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## FIRE PROTECTION HISTORY-PART 153: 1911 (FIREPROOF CONSTRUCTION)

By Richard Schulte

The fire at the Asch Building in New York (the Triangle Shirtwaist Factory fire) took place on the afternoon of March 25, 1911. This fire took the life of 146 occupants of the building. Given that, it would be expected that the Asch Building fire would be a topic of discussion at the fifteenth Annual Meeting of the NFPA held at the Waldorf-Astoria Hotel in New York City in late May 1911.

The following is the transcript of Report of Committee on Fireproof Construction which addresses the fire in the Asch Building:

"*The Chair: The following Nominating Committee has been appointed:*

*H. O. Lacount (Chairman), of Boston; C. E. Meek, of New York; H. C. Henley, of St. Louis; G. M. Robertson, of San Francisco; F. H. Wentworth, of Boston.*

*The first number on the afternoon's program is the report of the Committee on Fireproof Construction, Mr. E. T. Cairns, Chairman.*

***REPORT OF COMMITTEE ON FIREPROOF CONSTRUCTION–INCLUDING CONCRETE AND REINFORCED CONCRETE.***

*E. T. CAIRNS, Chairman,*

*G. W. Cleveland, F. W. Eames, H. E. Griswold, J. M. Hughes, F. E. MacKnight, A. G. Patton, C. H. Patton, F. H. Porter, W. C. Robinson, Walter Smedley, C. H. Smith, Jas. A. Smith, F. J. T. Stewart, A. P. Stradling, H..V. Thayer, K. L. Walling, Ira H. Woolson.*

*The subject of fireproof construction has liberally shared in the great increase of public attention to the general subject of fire prevention and protection during the past year. A large number of cities and towns have revised their building codes, or adopted new ones, and a notable step in advance is the adoption of a building code by the entire state of Ohio, a course which should commend itself to other states as a means of enforcing safer buildings of various types in all towns and cities, whether or not the local sentiment in each community is sufficiently developed to bring about action independently.*

*Mr. Cairns: I should state that this Ohio law has been passed by both branches of the legislature, but I believe is not officially signed by the governor at this date, although there is every prospect that it will be in a very short time.*

*Resuming,–*

*The National Board of Fire Underwriters has figured prominently in shaping these codes, and through its engineer, Professor Woolson, working under the direction of the Committee on Building Construction, is doing a work of great value. The sections of the National Board building code on fireproof construction are still the standard of this Association. A great deal of thought has been given the subject of a revision of this code, and much preparatory work has been done, but the task is a large one– larger perhaps than most of our members realize. It is important that our new code should be the most practical, and of a sort to command the confidence of all interests coming in contact with it. Moreover, the Underwriters' Laboratories are about to undertake a series of tests on building materials which will doubtless shed much needed light on several questions involved. Therefore, your Committee feels justified in again reporting progress and asking for further time before presenting a revised standard for buildings of fireproof construction.*

*We invite your attention to the many detailed fire reports given in the Quarterly during the past year, which point valuable lessons. While none of these buildings suffered the attack of such conflagrations as Baltimore or San Francisco, and they, therefore, suffered no such severe damage, many of the fires were very severe locally, and demonstrated the great value of fireproof buildings, of both concrete and tile type, over those of inflammable materials. Several fires are reported resulting in little loss and which might perhaps have burned themselves out unattended, but which, if occurring in ordinary buildings, would in all probability have gotten beyond control and resulted in heavy damage. In other cases, the neglect of apparently important details of construction is shown to have resulted in extensive loss to the building, as in the case of the hotel fire (Quarterly, July 1910, p. 129), where a wood nailing strip built into a supposedly fireproof partition came in contact with a hot boiler flue, and caused considerable loss on two floors.*

*One particularly important detail, to which special attention has been called this year, is the necessity for making floors of fireproof buildings waterproof. In the Allwyn Court Apartment House Fire in New York some months ago, a large proportion of the damage was by water running through the floors for several stories below where there was any fire.*

