

HOW TO CLEAN SET CEMENT FROM TILE.

By C. J. Fox, Ph. D.

Cement is a silicate of lime and as such is far too hard to remove by ordinary scouring with sharp sand or other gritty material. Consequently, after a tile floor or wall has been grouted and it is necessary to remove the superfluous cement from the surface, the wall or floor is washed with muriatic acid. This acid is a volatile gas dissolved in water. It attacks the cement and forms a soluble lime salt, which can be readily removed by washing with ordinary water. Muriatic acid, however, casts off fumes, which in physical laboratories, fine dynamo rooms or other places containing delicate metal instruments, such as galvanometers, ohmmeters, etc., injures the metal by corrosion.

In these places diluted sulphuric acid may be used. It is not volatile and consequently does not injure metal work. However, it does not form with the cement a soluble lime salt, but a phosphate of lime, which is the same as plaster of paris. This is much softer than the original Portland cement, so that by using dilute sulphuric acid and scouring hard with sand it is in most cases possible to clean the tile floor or wall.

The best medium for dissolving cement is citric acid. This is a clear solid substance which can be bought from any druggist. It dissolves readily in water, and will attack set Portland cement quite as well as will muriatic acid, because it forms with the cement a perfectly soluble nitrate of lime. Its only objectionable feature is its cost, which is several times greater than that of muriatic acid. Ordinary lemon juice is a solution of citric acid, but as the latter is made in a wholesale way in the tropics it is cheaper than lemon juice.

A cheaper substitute for citric acid is tartaric acid, much used in making lemonade. This also can be obtained at any drug store. It forms with the cement a tartrate of lime. It is not as soluble as citrate of lime and consequently its use in cleaning tiled floors has disadvantages similar to those met with in using sulphuric acid. The tartrate of lime is, however, somewhat easier to remove than sulphate of lime. Consequently, although a tile surface which has been treated with tartaric acid requires considerable sand scouring to remove the cement, the operation is nevertheless easier than when sulphuric acid has been used.

Muriatic acid is the most usual and most feasible medium for cleaning cement from tile floors. When, however, its fumes are likely to corrode delicate metal instruments, either sulphuric, citric or tartaric acid must be used in its place. The citric acid is most effective. Sulphuric and tartaric acid change the cement into sulphate or tartrate of lime, which requires considerable scouring with hard sharp sand, but is, nevertheless, far softer and more easily removed than silicate of lime, which is the original form of the cement.

The Montreal Builder's Exchange will hold their annual banquet on December 12 next, when the speaker of the evening will be the Hon. Lomer Gouin, Premier of Quebec.

BOOK REVIEW.

Students of architecture and the allied professions will find a reading of "Principles of Reinforced Concrete Construction," by F. E. Turneaure, Dean of the College of Engineering, University of Wisconsin, and E. R. Maurer, Professor of Mechanics of the same university, at once profitable and interesting. In the first six chapters of the work the theoretical and experimental sides of the subject are carefully and clearly expounded, the remaining four chapters being devoted to an explanation of the various applications of concrete.

The volume is attractively bound and is published by John Wiley & Sons, New York. Price \$3 net.

"Sanitation of Public Buildings" is the title of a well written book by Wm. Paul Gerhard, C.E., also published by John Wiley & Sons, New York. In his prefatory remarks the author points out that this work is, in some sense, a continuation of "Sanitary Engineering of Buildings," and we are quite sure that this fact alone renders any recommendation from us quite unnecessary. The book consists of 262 pages and is divided into sections, each dealing with the general subject as it pertains to the sanitation of hospitals, theatres, churches, schools, markets and abattoirs.

The American School of Correspondence, Chicago, has sent us an excellent treatise upon "Building Superintendence," by Edward Nichols, architect, of Boston, Mass. Some particularly good cuts and drawings are introduced into this volume, which comprises two hundred pages of profitable reading, neatly bound and printed in good type. The price of this work is \$1.50.

From the same publishers we have received "Strength of Materials," by E. R. Maurer, of Wisconsin University. To all connected with construction work this volume will prove a most useful and practical guide, particularly suitable for ready reference, owing to the absence of long technical terms, and the omission of any matter that could be termed irrelevant. Price \$1.

ANNUAL BUILDERS' EXHIBITION.

Inspired by the success which attended their inaugural exhibition held in Montreal last August, the directorate of the Canadian Builders' Show (acting under the auspices of the Builders' Exchange of that city) have decided to make the event, if possible, an annual one. In accordance with this idea a prospectus has just been issued for the second exhibition, which will be held at the Coliseum, Dorchester street, Montreal, beginning April 20 next.

The value of such an exhibition, not merely to the general public, but to the exhibitors also, is no longer a matter of doubt, as was amply proved by the success of the affair of last August. The one now in contemplation will embrace the latest up-to-date ideas in labor-saving devices, home-building economies and household comfort, from the various standpoints of heating, ventilation, plumbing, flooring, roofing, interior decoration and fireproof methods in building construction.