J. W. HOYT.

ROOFING-TILE.

No. 195,607. Patented Sept. 25, 1877.

Fig: 1.

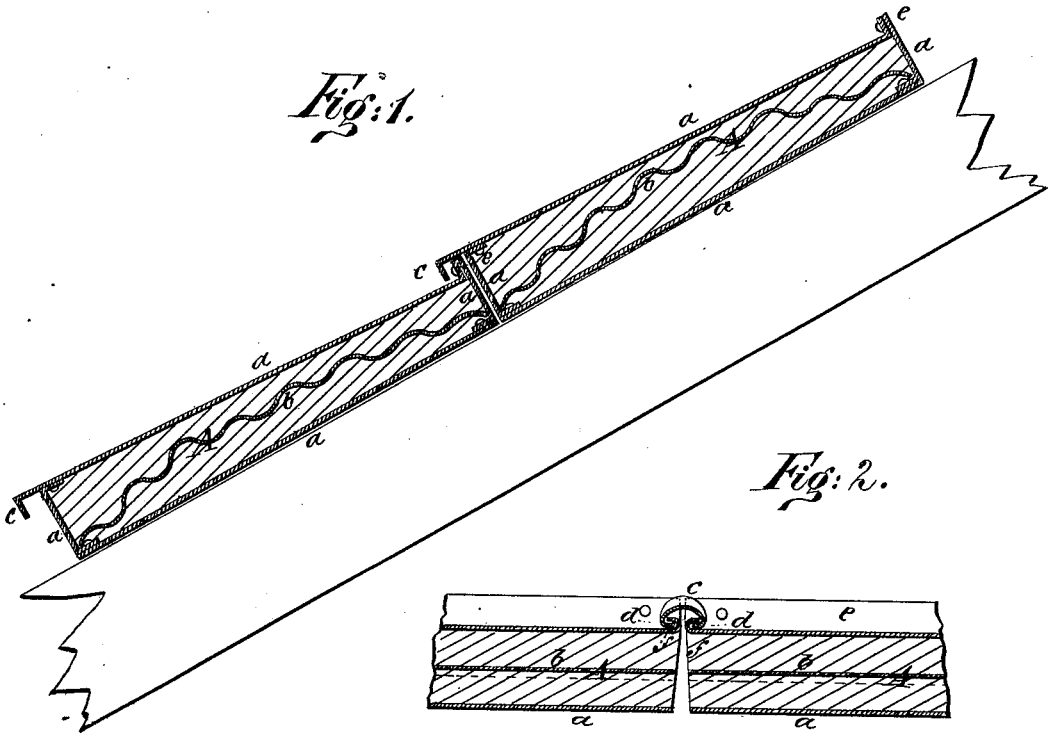
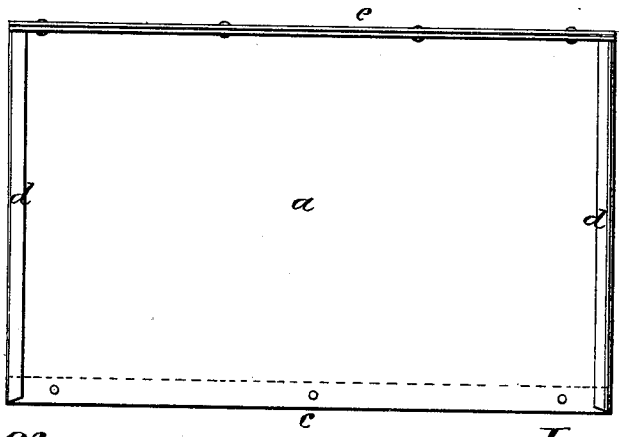


Fig: 2.

Fig: 3.



Witnesses:

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Per

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UNITED STATES PATENT OFFICE.

JOHN W. HOYT, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CAROLINE M. DWIGHT, OF SAME PLACE.

IMPROVEMENT IN ROOFING-TILE.

Specification forming part of Letters Patent No. **195,607**, dated September 25, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, JOHN W. HOYT, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and Improved Roofing-Tile; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in tiles for roofing; and the invention consists in a roofing-tile consisting of prism-shaped metal boxes with uninclosed ends, the boxes being filled with non-combustible material, and a strengthening-bridge of corrugated metal, the metal boxes being provided with flanges, as hereinafter described.

In the accompanying sheet of drawings, Figure 1 is a cross-section of my tiles in position on a roof; Fig. 2, an end view of same, showing the manner of uniting contiguous tiles; Fig. 3, a plan or top view of my tile.

Similar letters of reference indicate like parts in the several figures.

a represents the inclosing-shell of metal of my tiles, which shell, when completed, may be of any desirable shape, but preferably in the form of a prism, as shown in Fig. 1.

The shell, when completed, has upper and lower inclosing-surfaces, and the edges are likewise inclosed, the ends being left open.

The shells may be made of any suitable metal, but their construction permits the use of metal which would otherwise be considered too light for such purposes, for within the shells I introduce a corrugated metal sheet of iron, A, slightly curved in the direction of the length of the shell, which acts as a bridge or stiffener to support the sides of the shell, enabling it to sustain any reasonable amount of pressure or weight without injury.

After the corrugated bridge is inserted, and to assist in stiffening the tiles, as well as to render them substantially fire-proof, I fill the inclosed space of the shell with any suitable non-conducting cement or material *b*, and to facilitate the fixing of the tiles in this way made in position on the roof, one of the sides of the upper inclosing-plate of each tile is allowed to project slightly beyond the edge of the tile, and it is then bent down at right angles, as shown in Fig. 1, forming a flange, *c*, and the ends of the upper inclosing-plate are bent upward and downward, forming flanges *d*, Figs. 2 and 3, and the smaller inclosing-edge of the tile projects upward, forming a flange, *z*, as shown in Fig. 1, each tile having four flanges, the two flanges on the sides of the tiles *c* and *e* being bent in reverse directions, and the flanges *d* on the ends of the tiles being bent over and parallel to the upper face of the tile.

The tile being in this way completed, it is applied to roofs by placing the tiles with their uninclined sides onto the inclosing material of the roof, whether it be planking or iron beams, slats, or purlins, with the lesser edge of the tile uppermost or toward the peak of the roof, in which position the first course of tiling is held by means of the flange *c* or in any other desirable manner.

The next course of tiles is placed contiguous to the first course, the flanges *e* of each tile interlocking with the flanges *c* of each of the tiles of the second course of tiles, and so on until the entire surface of the roof is covered.

Beside the flanges *e* and *c*, which retain the sides of the tiles in position, the ends of the tiles, as they are brought together end to end in each course, present the flanges *d*, formed on the ends of the tiles, as before described, in parallel lines.

A metal clamp, C, with flanges *f* formed on its under surface, is slipped onto the contiguous flanges *d* on the ends of the tiles, the flanges on the tiles interlocking with the flanges of the clamp, firmly holding them together, and in this way each tile is secured to the surrounding tiles at its ends as well as at its sides.

Roofing-tiles constructed as I have described them may, as is obvious, be made from thin and light metal, and yet combine great strength with great lightness, and at the same time constitute a fire-proof roof at a comparatively small cost.

The edges of the metal at the ends of the tiles may be bent inward, forming an addi-

tional strengthening device, and at the same time assisting in keeping the corrugated metal arch in place.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A roofing-tile consisting of an inclosing metal shell with the interior thereof provided with a strengthening-bridge and filled with non-combustible material, substantially as and for the purpose described.

2. A prism-shaped roofing-tile consisting of four inclosed sides, substantially as and for the purpose described.

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