(No Model.) 2 Sheets—Sheet 1.

E. B. REPP.

METALLIC ROOFING SHINGLE.

No. 262,475. Patented Aug. 8, 1882.

Fig. 1.

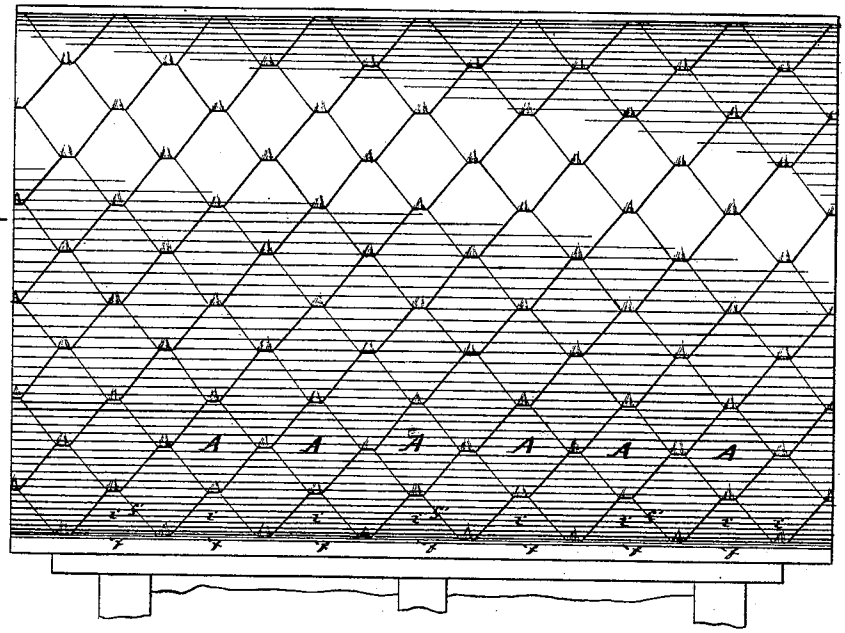


Fig. 4.

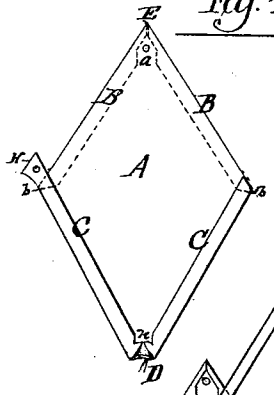


Fig. 2.

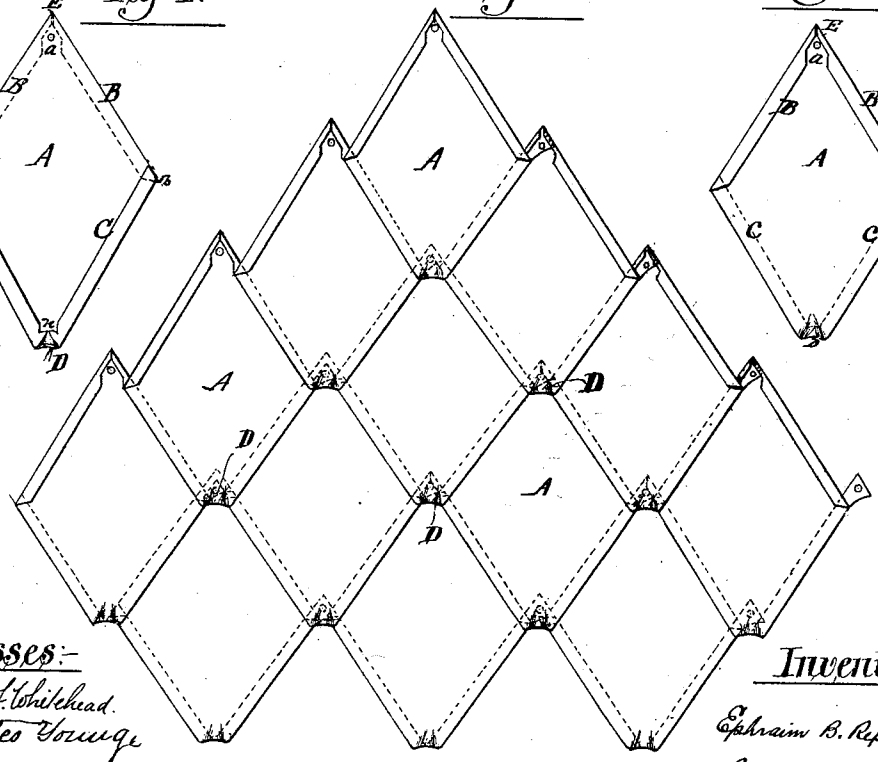
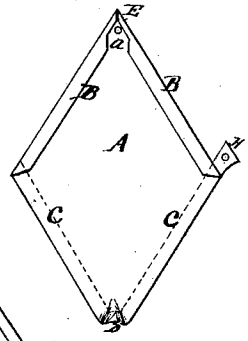


