POPULAR IMPRESSIONS vs. FACT.

AVERAGE human nature has a strong affinity for that which partakes of the mysterious. The superstitious is bred in the bone of most men. They like to speculate on that of which they know little or nothing. This, at least, would seem to be a generous way of accounting for many of the absurd opinions given out regarding the recent great fires in Toronto. Experts have shown how far off were those wise ones, who would have connected the Simpson fire with that subtle force electricity. In a previous number of the ARCHITECT AND BUILDER, it was shown that those who talked of the Simpson building as fire-proof, and would berate all and sundry who had anything to do

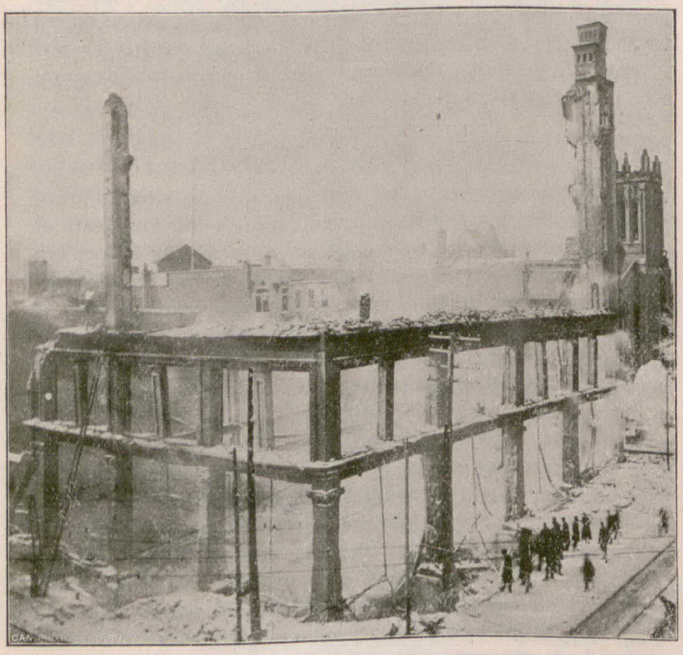

ILLUSTRATION SHOWING HOW PROTECTED IRON COLUMNS WITHSTOOD FIRE IN THE SIMPSON BUILDING, TORONTO.

with its construction, were simply talking of something they knew nothing about. Considerable notion seems, also, to have existed, and to some extent where better views ought to have prevailed, that had some other method been adopted in the placing of the large iron columns and beams that formed an important factor in the Simpson building, they would not have been so completely damaged by fire, as was manifest to everyone the morning after this unfortunate event.

The ARCHITECT AND BUILDER has taken some trouble to investigate this matter. Let us examine into the facts. It ought to be understood by this time that the Simpson building was not designed to be fire-proof. The internal columns and beams were of rolled steel and had to be of this material, as the spans were too long for wooden beams. The clear unobstructed space was a *sine qua non* necessitating as few columns as possible. In the case of buildings erected for office purposes, though of great height, and on the same plan, this condition does not apply to the same extent. But in large stores and warehouses great open space is a necessity. It was for this reason that the joists were of southern pine, the span and load being too great for the strength of the ordinary native pine. Objection has been taken to the use of southern pine in large buildings, because it is more inflammable than the white pine, but so far as the present case is concerned, with a fire of so great intensity, such a condition was neither here nor there, any more fire-proof substance must have succumbed. The plastering throughout the building was of acme cement, the columns being also plastered with it on metal lath. This protection would have successfully resisted an ordinary fire in the new building, but was powerless, of course, to resist the intense heat developed in the old adjoining buildings, which were directly connected with the new, without the interposition of any wall.

It has been said of the Simpson building that the steel columns, which extended from the ground line to the top of the second storey were inadequate to carry the weight of the building, and that the large masonry columns were partly used to give strength to the steel work.

The ARCHITECT AND BUILDER has made careful enquiry on this point, as it is one of importance, particularly from a structural point of view. Our information shows that the outer walls were carried from the third storey entirely on the steel columns, which extended from the ground lines to the top of the second storey. These columns were encased afterwards with cut stone, brick and terra-cotta. The protection of these columns and the beams which they carried was so thorough, that paper signs which had been pasted on them were intact when the brick work was taken down. The stone and terra-cotta of the two lower stories in no way supported the building, and were only a casing or ornamental and protective feature. All the columns and beams were calculated with the usual factor of safety and no settlement or structural defect of any kind, we have reason to believe, had shown itself up to the day of the fire, although the building had been rushed through in an unprecedentedly short time and under many adverse conditions.

Had it been intended to make the building fire-proof, the iron beams, which, as our illustration shows, became so terribly twisted, would have been encased in fire-proof material, such as porous terra-cotta. But this was not done. Profiting by the experience of the late fire, we are glad to learn, for the general safety of the city, that the new building that will be erected for Mr. Simpson, by the same architect, will almost certainly be made fire-proof.

We have heard comparisons made between the methods of construction adopted in the erection of such buildings as those of Simpson's and McKinnon's and some of the high buildings of New York and Chicago. It does not appear, in these larger cities where this plan of building is so much followed, that very much better methods of fire protection and construction are adopted than in Toronto, where the experience has not been nearly so great. The fact is in a composite building like either of those named, where wood, steel, and masonry work go into the structure, no better guarantee can be given in one place than another that a conflagration, when it gets headway, will not destroy it, providing, of course, proper fire equipment is possessed by the municipalities. The writer discussed this matter with a well-known local architect, who had, at one time practised in New York, and he cited the case of the destruction of a large warehouse there, built on somewhat similar lines to that of Mr. Simpson's, and where the result was just as disastrous.

Whether it is wise to encourage the erection of buildings, constructed on what is familiarly termed the skeleton plan, is a

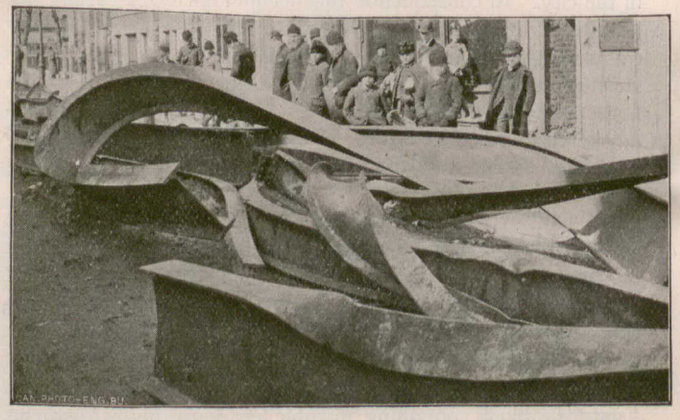

ILLUSTRATION SHOWING THE EFFECT OF HEAT ON UNPROTECTED IRON GIRDERS IN THE SIMPSON BUILDING, TORONTO.

point on which architects and practical men will differ. Perhaps the greater safety lies in the adoption of a happy medium, where steel and iron will be mainly used, and yet, where, as we understand is the case in New York, masonry work is not discarded to nearly the same extent as in Chicago. There is just this about it, that where masonry work is employed, the openness and light aimed at, especially by owners of large stores, has to be sacrificed. And wisely or not, in this intensely practical age, utility more frequently predominates in settling these matters than any other influence.

Mr. Andrew Taylor, R. C. A., recently delivered a lecture before the Woman's Art Association at Montreal, on "The Importance of Form in Art."