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FIRE PROTECTION HISTORY-PART 142: 1909 (THE TOTAL COST OF FIRE IN THE UNITED STATES)

By Richard Schulte

A recent study by the National Fire Protection Association estimates that the cost of fire and fire protection in the United States exceeds $300 billion on an annual basis-that's more than $3 trillion every decade. The NFPA study includes not only the direct cost of fire damage and business interruption in this estimate, but also the indirect costs including the cost of fire personnel and fire equipment, the cost of sprinkler and standpipe systems, fire detection and fire alarm systems, the cost of floor space devoted to egress systems and the cost of passive fire protection systems, including the cost of maintenance and testing of this equipment and systems.

In 1909, some of the indirect costs of fire in the United States were also considered. The following is the transcript of a brief presentation on both the direct and indirect costs of fire made at the thirteenth Annual Meeting of the NFPA:

"*The Chair:*

[TEXT OMITTED]

Gentlemen, we have with us today, and have had every day, a gentleman who has been interested in fire protection in connection with Government work, and I think all will be glad to hear a word or two from Mr. H. M. Wilson, Chief Engineer of the Bureau of Technology, I think, of the Geological survey. (Applause).

Mr. Wilson: Mr. President and Gentlemen– I feel in coming before you, very much as Mr. Hess expressed himself a couple of evenings ago when he so delightfully entertained us at dinner. Mr. Hess told a story of a man who was crossing a street at Buffalo when one of those gentle zephyrs for which that city is noted, blew off his straw hat. Turning around he saw the hat rolling away and, after chasing it half a block, was just about to place it on his head when he was overtaken by another bareheaded man, who said, "Thank you, very much, for stopping my runaway hat !" "But this is my hat," said the first man. "Oh, no "; said the second, " your hat is hanging at your back, held by the cord that fastens it to your buttonhole." Mr. Hess said, "My experience with ideas is very much like that man's with his hat. When I have run them down I have generally had them claimed by another fellow." (Laughter).

I became accidentally interested in the matter of fire waste and prevention in connection with the investigation of construction materials for the Geological Survey, reference to some features of which was made this morning by Mr. Humphrey. It happened that the Conservation Committee, in looking around for means of helping to save the national resources, called upon me as representing governmental interests in testing materials. I told them the principal waste I could think of was by fire, and I was assigned the work of preparing data, so I took up the work of collecting statistics.

Perhaps you are not so much interested in the statistics of fire waste and losses as are the underwriters, but the subject must interest you greatly.

When I first entered on the task, the first thing which occurred to me to do was to go to Philadelphia and see Mr. Hexamer. I missed him, but later saw him and Mr. Crosby, passing from one to the other, until I began to absorb a little information as to what fire losses meant, and what data it was desirable for the government to collect in taking an inventory of fire losses, with a few other things which I thought I had discovered, but which I have since found, as in the case of the hat, belonged to some other man and had been previously reported. Just as I would be about to put in my words some point which I believed new, someone more familiar with the subject would recognize it as his own familiar hat. (Laughter).

One of the first things that occurred to me was the waste due to unnecessary amounts invested in distributing pipes, etc., for the protection of property from fire. After consultation with Mr. Dixon, Mr. Hazen, and a number of others thruout the country whom I met in my necessary travels last year, I came to some conclusion as to how that class of data might be gathered, and had clerks start on that work.

Then I took up with the Washington fire chief and others the question of fire fighting devices and the amplification of fire fighting devices in this country as compared with European standards of fairly satisfactory fire fighting apparatus.

I sent out circulars to various cities, and thru the cooperation of the post office department, succeeded in issuing a series of inquiries, I think ten thousand in all. In like manner, I went into the city water supply question, addressing letters to city engineers thru the country, many of whom I met personally, and in that way got enough answers to give some valuable data.

As an outcome of this, I feel fairly safe in saying the total fire losses are not $250,000,000 annually, as reported by the underwriters, but $450,000,000, which figure includes the excess money investment in city water works, due to the necessity of furnishing an adequate supply to meet conflagration conditions, by which I mean those fires which spread beyond the origin. The ordinary domestic city supply is adequate to handle fire confined to buildings where it originates. In European cities the ordinary domestic supply runs below one hundred down to fifty or sixty gallons. In our cities, it will run from 150 to 200 gallons per day. There have been various estimates on this additional unnecessary amount of water supply, as high as forty or fifty per cent., but we have found it about twenty-two per cent. The fact that the average city in this country must be better prepared to fight fires than in the case of European cities, was well illustrated in the remarks of the architect this morning.

The Government is primarily interested in this subject, not only because of the necessity for the conservation of our resources, but because it is, perhaps, the biggest owner of buildings; the supervising architect having under his direction over $200,000,000 of property, which if insured would cost the Government over sixty millions of dollars per annum for insurance; so it is very essential to employ every means of protection possible.

The building operations in the whole United States for 1907 exceeded one billion of dollars. In that same year, the fire losses, figured at $456,000,000, amounted to nearly one-half the building operations of the year.

Before I close, I want to explain my use of the words "waste " and "losses." I think a society like this, engaged in the study of the subject of fire protection, and the underwriters' society might well, in writing and reporting upon matters of property destruction, do what other new organizations have found it necessary to do at times, I. e., agree upon definitions for certain words, so that all might speak in the same language. I rather feel that "fire loss" might properly be applied to that loss which people incur as result of fire, as represented by the $215,000,000 for the year 1907, as reported by the underwriters; and that " fire waste" might be well applied to that waste represented by the fire loss and unnecessary expenditure for preparedness to combat conflagration, as included in the gross amount of $456,000,000.

"Conflagration" is another word which needs defining. What is conflagration? Conflagration to some people means the burning of a great, big building, while in other cases it is used in speaking of such a fire as that at Chelsea, Massachusetts. It might be well to use it to define fire extending beyond the building of origin. I have tried to use it in that way.

I thank you, Mr. President. (Applause).

The Chair: Gentlemen, I know we all feel ourselves under obligation to Mr. Wilson, not only for what he has said to us today, but for the work which he is doing right along our lines, supplying us with ammunition so that we may load our guns in defense of the necessity of fire prevention engineering, fire protection and fire prevention.

Of course, an annual cost of $450 million annually for fire/fire protection in 1907 sounds like a pittance today, but, of course, there is the matter of the value of dollar. According to the United States Government, the value of twenty dollars in 1913 is equal to the $465.21 in February 2013. Hence, the $450 million dollar estimate of the cost of fire/fire protection in 1907 is equal to more than $10.467 billion in today's dollars. Still this amount is just a small fraction of NFPA's estimate of the $300 billion annual cost of fire and fire protection in the United States.

While the US Government's estimate of the cost of fire in 1907 included the direct cost of fire loss and the cost of increasing the size of municipal water supply systems so as to better address conflagrations, the NFPA estimate also includes the cost of providing both public and private fire protection.

Three hundred billion dollars annually, three trillion dollars in a decade-that's a lot of capital expended on both fire and fire protection. Given that the era of city-wide conflagrations, the Great Fires, are a relic of the past, it seems to be a reasonable assumption that we should be able reduce our capital outlays directed toward fire and fire protection.

As suggested in Mr. Wilson's presentation, perhaps the term "fire waste" should include the capital which we expend to provide a level of fire safety in excess of a reasonable level of fire safety.

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Source: "*Proceedings of the Thirteenth Annual* [NFPA] *Meeting*", New York, New York, 1909.