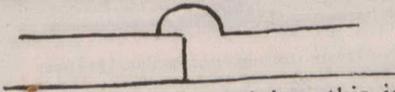


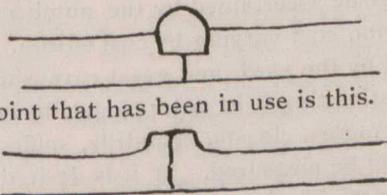
the Home Life Insurance fire, in finding how thoroughly the terra cotta withstood the action of the fire. As Mr. Hynes said, the chief injury was caused in that part of the building which was marble. About the only iron work seriously injured was a girder which by an oversight had been left unprotected in one of the upper stories, not covered at all in fact. I agree with Mr. Hyne's remarks in regard to Mr. Waterhouse, I think his conception of the treatment of terra cotta is the true conception, and if you have examined the details of the building you cannot fail to be impressed with that fact.

Mr. Pearson: Will Mr. Hynes show us a sketch of that water joint.

Mr. Hynes: The joint in common use is of this form.



There is great difficulty in retaining this joint intact. I contend it would be better if it was carried out in this way.



The other joint that has been in use is this.

The President: Don't you approve of Mr. Burke's method of carrying the terra cotta?

Mr. Hynes: No, I cannot think of terra cotta as such an inferior material as to render it necessary to cover it with sheet iron; if it is good, it does not want anything to preserve it.

Mr. Pearson: It is not the terra cotta that the trouble has been with, it is the joint.

Mr. Hynes: Well, I only give my own idea or suggestion of a joint to get over the difficulty. Everything has been used, copper flashing and everything else has been introduced, and this lap-joint has been constantly breaking off; a great many of these pieces are thrown away because of that little lap being broken off. The form I show is fairly practical, and does not show any mortar joint, and, besides, it is cheap.

Mr. Gemmell: That is the second drawing.

Mr. Hynes: Yes, the centre one.

Mr. Gemmell: What is to prevent a little moisture getting beneath the edge and breaking it off?

Mr. Hynes: I never saw any terra cotta break off that way; the difficulty has been where it was broken off before it got into its position.

Mr. Siddall: I had an experience here in Toronto which I never had before in carrying out terra cotta work. We had some terra cotta work in a building which was built in, and when built in it looked better than anything I had ever seen; it was perfect in alignment, finish and everything else. But after it had been in position for three or four months I found that the surface had begun to scale off, in some of the worst cases as much as a quarter of an inch in depth. I have never yet been able to find out the reason for that.

Mr. Hynes: A similar case came to my notice in Chicago. It was under the supervision of Thomas Taylor, a man very well enlightened in such matters, and who carried out the job very successfully, and it was placed satisfactorily to the architect and all the parties concerned. But after the first year he got a report that it was peeling off. He could not realize it at first, but he went and found that it was so. There is a clay that is used a good deal in the modelling shops, and the degree of heat that would affect that would turn the ordinary red clay into a vitrified mass before this potter's clay I speak of would be affected. Some of the modellers clay got into a thin slip and was thrown over the slack clay to keep it damp with water, and it went through the pulp mill and this clay did not become amalgamated, it did not become a heterogeneous mass, and wherever that was the case it just rolled up in layers, and after the first winter it showed up. It is possible that what you allude to may have arisen from the same cause.

Mr. Siddall: In the old country it is the custom

to supply the ordinary full size drawings, because when you have four or five drawings, the modeller does not take your profile at all, he has to enlarge it. In the building I speak of, every moulding and profile was drawn twice, once to shrinkage rule and once to the ordinary full sized scale. That is the only way you can get perfection. Of course the clay will shrink in burning, and in the old country that has been calculated to a nicety, and they will furnish rules to you to measure two feet plus what is necessary to allow for shrinkage.

Mr. Hynes: In pretty nearly every place where terra cotta is manufactured on a large scale, they employ a firstclass draughtsman, and these draughtsmen enlarge from the small up to the standard scale. The red clay I have used has gone as far as an inch and a quarter in shrinkage, while white clay only goes nine-sixteenths of an inch; that has been the total shrinkage to the foot.

Mr. Pearson: The figures Mr. Hynes has given as to breaking strains, afford no criterion to go by, because terra cotta is used as a hollow material, and it has to be backed up; and the backing up is what one has to depend on, and one cannot count on the outside face of the building in the thickness of the walls where you exceed in height three or four stories. In backing up terra cotta with brick there is always a space that has to be filled in or grouted, and it is a very difficult matter to get that done properly. Then, even if it is done, it is not safe to count on it bearing its full load. I do not think that terra cotta can be used in the same way that stone is used, for the reason that it is always a hollow material. Another thing that Mr. Hynes spoke of was having a wash on the surface of the terra cotta, and he is very strongly in favor of having the natural finish. That is all very well, but when you get a number of pieces and place them together they do not harmonize, there is a great difference in the shade; and when you get one piece very much more strongly colored than another, it is not always satisfactory. I do not see why there should be such a rooted antipathy to this wash. They do it in the States, and the buildings there appear to be satisfactory, and where that wash is used the surface finish is more satisfactory than we can get otherwise.

Mr. Hynes: In reply to Mr. Pearson, I might say there is no piece of terra cotta of such a shape that it cannot be stood up and filled thoroughly with cement and brick previous to being used; if it is set into the wall in the hollow form, then there is a great deal of difficulty in filling it. With reference to the straining power of terra cotta, which Mr. Pearson says is of no account, an architect who is no here to-day, said to me, "The difficulty with your terra cotta here is that it is too soft." I said, "Yes; where do you get soft terra cotta?" "Well," he says, "there is that job down on King Street." I said, "Where did you try it?" "Oh," he says, "just by looking at it." I said, "That is hardly a fair test. I will guarantee that you cannot produce a brick that will cut as hard a chisel face as that terra cotta."

Mr. Pearson: I do not think that Mr. Hynes is right in saying that terra cotta can be filled before it is set up in the building, because it has to be bonded into the wall. It may be right enough to do that with mullions.

Mr. Gregg: I have much pleasure in moving a vote of thanks to Mr. Hynes for his valuable paper, and I may say I would be very glad to see him here among us. Some of us remember him as one of our best modellers in plaster and terra cotta, and we have missed him for some time. We are sorry to hear of the death of his employer in Deseronto, but we hope that we may in the future see more of Mr. Hynes, and that he will have some place where we can see his work and consult with him.

Mr. Pearson having seconded the resolution, it was carried.

Mr. Hynes: I can assure you that it has afforded me much pleasure to be present with you, and if I can be of practical assistance to any of you it will afford me much pleasure. I hope at some future time to be able to give you some practical illustrations in the School of Practical Science as to the qualities of terra cotta.