

(No Model.)

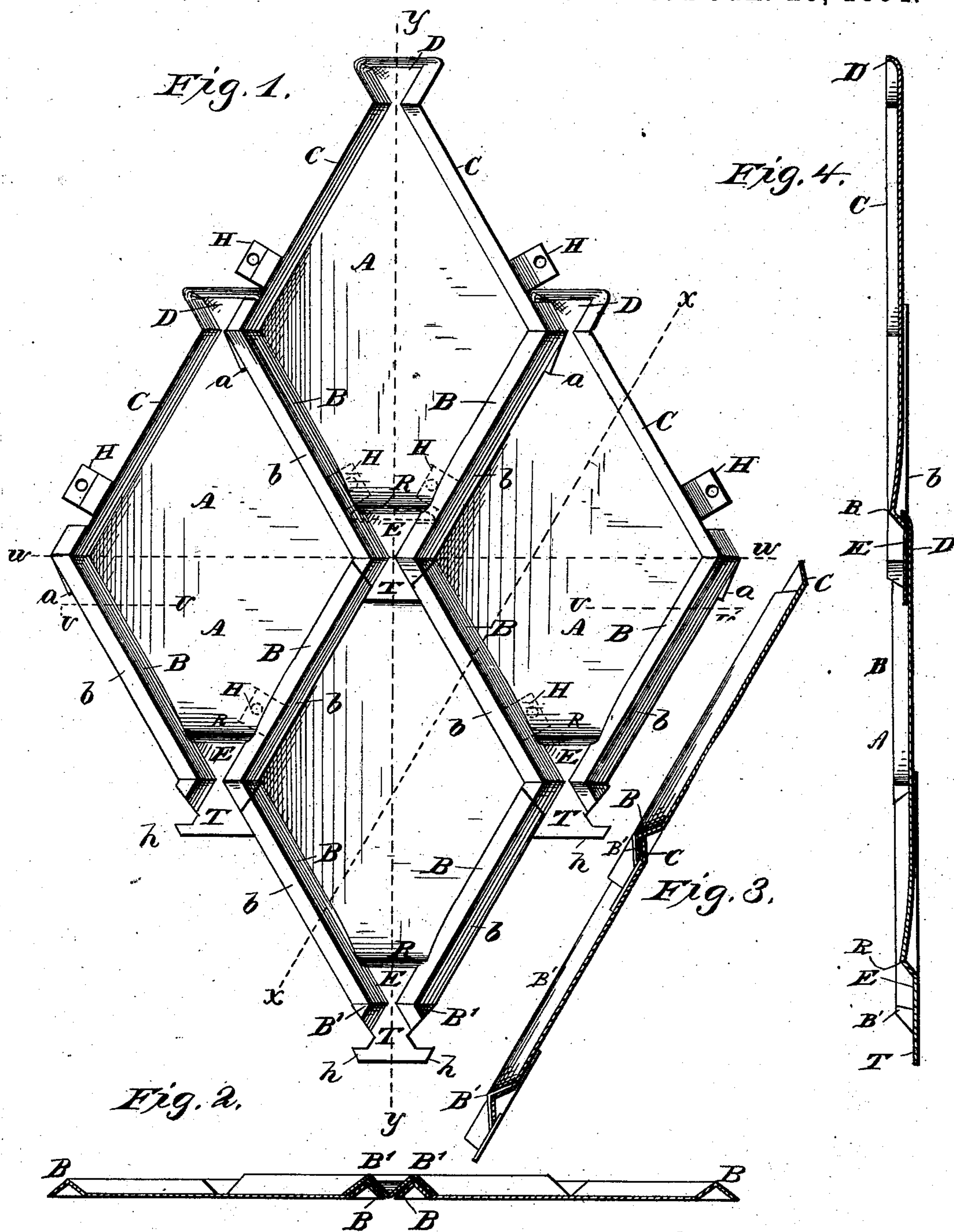
2 Sheets—Sheet 1.

