæological exhibit worthy of the Province of Ontario.

In reply to that circular a large quantity of exceedingly valuable information has been collected relating to ancient village sites, battle grounds, portages, etc., and to persons in whose hands there are private collections of more or less value.

In company with other members of the Institute, as well as alone, I visited a few of the places within easy reach of the city, and was enabled to add several hundred excellent specimens to our collection.

A number of gentlemen also who had small collections kindly presented them to the Institute, and by an arrangement made with the York Pioneers, our Society became custodian of a large number of Indian and other specimens which are now in our cases.

Owing to the rapid expansion of our knowledge as to the number of places that are worthy of examination and survey, as well as because of the many objects we have discovered in the hands of collectors, it is to be deplored that our lack of funds precludes us from proceeding in a systematic and scientific manner in the formation of an archæological museum that would ultimately prove valuable to the Canadian student, and it is to be regretted that the Provincial Legislature failed to respond to our application for assistance in the prosecution of this national work.

The following is a list of the specimens that have been secured during the year, and which are now in cases supplied by the Institute at a cost of \$100. The cases have an area of 100 square feet and contain:—

| | |
|--|-------------------------------------|
| 104 Pipe Heads and Stems. | 1 Piece of Human Skull—Perforated. |
| 92 Fragments of Pottery. | 5 Skulls, almost perfect. |
| 3 Clay Cups. | 1 String of Bone Beads. |
| 4 War Clubs. | 44 Bone Needles. |
| 18 Strings of Beads. | 460 Arrow Heads—(flint). |
| 200 Loose Stone, Bone and Shell Beads. | 7 “ mounted (iron). |
| 8 Small Stone Discs—Perforated. | 121 Stone Axes, Gouges and Chisels. |
| 13 Perforated Stone Tablets. | 9 Pieces of Sheet Copper. |
| 19 Pieces of Shell. | 1 Whole Copper Kettle. |
| 1 Piece Carved Bone. | 12 Iron Knives—rusted and worn. |
| 1 Small Animal—Stone Carving. | 9 Indian Ornaments (various). |
| 2 Horn Gouges. | 3 “ Medals (silver). |
| 1 Piece of Perforated Horn. | 6 Brass and Copper Rings. |
| 1 Complete Turtle Shell. | 14 Iron Tomahawks. |
| 1 Perforated “ | |

Besides these there are several articles of a miscellaneous kind—the whole numbering fully one thousand.

The principal contributors were :—

Rev. T. T. Johnstone, of Ancaster.
 Mr. A. F. Hunter, Flos.
 Mr. Loughead, Sunnidale.
 Mr. B. Jackes, Toronto.
 Mr. A. Elvins, “
 Mr. A. McKnight, Kirkwall.
 Mr. James Rae, “

Mr. M. M. Fenwick, Niagara Falls South.
 Mr. James Dwyer, Beverley.
 Mr. George E. Laidlaw, The Fort.
 Mr. J. Long, Eglinton.
 Mr. J. Welborne, Myrtle, and
 The Curator.

There are many fine geological specimens that ought to be attended to immediately, but with which it is impossible to do anything for the want of case room.

Before the close of another year it may be reasonably hoped that the whole collection in possession of the Institute will be put in proper shape for study.

Respectfully submitted.

DAVID BOYLE,
 Curator.

REPORT OF “L'INSTITUT CANADIEN FRANÇAIS DE LA CITÉ D'OTTAWA.

SIR,—I have the honor to submit to your consideration the following Report of “L'Institut Canadien Français de la Cité d'Ottawa,” for the year ending 30th April, 1886.

Our Literary Proceedings.

As will be seen by the following list of Readings given during the year, we have continued to give the first place to literature and study of history which we always considered to be the main object of a literary institution like ours.

Eleven public entertainments were given, and I am proud to say that from the way they were patronized, they were well appreciated by our population, which derived a great benefit from them.

- 1st. “The Language we Talk” By Nap. Legendre, F.R.S.C.
- 2nd. “Two Women from Comielle” Rev. Father Fillâtre, O.M.I.
- 3rd. “Montcalm” P. J. U. Baudry, Asst. Clerk P.C.
- 4th. “A Resurrection” Rev. Father Nolin, O.M.I.
- 5th. “To the North Pole” H. A. Talbot, Advocate.

- 6th. "The Study of Natural Sciences" Rev. Father Marsau, O.M.I.
 7th. "Traces of Aborigines noticed in the Discoveries of Archaeological Specimens". By N. Faucher de St. Maurice, F.R.S.C.
 8th. "Our first Literary Relations with France". By A. Lusignar, F.R.S.C.
 9th. "England and Russia in India" By Nap. Champagne.
 10th. "Adulterations in Commerce and Society". By Dr. F. H. Valade, D.F.A.
 11th. "Dramatic Authors in Canada" By Hon. Senator P. Poirier.

In view of furthering the literary interest of its members, the Institute has also established, during the past year, relations with a great number of literary and scientific societies in France, Belgium, Spain, Portugal, Italy, Germany, Russia, Austria, Switzerland, Sweden, Norway, Denmark, England, Ireland, Scotland, Egypt, and the United States of America.

All these societies have so liberally responded to our call, by sending to us their various publications, that we have deemed it necessary to fit up a new room for our Library as well as for our Lecture-room, containing over thirty (30) newspapers.

So as to return the courtesy on the part of the above-named societies, it is our intention to publish in the future an annual report of our proceedings.

Our Scientific Branches.

As stated in my previous report, for want of proper accommodation, the study of mineralogy, etymology and archaeology, is still reduced to isolate study, but the few pupils who will persist in those their favorite studies, manage to give to the other members the benefit of their knowledge, in the shape of petty lectures at our weekly meetings.

The fact of our having sent over twenty-five (25) specimens of architectural, linear and other drawings, as well as portrait drawing and samples of penmanship and decorative drawing and lettering, to the Colonial Exhibition, held in London, is the best proof we can give that this line of study is not neglected amongst our members.

Our Financial Position.

Considering the only Government help we receive is the small sum of \$300, kindly granted by the Ontario Government, it is astonishing we can accomplish so much.

If it were not for the contributions of our members and private subscriptions, it would have been next to impossible for us to meet the heavy expenditure brought upon us by our late disaster, the effects of which will long be felt.

We have, during the year, taken up the mortgage of \$7,000 on our property at 6%, and effected a saving for the future by borrowing the same amount at 5% interest.

This reduction of \$70, together with the subscriptions of thirty-six new members admitted since last report, has contributed in allowing us to show a small surplus of \$71.21 over our expenditure, which amounted to \$2,519.17.

Apart from the indebtedness caused by the roof caving in last year, and which is not all paid, our liabilities have not increased this year.

Respectfully submitted.

F. R. E. CAMPEAU,
President.

OTTAWA, 19th July, 1886.

OTTAWA LITERARY AND SCIENTIFIC SOCIETY.

Annual Report of the Council.

To the Members of the Ottawa Literary and Scientific Society:

In accordance with the By-laws, it is the duty of the Council to present you with a report of the work and progress of the Society during the past year, which they hope will be found satisfactory.

The Treasurer's statement shows a balance to the credit of the Society of \$138, being \$90 more than that of last year. The amount received for members' subscriptions, including arrears, is \$519, being an increase of \$61 over last year. During the year forty-eight new members have been elected. The sale of lecture tickets realized \$94.50, and the cash taken at the door during lectures was \$21.50.

In consequence of the long-continued serious illness of the Librarian, it has been found impossible to submit to this meeting full details of the work done in this branch of the Society; it may, however, be stated that no funds were available for any extensive purchases of books during the year, and the only material additions to the shelves have been works kindly donated and the periodicals which are regularly kept and bound.

Both library and reading-room have been extensively made use of, and the number of books issued will probably be found to exceed the aggregate of previous years. Members continue to express a desire to have Section C, comprising works of fiction, kept fuller and more completely up to date.

In the museum, little of note has occurred. The Society was applied to during the winter, by the Ontario Government, Department of Education, for collections from the museum to be sent home to the Colonial Exhibition. It was represented to them that the only branches in which a creditable showing could be made were in entomology, botany and mineralogy, and that in each of these sections more complete collections were being sent both from Ottawa and from other parts of Ontario. Upon this the Council was informed that it would not be necessary for them to contribute their collections.

The lectures of the season were delivered substantially in accordance with the programme issued at the beginning of the course, as follows:—

1885.

Nov. 26.—Inaugural Address, "Science in Canada". The President.

Dec. 3.—"The Rocky Mountains, and What I

Saw in Them".....Prof. Macoun, F.R.S.C.

" 17.—"A Study of Thackeray".....Mr. Martin J. Griffin.

1886.

Jan. 7.—"The Hudson's Bay Territories and

their Inhabitants".....Prof. Robt. Bell, M.D., L.L.D.

" 21.—"Travels in the South Seas".....Mr. F.N. Gisborne, M.I.S.E., F.R.S.C.

" 28.—"A Topic of the Times".....Hon. Wm. McDougall, C.B.

Feb. 4.—"Gaspé Peninsula, Past and Present".....Mr. R. W. Ellis, M.A.

" 11.—"Nathaniel Hawthorne and his Writings, with Illustrative Readings".....Mr. J. M. Oxley, B.A., L.L.B.

" 25.—Short Scientific Essays, "Is Vivisection or Experimentation on the Lower Animals Justifiable?".....Dr. R. W. Powell.

" Concerning Bread".....Mr. Wm. Scott.

" Eyes".....Mr. W. H. Harrington.

Mar. 11.—Short Literary Essays—

" Byron".....Mr. A. Lampman, B.A.

".....Mr. P. T. Lafleur, B.A.

".....Mr. A. W. Gundry.

The short scientific essays which were intended for one of the evenings were broken up, one of them being expanded to occupy a whole evening, and another being delivered upon the evening set apart for short literary essays. The latter, like those of last year, proved a great success, and amply demonstrated the advisability of continuing, or even extending, this feature of the course.

The Council here desires, on behalf of the Society, to express their cordial thanks to all the gentlemen who kindly assisted it, by preparing and delivering lectures during the course.

The Council have given to the owner of the premises which they at present occupy, notice, that under the terms of their lease, they intend occupying the rooms for two

years longer, at an annual rental of \$325. As it seems probable that at the expiration of that time a still higher rent may be asked, it behooves the Society to decide whether steps cannot be taken towards securing a building of their own in the meantime.

The Council regret to announce that their present custodian, Mr. W. H. Burns, having secured more remunerative employment, leaves the Society on the 1st of May. Mr. Burns has proved himself in every respect a satisfactory officer, and has, by his diligence and faithfulness, won the esteem of all who have been brought into contact with him in his present position.

Signed,

F. K. BENNETT,
Acting Secretary.

OTTAWA, 31st March, 1886.

REPORT OF THE HAMILTON ASSOCIATION FOR THE YEAR ENDING 1ST MAY, 1886.

SIR,—I have the honour to enclose an abstract of the report presented at the annual meeting of the Hamilton Association, held in May last, giving some account of the work done by the Association for the session then ended.

I also send, attached to the report, the Treasurer's statement for the same period, shewing receipts and disbursements. I may add, that against the balance shown by the financial statement, there was a liability for printing transactions and for rent which has since been paid, leaving only a few dollars in the treasury.

Abstract of Report read at the annual meeting, held 20th May, 1886. Dr. Macdonald, President, in the chair.

During the session 1885-6, the Association has held eight general meetings, while the Council has met ten times.

At the general meetings, the following subjects have been discussed and papers read, viz. :—

“Education,” being the Inaugural Address of the President elect, Rev. C. H. Mockridge, D.D.

“The Mound Builders Remains of Manitoba,” by Charles N. Bell, Esq., R.G.S.

“The Pressure and Elasticity of the Atmosphere,” illustrated by numerous experiments, by A. Gaviller, Esq.

“Ornithology,” by Thomas MacIlwraith, Esq., Superintendent for Ontario of the Migration Committee of the American Ornithologists.

“Pessimism,” by Rev. S. Lyle, B.D.

“Telegraphic communication with moving trains,” by George Black, Esq., of the G. N. W. Telegraph Company.

“Life in nature and Evolution in Life,” by J. A. Moffat, Esq., member of the Council of the Entomological Society.

Our Society is fortunate in having connected with it as an active member, Thomas McIlwraith, Esq., who has, during the past session, contributed so much original work in the Biology section, by handing over to the Association an accurate description of nearly three hundred of the birds of the Province.

This important contribution to the science of ornithology by such an authority, will be published and distributed shortly.

Our Geological section has not been idle, and several contributions have been made to our collections of specimens.

The reading room has been supplied with some of the leading Magazines and Reviews, as in the past year.

Our present membership is 145. Twenty-four new members were elected during the past session.

At the same meeting the following gentlemen were elected as officers for the session, 1886-7 :

President, Rev. C. H. Mockridge, D.D.
 First Vice-President, Rev. Samuel Lyle, B.D.
 Second Vice-President, Matthew Leggat.
 Correspondent Secretary, Harry B. Wilton.
 Recording Secretary, A. Alexander, F.S. Sc., Lon., Eng.
 Curator, A. Gaviller.
 Treasurer, Richard Bull.

Council—J. A. Moffat, Samuel Slater, C. S. Chittenden, James Leslie, M.D., and William Milne, with the resident past Presidents.

A. ALEXANDER,
 Secretary.

HAMILTON, 24th September, 1886.

RECEIPTS AND DISBURSMENTS FOR THE YEAR ENDING MAY, 1886.

Receipts.

| | |
|---------------------------|---------------|
| Balance, May, 1885..... | \$51 39 |
| Government grant..... | 400 00 |
| Sundry subscriptions..... | 176 00 |
| Interest..... | 1 50 |
| | —————\$628 89 |

Expenditure.

| | |
|---|--------------|
| Rent and gas..... | \$208 52 |
| Furniture, book-case..... | 21 00 |
| Periodicals..... | 64 08 |
| Insurance..... | 12 50 |
| Printing, stationery, postage, etc..... | 121 35 |
| Balance..... | 201 44 |
| | ————— 628 89 |

RICHARD BULL,
 Treasurer Hamilton Association.

Audit accounts have since been paid to the amount of \$189.65, chiefly for rent and printing.

R. B.

September, 1886.

REPORT OF ATHENEUM AND ST. PATRICK'S LITERARY ASSOCIATION OF OTTAWA, FOR
 THE YEAR ENDING 30TH APRIL, 1886.

The Association has steadily progressed during the past year.

The membership is larger, the interest more marked, and the attendance at meetings and classes more regular.

The central location of the rooms offered advantages, of which a large number of members availed themselves, especially during the winter evenings. The reading room and library are open from seven until ten each night, and are largely patronized.

The statistics subjoined show the working of the Association for the year referred to :

Receipts.

| | |
|-----------------------------------|----------|
| Cash on hand from last year | \$195 71 |
| Membership and pupils' fees | 194 50 |
| Government grant..... | 200 00 |
| Other sources..... | 382 77 |
| | <hr/> |
| | \$972 98 |

Expenditure.

| | |
|------------------------------|----------|
| Evening classes | \$237 25 |
| Reading room | 191 25 |
| Rent and miscellaneous | 538 03 |
| Cash on hand | 6 45 |
| | <hr/> |
| | \$972 98 |

EVENING CLASSES.

Subjects Taught.—Drawing, Arithmetic, Book-keeping, Grammar, Composition and Elocution.

Lectures on Elementary Moral Philosophy.

Number of pupils 120.

Debates, weekly, by members.

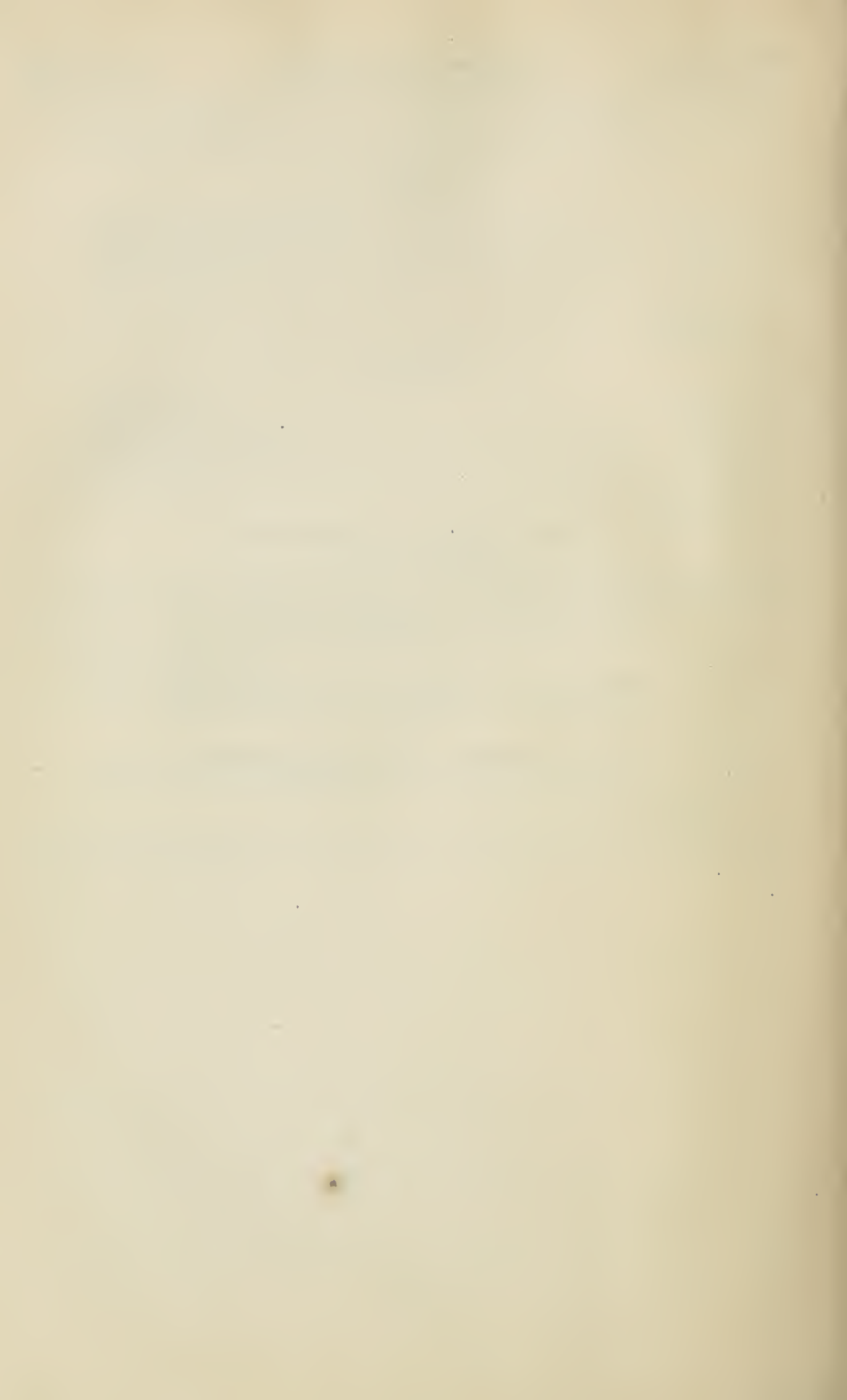
LIBRARY.

| | |
|------------------------------------|-----|
| Number of volumes in library | 300 |
| “ “ issued | 85. |

J. L. DOWLIN,
President.

OTTAWA, 17th May, 1886.

UNIVERSITY OF TORONTO ;
UNIVERSITY COLLEGE, TORONTO ;
SCHOOL OF PRACTICAL SCIENCE ;
AND UPPER CANADA COLLEGE.



UNIVERSITY OF TORONTO; UNIVERSITY COLLEGE, TORONTO; SCHOOL OF PRACTICAL SCIENCE; AND UPPER CANADA COLLEGE.

I. ANNUAL REPORT OF THE UNIVERSITY OF TORONTO FOR 1885-6.

To His Honor, the Honorable John Beverley Robinson, Lieutenant-Governor of the Province of Ontario, Visitor of the University of Toronto:—

MAY IT PLEASE YOUR HONOR:

The Chancellor, Vice-Chancellor, and Members of the Senate of the University of Toronto have the honor to present their Report on the condition and progress of the University for the year 1885-86.

The following tabulated statement of the admissions to Degrees, and *ad eundem statum*, and of the number who matriculated in the different faculties from June, 1885, to June, 1886, is submitted:—

| | | |
|--|--|-----|
| <i>Law—</i> | | |
| Matriculation | | 33 |
| Degree of LL.B. | | 3 |
| <i>Medicine—</i> | | |
| Matriculation | | 21 |
| <i>Ad eundem statum</i> from College of P. & S | | 20 |
| Degree of M. B. | | 16 |
| <i>Arts—</i> | | |
| Matriculation | | 193 |
| <i>Ad eundem statum</i> | | 4 |
| Degree of B.A. | | 68 |
| Degree of M.A. | | 6 |
| <i>Civil Engineering—</i> | | |
| Degree of C. E. | | 1 |

During the year 822 candidates underwent examination in the different Faculties as follows:—

| | |
|------------------------------------|-----|
| Faculty of Law | 45 |
| “ Medicine | 91 |
| “ Arts | 614 |
| “ Civil Engineering..... | 1 |
| Local Examinations for Women | 71 |
| Total..... | 822 |

The class lists for the year are appended.

All which is respectfully submitted.

(Signed)

W.M. MULOCK,
Vice-Chancellor.

2. ANNUAL REPORT OF THE COUNCIL OF UNIVERSITY COLLEGE, TORONTO, FOR
1885-6.

To His Honor the Honorable John Beverley Robinson, Lieutenant-Governor of the Province of Ontario, and Visitor of University College :

MAY IT PLEASE YOUR HONOR :

The President and Council of University College beg leave to present to your Honor, as Visitor on behalf of the Crown, the following Report on the progress and condition of the College for the year 1885-6, and at the same time they avail themselves of the opportunity afforded by the late period at which the Report has to be presented, to submit a statement of the work now in progress in the current academic year.

The statistics submitted herewith of the number of students in attendance during the past academic year, and the studies pursued under the instruction of the various professors and lecturers, furnish the most satisfactory evidence of the successful prosecution of the work of the College. The increasing general interest in its progress has been manifested in the gratifying form of liberal contributions for furnishing the laboratories with needful apparatus ; and for founding prizes and scholarships for the encouragement of various branches of study. The sum of \$2,090 has been contributed by graduates and other friends of the College for providing some important additions to the apparatus required in the department of Physics, and since the last Report was presented they have to acknowledge the liberal gift by William Mulock, Esq., M.P., of the sum of \$2,000 to found scholarships in Mathematics and Classics. From another liberal donor who witholds his name, a similar amount of \$2,000 has been received for the purpose of establishing scholarships in the Natural Sciences ; and the sum of \$1,000 has been placed at their disposal by the Brown Memorial Committee, to found the George Brown Scholarship for the encouragement of the study of Modern Languages and History. A special die for College Medals has been executed at the cost of three friendly contributors, and medals are now being established in various departments. The Council have pleasure in reporting the founding, during the current year by an old honor graduate and medallist, W. H. C. Kerr, Esq., of a Gold Medal in Classics, to bear the name of the "McCaul Gold Medal," as a memorial of the late President and Professor of Classical Literature. They are also indebted to the liberality of Frederick Wyld, Esq., for the establishment of an annual prize of the value of \$25 in books for the encouragement of English Composition.

At the annual Convocation of the College, on the 10th of October, 1885, the number of students admitted for the first time amounted to 128, and the entire number of students in attendance on the College lectures during the academic year was 462. Of these 321 were under-graduates pursuing the full courses prescribed by the University for proceeding to a Degree in Arts. Of the students thus enumerated the returns show that they came in varying numbers from forty-one different counties of Ontario, and from the district of Algoma. They also included students from the Provinces of Manitoba and British Columbia on the one hand, and from Quebec on the other, as well as from the United States.

The returns thus far made up for the academic year show a still larger attendance, with a greater number of new entrants than has been admitted to the College in any previous year. At the University Convocation held on the 9th of June, 1886, eighty-two of the students who had pursued their undergraduate studies in University College and had been duly reported by the Board of Examiners of the University as having fulfilled all requirements prescribed as requisite for their respective degree, were admitted as follows, viz. : Six to the degree of Bachelor of Medicine ; one to the degree of Bachelor of Law ; seven to the degree of Master of Arts, and sixty-eight to the degree of Bachelor of Arts. The graduates in the various faculties here specified are exclusive of those admitted from other colleges, or exempted by the University from attendance on lectures. Since the re-organization of the University and College on their present basis in 1853, degrees have been conferred in the Faculties of Arts, Law and Medicine, on fourteen hundred and one students trained in University College, classified as follows : LL.D., 10 ; LL.B., 53 ;

M.D., 19 ; M.B., 71 ; M.A., 251 ; B.A., 997 ; making a total of 1,401 degrees conferred in those who have pursued their undergraduate studies in this College, and have proceeded to their respective degrees in the various faculties of the University. In this enumeration of students who, after completing their course in Arts, have proceeded to a degree in one or more of the faculties in the University, as in all other returns of students and graduates, in the Reports of University College, the results are carefully discriminated from those of the University, based on the entrants for its examinations and the results of the University Examiners' Reports as confirmed by the Senate. No student or graduate is included in the numbers here reported who has not passed through successive years of the College course as an undergraduate, or has been a student availing himself of the College work and in actual attendance on the lectures.

Since their last report, the Council have had much satisfaction in welcoming Dr. James F. McCurdy, a distinguished Oriental scholar, as an acceptable addition to the College staff, and the increased facilities thereby furnished for the teaching of the Oriental languages have encouraged the Senate to place this branch of study on a par with the Classics and the Modern Languages, and to create a special Honor Department, with a systematic course of additional subjects adapted to its requirements. In this the College Council not only recognize a wise concession to the just claims of Affiliated Theological Colleges, but also a step, as they trust, calculated to encourage a more extended study of an important class of languages now embraced under that comprehensive title, and thereby to promote in some degree the study of comparative philology and the science of language.

The following constitute the body of Professors, Lecturers, Demonstrators, Tutors and Fellows, under whom the instruction in the various departments of study has been carried on in University College during the year. Classical literature, embracing the Greek and Latin languages :—

Professor :—Maurice Hutton, M.A., Fellow of Merton College, Oxford.

Classical Tutor :—William Dale, M.A.

Fellow in Classics :—J. C. Robertson, B.A.

Oriental Literature, including Hebrew, Chaldee, Syriac and Arabic :—

Lecturer :—Jacob M. Hirschfelder, Esq.

James F. McCurdy, Ph. D.

German—Lecturer :—W. H. VanderSmissen, M.A.

French—Lecturer :—John Squair, B.A.

Fellow in French and German :—J. H. Cameron, B.A.

English Language and Literature, and Italian—Lecturer :—D. R. Keys, B.A.

Ancient and Modern History and Ethnology—Professor :—Daniel Wilson, LL. D., F.R.S.S.

Logic, Metaphysics and Ethics—Professor :—G. Paxton Young, M.A., LL.D.

Fellow :—A. S. Johnson, B.A.

Physics and Mathematics—Professor :—James Loudon, M.A.

Mathematical Tutor :—Alfred Baker, M.A.

Demonstrator in Physics :—W. J. Loudon, B.A.

Fellow in Mathematics :—J. H. McGearry, B.A.

Fellow in Physics :—T. Mulvey, B.A.

Mineralogy and Geology—Professor :—E. J. Chapman, Ph. D., LL.D.

Fellow :—H. R. Wood, B.A.

Biology :—R. Ramsay Wright, M.A., B. Sc.

Fellow :—A. B. McCallum, B.A.

Chemistry—Professor :—W. H. Pike, M.A., Ph. D.

Fellow :—F. T. Shutt, B.A.

Instruction is given in the lecture-rooms and laboratories by this staff of teachers in the various branches embraced in the requirements of the University for standing and degrees in the Faculty of Arts, and in conjunction with the Professors of Engineering, and of Applied Chemistry in the School of Practical Science, for the degree of Civil Engineer. By the arrangements provided for in the Act establishing a School of Practical Science for the Province, provision is made for the attendance of the students of the school at all lectures in University College, embraced in the courses of study, including practical instruction in the Physical, Chemical and Biological laboratories, and in Mineralogy and Assaying in the Geological Laboratory, and instruction is given by the Professors in the various requirements for Assaying, Mining, Geology, Analytical Chemistry, and the special applications of Mathematics and Physics to Engineering.

Since the last annual report considerable progress has been made in supplying deficiencies in the apparatus and furnishings of the Physical Laboratory. It is now furnished with a valuable collection of instruments of precision in the branches of Dynamics, Sound, Light and Heat. In previous reports attention has been drawn to the necessity for further additions to the philosophical apparatus, especially for the means of adequately illustrating the important branch of electricity. The Council are now gratified in being able to report that through the liberality of the graduates and other friends of the College, supplemented by a special appropriation by the Board of Trustees, valuable additions have been made to the furnishing of the Physical Laboratory during the past year in the branch of Static Electricity.

In applied Mathematics some important additional facilities have been provided and especially a workshop has been fitted up in the College, furnished with a gas-engine, lathes, and other appliances of value in the practical application of the instruction in the departments of Mathematics and Physics.

In the department of Biology important additions have been made to the teaching appliances by means of a liberal appropriation for that purpose from the Board of Trustees. They include a valuable series of Botanical Models, which have already proved of great service in instruction. A collection of Botanical diagrams has also been added to those previously in use, along with a series of models of microscopic organisms, which will be equally useful in the lecture-room and the museum. Some necessary additions to the Zoological collection in the latter have also been made, and the Council gratefully acknowledge among the gifts of the past year a fine specimen of a hippopotamus' skull, brought from Egypt by George W. Lewis, Esq., and presented by him to the museum.

By the purchase of much needed laboratory appliances, the equipment of the Biological Laboratory has been greatly improved, and a special room has been fitted up for the study of Bacteria. Much more, however, is still required to keep the standard of Biological teaching on a level with that of the best American colleges, especially in the direction of extending practical teaching to the elementary classes. For this purpose improved lecture room accommodation and a liberal supply of microscopes are indispensable.

The Mineralogical Laboratory has received during the past year some additions to its apparatus, but chiefly in the form of instruments for the use of the students to replace worn-out material. Further additions are still required before it can be reported as efficiently equipped. The Geological department is also still in need of important additions, especially for the required teaching in Palaeontology and Mining Geology.

Examinations were held by the various Professors and lectures in their several departments during the past academic year, and the hours, scholarships and prizes won by the successful competitors were duly awarded at the annual convocation, held on the 16th October.

The honor lists for the year, along with a synopsis of lectures, laboratory work and other details, will be found in the calendar, of which a copy is herewith appended.

All which is respectfully reported.

DANIEL WILSON,
President.

UNIVERSITY COLLEGE,
TORONTO, December 3rd, 1886.

ANNUAL REPORT OF THE SCHOOL OF PRACTICAL SCIENCE, TORONTO, 1886.

To the Honorable G. W. Ross, M.P.P., Minister of Education :—

SIR,—I have the honor to submit herewith the Report of the School of Practical Science for the year 1886.

1. The Academic year of the School of Science includes the Michaelmas Term, extending from October to the 23rd of December; and the Easter Term from January to the 18th of April. The Report now presented for the current year embraces the Easter Term of 1885-6, and the Michaelmas Term of 1886-7, during which the work of the School has been diligently prosecuted in the Lectures, Laboratories, and in the Field-work in relation to Geology, Surveying and Levelling.

2. The following is a classified list of the students in attendance during the above-named terms of the current year, including the students pursuing special subjects in the full courses taught in the School of Science, and also those proceeding to a Degree in Civil Engineering, in Arts, or in Medicine, in the University :—

| | | |
|---|------------|----------------|
| <i>Engineering—</i> | | |
| Regular students..... | Easter. 48 | Michaelmas. 45 |
| Special “..... | 14 | 9 |
| <i>Mathematics and Physics—</i> | | |
| Students in Engineering..... | 57 | 48 |
| <i>Chemistry—</i> | | |
| Students of University College..... | 91 | 79 |
| Regular students in Engineering..... | 48 | 45 |
| “ “ Chemistry..... | 2 | 5 |
| “ Medical students..... | 47 | 90 |
| <i>Biology—</i> | | |
| Students of University College.... | 31 | 29 |
| <i>Mineralogy and Geology—</i> | | |
| Regular students of University College..... | 103 | 117 |
| “ “ in Engineering..... | 17 | 25 |

3. The fees of students proceeding to a Diploma of the School of Practical Science in the Department of Engineering, or availing themselves of the special training in Applied Chemistry, during the year 1885-6, and paid in to the Provincial Treasurer, have amounted to \$1,490, being an increase of \$525, as compared with the last year's fees.

4. The work now carried on in the School of Science, under the Professors of Engineering and Applied Chemistry, in conjunction with the instructions given in Mathematics and Physics, and in the Natural Sciences, by Professors and Lecturers of University College, has greatly extended the advantages enjoyed by students of the School. Among the special facilities provided since the last report, is a work-shop attached to the Department of Physics in University College, furnished with useful appliance for practical instruction. The appointment of Fellows in the various Departments, both of the School and College, has augmented the facilities for necessary subdivision of the work in various departments, and thereby greatly increased the advantages enjoyed by both institutions. But the benefits to be derived from this have thus far been only partially available in those branches taught in the School of Science building, owing to the want of adequate lecture rooms. The attention of the Minister of

Education is earnestly requested to the necessity for greatly extended accommodation, if the School of Science is to be maintained in efficiency, and to prove adequate for the annually increasing number of students.

The following constitute the teaching staff of the School, including the Fellows of the year 1885-6, in the several departments :—

- J. Galbraith, M.A., Assoc. M. Inst. C.E., Professor of Engineering.
- E. W. Stern, Esq., Fellow.
- W. H. Ellis, M.A., M.D., Professor of Applied Chemistry.
- W. H. Pike, M.A., Ph. D., Professor of Chemistry.
- N. McEachern, B.A., Fellow.
- E. J. Chapman, Ph. D., LL.D., Professor of Mineralogy and Geology.
- H. R. Wood, B.A., Fellow.
- J. Loudon, M.A., Professor of Mathematics and Physics.
- J. H. McGear, B.A., Fellow in Mathematics.
- T. Mulvey, B.A., Fellow in Physics.
- R. Ramsay Wright, M.A., B. Sc., Professor of Biology.
- A. B. McCallum, B.A., Fellow.
- D. Wilson, LL.D., F.R.S.E., Professor of Ethnology.

5. Departments of Instruction.

(1) *Engineering.*

The number of regular students who presented themselves for examination in the Easter Term of 1886 was as follows :—

| | | | | | | |
|------------|----|------|----------|-----|----|---------|
| First year | 25 | were | examined | and | 17 | passed. |
| Second " | 10 | " | " | " | 9 | " |
| Third " | 7 | " | " | " | 5 | " |
| Total | 42 | " | " | " | 31 | " |

The number of graduates of the School is as follows :—

| | |
|-------|----|
| 1881 | 1 |
| 1882 | 3 |
| 1883 | 3 |
| 1884 | 5 |
| 1885 | 5 |
| 1886 | 5 |
| Total | 22 |

The majority of the graduates are now engaged in active professional practice in Canada.

The number of students in this Department now in attendance is as follows :—

Regular Students—

| | |
|------------|----|
| First year | 20 |
| Second " | 17 |
| Third " | 8 |
| Total | 45 |

Special Students—

| | |
|------------------------------|---|
| Mechanical Engineering | 6 |
| Surveying | 3 |
| Total | 9 |

Total number of students in the Engineering Department, 59.

The graduates of the school who have proceeded to the Degree of C.E. in the University of Toronto are :—

| | Diploma of School. | Degree of C.E. |
|---------------------|--------------------|----------------|
| J. E. Morris | 1881 | 1885 |
| J. H. Kennedy | 1882 | 1886 |

The urgent appeal for the establishing of a Fellowship in the Department of Engineering having met with a favorable response from the Government, Mr. E. W. Stern was appointed Fellow, and satisfactorily discharged the duties throughout the academic year. At its close he resigned his Fellowship to allow of his resuming the practice of his profession, and Mr. D. Burns, who took the Diploma of the school in 1883, and had been subsequently employed in the water-works department of the City of Toronto, has been appointed in his place.

The duties assigned to the Fellow consist mainly in assisting the Professors in giving practical instruction in the drafting room and in the field. All students who are not occupied with lectures are required to work in the drafting room at all spare hours between 9 a.m. and 5 p.m. It is absolutely necessary, with a view to the useful employment of this time, that they should be under constant superintendence. The appointment of a Fellow has in some degree secured this. Yet even now it frequently happens that, while the Professor is engaged in lecturing, the Fellow has to superintend the work of students carried on in two other rooms, with results far from satisfactory, as an adequate fulfilment of efficient oversight.

The assistance provided to the Professor of Engineering by the appointment of a Fellow, while adding greatly to the general efficiency of the department, has in no degree diminished the amount of work devolving on the Professor, as will be seen from the following list of the subjects on which he is required to lecture :—

I. *Mechanical.*

Applied Statics and Dynamics,
Strength of Materials and Theory of Construction.
Hydraulics.
Thermodynamics and Theory of the Steam Engine.
Principles of Mechanism and Machine Design.

II. *Geometrical.*

Geodesy and Practical Astronomy.
Surveying.
Descriptive Geometry (including the principles of mechanical drawing, map projections, topography, stone cutting, lineal perspective, shades and shadows, etc.)
Special Trigonometry.