Fig. 3.



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N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

E. B. REPP.

METALLIC ROOFING SHINGLE.

No. 262,475. Patented Aug. 8, 1882.

Fig. 5

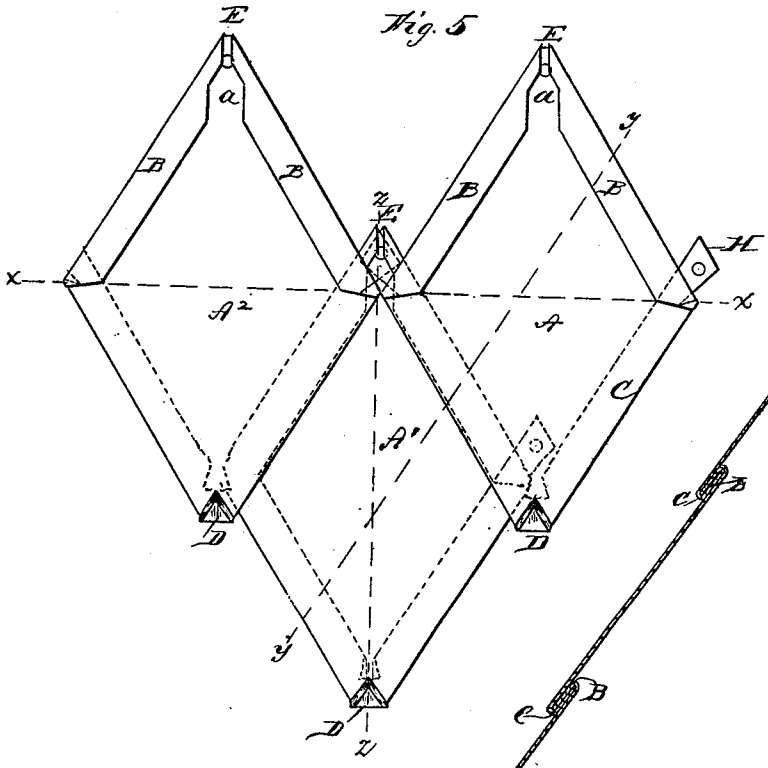


Fig. 7.