E. B. REPP.

METALLIC ROOFING SHINGLE.

No. 292,585.

Patented Jan. 29, 1884.



WITNESSES

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Fig. 8.

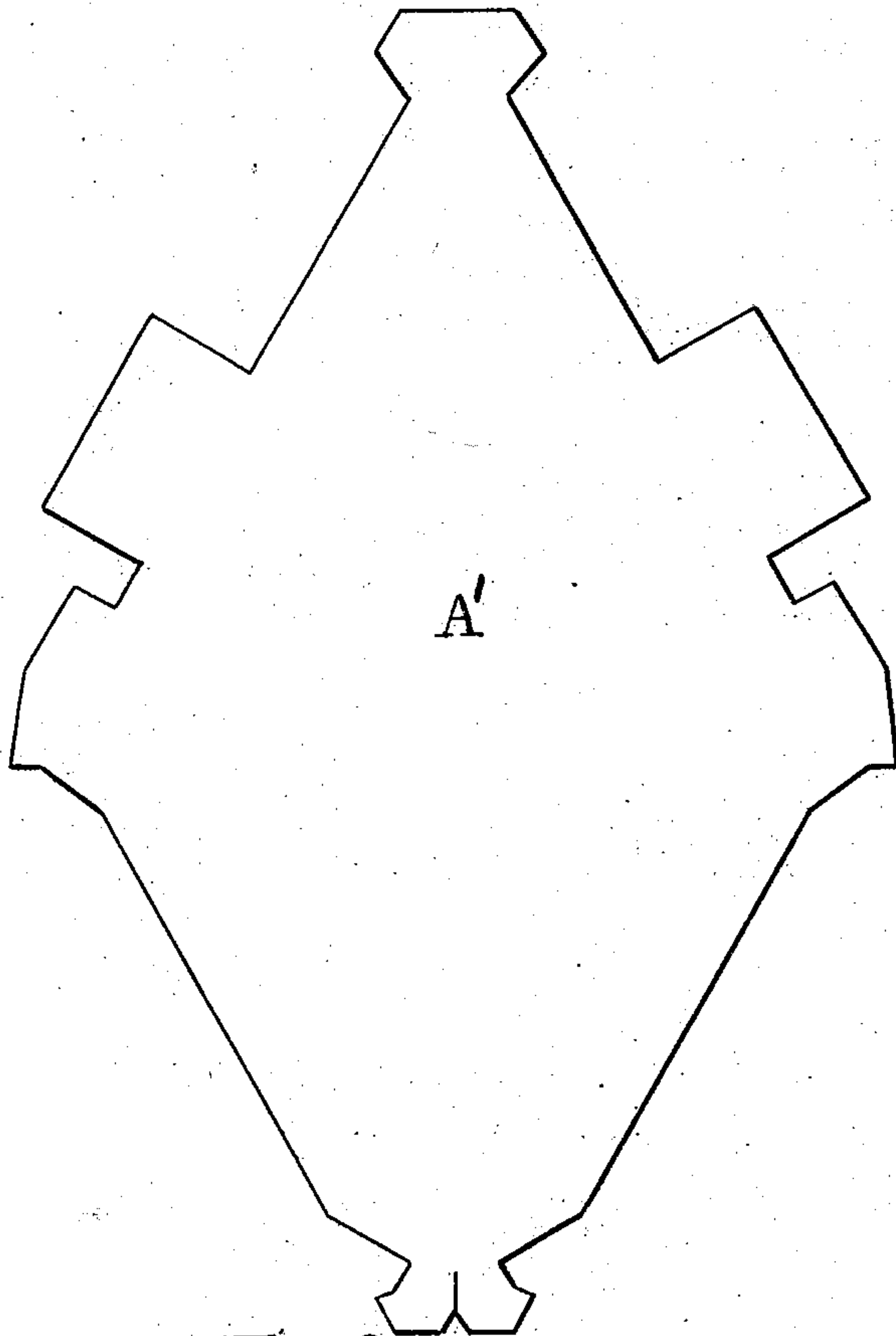
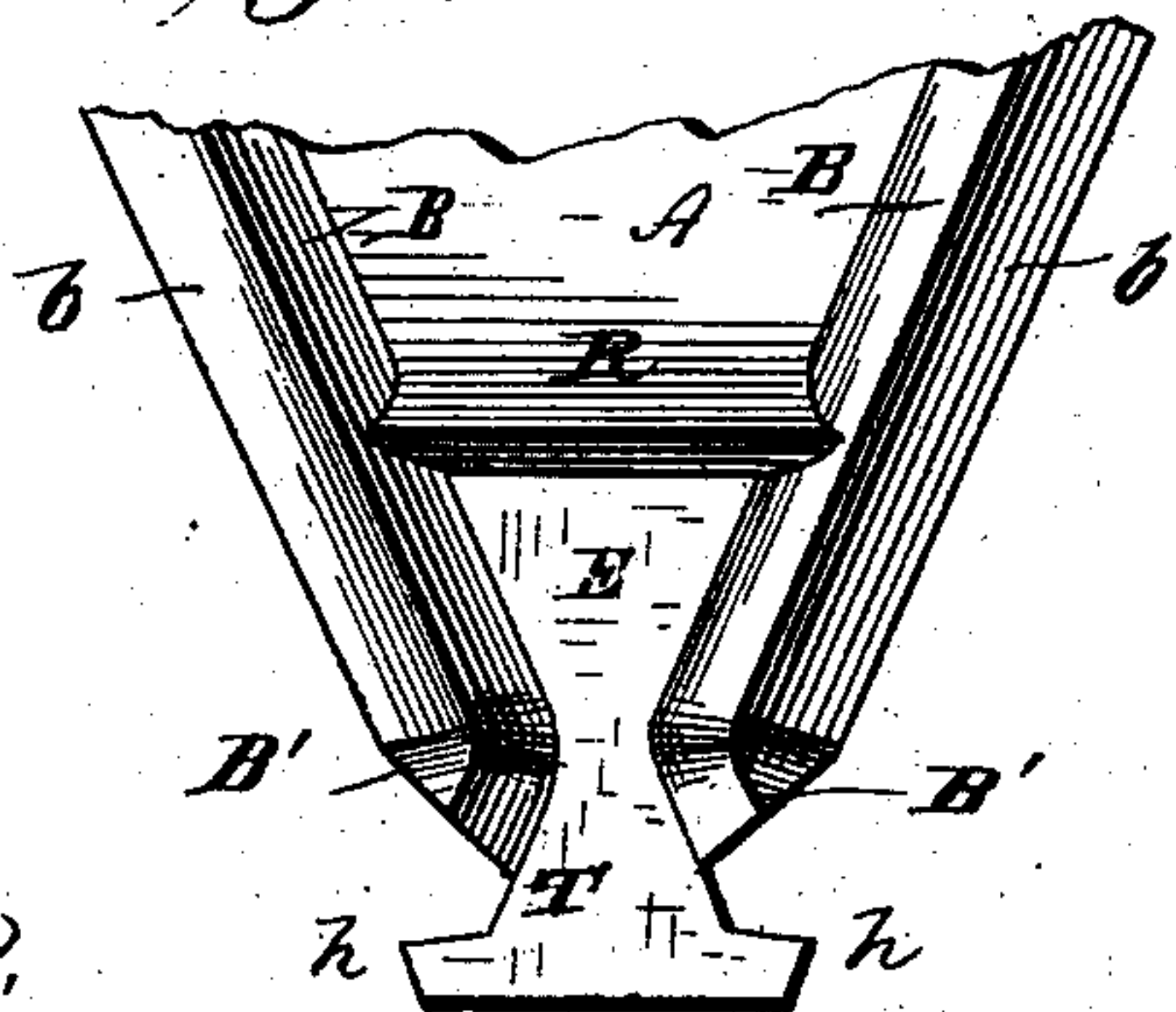


Fig. 6.



