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FIRE PROTECTION HISTORY-PART 91: 1914 (UNDERWRITERS' LABORATORIES)

By Richard Schulte

The 18th Annual Meeting of the National Fire Protection Association was held in Chicago in early May 1914. Among the speakers at the meeting included William Merrill, Underwriters' Laboratories, who provided an update on the operation of the Laboratories.

The following is the text of the Mr. Merrill's address to attendees of the NFPA meeting:

"***NEW FEATURES IN THE WORK OF UNDERWRITERS' LABORATORIES.***

Address by Mr. W. H. Merrill,
Manager Underwriters' Laboratories, Inc.

The new and enlarged plant of Underwriters' Laboratories in Chicago, with its improved facilities, must be seen to be appreciated. Every individual interested in the protection of life and property against destruction by fire might to advantage occasionally visit this testing station and gain first-hand information of the work in progress there. A cordial welcome awaits him and an opportunity to become thoroughly familiar with any branches of the work in which he is particularly interested. No description, however exhaustive or well illustrated, can give the mental picture or produce the lasting effect of an hour's or preferably a day's visit to the plant. As the members of this Association are to favor us with a visit in a body this afternoon, my aim in intruding on your time is only to describe certain features of the work which are carried on outside of Chicago, as well as some of the newer items of interest of comparatively recent development.

The plant, with its splendid new buildings and its enlarged facilities in all departments, will speak for itself, and I hope you will agree is an outward and visible sign of the fact that we have given close attention to our branch of your work since the time of your visit here two years ago. In addition to the Chicago plant, which is now pretty fully equipped, we have had in successful operation for something over a year a station in the city of New York, devoted up to the present time almost exclusively to electrical testing. The very encouraging results obtained from the operation of the New York station in the electrical field lead us to the hope that we may be able to expand in the East so as to cover certain other branches as well. I have in mind, particularly, articles that we refer to as staple products, to which standards are well established and on which all necessary research work has been completed here at the Chicago station. We have found that under the single direction of the Laboratories and with our standard forms of test apparatus absolute uniformity in results is obtained, and with the usual counterchecking in test work it is now quite immaterial from our point of view whether an electrical switch or socket or fuse is tested at the Chicago or the New York station. The results are shown to be identical.

On the other hand, it is a matter of considerable convenience to the submitter to find facilities for work of this character in the East as well as the Central West, as proof of which it may be cited that the volume of electrical work at the Chicago station has in no wise diminished since the opening of the New York station and that to-day the New York station is doing a volume of electrical work about the same as that of the Chicago plant.

It is our ambition to afford similar facilities in the East to cover staple products in other lines, including fire windows, fire doors and similar retardants, many appliances using gases and oils, and certain routine test work on automatic sprinklers and other hydraulic appliances. Whether or not this ambition will be realized remains to be seen, but I have a reasonable expectation that before many years we may bother you with an invitation to visit something in the way of a testing station of Underwriters' Laboratories every year instead of once in two years, as at present.

In response to recommendations made in a report to the British Government by the English Trade Commissioner in Canada, we have opened an office in London, for the inspection of English made goods intended primarily for export to Canada and the United States. The Chairman of your Committee on Controlling Equipments for Electric Fire Pumps (who is one of the chief members of our staff), and the Chairman of your Electrical Committee, sailed from New York last Saturday to visit our London office and look over the field of our work across the sea, – which shows some prospect of extending outside of England into Germany and Italy.

It should be borne in mind that Underwriters' Laboratories is necessarily something more than a shop or shops equipped to conduct experiments on sample wares. If our work began with the construction of a suitable apparatus for testing, and ended when a test on a device or material was completed, the work would be interesting and instructive perhaps, but of limited practical value. Our problem has been to devise machinery for the proper digestion of the data obtained in the tests, and to insure its being utilized in a proper, thorough, intelligent, honest and uniform manner, and afterwards to bring the conclusions reached to the attention of the public. In other words to design means whereby property owners everywhere could readily distinguish between superior and inferior fire appliances materials and fittings. Recognizing the established fact that correct conclusions from data obtained in laboratory experimentation can best be drawn by persons having extended field experience with the articles tested, we have always restricted our output in the way of reports to those which have received the formal approval of the Council of Underwriters' Laboratories, which, as you know, is made of twenty-two of the leading expert of the United States and Canada having a most extended experience in this field of work, and which includes among others a representative of the Federal Government in the person of Dr. S. W. Stratton, Director of the U. S. Bureau of Standards, whose address was to have preceded this story of mine on your program.

