

also demonstrated by experiment the feasibility and economy of operating the locks, weirs, etc., with electrical apparatus, an account of which appeared in THE CANADIAN ENGINEER last year. In 1891 Mr. Monro was sent by the Government to England to examine and report upon the Manchester Ship Canal. He is at present engaged, with other Government engineers, in looking into matters connected with the improvement of the harbor of Montreal. Mr. Monro designed and constructed the waterworks at St. Catharines and Merriton, Ont., and reported on systems for Simcoe, Clifton, etc. He has had extensive experience in subjects connected with hydraulic engineering. He is a member of the Institution of Civil Engineers, and was elected President of the Canadian Society of Engineers for 1895, at its last annual meeting. Mr. Monro's professional career was the subject of a complimentary biographical sketch in *Cassier's Magazine* for November, 1892, written by F. Houghton, to whom the writer is indebted for some of the facts contained in this notice.

#### ASSOCIATION OF ONTARIO LAND SURVEYORS.

The first steps towards organizing the Association of Ontario Land Surveyors were taken in the latter part of 1885, and were initiated by Willis Chipman, C.E., then of Brockville, who entered into correspondence with representative members of the profession in different parts of the province. As a result, a meeting was held at the old Parliament buildings in Toronto, on 23rd February, 1886, the conveners being Otto J. Klotz, Preston; G. B. Kirkpatrick, Toronto; T. Harry Jones, Brantford; Jno. M. Moore, London; P. S. Gibson, Willowdale; G. B. Abrey, Toronto; M. J. Butler, Napanee; Lewis Bolton, Listowel; Prof. Galbraith, Toronto; Alex. Niven, Haliburton; and Edgar Bray, Oakville. At this convention a constitution and by-laws were adopted and officers nominated. It was decided to hold annual meetings of the association, at which papers on various topics of interest to the profession should be read, and the whole proceedings of the meetings published in the form of annual reports. Thus was the association launched, not without some misgivings as to its future, as many, particularly among the older members of the profession, held aloof and looked upon it as an ephemeral institution. The steady progress of the association has shown that these misgivings were ill-founded.

Under the by-laws, standing committees were annually appointed by the council to have charge of the following branches relating to the interests of the association, viz., land surveying, drainage, engineering, legislation, instruments and publication. A standing committee on entertainment was afterwards added, as, since the year 1887, the annual dinner has been recognized as not the most uninteresting feature of the meetings. The association began with a membership of twenty-five, which was increased during the first year to seventy, and during the years preceding incorporation to one hundred and twenty.

In 1891 it became apparent that the time for incorporation had come, and steps were taken with that end in view. A bill was drafted and submitted to the Hon. Commissioner of Crown Lands, who, being convinced that the proposed Act was in the interests of the public, introduced it as a Government measure. This bill, with a few amendments, received the royal assent

on the 14th of April, 1892, and the association became a body corporate, having perpetual succession and a common seal, with power to hold real estate and to pass by-laws, not inconsistent with the Act, for the: (a) Government, discipline and honor of its members. (b) Management of its property. (c) Examination and admission of candidates for the study and practice of the profession. (d) And for all such other purposes as may be necessary for the working of the corporation.

The management of the affairs of the association is vested in a council consisting of the Commissioner of Crown Lands, a president, vice-president and six other elective members.

The president, vice-president and secretary-treasurer are elected annually, while the councillors hold office for terms of three years, two members being elected in each year. The meetings of the council are presided over by a chairman of council, who is annually elected by the council from among its members, and who is also *ex-officio* chairman of the board of examiners.

The board of examiners is composed of the chairman of council and six other members, of whom two are appointed by the Lieutenant-Governor-in-Council and four appointed by the council of management, each member thus appointed holding office for three years. The secretary-treasurer of the association is also *ex-officio* secretary of the board.

Since incorporation the membership of the association has steadily increased, and now includes all the legally practising land surveyors in the province. There are now 213 active members and 42 who have registered and withdrawn from practice.

With the exception of the city engineers of Toronto and Ottawa, every city engineer in the province is a member of the O. L. S. Association, and nearly all town and county engineers in Ontario are also members.

The board of examiners is composed of the following persons: M. J. Butler and G. B. Kirkpatrick, appointed by Lieutenant-Governor in Council, and P. S. Gibson, A. Niven, M. Gaviller and R. Coad, appointed by the council of management, the chairman being Mr. V. Sankey.

Candidates for admission to apprenticeship are examined on the following subjects: Penmanship, Orthography, Arithmetic, Logarithms, Algebra, Euclid, Trigonometry, Mensuration and Drawing.

Candidates for admission to practice are examined as follows: Geometry, Algebra, Plane and Spherical Trigonometry, Mensuration, Descriptions, Use and Adjustment of Instruments, Laying out of Curves, Practical Astronomy, Survey Act, Mining Act, Municipal Act, Registry Act, Ditches and Water Courses Act, Levelling, Principles of Evidence, Taking of Field Notes, Preparing Plans, Geology and Mineralogy.

The majority of candidates for the final examination during the past few years have been graduates of the Ontario School of Practical Science, McGill University and the Royal Military College.

Within the last year a large room has been secured for the exclusive use of the association, with a vault attached, and has been fitted up as a library and repository.

The association collects books, plans, pamphlets, field-notes, diaries, etc., and any other documents pertaining to the early surveys of Canada, also instruments of early manufacture. Biographical sketches of the