

ANNUAL MEETING OF THE CANADIAN SOCIETY OF CIVIL ENGINEERS.

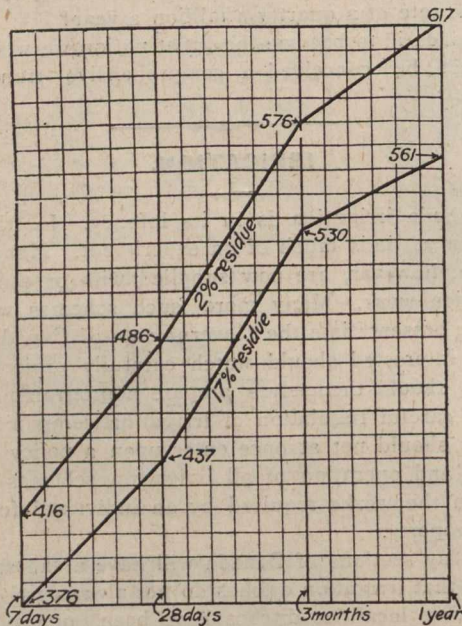
As we go to press the annual meeting of the Canadian Society of Civil Engineers is in session at Montreal. The president's report, presented on Tuesday, showed the Society to be in a most satisfactory state, both as regards the number of members, influence and finances. During the year some four hundred members had joined, giving a present total membership of all classes of nearly two thousand.

Next week's issue of the Canadian Engineer will contain a complete report of the proceedings.

INFLUENCE OF FINENESS ON THE STRENGTH OF CEMENT.

In a recent report to the Association of German Cement Manufacturers, Emil Riisagar gave the results of a number of experiments he has made relative to the influence of varying proportions of fine material in Portland cement.

The most striking results are those in which the effects of a normal cement, with 17 per cent. and 2 per cent. residue on a No. 175 sieve respectively, were compared. The results below are the average of five tests of each material,



the test pieces being composed of 1 part of cement, 3 parts of normal sand, 2 per cent. of plaster of Paris, and 8 per cent. of water.

Strength in lbs. per Square Inch.

Residue on	After	After	After	After
175 sieve	7 days	28 days.	3 months.	1 year.
17 per cent.	375.9	437.4	529.7	560.9
2 per cent.	416.0	485.6	576.5	617.7

The accompanying chart shows still more clearly the benefit to be obtained by grinding the cement so as to leave as small as possible a residue on a No. 175 sieve. This is a matter which has not received as much attention in this country as it deserves, but one well-known cement manufacturing firm in America is making capital out of its advertisements by insisting, with much "reason why" argument, that its product is superior to all others on account of the greater proportion of finest particles.

The use of air-separators instead of fine lawns or sieves makes the production of a cement of extreme fineness much easier than when ordinary sieves are employed, as the clogging and short life of the latter are avoided, and by the careful regulation of the speed at which the air-separator is driven particularly finely ground product is obtainable with comparative ease.

CONCRETE HAS AN ARCHITECTURE OF ITS OWN.

A concrete residence, built by Mr. Albert Moyer at South Orange, N.J., is described in Municipal Engineering, where the writer emphasizes the necessity of designing for concrete, eliminating all thought of stone, brick, plaster, etc. Concrete has an architecture of its own, and it is too often the case that builders try to imitate other materials, with unsatisfactory results. In speaking of concrete for residences, Mr. Moyer has the following to say:—

If you employ concrete, let it look like concrete, design for concrete, eliminate all thought of stone, brick, wood or plaster. Let the house stand up and be able to say to the casual observer: "I am solid, strong, substantial, durable, beautiful, and am of concrete." That which looks right to the practised and trained eye is right. For country residences, particularly where there are winding roads, trees, a hillside, and, possibly, rocks, concrete treated as concrete looks right. Convenience and adaptability seem to point to concrete as a material best suited to assist in developing what I am pleased to call American architecture.

In using concrete for country residences, I wish the reader to eliminate from his mind all thought of concrete, such as he sees about him in retaining walls, bridge abutments and other work where concrete has been employed, but to try to picture a concrete made of selected material, the moulds or forms taken off as soon as possible while the concrete is yet green, the surface scrubbed with a scrubbing brush, or, if the concrete is too stiff, a wire brush, water being sprayed on with a hose, thus removing all the mortar which has come to the surface and exposing the larger pieces of aggregates; in fact, throwing them slightly in relief, giving a rough surface of accidentally distributed colored stones. The structure of the walls is described as follows:—

The concrete was very carefully mixed by hand. As each shovelful was turned it was raked with an ordinary garden rake. This was repeated until an intimate mixture resulted. Mixing was first done dry, and then wet, sufficient water being added to produce a medium wet concrete, which was thoroughly tamped in the forms in six-inch layers, each course being carried to the height of about three feet at a time and allowed to set hard before the next course was put on top.

The selected aggregates used composed all of the concrete. They were not put against the outside forms by hand, but were mixed all through the concrete, thus giving an accidental distribution of white and dark particles, far more beautiful than if the arrangement of the particles was deliberate.

In describing the effect of this surface to the eye, it is almost impossible to present the color effect produced, even by means of a photograph. Before viewing the house some architects criticized this method, stating that it would give too rough an appearance; others did not think it practicable from an economical standpoint, and others expected efflorescence and all kinds of trouble, but after viewing the house their opinions were changed, and it is now believed by some of the best architects and engineers in New York to be the correct method of treating concrete economically and artistically.

The difference between stucco finish and mortar face concrete and exposed selected larger aggregates is that the stucco finish, even though scrubbed or treated with acid, would present to the eye too fine a grain for the large space of wall, and would thus become monotonous.

TENDERS OPEN.

HALLVILLE, ONT.—On February 1st tenders will close for 206 cubic feet concrete in piers, 675 cubic feet stone filling, and 2,055 square feet rip rap for the Armstrong Bridge over Nation River. H. Martin is clerk.

PORT ROYAL, N.S.—Tenders will be received by the Department of Public Works, Ottawa, up to February 14th, 1908, for the construction of a wharf at Port Royal, Richmond County, N.S. Plans and specification can be seen at the offices of C. E. W. Dodwell, resident engineer, Halifax.