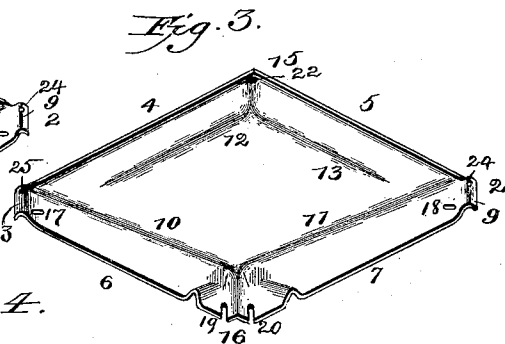
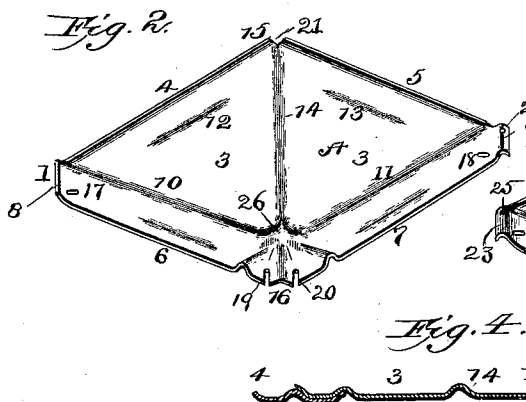
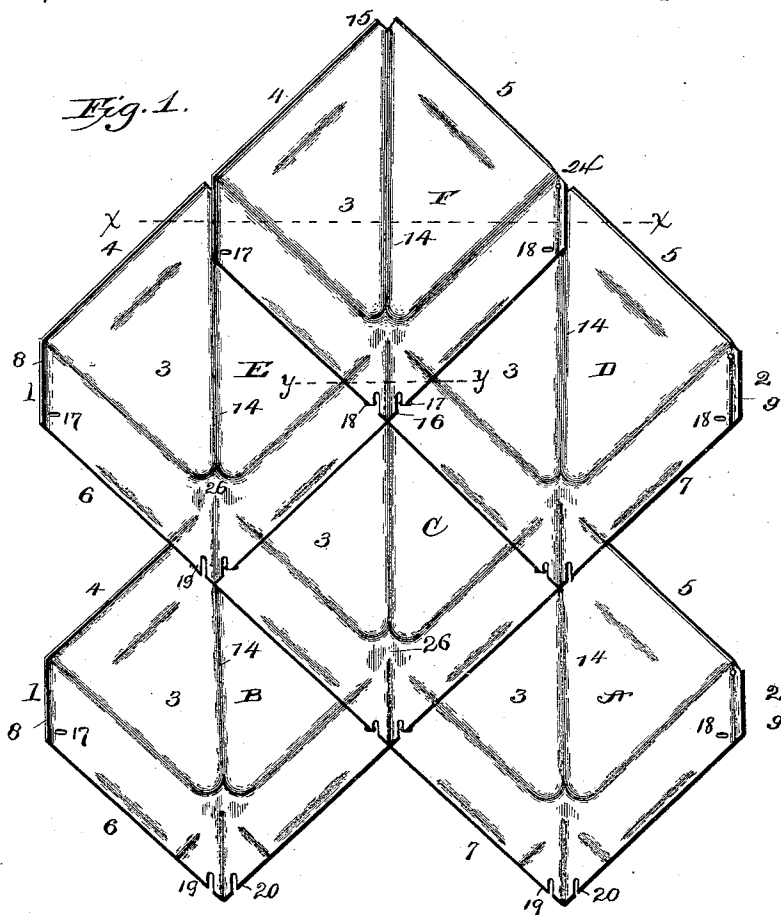


(No Model.)

E. B. REPP.  
METALLIC ROOFING TILE.

No. 482,025.

Patented Sept. 6, 1892.



WITNESSES

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# UNITED STATES PATENT OFFICE.

EPHRAIM B. REPP, OF WASHINGTON, DISTRICT OF COLUMBIA.

## METALLIC ROOFING-TILE.

SPECIFICATION forming part of Letters Patent No. 482,025, dated September 6, 1892.

Application filed January 31, 1891. Serial No. 379,820. (No model.)

*To all whom it may concern:*

Be it known that I, EPHRAIM B. REPP, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Metallic Roofing-Tiles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to metallic tiles for covering roofs of houses, and has for its object to furnish a metallic tile possessing several points of excellence, among which may be specified the following: First, my tile can be readily stamped from sheets of metal of ordinary quality at a single operation without danger of breaking or tearing the metal; second, each tile is a duplicate of the rest, and as a consequence they can be nested for shipping or storage in nearly as small a space as the same number of flat sheets, and any tile may be used upon any portion of a roof; third, my tiles can be made to perfectly cover a roof with the least possible waste on account of laps; fourth, they are so constructed that they may be placed and secured on a roof by ordinary laborers with sufficient mechanical ability to drive a nail, the tiles being so shaped that it is impossible to secure them to the roof in wrong positions.

To attain these results is the object of my invention; and it consists in the construction hereinafter fully described, and afterward specifically pointed out in the subjoined claims.

In the accompanying drawings, Figure 1 is an illustration of a number of my tiles in place as they are secured to the roof, there being six tiles shown fitted together and forming portions of four rows. Fig. 2 is a view of one of such tiles in perspective. Fig. 3 is a similar view of a tile slightly modified in immaterial points. Fig. 4 is a section on the line  $x x$  of Fig. 1, and Fig. 5 is a section on the line  $y y$  of Fig. 1.

Like letters and numerals of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters and numerals, A B C D E F are tiles made from flat sheets of metal, each in a single piece by stamping in dies.