In addition to the amount of lecturing here specified, and the practical work which together occupy both Professor and Fellow for seven hours of each day, a large amount of correspondence and routine business has to be attended to. In view of the disproportionate amount of work thus thrown upon a single instructor, the Board beg leave to invite the special notice of the Minister of Education to the requirements of this important department, as, with the annual increase of the number of students entering

the School of Science, it must be obvious that the above requirements are more than can be undertaken by any single professor, either in justice to himself or to his students. They submit herewith, for the consideration of the Minister, the following recommendation of Professor Galbraith, with a view to providing adequate teaching in the several branches of this Department:—

“The Professor of Engineering would strongly urge the appointment of an Assistant Professor to take the subjects under head II. (Geometrical). The requirements are that the person appointed shall be a good mathematician and draftsman, and also a practical surveyor. His mathematics must include a thorough knowledge of the Differential and Integral Calculus. There is no other Engineering School in the world where such a variety of work is thrown on one professor as in the School of Science.

(2) *Mathematics and Physics.*

The instruction in the various branches included in this Department is carried on by the Professor of Mathematics and Physics in University College, in co-operation with the Mathematical Tutor and the Demonstrator of Physics, with the assistance of two Fellows. Since the last Report of the Board, increased facilities for practical instruction, which they were then looking forward to, have been realised, in the provision of a well-equipped workshop, available for the students of the school. This has been fitted up in University College, and furnished with a gas-engine, lathes, and other useful appliances of special value to the students in Civil and Mechanical Engineering. Important progress has been made in supplying the deficiencies in the philosophical apparatus, especially with a view to the requirements of a special course of instruction in electrical engineering. By means of a fund liberally contributed by friends of the College and the School of Science, supplemented by a grant from the University Board of Trustees, valuable additions have now been made to the Physical Laboratory, especially in the branch of Static Electricity.

(3) *Chemistry.*

In the Department of Applied Chemistry Dr. Ellis reports that the accommodation in his laboratory is quite inadequate for the number of students now working there. The arrangement of tables, with cupboards and drawers, each intended for a single student, now falls so far short of the requirements of the school that each compartment is shared among four students, and it is a frequent source of unavoidable confusion, greatly impeding the work of both the teacher and the student. Additional accommodation is urgently needed.

(4) *Biology.*

Through a liberal grant from the University Board of Trustees the Biological Laboratories have been furnished with further appliances which largely increase the facilities for practical teaching now available for students of the School of Science. The Professor has, however, been unable to carry out his purpose of forming evening classes, in accordance with the provisions of the Act, owing to the want both of suitable accommodation and of the necessary illustrative apparatus. He applied during the past year for a special grant to be expended on the needful apparatus, and will offer such instruction whenever the required means are placed at his disposal.

For reasons referred to in a former report, the classes in Biological subjects, specially formed to meet the wants of medical students, were temporarily suspended. As, however, medical students constantly apply for instruction in those subjects, the Board considers it desirable to renew the former facilities during the session of 1887-8. The time of the Professor of Biology is now so much occupied with the various claims of his department that it will not be possible for him to personally undertake the whole of the proposed additional work of instruction. It is therefore recommended by the Board that the fees charged to students for instruction in those branches of biological study specially designed for the medical students be appropriated for the purpose of securing the necessary assistance.

(5) *Mineralogy and Geology.*

By means of an appropriation placed at the disposal of the Professor by the Board of the Trustees of the University, some indispensable additions have been made to the apparatus of the Mineralogical Laboratory, but chiefly in the form of instruments for the use of students to replace worn out material. Considerable additions are still required before it can be reported as adequately equipped. The Geological Department is specially in need of requisite illustrations and appliances for efficient teaching in Palæontology and Mining Geology.

(6) *Ethnology.*

Some interesting additions have been made to the collection, available for illustrating this branch of study, since the last report; and arrangements have been entered into which, it is hoped, will largely increase the Department illustrative of the native races, and the primitive arts of the Dominion.

(7) *Architecture.*

Looking to the full and efficient equipment of the school in all essential requirements, the Board invite the consideration of the Ministers to the desirableness of adding to the instruction now provided, a new department of Architecture. Nearly all the important branches required for a well-trained architect, in construction, strength of material, acoustics, sanitary engineering, etc., are already taught in the school. It only requires the addition of instruction in the branch of architectural drawing. With this addition, if proper accommodation for classes is secured, the additional fees would probably cover the charges involved.

(8) *Insufficient Lecture Rooms.*

Attention has been repeatedly called to the annually increasing impediments to the proper carrying on of the work of the School of Science, owing to the totally inadequate amount of accommodation, and the Board were encouraged to expect such an appropriation by the Legislature for an extension of the present building as would in some degree meet the most pressing requirements.

Owing to the fact that only one lecture room is available for classes for special lectures in the several departments of Engineering, Chemistry, Biology, and Mineralogy and Geology, the unavoidable defacement of illustrative tabular work on the blackboard by successive lecturers, is felt to be a serious impediment, involving much waste of labor and loss of time. The pre-occupation of the room, also, by one lecturer, at the very time when it is needed for the preparation of drawings or tabular work for a future class, greatly interferes with the successful prosecution of various branches of instruction. But now, in addition to the difficulties here referred to, the numbers in attendance have so largely increased that the lecture room is altogether too small for their accommodation. In a letter from the Professor of Mineralogy and Geology, addressed to the Chairman of the Board, during the present term, he says:—"The small lecture room that I had at one time exclusively for my own classes, is now shared by nearly all the professors and teachers in the school, so that it is not possible to make preparations for lectures, in the way of putting up drawings and diagrams, writing out tables, etc., on the blackboard, arranging specimens and apparatus, etc., as the room is constantly occupied. But that is not the worst. The room will not hold conveniently more than forty-five students. If more than that number be crowded in, the students cannot take notes, or sit with any comfort. My students, of the second year, now amount to at least seventy. It is not possible to get this crowd into the room; although, in addition to the regular seats, I have had small stools placed in every available spot; and if you will visit the school on any Monday or Wednesday afternoon from 3 to 4 o'clock, you will find many students sitting or standing in the hall, around the open door."

The Professor also draws attention to the great hindrance to efficient work arising from the want of adequate accommodation in his laboratory, so that the students have to be divided into three or more sets, and the same work repeated several times in the day,

to the great increase of labor and waste of time. In spite of extended hours, and evening work, the Professor complains that the progress of the students is impeded from this cause.

The Professor of Engineering is no less urgent in his complaints of impediment to instruction in all branches of his work owing to the want of adequate accommodation. During the past year the only room available for the meetings of the Board has been given up as an additional room for engineering drawing. But this is a mere temporary make-shift. The additional rooms urgently required for this department are a larger drafting room and a new lecture room. Owing to the want of the latter, lectures have to be daily given in the crowded drafting rooms to one class of students, at the time when another class are engaged there in drawing, to the inevitable annoyance and distraction of the latter. A large room is also required on the ground floor, for use as an engineering laboratory. In order to render this available for essential requirements of the school, it should be furnished with a machine for testing the strength of materials, and also with an experimental steam engine for conducting engine tests. The ultimate benefits resulting to the country from the practical training thus secured for a body of native and home-trained engineers, will amply repay any costs incurred.

(9) *Fees of Professional Students.*

In view of the requirements set forth in previous statements, and the obvious necessity of so extending the facilities and teaching powers of the school, as to enable it to meet the annually increasing demands on its present inadequate resources, the Board very respectfully submit to the Minister of Education, that, with adequate accommodation for large professional classes in the several departments, such fees could be charged as would, they believe, ultimately make the school, to a large extent, self-supporting.

(10) *Heating Apparatus.*

They beg leave to recall to the attention of the Minister of Education the serious inconvenience caused by the inadequacy of the heating apparatus in the School of Science building. This has been increasingly felt since the extension of the chemical laboratories, and they were promised that this, as well as other pressing wants, would be supplied during the current year. The annual waste from breakage in the laboratories and the bursting of pipes, on a sudden fall in the temperature, is in itself an urgent reason for the remedy of this defect as speedily as possible.

(11) *Sanitary Requirements.*

The special attention of the Minister is invited to the extremely defective sanitary arrangements of the school, which are such as to endanger health. The regular attendance now, under recent arrangements, of lady students, also requires the provision of separate cloak and toilet rooms for their use.

(12) *Plans for future Extension.*

In conclusion, the Board beg leave to represent to the Minister that the popularity and annually increasing progress of the school reveals the fact that the present building is very defective and inadequate in many ways for the requirements of a Provincial School of Practical Science. They would, therefore, very respectfully submit to the Government that in taking steps to provide the increased accommodation so urgently required, it is most desirable that they should give instructions for the preparation of plans on a scale adequate to the prospective growth of the school, so that anything now done may form part of a scheme to which further additions may be made from time to time, with a view to the ultimate establishment of a School of Practical Science in all respects worthy of the Province of Ontario.

A synopsis of lectures and other details of the work of the school will be found in the prospectus of the year, a copy of which is herewith appended.

All of which is respectfully reported.

DANIEL WILSON,
Chairman.

TORONTO, December 10th, 1886.

ANNUAL REPORT OF UPPER CANADA COLLEGE.

To His Honor, the Honorable John Beverley Robinson, Lieutenant-Governor of the Province of Ontario, and Visitor of Upper Canada College:—

MAY IT PLEASE YOUR HONOR :

The Principal of Upper Canada College begs leave to present to your Honor, as Visitor on behalf of the Crown, the following report for the year ending June 30th, 1886:—

Attendance.

The enrolment of boarders for the year ending June 30th, 1886, was 177 ; day pupils, 167 ; total, 344. The average attendance of the school for the same period was 285.5 ; the per centage of average attendance to total attendance 83 per cent.

[NOTE:—The enrolment for the current session up to Jan. 20th, 1887, is 347 ; boarders, 160 ; average daily attendance, 301.2].

The number of masters employed during the school day, 13 ; number of pupils to a master, on the basis of enrolment, 25 ; on that of average daily attendance, 22.

Comparative Statement.

| | 1885-86. | 1884-85. | 1883-84. | 1882-83. |
|-----------------|------------|------------|------------|------------|
| Boarders..... | 177 | 149 | 129 | 116 |
| Day pupils..... | 167 | 147 | 126 | 127 |
| | <u>344</u> | <u>296</u> | <u>255</u> | <u>243</u> |

The Residence of Pupils.

(Session, 1885-86).

| | Day pupils. | Boarders. |
|--------------------------------------|-------------|-----------|
| Algoma and Lake Superior region..... | | 3 |
| Brant..... | | 3 |
| Bruce..... | | 1 |
| Carleton..... | | 4 |
| Dufferin..... | | 2 |
| Durham..... | | 5 |
| Grey..... | | 5 |
| Haldimand..... | | 2 |
| Halton..... | | 8 |
| Hastings..... | | 8 |
| Huron..... | | 6 |
| Lambton..... | | 9 |
| Leeds..... | | 2 |
| Lincoln..... | | 9 |
| Middlesex..... | | 4 |
| Norfolk..... | | 2 |
| Northumberland..... | | 1 |
| Ontario..... | | 4 |
| Oxford..... | | 1 |
| Peel..... | | 3 |

| | Day pupils. | Boarders. |
|--------------------------------|-------------|-----------|
| Perth..... | | 1 |
| Peterboro | | 3 |
| Simcoe | | 10 |
| Stormont.. | | 5 |
| Victoria | | 2 |
| Welland | | 2 |
| Wellington | | 1 |
| Wentworth..... | | 25 |
| York. | 167 | 17 |
| British Columbia | | 2 |
| Nova Scotia | | 9 |
| Quebec | | 7 |
| North-West Territory | | 4 |
| Bermuda | | 1 |
| United States..... | | 6 |
| | 167 | 177 |

Subjects of Study.

| | |
|--|-----|
| No. in English (including Grammar, Literature, Composition, etc) . . . | 344 |
| “ History | 344 |
| “ Geography | 344 |
| “ French | 316 |
| “ German | 46 |
| “ Latin | 276 |
| “ Greek | 79 |
| “ Arithmetic | 344 |
| “ Algebra | 212 |
| “ Euclid | 212 |
| “ Chemistry | 67 |
| “ Physics | 67 |
| “ Book-keeping | 54 |
| “ Penmanship and Commercial Forms | 306 |
| “ Military Drill and Gymnastics | 252 |

Music, Drawing, Phonography and Fencing, are taught after hours, for which an extra fee is paid by the pupils.

The school gymnasium has been thoroughly renovated, and better facilities for physical culture have been provided; the course in gymnastics and military drill has been enlarged, and a rifle corps of 80 members has been organized among the boys.

The school is well supplied with maps, globes, chemical and physical apparatus and physiological models and charts. The Library contains upwards of 1,000 volumes, and the reading room, which is managed in connection with the gymnasium, is well furnished with daily and weekly Canadian newspapers and with the best illustrated magazines and papers of England and America.

The Literary and Debating Society has been revived, and *The College Times*, a semi-monthly school paper, for circulation among the pupils and ex-pupils, and edited by the boys of the Sixth Form, has resumed publication.

For the encouragement of physical culture the College organizations for Cricket, Football and Tennis, which have been special features of the school for upwards of 50 years, are kept in a state of efficiency. The Games Committee has charge of all competitive athletic sports; the annual competition was held on May 12th, at which prizes, provided by the Games Committee, were awarded.

PUPILS WHO LEFT DURING THE YEAR.

- 13 entered University of Toronto.
 6 " the Law Society.
 6 " Trinity College—Faculty of Medicine.
 5 " Military College, Kingston.
 5 " Department of Engineering.
 36 " mercantile life.
 10 became occupied with agriculture.
 17 left for other pursuits.

THE MASTERS.

Principal—George Dickson, M.A.

First Classical Master—William Wedd, M.A.

First Mathematical Master—James Brown, M.A.

Second Classical Master and Superintendent of the College Boarding Houses—John Martland, M.A.

French and German Master—W. H. Fraser, B.A.

Second Mathematical Master and Assistant Master in College Boarding House—George B. Sparling, M.A.

Assistant Classical Master and Resident Assistant Master in the Supplementary Boarding House—William Jackson, Esq.

Assistant Mathematical Master, Lecturer in Chemistry, and Resident Assistant Master in College Boarding House—A. Y. Scott, B.A.

Assistant English Master and Resident Assistant Master in College Boarding House—G. Gordon, B.A., M.D.

Assistant English Master and Assistant Master in the Supplementary Boarding House—H. Brock, Esq.

Writing and Commercial Master—A. Stevenson, B.A.

Assistant Modern Language Master—Joseph Blackstock, B.A.

Drawing—R. Baigent, Esq.

Music Master—Theodore Martens, Esq.

Gymnastics, Fencing and Drill—Sergeant Parr.

(Signed) GEORGE DICKSON, M.A.,

Principal.

TORONTO, December, 1886.

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DETAILED REPORT

OF THE

INSPECTOR OF INSURANCE,

1886.

Printed by Order of the Legislative Assembly.



Toronto :

PRINTED BY WARWICK & SONS, 26 AND 28 FRONT STREET WEST,

1887.

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DETAILED REPORT
OF THE
INSPECTOR OF INSURANCE,
FOR THE
YEAR ENDING 31ST DECEMBER, 1885.

*The Honourable A. McL. Ross, M.P.P.,
Provincial Treasurer, Toronto.*

SIR,—Having previously submitted, in printed form, an Abstract Report of Insurance Companies' Statements for the year ending 31st December 1885, I have now the honour to submit the Detailed Report as provided by the Statute 42 Vic., chap. 25.

This Report includes :—

- I. Detailed Statements of Joint Stock Life Insurance Companies.
- II. Detailed Statements and Synoptical Tables of Joint Stock Fire Insurance Companies.
- III. Detailed Statements and Synoptical Tables of Mixed Mutual Fire Insurance Companies.
- IV. Detailed Statements and Synoptical Tables of Strictly Mutual Fire Insurance Companies.
- V. Comparative Summary of Assets and Premium Notes of Mutual Companies of all Classes.
- VI. Fire-Tables for 1885; showing
 - (a) Localities, Months of Occurrence, and Total Claims paid;
 - (b) Localities, Causes and number of Losses; and
- VII. Register of Insurance Companies brought up to 2nd February, 1887.

I have the honour to be,

Sir,

Your obedient servant,

J. HOWARD HUNTER,

Inspector.

JOINT STOCK FIRE INSURANCE COMPANIES.

YEAR ENDING 31ST DECEMBER, 1885.

JOINT STOCK FIRE INSURANCE COMPANIES.

YEAR ENDING 31st DECEMBER, 1884.

[FOR HAND-IN-HAND INSURANCE COMPANY, MUTUAL AND STOCK,
AND MILLERS' AND MANUFACTURERS' INSURANCE COMPANY,
STOCK AND MUTUAL,

See under "MIXED MUTUAL COMPANIES."]

MERCANTILE FIRE INSURANCE COMPANY.

HEAD OFFICE, WATERLOO.

Commenced Business 1st November, 1875.

President—I. E. BOWMAN.

Secretary—P. H. SIMS.

Authorized Capital, \$500,000.

Subscribed Capital, \$200,000. Paid up, \$20,000.

Deposited with Treasurer of Ontario, \$20,100.

Statement for the year ending 31st December, 1885.

ASSETS.

Mortgages.

| Location of Property Covered. | Cash Value of Property. | Amount of Mortgages. |
|--|----------------------------|-------------------------|
| Wellington County | \$19,900 00 | \$12,425 |
| Waterloo " | 71,920 00 | 30,630 |
| Bruce " | 8,600 00 | 4,700 |
| Huron " | 3,000 00 | 1,200 |
| | \$103,420 00 | \$49,955 00 |
| Cash value of debentures | | 3,500 00 |
| Interest due, accrued and unpaid | | 1,804 49 |
| Cash on hand in head office | \$4,432 23 | |
| Cash deposited at Molson's Bank, Waterloo | 12,635 18 | |
| | | 17,067 41 |
| Agents' balances | | 4,626 61 |
| Bills receivable, less than one year overdue | | 1,935 83 |
| Total assets | | \$83,889 34 |

LIABILITIES.

| | |
|--|--------------------|
| Amount of claims for losses adjusted but not due | \$1,776 63 |
| Unearned premiums, being 50 per cent. of gross premiums..... | 47,446 73 |
| Dividends declared, but not yet due | 2,000 00 |
| | <hr/> |
| Total liabilities, except capital stock..... | \$51,223 36 |
| | <hr/> |
| Capital stock paid up in cash..... | <u>\$20,000 00</u> |

INCOME.

| | |
|---|--------------------|
| Gross premiums received in cash | \$88,472 28 |
| Received for interest from all sources | 3,169 19 |
| “ carpenters’ risks, transfer fees, and extra premiums | 659 58 |
| | <hr/> |
| Total income..... | <u>\$92,301 05</u> |

EXPENDITURE.

| | | |
|--|-----------|-------------|
| Net amount paid during the year for losses occurring in years prior to 1885 | \$732 00 | |
| Amount paid for losses occurring during the year 1885 | 41,883 63 | |
| | <hr/> | \$42,615 63 |
| Amount paid for reinsurance premiums | | 5,075 28 |
| Amount paid for dividends..... | | 2,000 00 |
| Amount paid for refund and cancelled premiums..... | | 4,935 17 |

Expense Account :

| | | |
|--|-------------|--------------------|
| Commission and brokerage..... | \$14,517 02 | |
| Salaries, fees, and all other charges of officials for the year. | 4,321 30 | |
| Travelling expenses and adjusting losses | 1,066 15 | |
| Fuel, light, and cleaning..... | 60 47 | |
| Printing and advertising..... | 719 70 | |
| Express charges | 69 81 | |
| License fee and statutory assessment..... | 233 33 | |
| Rent | 238 32 | |
| Commercial agency | 50 00 | |
| Books and stationery | 376 95 | |
| Bank exchange..... | 135 43 | |
| Postage and telegraphing..... | 696 30 | |
| Taxes..... | 34 47 | |
| Canadian Fire Underwriters’ Association..... | 102 95 | |
| Sundries | 94 63 | |
| | <hr/> | \$22,716 83 |
| | <hr/> | <hr/> |
| Total expenditure..... | | <u>\$77,342 91</u> |

MISCELLANEOUS.

| | No. of Policies. | Amount. |
|---|------------------|-----------------|
| Policies in force December 31, 1884 | 5,933 | \$ 5,911,254 00 |
| Taken during the year 1885—new and renewed..... | 5,756 | 5,951,556 00 |
| Total..... | 11,689 | 11,862,810 00 |
| Deduct expired and cancelled during 1885 | 4,527 | 4,591,555 00 |
| In force at Dec. 31st, 1885..... | 7,162 | 7,271,255 00 |
| Of which was reinsured | | 364,460 00 |
| Net risks carried by Company, Dec. 31st, 1885 | | 6,906,795 00 |

LIST OF STOCKHOLDERS.

| NAME. | Residence. | Amount | Amount paid |
|-----------------------------|-----------------|-------------|-------------|
| | | Subscribed. | up in cash. |
| | | \$ c. | \$ c. |
| Allenby, F. G..... | Galt | 4,000 00 | 400 00 |
| Bowman, J. E..... | Waterloo..... | 12,000 00 | 1,200 00 |
| Bowers, Cyrus..... | Berlin..... | 5,000 00 | 500 00 |
| Bowman, I. D..... | "..... | 1,000 00 | 100 00 |
| Bricker, Jacob..... | Waterloo..... | 2,000 00 | 200 00 |
| Ballantyne, Thomas..... | Stratford..... | 1,000 00 | 100 00 |
| Bowlby, D. S., M.D..... | Berlin..... | 10,000 00 | 1,000 00 |
| Boye, Ernest..... | Baden..... | 1,000 00 | 100 00 |
| Biscoe, Frederick..... | Guelph..... | 1,000 00 | 100 00 |
| Bellinger, Theo..... | Waterloo..... | 500 00 | 50 00 |
| Bowman, J. S..... | Arthur..... | 500 00 | 50 00 |
| Briethaupt, L..... | Berlin..... | 1,200 00 | 120 00 |
| Colquhoun, F..... | Waterloo..... | 3,500 00 | 350 00 |
| Colquhoun, I. Ledellia..... | Waterloo..... | 2,000 00 | 200 00 |
| Cameron, Wm..... | Port Elgin..... | 500 00 | 50 00 |
| Caw, Wm., M.D..... | Parkhill..... | 1,000 00 | 100 00 |
| Doering, Geo..... | Wellesley..... | 3,100 00 | 310 00 |
| Day, T. J..... | Guelph..... | 1,000 00 | 100 00 |
| Doering, John E..... | Wellesley..... | 500 00 | 50 00 |
| Dickson, Wm..... | Parkhill..... | 500 00 | 50 00 |
| Erb, E..... | Preston..... | 1,000 00 | 100 00 |
| Eccles, Daniel..... | Watford..... | 500 00 | 50 00 |
| Farrish, Wm..... | Rockwood..... | 1,000 00 | 100 00 |
| Fennell, John..... | Berlin..... | 500 00 | 50 00 |
| Fletcher, Ann, Mrs..... | Rockwood..... | 3,200 00 | 320 00 |
| Fink, Paul..... | Waterloo..... | 1,000 00 | 100 00 |
| Gibbs, John..... | Parkhill..... | 2,000 00 | 200 00 |
| Gissing, F. J..... | Toronto..... | 1,000 00 | 100 00 |
| Hughes, J. B..... | Waterloo..... | 2,000 00 | 200 00 |
| Hilliard, Thomas..... | "..... | 1,000 00 | 100 00 |
| Hendry, Charles..... | "..... | 5,000 00 | 500 00 |
| Hunter, Wm..... | Guelph..... | 2,000 00 | 200 00 |
| Hay, W. G..... | Listowel..... | 1,000 00 | 100 00 |
| Hough, James..... | Guelph..... | 1,000 00 | 100 00 |
| Hogg, David N..... | "..... | 5,000 00 | 500 00 |

LIST OF STOCKHOLDERS—*Continued.*

| NAME. | Residence. | Amount Subscribed. | | Amount paid up in cash. | |
|--------------------------------------|------------------------------|--------------------|----|-------------------------|----|
| | | \$ | c. | \$ | c. |
| Innes, James..... | Guelph..... | 2,000 | 00 | 200 | 00 |
| Irwin, John..... | Strathroy..... | 1,000 | 00 | 100 | 00 |
| Jackson, Henry F. J..... | Brockvill ^e | 5,000 | 00 | 500 | 00 |
| Jaffray, R..... | Galt..... | 1,000 | 00 | 100 | 00 |
| Killer, Nicholas..... | Waterloo..... | 1,000 | 00 | 100 | 00 |
| Kaufman, S..... | Washington, Ont..... | 5,000 | 00 | 500 | 00 |
| Kumpf, C..... | Waterloo..... | 1,000 | 00 | 100 | 00 |
| Kranz, Hugo..... | Berlin..... | 1,000 | 00 | 100 | 00 |
| Livingston, James..... | Baden..... | 2,000 | 00 | 200 | 00 |
| Lockie, James..... | Waterloo..... | 2,500 | 00 | 250 | 00 |
| Lautenschlager, P..... | Berlin..... | 2,000 | 00 | 200 | 00 |
| Moore, George..... | Waterloo..... | 3,000 | 00 | 300 | 00 |
| Miller, Alex..... | Berlin..... | 1,000 | 00 | 100 | 00 |
| Melvin, Robert..... | Guelph..... | 7,000 | 00 | 700 | 00 |
| Massie, James..... | Toronto..... | 2,000 | 00 | 200 | 00 |
| Mermer, Fred..... | New Hamburg..... | 1,000 | 00 | 100 | 00 |
| Morton, W., M.D..... | Wellesley..... | 500 | 00 | 50 | 00 |
| Martin, Wm. John..... | Chatham..... | 3,000 | 00 | 300 | 00 |
| Oelschlager, Wm..... | Berlin..... | 5,000 | 00 | 500 | 00 |
| Peffers, Joseph..... | Listowel..... | 500 | 00 | 50 | 00 |
| Petrie, A. B..... | Guelph..... | 3,000 | 00 | 300 | 00 |
| Reiner, John G..... | Wellesley..... | 2,000 | 00 | 200 | 00 |
| Ruppel, John..... | Elmira..... | 500 | 00 | 50 | 00 |
| Snyder, J. B..... | St. Jacob's..... | 10,000 | 00 | 1,000 | 00 |
| Snider, E. W. B..... | "..... | 6,000 | 00 | 600 | 00 |
| Shuh, John..... | Waterloo..... | 2,000 | 00 | 200 | 00 |
| Snider, John B..... | "..... | 2,000 | 00 | 200 | 00 |
| Snider, Henry, (Estate of)..... | Bloomingtondale..... | 2,000 | 00 | 200 | 00 |
| Snider, Simon..... | Waterloo..... | 3,000 | 00 | 300 | 00 |
| Sims, P. H..... | "..... | 3,000 | 00 | 300 | 00 |
| Snider, Wm..... | "..... | 2,500 | 00 | 250 | 00 |
| Stewart, Wm..... | Guelph..... | 1,000 | 00 | 100 | 00 |
| Scott, John A..... | Stratford..... | 1,000 | 00 | 100 | 00 |
| Staebler, J. M..... | Berlin..... | 1,000 | 00 | 100 | 00 |
| Snider, Fred..... | "..... | 1,000 | 00 | 100 | 00 |
| Staebing, Wm..... | Waterloo..... | 500 | 00 | 50 | 00 |
| Sawtell, R. W..... | Woodstock..... | 1,000 | 00 | 100 | 00 |
| Scott, J. W..... | Listowel..... | 1,000 | 00 | 100 | 00 |
| Shields, James..... | "..... | 1,000 | 00 | 100 | 00 |
| Seon, John..... | Guelph..... | 500 | 00 | 50 | 00 |
| Springer, M..... | Waterloo..... | 1,000 | 00 | 100 | 00 |
| Trow, James..... | Stratford..... | 5,000 | 00 | 500 | 00 |
| Towner, George..... | Listowel..... | 1,000 | 00 | 100 | 00 |
| Walden, J. W., M.D. (Estate of)..... | Waterloo..... | 3,000 | 00 | 300 | 00 |
| Winger, Peter..... | Elmira..... | 1,000 | 00 | 100 | 00 |
| Wilkes, Clara M..... | Brantford..... | 1,000 | 00 | 100 | 00 |
| Wilkes, Alfred J..... | "..... | 1,000 | 00 | 100 | 00 |
| Wright, G. W., M.D..... | Berlin..... | 1,000 | 00 | 100 | 00 |
| Wright & Durand..... | London..... | 500 | 00 | 50 | 00 |
| Webb, J. H., M.D..... | Waterloo..... | 4,000 | 00 | 400 | 00 |
| Young, Wm..... | "..... | 11,500 | 00 | 1,150 | 00 |
| Zoeger, John..... | Newton..... | 500 | 00 | 50 | 00 |
| Zinkann, J. N..... | Lisbon..... | 500 | 00 | 50 | 00 |
| Total..... | | \$200,000 | 00 | \$20,000 | 00 |

 QUEEN CITY FIRE INSURANCE COMPANY.

HEAD OFFICE, TORONTO.

*Commenced business 1st July, 1871.**President*—W. H. HOWLAND.*Secretary*—THOMAS WALMSLEY.

Authorized Capital, \$100,000.

Subscribed Capital, \$100,000. Paid up, \$50,000.

Securities deposited with Treasurer of Ontario, \$10,000.

 ASSETS.

Value of real estate held by Company, being land and building on the west side of Church Street, Toronto, where the head offices of the Company are situated \$61,172 60

Mortgages :—

Scarboro' Township \$3,000 00
 Toronto City 48,271 12

| | |
|---|----------------------------|
| Total amount of loans secured by mortgage | 51,271 12 |
| Secured loans | 1,000 00 |
| Deposited with the Dominion Bank, Toronto | 8,032 82 |
| Agents' balances | 1,770 71 |
| Interest accrued and unpaid on all loans as above | 3,144 40 |
| Accrued rents | 2,647 16 |
| Other assets | 2,154 40 |
| Total assets | <u>\$131,193 21</u> |

LIABILITIES.

| | |
|---|-------------------------|
| Unpaid losses | 2,323 64 |
| Unearned premiums, being 50 per cent. of gross premiums | 9,014 18 |
| Total liabilities, except capital stock | <u>11,337 82</u> |
| Capital stock paid up in cash | <u>50,000 00</u> |

INCOME.

| | |
|---|--------------------|
| Gross premiums received in cash | \$14,504 70 |
| Received for interest and dividends on stocks and all other sources | 3,800 67 |
| Rents | 3,305 13 |
| Total income | <u>\$21,610 50</u> |

EXPENDITURE.

| | | |
|---|------------|------------------|
| Amount paid during the year for losses occurring in years prior to the year 1885 | \$19 40 | |
| Amount paid for losses occurring during the year 1885 | 7,254 26 | |
| “ re-insurance premiums | | \$7,273 66 |
| Amount of dividends paid during the year | | 2,523 17 |
| Paid for commission, or brokerage | \$1,197 46 | 2,500 00 |
| “ salaries, fees, and all other remuneration of officials. | 3,615 00 | |
| “ rent | 500 00 | |
| “ vote to president at annual meeting | 1,000 00 | |
| “ statutory assessment and license fee | 116 76 | |
| “ books and stationery | 23 87 | |
| “ printing and advertising | 129 27 | |
| “ legal expenses | 10 05 | |
| “ assessment Board of Underwriters | 25 00 | |
| “ telephone | 19 18 | |
| “ all other expenses | 24 83 | |
| | | <u>6,661 42</u> |
| Total expenditure | | <u>18,958 25</u> |

MISCELLANEOUS.

| FIRE RISKS. | No. | Amount. |
|--|-------|--------------|
| | | \$ c. |
| Policies in force (gross) at December 31st, 1884 | 1,473 | 2,047,242 00 |
| Taken during the year 1885, new and renewed | 1,236 | 1,623,360 00 |
| Total | 2,709 | 3,670,602 00 |
| Deduct expired and cancelled during 1885 | 1,233 | 1,495,158 00 |
| Gross in force at 31st December, 1885 | 1,476 | 2,175,444 00 |
| Of which was re-insured | | 471,607 00 |
| Net risks carried by Company December 31st, 1885 | | 1,703,837 00 |

LIST OF STOCKHOLDERS.

| NAME. | Residence. | Amount sub- | Amount paid |
|---|----------------|-------------|-------------|
| | | scribed. | up in Cash. |
| | | § c. | § c. |
| Austin, James | Toronto | 2,000 00 | 1,000 00 |
| Badenach, William | " | 1,000 00 | 500 00 |
| Close, P. G. | " | 1,000 00 | 500 00 |
| Copp, Clark & Co. | " | 1,000 00 | 500 00 |
| Downey, J. | " | 1,000 00 | 500 00 |
| Elliott, R. W. | " | 2,500 00 | 1,250 00 |
| English, C. E. | " | 12,500 00 | 6,250 00 |
| Harvey, A. | " | 500 00 | 250 00 |
| Hessin, William | " | 500 00 | 250 00 |
| Howland, O. A. (in trust) | " | 4,000 00 | 2,000 00 |
| Howland, W. H. | " | 10,000 00 | 5,000 00 |
| MacLennan, James | " | 5,000 00 | 2,500 00 |
| MacLennan, James Walmsley, Thomas } Trustees | " | 5,000 00 | 2,500 00 |
| Howland, W. H. | " | | |
| Macnab, John | " | 3,000 00 | 1,500 00 |
| McWilliams, W. G. | " | 500 00 | 250 00 |
| Roaf, J. R. | " | 1,500 00 | 750 00 |
| Scott & Walmsley | " | 25,500 00 | 12,750 00 |
| Scott, Hugh | " | 5,000 00 | 2,500 00 |
| Scott, James | " | 3,000 00 | 1,500 00 |
| Scott, J. G. | " | 1,000 00 | 500 00 |
| Strathy, H. H. | Barrie | 1,000 00 | 500 00 |
| Walmsley, William | Toronto | 1,000 00 | 500 00 |
| Walmsley, Thomas | " | 10,000 00 | 5,000 00 |
| Watson, James | " | 1,000 00 | 500 00 |
| Wood, A. T. | Hamilton | 1,500 00 | 750 00 |
| Total | | 100,000 00 | 50,000 00 |

RECAPITULATION

OF

ASSETS, LIABILITIES, INCOME AND EXPENDITURE

OF ALL JOINT STOCK FIRE INSURANCE COMPANIES.

JOINT STOCK FIRE INSURANCE COMPANIES.

ASSETS FOR YEAR ENDING 31ST DECEMBER, 1885.

| NAME OF COMPANY. | Real Estate. | Bonds, Mortgages and other Investments. | Interest accrued. | Rents. | Cash. | Agents' Balances. | Bills Receivable. | Other Assets. | Total. |
|--------------------|--------------|---|-------------------|----------|-----------|-------------------|-------------------|---------------|------------|
| * Mercantile..... | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| | | 58,455 00 | 1,804 49 | ..... | 17,067 41 | 4,626 61 | 1,935 83 | ..... | 83,889 34 |
| * Queen City | 61,172 60 | 52,271 12 | 3,144 40 | 2,647 16 | 8,032 82 | 1,770 71 | ..... | 2,154 40 | 131,193 21 |
| Total | 61,172 60 | 110,726 12 | 4,948 89 | 2,647 16 | 25,100 23 | 6,397 32 | 1,935 83 | 2,154 40 | 215,082 55 |

* Government Deposits as follows:—Mercantile, \$20,100; Queen City, \$10,000.

LIABILITIES FOR YEAR ENDING 31ST DECEMBER, 1885.

| NAME OF COMPANY. | Unpaid Losses. | Unearned Premiums calculated at 50 per cent. | Dividends. | Total Liabilities except Capital Stock. | Paid-up Capital Stock. | (Grand Total of Liabilities. | Number of Policies in force. | Total Amount at Risk. |
|--------------------|----------------|--|------------|---|------------------------|------------------------------|------------------------------|-----------------------|
| Mercantile..... | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| | 1,776 63 | 47,446 73 | 2,000 00 | 51,223 36 | 20,000 00 | 71,223 36 | 7162 | 7,271,235 00 |
| * Queen City | 2,323 64 | 9,014 18 | ..... | 11,337 82 | 50,000 00 | 61,337 82 | 1476 | 2,175,444 00 |
| Total | 4,100 27 | 56,460 91 | 2,000 00 | 62,561 18 | 70,000 00 | 132,561 18 | 8638 | 9,446,699 00 |

JOINT STOCK FIRE INSURANCE COMPANIES.

INCOME FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Gross Premiums. | | Interest and Dividends. | | Rents. | | From other sources. | | Total Income. |
|------------------|-----------------|----|-------------------------|----|--------|-------|---------------------|-------|---------------|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. | |
| Mercantile | 88,472 | 28 | 3,169 | 19 | ..... | ..... | 659 | 58 | 92,301 05 |
| Queen City | 14,504 | 70 | 3,800 | 67 | 3,305 | 13 | ..... | ..... | 21,610 50 |
| Total | 102,976 | 98 | 6,969 | 86 | 3,305 | 13 | 659 | 58 | 113,911 55 |

EXPENDITURE FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Dividends. | | Losses. | | Re-insurance. | | Refunds, and Abate-ments. | | EXPENSES OF MANAGEMENT. | | | | Total Ex-penditure. | | |
|------------------|------------|----|---------|----|---------------|----|---------------------------|-------|-------------------------|-----------|---------------------|--------|---------------------|----|-----------|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. | Commission. | Salaries. | All other Expenses. | Total. | \$ | c. | |
| Mercantile | 2,000 | 00 | 42,615 | 63 | 5,075 | 28 | 4,935 | 17 | 14,517 | 02 | 4,321 | 30 | 3,878 | 51 | 77,342 91 |
| Queen City | 2,500 | 00 | 7,273 | 66 | 2,523 | 17 | ..... | ..... | 1,197 | 46 | 4,615 | 00 | 848 | 96 | 18,658 25 |
| Total | 4,500 | 00 | 49,889 | 29 | 7,598 | 45 | 4,935 | 17 | 15,714 | 48 | 3,936 | 30 | 4,727 | 47 | 96,301 16 |

MIXED MUTUAL AND CASH SYSTEM COMPANIES.

