

SOME NOTES ON THE QUESTION OF FIRE-PROOF CONSTRUCTION.

Among the crop of utterances upon the subject of the Baltimore fire we have one now about thicker walls and better laying. These are very simple remedies and, if Capt. Sewell, U.S.A., is right, in his inference from the appearance of fourteen inch walls, that an eighteen inch wall would have stood the heat, the demonstration is one more in the direction of proving, what is much to be desired, the unity of Science and Art. Science is truth and Art is truth, and, where they do not agree, the thing to expect is not their divorcement but a fallacy in one or the other. Mr. Wells, the writer of scientific fiction, groans over the backwardness of the age; still making walls by the slow process of setting units one upon another; still wasting time and material in a process that requires walls to be a foot thick to enable them to keep up. Why, he asks, go on with this, instead of setting up a steel cage in a four inch form and pouring in cement? These anticipations make an architect shiver. Not that he would keep back science. It is the suddenness of the change, that is all. But Mr. Wells has to be sudden or he won't sell; and Christmas book science is not as safe to lean on as that of West Point and the U.S.A. We can hardly expect any substance to resist the inroad of great heat except by sheer thickness. Capt. Sewell declares that more mass is required to resist a fire than to carry superimposed loads. So we may enjoy the satisfactory reflection that after all the eye is the best measurer of thickness; that a wall (special circumstances apart) is usually strong enough when it looks strong enough; for though science, in its most economical precision, would be content with less thickness, capacity for resisting fire requires it all.

In the mean time the new building law for Cleveland, having specified the acceptable fireproofing materials in order of merit as follows:—Brick, porous terra cotta, semi-porous terra cotta, dense terra cotta, concrete, and plastering on metal lath, proceeds to declare that the least thickness of fireproofing material that will be allowed is 2 inches. That is to say, 2 inches of plastering on metal lath is sufficient protection in a fire where a 14 inch wall will not stand. These two statements do not seem to make a very good pair.

The extraordinary thing is that there should be really any doubt about the action of fire when we have had so much experience and when it all counts—for fire never changes. What happened in one big fire will happen in the next, as far as the fire itself is concerned; and, if we are too busy during a fire to study its action, and are not able to read the records it has left behind it, there is nothing to prevent our having a laboratory conflagration and watching its progress through glass. Indeed this is done in effect by The British Fire Prevention Committee, and occasionally for the purpose of special experiment, by other bodies, on this side of the Atlantic as well as in Europe. It will be part of the work of this journal to keep track of such experiments and give practical results to its readers; but it is high time that such results were not only practical but practicable, and found their way into specifications instead of into files for future reference.

It is time to change our ways. The statement has

been made, in a paper read before an English insurance society, that the recent losses to English companies by conflagrations in this country have exactly wiped out the profit to their shareholders during the last fifty years—and the vipers are going to rise the rate on us. This seems to mark a crisis. It is a hint that we are not quite within the pale of civilization. It appears that the people of the United States are in it too, but that should be no encouragement, for they are quick movers over there, and before we know it we shall be alone, marked down for burning, by people with whom probabilities are a science a trifle too exact to make it a comfortable matter to be on the list of suspects. It is time to change our ways. The question is how to change them effectively. There is no use in talking fireproof construction; we have done that. There is no use in blaming the architects; they know all that is known about fireproof construction and would be glad to practice it. It is the architects' clients who condition the state of building and they are the people we have to deal with. The truth about the halting progress of fireproof construction in this country is that the business public do not want fireproof buildings. They would like their buildings to be fireproof well enough, especially after a big fire; but the wish dies a painful though not a very lingering death under the influence of preliminary estimates for rebuilding with fireproof construction. A conflagration is but a chance after all and the cost of fireproofing is a certainty, and it is not business to balance a certainty of cost against a problematical advantage. There is some return in the reduced cost of carrying insurance but it is not enough to even up the transaction, and there is practically "nothing doing" in fireproof building.

Then comes the cry for stiffer by-laws. Let us force them to build fire-proof; the extra cost is not a matter of choice, it is a public matter. Very well, let the public establish preferential trade with the owners of fireproof building in proportion as their buildings are fireproof and their prices therefore high. This is a perfectly fair proposition, but in view of the fluidity of cash, which flows steadily to the lowest levels, it amounts to a proposition to make water run up hill. How then is the suggestion to be carried out? It is still true that if the public have a right to say they have a right to pay. How can the public, who share in the advantage of an individual's fire-proof building, share in its extra cost? It is at any rate not to be brought about by sending the Assessment Commissioner after him to rate him for extra taxes for the public benefit on the score of his extra expenditure in building so as to benefit the public. This would not be a good thing to do, but it seems to suggest what would. If a man taxes himself for the benefit of the public it would not be fair (to him) to tax him again on the amount of his own taxation, but it would be quite fair (to other people) to remit taxes to him on the basis of that amount; and, inasmuch as taxes should be fluid also and level up all hollows in the public estate, the displaced tax should find its settlement on buildings that are below proof in the matter of fireproofing. It is for them and because of them that the firehalls are maintained, and they should pay for their maintenance. Here then is, if not a complete proposition, a suggestion of a direction in which to feel for a string which will make fireproof construction sit up. It would be interesting to figure out the relation between the extra