so-called fireproof paints put upon the market recently, but most of them are intended rather for the outside work and as a substitute for ordinary paints than for the rough woodwork, thus showing that their manufacturers have, as a rule, studied the problem from the wrong point of view. A fireproof paint that would be of real value must be so cheap and so easily applied that its use would add but very little to the cost of the house. Fortunately we have just such a coating in ordinary lime whitewash. Two heavy coats of whitewash will render rough woodwork almost non-inflammable. The experiment is easily tried by putting a piece of whitewashed wood in the fire, or attempting to kindle the kitchen stove with wood that has a couple of good heavy whitewash coats. Moreover, it will cling much better to rough than to smooth lumber, and this is a great advantage. It should be used on an ordinary frame building just after the frame is up, the building enclosed and the floors are laid, and before any plastering is done, coating every part of the rough woodwork very thoroughly with two heavy coats. It would be an extra precaution if the rough sheathing, both on sides and roof, were given a couple of coats of whitewash on the outside before the weatherboarding or siding was put on, or before the roof was shingled or slated.

For the first floor joists, and under side of first floor, or where the coating would be exposed to dampness, a wash recommended for boiler rooms might be substituted. It consists of six quarts of freshly slaked lime, well sifted, to which is added one quart of rock salt and a gallon of water, the mixture being then well boiled and skimmed clean. To five gallons of this mixture are added a pound of alum, half a pound of copperas (stirred in slowly), three-quarters of a pound of potash and four quarts of fine sand or hardwood ashes, well sifted. To this may be added any coloring-matter desired. It is said to be exceedingly durable, and may be used as a substitute for paint on brickwork.

Silicate of soda or water glass has also been highly recommended as a fireproof coating for woodwork. In a London paper, published in the early part of 1894, F. H. Gossage narrates several experiments he made with this material. He says: "I find that painting woodwork of any kind with several coats of silicate of soda, and finishing off with a mixture of this solution and sufficient common whiting to make it about as thick as ordinary paint, is a most excellent protection against fire. Wood treated in this way will not take fire from mere contact with flame; it requires to be heated till destructive distillation begins." The same thing was also recommended by A. H. Lorton, of New York city, in a paper read before the New Jersey State Association of Master Painters and Decorators, at Passaic, January 16, 1895. He said that whiting might be mixed with the silicate of soda when it is intended to paint over it, and stated that this gave a good hard surface, making an excellent priming that wears well. It also gives a good surface when varnished over. He illustrated his paper with a number of experiments which showed conclusively the truth of his statements.

A French authority gives the following formula for a fireproof paint: 20 pounds of finely pulverized glass; 20 pounds finely pulverized porcelain; 20 pounds of any sort of powdered stone, 10 pounds calcined lime and 30 pounds of water glass. The solid elements having been powdered as finely as possible and sifted, are moistened and then intimately mixed with the water glass. This gives a syrupy mass that may be employed for painting, either alone or mixed with color. The addition of the lime gives a certain unctuosity to it, and its combination with the silicic acid of the water glass tends to bind the other materials together. The proportions of the materials may be changed, except the water glass, which remains constant. The first coat hardens almost immediately, and a second coat may be applied six hours later.

The Oil and Colorman's Journal says that a good fireproof paint may be made of 70 pounds of zinc white, 39 pounds of air-slaked lime, 50 pounds of white lead, and 10 pounds of sulphate of zinc. Mix the zinc white and lime together and grind in elastic oil, then add 1 gallon 35° water glass, then the white lead and sulphate of zinc; stir well. This will make a white paint; any color may be added to give the shade desired.

Another recipe for non-inflammable paint is as follows: To a gallon of a mixture of equal parts of lime water and vinegar, one-half pound of salts, one-quarter pound of alum and one-quarter pound of white vitriol are added, each in the form of a powder. The mixture is then boiled. One gallon of linseed oil, or any other drying oil, is then added and the boiling repeated. After the addition of one gallon of crude petroleum the mixture is once more heated to the boiling point, and is then ready for use.—Painting and Decorating.

TESTING THE QUALITY OF BRICK.

When two bricks are struck together they should give a more or less metallic ring, which will be very pronounced in the case of hard-burnt brick of good quality, and dull in the case of soft brick. Generally the ring of the trowel while the bricklayer is at work will tell the quality of the brick. According to the "Building World," if they are to be exposed to the weather, they should not absorb more than one-sixth to one-eighth of their weight when dipped in water after previous drying, or one-fifth if left in water twenty-four hours. The hardest brick will sometimes absorb as little as one-fifteenth. A good facing brick should resist the knife, and a good rubber should resist the finger nail until the outer skin of the brick is removed. If required for important work where a great load has to be carried, or a new quality or make of brick is proposed to be used, specimens should be submitted for testing the crushing strength of a small cube or a whole brick, and also the crushing strength of a pier built in mortar or cement. A good brick cannot be broken by throwing it on the ground, but it can be broken by holding one end and striking the brick about two-thirds along against the edge of another one. The appearance and squareness of the fracture and force of blow required will indicate some of the qualities of the brick. The structure should in all cases be uniform and compact.

CRUSHED STONE.

One of the noticeable things of recent years is the greatly increased use of crushed stone for building purposes. Ten or fifteen years ago very little demand existed for broken stone outside the requirements for railroad ballast and road making. Now and then came a demand for broken stone for concreting a foundation for a bridge or for bedding engines and heavy machinery in mills and factories.

For building purposes there was practically no demand whatever. The custom was to lay down broad footing courses or large dimension stone, and on these to erect the wall, and this is still the custom with all ordinary sized buildings.

With the advent of the twelve and fif-

(Concluded on Page 4.)