

to grow apace. It is unnecessary to remark that no goods in these lines are imported into Canada, showing that the home goods are of a class that meet fully the requirements of our people, even those who may be deemed specially fastidious in their tastes, or who consider it the proper thing to look abroad for what is wanted.

If reference is made to the trade in mouldings it will be learned that the exports in this direction have since 1891 grown largely. The figures are: 1894, \$36,558; 1893, \$23,164; 1892, \$7,083; 1891, \$5,153. There was imported during 1891, mouldings to the value of \$31,745.

THE NEW COURT HOUSE ROOF.

WORK on the new Toronto Court House will be sufficiently advanced before the close of the year to permit of covering in, and the question now is, shall it have an iron roof? The matter came before the Property Committee of the City Council a week ago, and has given rise to considerable newspaper discussion since then. At the committee meeting Ald. Dunn objected to an iron roof on the ground that it provides no absolute security from fire in a building full of wood. This view has found expression in several newspaper communications. Is the objection well founded?

Architect Lennox, who, as might be expected, has given a good deal of study to the question, favors an iron roof. He argues that with a building costing one and a half million dollars, it would be poor economy to cover it with a roof of the ordinary kind. In his judgment, and experience, there is no doubt about the fire protection an iron roof affords. It must be remembered that the Court House roof will be about 1,400 feet around, and from 50 to 70 feet wide, and towering as high as this building does, it would be a ready target, in case of fire, not only from the buildings immediately surrounding it, but from fire even some reasonable distance away. In the case of some of the worst fires that have occurred in the city and elsewhere these have resulted through flying embers lighting on an inflammable roof, or finding their way through inflammable material surrounding the roof. Because Knox Church steeple was covered with metal the argument was that it could not catch fire and yet a flying ember from the Simpson building found entrance somewhere and fire was started.

One newspaper correspondent has stated that a fire starting in the building would work its way up to the roof, and then by the immense heat the iron would become warped or melted. If the building were one immense furnace, as it were, with no means of egress for the flames this might be the case, but separated by brick partitions and no lack of windows it is hardly possible that a fire could get under way to the extent suggested. It is also urged that the immense weight of the falling iron would bring down the walls with it to the extent that it would do them tremendous damage, so that not only would the roof be lost, but to a large extent the walls also. The writer of the letter containing this sentence may be a "Taxpayer," as he signs himself, but he can hardly have a practical knowledge of building. The view is not alone that of Mr. Lennox, but is very generally endorsed by architects, that the effect of the falling of the iron roof would be to go down and it would really serve as a means of burying and extinguishing the fire.

Experience in the erection of buildings of a similar character, though in many cases not involving nearly so large an investment, is emphatically in favor of an iron roof. The best public buildings, and those of a semi-public character belonging to monetary and kindred institutions throughout the United States, have the protection of an iron roof. The Freehold Loan Building, on the corner of Victoria and Adelaide Sts., Toronto, constructed under the superintendence of Mr. Lennox and costing less than three hundred thousand dollars, has an iron roof and is absolutely fire proof. The view of Canadian architects is almost generally with Mr. Lennox. To quote the language of one of the most prominent in Toronto, when spoken to about this matter: "The placing of an iron roof on the Court House would add nearly 75 per cent. to the fire protection."

The additional cost of an iron roof is the main, apparently, if not the only substantial, argument that has been employed. It seems, however, to be forgotten that it might be the worst of economy to expend the large amount of money that the new

Court House will cost, and then for the sake of perhaps forty thousand dollars additional, place the entire investment in serious jeopardy. The Court House is not built for to-day, but practically for all time, and every precaution necessary, and that experience would suggest, ought to be exercised to make it a building that may last for all time by being protected from every possible risk, and especially that of fire.

ROOFING TILES.

AMONG builders, certain technical names have been applied to different kinds of tiles, most of these names being derived from the shapes.

Plain or crown tiles are such as have a rectangular form and plane surface. In England a statute provides that they shall be 10½ in. long, 6¼ in. broad, and ¾ in. thick, and are manufactured with two holes in them, through which, by means of oak pins, they hang upon the laths. In use one tile laps over another, or is placed over the upper part of the one immediately below; that part of the tile which then appears uncovered is called the gauge of the tiling. The so-called Italian tiles differ somewhat from these, as, instead of being flat, they are slightly curved, fit easily one into the other, with a horizontal indentation across the upper part, to prevent the wind drifting the rain over the tile head; they have either wide or narrow vertical rolls.

White glazed tiles are used for lining the walls where reflected light is needed.

Three courses of plain tiles laid in cement and well bonded have been for many years employed for slightly curved roofs to form terraces, roofs for cellars under paving, as roofs over small back building, and for similar purposes. It has been asserted that the tiles should not be covered with cement. Portland or other cement laid on brick arches, or on tile, or on a flat concrete roof, supported by iron joists, also asphalted roofs, all generally cracked and let in wet, especially when there is any traffic on them, or their foundations are not perfectly stable. In England tarred roofing is formed of plain tiles in three courses rendered on the top to the thickness in all of about 4 in., carried over by arches slightly cumbered, spring from small brick piers, and tied by light iron rods, which form their cord line. These flats have an immense weight upon them, and are cast in one piece, as it were, there being no perceptible joint; they are completely watertight, and can be easily cleaned.

Plain tiles are laid on different gauges; 210 plain tiles, laid flat, will cover a square of tiling. Pan tiles are generally pointed in mortar, which, if it be not very strong, will not stick; in consequence of this the roofs require fresh pointing every few years, especially in exposed situations. Many tilers have a practice, when plain tiles are set in mortar, not to peg more than about one hole in ten. This is bad practice, as, with the decay of the mortar, the tile will slip down. In some parts of the country the ancient custom prevails to bed the tile in hay or moss, and when the roof is of the full pitch, this suffices without mortar. They may even then be laid dry. But with any less pitch some precaution must be used to keep out drifting snow, and such wet as may be blown up between the tiles, lifted by the force of the wind. In lieu of oak pegs, extra large flat-headed wrought nails, made of pure zinc or of zinc and copper, have been used, and it has the advantage of allowing a tile to be replaced from the inside of the roof by lifting up the others to place in the tile and drop in the nails in a few seconds.

Pan tiling is laid to a 10 in. gauge, and 180 pan tiles will cover a square.

Glass tiles have been used on roofs where a small modicum of light is required.

Tiling is measured by the square of 100 superficial feet; a square will require 800 at a 6 in. gauge, 700 at a 7 in. gauge, and 600 at an 8 in. gauge. The gauge necessarily regulates the distances of the laths, and at the same time must be dependent on the slope of the roof, which, if flat, should not be less than 6 in., as, for instance, above the kerb in a kerb roof, and not more than 8 in. in any case. A square of plain tiling requires about on an average a bundle of laths, two bushels of lime and five of sand, and at least a peck of oak pins. A bundle of laths 3 ft. long contains 160; 4 ft., 120, and the 5 ft., 100. The nails used are fourpenny. A square of pan tiling requires 180 tiles laid at a 10 in. gauge.—Illustrated Carpenter and Builder.