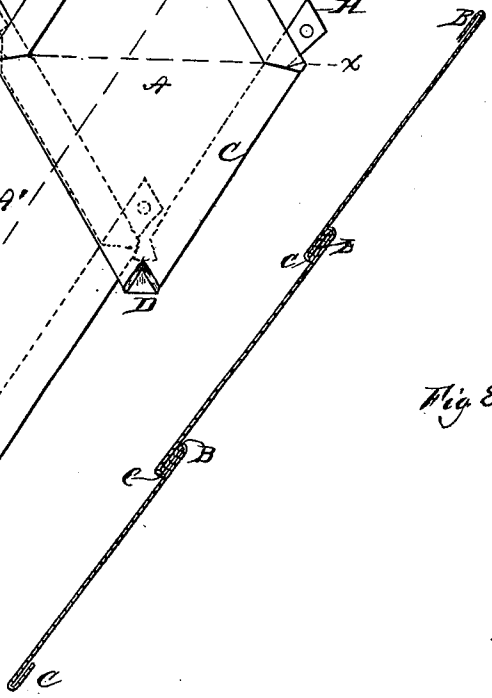


Fig. 8

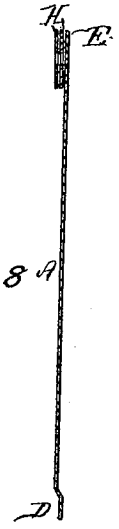
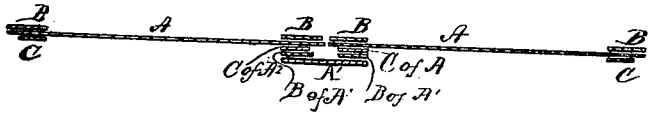


Fig. 6.



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John Buckler.
Chas de L. Young.

INVENTOR-
Ephraim B. Repp
By Ernest C. Webb
Atty.

UNITED STATES PATENT OFFICE.

EPHRAIM B. REPP, OF NEW WINDSOR, MARYLAND, ASSIGNOR TO THE ANGLO-AMERICAN ROOFING COMPANY, OF NEW YORK, N. Y.

METALLIC ROOFING-SHINGLE.

SPECIFICATION forming part of Letters Patent No. 262,475, dated August 8, 1882.

Application filed October 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, EPHRIAM B. REPP, of New Windsor, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Metal Roofing-Shingles, of which the following specification is a description.

This invention is in the nature of an improvement in metallic slates or shingles for roofing purposes, the particular object sought to be accomplished being the production of roofing-shingles which can be readily and conveniently handled, compactly packed for transportation, and applied to a roof with great facility and at very little cost for labor, the shingles forming, when so applied, a thoroughly water-tight and externally fire-proof roof.

My invention consists of a shingle of sheet-iron, preferably diamond-shaped, having its edges turned over to form engaging-flanges on opposite sides of its face. The flanges of the upper face of the shingle, where they meet at the end, are notched or cut out, for purposes which will hereinafter be fully described. The flanges on the lower face of the shingle are also slightly notched or cut out, and one of these flanges projects out and beyond the center of the shingle at an angle thereto, forming a projecting hook to slip into the notched flange (first spoken of) of the next contiguous shingle in the order of laying, the object being to fasten the shingles to the roof by means of nails passing through this projecting hook and through the shingle on which it rests.

The invention also consists in forming an indentation or depression at the lower end of the shingle, so as to cause the shingles, when laid, to rest perfectly flat on each other at this point, thereby preventing rain or snow from being driven up under the shingles from the lower edges, and at the same time serving to cover and protect the nail-holes.

The invention also consists in several other details of improvement, which will be hereinafter fully described.

In the accompanying drawings, Figure 1 is a plan view of a roof formed of consecutive courses of shingles containing my improvements. Fig. 2 is a plan view of several of my improved shingles connected together in consecutive courses, and showing the eaves-shingles. Fig. 3 is a top view of one of my improved shingles, and Fig. 4 is a bottom view thereof. Fig. 5 is an enlarged plan of three of my shingles connected. Fig. 6 is a section on line *x x* of Fig. 5. Fig. 7 is a section on line *y y*, same figure, and Fig. 8 is a section on line *z z*, same figure.

Similar letters of reference indicate corresponding parts.

A designates the shingle, having its edges B B turned over on its upper face and its edges C C turned under on its lower face to form engaging-flanges on each face of the shingle. At the point where the flanges B B meet each other they are notched or cut out, as shown at *a*, Fig. 3. The lower ends of the flanges B B have their outside edges slightly lapped over onto the upper ends of the flanges C C, as at *b*, Fig. 4, the object of this being to allow water running down under the flanges B B to pass over the edges and under the flanges C C, and so on off the roof. Of course this is simply an additional outlet, as the water would naturally run off the face of the roof; but in cases of severe storms, where the fall of rain or snow was heavy, the additional outlet would come in play. It will also be of value in preventing water which might possibly be driven up under a flange C from passing beyond it.