YEAR ENDING 31ST DECEMBER, 1885.

MIXED MUTUAL AND CASH SYSTEM COMPANIES.

YEAR ENDING 31ST DECEMBER, 1885.

GORE DISTRICT MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, GALT.

Commenced business 16th October, 1839.

President—HON. JAMES YOUNG, M.P.P.

Secretary—R. S. STRONG.

Unassessed premium note capital, \$123,239.90.

Securities deposited with Treasurer of Ontario, par value, \$7,000; estimated market value, \$7,150.00.

[On February 9th, 1886, this deposit was increased to \$20,000.]

ASSETS.

| | |
|--|---------------------|
| Loans secured by mortgages | \$41,310 00 |
| Market value of shares, bonds, debentures and securities other than the foregoing | 16,905 00 |
| Actual cash on hand at head office..... | \$910 87 |
| Cash on deposit to the Company's credit, not drawn against in the following chartered banks: | |
| Merchants' Bank, agency at Galt | 16,954 01 |
| Bank of Commerce " | 14,487 60 |
| | <hr/> |
| | 32,352 48 |
| Cash in agents' hands acknowledged by them to be due and considered good | 2,429 73 |
| Amount unpaid of assessments levied during 1885..... | 345 67 |
| Amount unpaid of premium notes in force, after deducting all payments thereon and assessments levied | 123,239 90 |
| Less residue of premium notes given by the Company for re-insurance | 1,333 57 |
| | <hr/> |
| Net premium notes | 121,906 33 |
| Amount of interest accrued | 1,692 97 |
| | <hr/> |
| Total assets | <u>\$216,942 18</u> |

 LIABILITIES.

| | | |
|---|----------|--------------------|
| Amount of losses supposed on reports | \$100 00 | |
| " resisted | 822 46 | |
| | | \$922 46 |
| Amount required to reinsure all outstanding risks taken on the cash system being fifty per cent. of gross premiums on all cash system policies in force at 31st December, 1885..... | | 23,587 33 |
| Total liabilities..... | | <u>\$24,509 79</u> |

RECEIPTS.

| | | |
|--|----------|--------------------|
| Cash at head office, as per last statement (not extended)..... | \$970 97 | |
| Cash received as first payments, being part payment of premium notes ... | | \$11,995 77 |
| " for assessments levied in 1885 | | 25,448 82 |
| " " " years prior to 1885..... | | 1,401 88 |
| " for premiums on cash system | | 33,241 09 |
| " for interest | | 3,115 76 |
| " from transfer fees..... | 90 15 | |
| " for extra premiums | 275 02 | |
| " for re-insurance claims | 969 34 | |
| | | 1,334 51 |
| Total receipts | | <u>\$76,537 83</u> |

EXPENDITURE.

Expenses of Management:

| | | |
|--|------------|-------------|
| Amount paid for commission to agents | \$8,269 03 | |
| " law costs | 236 00 | |
| " fuel and light | 47 66 | |
| " investigation and adjustment of claims | 139 53 | |
| " statutory assessment or certificate | 222 00 | |
| " printing, stationery and advertising.... | 419 13 | |
| " rent and taxes..... | 475 00 | |
| " salaries, directors' and auditors' fees.... | 5,829 03 | |
| " travelling expenses..... | 570 52 | |
| " postage, telegrams and express | 593 11 | |
| Expenses of management (<i>carried forward</i>)..... | | \$16,801 01 |

Expenses of management (*brought forward*)..... \$16,801 01

Miscellaneous Payments :

| | | |
|--|-------------|--------------------|
| Cash paid for losses which occurred during 1885..... | \$30,690.41 | |
| “ “ “ “ prior to 1885..... | 2,100.00 | \$32,790 41 |
| “ “ reinsurance | | 4,942 02 |
| “ “ rebate, abatements and returned premiums..... | | 1,275 87 |
| “ “ bonus to agents..... | | 1,866 59 |
| “ “ incidentals..... | | 174 98 |
| Total expenditure..... | | <u>\$57,850 88</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | | Two years. | | Three years. | | Total. | |
|---|-------------------|----|------------|----|--------------|----|-----------|----|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. |
| Mutual..... | 7,960 | 00 | 1,800 | 00 | 2,175,128 | 01 | 2,184,888 | 01 |
| Cash..... | 1,238,643 | 33 | | | 3,076,207 | 40 | 4,314,850 | 73 |
| Total..... | 1,246,603 | 33 | 1,800 | 00 | 5,251,335 | 41 | 6,499,738 | 74 |
| <i>Reinsured.</i> | | | | | | | | |
| Mutual..... | 23,233 | 33 | | | | | | |
| Cash..... | 260,522 | 36 | | | | | | |
| Total..... | 283,755 | 69 | | | | | 283,755 | 69 |
| Net risks carried by Company, Dec. 31st., 1885..... | | | | | | | 6,215,983 | 05 |

MOVEMENT IN RISKS.

| | Number. | Amount. |
|---|---------|--------------|
| <i>Mutual System.</i> | | |
| Policies in force 31st December, 1884..... | 1,486 | 1,962,764 00 |
| “ new and renewed during 1885..... | 701 | 970,103 00 |
| Gross number during 1885..... | 2,187 | 2,932,867 00 |
| Less expired and cancelled in 1885..... | 575 | 747,978 99 |
| Net risks in force on mutual system, 31st December, 1885..... | 1,612 | 2,184,888 01 |
| <i>Cash System.</i> | | |
| Policies in force 31st December, 1884..... | 4,709 | 4,401,657 90 |
| “ new and renewed during 1885..... | 1,745 | 1,827,267 88 |
| Gross number during 1885..... | 6,454 | 6,228,925 78 |
| Less expired and cancelled in 1885..... | 1,942 | 1,914,075 05 |
| Net risks in force on cash system, 31st December, 1885..... | 4,512 | 4,314,850 73 |

BUSINESS TRANSACTED:

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | One year risks. | Two year risks. | Three year risks. | Total. |
|--|-----------------|-----------------|-------------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 800 00 | 27 00 | 179,284 00 | 180,111 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 579 60 | 19 35 | 122,640 95 | 123,239 90 |
| Amount of premium notes received during the year 1885..... | 452 00 | 12 00 | 78,718 00 | 79,182 00 |
| <i>Reinsurance.</i> | | | | |
| Amount of premium notes given by the Company for reinsurance..... | 1,949 46 | ..... | ..... | ..... |
| Less payments thereon..... | 615 89 | ..... | ..... | ..... |
| Residue | 1,333 57 | ..... | ..... | ..... |

HAND-IN-HAND INSURANCE COMPANY, MUTUAL AND STOCK.

HEAD OFFICE, TORONTO, ONT.

Commenced business 1st July, 1873.

President—W. H. HOWLAND.

Secretary—HUGH SCOTT.

By Act 42 Vic., Cap. 85, Ontario Statutes, 1879, power was granted to this Company to raise Capital Stock and do business on the Cash System.

| | |
|---|--------------|
| Authorized Stock Capital..... | \$500,000 00 |
| Subscribed "..... | 100,000 00 |
| Paid up in cash "..... | 20,000 00 |
| Securities deposited with Treasurer of Ontario..... | 10,000 00 |

LIST OF STOCKHOLDERS.

| NAME. | Residence. | Amount Sub- | Amount paid |
|-------------------------------|------------------|--------------|-------------|
| | | scribed for. | up in Cash. |
| | | \$ c. | \$ c. |
| Austin, James..... | Toronto..... | 5,000 00 | 1,000 00 |
| Campbell, A. H..... | "..... | 5,000 00 | 1,000 00 |
| Coffee, L..... | "..... | 5,000 00 | 1,000 00 |
| Dixon, B. Homer..... | "..... | 5,000 00 | 1,000 00 |
| Downey, Jno..... | "..... | 5,000 00 | 1,000 00 |
| Elliott, Wm..... | "..... | 5,000 00 | 1,000 00 |
| Fisher, D..... | Bowmanville..... | 5,000 00 | 1,000 00 |
| Gzowski, Col. C. S..... | Toronto..... | 5,000 00 | 1,000 00 |
| Howland O. A. (in trust)..... | "..... | 5,000 00 | 1,000 00 |
| Howland, W. H..... | "..... | 5,000 00 | 1,000 00 |
| Macpherson, Sir D. L..... | "..... | 5,000 00 | 1,000 00 |
| MacLennan, Jas., Q.C..... | "..... | 5,000 00 | 1,000 00 |
| McDonald, Mitchell D..... | "..... | 5,000 00 | 1,000 00 |
| McMaster, Hon. Wm..... | "..... | 5,000 00 | 1,000 00 |
| Smith, Prof. Goldwin..... | "..... | 5,000 00 | 1,000 00 |
| Smith, Larratt W., D.C.L..... | "..... | 5,000 00 | 1,000 00 |
| Smith, Henry A..... | London..... | 5,000 00 | 1,000 00 |
| Scott, James..... | Toronto..... | 5,000 00 | 1,000 00 |
| Smith, Hon. D. A..... | Montreal..... | 5,000 00 | 1,000 00 |
| Scott & Walmsley..... | Toronto..... | 5,000 00 | 1,000 00 |
| | Total..... | 100,000 00 | 20,000 00 |

ASSETS.

Mortgages:

| | | |
|--|-------------|-------------|
| Property in Toronto..... | \$13,750 00 | |
| Shares, Debentures and other Securities..... | 13,964 00 | |
| | | \$27,714 00 |
| Cash on deposit to Company's credit in Ontario Bank..... | | 6,786 52 |
| Accrued interest..... | | 2,219 87 |
| Cash in agents' hands..... | | 1,273 78 |
| Undertakings unassessed..... | | 5,020 14 |
| All other assets..... | | 436 42 |
| Total..... | | \$43,450 73 |

LIABILITIES.

| | |
|--|--------------------|
| Amount of adjusted losses..... | \$4,127 84 |
| Amount required to re-insure all outstanding risks taken on cash system, being 50 per cent. of gross premiums on all cash system policies in force at December 31st, 1885..... | 7,584 36 |
| Total liabilities | <u>\$11,712 20</u> |

INCOME.

| | |
|---|--------------------|
| Cash received for premiums on cash system..... | \$20,520 48 |
| “ as first payments or deposits, being part payment of pre- mium notes | 3,815 96 |
| “ for interest..... | 2,244 14 |
| “ balance revenue account | 249 83 |
| “ premiums, Plate Glass Branch..... | 2,788 72 |
| “ “ Marine “ | 109 38 |
| Total income..... | <u>\$29,728 51</u> |

EXPENDITURE.

| | |
|--|--------------------|
| Cash paid for commission to agents | \$4,372 25 |
| “ law costs | 2 00 |
| “ statutory assessment or certificate..... | 120 38 |
| “ printing, stationery and advertising..... | 259 39 |
| “ salaries, Directors' and Auditors' fees | 1,735 00 |
| “ investigation and adjustment of claims..... | 968 22 |
| “ rent and taxes..... | 400 00 |
| “ postage, telegrams, express and telephone..... | 25 65 |
| “ Goad's plans... .. | 92 50 |
| “ scrutineers' fees | 10 00 |
| “ incidental | 58 80 |
| Total expenses of management..... | <u>\$8,044 19</u> |
| Cash paid for losses prior to 1885 | \$2,565 41 |
| “ “ during 1885 | 15,469 85 |
| | <u>18,035 26</u> |
| “ re-insurances | 1,784 93 |
| “ rebate, abatement and returned premiums | 1,226 19 |
| “ dividends | 2,000 00 |
| Total expenditure | <u>\$31,090 57</u> |

CURRENCY OF RISKS.

Amount Covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Three years. | Four years. | Total. |
|---|-------------------|--------------|-------------|--------------|
| <i>Insurance.</i> | c. | § c. | § c. | § c. |
| Mutual | 294,990 00 | 185,996 00 | 8,500 00 | 489,486 00 |
| Cash | 1,208,362 00 | 480,832 00 | ..... | 1,689,194 00 |
| Plate Glass | 8,833 00 | 59,833 00 | ..... | 68,666 00 |
| Total | 1,512,185 00 | 726,661 00 | 8,500 00 | 2,247,346 00 |
| <i>Re-insurance.</i> | | | | |
| Mutual | 15,850 00 | 1,250 00 | ..... | 17,100 00 |
| Cash | 102,595 00 | 42,544 00 | ..... | 145,139 00 |
| Total | 118,445 00 | 43,794 00 | ..... | 162,239 00 |
| Net risks carried by Company, Dec. 31, 1885. | 1,393,740 00 | 682,867 00 | 8,500 00 | 2,085,107 00 |

MOVEMENT IN RISKS.

| | Number. | Amount. |
|---|---------|--------------|
| <i>Mutual System.</i> | | § c. |
| Policies in force 31st December, 1884 | 335 | 568,264 00 |
| “ new and renewed during 1885. | 225 | 387,504 00 |
| Gross number during 1885. | 560 | 955,768 00 |
| Less expired and cancelled in 1885. | 277 | 466,282 00 |
| Net risks in force on Mutual system 31st December, 1885. | 283 | 489,486 00 |
| <i>Cash System.</i> | | |
| Policies in force 31st December, 1884. | 1,070 | 1,598,777 37 |
| “ new and renewed during 1885. | 1,766 | 1,837,538 00 |
| Gross number during 1885. | 2,836 | 3,436,315 37 |
| Less expired and cancelled in 1885. | 1,295 | 1,678,455 37 |
| Net risks in force on Cash system 31st December, 1885. | 1,541 | 1,757,860 00 |

BUSINESS TRANSACTED:

General Fire, Plate Glass, and Inland Marine, Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force December 31st, 1885.

| | One year risks. | Three year risks. | Total. |
|---|-----------------|-------------------|----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company and legally liable to assessment..... | 3,021 97 | 1,998 17 | 5,020 14 |
| Amount of premium notes received during the year 1885..... | 3,115 59 | 700 37 | 3,815 96 |

THE MILLERS' AND MANUFACTURERS' INSURANCE COMPANY,
MUTUAL AND STOCK.

HEAD OFFICE, TORONTO, ONT.

Commenced business 1st September, 1885.

President—JAMES GOLDIE.

Secretary—W. IRELAND SCOTT.

| | |
|--|-----------|
| Subscribed stock capital | \$125,000 |
| Paid up in cash | 6,700 |
| Securities deposited with Treasurer of Ontario | 10,000 |

ASSETS.

| | |
|---|--------------------|
| Shares, debentures and other securities | \$10,000 00 |
| Undertakings, unassessed amount | 5,068 77 |
| Uncollected premiums | 2,206 52 |
| Unpaid call on stock | 5,800 00 |
| Fire equipment | 880 91 |
| Total assets | <u>\$23,956 20</u> |

LIABILITIES.

| | |
|---|--------------------|
| Amount of unpaid loan from bank | \$1,128 47 |
| “ “ “ other sources | 2,652 19 |
| Total liabilities to Public | <u>\$3,780 66</u> |
| Liabilities to Stockholders:— | |
| Call on Stock, paid | \$6,700 00 |
| “ Unpaid, and carried to Assets, as above | 5,800 00 |
| Total | <u>\$12,500 00</u> |

INCOME.

| | |
|--|--------------------|
| Cash received on stock | \$6,700 00 |
| “ as first payments or deposits, being part payment of premium notes | 2,874 00 |
| “ for interest | 125 75 |
| “ fire equipment supplies | 113 86 |
| “ from other sources | 3,780 66 |
| Total income | <u>\$13,594 27</u> |

EXPENDITURE.

| | |
|---|-------------------|
| Cash paid for interest | \$77 50 |
| “ statutory certificate | 120 00 |
| “ travelling expenses | 860 72 |
| “ rent | 133 33 |
| “ salaries, directors' and auditors' fees | 866 83 |
| “ printing, stationery and advertising | 489 56 |
| “ postage, telegrams and express | 51 56 |
| Total expenses of management (<i>Carried forward</i>) | <u>\$2,599 50</u> |

EXPENDITURE—*Continued.*

| | |
|---|--------------------|
| Total expenses of management (<i>Brought forward</i>) | 2,599 50 |
| Cash paid for debenture | 10,000 00 |
| “ fire equipment | 994 77 |
| Total expenditure | <u>\$13,594 27</u> |

CURRENCY OF RISKS.

Amount Covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Total. |
|------------------------|-------------------|------------|
| | \$ c. | \$ c. |
| Mutual insurance | 241,100 00 | 241,100 00 |

MOVEMENT IN RISKS.

Risks on Mutual System.

| | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies taken during 1885 | 82 | 246,600 00 |
| Less expired and cancelled in 1885 | 2 | 5,500 00 |
| Net risks in force on mutual system at December 31st, 1885 | 80 | 241,100 00 |

BUSINESS TRANSACTED.

Manufacturing Risks.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force December 31st, 1885.

| | One year risks. | Total. |
|---|-----------------|----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 5,068 77 | 5,068 77 |
| Amount of premium notes received during the year 1885 .. | 5,080 52 | 5,080 52 |

LIST OF STOCKHOLDERS.

| NAME. | ADDRESS. | No. of shares. | Amount of stock. | | Amount of 10% cash. |
|------------------------|--------------------|-------------------|---------------------|----|------------------------|
| | | | \$ | c. | \$ c. |
| W. H. Howland | Toronto | 50 | 5,000 | 00 | 500 00 |
| James Goldie | Guelph | 50 | 5,000 | 00 | 500 00 |
| J. B. Armstrong | " | 50 | 5,000 | 00 | 500 00 |
| W. Bell & Co. | " | 50 | 5,000 | 00 | 500 00 |
| D. McRae | " | 20 | 2,000 | 00 | 200 00 |
| Robert Noble | Norval | 30 | 3,000 | 00 | 300 00 |
| Wm. Farrish | Rockwood | 10 | 1,000 | 00 | 100 00 |
| Henry Hartop | Everton | 10 | 1,000 | 00 | 100 00 |
| A. Watts | Brantford | 50 | 5,000 | 00 | 500 00 |
| David Plewes | " | 10 | 1,000 | 00 | 100 00 |
| A. H. Baird | Paris | 10 | 1,000 | 00 | 100 00 |
| C. Whitlaw | " | 10 | 1,000 | 00 | 100 00 |
| Thos. O'Neil | " | 5 | 500 | 00 | 50 00 |
| Lyman Miller | Woodstock | 5 | 500 | 00 | 50 00 |
| D. W. Karn & Co. | " | 20 | 2,000 | 00 | 200 00 |
| R. Whitlaw | " | 10 | 1,000 | 00 | 100 00 |
| James Hay & Co. | " | 50 | 5,000 | 00 | 500 00 |
| Wm. Partlo | Ingersoll | 20 | 2,000 | 00 | 200 00 |
| Bradbury & Co. | " | 10 | 1,000 | 00 | 100 00 |
| Noxon Bros. M'fig. Coy | " | 30 | 3,000 | 00 | 300 00 |
| J. D. Saunby | London | 20 | 2,000 | 00 | 200 00 |
| W. McBride | Strathroy | 10 | 1,000 | 00 | 100 00 |
| Hugh Mustard | Wyoming | 10 | 1,000 | 00 | 100 00 |
| Robert Stewart | Guelph | 10 | 1,000 | 00 | 100 00 |
| Robert Forbes | " | 20 | 2,000 | 00 | 200 00 |
| R. & W. S. Law | Georgetown | 10 | 1,000 | 00 | 100 00 |
| Creelman Bros. | " | 10 | 1,000 | 00 | 100 00 |
| John R. Barber | " | 20 | 2,000 | 00 | 200 00 |
| S. Neelon | St. Catharines | 30 | 3,000 | 00 | 300 00 |
| James Norris | " | 30 | 3,000 | 00 | 300 00 |
| R. H. Smith & Co. | " | 10 | 1,000 | 00 | 100 00 |
| Taylor & Bate | " | 10 | 1,000 | 00 | 100 00 |
| Charles Riordan | Merritton | 50 | 5,000 | 00 | 500 00 |
| J. Zingsheim | Hamilton | 30 | 3,000 | 00 | 300 00 |
| J. L. Spink | Toronto | 30 | 3,000 | 00 | 300 00 |
| H. A. Baird | " | 30 | 3,000 | 00 | 300 00 |
| P. McCabe | Port Hope | 10 | 1,000 | 00 | 100 00 |
| Hugh Scott | Toronto | 30 | 3,000 | 00 | 300 00 |
| William Sutton | Simcoe | 10 | 1,000 | 00 | 100 00 |
| Harold Barrett | Port Hope | 10 | 1,000 | 00 | 100 00 |
| Sadler, Dundas & Co. | Lindsay | 30 | 3,000 | 00 | 300 00 |
| A. H. Campbell | Toronto | 50 | 5,000 | 00 | 500 00 |
| McLaughlin & Moore | " | 25 | 2,500 | 00 | 250 00 |
| R. W. Elliott | " | 10 | 1,000 | 00 | 100 00 |
| Thomas McKay & Co. | Ottawa | 10 | 1,000 | 00 | 100 00 |
| John Hall & Co. | Brockville | 20 | 2,000 | 00 | 200 00 |
| King Bros. | Whitby and Toronto | 15 | 1,500 | 00 | 150 00 |
| Goldie & McCulloch | Galt | 50 | 5,000 | 00 | 500 00 |
| Cherry Bros. | Preston | 10 | 1,000 | 00 | 100 00 |
| George Pattinson | " | 30 | 3,000 | 00 | 300 00 |
| Jacob Hilborn | Blair | 10 | 1,000 | 00 | 100 00 |
| Angus McNally | " | 10 | 1,000 | 00 | 100 00 |
| Joseph E. Seagram | Waterloo | 30 | 3,000 | 00 | 300 00 |
| Lewis Kribs | Hespeler | 10 | 1,000 | 00 | 100 00 |
| Wm. Wilson | Toronto | 50 | 5,000 | 00 | 500 00 |
| Total | | 1,250 | \$125,000 | 00 | \$12,500 00 |

THE ONTARIO MUTUAL FIRE INSURANCE COMPANY.

*Commenced business 2nd September, 1867.**President*—ANDREW McCORMICK.*Secretary*—P. F. BOYLE.

Unassessed premium note capital, \$7,896.11.

Deposited with Treasurer of Ontario, \$2,000.

ASSETS.

| | |
|---|-------------|
| Cash value of shares, bonds, debentures and securities, with accrued interest. | \$2,016 26 |
| Actual cash on hand at head office | \$19 66 |
| Cash on deposit to the Company's credit, not drawn against, in the Bank of London | 206 66 |
| “ in the Dominion Savings Society at London | 84 73 |
| | 311 05 |
| Cash in Agents' hands, acknowledged by them to be due, and considered good | 2,693 37 |
| Amount unpaid of assessments levied during 1885. | 671 90 |
| “ “ “ in prior years (not ex- tended) | \$3,157 93 |
| Amount of notes, or due bills, less than one year overdue | 01 94 |
| “ “ more “ “ (not ex- tended) | \$1,780 78 |
| Amount of premium notes in force after deducting all pay- ments thereon and assessments levied | \$7,896 11 |
| Less premium notes given for reinsurance | 20 25 |
| | 7,875 86 |
| Total assets | \$14,470 38 |

LIABILITIES.

| | |
|---|------------|
| Amount of losses adjusted | \$1,427 30 |
| “ “ resisted | 400 00 |
| | 1,827 3 |
| “ required to reinsure all outstanding risks taken on the cash system, being 50 per cent. of gross premiums on all cash system policies in force at 31st December, 1885 | 7,093 45 |
| Due Agents | 47 85 |
| Amount of borrowed money | 1,000 00 |
| Total liabilities | \$9,968 60 |

RECEIPTS.

| | |
|--|--------------------|
| Cash at head office, as per last statement (not extended)..... | \$1,264 67 |
| Cash received as first payments, being part payments of premium notes... | \$884 39 |
| “ for assessments levied in 1885 | 2,903 63 |
| “ “ “ years prior to 1885..... | 252 09 |
| “ for premiums on cash system | 4,906 91 |
| “ for interest | 147 32 |
| “ from fees, and extra risks | 71 48 |
| “ money borrowed | 2,500 00 |
| Total receipts..... | <u>\$11,665 82</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Amount paid to agents for commission | \$1,606 28 |
| “ for law costs | 85 52 |
| “ fuel and light | 44 59 |
| “ statutory assessment, license, etc | 116 83 |
| “ printing, stationery and advertising | 140 80 |
| “ rent and taxes | 160 00 |
| “ salaries, directors' and auditors' fees | 1,806 00 |
| “ travelling expenses | 152 55 |
| “ postage, telegrams and express | 179 96 |
| “ interest | 52 08 |
| Total expenses of management..... | <u>\$4,344 61</u> |

Miscellaneous Payments :

| | |
|--|--------------------|
| Cash paid for losses which occurred prior to 1885..... | \$1,074 77 |
| “ “ “ during 1885 | 5,320 19 |
| | <u>6,394 96</u> |
| “ in repayment of loans..... | 1,500 00 |
| “ for rebate, abatement and returned premiums | 49 92 |
| “ incidentals..... | 329 95 |
| Total expenses | <u>\$12,619 44</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | | Two years. | | Three years. | | Total. | |
|--|-------------------|----|------------|----|--------------|----|-----------|----|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. |
| <i>Insurance.</i> | | | | | | | | |
| Mutual..... | | | 1,200 | 00 | 1,157,266 | 00 | 1,158,466 | 00 |
| Cash..... | 10,300 | 00 | 13,630 | 00 | 1,449,006 | 00 | 1,472,936 | 00 |
| Total..... | | | | | | | 2,631,402 | 00 |
| <i>Reinsurance.</i> | | | | | | | | |
| Mutual..... | | | | | | | 1,850 | 00 |
| Total..... | | | | | | | 1,850 | 00 |
| Net risks carried by Company, December 31st, 1885..... | | | | | | | 2,630,052 | 00 |

COUNTY OF PERTH MUTUAL FIRE INSURANCE COMPANY.

Commenced business 1st December, 1863.

President—JOHN HYDE, M.D.

Secretary—CHAS. PACKERT.

Deposited with Treasurer of Ontario, \$2,000.

Unassessed premium note capital, \$45,730.20.

ASSETS.

| | | |
|---|-------------|--------------------|
| Market value of debentures | \$13,000 00 | |
| Actual cash on deposit in Mowat's Bank, Stratford..... | 4,008 63 | |
| | | <u>\$17,008 63</u> |
| Cash in agents' hands acknowledged by them to be due, and considered good..... | | 588 31 |
| Amount unpaid of assessments levied during 1885 | | 2,021 15 |
| “ of short date notes, or due bills, less than one year overdue..... | | 1,249 60 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | \$45,730 20 | |
| less residue of premium notes given for reinsurance .. | 356 36 | |
| | | <u>45,373 84</u> |
| “ of interest accrued..... | | 425 00 |
| “ of postage stamps | | 25 00 |
| | | <u>45,823 84</u> |
| Total assets..... | | <u>\$66,691 53</u> |

LIABILITIES.

| | | |
|---|--|-----------------|
| Amount unpaid of adjusted losses | | 1,234 25 |
| “ “ “ resisted “ | | 1,600 00 |
| “ required to reinsure all outstanding risks taken on the cash system, being fifty per cent. of gross premiums on all cash system policies in force at 31st December, 1885..... | | 4,071 66 |
| Amount of an account..... | | 1 00 |
| | | <u>6,906 91</u> |

RECEIPTS.

| | | |
|--|------------|--------------------|
| Cash at head office, as per last statement (not extended)..... | \$2,440 27 | |
| Cash received as first payments, being part payment of premium notes ... | | 5,894 99 |
| “ for assessments levied in 1885 | | 2,218 91 |
| “ for assessments levied in years prior to 1885 | | 1,496 25 |
| “ for premiums on cash system | | 4,209 98 |
| “ for interest | | 962 75 |
| “ from extra premiums, etc..... | | 78 75 |
| | | <u>14,861 63</u> |
| Total receipts..... | | <u>\$14,861 63</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for commission to agents..... | \$1,353 45 |
| “ law costs..... | 23 06 |
| “ fuel and light..... | 19 68 |
| “ investigation and adjustment of claims..... | 155 72 |
| “ statutory assessment and license..... | 129 23 |
| “ printing, stationary and advertising..... | 689 54 |
| “ rent and taxes..... | 150 00 |
| “ salaries, directors' and auditors' fees..... | 1,578 40 |
| “ travelling expenses..... | 122 14 |
| “ postage, telegrams and express..... | 253 85 |
| “ other expenses..... | 99 69 |
| Total expenses of management..... | <u>\$4,574 76</u> |

Miscellaneous Payments :

| | |
|--|---------------------------|
| Cash paid for losses which occurred during 1885..... | \$8,322 62 |
| “ reinsurance..... | 76 73 |
| “ rebate..... | 148 38 |
| “ agents' accounts..... | 170 78 |
| Total expenditure..... | <u><u>\$13,293 27</u></u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1884.

| SYSTEM. | One year or less. | | Three years. | | Total. | |
|-----------------------------------|-------------------|----|--------------|----|-----------|----|
| | \$ | c. | \$ | c. | \$ | c. |
| Mutual..... | 3,000 | 00 | 2,816,886 | 00 | 2,819,886 | 00 |
| Cash..... | 66,574 | 00 | 782,387 | 00 | 848,961 | 00 |
| Total at risk..... | 69,574 | 00 | 3,599,273 | 00 | 3,668,847 | 00 |
| Mutual reinsured..... | | | 13,425 | 00 | 13,425 | 00 |
| Net risks at 31st Dec., 1885..... | | | 3,585,848 | 00 | 3,655,422 | 00 |

MOVEMENT IN RISKS.

| — | Number. | Amount. |
|--|---------|--------------|
| <i>Mutual System.</i> | | |
| | | \$ c. |
| Policies in force 31st December, 1884..... | 1,993 | 2,382,285 00 |
| “ new and renewed during 1885..... | 919 | 1,127,111 00 |
| Gross number during 1885..... | 2,912 | 3,509,396 00 |
| Less expired and cancelled in 1885..... | 589 | 689,510 00 |
| Net risks in force on mutual system 31st December, 1885..... | 2,323 | 2,819,886 00 |
| <i>Cash System.</i> | | |
| Policies in force 31st December, 1884..... | 1,221 | 906,900 00 |
| “ new and renewed during 1885..... | 523 | 365,811 00 |
| Gross number during 1885..... | 1,744 | 1,272,711 00 |
| Less expired and cancelled in 1885..... | 564 | 423,750 00 |
| Net risks in force on cash system 31st December, 1885..... | 1,180 | 848,961 00 |

CLASSIFICATION OF RISKS:

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | One year risks. | Three year risks. | Total. |
|---|-----------------|-------------------|-----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 150 33 | 60,533 50 | 60,683 83 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 63 47 | 45,666 73 | 45,730 20 |
| Amount of premium notes received during the year 1885..... | 150 33 | 34,497 19 | 34,647 52 |
| Residue of premium notes given for reinsurance..... | | 356 36 | 356 36 |

 WATERLOO MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WATERLOO.

*Commenced business, 7th March, 1863.**President*—CHAS. HENDRY.*Secretary*—C. M. TAYLOR.

Unassessed premium note capital, \$144,526.35.

Deposited with Government of Ontario, \$13,585.00

 ASSETS.

| | |
|---|---------------------|
| Cash value of real estate, less incumbrances..... | \$ 4,300 00 |
| Cash value of mortgages..... | 25,300 00 |
| “ shares, bonds, debentures and securities | 14,362 81 |
| Cash on deposit to the Company's credit, not drawn against, in the Molson's Bank, Waterloo | 30,421 40 |
| Cash on hand at head office | 63 |
| Cash in agents' hands, acknowledged by them to be due, and considered good | 1,557 96 |
| Amount unpaid of assessments levied during 1885 | 3,257 21 |
| “ of short date notes or due bills, less than one year overdue..... | 2,522 93 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | \$144,526 35 |
| Less residue of premium notes given for reinsurance | 2,505 00 |
| | <hr/> |
| | 142,021 35 |
| Amount of interest due and accrued | 1,401 06 |
| | <hr/> |
| Total assets | <u>\$226,145 35</u> |

LIABILITIES.

| | |
|---|--------------------|
| Amount of losses reported | 1,314 00 |
| Amount required to re-insure all outstanding risk taken on the cash system, being 50 per cent. of gross premiums on all cash system policies in force at 31st December, 1885..... | 36,820 51 |
| | <hr/> |
| Total liabilities..... | <u>\$38,134 51</u> |

RECEIPTS.

| | | |
|---|----------|--------------------|
| Cash at head office as per statement (not extended) | \$732 51 | |
| Cash received for matured municipal debentures | | 1,686 80 |
| “ as first payments, being part payment of premium notes .. | | 17,688 27 |
| “ for assessments of 1885 | | 27,143 16 |
| “ “ years prior to 1885 | | 2,465 69 |
| “ premiums on cash system | | 41,759 48 |
| “ for interest | | 3,353 14 |
| Cash receipts from transfer fees | | 122 50 |
| “ extra premiums | | 266 82 |
| “ rent | | 100 00 |
| Total receipts | | <u>\$94,585 86</u> |

EXPENDITURE.

Expenses of Management :

| | | |
|---|--|------------------|
| Amount paid for commission to agents | | 9,435 35 |
| “ law costs | | 677 02 |
| “ fuel and light | | 208 45 |
| “ investigation and adjustment of claims | | 2,456 81 |
| “ statutory assessment or certificate | | 341 66 |
| “ printing, stationery and advertising | | 1,169 22 |
| “ taxes | | 153 67 |
| “ salaries, directors' and auditors' fees | | 5,170 02 |
| “ postage, telegrams and express | | 725 17 |
| “ travelling expenses | | 29 85 |
| “ other expenses | | 451 56 |
| Total expenses of management | | <u>20,818 78</u> |

Miscellaneous Payments :

| | | |
|---|------------|------------------|
| Cash paid for losses which occurred during 1885 | \$1,639 66 | |
| “ “ “ prior to 1885 | 35,884 32 | |
| | | <u>37,523 98</u> |
| “ re-insurance | | 1,154 76 |
| “ rebate, abatement and returned premiums | | 1,817 07 |
| “ bonus to agents | | 2,088 57 |

Total expenditure \$63,403 16

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December 1885.

| SYSTEM. | One year or less. | | Three years. | | Total. |
|--|-------------------|----|--------------|----|---------------|
| | \$ | c. | \$ | c. | |
| <i>Insurance.</i> | | | | | |
| Mutual | | | 3,312,366 | 67 | 3,312,366 67 |
| Cash | 1,886,633 | 49 | 6,011,154 | 25 | 7,397,787 74 |
| Total | 1,886,633 | 49 | 9,323,520 | 92 | 10,710,154 41 |
| <i>Reinsurance.</i> | | | | | |
| Mutual | | | 49,500 | 00 | 49,500 00 |
| Cash | 49,950 | 00 | 57,000 | 00 | 106,950 00 |
| Net risks carried by Company at December 31, 1885 .. | | | | | 10,553,704 41 |

MOVEMENT IN RISKS.

| | Number. | Amount. |
|---|---------|----------------------|
| <i>Mutual System.</i> | | |
| Policies in force 31st December, 1884..... | 2,249 | § c. 3,084,353 83 |
| “ new and renewed during 1885 | 967 | 1,257,499 00 |
| Gross number during 1885..... | 3,216 | 4,291,852 83 |
| Less expired and cancelled in 1885 | 795 | 979,486 16 |
| Net risks in force on mutual system 31st December, 1885 | 2,421 | 3,312,366 67 |
| <i>Cash System.</i> | | |
| Policies in force 31st December, 1884..... | 8,484 | 7,298,045 02 |
| “ new and renewed during 1885 | 3,889 | 3,659,075 49 |
| Gross number during 1885..... | 12,373 | 10,957,120 51 |
| Less expired and cancelled in 1885..... | 3,395 | 3,559,332 77 |
| Net risks in force on cash system 31st December, 1885 | 8,978 | 7,397,787 74 |

CLASSIFICATION OF RISKS:

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | Total. |
|--|-------------------|------------|
| | § c. | § c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 256,357 87 | 256,357 87 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 144,526 35 | 144,526 35 |
| Amount of premium notes received during the year 1885 | 88,273 82 | 88,273 82 |
| Residue of premium notes given for reinsurance | 2,505 00 | 2,505 00 |

RECAPITULATION

OF

ASSETS, LIABILITIES, INCOME AND EXPENDITURE

OF ALL

MIXED MUTUAL AND CASH SYSTEM FIRE INSURANCE COMPANIES.

MIXED MUTUAL AND CASH SYSTEM COMPANIES.