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UNITED STATES PATENT OFFICE.

EPHRAIM B. REPP, OF NEW WINDSOR, MARYLAND, ASSIGNOR TO THE
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METALLIC ROOFING-SHINGLE.

SPECIFICATION forming part of Letters Patent No. 292,585, dated January 29, 1884.

Application filed November 16, 1881. Renewed February 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM B. REPP, of New Windsor, in the county of Carroll and State of Maryland, have invented a new and Improved Metallic Shingle, of which the following specification is a description.

The invention relates to shingles, preferably of a diamond shape in their general outline, the particular object being the production of roofing-shingles adapted to form a thoroughly water-tight and externally fire-proof roof, which can be made with a very small percentage of loss from waste material in cutting out and forming up the blanks, and requiring the use of less material to produce the complete article without depreciating its value for the purposes for which it is designed. My improved shingles are laid in regular courses, commencing at the eaves and ending at the ridge-cap of the roof, and are intended to be laid with the points downward.

The invention consists in a shingle having its sides struck up to form inclined walls around the body of the shingle, a portion of such inclined walls on each side of the shingle having downwardly-extending flanges, forming a hollow ridge, adapted to lap over the inclined walls of the two shingles in the next course below. The ends of these flanges at the point of the shingle are flared outwardly, so as to fit in place when laid.

It also consists in providing a peculiarly-shaped tongue for holding down the point of the shingle by interlocking with the flanges on the sides of the two adjoining shingles in the next course below; also, in forming slightly-projecting hooks or shoulders—one on each side of each shingle—adapted to engage the edges of the tongue at the point of the shingle in the course next above, and hold the same down to its place; also, in forming a recess or cavity in the upper end of the shingle by drawing the inclined walls inwardly, and then flaring them outwardly and carrying them around the end, leaving sufficient metal between the walls to form a triangular pan, capable of holding any water driven up under the shingles, for the purpose hereinafter described; also, in forming a hollow rib across the face of

the shingle, near the point thereof, by depressing the body of the shingle between the inclined walls to an extent sufficient to permit this depressed portion to fit into the triangular pan of the shingle next below, and the rear wall of the pan to enter the cavity of the rib; also, in providing side hooks to hold the shingle to the roof, all as will be hereinafter fully and particularly described.

In the accompanying drawings, Figure 1 is a plan view of four of my improved shingles connected together. Fig. 2 is a cross-section taken on the line *w w*, Fig. 1. Fig. 3 is a transverse section taken on the line *x x*, Fig. 1, showing the lap of laid shingles, and Fig. 4 is a longitudinal section taken on the line *y y*, Fig. 1. Fig. 5 shows one of the blanks cut out to make a shingle before it is formed up to the desired shape. Fig. 6 is a top plan view, on a larger scale, of the lower end or point of the shingle.

Similar letters of reference indicate corresponding parts in all the figures.

In the drawings, A designates the body of the shingle, to be made of sheet metal, and preferably diamond-shaped. The sides of the body A are struck up to form inclined walls or flanges B and C. The walls B are provided with downwardly-extending side flanges, *b*, forming, in connection with the walls B, a hollow ridge into which the flanges C of the two shingles in the immediately-following course enter. The ends of the flanges B of a shingle are flared outwardly to form flanges B', so as to overlap the flanges B at the point where the projections of the tongue of a shingle engage with the hooks or shoulders of the shingles in the next course.

T designates the tongue or point of the shingle. This tongue T is provided with projections *h*, which are adapted to pass under and engage with the flanges of the adjacent shingles to prevent the point from springing outward from the roof, and also to engage the short side of the hooks or shoulders *a a*, extending from the outer sides of the flanges B, to prevent the shingle from slipping or working up toward the ridge.

