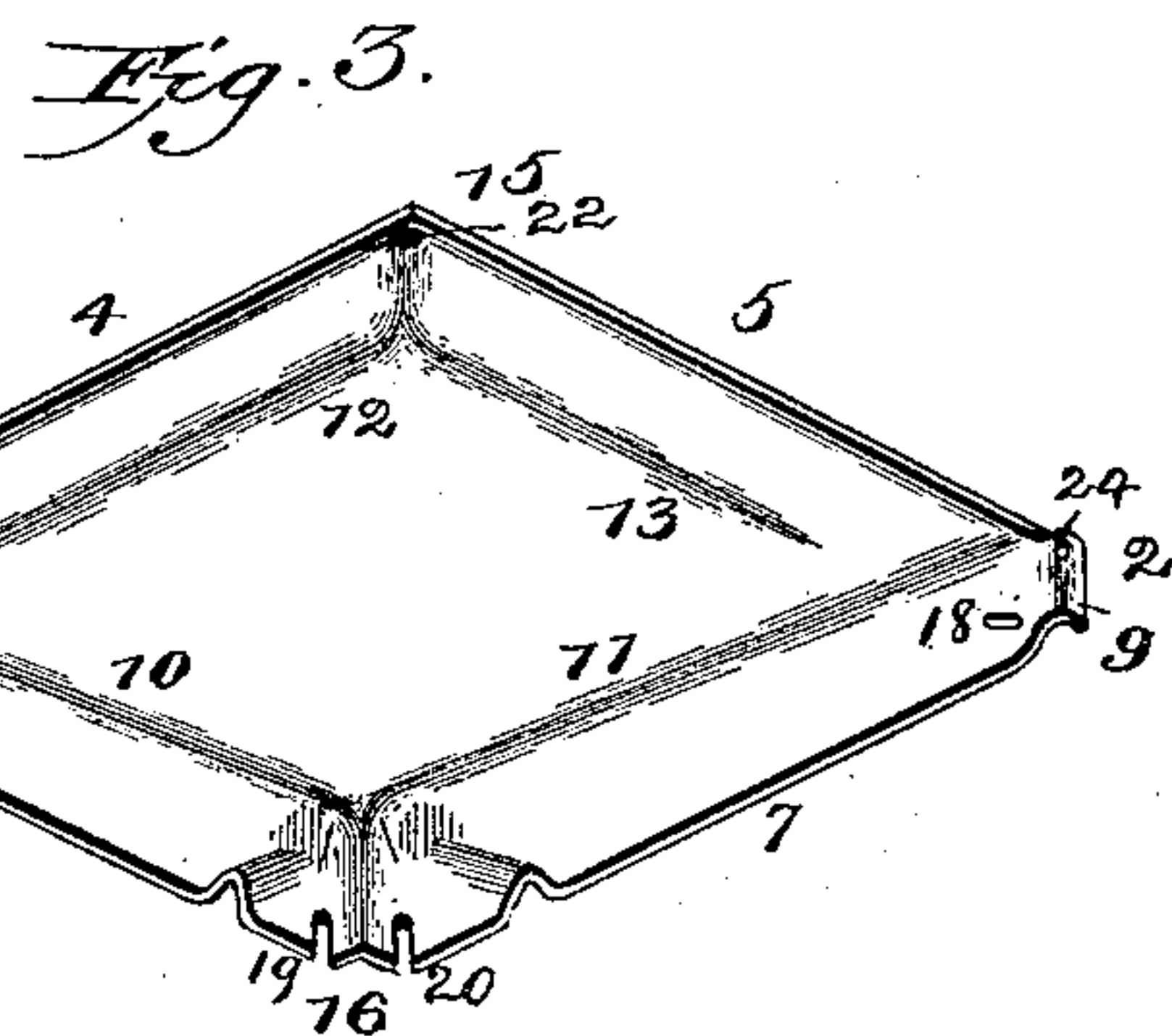
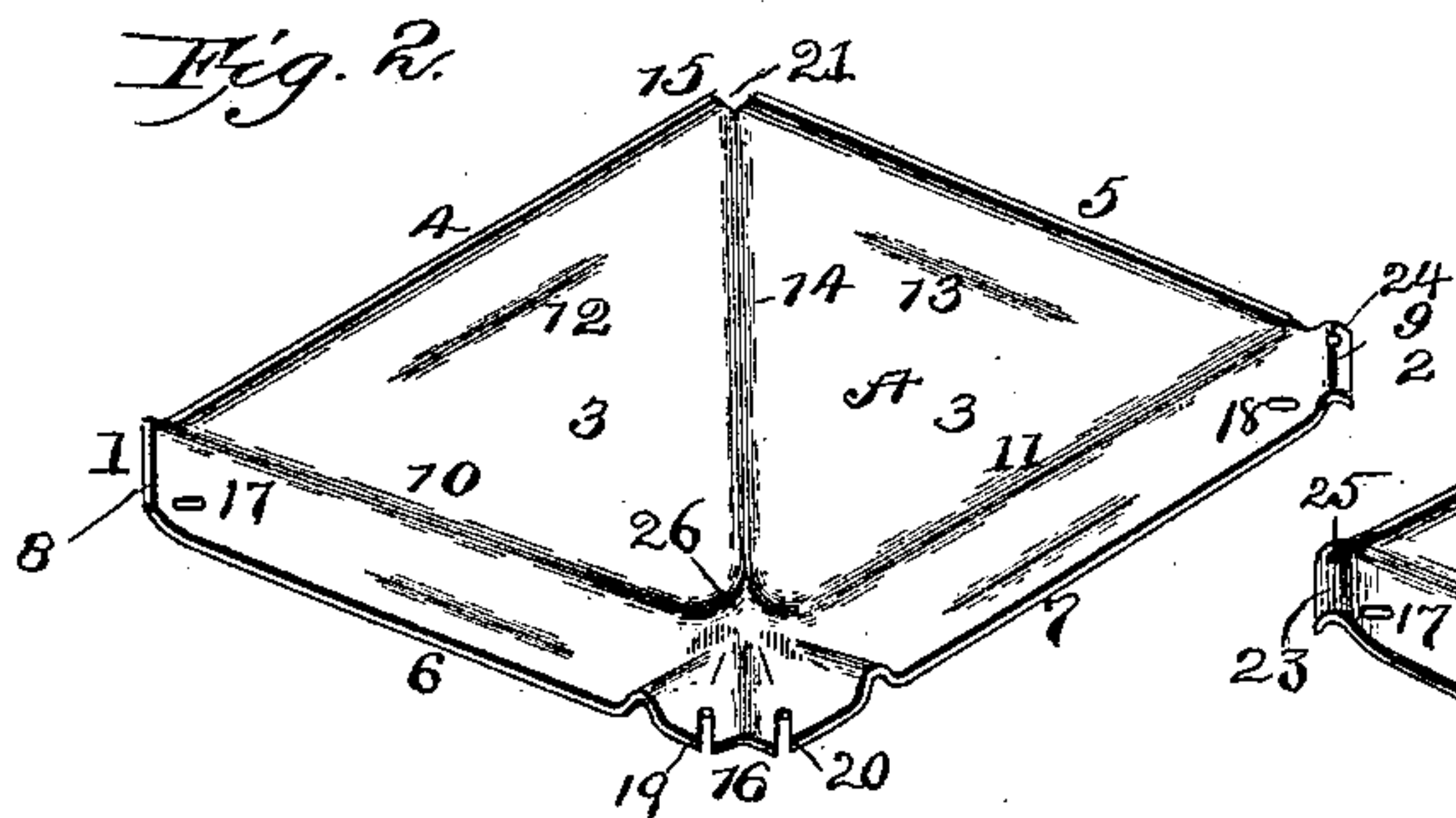