ASSETS FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Value of Real Estate, less Encumbrances. | | Mortgages, Bonds, Debentures, or other Securities. | | Interest Due and Accrued. | | Cash at Head Office and Bank Balances. | | Agents' Balances. | | Due on Assessments of 1885. | | Short Date Notes or Due Bills. | | Unassessed Premium Notes. | | All other Assets. | | Total Assets. | | Subscribed Capital Stock Uncalled. | | | |
|---------------------------------|--|-------|--|---------|---------------------------|-------|--|--------|-------------------|-------|-----------------------------|-------|--------------------------------|-------|---------------------------|---------|-------------------|-------|---------------|---------|------------------------------------|---------|----|--|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | | |
| Gore District | | | 58,215 | 00 | 1,692 | 97 | 32,352 | 48 | 2,429 | 73 | 345 | 67 | | | 121,906 | 33 | | | 216,942 | 18 | | | | |
| Hand-in-Hand | | | 27,714 | 00 | 2,219 | 87 | 6,786 | 52 | 1,273 | 78 | | | | | 5,020 | 14 | | 436 | 42 | 43,450 | 73 | 80,000 | 00 | |
| Millers and Manufacturers | | | 10,000 | 00 | | | | | | | | | | | 5,068 | 77 | | 8,887 | 43 | 23,956 | 20 | 112,500 | 00 | |
| Ontario | | | 2,016 | 26 | | | 311 | 05 | 2,693 | 37 | 671 | 90 | 901 | 94 | 7,875 | 86 | | | 14,470 | 38 | | | | |
| Perth County | | | 13,000 | 00 | 425 | 00 | 4,008 | 63 | 588 | 31 | 2,021 | 15 | 1,249 | 60 | 45,373 | 84 | | 25 | 00 | 66,691 | 53 | | | |
| Waterloo | | 4,300 | 00 | 39,662 | 81 | 1,401 | 06 | 30,422 | 63 | 1,557 | 96 | 3,257 | 21 | 3,522 | 93 | 142,021 | 35 | | | 226,145 | 35 | | | |
| Total | | 4,300 | 00 | 150,608 | 07 | 5,738 | 90 | 73,880 | 71 | 8,543 | 15 | 6,295 | 93 | 5,674 | 47 | 327,266 | 29 | | 9,348 | 85 | 501,656 | 37 | | |

MIXED MUTUAL AND CASH SYSTEM COMPANIES.

LIABILITIES FOR YEAR ENDING 31ST DECEMBER, 1885.

| NAME OF COMPANY. | Losses unpaid at Dec. 31, 1885, though subsequently discharged. | Unearned Premiums on Cash System Risks, calculated at 50 per cent. of Gross Premiums. | All other Liabilities. | Total Liabilities. | Number of Policies. | Amount at Risk. |
|---------------------------------|---|---|------------------------|--------------------|---------------------|----------------------|
| | £ | £ | £ | £ | | £ |
| Gore District | 922 46 | 28,587 33 | ..... | 29,509 79 | 6,124 | 6,499,738 74 |
| Hand-in-Hand | 4,127 84 | 7,584 36 | ..... | 11,712 20 | 1,821 | 2,247,346 00 |
| Millers and Manufacturers ..... | ..... | ..... | 3,780 66 | 3,780 66 | 80 | 241,100 00 |
| Ontario | 1,827 30 | 7,093 45 | 1,017 85 | 9,968 60 | 4,185 | 2,631,402 00 |
| Perth County | 2,834 25 | 4,071 65 | 1 00 | 6,908 91 | 3,503 | 3,668,847 00 |
| Waterloo | 1,314 00 | 36,820 51 | ..... | 38,134 51 | 11,399 | 10,710,154 41 |
| Total | 11,025 85 | 79,157 31 | 4,829 51 | 95,012 67 | 27,115 | 25,998,588 15 |

Government Deposits, as follows:—Gore District, \$20,000; Hand-in-Hand, \$10,000; Millers & Manufacturers, \$10,000; Ontario, \$2,000; Perth County, \$6,000; Waterloo, \$13,585.

MIXED MUTUAL AND CASH SYSTEM COMPANIES.

RECEIPTS FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Calls on Stock. | | First Payments on Premium Notes. | | Assessments of 1885. | | Assessments due before 1885. | | Premiums on Cash System. | | Interest. | | Fees, Licenses and Extra Premiums. | | Sale of Securities. | | Other Sources. | | Total. | |
|--------------------------------|-----------------|-------|----------------------------------|----|----------------------|----|------------------------------|----|--------------------------|----|-----------|----|------------------------------------|----|---------------------|----|----------------|----|---------|----|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. | \$ | c. |
| Core District..... | | | 11,895 | 77 | 25,448 | 82 | 1,401 | 88 | 33,241 | 09 | 3,115 | 76 | 365 | 17 | | | 969 | 34 | 76,537 | 83 |
| Hand-in-Hand..... | | | 3,815 | 96 | | | | | 23,418 | 58 | 2,244 | 14 | | | | | 249 | 83 | 29,728 | 51 |
| Millers and Manufacturers..... | | 6,700 | 2,874 | 00 | | | | | | | 125 | 75 | | | | | 3,894 | 52 | 13,594 | 27 |
| Ontario..... | | | 884 | 39 | 2,903 | 63 | 252 | 09 | 4,906 | 91 | 147 | 32 | 71 | 48 | | | 2,500 | 00 | 11,665 | 82 |
| Perth County..... | | | 5,894 | 99 | 2,218 | 91 | 1,496 | 25 | 4,209 | 98 | 962 | 75 | 78 | 75 | | | | | 14,861 | 63 |
| Waterloo..... | | | 17,688 | 27 | 27,143 | 16 | 2,465 | 69 | 41,759 | 48 | 3,353 | 14 | 389 | 32 | 1,686 | 80 | 100 | 00 | 91,585 | 86 |
| Total..... | 6,700 | 00 | 43,153 | 38 | 57,714 | 52 | 5,615 | 91 | 107,536 | 04 | 9,948 | 86 | 904 | 72 | 1,686 | 80 | 7,713 | 69 | 240,973 | 92 |

MIXED MUTUAL AND CASH SYSTEM COMPANIES.
EXPENDITURE FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Equipment and Investments. | | Repayment of Loans. | | Amount paid for Losses. | | Commission and Bonus to Agents. | | Costs in Law and Equity. | | Reinsurance. | | Rebate and Returned Premiums. | | Interest. | | Statutory Assessments and Fees for Licenses and Certificates. | | Salaries and General Expense Account. | | Dividends and all other Payments. | | Total. | | | |
|--------------------------------|----------------------------|----|---------------------|----|-------------------------|----|---------------------------------|----|--------------------------|----|--------------|----|-------------------------------|----|-----------|----|---|----|---------------------------------------|----|-----------------------------------|----|--------|----|---------|----|
| | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | \$ | c | | |
| Gore District..... | | | | | 32,790 | 41 | 10,135 | 02 | 236 | 00 | 4,942 | 02 | 1,275 | 87 | | | | | 222 | 00 | 8,248 | 96 | | | 57,850 | 88 |
| Hand-in-Hand..... | | | | | 18,035 | 26 | 4,372 | 25 | 2 | 00 | 1,784 | 93 | 1,226 | 19 | | | | | 120 | 38 | 3,549 | 56 | 2,000 | 00 | 31,030 | 57 |
| Millers and Manufacturers..... | 10,994 | 77 | | | | | | | | | | | | | | | | | 120 | 00 | 2,479 | 50 | | | 13,594 | 27 |
| Ontario..... | | | 1,500 | 00 | 6,394 | 96 | 1,606 | 28 | 85 | 52 | | | 49 | 92 | 52 | 08 | | | 116 | 83 | 2,483 | 90 | 329 | 95 | 12,619 | 44 |
| Perth County..... | | | | | 8,322 | 62 | 1,353 | 45 | 23 | 06 | 76 | 73 | 148 | 38 | | | | | 129 | 23 | 3,069 | 02 | 170 | 78 | 13,233 | 27 |
| Waterloo..... | | | | | 37,523 | 98 | 11,523 | 92 | 677 | 02 | 1,154 | 76 | 1,817 | 07 | | | | | 341 | 66 | 10,364 | 75 | | | 63,403 | 16 |
| Total..... | 10,994 | 77 | 1,500 | 00 | 103,067 | 23 | 28,991 | 52 | 1,023 | 60 | 7,458 | 44 | 4,517 | 43 | 52 | 08 | 1,050 | 10 | 30,195 | 69 | 2,500 | 73 | | | 131,851 | 59 |

STRICTLY MUTUAL FIRE INSURANCE COMPANIES.

YEAR ENDING 31ST DECEMBER, 1885.

STRICTLY MUTUAL FIRE INSURANCE COMPANIES.

BAY OF QUINTE AGRICULTURAL MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, PICTON.

Commenced business 31st October, 1874.

President—ARCHELAUS SOUTHARD. | *Secretary*—J. ROLAND BROWN.

Unassessed premium note capital, \$13,802.07.

ASSETS.

| | |
|--|-------------|
| Actual cash on hand at head office..... | \$66 17 |
| Amount unpaid of assessments levied in 1885..... | 92 16 |
| “ “ “ “ “ before, not extended \$18 35 | |
| Amount of premium notes in force after deducting all payments thereon and assessments levied..... | 13,802 07 |
| Total assets..... | \$13,960 40 |

LIABILITIES.

| | |
|--------------------------------|--------|
| Amount due for an account..... | \$1 24 |
| Total liabilities | \$1 24 |

RECEIPTS.

| | |
|--|------------|
| Balance of cash on hand as per last statement, (not extended) | \$114 19 |
| Cash received for first payments, being part payment of premium notes... | \$522 36 |
| “ assessments levied in 1885..... | 1,106 72 |
| “ “ “ before 1885..... | 58 |
| “ borrowed money..... | 140 00 |
| “ transfer fees..... | 6 50 |
| “ postage..... | 3 35 |
| Total receipts..... | \$1,779 51 |

EXPENDITURE.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for commission to agents..... | \$120 40 |
| “ interest... .. | 1 72 |
| “ salaries, directors' and auditors' fees..... | 395 51 |
| “ postage and telegrams. | 11 85 |
| “ statutory assessment..... | 25 15 |
| “ printing, stationery and advertising..... | 32 40 |
| “ office expenses..... | 13 31 |
| <hr/> | |
| Total expenses of management..... | \$600 34 |
| Cash paid for losses which occurred during 1885..... | 1,087 19 |
| “ repayment of loans | 140 00 |
| <hr/> | |
| Total expenditure..... | <u>\$1,827 53</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | Four years. | Five years. | Total. |
|-------------|--------------|-------------|-------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual..... | 745,685.00 | 400.00 | 203,820.00 | 949,905.00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Total. |
|---|---------|---------------------|
| Policies in force 31st Dec. 1884..... | 668 | \$ c. 833,446 00 |
| Policies, new and renewed during 1885..... | 240 | 312,320 00 |
| Gross number during 1885..... | 908 | 1,145,766 00 |
| Less expired and cancelled in 1885..... | 179 | 195,861 00 |
| Net risks in force on mutual system, 31st Dec., 1885..... | 729 | 949,905 00 |

CLASSIFICATION OF RISKS :

Farm and Non-hazardous

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | RISKS. | | | Total. |
|--|--------------|-------------|-------------|-----------|
| | Three years. | Four years. | Five years. | |
| | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 12,078 22 | 8 00 | 4,742 87 | 16,829 09 |
| Amount of all premium notes after deducting all pay- ments thereon and assessments levied | 9,994 74 | 6 40 | 3,800 93 | 13,802 07 |
| Amount of premium notes received during year 1885. | 4,670 36 | ..... | 507 42 | 5,171 78 |

BERTIE AND WILLOUGHBY FARMERS' MUTUAL FIRE INSURANCE
COMPANY.

HEAD OFFICE, RIDGEWAY.

Commenced business 6th February, 1880.

President—WALTER E. ELLSWORTH. | *Secretary*—H. N. HIBBARD.

Unassessed premium note capital, \$8,860.69.

ASSETS.

| | |
|--|-------------------|
| Actual cash on hand at head office | \$ 6 11 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 8,860 69 |
| Total assets | <u>\$8,866 80</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|---|-----------------|
| Cash at head office as per last statement (not extended)..... | \$1 96 |
| Cash received for fees..... | \$264 00 |
| “ as first payments, being part payment of premium notes.... | 131 62 |
| “ steam thresher licenses and permits | 143 98 |
| Total receipts | <u>\$539 60</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid to agents for commission and fees | \$161 05 |
| “ statutory assessment | 15 14 |
| “ printing, stationery and advertising | 34 26 |
| “ salaries, directors' and auditors' fees | 229 00 |
| “ postage, telegrams, express, etc..... | 13 00 |
| “ travelling expenses | 14 75 |
| “ incidental expenses | 15 75 |
| Total expenses of management | <u>\$482 95</u> |
| Cash paid for losses which occurred during 1885..... | 52 50 |
| | <u>\$535 45</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 588,152 | 00 | 588,152 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884 | 451 | 501,812 | 00 |
| " new and renewed during 1885 | 176 | 211,635 | 00 |
| Gross number during 1885 | 627 | 713,447 | 00 |
| Less expired and cancelled in 1885 | 120 | 125,295 | 00 |
| Net risks in force 31st December, 1885 | 507 | 588,152 | 00 |

CLASSIFICATION OF RISKS.

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 9,229 | 91 | 9,229 | 91 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 8,860 | 69 | 8,860 | 69 |
| Amount of premium notes received during the year 1885 | 3,289 | 65 | 3,289 | 65 |

BLANSHARD MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WOODHAM.

*Commenced business 27th March, 1876.**President*—WM. T. SANDERSON.*Secretary*—WM. JOHNSTON.

Unassessed premium note capital, \$16,151.33.

ASSETS.

| | |
|---|--------------------|
| Actual cash on hand at head office | \$105 84 |
| Amount unpaid of assessments levied prior to 1885 (not extended) \$35 20 | |
| Amount of premium notes in force after deducting all payments thereon and assessments levied | 16,151 33 |
| Total assets | <u>\$16,257 17</u> |

LIABILITIES.

| | |
|---------------------------------------|-------------------|
| Amount of money borrowed | \$1,100 00 |
| Amount of interest on the above | 45 00 |
| Total liabilities | <u>\$1,145 00</u> |

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$470 11 |
| “ borrowed in 1885 | \$1,845 00 |
| “ being error in previous year | 30 |
| Total receipts | <u>\$1,845 30</u> |

EXPENDITURES.

Expenses of Management:

| | |
|---|-------------------|
| Amount paid for travelling expenses | \$8 60 |
| “ “ statutory assessment | 21 37 |
| “ “ interest | 52 00 |
| “ “ salaries and directors' fees | 47 00 |
| “ “ postage, etc | 1 00 |
| “ “ fuel and light | 3 10 |
| “ “ incidentals | 1 50 |
| Expenses of management | <u>134 57</u> |
| Cash paid for losses which occurred during 1884 | 1,023 00 |
| “ “ “ “ 1885 | 352 00 |
| “ repayment of loans | 700 00 |
| Total expenditure | <u>\$2,209 57</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|-------------|-------------|------------|
| | \$ c. | \$ c. |
| Mutual..... | 778,095 00 | 778,095 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1883..... | | |
| “ new and renewed during 1885..... | | |
| Gross number during 1885..... | | |
| Less expired and cancelled in 1885..... | | |
| Net risks in force on mutual system 31st December, 1885..... | 578 | 778,095 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | Total. |
|---|------------------|-----------|
| | \$ c. | \$ c. |
| Amount of all premium notes held by Company, and legally liable to assessment..... | 19,070 09 | 19,070 09 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 16,151 33 | 16,151 33 |
| Amount of premium notes received during the year 1885..... | 1,985 00 | 1,985 00 |

 NORTH BLENHEIM MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, CHESTERFIELD.

Commenced business 15th August, 1861.

President—JOHN BURNS.

Secretary—GEO. MIDDLEMAS.

Unassessed premium note capital, \$35,743.28.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office..... | \$39 88 |
| Amount of premium notes in force after deducting all payments thereon and assessments levied..... | 35,743 28 |
| Total assets..... | <u>\$35,783 16</u> |

LIABILITIES.

| | |
|----------------------|-----------------|
| Money borrowed..... | \$150 00 |
| Total liability..... | <u>\$150 00</u> |

RECEIPTS.

| | |
|--|-----------------|
| Cash at head office, as per last statement (not extended)..... | \$4 41 |
| Cash received for membership fees..... | \$50 95 |
| “ “ “ money borrowed..... | 150 00 |
| Total receipts..... | <u>\$200 95</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amounts paid for printing, stationery and advertising..... | \$29 25 |
| “ law costs..... | 14 00 |
| “ travelling expenses..... | 5 50 |
| “ salaries, directors' and auditors' fees..... | 22 00 |
| “ rent and taxes..... | 6 75 |
| “ postage, telegrams and express.. | 2 86 |
| “ statutory assessment..... | 20 12 |
| Total expenses of management..... | <u>\$100 48</u> |
| Amount paid for loss which occurred in 1885..... | 65 00 |
| Total expenditure..... | <u>\$165 48</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|-------------|-------------|------------|
| | \$ c. | \$ c. |
| Mutual..... | 731,150 00 | 731,150 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 325 | 666,970 00 |
| “ new and renewed during 1885..... | 89 | 206,350 00 |
| Gross number during 1885..... | 414 | 873,320 00 |
| Less expired and cancelled in 1885..... | 72 | 142,170 00 |
| Net risks in force on mutual system 31st December, 1885..... | 342 | 731,150 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | Five year risks. | Total. |
|---|------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 36,557 50 | 36,557 50 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 35,743 28 | 35,743 28 |
| Amount of premium notes received during the year 1885..... | 10,367 50 | 10,367 50 |

 COUNTY OF BRANT FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, PARIS.

Commenced business 27th May, 1861.

President—JOHN MILLER.

Secretary—WM. TURNBULL.

Unassessed premium note capital, \$79,419.54.

ASSETS.

| | |
|---|--------------------|
| Cash on deposit to the Company's credit, not drawn against, in the Bank of British North America..... | \$878 91 |
| Amount unpaid of assessments levied during 1885..... | 924 87 |
| “ “ “ in prior years (not extended) \$92.97 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | 79,419 54 |
| Total assets..... | <u>\$81,223 32</u> |

LIABILITIES—(None).

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$848.37 |
| Cash received for assessments levied in 1885..... | \$3,912 87 |
| “ “ “ prior to 1885..... | 826 54 |
| Cash borrowed..... | 800 00 |
| Cash receipts from cancelled policies..... | 35 24 |
| Total receipts..... | <u>\$5,574 65</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for commission..... | \$556 71 |
| “ “ fuel and light..... | 2 00 |
| “ “ investigation and adjustment of claims..... | 34 00 |
| “ “ interest..... | 106 75 |
| “ “ statutory assessment..... | 80 77 |
| “ “ printing, stationery and advertising..... | 69 60 |
| “ “ rent and taxes..... | 50 00 |
| “ “ salaries, directors' and auditors' fees..... | 636 50 |
| “ “ postage, telegrams and express..... | 30 95 |
| “ “ travelling expenses..... | 28 00 |
| “ “ blank books..... | 3 25 |
| “ “ law costs..... | 24 29 |
| Total expenses of management (<i>carried forward</i>)..... | <u>\$1,622 82</u> |

| | | |
|---|------------------------------|-------------------|
| | <i>Brought forward</i> | \$1,622 82 |
| <i>Miscellaneous Payments:</i> | | |
| Cash paid for losses which occurred before 1885 | \$677.92 | |
| “ “ “ during 1885 | 1,393.37 | |
| | <hr/> | 2,071 29 |
| Repayment of loans | | 1,850 00 |
| | | <hr/> |
| Total expenditure | | <u>\$5,544 11</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|-------------|-----------------------|-----------------------|
| Mutual..... | \$ 3,001,469 00 c. | \$ 3,001,469 00 c. |

MOVEMENT IN RISKS.

Mutual System.

| — | No. | Amount. |
|---|-------|-----------------------|
| Policies in force 31st December, 1884..... | 2,094 | \$ 2,676,840 00 c. |
| New and renewed during 1885..... | 750 | 1,006,080 00 |
| Gross number during 1885..... | 2,844 | 3,682,920 00 |
| Less expired and cancelled in 1885..... | 597 | 681,451 00 |
| Net risks in force 31st December, 1885..... | 2,247 | 3,001,469 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On policies in force 31st December, 1884.

| — | Five year risks. | Total. |
|---|------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company and legally liable to assessments..... | 90,377 54 | 90,377 54 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 79,419 54 | 79,419 54 |
| Amount of premium notes received during the year 1885..... | 30,468 75 | 30,468 75 |

WEST BRUCE FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, KINCARDINE.

*Commenced business 3rd July, 1885.**President*—ROBERT BAIRD.*Secretary*—EDWARD THORNHILL.

Unassessed premium note capital, \$5,346.55.

ASSETS.

| | |
|--|-------------------|
| Amount unpaid of assessments levied during 1885 | \$113 60 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 5,346 55 |
| Total assets | <u>\$5,460 15</u> |

LIABILITIES.

| | |
|---|-----------------|
| Amount of losses adjusted | \$70 00 |
| “ unpaid of salaries, fees and commission | 50 40 |
| “ due Treasurer | 9 41 |
| “ of all other liabilities | 26 40 |
| | <u>\$156 21</u> |

RECEIPTS.

| | |
|---|-----------------|
| Cash received as first payments, being part payment of premium notes... | \$ 54 50 |
| “ received for assessments levied in 1885 | 600 85 |
| Total receipts | <u>\$655 35</u> |

EXPENDITURE.

Expenses of Management:

| | |
|---|-----------------|
| Amount paid for rent | \$14 00 |
| “ statutory assessment | 20 00 |
| “ printing, stationery and advertising | 42 40 |
| “ postage, telegrams and express | 11 36 |
| “ books of account, \$12.00; seal, \$5.00 | 17 |
| Total expenses of Management | \$104 |
| Cash paid for losses during 1885 | 560 00 |
| Total expenditure | <u>\$664 76</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three Years. | | Total. | |
|-------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 154,750 | 00 | 154,750 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies taken during 1885..... | 109 | 154,750 00 |
| Net risks in force on mutual system, 31st December, 1885 | 109 | 154,750 00 |

CLASSIFICATION OF RISKS :

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | | Total. | |
|---|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 6,115 | 50 | 6,115 | 50 |
| Amount of all premium notes after deducting all payments thereon and assessments levied | 5,346 | 55 | 5,346 | 55 |
| Amount of premium notes received during the year 1885..... | 6,115 | 50 | 6,115 | 50 |

CANADIAN MILLERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, HAMILTON.

President—DAVID GOLDIE.

Secretary—SENECA JONES.

Unassessed premium note capital, \$23,395 86.

ASSETS.

| | | |
|--|-----------|--------------------|
| Actual cash on hand at head office | \$196 78 | |
| Cash on deposit to the Company's credit, not drawn against, in Bank of Hamilton, at Hamilton..... | 1,614 37 | |
| | | \$1,811 15 |
| Amount of premium notes in force, after deducting all pay- ments thereon and assessments levied. | 23,395 86 | |
| Less residue of premium notes given by Company for reinsur- ance | 1,208 00 | |
| | | 22,187 86 |
| Total assets | | <u>\$23,999 01</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office and in bank, as per last statement (not extended) | \$596 18 |
| Cash received as first payments, being part payment of premium notes.... | \$4,436 20 |
| “ for assessments levied during 1885..... | 2,293 07 |
| “ “ prior to 1885 | 160 00 |
| “ interest | 8 31 |
| “ carpenters' risks, transfer and other fees..... | 46 40 |
| “ due bills..... | 55 50 |
| “ commission on reinsurance | 50 00 |
| “ borrowed money | 1,600 00 |
| Total receipts..... | <u>\$8,649 48</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|------------|
| Amount paid for commission | \$772 24 |
| “ statutory assessment | 4 59 |
| “ printing, stationery and advertising. | 74 50 |
| “ salaries, directors’ and auditors’s fees. | 290 00 |
| “ travelling expenses | 16 05 |
| “ postage, telegrams and express. | 50 62 |
| “ investigation and adjustment of claims. | 4 10 |
| “ interest | 27 91 |
| “ office expenses | 9 83 |
| Total expenses of management. | \$1,249 84 |

Miscellaneous Payments :

| | |
|--|------------|
| Amount paid for losses which occurred during 1885. | 3,780 43 |
| “ reinsurance | 302 00 |
| “ rebate | 68 50 |
| “ inspection of risks | 433 74 |
| “ repayment of loan. | 1,600 00 |
| Total expenditure. | \$7,434 51 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three Years. | | Total. | |
|---|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 284,100 | 00 | 284,100 | 00 |
| “ reinsured. | 12,000 | 00 | 12,000 | 00 |
| Net risks carried by Company December 31, 1885. | | | 272,100 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884. | 90 | 152,000 00 |
| “ new and renewed during 1885 | 89 | 196,600 00 |
| Gross number during 1885. | 179 | 348,600 00 |
| Less expired and cancelled in 1885. | 38 | 64,500 00 |
| Net risks in force 31st December, 1885. | 141 | 284,100 00 |

CLASSIFICATION OF RISKS.

The Company's business is exclusively confined to flouring mills, and their stocks and machinery.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | Risks. | |
|---|--------------|-----------|
| | Three years. | Total. |
| | § c. | § c. |
| Amount of face of all premiums notes held by Company and legally liable to assessment..... | 32,477 20 | 32,477 20 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 23,395 86 | 23,395 86 |
| Amount of premium notes received during the year 1885..... | 22,676 00 | 22,676 00 |
| Residue of premium notes given for reinsurance.. | | 1,208 00 |

CARADOC FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, MOUNT BRYDGES.

*Commenced business 28th June, 1884.**President*—WM. YOUNG.*Secretary*—WM. E. SAWYER.

Unassessed premium note capital, \$5,475.52.

ASSETS.

| | |
|--|-------------------|
| Amount of cash on hand | \$106 81 |
| “ premium notes in force, after deducting all payments thereon and assessments levied | 5,475 72 |
| “ unpaid assessments levied during 1885 | 3 52 |
| Total assets | <u>\$5,586 05</u> |

LIABILITIES.

| | |
|--|----------------|
| Amount due Treasurer | \$6 62 |
| “ for directors' fees and salary | 81 50 |
| Total liabilities | <u>\$88 12</u> |

RECEIPTS.

| | |
|--|-----------------|
| Cash received for fees at taking of applications | \$36 50 |
| “ as first payments, being part payment of premium notes | 48 38 |
| “ for assessments levied before 1885 | 96 78 |
| “ for steam threshing licenses | 13 00 |
| Total receipts | <u>\$194 66</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|----------------|
| Cash paid for law costs | \$4 00 |
| “ travelling expenses | 1 50 |
| “ statutory certificate | 3 26 |
| “ printing, stationery and advertising | 25 00 |
| “ postage, telegrams and express, etc | 4 35 |
| “ furniture | 2 00 |
| “ inspecting of threshing engines | 4 00 |
| Total expenses of Management | <u>\$44 11</u> |
| Cash paid for re-payment of loan | 41 74 |
| “ loss incurred during 1885 | 2 00 |
| Total expenditure | <u>\$87 85</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Two years. | | Five years. | | Total. | |
|------------------|------------|----|-------------|----|---------|----|
| | § | c. | § | c. | § | c. |
| Mutual | 600 | 00 | 192,475 | 00 | 192,475 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|---------|----|
| | | § | c. |
| Policies in force 31st December, 1884 | 95 | 107,930 | 00 |
| “ taken during 1885, new and renewed | 85 | 102,015 | 00 |
| Gross number during 1885 | 180 | 209,945 | 00 |
| Deduct expired and cancelled in 1885 | 22 | 17,470 | 00 |
| Net risks in force 31st December, 1885 | 158 | 192,475 | 00 |

PREMIUM NOTES OR UNDERTAKINGS.

| — | Two years. | | Five years. | | Total. | |
|--|------------|----|-------------|----|--------|----|
| | § | c. | § | c. | § | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 9 | 00 | 5,683 | 27 | 5,692 | 27 |
| Amount of all premium notes on policies in force December 31st, 1884, after deducting all payments thereon, and assessments levied | 8 | 04 | 5,461 | 06 | 5,475 | 72 |
| Amount of premium notes received during the year 1885 | | | 3,023 | 25 | 3,023 | 25 |

CULROSS MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, LOT 16, CON. 2, CULROSS.

Commenced business June 3rd, 1872.

President—THOMAS ALLISON.

Secretary—WM. COLVIN.

Unassessed premium note capital, \$17,475.87.

ASSETS.

| | | |
|---|----------|-------------|
| Cash on hand at head office | \$33 54 | |
| “ deposit to company’s credit in Hamilton bank, Wingham agency | 200 00 | |
| | \$233 54 | |
| Amount unpaid of assessments levied during 1885 | | 38 47 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 17,475 87 |
| Total assets | | \$17,747 88 |

LIABILITIES—(None).

RECEIPTS.

| | | |
|---|--|----------|
| Cash received for fees or surveys | | \$78 00 |
| “ assessments levied in 1885 | | 502 61 |
| “ “ years prior to 1885 | | 6 56 |
| Total receipts | | \$587 17 |

EXPENDITURE.

Expenses of Management :

| | | |
|---|--|----------|
| Amount paid for commission to agents | | \$27 50 |
| “ statutory assessment or certificate | | 13 21 |
| “ rent | | 4 00 |
| “ salaries, directors’ and auditors’ fees | | 86 00 |
| “ printing, stationery and advertising | | 12 50 |
| “ postage and telegrams | | 2 50 |
| “ other expenses | | 20 |
| Expenses of management | | \$145 91 |
| Amount paid for losses which occurred during 1885 | | 200 00 |
| “ refunded Treasurer | | 7 72 |
| Total expenditure | | \$353 63 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | Total. |
|-------------|--------------|------------|
| | § c. | § c. |
| Mutual..... | 460,638 00 | 460,638 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|---|---------|------------|
| | | § c. |
| Policies in force 31st December, 1884..... | 333 | 432,534 00 |
| “ new and renewed during 1885..... | 110 | 156,475 00 |
| Gross number during 1885..... | 443 | 589,009 00 |
| Less expired and cancelled in 1885..... | 114 | 128,371 00 |
| Net risks in force on mutual system on 31st December, 1885..... | 329 | 460,638 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in Force 31st December, 1885.

| — | Three year risks. | Total. |
|---|-------------------|-----------|
| | § c. | § c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 18,428 20 | 18,428 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 17,475 87 | 17,475 87 |
| Amount of premium notes received during the year 1885..... | 6,261 68 | 6,261 68 |

Total expenses of management (*brought forward*) 2,052 74

Miscellaneous Payments:

Cash paid for losses which occurred during 1885 \$1,687 54
 " " reinsurances 13 53
 " " rebate, abatement and returned premiums 77 75
 " " investments 1,139 84

Total expenditure \$4,971 40

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | | Two years. | | Three years. | | Total. | |
|--|-------------------|----|------------|----|--------------|----|-----------|----|
| | \$ | c. | \$ | c. | \$ | c. | \$ | c. |
| Mutual | 600 | 00 | 500 | 00 | 1,613,784 | 00 | 1,614,884 | 00 |
| " reinsured | | | | | 4,800 | 00 | 4,800 | 00 |
| Net risks actually carried by Company at December 31st, 1885 | | | | | | | 1,610,084 | 00 |

CLASSIFICATION OF RISKS:

Non-hazardous.

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|-----------------|
| Policies in force 31st December, 1884 | 1,362 | \$ 1,350,444 00 |
| Policies, new and renewed during 1885 | 602 | 644,788 00 |
| Gross number during 1885 | 1,964 | 1,995,232 00 |
| Less expired and cancelled in 1885 | 387 | 380,348 00 |
| Net risks in force on mutual system 31st December, 1885 | 1,577 | 1,614,884 00 |

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | One year risks. | Two year risks. | Three year risks. | Total. |
|--|-----------------|-----------------|-------------------|-----------|
| | \$ | \$ | \$ | \$ |
| | c. | c. | c. | c. |
| Amount of face of all premium notes held by Company and legally liable to assessment | 9 00 | 9 00 | 38,824 75 | 38,842 75 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 6 75 | 6 50 | 26,889 99 | 26,903 24 |
| Amount of premium notes received during the year 1885 | 9 00 | | 12,850 23 | 12,859 23 |
| Residue of premium notes given for reinsurance | | | 42 09 | 42 09 |

DOMINION GRANGE MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, OWEN SOUND.

President—JESSE TRULL.

Secretary—RICHARD J. DOYLE.

GRANGE BRANCH.

Commenced business March 29th, 1877.

Unassessed premium note capital, \$117,136.92.

ASSETS.

| | |
|---|--------------|
| Cash value of real estate, less incumbrances..... | \$4,284 13 |
| “ mortgages | 11,250 00 |
| “ shares, bonds, debentures, securities, other than foregoing.. | 1,100 00 |
| Actual cash on hand at head office..... | 1,670 12 |
| Cash on deposit to the Company's credit, not drawn against, in the Molson's Bank agency at Owen Sound..... | 27 78 |
| Amount of short date notes or due bills less than one year overdue..... | 3,283 71 |
| Amount of short date notes or due bills one year or more overdue (not extended)..... | \$122 75 |
| Amount of premium notes in force after deducting all payments thereon and assessments levied..... | \$117,136 92 |
| Less residue of premium notes given by Company for reinsurance..... | 325 16 |
| | 116,811 76 |
| Amount of due and accrued interest..... | 499 23 |
| Notes for carpenters' and steam threshers' risks..... | 220 06 |
| Sundry advances | 35 63 |
| | \$139,182 42 |

LIABILITIES.

| | |
|------------------------------------|----------|
| Amount of loss adjusted..... | 12 70 |
| “ outstanding accounts | 119 12 |
| “ balance of suspense account..... | 224 13 |
| | \$355 95 |

RECEIPTS.

| | | |
|--|----------|--------------------|
| Cash at head office, as per last statement (not extended)..... | \$784 70 | |
| Cash received as first payments or deposits, being part payment of premium notes | | \$6,170 90 |
| Cash received for interest..... | | 734 75 |
| “ due bills or short date notes..... | | 7,016 02 |
| “ steam thresher licenses..... | | 353 77 |
| “ carpenters' risks, etc..... | | 96 51 |
| “ rent | | 232 42 |
| “ miscellaneous | | 329 38 |
| “ investments | | 805 84 |
| Total receipts | | <u>\$15,739 59</u> |

EXPENDITURE.

Expenses of Management :

| | | |
|--|--|-------------------|
| Amount paid for commission | | 289 25 |
| “ law costs..... | | 30 42 |
| “ investigation and adjustment of claims..... | | 485 63 |
| “ statutory assessment | | 151 74 |
| “ printing, stationery, advertising and books..... | | 524 75 |
| “ rent and taxes | | 85 88 |
| “ salaries, directors' and auditors' fees..... | | 2,594 56 |
| “ travelling expenses and general agency..... | | 13 43 |
| “ postage, telegrams and express, etc., etc..... | | 241 17 |
| “ fuel, light and petty expenses..... | | 281 44 |
| Total expenses of management..... | | <u>\$4,698 27</u> |

Miscellaneous Payments :

| | | |
|--|------------|--------------------|
| Cash paid for losses which occurred during 1885..... | \$5,465 19 | |
| “ “ “ prior to 1885 | 209 00 | |
| | | <u>5,674 19</u> |
| “ reinsurances | | 96 03 |
| “ refunds to members..... | | 3,081 89 |
| “ reserve fund..... | | 300 00 |
| “ building account | | 472 26 |
| “ insurance | | 22 00 |
| “ furniture | | 4 00 |
| “ legislation, Maritime Provinces | | 524 25 |
| “ sundries | | 78 59 |
| Total expenditure | | <u>\$14,951 48</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Two years. | Three years. | Four years. | Total. |
|--|----------------------|------------|--------------|--------------|--------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual | 1,800 00 | 3,900 00 | 34,885 00 | 5,855,448 00 | 5,896,033 00 |
| “ reinsured..... | | | 1,250 00 | 29,900 00 | 31,150 00 |
| Net risks actually carried by Com- pany at 31st December, 1885..... | | | | | 5,864,883 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 4,753 | 6,193,322 00 |
| “ new and renewed during 1885..... | 1,358 | 1,911,993 00 |
| Gross number during 1885..... | 6,111 | 8,105,315 00 |
| Less expired and cancelled in 1885..... | 1,399 | 2,209,282 00 |
| Net risks in force on mutual system 31st December, 1885 | 4,712 | 5,896,033 00 |

CLASSIFICATION OF RISKS:

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force December 31st, 1885.

| | One year risks. | Two year risks. | Three year risks. | Four year risks. | Total. |
|---|--------------------|--------------------|----------------------|---------------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment. | 36 00 | 93 10 | 954 47 | 162,019 39 | 163,096 96 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 19 25 | 72 35 | 575 12 | 116,470 20 | 117,136 92 |
| Amount of premium notes received during the year 1885 | 36 00 | 29 00 | 932 87 | 36,507 51 | 37,505 38 |
| Residue of premium notes given for reinsur- ance | | | | 325 16 | 325 16 |

NORTH AND SOUTH DORCHESTER MUTUAL FIRE INSURANCE
COMPANY.

HEAD OFFICE, HARRIETSVILLE.

Commenced business 8th January, 1869.

President—WILLIAM WOODS.

Secretary—FRANCIS KUNZ.

Unassessed premium note capital, \$5,460.82.

ASSETS.

| | |
|---|------------|
| Cash on deposit to the Company's Credit, not drawn against, in the Agricultural Savings and Loan Company, London | \$1,969 47 |
| Amount unpaid of assessments levied during 1885 | 31 91 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | 5,460 82 |
| Total assets | \$7,462 20 |

LIABILITIES.—None.

RECEIPTS.

| | |
|---|------------|
| Cash at head office, as per last statement (not extended) | \$440 56 |
| Cash received as first payments, being part payments of premium notes . . . | \$363 95 |
| “ for assessments levied in 1885 | 1,324 37 |
| “ “ “ years before 1885 | 11 28 |
| “ for interest | 91 05 |
| Total receipts | \$1,790 65 |

EXPENDITURE.