H designates a hook, extending from each

side of the shingle from the flange C. These hooks H secure the shingles to the roof by means of nails driven through nail-holes in the ends of the hooks.

5 D designates a triangular pan-shaped recess, formed in the upper end of the shingle by drawing in the flanges C and then flaring them outwardly and around the end of the shingle.

E designates a depression in the points of the shingle between the flanges B, B', and R designates a hollow rib formed by the depression E, and extending across the shingle.

A', Fig. 5, designates a blank before its subsection to the stamping-press to form a complete shingle, A.

15 These shingles are laid with the tongues T down and the pans D up the roof. The eaves-course of shingles are laid first. These eaves-shingles are formed by cutting off the point of a shingle, A, just below the shoulders *a a*, as shown by dotted lines *v v*, Fig. 1, and are nailed to the eaves of the roof with the straight edge to the eaves. The shingles in the next immediately-following course are then laid, the projections *h* of the tongue T of each shingle passing under the shoulders *a*, and the flanges B' fitting over the flanges B, and the flanges B overlapping the flanges C. The shingles in the next course are then laid, the projections *h* of the tongues T of each shingle fitting under the shoulders *a* of the two adjoining shingles in the course below, and the depression E entering the pan D, the rear wall of the pan entering the cavity of the rib R. The immediately-following courses are then laid in the same way until the roof is completely covered.

I propose to make the inclined walls of each shingle sufficiently steep to prevent water backing over them during a severe storm, and I may also corrugate the edges of the hooks H between the nail-hole and the flanges C to form one or more gutters, so that if any water should back up over the flanges at this point in running down the roof, it will be carried by means of such gutters into the pan D of the shingle in the course next below, and thence off the roof. The principal object of this pan D, however, is to receive any water which may back up or be driven under the tongue T of a shingle, holding it in the pan until the pressure which forced the water up is removed, and the water will then run down the roof.

55 In the construction of these shingles the percentage of waste material will be very small in cutting out the blanks, and as the shingles over-

lap each other to a very small extent in comparison with other diamond-shaped shingles, they will effect a considerable saving in material in the construction of a metal roof. 60

These shingles can be very readily boxed for transportation, and as they will "nest" together they will pack very closely.

When the gutters heretofore referred to are employed, they may be made to extend along the full length of the flanges C, if desired, and the hooks H be extended correspondingly. 65

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

1. A metallic shingle, substantially as shown and described, having its sides struck up to form inclined walls around the body of the shingle, for the purposes specified. 70

2. A metallic shingle, substantially as shown and described, having the flanges B, *b*, C, and B', for the purposes specified. 75

3. In a metallic shingle, the hooks or projections adapted to be drawn under the obtuse corners of the two adjoining underlying shingles to hold the point of the overlapping shingles in place, as herein set forth. 80

4. The metallic shingle A, having the tongue T, provided with projections *h*, adapted to interlock with the shoulders *a a* on adjoining shingles, substantially as shown and described, for the purposes specified. 85

5. The metallic shingle A, having the depression E and ribs R, adapted to be combined with the pan D of an underlying shingle, substantially as shown and described, for the purposes specified. 90

6. The metallic shingle A, having the water receptacle or pan D, substantially as shown and described, for the purposes specified.

7. The metallic shingle A, having the flanges B, *b*, C, and B', hooks H, shoulders *a*, and tongue T, having the projections *h*, adapted to be combined with shingles similarly constructed, substantially as shown and described, and for the purposes specified. 100

8. The metallic shingle A, having the flanges B, *b*, C, and B', hooks H, shoulders *a*, tongue T, its projections *h*, the depression E, rib R, and the pan D, and adapted to be combined with shingles similarly constructed, substantially as shown and described, for the purposes specified. 105

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Witnesses:

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