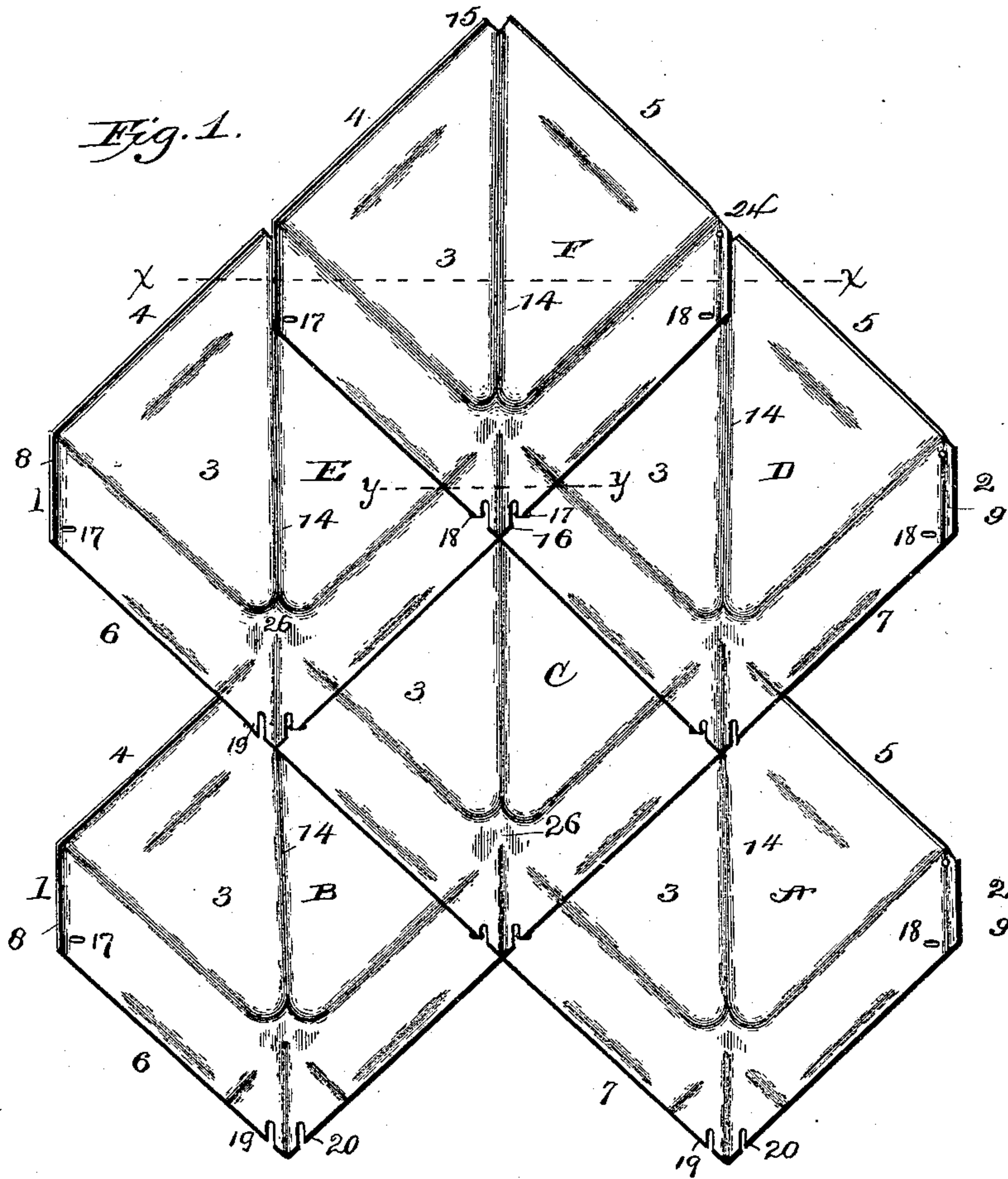