Expenses of Management :

| | |
|---|----------|
| Amount paid for printing and stationery | \$20 25 |
| “ “ statutory assessment or certificate | 24 71 |
| “ “ rent | 2 00 |
| “ “ salaries and auditors' fees | 136 00 |
| “ “ postage, telegrams and express | 9 70 |
| Total expenses of management | \$192 66 |

Miscellaneous Payments :

| | |
|---|----------|
| Cash paid for losses which occurred before 1885 | \$8 00 |
| “ “ “ “ “ “ during 1885 | 13 33 |
| “ “ “ safe | 21 33 |
| “ “ “ safe | 47 75 |
| Total expenditure | \$261 74 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|--------------|-------------|------------|
| | \$ c. | \$ c. |
| Mutual | 877,046 00 | 877,046 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 607 | 818,849 00 |
| “ new and renewed during 1885 | 160 | 239,735 00 |
| Gross number during 1885 | 767 | 1,058,584 00 |
| Less expired or cancelled in 1885 | 152 | 181,538 00 |
| Net risks in force on mutual system 31st December, 1885 | 615 | 877,046 00 |

CLASSIFICATION OF RISKS

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Five year risks. | Total. |
|---|------------------|----------|
| | \$ cts. | \$ cts. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 7,066 08 | 7,066 08 |
| Amount of all premium notes, after deducting all payments thereon and assessment levied | 5,460 82 | 5,460 82 |
| Amount of premium notes received during the year 1885 | 4,794 70 | 4,794 70 |

DOWNIE MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ST. PAULS.

*Commenced business 21st April, 1884**President*—SAMUEL RANKIN

}

Secretary—PETER SMITH.

Unassessed premium note capital, \$7,494.43.

ASSETS.

| | |
|--|-------------------|
| Cash on hand at head office | \$48 10 |
| Amount of assessment levied during 1885 | 10 21 |
| “ premium notes in force, after deducting all payments thereon and assessments levied | 7,494 43 |
| Total assets | <u>\$7,552 74</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-----------------|
| Cash received for fees at taking of applications | \$106 50 |
| “ assessments levied during 1885 | 91 85 |
| Total assets | <u>\$198 35</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid for fees on applications | \$86 19 |
| “ fuel and light | 7 00 |
| “ Statutory assessment | 6 54 |
| “ printing, stationary and advertising | 10 09 |
| “ postage, telegrams and express, etc. | 93 |
| “ levying and collecting assessments | 8 00 |
| Total expenses of management | <u>\$118 75</u> |
| Amount paid for loss incurred in 1885 | 1 50 |
| “ repaid for loan | 30 00 |
| Total expenditure | <u>\$150 25</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|-------------|-------------|------------|
| | c. | \$ c. |
| Mutual..... | 325,005 00 | 325,005 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force December 31st, 1884..... | 143 | 216,880 00 |
| “ taken during 1885..... | 71 | 108,125 00 |
| Net risks in force 31st December, 1885..... | 214 | 325,005 00 |

PREMIUM NOTES OR UNDERTAKINGS.

| — | Five years. | Total. |
|---|-------------|----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by the Company, and legally liable to assessment..... | 7,596 49 | 7,596 49 |
| Amount of all premium notes on policies in force December 31st, 1885, after deducting all payments thereon, and assessments levied..... | 7,494 43 | 7,494 43 |
| Amount of premium notes received during the year 1885..... | 2,661 42 | 2,661 42 |

NORTH DUMFRIES AND SOUTH WATERLOO FARMERS' MUTUAL FIRE
INSURANCE COMPANY.

HEAD OFFICE, AYR.

Commenced business 15th May, 1856.

President—THOS. MCKAY.

Secretary—WM. DEANS.

Unassessed premium note capital, £159,729.58.

ASSETS.

| | |
|---|---------------------|
| Amount unpaid of assessments levied during 1885 | \$790 48 |
| “ of assessments levied before 1884 (not extended)..... | £144 15 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | 159,729 58 |
| Total assets | <u>\$160,520 06</u> |

LIABILITIES.

| | |
|----------------------------|-----------------|
| Amount due Treasurer | \$145 36 |
| Total liabilities | <u>\$145 36</u> |

RECEIPTS.

| | |
|--|-------------------|
| Cash received for assessments levied in 1885 | \$6,928 93 |
| “ received in years prior to 1885..... | 603 25 |
| “ advanced by Treasurer | 145 36 |
| “ money borrowed | 2,316 66 |
| Total receipts | <u>\$9,994 20</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Amount paid for interest | 117 00 |
| “ “ statutory assessment or certificate | 104 45 |
| “ “ printing, stationery and advertising | 127 94 |
| “ “ rent and taxes | 70 50 |
| “ “ salaries, directors' and auditors' fees | 1,173 95 |
| “ “ postage, telegrams and express | 39 11 |
| “ “ investigation and adjustment of claims | 30 10 |
| “ “ solicitors' fees | 4 00 |
| Total expenses of management | <u>\$1,667 05</u> |

Miscellaneous Payments :

| | |
|--|-------------------|
| Cash paid for losses that occurred during 1885 | 5,415 96 |
| “ Treasurer for amount due him 31st Dec., 1884 | 589 53 |
| “ for repayment of loan | 2,316 66 |
| “ “ incidentals..... | 5 00 |
| Total expenditure | <u>\$9,994 20</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | £ | s. | £ | s. |
| Mutual..... | 3,535,667 | 00 | 3,535,667 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|---|---------|-----------|----|
| | | £ | s. |
| Policies in force 31st December, 1884..... | 1,358 | 3,461,738 | 00 |
| Policies new and renewed during 1885..... | 347 | 794,985 | 00 |
| Gross number during 1885..... | 1,905 | 4,256,723 | 00 |
| Less expired and cancelled in 1885..... | 347 | 721,056 | 00 |
| Net risks in force on Mutual system, 31st December, 1885..... | 1,558 | 3,535,667 | 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | | Total. | |
|---|------------------|----|---------|----|
| | £ | s. | £ | s. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 176,783 | 35 | 176,783 | 35 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 159,729 | 58 | 159,729 | 58 |
| Amount of premium notes received during the year 1885..... | 39,749 | 25 | 39,749 | 25 |

DUNWICH FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WALLACETOWN.

Commenced business September, 1880.

President—JOHN D. GRAHAM. | *Secretary*—JOHN L. PEARCE.

Unassessed premium note capital, \$8,887.74.

ASSETS.

| | |
|---|----------|
| Cash on hand at Head Office | \$166 96 |
| Amount unpaid of assessments levied during 1885 | 144 38 |
| Amount of unassessed premium note capital | 8,887 74 |
| Total | 9,199 08 |

LIABILITIES.

| | |
|--------------------------------|----------|
| Amount of money borrowed | \$200 00 |
| Total Liabilities | \$200 00 |

RECEIPTS.

| | |
|---|------------|
| Amount of cash received for fees and surveys | \$ 38 25 |
| “ “ assessments levied in 1885 | 1,243 65 |
| “ “ “ “ prior to 1885 | 69 26 |
| “ “ interest | 11 34 |
| “ borrowed | 400 00 |
| Total income | \$1,762 50 |

EXPENDITURE.

Expenses of Management :

| | |
|--|------------|
| Amount paid for fuel and light | \$ 3 00 |
| “ interest | 7 46 |
| “ statutory assessment | 16 56 |
| “ printing, stationery and advertising | 25 75 |
| “ salaries, directors' and auditors' fees | 129 00 |
| Total expenses of management | \$181 77 |
| Cash paid for losses which occurred during 1885 | 1,186 00 |
| “ for loans | 227 77 |
| Total expenditure | \$1,595 54 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|--------------|-------------|------------|
| | \$ c. | \$ c. |
| Mutual | 537,691 00 | 537,691 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force December 31, 1884 | 538 | 548,756 00 |
| “ taken during 1885 (new and renewed) | 79 | 96,065 00 |
| Gross number during 1885 | 617 | 644,881 00 |
| Deduct expired and cancelled in 1885 | 122 | 107,190 00 |
| Net risks in force December 31, 1885..... | 495 | 537,691 00 |

CLASSIFICATION OF RISKS.

Farm and Non-Hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | Five year risks. | Total. |
|--|------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 13,491 51 | 13,491 51 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 8,887 74 | 8,887 74 |
| Amount of premium notes received during the year 1885..... | 2,401 62 | 2,401 62 |

SOUTH EASTHOPE FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, TAVISTOCK.

*Commenced business 28th December, 1871.**President*—WERNER YOUNGBLUT.*Secretary*—ROBERT REID.

Unassessed premium note capital, \$68,909.42.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office | \$ 20 61 |
| Cash on deposit to Company's credit in Bank of Commerce, Stratford | 200 00 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 68,909 42 |
| Promissory note held for loan | 200 00 |
| Total assets | <u>\$69,330 03</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-----------------|
| Cash at head office, as at last statement (not extended) | \$1,207 61 |
| Cash received for assessments levied prior to 1885 | \$111 16 |
| “ interest | 14 00 |
| Total receipts | <u>\$125 16</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for salaries, directors' and auditors' fees | \$141 00 |
| “ adjusting claim | 3 00 |
| “ statutory assessment | 39 66 |
| “ printing, stationery and advertising | 35 00 |
| “ postage, telegrams and express | 27 25 |
| “ attending convention | 14 00 |
| “ repairing safe, etc. | 2 25 |
| Expenses of management | <u>\$262 16</u> |

Miscellaneous Payments :

| | |
|---|-----------------|
| Cash paid for losses which occurred before 1885 | 650 00 |
| Total expenditure | <u>\$912 16</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | § | c. | § | c. |
| Mutual..... | 1,451,400 | 00 | 1,451,400 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|--|---------|-----------|----|
| | | § | c. |
| Policies in force 31st December, 1884..... | 793 | 1,313,945 | 00 |
| “ new and renewed during 1885..... | 183 | 351,650 | 00 |
| Gross number during 1885..... | 976 | 1,665,595 | 00 |
| Less expired and cancelled in 1885..... | 128 | 214,195 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 848 | 1,451,400 | 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force December 31st, 1885.

| | Five year risks. | | Total. | |
|--|------------------|----|--------|----|
| | § | c. | § | c. |
| Amount of face of all premium notes held by the Company, and legally liable to assessment..... | 72,570 | 00 | 72,570 | 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 68,909 | 42 | 68,909 | 42 |
| Amount of premium notes received during the year 1885..... | 17,582 | 50 | 17,582 | 50 |

 ECONOMICAL MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, BERLIN.

Commenced business 28th October, 1871.

President—HUGO KRANZ, M.P.

Secretary—WM. OELSCHLAGER.

Unassessed premium note capital, \$140,978.00.

ASSETS.

| | |
|---|--------------|
| Cash on deposit to Company's credit in Canadian Bank of Commerce | \$28,519 83 |
| Cash in Agents' hands, acknowledged by them to be due, and considered good | 408 72 |
| Amount unpaid of assessments levied during 1885 | 2,808 08 |
| “ “ “ in prior years (not extended) \$164 05 | |
| Amount of short date notes, or due bills, less than one year overdue | 1,012 79 |
| “ premium notes in force after deducting all payments thereon and assessments levied \$140,978 00 | |
| Less premium notes given for reinsurance | 488 07 |
| | 140,489 93 |
| Amount of interest due and accrued | 602 86 |
| Total assets | \$173,842 21 |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-------------|
| Cash at head office, as per last statement (not extended) | \$26,526 94 |
| Cash received as first payments, being part payment of premium notes . . . | \$10,506 44 |
| “ for assessments levied in 1885 | 9,087 52 |
| “ for assessments levied in years prior to 1885 | 2,117 17 |
| “ for interest | 1,422 66 |
| “ for transfer fees | 63 90 |
| Total receipts | \$23,197 69 |

EXPENDITURE.

Expenses of Management :

| | |
|--|------------|
| Amount paid for commission to agents..... | \$1,687 00 |
| “ law costs..... | 49 73 |
| “ statutory assessment..... | 74 67 |
| “ printing, stationery and advertising..... | 374 95 |
| “ salaries, directors’ and auditors’ fees..... | 2,324 00 |
| “ postage, telegrams and express..... | 206 02 |
| “ fuel and light..... | 33 93 |
| “ rent and taxes..... | 86 00 |
| “ travelling expenses..... | 291 26 |
| “ other expenses..... | 117 68 |

Expenses of Management..... \$5,245 24

Miscellaneous Payments :

| | |
|--|-------------|
| Cash paid for losses which occurred during 1885..... | \$15,686 26 |
| “ reinsurances..... | 15 92 |
| “ rebate, abatement and returned premiums..... | 257 38 |

Total expenditure..... \$21,204 80

CURRENCY OF RISKS.

Amount Covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--|--------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 3,248,005 | | 3,248,005 | 00 |
| Reinsured..... | | | 10,000 | 00 |
| Net risks actually carried by Company..... | | | 3,238,005 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 2,463 | 2,475,400 00 |
| “ new and renewed during 1885..... | 1,470 | 1,372,635 00 |
| Gross number during 1885..... | 3,933 | 3,848,035 00 |
| Less expired and cancelled in 1885..... | 688 | 600,030 00 |
| Net risks in force on mutual system 31st December, 1885..... | 3,245 | 3,248,005 00 |

BUSINESS TRANSACTED.

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force December 31st, 1885.

| | Three year risks. | Total. |
|--|-------------------|------------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 176,222 00 | 176,222 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 140,978 00 | 140,978 00 |
| Amount of premium notes received during the year 1885 .. | 77,292 00 | 77,292 00 |
| Residue of premium notes given for reinsurance..... | | 488 07 |

ELMA FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ATTWOOD.

Commenced business 22nd March, 1884.

President—W. SHEARER.

|

Secretary—ROBT. CLELAND.

Unassessed premium note capital, \$13,623.22.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office | \$35 35 |
| Amount unpaid of assessments levied in 1885 | 19 65 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 13,623 22 |
| | <hr/> |
| Total assets | <u>\$13,678 22</u> |

• LIABILITIES—(None).

RECEIPTS.

| | |
|---|-----------------|
| Cash received for fees at taking of application | \$30 50 |
| “ assessments levied in 1885 | 226 52 |
| | <hr/> |
| Total receipts | <u>\$257 02</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for statutory certificate | \$5 92 |
| “ printing and stationery | 9 25 |
| “ salaries | 95 00 |
| “ postage and telegram | 3 99 |
| “ interest | 7 70 |
| “ rent | 4 00 |
| | <hr/> |
| Total expenses | \$125 86 |
| Amount of repayment of loan | 110 00 |
| | <hr/> |
| | <u>\$235 86</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|-------------|-------------|------------|
| | § c. | § c. |
| Mutual..... | 276,308 00 | 276,308 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|------------|
| | | § c. |
| Policies in force December 31st, 1884..... | 129 | 195,063 00 |
| “ taken during 1885..... | 81 | 84,555 00 |
| Gross number in force on mutual system, 31st December, 1885..... | 210 | 279,618 00 |
| Less expired and cancelled in 1885..... | 2 | 3,310 00 |
| Net risks in force December 31st, 1885..... | 208 | 276,308 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | Five year risks. | Total. |
|---|------------------|-----------|
| | § c. | |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 13,870 90 | 13,870 90 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 13,623 22 | 13,623 22 |
| Amount of premium notes received during the year 1885..... | 4,227 75 | 4,227 75 |

ERAMOSA MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ROCKWOOD.

Commenced business 9th April, 1861.

President—LAZARUS PARKINSON.

Secretary—HUGH BLACK.

Unassessed premium note capital, \$12,278.92.

ASSETS.

| | | |
|---|----------|---------------------------|
| Actual cash in hand at head office..... | \$443 79 | |
| Cash on deposit to the Company's credit, not drawn against, in the Canadian Bank of Commerce, Guelph..... | 2,100 08 | |
| Cash on deposit to the Company's credit, not drawn against, in the Central Bank, Guelph..... | 272 35 | |
| | | <u>\$2,816 22</u> |
| Amount unpaid of assessments levied during 1885..... | | 91 66 |
| “ of premium notes in force, after deducting all payments therein and assessments levied..... | | 12,278 92 |
| Total assets..... | | <u><u>\$15,186 80</u></u> |

LIABILITIES.—None.

RECEIPTS.

| | | |
|---|------------|------------------------|
| Cash on hand as per last statement (not extended)..... | \$2,528 07 | |
| Cash received for fees or surveys..... | | \$77 25 |
| Cash received as first payments, being part payment of premium notes..... | | 137 95 |
| Cash received for assessments levied in 1885..... | | 116 59 |
| “ “ “ years prior to 1885..... | | 82 86 |
| “ for interest..... | | 101 12 |
| Total receipts..... | | <u><u>\$515 77</u></u> |

EXPENDITURE.

Expenses of Management :

| | | |
|--|--------|------------------------|
| Amount paid for fees..... | | \$77 25 |
| “ “ statutory assessment..... | | 8 33 |
| “ “ printing..... | | 20 80 |
| “ “ salaries..... | | 77 00 |
| “ “ postage, etc..... | | 5 09 |
| “ “ rent and taxes..... | | 5 00 |
| “ “ press seal..... | | 6 00 |
| Total expenses of management..... | | <u>\$199 47</u> |
| Amount paid for losses which occurred before 1885..... | \$6 25 | |
| “ “ “ “ during “..... | 21 90 | |
| | | <u>28 15</u> |
| Total expenditure..... | | <u><u>\$227 62</u></u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|-------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 378,660 | 00 | 378,660 | 00 |

MOVEMENT OF RISKS.

Mutual System.

| — | Number. | | Amount. | |
|--|---------|--|---------|----|
| | | | \$ | c. |
| Policies in force 31st December, 1884..... | 183 | | 276,085 | 00 |
| “ new and renewed during 1885..... | 85 | | 134,700 | 00 |
| Gross number during 1885..... | 268 | | 410,785 | 00 |
| Less expired and cancelled in 1885..... | 75 | | 32,125 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 193 | | 378,660 | 00 |

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 13,564 | 50 | 13,564 | 50 |
| Amount of premium notes, after deducting all payments thereon and assessments levied..... | 12,278 | 92 | 12,278 | 92 |
| Amount of premium notes received during the year 1885..... | 6,215 | 25 | 6,215 | 25 |

ERIE FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, SELKIRK.

Commenced business 2nd September, 1871.

President—GUY CULVER.

Secretary—J. W. HOLMES.

Unassessed premium note capital, \$12,206.60.

ASSETS.

| | |
|--|-------------|
| Actual cash on hand at head office | \$245 11 |
| Amount unpaid of assessments levied during 1885 | 82 56 |
| “ short date notes, or due bills, less than one year overdue. | 176 70 |
| “ premium notes in force, after deducting all payments thereon and assessments levied | 12,206 60 |
| Total assets | \$12,710 97 |

LIABILITIES.

| | |
|-------------------------------|----------|
| Amount of adjusted loss | \$700 00 |
| Total liabilities | \$700 00 |

RECEIPTS.

| | |
|---|------------|
| Cash as per last statement (not extended) | \$187.49 |
| “ at taking of applications..... | \$110 50 |
| “ received as first payments, being part payment of premium notes at head office | 87 68 |
| “ “ for assessments levied in 1885 | 777 09 |
| “ “ due bill | 9 07 |
| “ “ engine licenses | 16 25 |
| Total receipts | \$1,009 59 |

EXPENDITURE.

Expenses of Management :

| | |
|--|----------|
| Amount paid for commission and fees | \$55 25 |
| “ statutory assessment | 17 99 |
| “ printing, stationery and advertising | 12 50 |
| “ salaries, directors' and auditors' fees..... | 145 70 |
| “ postage, telegrams and express..... | 7 82 |
| “ travelling expenses | 4 50 |
| “ fuel | 2 00 |
| Total expenses of management | \$245 76 |

Miscellaneous Payments :

| | |
|---|----------|
| Cash paid for losses which occurred during 1875 | \$697 21 |
| Total expenditure | \$942 97 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st Dec., 1885.

| SYSTEM. | Five years. | Total. |
|--------------|-------------|------------|
| | \$ cts. | \$ cts. |
| Mutual | 607,235 00 | 607,235 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|------------|
| | | \$ cts. |
| Policies in force 31st December, 1884. | 563 | 596,165 00 |
| “ new and renewed during 1885..... | 84 | 85,895 00 |
| Gross number during 1885..... | 647 | 682,060 00 |
| Less expired and cancelled in 1885..... | 77 | 74,825 00 |
| Net risks in force 31st December, 1885..... | 570 | 607,235 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st Dec, 1885.

| | Five year risks. | Total. |
|---|------------------|-----------|
| | \$ cts. | \$ cts. |
| Amount of face of all premium notes held by Company and legally liable to assessment..... | 14,604 75 | 14,604 75 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 12,206 60 | 12,206 60 |
| Amount of premium notes received during the year 1885..... | 2,229 87 | 2,229 87 |

FORMOSA MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, FORMOSA.

*Commenced business 22nd May, 1880.**President*—ANDREW WAECHTER.*Secretary*—JULIUS NOLL.

Unassessed premium note capital, \$13,261.20.

ASSETS.

| | |
|--|--------------------|
| Amount of cash on hand at head office..... | \$546 60 |
| “ “ in Agents’ hands, acknowledged by them to be due, and considered good | 149 88 |
| Amount of unpaid assessments which were levied during 1885..... | 4 08 |
| “ “ “ “ in prior years (not extended | \$2 40 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | 13,261 20 |
| Total assets..... | <u>\$13,961 76</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|---|-----------------|
| Cash at head office, as per last statement (not extended) | \$1,148 71 |
| Cash received as first payments, being part payment of premium notes .. | \$118 28 |
| “ for assessments levied in 1885 | 198 88 |
| “ “ “ before 1885..... | 10 96 |
| “ for interest | 37 25 |
| Cash from sundries | 17 54 |
| Total receipts..... | <u>\$382 91</u> |

EXPENDITURE.

Expenses of Management:

| | |
|---|-----------------|
| Amount paid for statutory assessment or certificate | \$9 02 |
| “ salaries | 84 80 |
| “ postage, telegrams and express | 4 20 |
| “ investigation of claims | 7 00 |
| “ printing and stationery | 5 00 |
| Total expenses of management | \$110 02 |
| Cash paid for losses which occurred during 1885..... | 875 00 |
| Total expenditure | <u>\$985 02</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 442,515 | 00 | 442,515 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 258 | 298,874 | 00 |
| “ new and renewed during 1885 | 222 | 206,790 | 00 |
| Gross number during 1885..... | 480 | 505,664 | 00 |
| Less expired and cancelled in 1885..... | 62 | 63,149 | 00 |
| Net risks in force 31st December, 1885 | 418 | 442,515 | 00 |

CLASSIFICATION OF RISKS :

Farm and Non-hazardous.

PREMIUM NOTES AND UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 14,058 | 00 | 14,058 | 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 13,261 | 20 | 13,261 | 20 |
| Amount of premium notes received during the year 1885..... | 6,644 | 00 | 6,644 | 00 |

GERMANIA FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, NEAR NEUSTADT.

*Commenced business 16th March, 1878.**President*—JNO. ROEDDING.*Secretary*—GEO. HOPF.

Unassessed premium note capital, \$16,735.31.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office | \$41 10 |
| Amount unpaid of assessments levied before 1885 (not extended).. | \$3.50 |
| Amount of premium notes in force after deducting all payments thereon and assessments levied..... | 16,735 31 |
| Total assets | <u>\$16,776 41</u> |

LIABILITIES.

| | |
|-------------------------------------|----------------|
| Amount due Manager for salary | \$55 50 |
| Total liabilities..... | <u>\$55 50</u> |

RECEIPTS.

| | |
|--|-----------------|
| Cash at head office as per last statement (not extended)..... | \$14 36 |
| Cash received for membership fees (not being part payment of premium notes) | \$39 00 |
| Cash received for assessments levied in years prior to 1885 | 97 85 |
| “ for certain fees..... | 2 00 |
| Total receipts | <u>\$138 85</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for commission..... | \$1 50 |
| “ statutory assessment or certificate..... | 19 50 |
| “ printing, stationery and advertising..... | 16 70 |
| “ rent and taxes | 1 00 |
| “ salaries, directors' and auditors' fees | 60 40 |
| “ travelling expenses | 5 00 |
| “ postage, telegrams and express..... | 4 41 |
| Expenses of management | <u>\$108 51</u> |

Miscellaneous Payments :

| | |
|--|-----------------|
| Cash paid for losses which occurred during 1885..... | 3 60 |
| Total expenditure | <u>\$112 11</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 710,470 | 00 | 710,470 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 515 | 646,365 | 00 |
| “ new and renewed during 1885 | 162 | 218,355 | 00 |
| Gross number during 1885..... | 677 | 864,720 | 00 |
| Less expired and cancelled in 1885..... | 122 | 154,250 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 555 | 710,470 | 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Five year risks. | | Total. | |
|---|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 18,089 | 75 | 18,089 | 75 |
| Amount of all premium notes after deducting all payments thereon and assessments levied .. | 16,735 | 31 | 16,735 | 31 |
| Amount of premium notes received during the year 1885..... | | | 5,261 | 00 |

 THE GLOBE MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, BRANTFORD.

Commenced business 5th November, 1873.

 President—JOHN STRICKLAND.

Secretary—EDWIN SIMS.

Unassessed premium note capital, \$12,696.36.

 ASSETS.

| | | |
|---|----------|--------------------|
| Actual cash on hand at head office | \$50 71 | |
| Cash on deposit to the Company's credit, not drawn against, in Canadian Bank of Commerce agency at Brantford | 593 55 | |
| “ Royal Loan and Savings' Company, Brantford | 1,700 00 | |
| | | 2,344 26 |
| Cash in agents' hands, acknowledged by them to be due, and considered good | | 19 42 |
| Amount of unpaid assessments levied during 1885 | | 520 19 |
| “ “ “ before 1883, not extended.. \$1,176 50 | | |
| “ notes or due bills less than one year overdue | | 67 45 |
| “ premium notes in force, after deducting all payments thereon and assessments levied | | 12,696 36 |
| “ of interest accrued | | 42 66 |
| “ Postage stamps | | 11 72 |
| Total assets | | <u>\$15,702 06</u> |

 LIABILITIES.

| | | |
|-------------------------------------|--|-----------------|
| Amount of losses reported | | \$325 00 |
| “ due directors | | 107 95 |
| Total liabilities | | <u>\$432 95</u> |

 RECEIPTS.

| | | |
|--|------------|-------------------|
| Cash on hand, as per last statement, not extended | \$1,553 65 | |
| Cash received as first payments, being part payment of premium notes | | \$1,207 65 |
| “ for assessments levied in 1885 | | 1,155 06 |
| “ “ “ years prior to 1885 | | 171 93 |
| “ transfer fees, etc. | | 18 50 |
| “ interest | | 40 11 |
| Total receipts | | <u>\$2,593 25</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Amount paid for commission to agents..... | \$480 37 |
| “ statutory assessment | 22 03 |
| “ printing, stationery and advertising..... | 11 25 |
| “ salaries, directors' and auditors' fees | 585 75 |
| “ postage, telegrams and express..... | 25 09 |
| Expenses of management | <u>\$1,124 49</u> |

Miscellaneous Payments :

| | |
|--|--------------------------|
| Cash paid for losses which occurred during 1885..... | 661 36 |
| “ “ “ rebate, etc. | 16 79 |
| Total expenditure..... | <u><u>\$1,802 64</u></u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Three years. | Total. |
|---------------|-------------------|--------------|------------|
| | \$ c. | \$ c. | \$ c. |
| Mutual | 20,500 00 | 755,841 00 | 776,341 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Total. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 1,144 | 730,207 00 |
| New and renewed during 1885..... | 451 | 333,360 00 |
| Gross number during 1885..... | 1,595 | 1,063,567 00 |
| Less expired and cancelled in 1885..... | 368 | 287,226 00 |
| Net risks in force 31st December, 1885 | 1,227 | 776,341 00 |

† BUSINESS TRANSACTED.

Mercantile and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On policies in force 31st December, 1885.

| | One year risks. | Three year risks. | Total. |
|---|-----------------|-------------------|-----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 388 43 | 18,184 12 | 18,572 55 |
| Amount of all premium notes, after deducting all payments thereon and amounts levied | 329 76 | 12,366 60 | 12,696 36 |
| Amount of premium notes received during the year 1885..... | 288 51 | 7,087 05 | 7,375 56 |

 THE GRAND RIVER FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, YORK.

*Business commenced 15th April, 1875.**President*—DAVID LINDSAY.*Secretary*—F. A. NELLES.

Unassessed premium note capital, \$4,622.10.

ASSETS.

| | | |
|---|----------|-------------------|
| Actual cash on hand at head office | \$61.35 | |
| Cash on deposit to the Company's credit, not drawn against, in Hamilton Bank Agency, Hamilton..... | \$550.00 | |
| | | \$611 35 |
| Cash in agents' hands, acknowledged by them to be due, and considered good. | | 35 00 |
| Amount unpaid of assessments levied in 1885 | | 206 33 |
| “ “ “ “ before 1885 (not extended).. | \$27.92 | |
| Amount of premium notes in force after deducting all payments thereon and assessments levied | | 4,622 10 |
| Amount of unpaid licenses | | 7 00 |
| | | <hr/> |
| Total assets | | <u>\$5,481 78</u> |

LIABILITIES—None.

RECEIPTS.

| | | |
|---|----------|-----------------|
| Cash at head office and in bank, as per last statement (not extended) | \$807.89 | |
| Cash received at taking of applications | | \$19 25 |
| “ for assessments levied in 1885 | | 815 84 |
| “ for assessments levied in years prior to 1885 | | 107 62 |
| “ for sale of licenses | | 3 00 |
| “ for interest | | 10 04 |
| | | <hr/> |
| | | <u>\$955 75</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|----------|
| Amount paid for statutory assessment | \$12 27 |
| “ printing and advertising | 8 75 |
| “ salaries, directors' and auditors' fees | 166 00 |
| “ travelling expenses | 4 00 |
| “ postage, telegrams, express and stationery | 14 40 |
| “ incidental expenses | 1 00 |
| | <hr/> |
| Total expenses of management | \$206 42 |

Miscellaneous payments :

| | |
|---|-------------------|
| Cash paid for losses which occurred during 1883 | 945 00 |
| “ “ refund | 87 |
| | <hr/> |
| Total expenditure | <u>\$1,152 29</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force, 31st December, 1885.

| SYSTEM. | Three years. | Total. |
|--------------|--------------|------------|
| | \$ c. | \$ c. |
| Mutual | 413,910 00 | 413,910 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|------------------|
| Policies in force 31st December, 1884 | 306 | \$ c. 406,815 |
| “ new and renewed during 1885 | 94 | 110,625 |
| Gross number during 1885 | 400 | 517,440 00 |
| Less expired and cancelled in 1885 | 90 | 103,530 00 |
| Net risks in force on mutual system 31st December, 1885 | 310 | 413,910 00 |

CLASSIFICATION OF RISKS.

All Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | Three year risks. | Total. |
|--|-------------------|----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 6,287 76 | 6,287 76 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 4,622 10 | 4,622 10 |
| Amount of premium notes received during the year 1885 | 1,678 85 | 1,678 85 |

GREY AND BRUCE MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, HANOVER.

Commenced business 6th July, 1878.

President—DAVID McNICOL.

Secretary—JONATHAN O'NEILL.

Unassessed premium note capital, \$11,748.65,

ASSETS.

| | |
|--|--------------------|
| Cash on deposit to the Company's credit, not drawn against, in the Central Bank agency at Durham | \$1,836 02 |
| Amount unpaid of assessments of 1885 | 324 15 |
| “ prior assessments (not extended)..... \$115 77 | |
| Amount of premium notes in force after deducting all payments thereon and assessments levied..... | 11,748 65 |
| Total assets | <u>\$13,908 82</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-----------------|
| Cash at head office, as per last statement (not extended)..... | \$4.37 |
| Cash received for assessments levied of 1885 | \$433 25 |
| “ “ years prior to 1885 | 38 69 |
| “ interest | 60 45 |
| Total receipts | <u>\$532 39</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for printing, stationery and advertising..... | \$27 35 |
| “ salaries, directors' and auditors' fees..... | 177 00 |
| “ statutory assessment | 20 12 |
| “ postage | 19 00 |
| Expenses of management | <u>\$243 47</u> |

Miscellaneous Payments :

| | |
|--|-----------------|
| Cash paid for losses which occurred during 1885..... | 16 67 |
| “ safe | 140 60 |
| Total expenditure | <u>\$400 74</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year. | Two years. | Three years. | Four years. | Five years. | Total. |
|--------------|-----------|------------|--------------|-------------|-------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual. | 900 00 | 6,825 00 | 298,808 00 | 14,630 00 | 348,166 00 | 669,329 00 |

MOVEMENT OF RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 619 | 666,779 00 |
| “ new and renewed during 1885 | 146 | 129,575 00 |
| Gross number during 1885 | 765 | 796,354 00 |
| Less expired and cancelled in 1885 | 134 | 127,025 00 |
| Net risks in force 31st December, 1885 | 631 | 669,329 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | One year risk. | Two year risks. | Three year risks. | Four year risks. | Five year risks. | Total. |
|--|----------------|-----------------|-------------------|------------------|------------------|-----------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment. | 12 20 | 58 63 | 4,609 25 | 269 85 | 8,628 48 | 13,578 41 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 10 00 | 57 63 | 4,050 72 | 196 80 | 7,433 50 | 11,748 65 |
| Amount of premium notes received during the year 1885. | 5 00 | 42 63 | 1,846 39 | 29 50 | ..... | 1 923 52 |

GUELPH TOWNSHIP MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, GUELPH TOWNSHIP, LOT 6, CON. 1, DIV. B.

Commenced business 16th February, 1860.

President—JOHN HOBSON.

Secretary—WM. WHITELAW.

Unassessed premium note capital, \$19,392.05.

ASSETS.

| | |
|---|--------------------|
| Actual cash on hand at head office | \$98 91 |
| “ in Bank of Commerce, Guelph | 500 00 |
| Amount of premium notes in force after deducting all payments thereon and assessments levied | 19,392 05 |
| Total assets | <u>\$19,990 96</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-----------------|
| Cash at head office, as per last statement (not extended) | \$118 43 |
| Cash received as first payments, being part payment of premium notes.. | \$202 82 |
| “ for assessments levied in 1884 | 376 95 |
| Total receipts | <u>\$579 77</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|----------------|
| Amount paid for statutory assessment or certificate | \$13 19 |
| “ printing, stationery and advertising | 22 00 |
| “ salaries, directors' and auditors' fees | 49 00 |
| “ postage, telegrams and express | 5 10 |
| “ commission | 10 00 |
| Total expenditure | <u>\$99 29</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 459,340 | 00 | 459,340 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 243 | 437,315 | 00 |
| “ new and renewed during 1885 | 91 | 149,890 | 00 |
| Gross number and amount during 1885..... | 334 | 587,205 | 00 |
| Less expired and cancelled in 1885..... | 70 | 127,865 | 00 |
| Net risks in force 31st December, 1885 | 264 | 459,340 | 00 |

CLASSIFICATION OF RISKS.

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 21,109 | 00 | 21,109 | 00 |
| Amount of premium notes, after deducting all payments thereon and assessments levied | 19,392 | 05 | 19,392 | 05 |
| Amount of premium notes received during the year 1885 | 7,029 | 00 | 7,029 | 00 |

HAY TOWNSHIP FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ZURICH.

*Commenced business 3rd February, 1875.**President*—J. B. GEIGER.*Secretary*—HENRY EILBER.

Unassessed premium note capital, \$42,961.29.

ASSETS.

| | |
|--|--------------------|
| Cash on hand at Head Office, and on deposit to Company's credit in Molson's Bank at Exeter | \$1,512 81 |
| Amount of unpaid assessments levied before 1885, not extended | 18 85 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 42,961 29 |
| Safe (not extended) | |
| Total assets | <u>\$44,474 10</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|---|-----------------|
| Cash at Head Office, as per last statement (not extended) .. | \$1,588 66 |
| Cash received as first payments, being part payment of premium notes .. | 232 45 |
| “ for assessments levied before 1885 | 20 84 |
| “ “ interest | 56 00 |
| Total receipts | <u>\$309 29</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|---------------|
| Amount paid for statutory assessment | \$47 01 |
| “ printing, stationery and advertising | 29 25 |
| “ salaries, directors' and auditors' fees | 116 80 |
| “ travelling expenses | 4 50 |
| “ postage, telegrams and express | 20 00 |
| “ investigation and adjustment of claims | 3 50 |
| “ other expenses | 8 75 |
| Expenses of management | <u>229 81</u> |

Miscellaneous Payments :

| | |
|---|-----------------|
| Cash paid for losses which occurred during 1885 | 155 33 |
| Total expenditure | <u>\$385 14</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|--------------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual System..... | 1,669,787 | 00 | 1,669,787 | 00 |

MOVEMENT OF RISKS.

Mutual System.

| | Number. | Amount. | |
|---|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884 | 1247 | 1,544,972 | 00 |
| “ new and renewed during 1885 | 332 | 459,550 | 00 |
| Gross number during 1885..... | 1579 | 2,004,522 | 00 |
| Less expired and cancelled in 1885..... | 290 | 334,735 | 00 |
| Net risks in force on Mutual system, 31st December, 1885..... | 1289 | 1,669,787 | 00 |

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | | Total. | |
|--|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company and legally liable to assessment..... | 45,544 | 13 | 45,544 | 13 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 42,961 | 29 | 42,961 | 29 |
| Amount of premium notes renewed during the year 1885 | 12,984 | 60 | 12,984 | 60 |

HOPEWELL CREEK MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, NEW GERMANY.

*Commenced business 3rd March, 1880.**President*—EDWARD HALTER.*Secretary*—ANTON FRANK.

Unassessed premium note capital, \$43,541.97.