*The point was again illustrated in March by the Asch Building fire in New York, where the fire was practically confined to the three upper stories, but water leaked through the floors so freely that heavy loss was sustained on all floors below.*

*There are several methods of waterproofing, both concrete and tile, but your Committee is not now prepared to state what is the best under all conditions. In any case great care must be taken to flash up around pipes and conduits and to provide drains and scuppers to conduct water outside or to the elevator shafts.*

*Important as are these details, tending to affect the fire and water loss on the building itself, the great lesson to which the year's reports point is the fact, which cannot be too often repeated, that the function of a fireproof building is to protect the contents of that building from loss. It is not enough that a building should be incombustible, nor even that its steel frame should be safely insulated, nor that the incombustible members or decorations should be of a nature not easily damaged by fire, desirable as all these things are, but the house should be so arranged that only a small portion of the inflammable contents can be damaged by fire or water at any one time, and also that the lives of the occupants of the house may be safe. For the accomplishment of this result, three things are absolutely necessary: 1st. The building should be divided into as small sections as possible. 2d. Appliances, preferably automatic sprinklers, should be provided for extinguishing small fires in contents. 3d. Means of quick escape should be provided for the occupants.*

*With the exception of dwelling houses, there is probably no class of occupancy which will not permit having stairs, elevators and all other vertical openings inclosed in fireproof shafts, and the use of wired glass in metal frames for all outside windows to prevent fire traveling upward from floor to floor, as well as to guard against outside exposures, provided owners and architects would be willing to modify some of their ideas of economy and beauty for the benefit of public safety and the preservation of their tenants' goods.*

*Many of the fireproof buildings of today, with their large areas and great height, present some problems in the safety of the life of their occupants which may be properly considered by this Association. The Asch building and the Iroquois Theatre illustrate in a horrible way the fact that while the property loss may be quite moderate, lives by the hundreds may be lost in so-called fireproof buildings, primarily because the means for promptly extinguishing small fires may be lacking and also that means of exit are inadequate.*

*It is very evident to those who have really studied the subject that the old fashioned skeleton iron type of fire escape is utterly unfit for use on a ten, twenty or thirty story building, because people unaccustomed to walking in such places cannot stand the dizzy height, and because such escapes must necessarily be located in front of windows out of which fire or smoke may be pouring at a time when people from floors above may want to pass down.*

*In the opinion of this Committee, the best type of fire escape for high buildings, and which should be required in all city building codes, is the so-called Philadelphia fire tower, a brick shaft with broad iron stairs and communicating with each story only by means of an outside gallery. Such fire towers may be on the street front of the building and maybe so arranged as to serve the purpose of an ordinary stairway for daily use, and, therefore, not be objectionable on the ground of occupying too much space.*

*The subject of fire escapes is being given a great deal of attention at present, and properly so, the very best and safest means of getting people out of burning buildings should be provided, but, after all, that method of settling the problem is a good deal like avoiding an epidemic of disease in a town by providing good railroad service on which to get away. That should be only a last resort, and the most serious thought should be given to means of curing the trouble at its root. In the case of fireproof buildings, as above stated, the thing to be borne in mind is, that the function of a fireproof building is to protect its contents from loss, which can be done only by dividing the house into as small sections, both vertically and horizontally, as its normal use will permit, then to provide adequate extinguishing devices, and lastly safe means of escape.*

*The details of method for these first two items are set forth in the various standard specifications published by this Association and which, as to building construction itself, we hope will be revised during the next year.*

*Upon motion of the Secretary it was voted to adopt the report.*"

The Report above clearly acknowledges that additional protection, beyond fireproof construction, is necessary to protect the occupants of a building from fire. No better demonstration of this fact was provided than by the fire at the Asch Building.

Also of note in the Committee Report above is the discussion of the use of "fire escapes" attached to the exterior of buildings. Clearly, there seems to be an understanding of the inadequacy of providing fire escapes to be utilized for egress purposes in the event of a fire.

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**Source:** "*Proceedings of the Fifteenth Annual* [NFPA] *Meeting*", New York, New York, 1911.