

CANADIAN SOCIETY OF CIVIL ENGINEERS.

The fourteenth annual meeting of the Canadian Society of Civil Engineers opened in the society's rooms, Montreal, on the 31st inst., the president, W. T. Jennings, in the chair. There was a large attendance of members.

The various committees presented their reports, and all the regular business of the convention was concluded on this day, except the reports of the scrutineers on the election of members of the council. The elections for the chief offices resulted as follows: President, Prof. H. T. Bovey; vice-president, C. H. Duggan, Percival W. St. George and E. H. Keating; treasurer, H. Irwin; secretary, C. H. McLeod; librarian, E. Rhys-Roberts. It was agreed that the report on the election of the members of council should be presented at a meeting to be held on the 8th February.

The following were elected as nominating committee for the ensuing year: For Quebec—L. G. Papineau, C. le B. Leprohon. For Ontario—C. H. Rust, J. Galbraith, G. A. Mountain. For Manitoba and N.W.T.—Col. H. N. Ruttan. For Maritime Provinces—Dr. Martin Murphy. For Newfoundland and Foreign—L. Skaife. On motion of W. J. Sproule, seconded by I. S. Pariseau, Duncan Macpherson and T. Harry Jones, it was decided to devote \$200 to the Patriotic Fund. The resolution was followed by "God Save the Queen."

The meeting adjourned at 6.30 p.m., and the members took a special train for Boston, the train being provided by courtesy of the Grand Trunk Railway. A report of the meeting and an account of the excursion and dinner at Boston will appear in next issue.

SCHOOL HEATING AND VENTILATING.

The question of heating and ventilating school buildings is a most important one in Canada, owing to the length of our "closed-in" season. The various systems now in use were criticized in *The Canadian Engineer* some months ago, when the report of the Toronto Board of Health on the subject of school ventilation was dealt with. The chief engineer to the Board of Education of Boston, Mass., T. J. Waters, in a report on school ventilation in Boston, made to F. W. Chandler, professor of architecture, Massachusetts Institute of Technology, takes up the following, the chief points of which were printed in the *City Record*. Vol. III., No. 1, which is an official publication of the city of Boston:

(1) It has been my practice to install furnaces in all buildings containing six rooms and under, although I have placed low pressure gravity steam heating apparatus in some buildings containing but four class-rooms. The small buildings in which furnaces are installed are of a temporary character, and constructed of wood in the outlying districts. (2) The cost of heating and ventilating apparatus of two school buildings, each containing eight class-rooms, and an assembly hall, the equivalent of two class-rooms, erected in 1894, is as follows:

Steam heating and mechanical ventilating apparatus.... \$5,188
Furnace heat and natural ventilation..... 3,200

(3) The amount of coal and cost of same for each building for a period of two years follows: Steam-heated building—
1896-97, 372,710 pounds bituminous coal, at \$2.30 per ton. \$428 61
1897-98, 440,175 pounds bituminous coal, at \$2.05 per ton. 451 18
Furnace-heated building—

1896-97, 393,435 pounds anthracite coal, at \$5.60 per ton. \$1,101 61
1897-98, 297,250 pounds anthracite coal, at \$5.72 per ton. 850 14

(4) Repairs to apparatus from 1894 up to date: Steam-heated buildings, \$84 62; furnace-heated building, \$454.35.

(5) A steam-heating apparatus, such as I now design, will certainly last twenty-five or thirty years. I know of a school building in Chicago which was equipped with a steam-heating apparatus in 1856, and the wall coils, which extend around the class-rooms under the windows, are still in position and doing service. The boiler I removed about six or seven years ago, as it was inadequate to generate sufficient steam for additional heating surface which was placed in the building. Now, with regard to furnaces, I wish to state that the life of a fire-pot is rarely over two years. Of course, when a defective fire-pot is removed and a new one substituted, the furnace is practically as good as new. The large cast-iron tubular furnaces give better results, but the large arch-plates are liable to crack at any time,

thus allowing smoke and gases to pass up into the rooms with the incoming air. During the past ten years furnaces were removed from thirty-six school buildings in the city of Chicago, with an average of about fifteen class-rooms each, and steam-heating and mechanical ventilating apparatus substituted. The Board of Education of the city of Chicago has not installed furnaces in any first-class school-building for the past sixteen years, except the one referred to in this communication, which is an addition to an existing building, the same being heated by furnaces, and the character of the old building was such that the introduction of modern steam-heating and ventilating plant to heat both buildings was not permissible.

THE MARINE ENGINEERS.

The first meeting of the Grand Council of the National Association of Marine Engineers of Canada, took place recently, at the Albion Hotel. The object of the association, which is intended to include all the marine engineers from the Atlantic to the Pacific, is to promote the interests of the engineers, to advance the standards, and see that none but those duly qualified according to law be employed in that capacity. Its intention is thus to protect passengers and the property of the steamship companies from all risks.

Several questions of interest to the calling were discussed, and the following officers were appointed: Grand president, D. L. Foley, Toronto; grand vice-president, Wm. I. Barton, St. John, N.B.; grand secretary-treasurer, S. A. Mills, chief engineer, Toronto Ferry Co., Toronto; grand conductor, Jas. A. McCarthy, Montreal; grand auditors, J. Fred. Williamson and G. T. G. Blewett, St. John, N.B. The constitution which will govern the society was adopted, and the meeting went on to discuss the bylaws. The next annual meeting will be held at St. John, N.B., in January, 1901.

LITERARY NOTES.

British Policy in South Africa. By Spenser Wilkinson. Publishers, Sampson Low, Marston & Co, London. One shilling.

Paul Kruger: His Life Story. By Fred. A. Mackenzie. Publisher, James Bowden, 10 Henrietta street, London. Illustrated. One shilling.

An illustrated catalogue describing the new McEwen gas engine will be issued in a day or two by the Waterous Engine Works Co., Brantford, Ont.

The Transvaal Trouble; How it Arose, being an abstract of the biography of the late Sir Bartle Frere. By John Martineau. Publisher, John Murray, Albemarle street, London. One shilling.

The History of the Great Boer Trek and the Origin of the South African Republics. By the late Hon. Henry Cloete, Her Majesty's Commissioner for Natal, 1843-4; edited by his grandson, W. B. Cloete. Publisher, John Murray, Albemarle street, London. One shilling.

The Blacksmith and Wheelwright sends out a most attractive special number, which commemorates the twentieth anniversary of its establishment. An interesting feature of the issue is the announcement of the "20-year advertisers," as those are called who have occupied space in the Blacksmith and Wheelwright for that length of time.

The Mechanics' Supply Co., Quebec, has sent out this year the daintiest New Year souvenir that we have seen. It is a delft blue covered folder, tied with white ribbon, bearing on the front cover the words, "Greeting, 1899-1900." Inside, some apt quotations are followed by a couple of pages referring to the position and goods of this well-known company.

A great deal of attention is now directed to the Topeka Capital, a Kansas daily, which is to be placed absolutely at the disposal of C. M. Sheldon, author of "In His Steps," etc., that he may show what a Christian daily newspaper ought to be. If the experiment is continued long enough it is certain to succeed, because Canada has had for over sixty years a journal which has been consistently conducted upon this plan. It is *The Daily Witness*, Montreal.

"Machine Shop Companion," by Wallace Bentley, A.M.I. Mech.E., consulting mechanical engineer, Halifax, Eng., author