ASSETS.

| | |
|---|--------------------|
| Actual cash in hand at head office | \$41 73 |
| Amount unpaid of assessments levied in 1885 | 102 00 |
| “ “ “ “ prior years (not extended) \$12 00 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | \$43,541 97 |
| Total assets | <u>\$43,685 70</u> |

LIABILITIES.

| | |
|-------------------------------|-----------------|
| Amount of adjusted loss | \$300 00 |
| Total liabilities | <u>\$300 00</u> |

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended) | \$202 45 |
| Cash received as first payments, being part payment of premium notes ... | \$3 15 |
| “ for assessments levied in 1885 | 1,094 01 |
| “ for assessments levied in prior years | 134 80 |
| “ for money borrowed | 750 00 |
| Total receipts | <u>\$1,981 96</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for investigation and adjustment of claims..... | \$9 00 |
| “ printing | 26 79 |
| “ salaries, directors' and auditors' fees..... | 166 00 |
| “ statutory assessment | 23 34 |
| “ travelling expenses..... | 5 00 |
| “ postage, etc..... | 37 91 |
| “ commission | 1 88 |
| “ interest | 43 58 |
| “ incidentals | 6 60 |
| Expenses of management | \$320 10 |

Miscellaneous Payments :

| | |
|---|-------------------|
| Cash paid for losses which occurred before 1885 | \$754 58 |
| “ repayment of loans | 1,050 00 |
| “ interest | 18 00 |
| Total expenditure..... | \$2,142 68 |

CURRENCY OF RISKS.

Amount covered by Policies in force, 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|--------------|-------------|------------|
| | \$ c. | \$ c. |
| Mutual | 843,749 00 | 843,749 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 731 | 773,583 00 |
| “ new and renewed during 1885..... | 221 | 240,655 00 |
| Gross number during 1885..... | 952 | 1,014,238 00 |
| Less expired and cancelled in 1885..... | 166 | 170,489 00 |
| Net risks in force on mutual system, 31st December, 1885 | 786 | 843,749 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | Total. |
|---|------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company and legally liable to assessment | 46,936 76 | 46,936 76 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 43,541 97 | 43,941 97 |
| Amount of premium notes during the year 1885 | 13,437 40 | 13,437 40 |

HOWICK FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, GORRIE.

Commenced business 10th July, 1873.

President—JAMES EDGAR.

Secretary—T. F. MILLER.

Unassessed premium note capital, \$119,327.91.

ASSETS.

| | |
|--|---------------------|
| Actual cash on hand at head office and in private bank..... | \$1,357 45 |
| Amount unpaid of assessments levied during 1885 | 801 70 |
| “ “ “ in prior years (not extended). \$363 87 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | 119,327 91 |
| Total assets | \$121,487 06 |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$373 14 |
| Cash received for assessments levied in 1885..... | \$6,413 85 |
| “ “ “ years prior to 1885..... | 229 23 |
| Cash borrowed..... | 3,300 00 |
| Total receipts | \$9,943 08 |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Amount paid for law costs | \$231 86 |
| “ to agents for commission..... | 132 00 |
| “ for investigation and adjustment of claims..... | 62 20 |
| “ statutory assessment | 79 71 |
| “ printing, stationery and advertising..... | 122 00 |
| “ rent and fuel..... | 7 50 |
| “ salaries, directors' and auditors' fees..... | 752 80 |
| “ interest | 202 16 |
| “ postage, telegrams and express..... | 55 27 |
| “ other expenses | 50 01 |
| Expenses of management..... | \$1,695 51 |

Miscellaneous Payments :

| | |
|--|-------------------|
| Cash paid for losses which occurred prior to 1885..... | \$2,783 90 |
| “ “ during 1885 | 1,179 36 |
| “ repayment of loans..... | 3,963 26 |
| Total expenditure | \$8,958 77 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 2,893,268 | 00 | 2,893,268 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|--|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 2,063 | 2,641,861 | 00 |
| “ new and renewed during 1885..... | 462 | 616,595 | 00 |
| Gross number during 1885..... | 2,525 | 3,258,456 | 00 |
| Less expired and cancelled in 1885..... | 324 | 365,188 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 2,201 | 2,893,268 | 00 |

CLASSIFICATION OF RISKS:

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | | Total. | |
|---|------------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 146,103 | 40 | 146,103 | 40 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 119,327 | 91 | 119,327 | 91 |
| Amount of premium notes received during the year..... | 32,047 | 00 | 32,047 | 00 |

 THE HURON AND MIDDLESEX MUTUAL FIRE INSURANCE COMPANY

HEAD OFFICE, LONDON.

Commenced business 17th December, 1878.

 President—L. C. LEONARD.

Secretary—JOHN STEPHENSON.

Unassessed premium note capital, \$48,837.80.

 ASSETS.

| | |
|--|-------------|
| Amount of mortgage | \$1,000 00 |
| Actual cash on hand at head office | 90 18 |
| “ in Bank of London | 112 56 |
| Cash in agents' hands acknowledged by them to be due and considered good | 1,066 79 |
| Amount unpaid of assessments levied during 1885 | 1,466 88 |
| “ “ “ before 1885, not extended. \$1,006 77 | |
| Amount of short date notes, or due bills, less than one year overdue | 2,387 12 |
| “ premium notes in force, after deducting all payments thereon and assessments levied \$48,837 80 | |
| “ less residue of premium notes given for reinsurance. 562 12 | |
| | 48,275 68 |
| “ accrued interest on mortgage | 15 00 |
| Total assets | \$54,414 21 |

LIABILITIES.

| | |
|---------------------------------|------------|
| Amount of losses adjusted | \$2,530 50 |
| “ “ resisted | 650 00 |
| “ bills payable | 1,500 00 |
| “ salaries and rent | 759 00 |
| Total liabilities | \$5,439 50 |

RECEIPTS.

| | |
|---|-------------|
| Cash at head office, as per last statement (not extended) | \$295 12 |
| Cash received at taking of applications | \$140 16 |
| “ as first payments, being part payment of premium notes ... | 11,228 71 |
| “ for assessments levied in 1885 | 6,448 40 |
| “ “ “ in prior years | 675 15 |
| <i>Carried forward</i> | \$18,492 42 |

| | |
|---|------------------------|
| <i>Brought forward</i> | \$18,492 42 |
| Cash received for interest | 38 35 |
| “ from transfers and extra premiums | 62 55 |
| “ from re-insurance | 990 07 |
| “ for return fire claims | 100 11 |
| “ for rent | 65 25 |
| “ from loan | 100 00 |
| “ from other sources | 90 30 |
| Total receipts | <u>\$19,939 05</u> |

EXPENDITURE

Expenses of Management :

| | |
|---|-----------------------|
| Amount paid for commission to agents | \$1,735 20 |
| “ “ fuel and light | 29 53 |
| “ “ investigation and adjustment of claim | 113 74 |
| “ “ interest | 216 08 |
| “ “ statutory assessment | 52 13 |
| “ “ printing, stationery and advertising | 439 81 |
| “ “ rent and taxes | 204 00 |
| “ “ salaries, Directors' and Auditors' fees | 2,529 70 |
| “ “ travelling expenses | 616 62 |
| “ “ postage, telegrams and express | 189 75 |
| “ “ law costs | 241 53 |
| “ “ mercantile agency | 50 00 |
| “ “ incidental expenses | 23 10 |
| Expenses of management | <u>\$6,441 19</u> |

Miscellaneous Payments :

| | |
|---|------------------------|
| Cash paid for losses which occurred prior to 1885 | \$2,927 73 |
| “ “ “ “ during 1885 | 7,218 13 |
| | <hr/> |
| | 10,175 86 |
| “ “ reinsurance | 220 78 |
| “ “ returned premiums | 436 65 |
| Total expenditure | <u>\$17,274 48</u> |

CURRENCY OF RISKS.

Amount Covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Three years. | Total. |
|--|-------------------|--------------|--------------|
| | \$ c. | \$ c. | \$ c. |
| Mutual..... | 275,560 00 | 1,605,647 00 | 1,881,207 00 |
| Reinsured..... | 8,450 00 | 15,275 00 | 23,725 00 |
| Net risks carried by Company 31st December, 1885.... | 267,110 00 | 1,590,372 00 | 1,857,482 00 |

MOVEMENTS IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 1,626 | 1,115,434 00 |
| New and renewed during 1885..... | 1,246 | 860,915 00 |
| Gross number during 1885..... | 2,872 | 1,976,349 00 |
| Less expired and cancelled in 1885..... | 126 | 95,142 00 |
| Net risks in force 31st December, 1885..... | 2,746 | 1,881,207 00 |

BUSINESS TRANSACTED :

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | One year risks. | Three year risks. | Total. |
|--|-----------------|-------------------|-----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of all premium notes, December 31, 1885, after deducting all payments thereon and assessments levied..... | | | 48,837 80 |
| Amount of premium notes received during the year 1885 | 11,301 53 | 23,931 98 | 35,233 51 |
| Residue of premium notes given for reinsurance during the year 1885..... | 123 10 | 429 02 | 562 12 |

THE LAMBTON FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WATFORD.

Commenced business 5th November, 1875.

President—GEORGE DEWAR.

Secretary—W. G. WILLOUGHBY.

Unassessed premium note capital, \$22,528.64.

ASSETS.

| | |
|---|--------------------|
| Market value of shares, bonds, debentures and securities | \$100 00 |
| Cash on hand | 38 04 |
| “ deposit, to Company's credit, in Bank of London, Watford | 4,539 05 |
| “ in agents' hands | 32 |
| Amount of short date notes, or due bills, less than one year overdue | 908 23 |
| “ “ “ “ one year or more overdue (not extended | \$18.90 |
| “ premium notes in force, after deducting all payments thereon and assessments levied | 22,528 64 |
| Total assets | <u>\$28,114 28</u> |

LIABILITIES.

| | |
|-------------------------|---------------|
| Due to Agents | \$2 20 |
| Total liabilities | <u>\$2 20</u> |

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office, as per last statement (not extended) | \$3,028,98 |
| Cash received as first payments, being part payment of premium notes .. | \$5,036 78 |
| “ for interest | 140 63 |
| “ “ debentures | 1,350 00 |
| Total receipts | <u>\$6,527 41</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Amount paid for commission to agents | \$419 50 |
| “ “ statutory assessment | 69 09 |
| “ “ printing, stationery and advertising | 130 75 |
| “ “ salaries, directors' and auditors' fees | 457 00 |
| “ “ postage, telegrams and express | 63 62 |
| “ “ travelling expenses | 17 70 |
| “ “ other “ | 31 44 |
| Total expenses of management .. | <u>\$1,189 10</u> |

Miscellaneous Payments :

| | |
|---|-------------------|
| Cash paid for losses which occurred during 1885 | \$2,631 65 |
| “ “ rebate | 158 55 |
| “ “ investment | 1,000 00 |
| Total expenditure | <u>\$4,979 30</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st Dec., 1885.

| SYSTEM. | Three years. | | Total. | |
|-------------|--------------|------|-----------|------|
| | \$ | cts. | \$ | cts. |
| Mutual..... | 2,511,757 | 00 | 2,511,757 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|-----------|------|
| | | \$ | cts. |
| Policies in force 31st December, 1884..... | 2,108 | 2,271,419 | 00 |
| “ new and renewed during 1885..... | 841 | 882,955 | 00 |
| Gross number during 1885..... | 2,949 | 3,154,374 | 00 |
| Less expired and cancelled in 1885..... | 649 | 642,617 | 00 |
| Net risks 31st December, 1885..... | 2,300 | 2,511,757 | 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | Three year risks. | | Total. | |
|---|-------------------|------|--------|------|
| | \$ | cts. | \$ | cts. |
| Amount of face of all premium notes held by Company and legally liable to assessment..... | 37,613 | 35 | 37,613 | 35 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 22,528 | 64 | 22,528 | 64 |
| Amount of premium notes received during the year 1885..... | 13,228 | 23 | 13,228 | 23 |

 LENNOX AND ADDINGTON MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, NAPANEE.

Commenced business 17th August, 1876.

 President—J. B. AYLESWORTH.

Secretary—CHARLES JAMES.

Unassessed premium note capital, \$6,942.92.

 ASSETS.

| | | |
|--|----------|-------------------|
| Actual cash on hand at head office | \$213 28 | |
| “ deposit to Company’s credit in Merchants’ Bank, Napanee | 711 20 | |
| | | \$924 48 |
| Amount unpaid of assessments levied during 1885 | | 225 00 |
| “ “ in prior years (not extended). \$249 47 | | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 6,942 92 |
| Total assets | | <u>\$8,092 40</u> |

LIABILITIES.

| | |
|--|-------------------|
| Amount of adjusted losses | \$5 00 |
| “ unpaid loans from banks or other sources | 1,000 00 |
| “ interest accrued thereon | 40 83 |
| “ unpaid salaries and fees | 76 48 |
| Total liabilities | <u>\$1,122 31</u> |

RECEIPTS.

| | | |
|---|------------|-------------------|
| Cash at head office, as per last statement (not extended) | \$2,202 69 | |
| Cash received for assessments levied in 1885 | | \$1,206 41 |
| “ “ years prior to 1885 | | 334 27 |
| “ interest | | 16 55 |
| Cash borrowed | | 1,295 10 |
| “ from other sources | | 3 05 |
| Total receipts | | <u>\$2,855 38</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|---------------|
| Amount paid for commission | \$88 00 |
| “ statutory assessment | 23 71 |
| “ printing, stationery and advertising | 27 00 |
| “ salaries, directors’ and auditors’ fees | 120 98 |
| “ postage | 23 07 |
| “ legal expenses | 15 12 |
| “ interest | 149 44 |
| “ incidentals | 25 93 |
| Expenses of Management (<i>carried forward</i>) | <u>473 25</u> |

| | |
|--|-------------------|
| Expenses of Management (<i>brought forward</i>)..... | \$473 25 |
| <i>Miscellaneous Payments:</i> | |
| Cash paid for losses which occurred prior to 1885..... | 320 34 |
| “ “ “ during 1885 | 990 00 |
| Payment of loans..... | 2,350 00 |
| Total expenditure | <u>\$4,133 59</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|-------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 514,840 | 00 | 514,840 | 00 |

MOVEMENT IN RISKS.

Mutual System

| | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 667 | 785,701 00 |
| “ new and renewed during 1885 | 120 | 113,024 00 |
| Gross number during 1885..... | 787 | 898,725 00 |
| Less expired and cancelled in 1885..... | 300 | 383,885 00 |
| Net risk in force on mutual system 31st December, 1885..... | 487 | 514,840 00 |

CLASSIFICATION OF RISKS.

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | Total. |
|---|-------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company and legally liable to assessment..... | 15,221 65 | 15,221 65 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 6,942 92 | 6,942 92 |
| Amount of premium notes received during the year 1885..... | 2,528 06 | 2,528 06 |

LOBO MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, COLDSTREAM.

Commenced business 11th August, 1882.

President—ALEX. GRAY.

|

Secretary—J. T. WOOD.

Unassessed premium note capital, \$11,619.26.

ASSETS.

| | |
|--|-------------|
| Actual cash on hand at head office | \$870 26 |
| Amount unpaid of assessments levied in 1885 | 76 27 |
| “ “ “ 1883 (not extended) . . . \$17 70 | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 11,619 26 |
| Total assets | \$12,565 79 |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|----------|
| Cash at Head Office, as per last statement (not extended) | \$773 89 |
| Cash received as first payments, being part payment of premium notes . . | \$372 43 |
| “ for assessments levied in 1885 | 195 16 |
| “ “ “ before 1885 | 30 88 |
| “ interest | 44 59 |
| “ transfer fee | 0 25 |
| Total receipts | \$643 31 |

EXPENDITURE.

Expenses of Management :

| | |
|---|----------|
| Amount paid for statutory assessment | \$ 7 59 |
| “ printing and stationery | 14 50 |
| “ salary | 79 00 |
| “ agents' commission | 39 50 |
| “ incidentals | 1 75 |
| Expenses of management | 142 34 |
| Cash paid for losses which occurred during 1885 | 404 60 |
| Total expenditure | \$546 94 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 315,339 | 00 | 315,339 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| --- | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 196 | 251,645 | 00 |
| “ taken during 1885, new and renewed..... | 140 | 184,465 | 00 |
| Gross numbers and amount during 1885 | 336 | 436,110 | 00 |
| Deduct expired and cancelled in 1885 | 94 | 120,771 | 00 |
| Net risks in force on mutual system, 31st December, 1885 | 242 | 315,339 | 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| --- | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 17,446 | 86 | 17,446 | 86 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 11,619 | 26 | 11,619 | 26 |
| Amount of premium notes received during the year 1885 | 7,402 | 40 | 7,402 | 40 |

LONDON TOWNSHIP MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ARVA.

*Commenced business 27th May, 1882.**President*—EDWARD ROBERTS.*Secretary*—ED. DANN.

Unassessed premium note capital, \$13,206.80.

ASSETS.

| | | |
|--|----|--------------------|
| Cash in Royal Standard Loan Company at 31st December, 1885 | \$ | 81 04 |
| Amount unpaid of assessments levied during 1885 | | 49 95 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 13,206 80 |
| Total assets | | <u>\$13,337 79</u> |

LIABILITIES--NONE.

RECEIPTS.

| | | |
|--|---------|-------------------|
| Cash on hand at head office (not extended) | \$91.70 | |
| “ received for assessments levied in 1885 | | \$1,290 66 |
| “ “ “ during 1884 | | 18 15 |
| “ “ interest | | 7 19 |
| “ “ carpenters' risk, etc. | | 3 12 |
| Total receipts | | <u>\$1,319 12</u> |

EXPENDITURE.

Expenses of Management:

| | | |
|--|--|-------------------|
| Amount paid for commission to agents | | \$111 00 |
| “ statutory assessment | | 14 28 |
| “ printing, stationery and advertising | | 27 55 |
| “ salaries, directors' and auditors' fees .. | | 25 70 |
| “ postage | | 18 25 |
| Total expenses of management | | <u>196 78</u> |
| Cash paid for losses during 1885 | | 1,133 00 |
| Total expenditure | | <u>\$1,329 78</u> |

CURRENCY OF RISKS.

Amount covered by policies in force 31st December, 1885.

| SYSTEM. | Three years. | Four years. | Five years. | Total. |
|--------------|--------------|-------------|--------------|--------------|
| Mutual | \$233,987 00 | \$5,850 00 | \$358,143 00 | \$597,980 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 398 | 473,445 00 |
| “ taken during 1885, new and removed..... | 111 | 142,085 00 |
| Gross number during 1885..... | 509 | 615,530 00 |
| Deduct expired and cancelled in 1885..... | 20 | 17,550 00 |
| Net risks in force 31st December, 1885..... | 489 | 597,980 00 |

PREMIUM NOTES OR UNDERTAKINGS.

| | Three years. | Four years. | Five years. | Total. |
|--|--------------|-------------|-------------|-----------|
| | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 4,260 95 | 136 80 | 11,104 33 | 15,502 08 |
| Amount of all premium notes on policies in force December 31st, 1885, after deducting all payments thereon, and assessments levied | | | | 13,206 80 |
| Amount of premium notes received during the year 1885 | 2,375 64 | | 361 05 | 2,736 69 |

 MCGILLIVRAY MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WEST MCGILLIVRAY.

Commenced business 2nd May, 1877.

 President—ANDREW ROBINSON.

Secretary—WM. FRASER.

Unassessed premium note capital, \$7,641.96.

 ASSETS.

| | |
|--|-------------------|
| Amount of cash at head office | \$ 202 85 |
| Cash loan to municipality | 2,000 00 |
| Amount of notes or due bills less than one year overdue | 135 00 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 7,641 96 |
| Total assets | <u>\$9,979 81</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office, as per last statement (not extended) | \$16 17 |
| Cash received for membership fees, not being part payment of premium notes | \$1,177 20 |
| Cash received for interest | 131 92 |
| “ promissory notes and other securities | 2,091 30 |
| Total receipts | <u>\$3,400 42</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid for statutory assessment | \$8 64 |
| “ printing, etc., etc. | 18 75 |
| “ salary, and auditors' fees | 34 00 |
| “ commission | 100 50 |
| Total expenses of management | <u>\$161 89</u> |

Miscellaneous Payments :

| | |
|---|-------------------|
| Cash paid for losses which occurred during 1885 | \$1,050 00 |
| “ rebate | 1 85 |
| Total expenditure | <u>\$1,213 74</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | Total. |
|-------------|--------------|------------|
| | \$ c. | \$ c. |
| Mutual..... | 318,465 00 | 318,465 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies in force December 31st, 1884 | 288 | 286,185 00 |
| “ taken during 1885, new and renewed..... | 201 | 218,700 00 |
| Gross number and amount of risks in force on 31st December, 1885 | 489 | 504,885 00 |
| Deduct, expired and cancelled in 1885 | 175 | 186,420 00 |
| Net risks in force December 31st, 1885 | 314 | 318,465 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On policies in force 31st December, 1885.

| | Three year risks. | Total. |
|--|-------------------|----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessments | 7,641 96 | 7,641 96 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 7,641 96 | 7,641 96 |
| Amount of premium notes received during year 1885..... | 6,561 00 | 6,561 00 |

McKILLOP MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, LOT 17, CON. 5, M'KILLOP.

Commenced business May 20th, 1876.

President—THOS. E. HAYES.

Secretary—W. J. SHANNON.

Unassessed premium note capital, \$42,592.98.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office..... | \$29 99 |
| Amount unpaid of assessments levied during 1885..... | 381 46 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | 42,592 98 |
| Total assets | <u>\$43,004 43</u> |

LIABILITIES.—NONE.

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$579 36 |
| Cash received for assessments levied in 1885..... | \$3,551 34 |
| “ “ “ years prior to 1885..... | 178 55 |
| “ interest..... | 17 60 |
| “ threshing permits etc..... | 55 35 |
| “ borrowed..... | 1,700 00 |
| Total receipts..... | <u>\$5,502 84</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for law costs..... | \$463 26 |
| “ investigation and adjustment of claims..... | 19 90 |
| “ travelling expenses..... | 15 00 |
| “ statutory assessment..... | 63 24 |
| “ printing, stationery and advertising..... | 27 50 |
| “ salaries, directors' and auditors' fees..... | 471 05 |
| “ postage, telegrams and express..... | 46 37 |
| “ interest..... | 90 44 |
| Total expenses of management..... | <u>\$1,196 76</u> |

Miscellaneous Payments :

| | |
|--|-------------------|
| Cash paid for losses which occurred before 1885..... | \$1,587 00 |
| “ “ during 1885..... | 1,151 98 |
| | <u>\$3,098 98</u> |
| “ rebate and returned premiums..... | 29 97 |
| “ repayment of loans..... | 1,700 00 |
| “ book case..... | 6 50 |
| “ reward, extinguishment of fire..... | 20 00 |
| Total expenditure..... | <u>\$6,052 21</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|--------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual | 2,075,853 | 75 | 2,075,853 | 75 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|---|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884 | 1656 | 2,095,713 | 75 |
| “ new and renewed during 1885..... | 313 | 413,165 | 00 |
| Gross number during 1885..... | 1969 | 2,508,878 | 75 |
| Less expired and cancelled in 1885..... | 368 | 433,025 | 00 |
| Net risks in force on mutual system, 31st December, 1885..... | 1601 | 2,075,853 | 75 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force December 31st, 1885.

| | Five year risks. | | Total. | |
|--|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 54,362 | 08 | 54,362 | 08 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 42,592 | 98 | 42,592 | 98 |
| Amount of premium notes renewed during the year 1885..... | 10,904 | 00 | 10,904 | 00 |

 NICHOL MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, FERGUS.

*Commenced business 1st May, 1860.**President*—WILLIAM TAYLOR.*Secretary*—JOHN BEATTIE,

Unassessed premium note capital, \$59,464.67.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office..... | \$ 2,367 96 |
| Amount unpaid of assessments levied during 1885 | 2,831 95 |
| “ “ in prior years (not extended)...\$430 20 | |
| “ of short date notes or due bills, less than one year overdue..... | 327 19 |
| “ “ “ one year or more overdue (not extended)..... | \$137 08 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied.. | 59,464 67 |
| Total assets | <u>\$64,991 77</u> |

LIABILITIES.

| | |
|---------------------------------|-------------------|
| Amount of losses adjusted | 2,538 50 |
| “ “ supposed | 250 00 |
| “ “ money borrowed..... | 3,250 00 |
| Total liabilities | <u>\$6,038 50</u> |

RECEIPTS.

| | |
|---|--------------------|
| Cash at head office as per last statement (not extended)..... | \$616 40 |
| Cash received for assessments on cancelled policies..... | 1 58 |
| “ as first payments, being part payment of premium notes.... | 995 21 |
| “ for assessments levied in 1885..... | 4,010 88 |
| “ “ “ years prior to 1885..... | 834 15 |
| “ for due bills discharged..... | 811 70 |
| “ for interest..... | 33 74 |
| Cash borrowed | 8,500 00 |
| Total receipts .. | <u>\$15,187 26</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|--------|
| Amount paid for interest..... | 119 01 |
| “ investigation and adjustment of claims | 77 00 |
| “ statutory assessment..... | 62 75 |
| “ printing, stationery and advertising..... | 73 85 |
| “ commission..... | 924 00 |

| | |
|------------------------------|-----------------|
| <i>Carried forward</i> | <u>1,256 61</u> |
|------------------------------|-----------------|

| | | |
|---|-----------|--------------------|
| <i>Brought forward</i> | | \$1,256 61 |
| Amount paid for salaries, directors' and auditors' fees | | 726 24 |
| " postage, telegrams and express | | 56 80 |
| " travelling expenses | | 20 00 |
| " incidentals | | 18 63 |
| Expenses of management | | 2,078 28 |
| <i>Miscellaneous Payments:</i> | | |
| Cash paid for losses which occurred prior to 1885 | \$ 603 00 | |
| " " " during 1885 | 5,482 45 | |
| | | 6,085 45 |
| " rebate and refund | | 21 97 |
| Repayment of loans | | 5,250 00 |
| Total expenditure | | <u>\$13,435 70</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force, 31st December, 1885.

| SYSTEM. | Five years. | Total. |
|--------------|----------------|----------------|
| Mutual | \$2,167,207 00 | \$2,167,207 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|-----------------------|
| Policies in force 31st December, 1884 | 1611 | \$ c. 2,080,217 00 |
| " new and renewed during 1885 | 616 | 800,935 00 |
| Gross numbers and amount during 1885 | 2227 | 2,881,152 00 |
| Less expired and cancelled in 1885 | 583 | 713,945 00 |
| Net risks in force on mutual system, 31st December, 1885 | 1644 | 2,167,207 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | Total. |
|--|--------------------|-------------------|
| Amount of face of all premium notes held by Company and legally liable to assessment | \$ c. 71,035 80 | \$. 71,035 80 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 59,464 67 | 59,464 67 |
| Amount of premium notes received during the year 1885 | 31,695 60 | 31,695 60 |

EAST AND WEST MISSOURI AND WEST ZORRA MUTUAL FIRE
INSURANCE COMPANY.

HEAD OFFICE, KINTORE.

Commenced business 25th May, 1873.

President—GEO. A. MUNROE.

Secretary—E. J. PEARSON.

Unassessed premium note capital, \$64,603.34.

ASSETS.

| | |
|---|--------------------|
| Amount unpaid of assessments levied during 1885 | \$1,499 35 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | 64,603 34 |
| Total assets | <u>\$66,102 69</u> |

LIABILITIES.

| | |
|---------------------------------|-------------------|
| Amount of adjusted losses | \$902 50 |
| “ loan | 366 00 |
| “ interest on loan | 11 34 |
| “ due Treasurer | 51 24 |
| Total liabilities | <u>\$1,331 08</u> |

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$107 45 |
| “ received as first payments, being part payment of premium notes ... | \$146 00 |
| “ “ for assessments levied in 1885 | 2,241 33 |
| “ “ “ “ 1884 | 238 66 |
| “ “ at head office for certificates to steam threshers | 12 00 |
| Cash borrowed..... | 2,251 24 |
| Total receipts | <u>\$4,889 23</u> |

EXPENDITURE.

Expenses of Management:

| | |
|--|---------|
| Amount paid for statutory assessment | \$41 63 |
| “ commission to agents | 33 00 |
| “ printing, stationery and advertising..... | 80 90 |
| “ rent | 7 00 |
| “ salaries, directors' and auditors' fees..... | 227 05 |
| “ investigation of claims | 15 00 |
| “ interest | 43 16 |
| “ postage, etc..... | 12 75 |
| “ travelling expenses..... | 2 00 |
| “ incidentals | 4 50 |

Expenses of management (*carried forward*)..... \$466 99

| | | |
|--|------------|-------------------|
| Expenses of management (<i>brought forward</i>)..... | | \$466 99 |
| <i>Miscellaneous Payments :</i> | | |
| Cash paid for losses which occurred before 1885 | \$2,652 69 | |
| " " which occurred during 1885..... | 43 00 | |
| | | 2,695 69 |
| Repayment of loans..... | | 1,834 00 |
| Total expenditure..... | | <u>\$4,996 68</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 1,460,421 | 00 | 1,460,421 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 853 | 1,377,771 | 00 |
| " new and renewed during 1885..... | 146 | 265,780 | 00 |
| Gross number during 1885..... | 999 | 1,643,551 | 00 |
| Less expired and cancelled in 1885..... | 112 | 183,130 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 887 | 1,460,421 | 00 |

CLASSIFICATION OF RISKS:

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Five year risks. | | Total. | |
|--|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 73,021 | 05 | 73,021 | 05 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 64,603 | 34 | 64,603 | 34 |
| Amount of premium notes received during the year 1885..... | 13,289 | 00 | 13,289 | 00 |

 NORFOLK COUNTY FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, SIMCOE.

Commenced business 30th January, 1882.

President—ROBT. Y. MABEE.

Secretary—WM. ROBERTS.

Unassessed premium note capital, \$10,572 10.

ASSETS.

| | |
|---|--------------------|
| Cash on deposit to Company's credit in Federal Bank of Canada, Simcoe.. | \$1,657 50 |
| “ in agents' hands | 85 61 |
| Amount of premium notes in force after deducting all payments thereon and assessments levied | 10,572 10 |
| Amount unpaid of assessments levied during 1884 (not extended).. | \$32.37 |
| “ “ “ “ 1885 | 417 49 |
| Total assets | <u>\$12,732 70</u> |

LIABILITIES.

| | |
|--|-------------------|
| Amount of loss adjusted | \$1,250 00 |
| Bill payable | 700 00 |
| Interest accrued | 50 17 |
| Amount due for salaries, rent, etc | 598 40 |
| Total liabilities | <u>\$2,598 57</u> |

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office as per last statement (not extended)..... | \$939.71 |
| Cash received as first payments on deposits, being part payment of premium notes | \$570 83 |
| Cash received for assessments levied in 1885 | 2,949 97 |
| “ “ “ “ former years..... | 200 17 |
| “ “ for interest..... | 1 42 |
| “ “ for transfer and other fees | 24 74 |
| Total receipts..... | <u>\$3,747 13</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|----------|
| Amount paid for commission | \$130 74 |
| “ “ law costs | 10 00 |
| “ “ printing, stationery and advertising..... | 62 96 |
| “ “ interest..... | 114 25 |
| “ “ rent and taxes | 52 00 |
| “ “ statutory assessment | 31 47 |
| “ “ salaries, directors' and auditors' fees..... | 582 90 |
| “ “ postage, telegrams and express | 38 72 |
| “ “ investigation of claims | 19 00 |
| “ “ travelling expenses | 8 00 |
| “ “ sundries..... | 0 40 |

Expenses of management (*carried forward*)..... \$1,050 44

| | | |
|--|----------|-------------------|
| Expenses of management (<i>brought forward</i>)..... | | \$1,050 44 |
| <i>Miscellaneous expenses :</i> | | |
| Cash paid for losses which occurred before 1885 | \$2.00 | |
| “ “ “ “ during 1885 | 1,878.50 | |
| | | 1,880 50 |
| “ “ reinsurances..... | | 30 75 |
| “ “ rebate | | 39 01 |
| Total expenditure..... | | <u>\$3,000 70</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|-------------|--------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 1,106,749 | 00 | 1,106,749 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|---|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 1,150 | 1,043,361 | 00 |
| “ new and renewed during 1885..... | 519 | 514,938 | 00 |
| Gross number during 1885..... | 1,669 | 1,558,299 | 00 |
| Less expired and cancelled in 1885..... | 489 | 451,550 | 00 |
| Net risks in force 31st December, 1885..... | 1,180 | 1,106,749 | 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | Three year risks. | | Total. | |
|---|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes legally liable to assessment..... | 16,682 | 33 | 16,682 | 33 |
| Amount of all premium notes after deducting all payments thereon and assessments levied | 10,572 | 10 | 10,572 | 10 |
| Amount of premium notes received during the year 1885 | 7,560 | 33 | 7,560 | 33 |

ONEIDA FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, TOWN HALL, ONEIDA.

Commenced business, 27th March, 1875.

President—GEO. FLEMING.

Secretary—JOHN SENN.

Unassessed premium note capital, \$7,599.00.

ASSETS.

| | |
|--|-------------------|
| Actual cash on hand at head office | \$153 25 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 7,599 00 |
| Total assets | <u>\$7,752 25</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|---|-----------------|
| Cash at head office, as per last statement (not extended) | \$111.72 |
| Cash received at taking of applications | \$100 25 |
| “ for steam threshing certificates | 21 00 |
| “ “ sundries | 28 90 |
| Total receipts | <u>\$150 15</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for fuel and light | \$2 00 |
| “ “ statutory assessment or certificate | 12 62 |
| “ “ printing and stationery | 14 00 |
| “ “ salaries, directors' and auditors' fees | 78 00 |
| “ “ books and stationery | 2 00 |
| Total expenditure | <u>\$108 62</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | Four years. | Five years. | Total. |
|--------------|--------------|-------------|-------------|------------|
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Mutual | 311,929 00 | 650 00 | 117,775 00 | 430,354 00 |

MOVEMENT IN RISKS.

Mutual System.

| --- | Number. | Amount. |
|--|---------|------------|
| | | \$ cts. |
| Policies in force 31st December, 1884 | 337 | 418,168 00 |
| New and renewed during 1885 | 106 | 149,441 00 |
| Gross number during 1885 | 443 | 567,609 00 |
| Less expired and cancelled in 1885 | 105 | 137,255 00 |
| Net risks in force on mutual system, 31st December, 1885 | 338 | 430,354 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous :

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1884.

| --- | Three year risks. | Four year risks. | Five year risks. | Total. |
|--|-------------------|------------------|------------------|----------|
| | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Amount of face of all premium notes held by company and legally liable to assessment | 6,401 16 | 13 00 | 2,484 75 | 8,898 91 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 5,720 78 | 8 97 | 1,769 25 | 7,599 00 |
| Amount of premium notes received during the year 1885 | 3,515 08 | ..... | ..... | 3,515 08 |

 OXFORD FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, EMBRO.

Commenced business 2nd June, 1884.

 President—ALEX. MCCORQUODALE. | Secretary—ROBT. MURRAY.

Unassessed premium note capital, \$17,567.35.

 ASSETS.

| | |
|---|--------------------|
| Amount unpaid of assessments levied during 1885..... | \$75 45 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | 17,567 35 |
| Total assets | <u>\$17,642 80</u> |

LIABILITIES.

| | |
|----------------------------|----------------|
| Amount due Treasurer | \$46 45 |
| Total liabilities..... | <u>\$46 45</u> |

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended) | \$33 50 |
| Cash received as first payments, being part payment of premium notes.. | \$160 00 |
| “ for assessments levied during 1885..... | 645 70 |
| “ “ borrowed money | 721 45 |
| Total receipts | <u>\$1,527 15</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-------------------|
| Cash paid for printing and stationery | \$28 00 |
| “ interest | 24 43 |
| “ statutory assessment | 8 62 |
| “ rent and taxes | 13 00 |
| “ salaries, etc., 1884, 1885..... | 223 50 |
| “ postage, etc. | 20 10 |
| | <u>317 65</u> |
| Cash paid for losses during 1885 | 568 00 |
| “ being repayment of loans | 675 00 |
| Total expenditure | <u>\$1,560 65</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year. | Two years. | Three years. | Four years. | Five years. | Total. |
|-------------|-----------|------------|--------------|-------------|-------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual..... | 800 00 | 1,800 00 | 1,800 00 | 11,100 00 | 454,925 00 | 470,425 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force December 31st, 1885 | 246 | 285,725 00 |
| “ taken during 1885, new and renewed | 160 | 193,250 00 |
| Gross number during 1885 | 406 | 478,975 00 |
| Deduct expired and cancelled in 1885 | 8 | 8,550 00 |
| Net risks in force at December 31st, 1885. | 398 | 470,425 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | One year risks. | Two year risks. | Three year risks. | Four year risks. | Five year risks. | Total. |
|--|-----------------|-----------------|-------------------|------------------|------------------|-----------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment. | 32 00 | 72 00 | 72 00 | 444 00 | 18,066 50 | 18,686 50 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 29 40 | 65 40 | 66 12 | 420 16 | 16,986 27 | 17,567 35 |
| Amount of premium notes received during the year 1885. | 32 00 | 16 00 | 24 00 | 372 00 | 7,291 00 | 7,735 00 |

COUNTY OF PEEL FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, BRAMPTON.

Commenced business 24th June, 1876.

President—THOMAS HOLBY.

Secretary—LUTHER CHEYNE.

