fection as it is possible to go, or it is of no use doing the work at all.

THE city of Toronto claims to have a building by-law, but it certainly is not observed. The by-law is of a character that appears to encourage the building of dangerous structures in closely built localities and will not allow of perfectly safe construction in the thinly built residential portions of the city. The *Globe* Company have been allowed under the by-law to practically build two stories of wood on the top of a four or five storey brick building. These two stories have been allowed to be erected because a wooden wall, instead of being built up plumb, has been given a slope and called a roof. The by-law would not allow of the same amount of wood being erected vertically or plumb, because it would then be a wooden erection and dangerous; but when it is given a slope and called a roof it does not infringe the by-law, and is perfectly safe. Moreover, this sloping wall or roof is covered with slate, which would, in case the top of the building caught fire, be immediately loosened and allowed to slide off into the street, rendering it utterly impossible for firemen to work anywhere near the building. Sloping roofs of slate or tile secured to wood should not be allowed to be erected on high buildings in the closely built portions of the city. Here we have an immense amount of wood placed at a height so great that it would be impossible to get a stream of water of any strength to play upon it. The by-law allows this; but at the same time does not allow of the same amount of wood being placed in a similar structure built upon the ground in a thinly built portion of the city. Again, the fire by-law has allowed of the erection at the corner of Yonge and Gerrard streets, of a building which is freely characterized as a fire trap of the worst possible description. If a fire once gets headway in any portion of the building the entire structure is doomed. While as stated it is possible to erect these dangerous structures in the business parts of the city, it is not permissible to erect within several hundred feet of any building a house with tile hung walls perfectly safe from fire except from the inside. It is also possible to erect rows of houses with wooden party walls, or with 4½" brick walls carried up two or three stories and carrying the floors. The writer has seen these walls most carefully propped up during the course of their erection for fear the night breezes might blow them over, or the mischievous boy push them down. In Queen street west there was erected some years ago a brick veneered store, which some few weeks ago suddenly assumed a position slightly out of the vertical. To prevent any further trouble, the space between this building and a brick building to the west was filled in with a structure of the same character as the one which required support. Here we have allowed the erection of a brick veneered building in a business street, hemmed in on every side with buildings of a like character. The needs of this city require that a building by-law be immediately prepared which will prevent the erection of dangerous structures, either through their inflammable character or because of their inferior construction. We have a sufficient number of buildings representing both kinds, a few of which are among our most important structures.

FIRE-PROOFING AND ITS ADVANTAGES.

FIRE-PROOFING has now become one of the most important branches of the modern building trade, and as such, is entitled to most serious attention from our architects, engineers and builders, as well as from owners and tenants of large buildings who have considerable interests at stake.

For some unknown reason people do not attach any great degree of confidence to fire-proofing; they claim that it will not prevent a building from burning. This impression is entirely erroneous; fire-proofing, when properly carried out, will make a building so far fire-proof that by closing the doors of any one room, the fire may be confined entirely to the furniture and other combustible material contained in it. This has been proved by repeated experiments. Insurance companies are fully alive to this fact, and they are generally ready to reduce their rates considerably for buildings protected in this manner.

When compared to the loss through total destruction by fire of an expensive modern building, the cost of fire-proofing it is ridiculously small. The fire at the University which totally destroyed this valuable building a few months ago, is a striking example of the truth of this statement. In this case, fire-proofing might not have prevented the ignition of the staircase when the fire started, but it would certainly have prevented the fire from going rapidly through partition after partition as it did. What would the cost of fire-proofing this building have been as compared to the total loss of the numerous records, curiosities, books and other valuables contained in it? let alone the building itself, which was a credit not only to the city and to Canada, but to the whole continent.

Some short-sighted members of the Court House Committee are opposed to the expense of fire-proofing this *expensive* structure. What would the "expense" be if the building burned down two months after its completion, and what would the advantage be in having had it insured for its full value? The building will cost in the neighborhood of $1,000,000, and the cost of covering this with insurance will be enormous. Should the building be fire-proofed, the amount of insurance and the rate on it can be reduced to such an extent that the saving in premium alone would pay for the fire-proofing in a few years; and even were this not the case, the expense of fire-proofing is as nothing compared with the loss in case of total destruction. To say that it would cost $200,000 to fire-proof such a building, (as one of the members of the Committee is reported to have said) is believed to be rank absurdity.

There are two ways in which fire is most easily communicated in a burning building: 1st, by the total destruction of the floor or partition between any two adjoining rooms; 2nd, by the overheating of the floor or partition. This overheating causes the woodwork, the paints, varnishes, etc., to exhale a quantity of combustible vapors and gases in the room where there is as yet no fire, and as soon as the flames reach them these gases are ignited with such rapidity that they carry fire to every part of the room at once.

Fire can scarcely be communicated in this second way when fireproofing tile is used. This tile is such that although there may be a raging fire on one side of the floor or partition, the other side is comparatively cool. The Rathbun Co., of Deseronto, the United States Fireclay Co., of Pittsburgh, and the Pioneer Fire Proof Co., of Chicago, all manufacture tiles of this description.

Now, as the tiles will not burn, the only way in which the fire can get through is by the floor or partition warping and falling out of its place. This, however, should not occur, as the tile are burnt at such high temperatures in the kilns that no ordinary heat can warp them. Fireclay tiles are now being manufactured of such dimensions and strength that they can be used in the body of the outside walls and partitions without the help of brick or stone, thereby saving the cost of fireproofing brick or stone walls after they are built. Several buildings of as many as six or seven stories high are now in existence in Chicago and elsewhere, and have proved to be an entire success. The blocks of fireclay are extremely ornamental and can be made to any shape required.

All these are facts which should be taken into serious consideration by our architects, the Court House, the Home Savings and Loan Co., the Confederation Life, the proposed athletic association building, and many others being well worthy of such protection as fireproofing can afford.

Apart from the protection against fire, this material, considered from a sanitary point of view, presents a great many advantages too numerous to be fully considered now.

We learn from the Halifax *Chronicle* that there is a small Episcopal wooden church at Auburn Station, King's county, which is said to be one hundred years old this summer, and the congregation worshipping there are talking of celebrating its centennial. As far as can be ascertained, the clapboards on the sides and the shingles on the roof are the ones put there when the edifice was built and they are sound yet. The shingles were originally three-quarters of an inch thick, but have gradually worn away until now they are scarcely thicker than the blade of a knife.