

is more than three times the rates quoted by the co-operatives. But let us put the matter differently. Let us take their promise that the rate will not exceed \$10 per annum.

Amounts to be received: \$10 per annum for 31 years	
from each of the 10,000 .....	\$3,100,000
Amounts to be paid: 10,000 death claims at \$1000	
each .....	10,000,000
Deficiency .....	\$6,900,000

4. Would you recommend a person wanting insurance, not for a few years only, but for his whole lifetime, to enter an Assessment Society or a regular Company.

5. The mortality tables show that \$18 per annum, apart from expenses, must be paid for the whole of life by a man aged 35 years, and that the part of this net premium which goes to the reserve must be improved at  $4\frac{1}{2}$  per cent. interest, in order to pay \$1000 at death. Do you think it is possible for any society to continue to receive less than this, and still fulfill its contracts? Is it not evident that the lower the rate is in earlier years the heavier it must be afterwards to make up the average?

6. Do you think that the promise of the Society that its certificates will be self-supporting after 15 years is likely to be fulfilled, or even nearly so? (See INSURANCE SOCIETY page 240.)

I will be much pleased to insert your reply in our next issue.

Yours truly,

R. WILSON SMITH.

## CLASSIFICATION IN FIRE INSURANCE.

### PART II.

In continuation of our article upon this subject, on page 134 of the October issue of INSURANCE SOCIETY, we now proceed to demonstrate how each fire insurance office can classify its own business, both as to risks written and losses incurred, upon any of the several classes of business upon which it is accustomed to write; and this in such a plain and simple manner as to be able to determine therefrom, with sufficient accuracy for all practical purposes, just what the average cost—insurance-wise—of each class of hazards has been to the company for any single year, or for the aggregate of years during which a classified record may have been kept up.

While the individual experience of any single company would lack that variety and exactness needful to a complete generalization of any subject, except after a series of years, in consequence of its limited sphere, the combined experience of a number of offices, presenting a broader average of risks and results, would furnish reliable data as to the fire history of hazards generally. Nevertheless, a critical record of the business of any single company, duly persisted in, would eventually present a condensed history of the experience of the office that would serve as a beacon of safety for all future operations.

Risks are usually designated as "good" or "bad" according to the experience—more usually however, want of

experience—of the companies writing them, but where a class of hazards burns only in accordance with its fire liabilities it should not be regarded as "bad" simply on that account; it should be classed according to its "fire history" and rated as that may indicate. This "fire history" of each and every class of insurance risk is the object of classification to show, beyond dispute, not only as to the amounts of premiums received and losses paid, on each class, but why they burned, whether from causes inherent in themselves, or from some outside or a remote cause, not chargeable to the hazard of any given class. A planing mill is ordinarily rated as "specially hazardous," or bad, because of its liability to fire and to total destruction by fire. By classification of hazards and losses of this class; the premiums received; losses paid, and why they burned, the fire history of the class is learned; that is, its liability to burn, and why, whether from inherent hazards peculiar to itself, or from outside causes, by which any non-hazardous risk might burn.

All that is needful to be known to the underwriter is the *class* of the risk,—each class having its own specific number; the *number* of risks written; the *amount* covered by the policies, and the *premiums* received thereon, on the one side, and the *class*, the number of losses, the *amount* of the policies on which the losses occur, and the *amount* paid for such losses, on the other,—any difference between the amount of premiums received and the amount of losses paid upon any given class will be the profit or loss, gross, on that class for the year. A continuous yearly aggregation of these results will give a very fair idea of the insurance value of the class as a money producer. But this does not give the full "fire history" of the class, nor why money is made or lost upon it; that will require a further classification of losses, of which mention will be made further on.

In dividing the business of the company into classes it becomes impracticable to give each individual risk a separate and distinct class, except perhaps in a very limited line of business, where the company confines its operations to but few, if any, hazards beyond the ordinary non-hazardous or simply hazardous risks; so that in a general business, as that of agency offices, it becomes necessary to condense and aggregate a number of similar hazards, as indicated by their fire history, into one class, and thus, by reducing the number of classes, bring them within the ability of the company to keep a record of them and their results, for no system of classification can be made so minute as to embrace *all*, and singly, that might legitimately enter into the estimate of fire hazards, without becoming so cumbrous and unwieldy as scarcely to repay the labor bestowed upon it; only the more marked and distinguishing characteristics of the several classes, bearing close analogies to each other, insurance wise, can be successfully classified. And this, after a series of years, will yield all of the benefits that can arise from classification as an auxiliary to individual judgment; for it is not proposed that even the most complete system of classification will supersede private judgment, the underwriter must still form his own opinion of a risk, as to how nearly it may