Unassessed premium note capital, \$39,701.67.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office..... | \$438 38 |
| Amount unpaid of assessments levied during 1885 | 1,753 07 |
| “ “ “ in prior years (not extended) \$804.86 | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 39,701 67 |
| Total assets | <u>\$41,893 12</u> |

LIABILITIES.

| | |
|--|-----------------|
| Amount for printing and stationery | \$66 15 |
| “ salaries and directors' fees | 233 45 |
| “ rent..... | 50 00 |
| “ stamps..... | 50 70 |
| “ due ex-Treasurer..... | 73 74 |
| “ “ Treasurer..... | 11 05 |
| Total liabilities..... | <u>\$485 09</u> |

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$770.61 |
| “ received as first payment, being part payment of premium notes..... | \$646 08 |
| “ “ for assessments levied in 1885..... | 1,616 56 |
| “ “ “ “ years prior to 1885..... | 958 34 |
| “ “ for engine licenses and carpenters' risks..... | 6 76 |
| “ “ borrowed money..... | 881 00 |
| Total receipts | <u>\$4,108 74</u> |

EXPENDITURES.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for commission to agents | \$175 00 |
| “ investigation and adjustment of claims..... | 4 20 |
| “ interest..... | 18 50 |
| “ statutory assessment | 75 85 |
| “ printing, stationery and advertising | 20 20 |
| “ salaries, directors' and auditors' fees..... | 706 45 |
| “ postage, telegrams and express..... | 27 45 |
| “ rent | 22 00 |
| “ incidental expenses..... | 34 58 |
| Total expenses of management..... | <u>\$1,084 23</u> |

| | | |
|--|-----------------|-------------------|
| Total expenses of management (<i>brought forward</i>)..... | | \$1,084 23 |
| <i>Miscellaneous Payments :</i> | | |
| Cash paid for losses which occurred during 1885..... | \$980.00 | |
| “ “ “ prior to 1885..... | <u>1,500.24</u> | 2,480 24 |
| “ repayment of loans..... | | 881 00 |
| Total expenditure..... | | <u>\$4,445 47</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Four years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 2,617,639 | 00 | 2,617,639 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|-----------------|
| Policies in force 31st December, 1884..... | 1,949 | \$ 2,559,087 00 |
| “ new and renewed during 1885..... | 410 | 633,905 00 |
| Gross number during 1885..... | 2,359 | 3,192,992 00 |
| Less expired and cancelled in 1885..... | 484 | 575,353 00 |
| Net risks in force on mutual system, 31st December, 1885..... | 1,873 | 2,617,639 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

E MIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| | Four year risks. | | Total. | |
|---|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 54,261 | 94 | 54,261 | 94 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 39,701 | 67 | 39,701 | 67 |
| Amount of premium notes renewed during the year 1885..... | 13,029 | 04 | 13,029 | 04 |

PUSLINCH MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ABERFOYLE.

Commenced business May, 1859.

President—DUNCAN MCFARLANE.

Secretary—JAMES SCOTT.

Unassessed premium note capital, \$7,923.41.

ASSETS.

| | | |
|---|------------|------------|
| Cash on hand at head office..... | \$26 99 | |
| Cash on deposit to Company's credit in Bank of Commerce, Guelph | 493 00 | |
| | | \$519 99 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | \$7,923 41 | |
| Less residue of premium notes given for reinsurance | 31 20 | |
| | | 7,892 21 |
| Total assets | | \$8,412 20 |

LIABILITIES.

| | | |
|---------------------------------|--|---------|
| Amount of adjusted losses | | \$10 00 |
| Total liabilities | | \$10 00 |

RECEIPTS.

| | | |
|---|----------|----------|
| Cash at head office, as per last statement (not extended) | \$465 83 | |
| Cash received for membership fees, not being part payment of premium notes | | \$10 50 |
| Cash received as first payments, being part payment of premium notes .. | 146 52 | |
| “ for interest | 16 83 | |
| Total receipts | | \$173 85 |

EXPENDITURE.

| | | |
|--|---------|----------|
| <i>Expenses of Management:</i> | | |
| Amount paid for statutory assessment | | \$11 39 |
| “ printing, stationery and advertising..... | | 17 00 |
| “ auditors' fees | | 10 00 |
| “ postage, telegrams and express | | 3 50 |
| “ travelling expenses..... | | 3 00 |
| Total expenses of management | | \$44 89 |
| Amount paid for losses which occurred before 1885..... | \$12 00 | |
| “ “ “ during 1885..... | 42 00 | |
| | | 54 00 |
| “ reinsurances..... | | 20 80 |
| Total expenditure | | \$119 69 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|---|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 416,725 | 00 | 416,725 | 00 |
| Reinsured | 3,000 | 00 | 3,000 | 00 |
| Net risks carried by Company 31st December, 1885..... | 413,725 | 00 | 413,725 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force December 31st, 1884 | 222 | 379,840 00 |
| “ new and renewed during 1885 | 81 | 150,045 00 |
| Gross number and amount during 1885..... | 303 | 529,885 00 |
| Less expired and cancelled in 1885..... | 63 | 113,160 00 |
| Net risks in force on mutual system December 31st, 1885 | 240 | 416,725 00 |

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Three year risks. | Total. |
|--|-------------------|----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 8,334 50 | 8,334 50 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 7,923 41 | 7,923 41 |
| Amount of premium notes renewed during the year 1885 | 3,000 90 | 3,000 90 |
| Residue “ “ given for reinsurance | 31 20 | 31 20 |

SALTFLEET AND BINBROOK MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ELFRIDA.

Commenced business 30th July, 1880.

President—A. D. LEE.

Secretary—JNO. C. HARRIS.

Unassessed premium note capital, \$5,457.02.

ASSETS.

| | | |
|--|---------|-------------------|
| Actual cash on hand at head office..... | | \$28 83 |
| Amount of assessments which were levied before 1885 (not extended) | \$36 65 | |
| Amount unpaid of short date notes, or due bills, less than one year overdue | | 7 18 |
| “ “ “ one year or more overdue (not extended) | \$6 91 | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | | 5,457 02 |
| Total assets | | <u>\$5,493 03</u> |

LIABILITIES.—None.

RECEIPTS.

| | | |
|--|----------|-----------------|
| Cash at head office, as per last statement (not extended)..... | \$285 72 | |
| Cash received for fees or surveys..... | | \$5 00 |
| “ first payments, being part payment of premium notes.. | | 212 79 |
| “ assessments which were levied in years prior to 1885.... | | 88 20 |
| Total receipts | | <u>\$305 99</u> |

EXPENDITURE.

Expenses of Management :

| | | |
|--|--|-----------------|
| Amount paid to agents for fees and commission..... | | \$67 50 |
| “ for statutory assessment | | 10 65 |
| “ printing, stationery and advertising..... | | 31 48 |
| “ salaries, directors' and auditors' fees..... | | 142 37 |
| “ postage, telegrams and express..... | | 3 30 |
| “ fuel and light.... | | 1 50 |
| Total expenses of management | | <u>\$256 80</u> |

Miscellaneous Payments :

| | | |
|--|--|-----------------|
| Cash paid for losses which occurred during 1885..... | | 277 90 |
| Total expenditure | | <u>\$534 70</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| | Three years. | | Total. | |
|-------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 381,905 | 00 | 381,905 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|---|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 290 | 352,850 | 00 |
| “ new and renewed during 1885 | 88 | 102,015 | 00 |
| Gross number during 1885..... | 378 | 454,865 | 00 |
| Less expired and cancelled in 1885..... | 66 | 72,960 | 00 |
| Net risks in force 31st December, 1885..... | 312 | 381,905 | 00 |

CLASSIFICATION OF RISKS:

Farm and non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 6,461 | 70 | 6,461 | 70 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 5,457 | 02 | 5,457 | 02 |
| Amount of premium notes received during the year 1885 | 1,551 | 54 | 1,551 | 54 |

SAUGEEN MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, MOUNT FOREST.

Commenced business March, 1877.

President—JAMES MURDOCK.

Secretary—HENRY L. DRAKE.

Unassessed premium note capital, \$29,651.45.

ASSETS.

| | |
|---|-------------|
| Amount unpaid of assessment levied during 1885 | \$4,444 95 |
| “ “ “ in prior years (not extended), \$1,272.63 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | \$29,651 45 |
| Less premium notes given by Company for reinsurance | 439 24 |
| | 29,212 21 |
| Total assets | \$33,657 16 |

LIABILITIES.

| | |
|---------------------------------|------------|
| Amount of reported loss | \$375 00 |
| “ unpaid loans | 7,500 00 |
| “ due for sundry accounts | 8 30 |
| Total liabilities | \$7,883 30 |

RECEIPTS.

| | |
|---|-------------|
| Cash at head office, as per last statement (not extended) | \$1,518.18 |
| Cash received as first payments, being part payment of premium notes... | \$1,624 71 |
| “ for assessments levied in 1885 | 1,097 75 |
| “ “ “ prior to 1885 | 3,961 52 |
| “ for interest | 4 79 |
| Cash borrowed | 7,500 00 |
| Cash received for refunds | 43 77 |
| “ fees and extra premiums | 27 77 |
| Total receipts | \$14,260 31 |

EXPENDITURE.

Expenses of Management :

| | |
|---|----------------|
| Amount paid for commission to agents | \$939 23 |
| “ law costs | 5 53 |
| “ interest | 557 45 |
| “ statutory assessment or certificate | 38 29 |
| “ printing, stationery and advertising | 103 38 |
| “ salaries, directors’ and auditors’ fees | 652 35 |
| “ postage, telegrams and express | 43 91 |
| “ investigation and adjustment of claims | 57 91 |
| “ fuel, light, rent and office fittings | 48 35 |
| “ travelling expenses | 4 00 |
| Expenses of management | \$2,450 40 |

Miscellaneous Payments :

| | | |
|---|------------|-----------------|
| Cash paid for losses which occurred during 1885 | \$5,819 70 | |
| “ “ “ prior to 1885 | 3,295 78 | |
| | | \$9,115 48 |
| “ rebate, abatement and returned premiums | | 119 04 |
| “ reinsurances | | 157 11 |
| “ repayment of loan | | 3,800 00 |
| “ secretary for salary, 1884 | | 136 46 |
| Total expenditure | | \$15,778 49 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1884.

| | One year. | Three years. | Total. |
|------------------------------|-----------|--------------|--------------|
| | \$ c. | \$ c. | \$ c. |
| Mutual | 15,250 00 | 1,332,006 00 | 1,347,256 00 |
| Of which was reinsured | | 12,596 00 | 12,596 00 |
| Net risks | | | 1,334,660 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 1460 | 1,269,356 00 |
| “ new and renewed during 1885 | 630 | 572,731 00 |
| Gross number during 1885 | 2090 | 1,842,087 00 |
| Less expired and cancelled in 1885 | 584 | 494,831 00 |
| Net risks in force 31st December, 1885 | 1506 | 1,347,256 00 |

BUSINESS DONE BY COMPANY.

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | One year risks. | Three year risks. | Total. |
|---|-----------------|-------------------|-----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 361 95 | 40,504 80 | 40,866 75 |
| Amount of premium notes, after deducting all pay- ments thereon and assessments levied | | | 29,651 45 |
| Amount of premium notes received during the year 1885 | | | 19,774 59 |
| Residue of premium notes given by the Company for reinsurances | | | 439 24 |

SIMCOE COUNTY MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, KEENANSVILLE.

*Commenced business 21st June, 1878.**President*—P. B. SKELLY.*Secretary*—THOMAS R. CARMICHAEL.

Unassessed premium note capital, \$3,333.82.

ASSETS.

| | |
|--|-------------------|
| Amount unpaid of assessments levied during 1885..... | \$150 50 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | 3,333 82 |
| Total assets..... | <u>\$3,484 32</u> |

LIABILITIES.

| | |
|----------------------------|----------------|
| Balance due treasurer..... | \$59 23 |
| Total Liabilities..... | <u>\$59 23</u> |

RECEIPTS.

| | |
|---|-----------------|
| Cash at head office, as per last statement (not extended)..... | \$24 82 |
| Cash received for fees (not being part payment of premium notes)..... | \$12 50 |
| “ assessments levied in years prior to 1885..... | 199 50 |
| “ borrowed..... | 180 00 |
| Total receipts..... | <u>\$392 00</u> |

EXPENDITURE.

Expenses of Management:

| | |
|--|-----------------|
| Amount paid for salaries, directors' and auditors' fees..... | \$81 00 |
| “ statutory assessment..... | 5 25 |
| “ printing and stationery..... | 21 75 |
| “ postage..... | 5 15 |
| “ interest..... | 2 90 |
| Total expenses of management..... | <u>\$116 05</u> |
| Cash paid for losses which occurred during 1885..... | 180 00 |
| “ repayment of loan..... | 180 00 |
| Total expenditure..... | <u>\$476 05</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Total. |
|--------------|------------|
| | \$ c. |
| Mutual | 192,406 08 |

MOVEMENT IN RISKS.

Mutual System.

| --- | Number. | Amount. |
|---|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 115 | 151,712 08 |
| New and renewed during 1885..... | 46 | 72,402 00 |
| Gross number during 1885..... | 161 | 224,114 08 |
| Less expired and cancelled in 1885..... | 24 | 31,708 00 |
| Net risks in force 31st December, 1885..... | 137 | 192,406 08 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| --- | Three year risks. | Five year risks. | Total. |
|--|-------------------|------------------|----------|
| | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 3,504 52 | 199 70 | 3,704 22 |
| Amount of all premium notes, after deducting all pay- ments thereon and assessments levied..... | 3,154 12 | 179 70 | 3,333 82 |
| Amount of premium notes received during the year 1885. | 1,548 05 | ..... | 1,548 05 |

 THE SOUTHWOLD FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, SHEDDEN.

Commenced business 9th September, 1878.

 President—DONALD TURNER.

Secretary—R. N. STAFFORD.

Unassessed premium note capital, \$8,742.88.

 ASSETS.

| | |
|--|-------------------|
| Actual cash in hand at head office | \$164 81 |
| Amount unpaid of assessments levied during 1885 | 199 05 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 8,742 88 |
| Total assets | <u>\$9,106 74</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|---|-------------------|
| Cash at head office, as per last statement (not extended) | \$691 74 |
| Cash received at taking of application | \$56 00 |
| “ for assessment levied in 1885 | 3,033 63 |
| “ “ in years prior to 1885 | 84 25 |
| “ interest | 9 25 |
| Cash borrowed | 450 00 |
| Total receipts | <u>\$3,633 13</u> |

EXPENDITURE.

Expenses of Management:

| | |
|--|---------------|
| Amount paid for law costs | \$5 00 |
| “ statutory assessment | 19 81 |
| “ printing and stationery | 4 95 |
| “ salaries, secretary's and auditors' fees | 212 50 |
| “ postage | 9 80 |
| “ interest | 20 00 |
| “ travelling expenses | 10 00 |
| “ incidental “ | 8 00 |
| Total expenses of management | <u>290 06</u> |

Miscellaneous Payments:

| | |
|---|-------------------|
| Cash paid for losses which occurred during 1885 | \$3,420 00 |
| “ repayment of loan | 450 00 |
| Total expenditure | <u>\$4,160 06</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|---------|----|
| | § | c. | § | c. |
| Mutual..... | 660,150 | 00 | 660,150 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| ----- | Number. | Amount. | |
|--|---------|---------|----|
| | | § | c. |
| Policies in force 31st December, 1884 | 492 | 649,150 | 00 |
| Policies new and renewed during 1885..... | 112 | 169,350 | 00 |
| Gross number during 1885..... | 604 | 818,500 | 00 |
| Less expired and cancelled in 1885..... | 111 | 158,350 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 493 | 660,150 | 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| ----- | Five year risks. | | Total. | |
|---|------------------|----|--------|----|
| | § | c. | § | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 13,203 | 00 | 13,203 | 00 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 8,742 | 88 | 8,742 | 88 |
| Amount of premium notes received during the year 1885.... | 3,387 | 00 | 3,387 | 00 |

 SYDENHAM MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ANNAN.

Commenced business September, 1869.

President—GIDEON HARKNESS.

Secretary—HUGH REID.

Unassessed premium note capital, \$35,678.72.

ASSETS.

| | | |
|---|----------|--------------------|
| Cash on hand | \$46 19 | |
| “ deposit in the Post Office Savings Bank. Owen Sound. | 180 69 | |
| “ “ Molson’s Bank, Owen Sound | 153 00 | |
| “ “ Telford & Co.’s Bank | 1,105 65 | |
| | | <u>\$1,485 53</u> |
| Cash in agents’ hands, acknowledged by them to be due, and considered good | | 120 11 |
| Amount unpaid of assessments, levied before 1885 (not extended) \$4 92 | | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 35,678 72 |
| | | <u>\$37,284 36</u> |

LIABILITIES.—None.

RECEIPTS.

| | | |
|--|------------|-------------------|
| Cash at head office, as per last statement (not extended) | \$1,217 88 | |
| Cash received for fees | | \$285 50 |
| “ as first payments, being part payment of premium notes .. | | 730 27 |
| “ for assessments levied in years prior to 1885 | | 7 89 |
| “ interest | | 37 65 |
| “ licenses | | 50 00 |
| “ advertisements in annual report | | 38 00 |
| | | <u>\$1,149 31</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for law costs | \$10 00 |
| “ investigation and adjustment of claims | 4 00 |
| “ statutory assessment or certificate | 49 51 |
| “ printing, stationery and advertising | 76 35 |
| “ rent and taxes | 10 00 |
| “ salaries, directors’ and auditors’ fees | 234 50 |
| “ postage, telegrams and express | 32 30 |
| “ travelling expenses | 12 00 |
| | <u>\$428 66</u> |

Miscellaneous Payments :

| | |
|---|-----------------|
| Cash paid for losses which occurred during 1885 | 440 00 |
| “ other expenses | 13 00 |
| | <u>\$881 66</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Two years. | Three years. | Four years. | Five years. | Total. |
|--------------|----------------------|------------|--------------|-------------|-------------|--------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual | 12,950 00 | 8,740 00 | 1,564,094 00 | 60,161 00 | 161,526 00 | 1,807,471 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 1,481 | 1,641,128 00 |
| “ new and renewed during 1885..... | 583 | 713,961 00 |
| Gross number during 1885..... | 2,064 | 2,355,089 00 |
| Less expired and cancelled in 1885..... | 429 | 547,618 00 |
| Net risks in force 31st December, 1885 | 1,635 | 1,807,471 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | One year risks. | Two year risks. | Three year risks. | Four year risks. | Five year risks. | Total. |
|--|--------------------|--------------------|----------------------|---------------------|---------------------|-----------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 263 50 | 186 25 | 32,580 67 | 1,153 55 | 3,444 26 | 37,628 23 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 255 28 | 163 16 | 30,960 84 | 1,099 29 | 3,200 15 | 35,678 72 |
| Amount of premium notes received during the year 1885..... | 188 75 | 82 25 | 13,831 08 | 296 90 | 507 80 | 14,906 78 |

TOWNSEND FARMERS' MUTUAL FIRE INSURANCE COMPANY.

Commenced business 10th April, 1879.

HEAD OFFICE, WATERFORD.

President—OSCAR McMICHAEL.

Secretary—LYMAN N. COLLVER.

Unassessed premium note capital, \$10,980.34.

ASSETS.

| | |
|---|--------------------|
| Actual cash on hand at head office..... | \$259 57 |
| Amount unpaid of assessments levied in years during 1885 | 91 66 |
| “ “ “ “ prior to 1884 (not extended)..... | \$6.81 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 10,980 34 |
| Total assets | <u>\$11,331 57</u> |

LIABILITIES—None.

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$56.66 |
| Cash received at taking of applications..... | \$305 00 |
| “ at first payments, being part payment of premium notes.... | 226 98 |
| “ for assessments levied in 1885..... | 3,166 73 |
| “ “ years prior to 1885..... | 30 78 |
| Total receipts | <u>\$3,729 49</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid agents for fees | \$183 00 |
| “ “ for statutory assessment | 26 92 |
| “ “ printing, stationery, advertising and postage..... | 23 75 |
| “ “ salaries, directors' and auditors' fees..... | 261 80 |
| “ “ law costs..... | 15 00 |
| “ “ postage, etc | 23 30 |
| Total expenses of management..... | <u>\$533 77</u> |

Miscellaneous Payments :

| | |
|---|-------------------|
| Cash paid for losses which occurred during 1885 | 2990 00 |
| “ rebate | 2 81 |
| Total expenditure | <u>\$3,526 58</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | Total. |
|-------------|--------------|------------|
| | \$ c. | \$ c. |
| Mutual..... | 916,490 00 | 916,490 00 |

MOVEMENT IN RISKS.

Mutual System.

| — — — | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 650 | 892,410 00 |
| “ new and renewed during 1885 | 244 | 353,755 00 |
| Gross number during 1885..... | 894 | 1,246,165 00 |
| Less expired and cancelled in 1885..... | 247 | 329,675 00 |
| Net risks in force on mutual system 31st December, 1885..... | 647 | 916,490 00 |

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — — — | Three year risks. | Total. |
|--|-------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 14,864 89 | 14,864 89 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 10,980 34 | 10,980 34 |
| Amount of premium notes received during the year 1885..... | 5,661 21 | 5,661 21 |

THE USBORNE AND HIBBERT MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, FARQUHAR.

*Commenced business 28th June, 1876.**President*—ROBT. GARDINER.*Secretary*—N. J. CLARK.

Unassessed premium note capital, \$22,487.62.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office..... | \$716 81 |
| Amount unpaid of assessments levied during 1885..... | 117 44 |
| “ “ “ before 1885 (not extended)...\$1 62 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | 22,487 62 |
| Total assets..... | <u>\$23,321 87</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended)..... | \$98 96 |
| “ received for assessments levied in 1885..... | \$1,544 37 |
| “ “ “ “ before 1885..... | 7 25 |
| “ borrowed..... | 500 00 |
| Total receipts..... | <u>\$2,051 62</u> |

EXPENDITURE.

Expenses of Management:

| | |
|--|-----------------|
| Amount paid for investigation of claims..... | \$8 00 |
| “ interest..... | 10 00 |
| “ statutory assessment..... | 33 37 |
| “ printing, stationery and advertising..... | 27 25 |
| “ rent and taxes..... | 20 00 |
| “ salaries, directors' and auditors' fees..... | 216 50 |
| “ travelling expenses..... | 15 30 |
| “ postage, telegrams and express..... | 44 61 |
| “ incidental expenses..... | 21 16 |
| Expenses of management..... | <u>\$396 19</u> |

Miscellaneous Payments:

| | |
|--|-------------------|
| Amount paid for losses which occurred during 1885..... | \$537 58 |
| “ for repayment of loans..... | 500 00 |
| Total expenditure..... | <u>\$1,433 77</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 1,377,055 | 00 | 1,377,055 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. | |
|--|---------|-----------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884..... | 865 | 1,105,640 | 00 |
| “ new and renewed during 1885..... | 286 | 338,540 | 00 |
| Gross number during 1885..... | 1,151 | 1,494,180 | 00 |
| Less expired and cancelled in 1885.... | 110 | 117,125 | 00 |
| Net risks in force on mutual system 31st December, 1885..... | 1,041 | 1,377,055 | 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On policies in force 31st December, 1885.

| — | Five year risks. | | Total. | |
|---|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 30,167 | 53 | 30,167 | 53 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 22,487 | 62 | 22,487 | 62 |
| Amount of premium notes received during the year 1885..... | 8,455 | 79 | 8,455 | 79 |

VICTORIA MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, HAMILTON.

Commenced business November, 1863.

President—GEO. H. MILLS.

| *Secretary*—W. D. BOOKER.

Unassessed premium note capital, \$30,151.04.

ASSETS.

| | | |
|---|------------|-------------|
| Cash on hand at head office | \$165 93 | |
| Postage stamps | 26 86 | |
| | | \$192 79 |
| Amount unpaid of assessments levied during 1885 | | 737 05 |
| “ “ “ in prior years (not extended) | \$687 08 | |
| Amount of short date notes or due bills, less than one year overdue..... | | 231 20 |
| “ “ “ one year or more over- due (not extended)..... | 102 42 | |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | | 30,151 04 |
| Due by W. W. Branch (not extended) | \$6,546 60 | |
| Division Court costs (not extended) | 45 77 | |
| Office furniture (not extended)..... | 100 00 | |
| Total assets..... | | \$31,312 08 |

LIABILITIES.

| | |
|---------------------------------------|----------|
| Deposits for future assessments | \$43 25 |
| Agency | 411 94 |
| Total liabilities..... | \$455 19 |

RECEIPTS.

| | |
|--|------------|
| Cash at head office, as per last statement (not extended)..... | \$688 68 |
| Postage stamps..... | 76 31 |
| | \$764 99 |
| Cash as first payments, being part payment of premium notes..... | \$1,327 55 |
| Cash received for assessments levied in 1885 | 2,771 77 |
| “ “ “ years prior to 1885 | 592 58 |
| Cash received for interest | 6 88 |
| “ for carpenters' risks | 10 14 |
| “ Division Court costs | 4 03 |
| “ assessments in advance | 12 00 |
| Total receipts | \$4,724 95 |

EXPENDITURE.

Expenses of Management :

| | |
|---|------------|
| Amount paid for commission | \$652 15 |
| “ investigation and adjustment of claims.. | 19 62 |
| “ legal expenses | 5 34 |
| “ printing, stationery and advertising..... | 165 45 |
| “ rent and taxes..... | 390 40 |
| “ salaries, directors' and auditors' fees.... | 2,710 00 |
| “ postage, telegrams and express..... | 32 06 |
| “ fuel and light | 42 96 |
| “ statutory assessment | 49 26 |
| “ office contingencies | 55 90 |
| Total expenses of management | \$4,123 14 |

Miscellaneous Payments :

| | |
|--|------------|
| Cash paid for losses which occurred during 1885..... | 1,110 73 |
| “ rebate | 6 48 |
| “ agencies | \$40 09 |
| “ bills receivable | 16 71 |
| | 56 80 |
| Total expenditure | \$5,297 15 |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|------|-----------|------|
| | \$ | cts. | \$ | cts. |
| Mutual | 1,135,568 | 00 | 1,135,568 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 932 | 1,135,398 00 |
| Policies new and renewed during 1885 | 294 | 371,215 00 |
| Gross number during 1885 | 1,226 | 1,506,613 00 |
| Less expired and cancelled in 1885 | 288 | 371,045 00 |
| Net risks on in force on mutual system 31st December, 1885 | 938 | 1,135,568 00 |

BUSINESS TRANSACTED:

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | Total. |
|--|-------------------|-----------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 39,535 25 | 39,535 25 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 30,151 04 | 30,151 04 |
| Amount of premium notes received during the year 1885 | 12,485 15 | 12,485 15 |

WALPOLE FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, JARVIS.

*Commenced business 27th July, 1867.**President*—CHARLES SIMON.*Secretary*—JOHN HEASMAN.

Unassessed premium note capital, \$23,052.18.

ASSETS.

| | | |
|--|----------|---------------------------|
| Cash on hand at head office | \$206 22 | |
| Cash on deposit in Bank of Commerce, Simcoe | 700 00 | |
| | | <u>\$906 22</u> |
| Cash in agents' hands, acknowledged by them to be due, and considered good | | 34 16 |
| Amount unpaid of assessments levied during 1885 | | 7 08 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 23,052 18 |
| Total assets | | <u><u>\$23,999 64</u></u> |

LIABILITIES—None.

RECEIPTS.

| | | |
|---|----------|--------------------------|
| Cash at head office, as per last statement (not extended) | \$630 97 | |
| Cash received at taking of applications | | \$373 50 |
| “ as first payments, being part payment of premium notes | | 302 24 |
| “ for assessments levied in 1885 | | 959 38 |
| “ “ “ years prior to 1885 | | 12 94 |
| Total receipts | | <u><u>\$1,648 06</u></u> |

EXPENDITURES.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid to agents for commission and fees on application | \$134 50 |
| “ for travelling expenses | 8 00 |
| “ statutory assessment | 35 66 |
| “ printing, stationery and advertising | 25 75 |
| “ salaries, director's and auditors' fees | 308 80 |
| “ postage, telegrams and express | 20 50 |
| “ fuel and light | 5 00 |
| Total expenses of management | <u>\$538 21</u> |

Miscellaneous Payments :

| | |
|---|--------------------------|
| Cash paid for losses which occurred during 1885 | \$831 10 |
| “ incidental expenses | 3 50 |
| Total expenditure | <u><u>\$1,372 81</u></u> |

CURRENCY OF RISKS.

| | One year or less. | Two years. | Three years. | Four years. | Five years. | Total. |
|--|----------------------|------------|--------------|----------------|-------------|--------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount covered by policies in force December 31st, 1885.... | 3,570 00 | 6,255 00 | 283,375 00 | 14,250 00 | 876,505 00 | 1,183,955 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 770 | 1,182,475 00 |
| “ new and renewed during 1885 | 225 | 327,095 00 |
| Gross number during 1885..... | 995 | 1,509,570 00 |
| Less expired and cancelled in 1885..... | 211 | 325,615 00 |
| Net risks in force 31st December, 1885..... | 784 | 1,183,955 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1884.

| | One year risks. | Two year risks. | Three year risks. | Four year risks. | Five year risks. | Total. |
|---|--------------------|--------------------|----------------------|---------------------|---------------------|-----------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment.... | 18 14 | 60 37 | 3,904 67 | 290 02 | 22,620 58 | 26,893 78 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied. | 17 41 | 50 81 | 3,415 57 | 251 56 | 19,316 83 | 23,052 18 |
| Amount of premium notes re- ceived during the year 1885.... | 18 14 | 29 92 | 2,011 37 | 85 00 | 4,655 32 | 6,799 75 |

 NORTH WATERLOO FARMERS' MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, WATERLOO.

Commenced business 1st August, 1874.

President—JOHN HAYES.

Manager—LEVI STAUFFER.

Unassessed premium note capital, \$108,493.47.

 ASSETS.

| | |
|--|---------------------|
| Cash on hand at head office | \$68 31 |
| Amount unpaid of assessments levied during 1885 | 726 37 |
| “ “ “ “ in prior years (not extended) \$78 45 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied..... | \$108,493 47 |
| Total assets..... | <u>\$109,288 15</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-------------------|
| Cash received for assessments levied in 1885 | 3,324 43 |
| “ “ “ “ years prior to 1885..... | 403 16 |
| Cash borrowed | 1,000 00 |
| Total receipts..... | <u>\$4,727 59</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|-----------------|
| Amount paid for investigation and adjustment of claims..... | \$7 00 |
| “ interest | 146 24 |
| “ statutory assessment | 65 95 |
| “ printing, stationery and advertising | 35 68 |
| “ salaries, directors' and auditors' fees..... | 540 00 |
| “ postage, telegrams and express | 63 45 |
| “ incidentals..... | 18 30 |
| Expenses of management | <u>\$876 62</u> |

Miscellaneous Payments :

| | |
|--|-------------------|
| Cash paid for losses which occurred during 1885..... | 988 00 |
| “ loans repaid | 2,794 66 |
| Total expenditure | <u>\$4,659 28</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual | 2,338,344 | 00 | 2,338,344 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 1252 | 2,186,883 00 |
| “ new and renewed during 1885 | 310 | 590,765 00 |
| Gross number during 1885..... | 1562 | 2,777,648 00 |
| Less expired and cancelled in 1885..... | 247 | 439,304 00 |
| Net risks in force on mutual system December 31st, 1885..... | 1315 | 2,338,344 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | Total. |
|--|-------------------|------------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 126,652 53 | 126,652 53 |
| Amount of premium notes, after deducting all payments thereon and assessments levied | 108,493 47 | 108,493 47 |
| Amount of premium notes renewed during the year 1885..... | 30,009 00 | 30,009 00 |

WEST WAWANOSH MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, ST. HELENS.

Commenced business 13th May, 1879.

President—CHAS. GIRVIN.

Secretary—ROBT. MURRAY.

Unassessed premium note capital, \$62,437.13.

ASSETS.

| | |
|--|--------------------|
| Actual cash on hand at head office | \$155 00 |
| Amount unpaid of assessments levied during 1885 | 147 49 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | 62,437 13 |
| Total assets | <u>\$62,739 62</u> |

LIABILITIES.

| | |
|-----------------------------|-------------------|
| Bills payable | \$1,000 00 |
| Total liabilities | <u>\$1,000 00</u> |

RECEIPTS.

| | |
|--|-------------------|
| Cash at head office, as per last statement (not extended) | \$222 92 |
| “ “ at taking of applications | \$210 50 |
| Cash received as first payments, being part payment of premium notes | 312 29 |
| “ for assessments levied in 1885 | 1,229 00 |
| “ “ before 1885 | 100 36 |
| “ from steam-thresher certificates | 26 75 |
| “ borrowed money | 400 00 |
| Total receipts | <u>\$2,278 90</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|---------|
| Amount paid for interest | \$70 00 |
| “ statutory assessment | 40 09 |
| “ printing, stationery and advertising | 71 50 |
| “ salaries, directors' and auditors' fees | 630 14 |
| “ postage, telegrams and express | 50 53 |
| “ fuel and light | 1 75 |

Expenses of management \$864 01*Miscellaneous Payments :*

| | |
|---|------------|
| Cash paid for losses which occurred during 1885 | \$1,435 87 |
| “ refunds | 40 44 |
| “ sundries | 6 50 |

Total expenditure \$2,346 82

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|-------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 1,650,284 | 00 | 1,650,284 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 422 | 520,047 00 |
| New and renewed during 1885..... | 1,139 | 1,328,671 00 |
| Gross number during 1885..... | 1,561 | 1,848,718 00 |
| Less expired and cancelled in 1885..... | 183 | 198,434 00 |
| Net risks in force 31st December, 1885..... | 1,378 | 1,650,284 00 |

CLASSIFICATION OF RISKS:

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Five year risks. | | Total. | |
|---|------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 62,437 | 13 | 62,437 | 13 |
| Amount of premium notes received during the year 1885..... | 20,801 | 75 | 20,801 | 75 |

THE MUTUAL FIRE INSURANCE COMPANY OF THE COUNTY OF
WELLINGTON.

HEAD OFFICE, GUELPH.

Commenced business, September, 1840.

President—FRED W. STONE.

Secretary—CHARLES DAVIDSON.

Unassessed premium note capital, \$310,779.34.

ASSETS.

| | | |
|---|----------|---------------------|
| Cash on hand at head office..... | \$586.98 | |
| “ deposit to Company’s credit in Bank of Commerce, Guelph..... | 4,787.55 | \$5,374 53 |
| Cash in agents’ hands, acknowledged by them to be due and considered good. | | 328 29 |
| Amount unpaid of assessments levied during 1885..... | | 7,047 98 |
| “ “ “ in prior years (not ex- tended) | \$574.77 | |
| “ unpaid due bills less than one year overdue | | 337 60 |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | | 310,779 34 |
| Total assets | | <u>\$323,867 74</u> |

LIABILITIES.

| | |
|--------------------------------------|---------------|
| Amount of outstanding accounts | \$9 11 |
| Total liabilities..... | <u>\$9 11</u> |

RECEIPTS.

| | |
|--|--------------------|
| Cash at head office, as per last statement (not extended)... | \$1,369.63 |
| “ received as first payments, being part payment of premium notes..... | \$9,459 49 |
| “ “ for assessments levied in 1885..... | 6,795 78 |
| “ “ “ “ years prior to 1885..... | 8,368 44 |
| “ agents’ balances | 424 80 |
| “ received from carpenters’ risks..... | 34 19 |
| <i>Carried forward..</i> | <u>\$25,082 70</u> |

| | |
|----------------------------------|--------------------|
| <i>Brought forward</i> | \$25,082 70 |
| Cash received from interest..... | 201 18 |
| “ “ promissory notes, &c..... | 136 05 |
| “ “ real estate..... | 173 60 |
| “ “ other sources..... | 19 81 |
| Total receipts..... | <u>\$25,613 34</u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-------------------|
| Amount paid for commissions to agents..... | \$3,190 81 |
| “ law costs..... | 43 41 |
| “ fuel and light..... | 47 40 |
| “ investigation and adjustment of claims..... | 176 33 |
| “ statutory assessment..... | 87 70 |
| “ printing, stationery, and advertising..... | 347 95 |
| “ rent and taxes..... | 92 75 |
| “ salaries, directors' and auditors' fees..... | 3,079 70 |
| “ travelling expenses..... | 74 07 |
| “ postage, telegrams and express..... | 257 73 |
| Expenses of management..... | <u>\$7,397 85</u> |

Miscellaneous Payments :

| | |
|--|--------------------|
| Cash paid for losses which occurred during 1885..... | \$16,709 90 |
| “ rebate, abatements and return premiums..... | 434 67 |
| “ office furniture..... | 85 90 |
| “ agents..... | 99 42 |
| Total expenditure..... | <u>\$24,727 74</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|-------------|--------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual..... | 3,210,043 | 00 | 3,210,043 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| ----- | Number. | Amount. |
|---|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884..... | 2,354 | 2,906,924 00 |
| “ new and renewed during 1885..... | 1,033 | 1,347,790 00 |
| Gross number and amount during 1885..... | 3,387 | 4,254,714 00 |
| Less expired and cancelled in 1885..... | 769 | 1,044,671 00 |
| Net risks in force on mutual system, 31st December, 1885..... | 2,618 | 3,210,043 00 |

BUSINESS TRANSACTED BY COMPANY:

General Fire Insurance.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| ----- | Three year risks. | Total. |
|---|-------------------|------------|
| | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment..... | 347,385 50 | 347,385 50 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied..... | 310,779 34 | 310,779 34 |
| Amount of premium notes received during the year 1885..... | 158,357 92 | 158,357 92 |

 THE WESTMINSTER MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, LOT 14, CON. 4, WESTMINSTER.

Commenced business 11th December, 1857.

President—ANDREW WELDON.

Secretary—HENRY ANDERSON.

Unassessed premium note capital, 17,907.57.

 ASSETS.

| | | |
|--|------------|---------------------------|
| Cash on deposit to the Company's credit, not drawn against in | | |
| Canadian Trust and Loan Company, London | \$1,144 20 | |
| London Loan and Savings Company, London | 5,479 74 | |
| | | <u>\$6,623 94</u> |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied | | 17,907 57 |
| Total assets | | <u><u>\$24,531 51</u></u> |

LIABILITIES.

| | |
|--------------------------------|-----------------------|
| Amount due Treasurer | \$00 88 |
| Total liabilities | <u><u>\$00 88</u></u> |

RECEIPTS.

| | |
|---|--------------------------|
| Cash at head office, as per last statement (not extended) | \$7 06 |
| Cash received for assessments levied in 1885 | \$2,069 31 |
| “ interest | 364 47 |
| “ membership fees | 146 60 |
| Total receipts | <u><u>\$2,580 38</u></u> |

EXPENDITURE.

