

The engineering-contractor must know of cost systems and centrifugal pumps. He must know the mechanic of materials as well as the management of men.

The engineer-president of a railway must know of signalling as well as of bridges and of traffic charges; as well as alignment and gradients. He must be a chemist in reference to the quality of water for his locomotives and a mechanic in reference to his rolling stock.

As managing-engineer of a hydro-electric proposition he must know structural work as well as hydraulics and electricity.

The highest knowledge and skill are required in the professional man, and if his influence is to be felt he must take time and opportunity to develop an enthusiasm for good professional work and a devotion to high ideals, which will compel recognition of engineering with the other professions.

THE PROFESSION OF ENGINEERING IN THE UNITED STATES.

In the United States there are nineteen thousand engineers who are members of the four great national societies of engineers. Twelve of the smaller societies have thirteen thousand members. Twenty-three local engineering societies in different cities of the United States report a membership of eight thousand six hundred. A great body of men, these, exerting an influence in every municipality of the land.

A professional spirit is developing among engineers in the United States. This new spirit is partly due to the large number of engineers, but it is also largely due to the great body of engineers who, although they meet in the Engineering Building in New York in independent organizations, yet work together harmoniously, and stand by each other to work for the common good and to advance and dignify the engineering profession.

Under one roof in New York there are grouped fifteen societies of engineering or allied arts. A common home makes a common interest, and engineers meeting on a common plane unite and strengthen and advance their art.

They live together in peace and harmony. They have brought their books together into a single library open to the profession. The meetings are held in the same building and in the same auditorium and lecture hall.

It is a good example for other countries to follow.

THE CANADIAN CLAY-WORKER.

Volume I., No. 1, of the Canadian Clay-Worker came into being during the last month of 1909. The Canadian Manufacturer Publishing Co., the publishers; J. C. Armer, B.A.Sc., the editor, and D. O. McKinnon, the business manager, are to be congratulated upon so successful a first issue. The presswork, the class of advertisements and the character of the editorial matter are all good, and the Clay-Worker will appeal very strongly to those interested in the output of Canadian clay beds.

This is the first attempt that has been made to carry on an educational campaign as to the use, advantage and possibilities of a six million dollar industry—the Canadian clay beds.

The Canadian Clay-Worker will keep just in advance of the clay-working industry in Canada, and we wish it success.

PRECIPITATION FOR DECEMBER 1909.

The precipitation of the month exceeded the average from Eastern Saskatchewan to Eastern Ontario, also in the Gulf of St. Lawrence and eastern portions of the Maritime Provinces, while elsewhere in Canada, with local exceptions, the fall was deficient. The snowfall in Southern Manitoba and South-eastern Saskatchewan was exceptionally heavy, being in some localities more than five times the normal quantity; in Ontario also, and especially in counties contiguous to Lake Huron and the Georgian Bay, the snowfall was heavy.

Depth of Snow.

At the close of the month, the ground was covered with snow from Saskatchewan to the Maritime Provinces. No reports have been received as to the depth of snow in British Columbia, but it is evident that the higher levels were snow covered to a considerable extent.

Saskatchewan was covered by from 2 to 16 inches, and in Manitoba the depth was generally more than 10 inches.

Ontario had a mantle of snow varying from 1 to over 24 inches, and Quebec was snow covered to a depth of from 7 to 19 inches.

In the Maritime Provinces the depth was generally about 10 inches, but in Prince Edward Island there was a depth of about 36 inches, while over the greater part of the Mainland of Nova Scotia the covering was from 3 to 9 inches.

Thickness of Ice.

Thickness of ice is reported as follows:—

Western Provinces.—Battleford, 24 inches; Medicine Hat, 14 inches; Swift Current, 22 inches; Qu'Appelle, 16 inches; Minnedosa, 16 inches.

Ontario.—Port Arthur, 3 inches; Clinton, 9 inches; Strathroy, 12 inches; London, 9 inches; Port Stanley, 6 inches; Port Burwell, 6 inches; Brantford, 10 inches; Georgetown, 9 inches; Renfrew, 8 inches; Ottawa, 6 inches.

Maritime Provinces.—Chatham, 5 inches; Yarmouth, 3 inches; Sydney, 4 inches; Charlottetown, 2 inches.

The table shows for fifteen stations included in the report of the Meteorological Office, Toronto, the total precipitation of these stations for December.

Ten inches of snow is calculated as being the equivalent of one inch of rain.

Station	Depth in inches	Departure from the average of twenty years
Calgary, Alta.	0.50	— 0.04
Edmonton, Alta.	0.30	— 0.50
Swift Current, Sask.	0.30	— 0.42
Winnipeg, Man.	4.00	+ 3.28
Port Stanley, Ont.	3.00	— 0.08
Toronto, Ont.	2.65	+ 0.26
Parry Sound, Ont.	6.30	+ 1.64
Ottawa, Ont.	1.60	— 0.91
Kingston, Ont.	3.10	+ 0.26
Montreal, Que.	1.90	— 1.92
Quebec, Que.	1.90	— 1.26
Chatham, N.B.	3.90	+ 0.72
Halifax, N.S.	2.80	— 2.89
Victoria, B.C.	3.75	— 2.52
Kamloops, B.C.	0.30	— 0.50

The mineral output of British Columbia still increases. In 1908 it was valued at \$23,851,000 and in 1909 at \$24,426,500. This is made up of \$14,774,500 metallic minerals and the balance non-metallic, as coal, coke, building materials, etc.