W. L. DRAKE.

Fire-Proof Tile Floors.

No. 140,352. Patented July 1, 1873.

Fig I

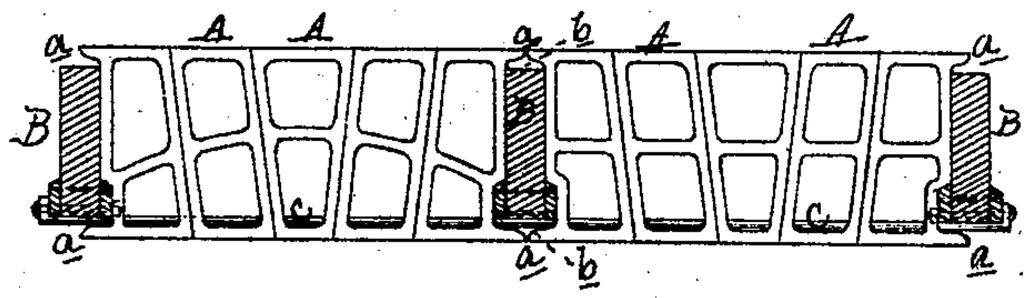


Fig II

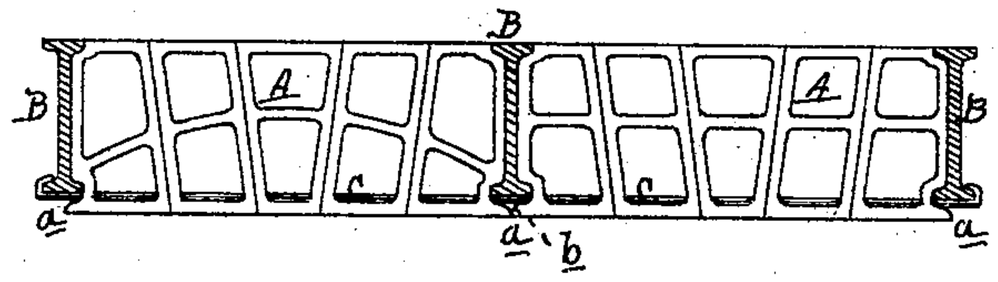
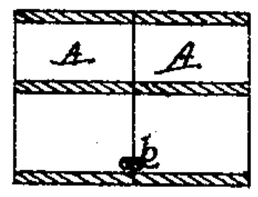


Fig III



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WEAR L. DRAKE, OF EVANSTON, ILLINOIS.

IMPROVEMENT IN FIRE-PROOF TILE-FLOORS.

Specification forming part of Letters Patent No. **140,352**, dated July 1, 1873; application filed December 3, 1872.

To all whom it may concern:

Be it known that I, WEAR L. DRAKE, of Evanston, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Hollow Fire-Proof Tile-Floors; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a cross-section of ceiling with wooden joists. Fig. 2 is a similar view with iron joists. Fig. 3 is a longitudinal vertical section of two blocks or tiles, showing how the tension-rods are put in.

Like letters indicate like parts in each figure.

This invention has for its object the construction of a hollow tile-floor, wherein the tiles are so made that they will project above and below the joists, and form an air-chamber to protect them from the heat created by the burning of combustible materials in the building, where wooden joists are employed. Where iron joists are used the tile should project below the joists and form an air-chamber; while, if deemed preferable, the top of the tile may be flush with the top of the joists.

The invention consists, first, in so constructing the hollow tiles that when laid they will inclose the upper and lower edges of the joists, or either edge, within an air-chamber; second, in the arrangement of hollow tiles, so constructed, as above described, with either wood or iron joists and suitable tension-rods, as more fully hereinafter described.

In the accompanying drawings, A represents hollow tiles laid between the joists B, said joists being wood in Fig. 1 and iron in Fig. 2, and the hollow tiles arranged substantially as shown in said figures. The sections of these tiles that are placed next the joists are provided with flanges *a*, each projecting half the thickness of the joists, so that when such a tile is placed on each side of the joist said flanges will meet, and form an air-chamber, *b*, within which the upper and lower edges, or either of them, are inclosed. C is a tension-rod, secured at each end, by hooks, or bolts, or other suitable devices, to the joists, to prevent their spreading. These tension-rods may be placed at suitable distances apart to be effective in their office, and should come between abutting ends of sections of hollow tiles, as shown in Fig. 3, where coincident notches should be cut in the ends of the adjoining ends of said sections to grasp the tension-rod and allow the sections to make close joints.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The hollow tiles A, so constructed as to form an air-chamber, *b*, inclosing the upper and lower edges, or either of them, of the joists B, substantially as and for the purposes described.

2. The arrangement of the hollow tiles A, constructed as described, with the joists B, and tension-rods C, substantially as set forth.

WEAR L. DRAKE.

Witnesses:

WM. H. LOTZ,

GEO. W. FERRIS.