

printed on another page, showing the percentage of fires arising from any cause, except such as are responsible for less than five per cent. The practical value of such information to field men is apparent, and a careful study of the table will enable property owners to know where most danger is to be usually apprehended, and so to guard against it. It should be borne in mind however, that fires are sometimes attributed to such causes as spontaneous combustion, matches, electric wires and lighting, etc., without sufficient evidence to justify such a conclusion. Another important fact which should not be forgotten is that fires of "unknown" origin have been excluded, and as these form a large and increasing proportion of the total, rigid conclusions should not be drawn from the schedule.

FIRE WALLS.

The recent large fire in Emily and Arcadia streets brings prominently before us the subject of fire or party walls, what constitutes the same, and whether the city's by-laws, and the office of our building inspector, are not, to say the least of them, very defective.

In the first place we will admit that there is no reason why brick-encased buildings should not be allowed within the city limits, as it is necessary that a certain class of structures should be erected at a cost moderate enough to suit the means of a large portion of our growing population. But, for the protection of life and property, and to lessen the danger of a serious conflagration, the area of such buildings should be strictly limited, and entire blocks or terraces should not be permitted without good party walls at fixed distances. Had this been the case with the rows of dwellings destroyed or materially damaged at the fire alluded to above, the loss would have been very much less. Had there been a strong wind blowing on the night in question, there is no knowing how far the conflagration might not have spread. It is true that the said blocks of dwellings were supposed to be separated at intervals by so called fire walls, but these latter were simply shams, consisting of thin brick partitions just reaching to the ceiling of the top story, but not extending through the roof or dividing the cornice in front. These dishonest snares (for they are no less) are so far from being uncommon, that, we will venture to say, they are the rule rather than the exception among the numerous blocks of dwellings, brick and stone, as well as brick-encased, which have lately sprung up like mushrooms round about our city. To make the deception more perfect, we have seen wooden planking placed above the brick wall coped with metal above the roof and round in front of the cornice, to give the appearance of a solid fire wall! This device is not only deceiving but most dangerous, since the fire can make its way concealed between the top floor ceiling and the outer roof or underneath the mansard, with which many of these terraces are crowned, until it breaks forth in full fury several doors away from where it started, and where the firemen are engaged in fighting it.

We come now to what constitutes a fire, or party wall. To begin with, a fire wall must be constructed

of brick or stone—the former preferred—and should increase in thickness from the top down to the ground floor, at the rate of four inches for every story. Thus if we start with a two-storied dwelling block, the wall for the top story should be 8 inches thick—less than that is insufficient—and the bottom 12 inches, giving an average of 10 inches; for a three story dwelling block, the wall at the top should be 10 inches, at the second story 14, and at the ground 18 inches, or an average of 14 inches. For a three story block of stores, the top story wall should be 12 inches, the second 16, and the ground 20, or an average of 16 inches; while for a four story store, or factory building, the top wall should be 14 inches, the third 18, the second 22, and the ground floor 26 inches, or an average of 20 inches, and so on, remembering that the higher the wall the greater should be its capacity of resistance not only to the fire, but to the chance of its collapsing from falling beams and floors. These measurements may be said to be high, and would condemn many of the buildings in Montreal, but they are within the limits laid down by the committee on the Universal Tariff in the States, and if followed out, would have the effect of curtailing the loss of property in our city, besides lessening the danger to which our firemen are exposed from falling walls at some of our large fires. Further, when a building, or a block of buildings are faced with either a cornice, whether wood, metal, or sheeted with the latter, or have thereto added a mansard roof, the division wall should cut clear through, and project at least 6 inches beyond said cornice and roof, and should be one to two feet above the entire roof, otherwise the wall does not fulfill the conditions of a *bona fide* party wall.

We have long been puzzled as to what the exact duties of our building inspector consist of, or whether the city is any the better off for his existence; but there should be some by-law by which no one should be permitted to erect buildings which are a palpable source of danger to the lives and property of others. The sole way to prevent this is, by insisting that fire walls shall be built such as we have described, the extra cost of which would be more than recouped in a few years by the reduction of loss from the devouring element, and, as a consequence, lower rates for insurance.

ALLEGED LEGALIZED PLUNDER OF RAILROAD PROPERTIES.

Railroads in the United States having an aggregate capital of \$2,500,000,000, out of a total for the whole of the lines in that country of \$10,500,000,000, are bankrupt and in the hands of receivers. The panic of 1893 is responsible for many serious financial disasters, but beyond precipitating a crisis in their affairs, it cannot be regarded as the cause of such colossal failures as are exhibited in the above statement. The receiver in charge of the Atchison system has reported that some seven millions of dollars have been carried for a length of time, as assets which he finds to have no existence beyond a cross entry in the books.

The management has been in the habit of granting "rebates," by which the income of the line was lower-