Following a conclusion reached by the Council certifying a sample article as in compliance with your standards, it is essential that comprehensive information should be obtained as to the product itself and its performance under actual service conditions. A laboratory test of a sample ware is, of itself, insufficient. Sixty per cent of the Laboratories' work is now not done at the Laboratories' plant, but through the inspectors stationed at branch offices and representatives it's the field. The Laboratories now have branch offices and agencies located in 80 cities outside of Chicago, and a number of special agents constantly on the road.

At about 1,000 factories in about 100 industries in the United States and Canada our inspectors are found each day, or as often as may be necessary, examining and testing the output, and our manifests in the form of labels or stamps bearing our name are attached to such of the product at each factory as is found to correspond with the sample originally tested at Chicago or New York, and approved under your standards by our Council.

For a number of industries, and with the hearty and unanimous co-operation of the manufacturers, this service is further extended to include a field follow up of the labeled articles. Samples, which have been in practical use for considerable periods are obtained and retested, and schedule estimates are prepared each month showing comparative demerits noted on products for periods ranging from three months to several years. These elaborations are working to the decided advantage of all concerned, and are possible only under the labeling system. In round numbers 40,000,000 labels were utilized on products last year as compared with 30,000,000 the year before and a few thousand when the service was inaugurated nine years ago.

Experience has shown that this method is in every way superior for the purpose of bringing to the consumer the article he desires, for the purpose of placing competition between manufacturers beyond the point where deterioration in the quality of the output is made necessary, and for the proper protection of the Laboratories and the organizations co-operating with them which are giving substantial recognition to efficient fire protection appliances.

It is also shown that an inspection and checking system of this nature can be efficiently operated under the Laboratories' direction with the hearty support and co-operation of the industries affected.

Permit me to reiterate the importance of a system of this kind. Under manufacturing conditions thus far obtaining an opinion based on even the most careful and exhaustive investigation of a sample ware cannot be of permanent value as a criterion for the product as a whole. There are almost as many reasons why this is a fact as there are wares produced. Nearly everyone competent to express an opinion agrees in this statement. Yet we still hear the proposal advanced that a single test or series of tests on a sample product may be sufficient to insure a correct criterion of a considerable output. Such a fallacy is unjust both to the maker and the user. Where used it works injustice to every interest affected. It is quite as much out of date as no specifications and no tests at all.

I will not burden you with a recitation of our plans of organization, finance and other matters, comprehensive statements of which are regularly printed and distributed, copies of which may be had for the asking.

In closing permit me to express my appreciation of your courtesy in giving place on your program to this effort of mine, which I have made as brief as my deep interest in the subject will permit.

Of no less interest to me is the continued success and welfare of the National Fire Protection Association. As one who served for six years as your Secretary and two years as your President, and who has latterly observed your progress as a private in the ranks, I feel justified in claiming to speak with the voice of experience,– at least, when I commend your recent activities, particularly the establishment of your local chapters. I not only hope for but predict your continued success and development.

Mr. Merrill: The tests at the Laboratories will be running constantly from 2 o'clock to 4.30, and it is suggested that in going through the plant you interrupt at any point, or stop at any of the tests that you are particularly interested in and make inquiries of the engineer in charge. We are not attempting to demonstrate any particular feature, or any particular test, and we offer nothing exactly spectacular. It is the ordinary routine work in which we thought you would be deeply interested. I thank you for this privilege, and hope to meet you all this afternoon. (Applause.)

Although Mr. Merrill's presentation is not of a technical nature, this presentation provides an overview of the expansion of the testing and engineering services provided by Underwriters' Laboratories in the early 1900's. It seems obvious from Mr. Merrill's presentation at the NFPA Annual Meeting in 1914 that the services provided by the Laboratories were of growing importance in the early days of the fire protection field.

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