One of the flanges C extends beyond the outside edge of the shingle and at an angle to the flange B. This projection is designated by the letter H, and is in the nature of a hook, being perforated to receive a nail.

The lower end or point of the shingle A has an indentation or depression, D, for the purpose of more effectually causing a shingle to lie flat upon the surface of the next shingle below it, so as to prevent rain or snow from being driven up under it.

E designates the upper end or point of the shingle A. This point E has a nail-hole punched through it.

i i i i i i designate the eaves course of shingles. These are triangular shaped, as shown in Fig. 1, and have been made the subject-matter of a separate application filed on even date herewith. In laying these shingles on a roof the triangular shingles are first laid so as

to project slightly over the edge of the roof, the flanges *f* thereof engaging with a narrow plate of metal, first nailed to the roof, one such strip of metal being nailed to the roof for each eaves-shingle at distances of about eight inches apart. The first course of the regular shingles, A, is then laid by engaging the flanges C C with the flanges *f' f'* of the triangular shingles *i i*, &c. The next course of regular shingles, A, is then laid in the following manner: The flanges C C are slipped into and engaged with the flanges B B until the hook H passes beyond the notch *a* to the point E, so that the nail-holes in the hook and in the point of the shingle meet and correspond with each other. By means of the notch *a* the hook H more readily passes to its place, and the advantage of this notch *a* over continuous flanges wherein one must overlap the other at the point E is that by means of the notch *a*, water driven down onto the point E will be forced to pass under one of the flanges B B, while if one of these flanges B B overlapped the other the water would be apt to pass over the outer edge of the flange and under the shingle, thus coming in contact with the board-sheathing of the roof, and thereby causing the roof to leak. At the point on the lower face of the shingle where the flanges C C meet a small notch, *n*, is cut, (see Fig. 4,) so that the lap or flange *b* of the flange B will enter said notch *n* sufficiently far to fit snugly against the shoulder formed on the lower face of the shingle by the indentation or depression D. When the shingles are laid in regular courses (see Fig. 2 of the drawings) the point E of a shingle passes under the lower end of the shingle next above it, and the indentation or depression D makes a thoroughly-tight water-shed over the point E, hook H, nail-holes, and nails.

The advantages of this invention are, first, economy of material, as the percentage of waste iron in cutting out the blanks is very small, and, in fact, is much less than that incurred in cutting out any other metallic shingle heretofore used; second, facility of "laying" or constructing a roof, the shingle being small and easily handled and readily connected, and only one nail being used for every three shingles, thereby effecting a saving in the cost of labor as compared with other shingles; third, they can be conveniently handled and packed for transportation; fourth, they will form an absolutely water-proof and externally fire-proof roof.

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

1. A metallic shingle provided with hook H and having its edges turned over on opposite sides of its face to form engaging-flanges, and the meeting edges of the flanges notched or cut out, as shown, to receive the hook of the adjacent shingle when laid, for the purposes herein specified.

2. In a metallic shingle having its edges turned over on opposite sides of its face to form engaging-flanges, a perforated hook, H, adapted to pass under the upper flanges of the next shingle in the order of laying, and adapted to fasten the two shingles to the roof, as described, for the purposes specified.

3. In a metallic shingle having its edges turned over on opposite sides of its face to form engaging flanges, the indentation or depression D, substantially as described, for the purposes specified.

4. The combination, in the metallic shingle A, having the flanges B B and C C, of the flange *b* with the notch *n* and shoulder formed by the indentation or depression D, substantially as described, for the purposes specified.

5. The combination, in the metallic shingle A, of the flanges B B and C C on opposite faces thereof, and the notches *a n* with the hook H, flange *b*, and indentation or depression D, substantially as herein shown and described, for the uses and purposes specified.

EPHRAIM B. REPP.

Witnesses:
CHAS. DE L. YOUNG,
ARTHUR C. WEBB.