

SMALL LOSSES FROM RODDED BUILDINGS

Loss of Buildings so Protected is Practically Negligible— Few Statistics Available for Canada

THE increasing use of lightning rods and their permanent economy is illustrated in a bulletin recently published by the Manitoba Department of Agriculture and Immigration, entitled "Protection from Lightning." "Perhaps the strongest proof," says the bulletin, "from the practical standpoint is that supplied from statistics of the losses suffered upon property that was unprotected, compared with what resulted in the case of wired or rodded buildings.

"In Manitoba and the western provinces, practically no statistics are available on this subject, but in the older provinces, and especially in some of the states of the American Union, very interesting and decisive figures have been gathered. Next to the individual owner, the insurance companies are closest in touch with losses sustained through lightning, and, naturally enough, it is through these companies that reliable information has been obtained.

"In many of the states there are insurance companies operating that will accept risks on rodded buildings only, and the wiring must also receive the approval of their own inspector. Many companies, on the other hand, insure both rodded and unrodded buildings. The Farmers' Mutual Lightning Protected Insurance Company of Michigan, insures only rodded buildings passed by their own inspector, and during their business from 1909 to 1912, inclusive, they state that their company had paid the small sum of \$32 only, for damage done to buildings by lightning, although they took a total risk of \$55,172,075 in the four year's business. Even this trifling loss, they claim, was due to defects in the wiring not detected at the time of inspection. This, in itself, is very strong proof in favor of wiring.

"The Patrons' Mutual Fire Insurance Co., of Michigan, takes risks on both rodded and unrodded buildings, and their secretary states that, in the same four years' business, amounting to \$59,567,272, they paid, for damage done by lightning, claims amounting to \$32,268.78, which is slightly over 1,008 times as much as the other company paid on wired buildings. He also states that in eleven years' business the company has received only three small claims for damages on rodded buildings, the remaining lightning damage being due to unrodded buildings comprising 80 per cent. of their risks. Calculating on the same amount of risk taken by each company, the one on rodded and the other on unrodded buildings, it simply means this: That for every \$1 damage done to properly rodded buildings, there was \$1,168 damage done to unrodded ones. Stating it in another way, it showed an efficiency of 99.91 per cent. for wiring.

"In Iowa, over fifty companies keeping this data report that about 50 per cent. of all their risks are on wired buildings, and in eight years' business they paid on an average \$10.15 per company per year, lightning damage on rodded buildings, while on the unrodded ones, the damage claims paid on account of loss by lightning amounted to \$775.15 per company per year. In other words, there was a saving of \$75 out of an expected loss of \$76, or an efficiency of 98.7 per cent. for rodding, even where some defective rodding was doubtless included, as there was no inspection.

"In Ontario no statistics are yet available covering any extended number of years, but some facts have been obtained for recent years, and in the course of another decade some valuable information will be available. Enough has already been collected to show the same general result, in favor of protecting buildings by wiring. The facts collected in regard to insurance risks covering the years 1912 and 1913 go to show that an efficiency of 94½ per cent. and 92 per cent., respectively, was the record for rodded buildings, as shown by the companies who actually furnished reliable figures on this subject. In Manitoba, the manager of one of the most successful mutual companies—viz., the Portage Farmers' Mutual Insurance Co., states that they have never yet paid a cent. of claims for damage by lightning to build-

ings that were rodded, while their records show that during the years 1911-1915 inclusive they paid \$57,567.09 damage from lightning to unrodded buildings.

"The following data in regard to damages caused by lightning covering a five-year period have been obtained from the reports of the state fire marshals, where such were available. Unfortunately, only a few of the state fire marshals have, up to the present, collected statistics under the heading of rodded and unrodded buildings, but where such has been done the figures are very significant. The state fire marshals, without exception, are very emphatic in their support of the principle of rodding buildings, and the following statement, quoted from the Minnesota report, expresses the general views held by these officers. In this report the state fire marshal says: "Lightning rods, if properly installed, afford practically absolute protection from losses from this source. I know of no case, either in Minnesota or elsewhere, where a building properly equipped with lightning rods has been destroyed by fire from lightning. Rods of good material and properly grounded are not expensive, and their use on dwellings, barns, churches and other buildings should be extended."

A similar evidence is given in a letter from Prof. Day to the Mutual Fire Underwriters' Association of Saskatchewan. "As a comprehensive conclusion from our investigations," says Mr. Day, "we have found that if all the buildings in rural Ontario were rodded, more than 95 per cent. of the annual damage to buildings by lightning would be prevented. The method by which this conclusion was arrived at was as follows: In 1912 18 insurance companies in Ontario kept special records for us. From their reports we learned that out of every 7,000 unrodded buildings insured by them 37 were struck by lightning, while in every 7,000 rodded ones only 2 were struck by lightning. The rods prevented damage in 35 cases out of an expectancy of 37, showing an efficiency of 94.7 per cent. Since that we have determined the efficiency for the years 1913, 1914 and 1915. The results for the four years are as follows:—

Year.	Efficiency of rods.
1912	94.7
1913	92.0
1914	99.8
1915	99.9

Average for four years 97.2

"To apply these figures: The report of the superintendent of insurance shows that in 1912 the insurance paid on losses caused by lightning was \$262,282. No doubt the actual loss exceeded the insurance by perhaps one-third or one-half. If so, the actual loss was \$350,000 or over; 94.7 per cent. of this equals \$331,450, which represents the saving that would have been effected that year if all the buildings had been rodded.

"In 1913 the insurance paid on lightning losses to buildings was \$305,104, which means a total loss of \$400,000 or more; 92 per cent. of this shows a saving of \$368,000 if the buildings had been rodded. Similar computations might be made for other years if lightning losses were at hand.

"Investigations along similar lines in Iowa have shown an efficiency of 98.7 per cent. for rods in that State, based on the report of 55 mutual companies, each year for eight years.

"In Michigan the efficiency of lightning rods has been shown to be from 98 to 99 per cent. In this State many companies keep their rodded and unrodded risks in two separate classes, and assess each for its own losses. I have before me the reports of eight of these companies for the years 1913, 1914 and 1915, and find: In unrodded class the average assessment per \$1,000 risk, \$3.15; in rodded class the average assessment per \$1,000 risk, \$2.28. The only possible cause for the difference is the rods on the buildings."

The Imperial government has announced that an investigation board is to be appointed for the purpose of reviewing questions of maritime transport throughout the empire. Canada is to be represented on this board by Sir George Perley.