THE CLASSIFICATION OF BUILDING STONE.

The majority of stones used for any form of structural or decorative work may be roughly classified under three heads. The crystalline, siliceous rocks, which include the granites; the calcareous rocks, including all limestones and dolomites; and the plastic rocks, including the sandstones and clay slates. Those of the first group have been formed from molten matter, erupted from the earth's interior or from the metamorphism of siliceous sediments; the origin of the second group is deposits of calcareous mud from the breaking up of shells, corals, and the remains of other marine animals on an old sea bottom; those of the third group result from the breaking up of older rocks, and the accumulation on the bottom of lakes and seas of the resultant sand, clay, or mud, in beds of varying thicknesses, to be subsequently gradually hardened into stone.

The essential difference between a marble and a compact common limestone, is that the first has undergone, through the combined action of the heat and pressure, just the right degree of change, or metamorphism, to develop in it crystallization and color. The essential difference between a brick of fire clay, and a cleavable slate used for roofing, is that the first named still retains its plastic condition as it was laid down in the form of fine silt on a sea bottom, while the slate has, by geological agencies, and by actual movements of the earth's crust, been so squeezed and compressed as to lose all resemblance to its former self, and to become the cleavable article of commerce we now find it.

Since these processes of change are dependent very largely upon the actual movements, warpings and foldings, as may be said, of the earth's crust, and the heat and chemical action which is thereby generated, and since these movements only take place with extreme slowness, whole geologic ages being occupied in their conception and completion, it follows, as a matter of course, that metamorphic rocks, like granites, marbles and slates, are found only among the older rocks, and only in those portions of the country where this crust has been wrapped, compressed, and folded, as in the process of mountain making. In other words these rocks are to be expected in their best development only in places bordering along more or less extensive mountain ranges.

ENGINEERS' CLUB.

During the last three months several meetings of civil engineers, architects and surveyors, resident in the city of Toronto, have been held for the purpose of organizing an engineers' club, on the same basis as similar organizations in Detroit, Cleveland, St. Paul, Denver, Rochester and many other cities in the United States.

The organization has been completed by the election of the following officers for the current year: President, Kivas Tully; vice-president, C. J. Crowley; secretary, Willis Chipman; treasurer, T. B. Speight; directors, C. H. Rust, E. B. Temple and A. L. Hertzberg.

Regular meetings will be held on the first Tuesday in each month except the months of July and August, and the annual meeting on the first Tuesday in February.

All classes of engineers, civil, mechanical, sanitary, electrical hydraulic, mining and military, professors in engineering and architecture, architects and land surveyors are eligible for membership.

The Club starts with but forty members. It is proposed to arrange for a down town club room next year.

It is not the intention to permit the Club to usurp the functions of any of the existing professional or technical societies, the principal object being of a social character.

CORRESPONDENCE.

THE NEW YORK FIREPROOFING SCANDAL.

To the Editor of the CANADIAN ARCHITECT AND BUILDER:

SIR,—I have before me several copies of the New York Tribune, containing a full report of the investigation now taking place before a committee appointed by the State Legislature to inquire into Tammany's transactions with reference to fireproof construction and other matters of civic interest, which apparently lays bare a system of corruption almost beyond conception.

Before the advent of Tammany into power, public tests of different systems of fireproof construction had been made under the direction of Mr. Stevenson Constable—at that time Superintendent of the Department of Buildings, New York—and as the result of those tests Mr. Constable prohibited the use of concrete and metallic systems in the construction of fireproof buildings of the first class in that city. That his reasons for prohibiting such systems were sound, the following report taken from the Engineering Record, Sept. 25th, 1896, No. 359, will show:

"A Roebling concrete arch, which we are justified in presuming represented the standard construction of that company, loaded with 150 lbs. per sq. foot, was subjected to firing for five hours. Upon re-opening the doors before putting water on, it was seen that all the plaster and metal lathing had burned off, except in the extreme corners." Maximum temperature. 2,300 deg.; maximum deflection, 4.485 in.

"Mr. Constable was restrained from further interference"! Why?

Mr. Constable was sustained in his action by the department and an ordinance was passed by which the use of concrete systems was prohibited in buildings of the first class, which were specified to be of fireproof construction.

Whether the superintendent was justified in the stand he took, is a question every unbiassed student can answer for himself.

But with the coming of "Tammany" into power a change took place. Previous ordinances were either abolished or amended, and concrete and metallic lath systems are not only given precedence to porous terra cotta and hard tile constructions, but have been practically granted a monopoly of civic work. Why the change? The evidence of Mr. Himmelwright, of the Roebling Company; Mr. Watson, of the Expanded Metal Company; Mr. Wright of the Columbian Fireproofing Company; Messrs. Tostevin and Hayes and others with similar concrete systems clearly tells us. Mr. Croker jun. received $17,000 in stock, which he says he paid for, and $2,500 per annum from one company to LEARN THE BUSINESS; Mr. McCann, (a nephew of Mr. Croker, sen.,) $5,000 cash and a prospect of $10,000 more for his influence; nor are Con. Daly, Mr. Hinckley and Senator Grady,—ward politicians—forgotten, as it appears each had been seen on the subject.

Will architects endorse Mr. Constable's decision? A great responsibility rests with them, and it is plainly their duty—not only to read, but to analyze every statement placed before them, and to use that only which is good and trustworthy.

Let them study Constable Stevenson's tests; the Denver tests of 1892; the Pittsburg conflagration of 1897—one of the severest tests that modern fireproofing has been subjected to; The Home Life and Postal Telegraph Buildings fire, 1899 (Mr. Burke, architect, of Toronto, in a paper read before the Association of Architects of Ontario, sums up the results of the Pittsburg confiagration as follows: Porous terra cotta, 1st; hard tile, 2nd; concrete, 3rd); the Ottawa Parliament Buildings fire, 1898; the experiments of Professor Dobie, Toronto School of Technology—and Professor Webster, of London, England—on the behaviour of concrete under the action of fire and water, and I am convinced they will use great caution before adopting systems which may, and probably will, lead to disappointment and disaster.

Many patents for concrete systems have been issued in Great Britain since the year 1811, but I have yet to learn that any one of them proved a success; or successfully stood the brunt of a serious conflagration.

I am, yours truly,

N. T. GAGNON.

The Central Ontario School of Art and Industrial Design Toronto, has petitioned the city council, to appoint one of its members a director of the school. At the recent annual meeting the following gentlemen were elected as the officers of the school for the current year: R. Y. Ellis, president; W. A. Langton, vice-president; B. McEvoy, James A. Smith, S. G. Curry, R. McCausland, S. M. Jones, F. S. Challener, directors; Geo. C. Downes, secretary.