

magnetic needle was placed. The enclosed magnet acted on the needle and deflected it, at a certain angle, from its natural position; but the instant that the wax melted, the magnet fell to the bottom, and the vibration of the needle indicated the fact. It was thus ascertained that under a pressure of thirteen thousand pounds on the square inch, wax requires thirty degrees additional heat to melt it; about one-fifth of the whole temperature at which it melts under the pressure of the atmosphere.

During the experiment, it was observed that the plunger gradually descended in the tube, and on examination it was discovered that the water had, under the influence of the enormous pressure, been forced through the pores of the iron, though three quarters of an inch thick. On afterwards examining the tube closely with a lens, not the least opening could be seen by which the water could have escaped. This result far exceeds that of the celebrated Florentine experiment, by which the incompressibility of water was supposed to be proved by its forcing a passage through the pores of a globe of silver, very thin in comparison with the three-quarter inch iron tube. It was not ascertained whether any of the melted wax had been forced into the pores of its containing vessel.



INCORPORATED BY ROYAL CHARTER.

**Fourth Ordinary Meeting, January 14th, 1854.**

The following Donations to the Museum and Library of the Institute were announced :

- 1.—A number of Minerals and Fossils from Ireland and Canada, by Thomas Herrick.
- 2.—Indian Relics by Dr. Richardson.
- 3.—Hay's Book of British Birds by Mr. Hope.

The thanks of the Institute were ordered to be presented to Mr. Thomas Herrick, Dr. Richardson and Mr. Hope, for their valuable donations.

The names of the following Candidates for Membership were read :

Leslie Battersby, (Jun. Mem.).....	Toronto.
Hon. S. B. Harrison, .....	"
D. Macdonell .....	"
Rice Lewis .....	"
A. M. McKenzie, C.E. ....	Guelph.

Hon. J. H. Cameron, Q.C. ....	Toronto.
George Netting .....	"

The following Gentlemen were elected Members:

F. A. Whitney .....	Toronto.
J. W. G. Whitney .....	"
C. H. Jarvis .....	"
Rev. E. St. John Parry .....	"
J. Small, M.D. ....	"
Capt. C. R. Scholesfield .....	"
J. E. Small .....	"

A Paper was read by A. Brunel, C.E. on "The Comparative advantages of Single and Double Track Railways."

**Fifth Ordinary Meeting, January 21st, 1854.**

A Donation from Capt. Lefroy, R.A. F.R.S. of "A Map of the British Provinces in North America, drawn in 1776," was announced.

The names of the following Candidates for Membership were read:

P. M. Vankoughnet, Q.C. (Life Member) ..	Toronto.
Joseph Workman, M.D. ....	"
William Hallowell, M.D. ....	"
Hewson Murray (Jun. Mem.) .....	"

The following Gentlemen were elected Members:

Leslie Battersby .....	Toronto.
Hon. S. B. Harrison .....	"
D. Macdonell .....	"
Rice Lewis .....	"
A. M. McKenzie, C.E. ....	Guelph.
Hon. J. H. Cameron, Q.C. ....	Toronto.
George Netting .....	"

A Paper was read by Mr. G. H. Dartnell, on "The Duration and Expectation of Life in Canada."

**Sixth Ordinary Meeting, January 28th, 1854.**

The names of the following Candidates for Membership were read:

James Edwin Ellis .....	Toronto.
Agustus J. Thibodo, B.M. ....	Kingston.
G. P. Ure .....	Toronto.

Notice was given by Mr. D. Crawford, that at the second General Meeting from the present, he would move for an alteration in the Bye-Law relating to the Balloting for Members.

The following gentlemen were elected Members:

P. M. Vankoughnet, Q.C. ....	Toronto.
Joseph Workman, M.D. ....	"
William Hallowell, M.D. ....	"
Hewson Murray, (Jun. Mem.) .....	"

A Paper, communicated by W. E. Logan, F.R.S. & G.S. Provincial Geologist, "On the Physical Structure of the Western District of Upper Canada," was read by Professor Croft.