

## USEFUL HINTS.

**PERCOLATION THROUGH BRICK AND STONE.**—The results of some experiments to ascertain the most effective material for checking the percolation of water through brick or stone work are given by Mr. A. W. Hale in a recent number of the "Engineering and Mining Journal." The investigation was mainly carried out in connection with the new Croton aqueduct of New York, and the substances employed in the experiments were numerous and varied. It was found that Portland cement gave the best

results, and that the hydro-carbons, which are commonly regarded as suitable materials for rendering brick or stone impervious to water, oxidized by exposure to air and gradually disappeared. It was also found that a brick was rendered impervious to water by cement more rapidly when the cement was applied as a wash by means of a brush than when applied with a trowel in the usual manner. A brick which had been treated with four cement washes was found at the expiration of two months to be quite impervious to water, even under a pressure of 200 pounds per square inch.

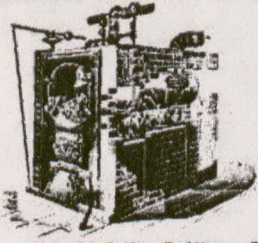
A stain to show at its best must exhibit a tone of color which comes from a combination of the color of the wood and the pigment or stain used, on the same principle as glazing and graining. Hence the more transparent the color used, the better the stain.

Japan intends sending to the Paris Exhibition a huge house, hexagonal in shape, and composed entirely of porcelain. It measures several yards in circumference and its weight will not be less than seventy tons. From the artistic point-of-view, according to the several models already finished, it will be exquisite. It is estimated that the cost of making it will be about £2,000.

**CEMENT COATING FOR IRON WATER TANKS.**—Every good oil paint and red lead coating will protect the water reservoir from rust, and when it is perfectly dry will not give the water any noticeable side taste. The only drawback is that the oil coating does not last long. For this reason a cement coating is considered superior to oil paint. Cement dries perfectly in a few hours, and if it is made right lasts at least as long as oil paint, while its cost is next to nothing. In the Experimental Brewery at Berlin (says the Nordd. Bangew. Anzeiger) the lime and warm water receptacles are painted with cement, and after four years' use the coating has not yet required renewal.

**CURE FOR WORMS IN WOOD.**—A writer suggests the following methods for treating wood which has been bored by worms: 1. Fumigate the wood with benzine. 2. Saturate the wood with a strong solution of corrosive sublimate. If used for carvings the color should be restored by ammonia and then by a weak solution of hydrochloric acid. The holes may be stopped with gum and gelatin, and a varnish of resin dissolved in spirits of wine should afterward be applied to the surface. 3. Whale oil and poisonous ointments have been found of service, the wood being carefully brushed before being operated upon. Still another plan is to dust the parts with powdered quicklime and then water them with ammoniacal liquor of gas works, when the ammonia will be instantly disengaged by the quicklime, and this is destructive to insect life.

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