(No Model.)

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 un-  
 5 der the ribs 9, gage the positions of the tiles  
 and prevent either lateral or vertical move-  
 ment by the use of a single nail. Having fin-  
 ished the lower row of tiles, I begin on the  
 10 second row by placing the points 19 and 20  
 of the tiles C in the holes 17 and 18, respec-  
 tively, 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-  
 15 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  
 20 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 pro-  
 vided with three nail-holes and two ribs 9, as  
 in Fig. 3, each nail will pass through three  
 25 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 wa-  
 ter to penetrate to the inside. Each tile laps  
 the two adjacent tiles of the next lower row  
 30 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  
 35 room under it for the head of a nail. In the  
 form of tile shown in Figs. 1, 2, 4, and 5 a sin-  
 gle 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  
 40 three tiles, so that only one nail to a shingle  
 is necessary, these changes are discretion-  
 ary with the user. When the tiles are in place  
 on the roof, as in Fig. 1, the sides 6 and 7 be-  
 ing slightly bent downward make a close con-  
 45 tact 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 im-  
 possible, and inasmuch as the edges 4 and 5 of  
 50 the under tile are turned upward and rest un-  
 der 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 55  
 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 en-  
 tering the holes 17 and 18 in the two adja- 60  
 cent 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 65  
 flanges on its upper sides, as 4 and 5, and ex-  
 tending 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 70  
 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 up-  
 per end and a rib at one side with a nail-hole 75  
 in its apex, whereby when the tiles are se-  
 cured 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. 80

4. An approximately rectangular roofing-  
 tile having cut-away sides 1 and 2 and pro-  
 vided with a rib 9 at one side 2 and an up-  
 ward-projecting flange 8 at its side 1, as and for  
 the purposes set forth. 85

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. 90

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 accommo-  
 date the head of a nail passed through a simi-  
 larly-situated nail-hole of an under tile, as 95  
 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. 100

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

EPHRAIM B. REPP:

Witnesses:

S. BRASHEARS,  
 S. BRASHEARS, Jr.