MUNICIPAL DEPARTMENT

THE ENGINEERS' CLUB OF TORONTO.

The annual meeting of the Engineers' Club was held in the rooms of the society, 94 and 96 King street west, on January 8th. The chief business was the election of officers, which resulted as follows: President, A. L. Hertzberg; vice-president, Maj. H. A. Gray; secretary, Willis Chipman; treasurer, C. M. Caniff; directors, T. R. Rosebrugh, James McDougall and Cecil B. Smith.

After the election, Mr. M. J. Butler introduced the following topic for discussion; "What are the essential qualities required in a specification for Portland cement?" This discussion was continued at the meeting on January 22nd, when Mr. Butler concluded his remarks. In the opinion of Mr. Butler the qualities for which cement should be tested are: 1, form and evenness of grain; 2, color and specific gravity; 3, time of setting; 4, hardening; 5, strength; 6, constancy of volume; 7, hair cracks and shrinkage cracks; 8, behavior under extreme heat and cold; 9, additions and adulterations.

Mr. Butler's remarks created an interesting discussion. Mr. Cecil B. Smith said that manufacturing methods had undergone a great change. The specifications in the past were made with a view to guiding the manufacturer in his product, but at the present time the specifications were below what manufacturers turned out. It was not necessary that in a good quality of cement the strength should continue to increase, as it had been found that at the end of one week the strength is as great as it ever is. He was of the opinion that the methods employed in making blowing tests are inefficient.

Mr. Rogers, of Peterborough, stated that his experience had been that the strength continues to increase for about a month, then goes back, and in two or three years is no greater than it was at two or three days.

Mr. Haney thought that tests of cement are usually not carried over a sufficient time to give accurate results. He had found the maximum strength at a very early period.

In reply to a question as to the manner of roasting the cement, Mr Butler said that the rotary kiln was undoubtedly the best, as it permitted of the proper application and regulation of the heat.

Mr. E. H. Keating said that he had frequently found himself in need of some ready method of testing cement, to which Mr. Butler replied that a test as to the form and fairness of grain and the constancy of volume would answer the purpose.

Mr C. H C. Wright said that in late years the tendency was to take the tensile strength only. The tests seemed to show that the compressive strength does not drop back, but the tensile strength does.

The president stated that it was claimed by some engineers that the best way to find the strength of cement was by breaking it rather than by pulling it apart.

Regarding methods of burning, Mr. E. A. Wallberg said that with continuous burning kilns difficulty had been found in controlling the draft, but this had been remedied by the introduction of fans. Most manufacturers, however, were using rotary kilns.

Mr. E. J. Philip brought up the question of setting in cold weather. He mentioned instances where work had been done in winter and two or three years later had been found to be in good condition. He said that one of the most essential things was to use clean water, as dirty water would prevent setting. Proper mixing was also necessary.

The president thought it was a mistake to lay masonry in cold weather.

Mr. Haney's experience had been that where frequent thawing and freezing takes place there will be deterioration in the work, but not so in continuous cold weather. The quality of sand used was an important matter, and he thought a test of the mortar as well as of the cement should be made.

Mr. Scott said he had always wondered why the compressive strength of cement was taken not rather than the tensile strength. The president replied that the reason was that the transverse strength depends on the tensile, so in determining the tensile the transverse also is obtained.

Mr. Smith said that the transverse tests had not been satisfactory, owing to the fact that the least flaw in the transverse bar would greatly change the results and make the test of little value. Regarding the effect of frost, he referred to certain experiments at McGill University, Montreal, where the materials were kept in a temperature eleven degrees below zero and the test showed results equally as good as those made in the laboratory. In Toronto, however, work done in cold weather had not been found perfectly satisfactory in all cases.

Mr. Chipman advocated the necessity of a short test for cement.

A cordial vote of thanks was tendered to Mr. Butler for his introductory address.

THE LATE A. CHIPMAN SMITH.

Mr. A. Chipman Smith, Director of Public Works for the city of St. John N. B., died in that city on January 23rd, aged sixty-two years. The late Mr. Smith was identified with civic affairs since 1874, when he was elected chief magistrate. From 1878 to 1882 he was chief of the fire department, and since that time Director of Public Works. Besides the offices enumerated, he held a number of other public positions during his career, among them being a place on the board of school trustees and on the Alms house and public hospital commissions. His long public career had earned for him a share of popularity and esteem that few public men enjoy. He was one of the founders of the St. Stephen's Presbyterian church.