I have marked the tile shown separately in Fig. 2 as A, and shall proceed to describe its construction, prefacing such description by stating that this tile is precisely the same in construction as each of those shown in plan in Fig. 1 and in section in Figs. 4 and 5. My tile is substantially square, the only deviation being that two opposite corners are cut off, as at 1 and 2, and the tiles being laid on the roof with the points upward and downward the cut-away corners are then at the sides. The main body of the tile is flat, as at 3. Each of the upper sides has an upward-projecting flange, as at 4 5, and each lower side has its edge turned downward, as at 6 7. The cut-away portion at corner 1 has an upward-turned flange 8, and the opposite corner 2 has its edge formed into an upward-projecting rib 9. A short distance within the edges of the sides are formed upwardly-bent ridges 10, 11, 12, and 13, lying parallel to the adjacent sides. A central rib 14, reaching substantially from the upper point 15 to the lower point 16, is sometimes formed to stiffen the tile, although it is not absolutely essential, being omitted in the shingle shown in Fig. 3. Just inside the edge of the cut-away portions near where they join the lower sides 6 and 7 are made slightly-elongated holes or slots 17 18, and by the sides of the lower point of the tile are formed points 19 20, formed by either notching or slitting the metal, these points being bent slightly downward out of line with the adjoining metal. The upper point of the tile is notched, as shown at 21 in Figs. 1 and 2, or may be provided with a nail-hole 22, as in Fig. 3. Instead of the upward-projecting flange on the left-hand cut-away portion, as shown in Figs. 1 and 2, I may make said cut-away portion with a rib, as at 23 in Fig. 3. In the rib or cut-away portions 1 and 2 near the top end and in the apex of the rib I make a nail-hole, as shown at 24 in Figs. 1, 2, and 3, and 25, also in Fig. 3.

In placing my tiles upon a roof I first make a line to work to and take a tile, as A, and nail it through hole 24 in rib 9, driving the nail just hard enough to cause the head to rest

close down on the apex of said rib without mashing the rib. Tile B is next placed with its flange 8 under rib 9 of tile A and nailed through its rib 9. The flanges 8, fitting under the ribs 9, gage the positions of the tiles and prevent either lateral or vertical movement by the use of a single nail. Having finished the lower row of tiles, I begin on the second row by placing the points 19 and 20 of the tiles C in the holes 17 and 18, respectively, of tiles A and B and press the tile C down close to said tiles A and B. The rib 9 of tile C will then cover the upper end of tile A and a nail will be driven through the nail-hole of said rib into the sheathing, such nail passing through notch 21 in the top point 15 of tile A. The cut-away portion 1 of tile C will rest with its flange resting in the inside of rib 14 of tile B. Instead of the nail driven through the ribs 9 passing through notch 21 it may be passed through nail-hole 22, (shown in point 15 in Fig. 3,) and when the tile is provided with three nail-holes and two ribs 9, as in Fig. 3, each nail will pass through three nail-holes, one in the point and one in each rib. It will be observed that a roof made of my tiles will offer no possible chance for water to penetrate to the inside. Each tile laps the two adjacent tiles of the next lower row to the extent of material contained between the ribs 10 and 11 and its sides 6 and 7, and each rib 10, covering a flanged side 4, and each rib 11 a flanged side 5. The metal is so stamped at the junction of the ribs at 26 as to provide room under it for the head of a nail. In the form of tile shown in Figs. 1, 2, 4, and 5 a single nail-hole and a single nail are used, while in the form shown in Fig. 3 three nail-holes are made; but as each nail passes through three tiles, so that only one nail to a shingle is necessary, these changes are discretionary with the user. When the tiles are in place on the roof, as in Fig. 1, the sides 6 and 7 being slightly bent downward make a close contact with the surface of the under tile at the edge, leaving space under the lapped portion of the upper tile, so that leakage due to water being drawn under the edge of the tile is impossible, and inasmuch as the edges 4 and 5 of the undertile are turned upward and rest under the ribs 10 and 11 of the upper tiles water cannot beat over said flange. The nail-holes are raised above the flat of the tile in the apex

of the rib, so that water must be in sufficient quantity to cover the rib before it can enter the nail-hole. The sides of each tile are held down and against lateral displacement by the side rib of its fellow, while the lower end of each tile is securely held by its points entering the holes 17 and 18 in the two adjacent tiles.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A roofing-tile having upward-turned flanges on its upper sides, as 4 and 5, and extending along the cut-away portions 8 and 9, as and for the purposes set forth.

2. A roofing-tile having cut away portions 8 and 9 at each side, each having an upward flange, one of said flanges forming a rib, and a nail-hole in the apex of said rib, as and for the purposes set forth.

3. A roofing-tile having a notch in its upper end and a rib at one side with a nail-hole in its apex, whereby when the tiles are secured in position the nail passing through the rib of one tile will pass through the notch of the tile immediately below it, substantially as described.

4. An approximately rectangular roofing-tile having cut-away sides 1 and 2 and provided with a rib 9 at one side 2 and an upward-projecting flange 8 at its side 1, as and for the purposes set forth.

5. A roofing-tile having holes 17 and 18 at the lower ends of the cut-away sides 1 and 2 and provided with points 19 and 20 at its central lower end; as and for the purposes set forth.

6. A roofing-tile having a nail-hole 24 at the apex of a rib running along one side of the tile and a raised portion 26 to accommodate the head of a nail passed through a similarly-situated nail-hole of an under tile, as and for the purposes set forth.

7. A roofing-tile having ribs 10 and 11 and flanges on the upper sides 4 and 5, said ribs and flanges meeting each other at their outer extremities, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EPHRAIM B. REPP:

Witnesses:  
S. BRASHEARS,  
S. BRASHEARS, Jr.