

FIRE RISK OF GAS LEAKAGE.

The attention of the Committee on Lighting and Heating of the National Board of Fire Underwriters has recently been given to the fire risk of gas main leakage under impervious street pavements, and a report on the subject is about to be issued by the committee largely based on information furnished by Mr. J. C. Bayles, gas expert. It says in part:

"Facts concerning the leakage of illuminating gas in distribution, lately brought to the attention of the National Board of Fire Underwriters in connection with fires occurring in New York and other cities, show the importance of a thorough investigation, from the insurance standpoint, of the relation between the spread of asphalt and other impervious pavements, and the fire risks in buildings fronting on streets and avenues thus paved. To this end, it has been deemed proper to present the subject in a brief preliminary report for the consideration of fire underwriters throughout the United States, with the request that all the exact information obtainable be promptly gathered from fire marshals and experts, and forwarded to the Executive Committee of this Board for comparison and compilation. We believe that the subject is one of great and increasing importance, that it has hitherto been overlooked in the analysis of fire risks in cities, and that its thorough investigation will result in valuable additions to fire insurance experience.

"From the leakage loss per mile of main of the London and suburban companies, averaging 534,416 cubic feet per annum, the leakages of the companies supplying the principal American cities may be assumed. As the rule, main leakage will be found much larger here than in England, for the reason that our mains are much more frequently and more seriously disturbed by street excavation. A gas leakage in one of our largest American cities as great as 870,000 cubic feet per mile of main per annum is recorded. Accurate figures of the leakages of the great city companies are difficult to obtain, but it is doubtful if, in any case, they fall as low as the London average. It is not the purpose of this report to discuss the exact figures of gas leakage. Whether more or less in any given locality, it is everywhere great enough to be of grave concern to fire underwriters. Always a serious matter, as affecting life and property, the evil is emphasized in many ways by the substitution of impervious pavements for the loose stone pavements of former times. Generally speaking, any pavement which is water-tight is practically gas-tight. The leakage of gas mains, which formerly worked itself to the surface and escaped into the air, too diluted to be dangerous, now follows the 'paths of least resistance,' which usually terminate in coal cellars and basements. Some of it gets into sewers and subways, as is shown by the comparatively frequent street explosions due to accidental or electrical firing. Nine such explosions occurred in one day in New York last winter.

"In considering gas leakage on the per mile-of-main basis, it should be remembered that, while susceptible of such averaging, it is by no means uniform. The fact that considerable runs of pipe are often found practically gas-tight shows that there are points of excessive leakage from which large volumes of gas are

discharged into the soil. If so discharged under impervious pavements, the gas will follow the soft filling or open spaces around gas and water services into the cellars of buildings. What is the fire risk due to the conduction into houses of a highly inflammable and explosive fluid like illuminating gas is the question under investigation.

"The occurrence in New York during the past year of a number of fires and explosions which, studied in the light of the facts before this committee, may be assumed to be due to the leakage of gas mains under impervious pavements, warrants the belief that the attention of fire underwriters should everywhere be directed to this important subject to the end that it may be investigated under all conditions and from widely separated points of view. A comprehensive report embodying exact data gathered from all parts of the United States would be of great value to fire underwriters in cities, and would probably lead to the enactment of necessary legislation prescribing the conditions of gas distribution in populous districts. In gathering the materials for such a report, the National Board of Fire Underwriters invites the co-operation of all for whom the subject has interest."

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