may be rendered very tough and hard by gauging the material with 10 to 15 per cent. of minion—the siftings of ironstone after calcination. Indurating concrete slabs causes them to become very hard; by it their density is increased and their porosity lessened. A solution of soluble silicate of soda, 1 part to 10 parts of water, may be applied to in situ paving, but the pickle should not be applied until after the lapse of a couple of days, by which time some of the moisture will have evaporated, and thus allow the silicated solution to penetrate the pores of the material, for which the silicate has a great affinity.

PAINTING BRICK WALLS.*

Of all the subjects on paint and painting, this one, alone, appears to be the least hackneyed. In fact, there seems to be an implied agreement on the part of contributors to let it severely alone. There are several specific and well-defined reasons why the subject of brick painting should demand more attention than it usually does. The principal reasons are: It requires a large quantity of paint, as compared to other work, to do it properly, and that there is quite an amount of it done—more than the casual observer would suppose; also, that there are numerous difficulties constantly arising which handicap the painter who wishes to do a substantial job, unless he thoroughly understands them and knows the remedies therefor.

While it is controvertible, it seems to be a settled fact in the minds of most of our painters, that there should be nothing used on brick-work except oil paint. Taking the surfaces as they come, good and bad, it would be folly to assume otherwise. But, considering the large amount of paint it takes, and the cost of the same, its entire use throughout the job may be partly dispensed with and the result be just as good. We hold that it is the duty, if not to the convenience of the painter, to work to this end. There is one thing sure, the better any surface is sized or filled, the less paint it takes to cover it, and the less work it requires to apply it; but the trouble is to get a filler that will stand on brick. If the walls were perfectly dry at the time of filling, and could be kept so, we would not hesitate for an instant, owing to the ease with which anything adheres to perfectly dry brick, in saying that a common brown glue size would practically answer. But the brick wall remains yet to be built that is and will remain dry in every portion during all seasons of the year, no matter how well it be coated with paint. A glue size has been tried repeatedly with varying results. In some instances, according to the testimony of painters, it has stood fairly well over the entire job. These instances are so rare, however, that they bear questioning; hence, they are hardly worth considering. The experience of others has been that glue sizing would stand except around the cornice, windows, etc., and around the base. There are numerous instances that attest to the truth of the foregoing assertion, we must conclude that brick buildings, taken as a whole, are more liable to draw dampness around the windows, cornices, near the base, etc., than at places some distance from these points. It seems to us, then, that a glue size might be employed advantageously on portions that the painter is sure will not draw dampness. In all cases, the size should be applied to these parts while the brick is perfectly dry, and covered with paint before it rains. While saying "perfectly dry," we do not mean dry as when taken from the kiln, for it is a fact that a brick will absorb some moisture in any position, and it will remain in it, which is evidenced by weighing them. Before painting brick that is partly sized, the parts on which there is no glue size should be given an oil size, so as to make the color uniform in appearance, and we think it advisable to also use a flat for finishing, for the possibility is that the surface will be unequal in its absorption of oil. We think it a safe proceeding to size brick that is protected by a verandah roof. It is another fact, well authenticated, that brick, relatively, will hold paint better with moisture in them than wood. The trouble with paint on well-burned damp brick is not so much from the paint cracking, scaling or blistering, as from spotting, and efflorescence of the sals in them.

When engaged in painting advertising signs, we hunted for a long time for a size that would hold out paint on brick and stand for a reasonable length of time. Principally from the fact that it is tedious work to paint letters on a brick wall, on account of rapid suction, and also that the brick will not take paint well, which necessitates much rubbing, it is useless to try to paint letters rapidly on a brick surface if one is compelled to rub the paint in. We found by dissolving glue in linseed oil, and thinning down with benzine, that we got a much cheaper size than pure linseed oil, besides, it filled better, and the letters could be put on much more rapidly than on an oil size, while its lasting qualities were about on a par with an oil size. The glue served the office of filler, while the oil prevented the glue from coming in contact with the moisture. As we had not time to wait for the sizing to dry, we painted the letters on as soon as we got the sizing done. But it would be better to allow it to stand until dry before applying the next coat of paint. A painter once told me that glue dissolved in sal-soda water, and mixed with oil, makes a good sizing for brick. It seems to me that this is worthy of trial, as sal-soda water and linseed oil makes a very good vehicle in which to mix the priming coat for wood, and I know that shellac dissolved in sal-soda water and mixed with oil makes a better paint for damp work, and work afflicted with grease spots, than pure oil. Shellac would be better than glue, but it is too costly. We mention these sizes for the reason that property owners are scared out when it comes to painting brick work, on account of the vast amount of material it takes,

(Continued on page 4).

* R. H. Forgrave, in Painters' Magazine.