creosoting one are failures. This may be due to either of two causes; either the sea water decomposes the poisonous ingredients in the wood, or these have no effect upon the worms. Both these, no doubt are to blame, but principally the latter.

In America white ozide of zinc is used as a marine paint for ships and piles. In the United States navy yard it is well spoken of and very frequently used. It is said to be much superior to white lead—Red lead or coal tar, and that timber covered with two coats of white zinc is quite free from the attacks of the worm.

Third: The mechanical processes are few in number, and rather expensive. In spain the piles of a wooden bridge standing in the sea have been guarded against the attacks of sea worms in the following manner:

Each pile is surrounded by a wooden box and the space between filled with cement. After six years it was proved that the piles were in perfect condition, while the outer boxes were riddled by the worms.

In 1835 Brunel suggested an easy way of defending piles, which was to give them first a coat of tar, then powder them with brick dust which would render the wood sufficiently hard to receive a coat or two of cement.

In some cases sheet lead nailed on to the piles, ropped with well tarred rope has been used. Copper sheeting has been used as at Southend, England, with poor success, for although nearly all the piles were covered with it for about 9 or 10 feet, the Trinnoria not only penetrated between copper and timber, but the copper had decayed to such an extent as to be in some cases no thicker than paper; it was soft and peeled off the wood very easily, and in two or three years would probably have been entirely destroyed.

Captain Brown of Royal Navy, states that from experiments he is satisfied that there is no specific remedy against the attack of sea worms upon timber, except iron nails. He proposes to encase the piles with broad headed iron nails and he says that in a few months corrosion takes place and spreads into the cracks, the rust hardens upon the pile and becomes a solid mass which the worm will not touch. Experiments at New-haven and Brighton pier have proved the effectiveness of his method.

In conclusion: Of all the various schemes which have been proposed for the protection against sea worms, the chemical process of creosoting is probably the best. This method when properly carried out, thoroughly protects wood against Teredo and other marine worms.

A most searching examination was made in 1849 upon every pile in Lowestoft Harbor with the following results:

The whole of the 900 creosoted piles in the North pier were sound and quite free from Teredo and Trinnoria. There was **no instance** of an **uncreosoted** pile being sound but were all attacked both by the Trinnoria and Teredo to a very great extent and the piles in some instances are eaten through

There was only one case of a treated pile being attacked which had been cut by the workmen exposing the heart of the pile where the creosote had not penetrated. At this spot a worm entered and bored to the right where it found creosote. It then turned to the left and finding creosote all around its progress was stopped and it then appeared to have left the timber entirely.

These practical observations seem to show pretty conclusively the value of the creosoting process as a method of preventing the ravages of marine worms.

SOCIETY NOTES.

Quebec Land Surveyors: The annual meeting of the Provincial Land Surveyors of the Province of Quebec was held last week. Four of the retiring directors were re-elected without opposition, namely, Messrs. A. Leoford. A. Smith, G. Michaud and M. Sirois. 8

McGill University Notes: A fund has been established at McGill University, Montreal, by the Applied Science class of 1899, to be known as the "Class of 1899 Fund," for the purpose of aiding, each year, one or more students who upon the completion of their second year work, require assistance to enable them to finish their course of study. The loans from this fund made to students will be repayable after graduation. Applications are to be made through the Dean.

Canadian Branch, International Electro-Technical Commission: A Canadian branch of the International Electro-Technical Commission has been formed, Professor L. A. Herdt, head of the Electrical Engineering Department, McGill University, Montreal, being elected chairman. The other members are Dr. H. T. Barnes, McGill University; Prof. T. T. Rosebrugh, Toronto University; Professor L. W. Gill, Queen's University; Mr. O. Higman, chief electrical engineer, Electrical Standards Laboratory, Ottawa; John Murphy, electrical engineer, Railway Commission, Ottawa; W. A. Duff and A. B. Lambe, Winnipeg. This commission, which has local committeees in practically all countries, has for its purpose the standardization of nomenclature and ratings of electrical apparatus and machinery. Meetings of delegates of the various national committees meet once a year in London, England. The present committee, named by the Canadian Society of Civil Engineers, is the first move that has been made in Canada in this direction, although in 1906, at the inaugural meeting in London, Professor Herdt was the Canadian representative and last year Mr. O. Higman attended the meeting.

