large accession of premium, the surplus over losses and expenditure was only £211,300. Even this small sum does not represent profit, as the increased liability upon running risks amounts to £774,900. The net result is therefore a loss of £563,600 for 1892 taken alone, and a loss of £129,100 upon the working of the past two years, if taken together.

The growth of the aggregate premium income of the tariff offices and the net results for the past five years are as follows:—

| Year. | Total net premiums. | Increase in premium income. | Surplus, after deducting losses, commission, and expenses. | Net result, after providing for unearned premium liability. |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1888-89..... | 13,355,700 | 245,600 | 1,437,400 | Gain, 1,314,600 |
| 1889-90..... | 14,485,300 | 336,600 | 1,305,400 | Gain, 1,137,100 |
| 1890-91..... | 15,766,900 | 920,600 | 1,615,800 | Gain, 1,155,500 |
| 1891-92..... | 17,310,800 | 1,186,400 | 1,027,700 | Gain, 434,500 |
| 1892-93..... | 18,860,600 | 1,549,800 | 211,300 | Loss, 563,600 |

In estimating the net result of each year's operations, 50 per cent. of the increase in the premium income has been taken as unearned. It is necessary to point out that the annual addition to revenue is not always represented by the difference between the total net premiums shown in the third column, because the increases there are partly due to the introduction, in 1889, of the *Sun* figures not previously obtainable, and to the transfer to the tariff section, in 1890 and 1891 respectively, of the *Palatine* and *United*. The actual growth of income during the five years amounts to £4,239,000, as shown in the fourth column.

The ratios of premium to losses, commission, expenses, and surplus are as undernoted. The cost of obtaining and managing the business is very heavy, but the ratio, which in previous years has been slowly advancing, was in the past year slightly reduced.

| | 1888-89 | 1889-90 | 1890-91 | 1891-92 | 1892-93 |
|---|---|---|---|---|---|
| | % | % | % | % | % |
| Losses..... ..... | 57·50 | 58·96 | 57·68 | 61·33 | 66·48 |
| Working expenses.... | 31·78 | 32·02 | 32·08 | 32·73 | 32·40 |
| Surplus..... ..... | ·72 | 9·02 | 10·24 | 5·94 | 1·12 |

Of the forty-three companies included in the summary for 1888, only thirty-six survive, seven having become absorbed in other offices. The number of companies, however, remains unchanged, as two new offices have been added, and four have been transferred from the non-tariff section, while one old office, which did not previously publish accounts, is now included. The premiums of the thirty-six offices have increased from £12 048,700 in 1888, to £16,936,400 in 1892; and their funds have advanced from £17,819.300 at the beginning of the period, to £22,721,400 at its close; but the latter figures are not the best, a reduction of £442,200 having resulted from the operations of the past year.

The business transacted by the non-tariff section is comparatively unimportant, as the aggregate premiums of the seventeen offices only amount to £333,034. The figures, if included with those of the tariff offices, would not appreciably affect the result above shown.—*Finance Chronicle & Ins. Circular, London.*

## SLOW COMBUSTION IN BUILDINGS.

The following on slow burning building construction, somewhat prevalent now in St. Louis, extracted from a paper read at Topeka, Kansas, before the underwriter of the State by Mr. Geo. D. Markham of St Louis, will be read with interest as illustrating actual experience with this class of buildings. We quote:—

This method of construction had been suggested many years ago by the Hartford underwriters, but there was not at that time sufficient co-operation among the stock companies to have it introduced,—an apt illustration of the axiom, that you cannot get reforms in building unless insurance companies are agreed in their recommendations and united in giving the same credit—that is, are making united rates. What the Hartford companies did not take up was adopted by a class of mutual companies, who by united rating introduced such effective reforms into certain classes of business in New England as to reduce the loss ratio nearly 80 per cent. on the classes written. To that extent they benefited the community by stopping needless destruction. Through the efforts of these mutual companies the heavy timber floor was thoroughly tested in actual experience, and proved to be economical, strong, rigid and thoroughly fire-resisting. Hon. Ed. Atkinson, the mouth-piece for these companies, stated recently that this four inch mill floor had never been burned through unless weakened by holes for belts or other purposes. Therefore our floor was practically ready for us. The other question was what to do with elevator and stairway holes. We tackled this rather timidly at the start, although we knew that the best thing to accomplish would be to inclose in brick shaft having all openings protected by standard fire-doors. Some architects in St. Louis objected to the brick shaft, and wished to substitute shaft enclosures made of channel iron frames with cement covered iron lath inside and out with air space between; also a determined effort was made to permit stairways to be run through floors if enclosed in the iron lath and cement plaster construction with standard fire doors. We yielded to this clamor at first; but when the schedule was improved two years later, we came out definitely for the brick elevator and stairway shaft, and have stood by it since. We now consider the brick shaft the greatest thing in the new construction, for where the four-inch floor runs up to a brick elevator shaft and rests on a coubel several inches wide, we find that fire has no more chance there than at the other parts of the walls, and the door in the shaft being on the floor level and a little below the fiercest heat is not subjected to a test beyond its capacity. Let me give you an actual instance of fire in this construction. A test occurred September 10, 1892, in the Shapleigh Hardware Company's stock in the Boatmen's Bank Building. This is a standard slow combustion building, complying fully with the most important principle of the slow combustion construction, namely, every opening from floor to floor was enclosed in fire-proof shaft with standard fire-doors. Each floor contained about 16,000 square feet area. The stock on the fourth floor where the fire started was most combustible; a large pile of catalogues, wooden-handled hoes in large piles with their blades encased in jute bagging, one third of the floor taken up with wooden shelving on which was piled paper packages of small articles, and in the corner most seriously damaged, a considerable quantity of fixed ammunition. The fire burned nearly half an hour in the fourth floor, but did not get outside of that floor. It was fierce enough to round off the corner of the brick elevator pier and burn into the bricks in the wall, burn out completely the wooden frames in several windows near the hottest of the fire, twist up the iron shutters as if they had been through a conflagration, round off the outside edge of the brick arch of the window, and burn into the ceiling beams and columns to the depth of one-half inch, over about one-fourth of the floor.

After the fire there was much talk regarding the way in which the building "leaked." We are told that "the water had run through it like a sieve," but the best evidence is the following letter from the assured after the loss had been figured.

The letter referred to was from the head of the firm