

THE TORONTO ARCHITECTURAL SKETCH CLUB.

Owing to the indisposition of Mr. R. J. Hovenden on Monday, March 23rd, his talk on "Decoration" had to be postponed. A large number of valuable colored plates lent by him were examined with much interest by the members, and an open discussion on the subject was taken part in by Messrs. Frank Darling, Sam Jones and others, Mr. Darling urging the necessity of architects keeping unbroken the main lines inside a building, for if this is not attended to, it is very difficult to carry out any decorative scheme in a satisfactory manner.

The drawings for an "Entrance to a Park" were then criticized, and many practical suggestions made by Mr. Burke. Mr. T. R. Johnson was awarded first place and Mr. A. H. Gregg second place.

On Monday, 13th inst., Mr. Hovenden gave his postponed talk, and again had a number of colored plates on exhibition. The many valuable hints thrown out during the talk, combined with his clever criticisms on the plates, made a very profitable evening for those present, who showed their appreciation of his efforts in a very hearty way.

TESTING THE VALUE OF PAVING STONES.

The following plan of testing the comparative value of paving stones is adopted at the Paris Laboratory for Testing Materials, says the *Engineer*. A sample of the rock of regular form is placed upon a horizontal plate, rotating round a vertical axis and pressed against it by suitable contrivances. The wear is then compared with that of a standard material under the same conditions. The coefficient of wear is the proportion between the volumes worn, which can easily be ascertained by weighing the specimens, and determining the volume from this weight, and the specific gravity of the material in question. The rotating surface is cast iron. The two specimens, viz., test piece and standard, are placed at opposite ends of a diameter of the rotating plate, against which they are pressed by equal weights. The standard used is Yvette sandstone, and first-class materials have a coefficient of from 1 to 1'40, while with second-rate materials the coefficient is between 1'40 to 2'40; if the wear is greater than that represented by the latter figure, the material is rejected. An additional test is made by placing specimens of the stones to be tested in a cylinder, which, like those used in clearing scrap iron from rust, is mounted and rotates on an axis which does not coincide with its centre of figure. The amount of detritus pro-

duced after the material has been treated for a certain time in this machine is compared with that from a standard rock under the same conditions.

FOUNDATIONS IN WATER.

In works which are exposed to the action of the sea or the currents of rivers Rennie adopted the plan of bedding the outside joints, for about an inch deep in the face, with Roman cement of the best quality. The interior part of the stones was bedded in mortar, composed of two parts of well burnt, stone-lime, one part of ground puzzolano, or calcined pounded iron-stone, and two parts of clean sharp river sand, not too fine. The lime was used hot, for which purpose it was necessary that it should be burnt adjoining the works and mixed at once with its due proportion of sand and puzzolano or iron-stone, previous to being slaked. It was afterwards covered over with sand so as to prevent the access of the air; water was then poured on the heap, and in this state it was left for a day or two until completely slaked; after which it was taken from the heap as wanted. The unslaked particles were separated, and the other ingredients well mixed by being passed through a screen, after which the mixture was made into mortar, with the least possible quantity of water, by means of a pug-mill prepared for the purpose. That part of it required for the day's use being taken away, the remainder was immediately covered up with sand, to prevent the action of the air upon it.

There is no excuse for building underground apartments in the country says the *Sanitary News*. They are never wholesome anywhere, and if families are compelled by stringent reasons to live in the city, where basement dining rooms and underground kitchens are the rule, they should endeavor to have an upper sitting room and live in it as much as possible. The very placing of a house on any ground and living in it under ordinary circumstances causes suction into its interior of impure soil air, because the air of the house is warmer than the air beneath it, and this induces a rush of cold air to the warmer house atmosphere. The concreted floor will, in a great measure, do away with this difficulty, but not altogether. Ventilation of cellars must, therefore, be attended to, no matter how clean and perfectly built they may be, in town or country. Annual lime white-washing, an old custom, is decidedly a wholesome precaution, and every cellar should be thus treated, especially in the autumn, as the cellar will be kept closed more in spring and summer.

A large bridge is to be moved on the Grand Trunk Ry., near Kingston, Ont., where the main line is being double tracked. A new double track steel span, 170 feet long over all, 30 feet in width between truss centres, and containing 176,600 lbs. of steel, has been erected alongside its intended location, and is to be rolled into place between trains.

It is sometimes necessary to locate the position of the centre of gravity of the section of an angle or T iron. The following rule may in such cases be found useful in the case of equal-sided angles and T's: Let B = breadth of side and t = thickness of metal. Then distance of centre of gravity from the outer surface of one flange of the angle iron or of the table of the T iron is $\frac{1}{2}(B + 3t)$. This rule is a very close approximation.—*Engineering*.



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