ENGINEERING SOCIETIES.

CANADIAN SOCIETY OF CIVIL ENGINEERS.—413 Dorchester Street West, Montreal. President, Col. H. N. Ruttan; Secretary, Professor C. H. McLeod.

Chairman, L. A. Vallee; Secretary, Hugh O'Donnell, P.O. Box 113, Quebec. Meetings held twice a month at Room 40, City Hall.

TORONTO BRANCH—

96 King Street West, Toronto. Chairman, A. W. Campbell; Secretary, P. Gillespie, Engineering Building, Toronto University, Toronto. Meets last Thursday of the month.

MANITOBA BRANCH—

Chairman, J. E. Schwitzer; Secretary, E. Brydone Jack. Meets first and third Fridays of each month, October to April, in University of Manitoba, Winnipeg.

VANCOUVER BRANCH—

Chairman, Geo. H. Webster; Secretary, H. K. Dutcher, 40-41 Flack Block, Vancouver. Meets in Engineering Department, University

OTTAWA BRANCH—

Chairman, W. J. Stewart, Ottawa; S. J. Chapleau, Resident Engineer's Office, Department of Public Works.

MUNICIPAL ASSOCIATIONS.

ONTARIO MUNICIPAL ASSOCIATION.—President, Mr. George Geddes, Mayor, St. Thomas, Ont; Secretary-Treasurer, Mr. K. W. McKay, County Clerk, St. Thomas, Ontario.

UNION OF ALBERTA MUNICIPALITIES.—President, H. H. Gaetz, Red Deer, Alta.; Secretary-Treasurer, John T. Hall, Medicine Hat, Alta.

UNION OF NOVA SCOTIA MUNICIPALITIES.—President, Mr. A. E. McMahon, Warden, Kings Co., Kentville, N.S.; Secretary, A. Roberts, Bridgewater, N.S.

UNION OF SASKATCHEWAN MUNICIPALITIES.—President, Mayor Hopkins, Saskatoon. Secretary, Mr. J. Kelso Hunter, City Clerk, Regina, Sask.

CANADIAN TECHNICAL SOCIETIES.

ALBERTA ASSOCIATION OF ARCHITECTS.—President, E. C. Hopkins, Edmonton; Secretary, H. M. Widdington, Strathcona, Alberta.

ASSOCIATION OF SASKATCHEWAN LAND SURVEYORS.—President, J. L. R. Parsons, Regina; Secretary-Treasurer, M. B. Weeks, Regina

ASTRONOMICAL SOCIETY OF SASKATCHEWAN.—President, N. McMurchy; Secretary, Mr. McClung, Regina.

BRITISH COLUMBIA LAND SURVEYORS' ASSOCIATION.—President, W. S. Drewry, Nelson, B.C.; Secretary-Treasurer, S. A. Roberts, Victoria, B.C.

CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.—President, Charles Kelly, Chatham, Ont.; Secretary, W. A. Crockett, Mount Hamilton, Ont.

CANADIAN CEMENT AND CONCRETE ASSOCIATION.—President, Peter Gillespie, Toronto, Ont.; Vice-President, Gustave Kahn, Toronto; Secretary-Treasurer, R. E. W. Hagarty, 662 Euclid Ave., Toronto.

CANADIAN CLAY PRODUCTS' MANUFACTURERS' ASSOCIATION.—President, W. McCredie; Secretary-Treasurer, D. O. McKinnon, Toronto.

CANADIAN ELECTRICAL ASSOCIATION.—President, N. W. Ryerson, Niagara Falls; Secretary, T. S. Young, Canadian Electrical News, Toronto.

CANADIAN FORESTRY ASSOCIATION.—President, Thomas Southworth, Toronto; Secretary, James Lawler, 11 Queen's Park, Toronto.

CANADIAN MINING INSTITUTE.—Windsor Hotel, Montreal. President, Dr. Frank D. Adams, McGill University, Montreal; Secretary, H. Mortimer-Lamb, Montreal.