Expenses of Management :

| | |
|--|-----------------|
| Amount paid for investigation and adjustment of claims | \$24 00 |
| “ statutory assessment or certificate | 34 36 |
| “ printing, stationery and advertising | 29 00 |
| “ salaries, directors' and auditors' fees | 387 50 |
| “ incidentals | 5 00 |
| Expenses of management | <u>\$479 86</u> |

Miscellaneous Payments :

| | |
|---|--------------------------|
| Cash paid for losses which occurred during 1885 | \$1,162 33 |
| “ returned premiums | 5 30 |
| Total expenditure | <u><u>\$1,647 49</u></u> |

CURRENCY OF RISKS.

Amount covered by policies in force 31st December, 1885.

| SYSTEM. | Five years. | | Total. | |
|--------------|-------------|----|-----------|----|
| | \$ | c. | \$ | c. |
| Mutual | 1,163,510 | 00 | 1,163,510 | 00 |

MOVEMENT OF RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|--------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 818 | 1,138,860 00 |
| New and renewed during 1885 | 158 | 212,800 00 |
| Gross number during 1885 | 976 | 1,351,660 00 |
| Less expired and cancelled in 1885 | 131 | 188,150 00 |
| Net risks in force 31st December, 1885 | 845 | 1,163,510 00 |

CLASSIFICATION OF RISKS :

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| — | Five years. | | Total. | |
|--|-------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 23,270 | 20 | 23,270 | 20 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 17,907 | 57 | 17,907 | 57 |
| Amount of premium notes received during the year 1885 | 4,256 | 00 | 4,256 | 00 |

TOWNSHIP OF EAST WILLIAMS MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, NAIRN.

*Commenced business 8th August, 1875.**President*—NEIL McTAGGART.*Secretary*—WM. McCALLUM.

Unassessed premium note capital, \$4,863.87.

ASSETS.

| | |
|--|-------------------|
| Cash on hand | \$432 83 |
| Cash in agents' hands, acknowledged by them to be due and considered good. | 29 40 |
| Amount unpaid of assessments levied during 1885 | 127 42 |
| “ “ “ in prior years (not extended). \$24 66 | |
| “ of premium notes in force, after deducting all payments thereon and assessments levied | 4,863 87 |
| Total assets | <u>\$5,453 52</u> |

LIABILITIES.—None.

RECEIPTS.

| | |
|--|-----------------|
| Cash at Head Office, as per last statement (not extended) | \$104 15 |
| Cash received as first payments on premium notes | 159 59 |
| “ on assessments levied during 1885 | 297 77 |
| “ “ “ prior to 1885 | 44 92 |
| “ agents' balances | 17 90 |
| Total receipts | <u>\$520 18</u> |

EXPENDITURE.

Expenses of Management :

| | |
|---|--------------|
| Amount paid for statutory assessment | \$9 11 |
| “ printing, stationery and advertising | 3 25 |
| “ salaries, directors' and auditors' fees | 74 00 |
| “ fuel and light | 50 |
| “ postage | 2 04 |
| “ incidentals | 2 60 |
| Expenses of management | <u>91 50</u> |

Miscellaneous Payments :

| | |
|---|-----------------|
| Cash paid for losses which occurred during 1885 | 100 00 |
| Total expenditure | <u>\$191 50</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | Three years. | | Total. | |
|--------------|--------------|----|---------|----|
| | \$ | c. | \$ | c. |
| Mutual | 302,840 | 00 | 302,840 | 00 |

MOVEMENT IN RISKS.

Mutual System.

| | Number. | Amount. | |
|--|---------|---------|----|
| | | \$ | c. |
| Policies in force 31st December, 1884 | 251 | 294,870 | 00 |
| New and renewed during 1885 | 84 | 92,045 | 00 |
| Gross numbers and amount during 1885 | 335 | 386,915 | 00 |
| Less expired and cancelled in 1885 | 78 | 84,075 | 00 |
| Net risks in force on Mutual system, 31st December, 1885 | 257 | 302,840 | 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS

On Policies in force 31st December, 1885.

| | Three year risks. | | Total. | |
|--|-------------------|----|--------|----|
| | \$ | c. | \$ | c. |
| Amount of face of all premium notes held by Company and legally liable to assessment | 6,056 | 80 | 6,056 | 80 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 4,863 | 87 | 4,863 | 87 |
| Amount of premium notes renewed during the year 1885 | 1,840 | 90 | 1,840 | 90 |

THE YARMOUTH MUTUAL FIRE INSURANCE COMPANY.

HEAD OFFICE, YARMOUTH CENTRE.

Commenced business 17th October, 1881.

President—JOHN A. SQUANCE.

Secretary—W. E. LEONARD.

Unassessed premium note capital, \$6,402.83.

ASSETS.

| | | |
|--|---------|-------------------|
| Actual cash on hand at head office..... | \$15 12 | |
| Cash on deposit to the Company's credit, not drawn against, in Southern Loan and Savings Company, St. Thomas..... | 20 93 | |
| | | <u>\$36 05</u> |
| Amount of assessments unpaid, levied during 1885..... | | 11 84 |
| Amount of premium notes in force, after deducting all payments thereon and assessments levied..... | | 6,402 83 |
| | | <u>6,402 83</u> |
| Total assets..... | | <u>\$6,450 72</u> |

LIABILITIES—None.

RECEIPTS.

| | | |
|--|------------|-----------------|
| Cash at head office, as per last statement (not extended)..... | \$1,237 41 | |
| Cash received as first payments, being part payment of premium notes.... | | \$262 21 |
| “ for assessments levied in 1885..... | | 516 90 |
| “ “ before 1885..... | | 72 46 |
| “ from transfer fees, etc..... | | 13 00 |
| “ for interest..... | | 13 27 |
| | | <u>877 84</u> |
| Total receipts..... | | <u>\$877 84</u> |

EXPENDITURE.

Expenses of Management:

| | | |
|--|--|-----------------|
| Amount paid for statutory assessment or certificate..... | | \$12 55 |
| “ printing, stationery and advertising..... | | 47 90 |
| “ postage, telegrams and express..... | | 6 59 |
| “ salaries, directors' and auditors' fees..... | | 210 00 |
| | | <u>277 04</u> |
| Total expenses of management..... | | <u>\$277 04</u> |

Miscellaneous:

| | | |
|--|------------|-------------------|
| Cash paid for losses which occurred during 1885..... | \$1,000 00 | |
| “ “ “ prior to 1885..... | 800 00 | |
| | | <u>1,800 00</u> |
| “ sundries..... | | 2 16 |
| | | <u>2 16</u> |
| Total expenditure..... | | <u>\$2,079 20</u> |

CURRENCY OF RISKS.

Amount covered by Policies in force 31st December, 1885.

| SYSTEM. | One year or less. | Over one but under two years. | Over two but under three years. | Three years. | Total. |
|--------------|-------------------|-------------------------------|---------------------------------|--------------|------------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Mutual | 3,530 00 | 5,650 00 | 2,875 00 | 434,667 00 | 446,722 00 |

MOVEMENT IN RISKS.

Mutual System.

| — | Number. | Amount. |
|--|---------|------------|
| | | \$ c. |
| Policies in force 31st December, 1884 | 305 | 416,047 00 |
| “ new and renewed during 1885 | 102 | 115,785 00 |
| Gross number during 1885 | 407 | 531,832 00 |
| Less expired and cancelled in 1885 | 73 | 85,110 00 |
| Net risks in force 31st December, 1885 | 334 | 446,722 00 |

CLASSIFICATION OF RISKS.

Farm and Non-hazardous.

PREMIUM NOTES OR UNDERTAKINGS.

On Policies in force 31st December, 1885.

| — | One year risks or under. | Over one but under two year risks. | Over two but under three year risks. | Three years. | Total. |
|--|--------------------------|------------------------------------|--------------------------------------|--------------|----------|
| | \$ c. | \$ c. | \$ c. | \$ c. | \$ c. |
| Amount of face of all premium notes held by Company, and legally liable to assessment | 14 86 | 48 75 | 45 64 | 8,487 72 | 8,596 97 |
| Amount of all premium notes, after deducting all payments thereon and assessments levied | 12 61 | 39 58 | 34 76 | 6,315 88 | 6,402 83 |
| Amount of premium notes received during the year 1885 | 20 61 | 33 75 | 27 63 | 2,066 85 | 2,148 84 |

RECAPITULATION

OF

ASSETS, LIABILITIES, INCOME AND EXPENDITURE

OF ALL

•
STRICTLY MUTUAL FIRE INSURANCE COMPANIES.
•

| | | | | | | |
|---|----------|-----------|-----------|--------------|----------|--------------|
| Grand River | 611 35 | 35 00 | 206 33 | 4,622 10 | 7 00 | 5,481 78 |
| Grey and Bruce | 1,836 02 | | 324 15 | 11,748 65 | | 13,908 82 |
| Guelph Township | 598 91 | | | 19,392 05 | | 19,990 95 |
| Hay | 1,512 81 | | | 42,961 29 | | 44,474 10 |
| Hopewell Creek | 41 73 | | 102 00 | 43,541 97 | | 43,685 70 |
| Howick | 1,357 45 | | 801 70 | 113,327 91 | | 121,487 06 |
| Huron and Middlesex | 202 74 | 1,066 79 | 1,466 88 | 48,275 68 | 15 00 | 54,414 21 |
| Lambton | 4,577 09 | 32 | | 22,528 64 | | 28,114 28 |
| Lennox and Addington | 924 48 | | 225 00 | 6,942 92 | | 8,092 40 |
| Lobo | 870 36 | | 76 27 | 11,619 26 | | 12,565 79 |
| London Township | 81 04 | | 49 95 | 13,206 80 | | 13,337 79 |
| McGillivray | 202 85 | | | 7,641 96 | | 9,979 81 |
| McKillop | 29 99 | | 381 46 | 42,592 98 | | 43,004 43 |
| Nichel | 2,367 96 | | 2,831 95 | 59,464 67 | | 64,991 77 |
| Nisour, East and West, and Zorra West | 1,657 50 | 85 61 | 1,439 35 | 64,603 34 | | 66,102 69 |
| Norfolk | 153 25 | | 417 49 | 10,572 10 | | 12,732 70 |
| Oueda | 438 38 | | 75 45 | 7,599 00 | | 7,752 25 |
| Oxford | 519 99 | | 1,758 07 | 17,567 35 | | 17,642 80 |
| Peel County | 28 83 | | | 39,701 67 | | 41,893 12 |
| Pushinch | 164 81 | | | 7,892 21 | | 8,412 20 |
| Saltfleet and Binbrook | 1,485 53 | 120 11 | | | | |
| Saugren | 259 57 | | 91 66 | 10,380 34 | | 11,331 57 |
| Simcoe | 716 81 | | 117 44 | 22,487 62 | | 23,321 87 |
| Southwold | 192 79 | | 737 05 | 30,151 04 | | 31,312 08 |
| Sydenham | 906 22 | 34 16 | | 23,052 18 | | 23,999 64 |
| Townsend | 68 31 | | 7 08 | 108,493 47 | | 109,288 15 |
| Usborne and Hibbert | 155 00 | | 736 37 | 62,437 13 | | 62,739 62 |
| Victoria | 5,374 53 | 328 29 | 7,047 98 | 310,779 34 | | 323,867 74 |
| Waipole | 6,623 94 | 29 40 | 127 42 | 17,907 57 | | 24,531 51 |
| Waterloo, North | 432 83 | | | 4,863 87 | | 5,453 52 |
| Wawanosh, West | 36 05 | | 11 84 | 6,402 83 | | 6,450 72 |
| Wellington | | | | | | |
| Westminster | | | | | | |
| Williams, East | | | | | | |
| Williams, West | | | | | | |
| Yarmouth | | | | | | |
| Totals | 4,284 13 | 16,634 25 | 29,533 70 | 2,101,658 27 | 1,207 93 | 2,244,939 49 |

PURELY MUTUAL COMPANIES.

LIABILITIES FOR THE YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Losses. | | | Borrowed Money. | Salaries and Directors' Fees. | Small Accounts. | Total Liabilities. | Number of Policies in force. | Amount at Risk. |
|--------------------------------------|-----------|-----------|----------------------------|-----------------|-------------------------------|-----------------|--------------------|------------------------------|-----------------|
| | Adjusted. | Resisted. | Reported but not Adjusted. | | | | | | |
| | £ | ¢ | ¢ | £ | £ | £ | £ | | £ |
| Bay of Quinte | | | | | | 1 24 | 1 24 | 729 | 949,995 00 |
| Bertie and Willoughby | | | | | | | <i>nil.</i> | 507 | 588,132 00 |
| Blanshard | | | | 1,100 00 | | 45 00 | 1,145 00 | 578 | 778,095 00 |
| Blenheim, North | | | | 150 00 | | | 150 00 | 342 | 731,150 00 |
| Brant, County | | | | | | | <i>nil.</i> | 2,247 | 3,001,469 00 |
| Bruce West | 70 00 | | | 9 41 | 50 40 | 26 40 | 156 21 | 109 | 154,750 00 |
| Canadian Millers' | | | | | | | <i>nil.</i> | 141 | 284,100 00 |
| Caradoc | | | | 6 62 | 81 50 | | 88 12 | 158 | 192,475 00 |
| Culross | | | | | | | <i>nil.</i> | 329 | 460,638 00 |
| Dominion Grange, General Branch | 528 00 | | | | | 50 | 528 50 | 1,577 | 1,614,884 00 |
| " " Grange Branch | 12 70 | | | | | 343 25 | 355 95 | 4,712 | 5,896,033 00 |
| Dorchester, North and South | | | | | | | <i>nil.</i> | 615 | 877,046 00 |
| Dowrie | | | | 145 36 | | | <i>nil.</i> | 214 | 325,005 00 |
| Dumfries, North, and Waterloo, South | | | | 200 00 | | | 145 36 | 1,558 | 3,535,667 00 |
| Dunwich | | | | | | | 200 00 | 495 | 537,691 00 |
| Easthope, South | | | | | | | <i>nil.</i> | 848 | 1,451,400 00 |
| Economical | | | | | | | <i>nil.</i> | 3,245 | 3,248,005 00 |
| Elma | | | | | | | <i>nil.</i> | 208 | 276,308 00 |
| Eramosa | | | | | | | <i>nil.</i> | 193 | 378,660 00 |
| Erie | 700 00 | | | | | | 700 00 | 570 | 607,235 00 |
| Fornosa | | | | | | | <i>nil.</i> | 418 | 442,515 00 |
| Germania | | | | | 55 50 | | 55 50 | 555 | 710,470 00 |
| Globe | | | | | 107 95 | | 432 95 | 1,227 | 776,341 00 |

| | | | | | | | | | |
|--|-----------|-----------|----------|----------|----------|-----------|-----------|----------|------------|
| Grand River..... | 815 84 | 107 62 | 19 25 | 3 00 | 10 04 | | | | 955 75 |
| Grey and Bruce..... | 433 25 | 38 69 | | | 60 45 | | | | 532 30 |
| Gravelly Township..... | 202 82 | 376 95 | | | | | | | 579 77 |
| Hay..... | 232 45 | 20 84 | | | 56 00 | | | | 309 29 |
| Hopewell Creek..... | 3 15 | 1,094 01 | | | | | | | 1,981 96 |
| Howick..... | 11,228 71 | 6,413 85 | 140 16 | 62 55 | 38 35 | | | | 9,943 08 |
| Huron and Middlesex..... | 5,036 78 | 6,448 40 | | | | | | | 1,245 73 |
| Lambton..... | 1,206 41 | 334 27 | | | 140 63 | | | | 6,527 41 |
| Lennox and Addington..... | 195 16 | 30 88 | | | 16 55 | | | | 2,855 38 |
| Lobo Township..... | 372 43 | 18 15 | | | 44 59 | | | | 643 31 |
| London Township..... | 1,290 66 | | 1,177 20 | 3 12 | 7 19 | | | | 1,319 12 |
| McGillivray..... | 3,551 34 | 178 55 | | | 131 92 | | | | 3,400 42 |
| McKillop..... | 995 21 | | | | 17 60 | | | | 3,502 84 |
| Nichol..... | 146 00 | 2,949 97 | | | 33 74 | | | | 15,187 25 |
| Nissour, East and West, and Zorra, West..... | 570 83 | 200 17 | | | 1 42 | | | | 4,889 23 |
| Norfolk..... | 160 00 | | 100 25 | 21 00 | | | | | 3,747 13 |
| Oneida..... | 646 08 | | | | | | | | 150 15 |
| Oxford..... | 146 52 | | | | 16 83 | | | | 1,527 15 |
| Peel County..... | 212 79 | | | | | | | | 4,108 74 |
| Paslinch..... | 1,624 71 | | 10 50 | 6 76 | | | | | 173 85 |
| Saltfleet and Binbrook..... | 56 00 | | | | | | | | 305 99 |
| Saugeen..... | 730 27 | | | | | | | | 14,260 31 |
| Simcoe..... | 226 98 | | | | | | | | 392 00 |
| Southwold..... | 1,327 55 | | | | | | | | 3,633 13 |
| Sydenham..... | 302 24 | | | | | | | | 1,149 31 |
| Townsend..... | 312 29 | | | | | | | | 3,729 49 |
| Usborne and Hibbert..... | 9,439 49 | | | | | | | | 2,051 62 |
| Victoria..... | 159 59 | | | | | | | | 4,724 95 |
| Walpole..... | 262 21 | | | | | | | | 1,648 06 |
| Waterloo, North..... | 60,000 79 | | | | | | | | 4,727 59 |
| Wawanosh..... | 302 24 | | | | | | | | 2,278 90 |
| Wellington..... | 312 29 | | | | | | | | 25,113 34 |
| Westminster..... | 9,439 49 | | | | | | | | 2,580 38 |
| Williams, East..... | 159 59 | | | | | | | | 520 18 |
| Yarmouth..... | 262 21 | | | | | | | | 877 84 |
| Totals..... | 60,000 79 | 22,599 26 | 3,630 41 | 1,098 43 | 3,700 50 | 13,135 54 | 36,925 81 | 2,155 84 | 2,681 40 |
| | | | | | | | | | 235,332 36 |

PURELY MUTUAL COMPANIES.

EXPENDITURE FOR YEAR ENDING 31st DECEMBER, 1885.

| NAME OF COMPANY. | Losses. | | Repayments of Borrowed Money. | | Reinsurance. | | Returns, Rebate, and | | General Expense Account. | | Agents' Commission and Fees. | | Interest. | | Law Costs. | | Statutory Assessment or Certificate. | | Investments. | | All Other Expenses. | | Total. | |
|------------------------------------|---------|----|-------------------------------|----|--------------|----|----------------------|----|--------------------------|----|------------------------------|----|-----------|----|------------|----|--------------------------------------|----|--------------|----|---------------------|----|--------|----|
| | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ | £ | ¢ |
| Bay of Quinte..... | 1,087 | 19 | 140 | 00 | | | | | 453 | 07 | 120 | 40 | 1 | 72 | | | 25 | 15 | | | | | 1,897 | 53 |
| Bertie and Willoughby..... | 52 | 50 | | | | | | | 306 | 76 | 161 | 05 | | | | | 15 | 14 | | | | | 585 | 45 |
| Blanshard..... | 1,375 | 00 | 700 | 00 | | | | | 61 | 20 | | | 52 | 00 | | | 21 | 37 | | | | | 2,209 | 57 |
| Blenheim, North..... | 65 | 00 | | | | | | | 66 | 36 | | | | | 14 | 00 | 20 | 12 | | | | | 165 | 48 |
| Brant County..... | 2,071 | 23 | 1,850 | 00 | | | | | 84 | 30 | 556 | 71 | 106 | 75 | 21 | 29 | 80 | 77 | | | | | 5,544 | 11 |
| Bruce, West..... | 560 | 00 | | | | | | | 84 | 76 | | | | | | | 20 | 00 | | | | | 664 | 76 |
| Canadian Millers'..... | 3,780 | 43 | 1,600 | 00 | 302 | 00 | 68 | 50 | 878 | 84 | 772 | 24 | 27 | 91 | | | 4 | 59 | | | | | 7,434 | 51 |
| Caraboe..... | 2 | 00 | 41 | 74 | | | | | 36 | 85 | | | | | 4 | 00 | | | | | | | 87 | 85 |
| Cutross..... | 200 | 00 | 7 | 72 | | | | | 105 | 20 | 27 | 50 | | | | | 13 | 21 | | | | | 353 | 63 |
| Dominion (Grange, General Branch | 1,687 | 54 | | | 13 | 53 | 77 | 75 | 1,831 | 66 | 130 | 00 | | | 15 | 22 | 75 | 86 | 1,139 | 84 | | | 4,971 | 44 |
| " Grange Branch | 5,674 | 19 | | | 96 | 03 | 3,081 | 89 | 4,855 | 70 | 289 | 25 | | | 30 | 42 | 151 | 74 | 473 | 26 | 300 | 00 | 14,951 | 48 |
| Dorchester, North and South..... | 21 | 33 | | | | | | | 215 | 70 | | | | | | | 24 | 71 | | | | | 261 | 74 |
| Dowrie..... | 1 | 00 | 30 | 00 | | | | | 26 | 02 | 86 | 19 | | | | | 6 | 54 | | | | | 130 | 25 |
| Dumfries, N., and Waterloo, S..... | 5,415 | 96 | 2,906 | 19 | | | | | 1,446 | 00 | | | 117 | 00 | 4 | 00 | 104 | 45 | | | | | 9,994 | 20 |
| Dunwich..... | 1,185 | 00 | 227 | 77 | | | | | 157 | 75 | | | 7 | 46 | | | 16 | 56 | | | | | 1,595 | 54 |
| Easthope, South..... | 650 | 00 | | | | | | | 222 | 50 | | | | | | | 39 | 66 | | | | | 912 | 16 |
| Economical..... | 15,686 | 26 | | | 15 | 92 | 257 | 38 | 3,433 | 84 | 1,687 | 00 | 7 | 70 | 49 | 73 | 74 | 67 | | | | | 21,204 | 80 |
| Ehna..... | 110 | 00 | | | | | | | 112 | 24 | | | | | | | 5 | 92 | | | | | 285 | 86 |
| Erasmusa..... | 28 | 15 | | | | | | | 113 | 89 | 77 | 25 | | | | | 8 | 33 | | | | | 227 | 62 |
| Errie..... | 637 | 21 | | | | | | | 173 | 52 | 55 | 25 | | | | | 17 | 99 | | | | | 942 | 97 |
| Formosa..... | 875 | 00 | | | | | | | 101 | 00 | | | | | | | 9 | 02 | | | | | 985 | 02 |
| Germania..... | 3 | 60 | | | | | | | 87 | 51 | 1 | 50 | | | | | 19 | 50 | | | | | 112 | 11 |
| Globe..... | 661 | 36 | | | | | 16 | 79 | 622 | 09 | 480 | 37 | | | | | 22 | 03 | | | | | 1,802 | 64 |

| | | | | | | | |
|--|---------------|--------------|--------------|---------------|--------------|-------|---------------|
| Hand in-Hand..... | 489,486 00 | 5,020 14 | \$1,738 53 | 387,504 00 | 3,815 96 | 98 | 1, 3, 4 |
| Hay Township..... | 1,669,787 00 | 42,961 29 | 44,374 10 | 459,550 00 | 12,984 60 | 2,82 | 5 |
| Hopewell Creek..... | 843,749 00 | 43,385 97 | 43,385 70 | 240,655 00 | 13,437 40 | 5,58 | 5 |
| Howick..... | 2,893,268 00 | 119,327 91 | 121,487 06 | 616,595 00 | 32,047 00 | 5,20 | 5 |
| Huron and Middlesex..... | 1,881,207 00 | 48,837 80 | 48,974 71 | 860,915 00 | 35,233 51 | 4,09 | 1, 3 |
| Lambton..... | 2,511,757 00 | 22,528 64 | 28,112 08 | 882,955 00 | 13,228 23 | 1,50 | 3 |
| Lennox and Addington..... | 514,840 00 | 6,942 32 | 6,970 09 | 113,024 00 | 2,528 06 | 2,28 | 3 |
| Lobo..... | 315,339 00 | 11,619 26 | 12,565 79 | 184,465 00 | 7,402 40 | 4,01 | 3 |
| London Township..... | 597,980 00 | 13,208 80 | 13,337 79 | 142,085 00 | 2,736 69 | 1,92 | 3, 4, 5 |
| McGillivray..... | 318,465 00 | 7,641 96 | 9,979 81 | 218,700 00 | 7,641 96 | 3,50 | 3 |
| McKillop..... | 2,079,853 75 | 42,592 98 | 43,094 43 | 413,165 00 | 10,904 00 | 2,64 | 5 |
| Millers and Manufacturers..... | 241,100 00 | 5,068 77 | 20,175 54 | 246,600 00 | 5,080 52 | 2,06 | 1 or less. |
| NiCHEL..... | 2,167,207 00 | 59,464 67 | 58,953 27 | 800,335 00 | 31,695 60 | 3,96 | 5 |
| Nissouri, East and West, and Zorra West..... | 1,460,421 00 | 64,603 34 | 64,771 61 | 265,780 00 | 13,289 00 | 5, | 5 |
| Nonfork..... | 1,106,749 00 | 10,572 10 | 10,134 13 | 514,938 00 | 7,560 33 | 1,47 | 3 |
| Oneida..... | 430,354 00 | 7,599 00 | 7,752 25 | 149,441 00 | 3,545 08 | 2,35 | 3, 4, 5 |
| Ontario..... | 1,158,466 00 | 7,396 11 | 4,501 78 | 345,731 00 | 5,184 56 | 1,50 | 1, 2, 3 |
| Oxford..... | 470,425 00 | 17,567 35 | 17,596 35 | 193,250 00 | 7,735 00 | 4,00 | 1, 2, 3, 4, 5 |
| Peel County..... | 2,617,639 00 | 39,701 67 | 41,408 03 | 633,905 05 | 13,029 04 | 2,06 | 4 |
| Perrh..... | 2,819,886 00 | 45,730 20 | 59,784 62 | 1,127,111 00 | 34,647 52 | 3,07 | 3 |
| Punishch..... | 416,725 00 | 7,923 41 | 8,402 20 | 150,045 00 | 3,000 90 | 2, | 3 |
| Saltfleet and Binbrook..... | 381,905 00 | 5,457 02 | 5,493 02 | 102,015 00 | 1,551 54 | 1,52 | 3 |
| Saugeen..... | 1,347,256 00 | 29,651 45 | 25,773 86 | 572,731 00 | 19,774 59 | 3,42 | 1, 3 |
| Simcoe County..... | 192,406 08 | 3,333 82 | 3,425 09 | 72,402 00 | 1,548 05 | 2,14 | 3, 5 |
| Southwold..... | 660,150 00 | 8,742 88 | 9,106 74 | 169,350 00 | 3,387 00 | 2,00 | 5 |
| Sydenham..... | 1,807,471 00 | 35,678 72 | 37,284 36 | 713,961 00 | 14,906 78 | 2,08 | 1, 2, 3, 4, 5 |
| Townsend..... | 916,490 00 | 10,980 34 | 11,331 57 | 353,755 00 | 5,661 21 | 1,60 | 3 |
| Usborne and Hibbert..... | 1,377,055 00 | 22,487 62 | 23,321 87 | 338,540 00 | 8,455 79 | 2,50 | 5 |
| Victoria..... | 1,135,568 00 | 30,151 04 | 30,856 89 | 371,215 00 | 12,485 15 | 3,36 | 3 |
| Waupole..... | 1,183,955 00 | 23,052 18 | 23,999 64 | 327,095 00 | 6,799 75 | 2,08 | 1, 2, 3, 4, 5 |
| Waterloo..... | 3,312,366 67 | 144,526 35 | 188,010 84 | 1,257,499 00 | 88,273 82 | 7,02 | 3 |
| Waterloo, North..... | 2,338,344 00 | 108,493 47 | 109,288 15 | 590,765 00 | 30,009 00 | 5,08 | 3 |
| Wawanosh, West..... | 1,650,284 00 | 62,437 13 | 61,739 62 | 1,328,671 00 | 20,801 75 | 1,56 | 3 |
| Wellington..... | 3,210,043 00 | 310,779 34 | 323,868 63 | 1,317,790 00 | 158,357 42 | 11,79 | 3 |
| Westminster..... | 1,163,310 00 | 17,907 57 | 24,530 63 | 212,800 00 | 4,256 00 | 2,00 | 5 |
| Williams, East..... | 302,840 00 | 4,863 87 | 5,453 52 | 92,045 00 | 1,840 90 | 2,00 | 3 |
| Yarmouth..... | 440,722 00 | 6,402 83 | 6,450 72 | 115,785 00 | 2,148 84 | 1,86 | 1, 2, 3 |
| | 79,972,530 51 | 2,437,438 24 | 2,710,842 94 | 27,386,667 00 | 1,052,927 46 | | |

REGISTER OF INSURANCE COMPANIES, INCLUDING ALL COMPANIES AT FEB. 23RD, 1887.

| Pages. | NAME OF COMPANY. | System. | Head Office. | President. | Post Office. | Secretary. | Post Office. |
|--------|--------------------------------|----------------------|-------------------------|------------------|----------------|-----------------|----------------|
| 46 | Bay of Quinte Agriculturall. | Mutual | Pictou | Arch. Southard | Pictou | J. Roland Brown | Pictou. |
| 49 | Bertie and Willoughby Farmers | Mutual | Ridgeway | W. E. Elsworth | Ridgeway | H. N. Hibbard | Ridgeway. |
| 51 | Blanshard | Mutual | Woodham | W. T. Sanderson | St. Mary's | Wm. Johnston | Woodham. |
| 53 | Blenheim, North | Mutual | Chesterfield | Thos. Lockhart | Walmer | Geo. Middleton | Chesterfield. |
| 55 | Brant County Farmers | Mutual | Paris | M. Freeman | Princeton | Wm. Thornhill | Paris. |
| 57 | Bruce, West, Farmers | Mutual | Kincardine | Robt. Baird | Kincardine | E. Thornhill | Kincardine. |
| 59 | Canadian Millers | Mutual | Hamilton | D. Goldie | Ayr | Seneca Jones | Hamilton. |
| 62 | Caradoc Farmers | Mutual | Mount Brydges | W. Young | Mount Brydges | Wm. E. Sawyer | Mount Brydges. |
| * | City Mutual of London | Mutual and Cash | London | Jas. Cowan | London | Hugh Vallance | London. |
| 64 | Culross | Mutual | Teeswater | Thos. Allison | Teeswater | Wm. Colvin | Teeswater. |
| 66 | Dominion Grange | Mutual | Owen Sound | Jesse Trull | Oshawa | R. J. Doyle | Owen Sound. |
| 71 | Dorchester, North and South | Mutual | Harristsville | Wm. Woods | Cumlin | Francis Kunz | Harristsville. |
| 73 | Downie | Mutual | St. Paul's | Jas. Ballantyne | Selbringville | Peter Smith | Selbringville. |
| 75 | Dunfries, N., and Waterloo, S. | Mutual | Ayr | Jno. W. Martin | Prston | Wm. Deans | Galt. |
| 77 | Dunwich Farmers | Mutual | Wallacetown | P. Stalker | Criman | John L. Pearce | Wallacetown |
| 79 | Easthope, South, Farmers | Mutual | Tavistock | Werner Youngblnt | Tavistock | Robert Reid | Tavistock. |
| 81 | Economical | Mutual | Berlin | Hugo Krauz, M.P | Berlin | W. Oelschlagel | Berlin. |
| 84 | Elma Farmers | Mutual | Atkwood | Wm. Shearer | Listowel | Robert Cleland | Listowel. |
| 86 | Francoisa | Mutual | Rockwood | David Rae | Spearside | Hugh Black | Rockwood. |
| 88 | Brie Farmers | Mutual | Selkirk | Guye Colver | Rainham Centre | J. W. Holmes | Selkirk. |
| * | Fire Insurance Exchange | Mutual and Guarantee | Toronto | Fred. Wyld | Toronto | Andrew Darling | Toronto. |
| 90 | Formosa | Mutual | Formosa | Andrew Waechter | Walkerton | Julius Noll | Formosa. |
| 92 | Germania Farmers | Mutual | Lot 4, Con. 8, Normanby | John Roedding | Alsfeldt | Geo. Hopf | Moltke. |
| 94 | Globe | Mutual | Brautford | John Strickland | Brautford | Edwin Sims | Brautford. |
| 19 | Gore District | Mutual and Cash | Galt | Hon. J. Young | Galt | R. S. Strong | Galt. |
| 97 | Grand River | Mutual | York | Wm. H. Hull | Caledonia | F. A. Nelles | York. |
| 99 | Grey and Bruce | Mutual | Hanover | David McNichol | Lamplash | Duncan Campbell | Hanover. |
| 101 | Guelph Township | Mutual | Guelph | John Hobson | Mosborough | Wm. Whitelaw | Guelph. |
| 23 | Hand-in-Hand | Mutual and Stock | Toronto | W. H. Howland | Toronto | Hugh Scott | Toronto. |
| 103 | Hay Township Farmers | Mutual | Zurich | Daniel Sarurus | Zurich | Henry Eilber | Credition. |
| 105 | Hopewell Creek | Mutual | New Germany | Joseph Springer | Koskath | Anton Frank | New Germany. |
| 108 | Howick Farmers | Mutual | Gorrie | James Edgar | Gorrie | Thos. F. Miller | Wroxeter. |
| 110 | Huron and Middlesex | Mutual | London | L. C. Leonard | London | John Stephenson | London. |

| | | | | |
|---|-------------------|----------------|------------------|------------------|
| 113 Lambton Farmers' Mutual | W. G. Willoughby | Walnut | Ketchell | W. C. Willoughby |
| 115 Lennox and Addington Mutual | Geo. Dewar | Newburgh | C. James | Napanee |
| 117 London Township Mutual | Inc. B. Aylsworth | Kanoka | Jacob Marsh | Goldstream |
| 119 Lobo Township Farmers' Mutual | T. T. Turnbull | Bynastown | E. Pann | Brynastown |
| 121 McGillivray Mutual | Edward Roberts | W. McGillivray | W. Fraser | W. McGillivray |
| 123 McKillop Mutual | Andrew Robinson | St. Catharines | W. J. Shannon | Seaforth |
| 51 Mercantile Stock | Thos. T. Hays | St. Jacobs | P. H. Sims | Waterloo |
| 27 Millers' and Manufacturers' Stock and Mutual | J. E. Bowman | Guelph | W. Ireland Scott | Toronto |
| 125 Nichol Mutual | Jas. Goldie | Fergus | J. John Beattie | Fergus |
| 127 Nissouri Farmers' Mutual | Wm. Taylor | Cherry Grove | E. J. Pannson | Simcoe |
| 129 Norfolk Farmers' Mutual | David Chalmers | Dellin | W. Roberts | Simcoe |
| 131 Oneida Farmers' Mutual | R. M. Wilson | Willow Grove | John Senn | York |
| 30 Ontario Mutual | David Kettick | London | P. F. Boyle | London |
| 133 Oxford Farmers' Mutual | A. McCurdy | Nissouri | Robert Murray | London |
| 135 Peel County Farmers' Mutual | Thos. Hoyle, M.D. | Brampton | L. Cheyne | Brampton |
| 32 Perth County Mutual | D. Mc | Stratford | Chas. Packert | Stratford |
| 137 Puslinch Mutual | W. I. Howland | Aberfoyle | Jas. Scott | Aberfoyle |
| 9 Queen City Stock | A. D. Lee | Toronto | T. Wahusley | Toronto |
| 139 Saltfleet and Binbrook Mutual | James Murdoch | Stony Creek | J. C. Harris | Hamilton |
| 141 Saugceen Mutual | P. B. Shelly | Yeoil | H. L. Drake | Mount Forest |
| 144 Simcoe County Mutual | Donald Turner | Pottersham | T. R. Carmichael | Tottenham |
| 146 Southwold Farmers' Mutual | Gibson Harbress | West Magdala | R. N. Stafford | Sheddon |
| 148 Sydenham Mutual | Oscar McMichael | Amman | Hugh Reid | Amman |
| 150 Townsend Farmers' Mutual | Robert Gardiner | Waterford | L. N. Collier | Waterford |
| 152 Ushorne and Hibbert Mutual | Geo. H. Mills | Parquhar | James Gillespie | Cromarty |
| 151 Victoria Mutual | Chas. Simon | Hamilton | W. D. Booker | Hamilton |
| 157 Walpole Farmers' Mutual | Chas. Hendrie | Garnet | John Heasman | Jarvis |
| 36 Waterloo Mutual | B. J. Ballard | Waterloo | C. M. Taylor | Waterloo |
| 159 Waterloo North, Farmers' Mutual | Charles Girvin | Waterloo | L. Stauffer | Waterloo |
| 161 Wawanosh, West Mutual | F. W. Stone | Nico | Robert Murray | St. Helens |
| 163 Wellington Mutual | John H. Little | Guelph | Chas. Davidson | Guelph |
| 166 Westminster Township Mutual | N. McEggett | Lambeth | Henry Anderson | Wilton Grove |
| 168 Williams, East Mutual | John A. Sqaunce | Nain | Wm. McCallum | Nain |
| 170 Vermont Mutual | St. Thomas | St. Thomas | W. E. Leonard | St. Thomas |

St. made an initial deposit of \$6,000 with the Provincial Treasurer, and was duly authorized to transact a General Fire Insurance business from and after the 6th May, 1887, authorized to transact a General Fire Insurance business from and after 22nd July, 1886. \$5,000; also subscribed Guarantee Capital, \$200,000, and was duly

PANTING





BINDING SECT. AUG 23 1967

