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The Editor does not hold himself responsible for opinions expressed by his correspondents.

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NEW BOOKS.

Plaster and Plastering—Mortar and Cements—How to make and how to use, by F. T. Hodgson. (The Industrial Publication Co'y, New York.)

The publication of small hand-books for the various Trades having for their object the better instruction of artificers in their special departments, cannot be too highly praised; for until the average workman is fairly master of his business and takes an intelligent interest in it, no good work can be expected of him.

The present little manual—to quote the author's words is intended "to help those who are desirous of helping themselves" and contains a great variety of information on subjects more or less directly connected with plastering, and which will be found useful, not only to the Plasterer, but also the general reader.

It describes the tools required in the work, the various kinds of materials employed, the mode of operation; it tells how to measure the work, and appends a quantity of miscellaneous information, finishing with a glossary of terms.

The least satisfactory part of the book is the illustrated plate of profiles of cornices, which we would have wished had been more judiciously selected. We should be sorry to see any of them executed.

On the whole, however, we have no hesitation in recommending this book to all whom it may concern as likely to prove a good and useful investment.

THE PREVENTION OF INCRUSTATION IN STEAM BOILERS.

In 1858 the Manchester Steam Users Association engaged Dr. R. Angus Smith, to make an analysis of several of the waters used in the works around Manchester, and to prescribe remedies for their treatment, in order to guide the members on this subject. Subsequently several other analyses had been

made of waters containing carbonate of lime, coupled with magnesia. Such waters were found to form a fine flouy deposit, which led to the overheating of the furnace plates, even though covered with water at the time. In consequence of this, many boiler makers had been unfairly blamed, and the straining of the furnaces attributed to bad workmanship, whereas it was due to the peculiar character of the feed-water. Cases of this sort had been met with in various parts of the country, in London, in Lancaster, in the neighborhood of Widnes, and many other localities.

The number of anti-incrustation compositions was very numerous. Their component parts were veiled in mystery. Many of them proved positively injurious to the boilers on actual trial. Some lined the plates with a glutinous coating, which, while it had the desired effect of keeping off the scale, unfortunately at the same time kept off the water, in consequence of which the furnace crowns became overheated, strained, and bulged out of shape. The members therefore were warned not to adopt any of these compositions without the greatest caution. As the incrustation compositions were costly, blowing out was too often given up when they were used. The practice of neglecting blowing out was strongly objected to, and an explosion that occurred at Bury from that cause was referred to as an illustration.

The course recommended by the Association was to try in the first instance good soda ash. This was not to be introduced at the manhole or safety valve in large intermittent charges when the steam was down, but pumped in along with the feed water at the rate of about 3 lb. per day for a full-sized mill boiler, so that the boiler might regularly be fed with weak soda water, while blowing out should by no means be neglected.

Boilers were not to be emptied violently by blowing the water out under steam pressure, as that would leave the surrounding brickwork hot, and bake the sediment on the plates; but the boilers were to be allowed to stand until cool, and allowing the water to flow out of its own accord. To hasten the cooling, the steam might be blown off at the safety valves, and then when the pressure was down, but not before, the manhole lid might be taken off and cold water poured in so as to mix with the hot, and thus lower the temperature of the mass gradually and generally, and not suddenly and locally.

Should, however, the soda not be found to succeed, and soda would not meet every case, it was recommended that an analysis of the water should be made by a practical chemist with a view to a suitable remedy being prescribed to meet the special requirements.

Soda ash was recommended in preference to soda crystals, because the crystals contained so large an amount of water, so that though the soda ash might cost a little more per pound in the first instance, it was cheaper in the long run. It was stated, however, that as soda ash varied very much in quality, it was important to see that it was good, as otherwise it might contain impurities which were injurious. In one case, which had come under notice, the amount of carbonate contained was