(No Model.)

E. A. MALLORY.

SHEET METAL ROOF.

No. 425,104. Patented Apr. 8, 1890.

FIG. 1.

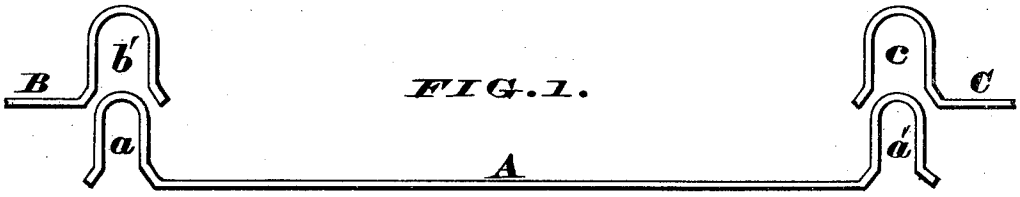


FIG. 2.

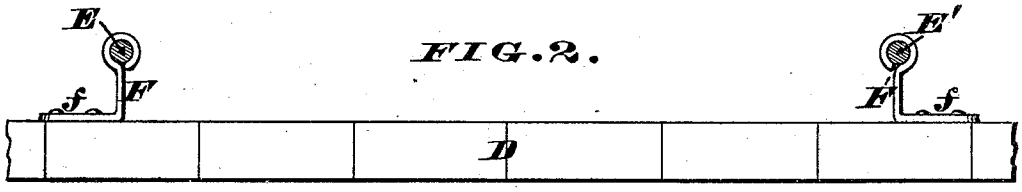


FIG. 3.

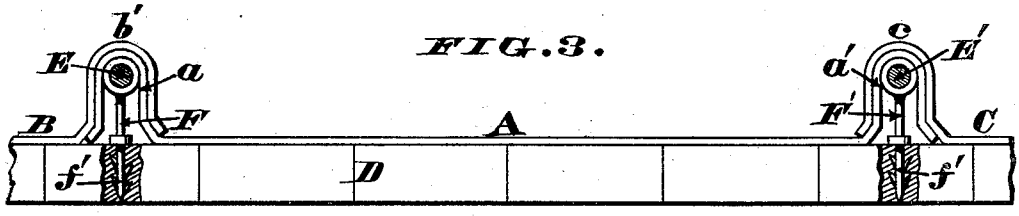


FIG. 4.

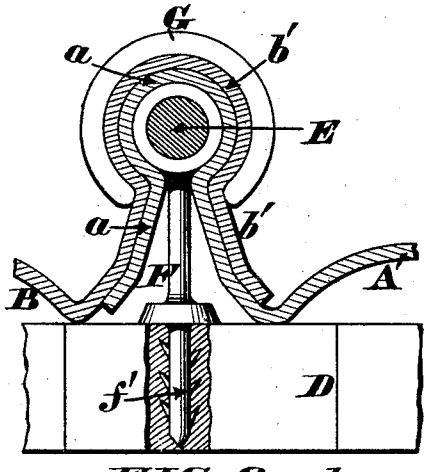


FIG. 5.

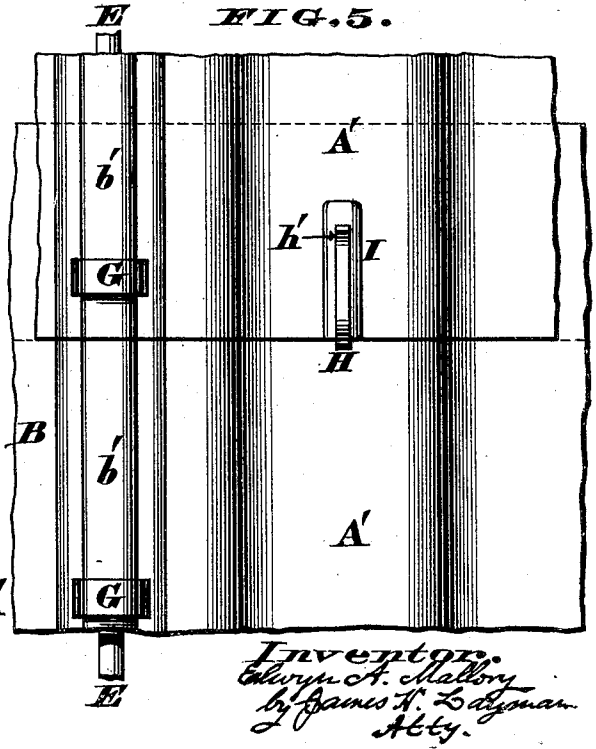
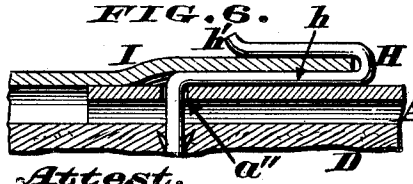


FIG. 6.



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UNITED STATES PATENT OFFICE.

ELWYN A. MALLORY, OF PIQUA, OHIO.

SHEET-METAL ROOF.

SPECIFICATION forming part of Letters Patent No. 425,104, dated April 8, 1890.

Application filed January 20, 1890. Serial No. 337,525. (No model.)

To all whom it may concern:

Be it known that I, ELWYN A. MALLORY, a citizen of the United States, residing at Piqua, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Sheet-Metal Roofs, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

This invention relates to those sheet-metal coverings which are attached to roofs, sidings, &c.; and my improvement comprises a novel combination of devices for securing the edges of the various sheets or plates to the siding or other support, the details of said devices being hereinafter more fully described.

In the annexed drawings, Figure 1 is an elevation of the end of one plate and the ends of portions of adjacent plates used in constructing my improved roof or siding. Fig. 2 is an elevation showing the ridge-rods attached to a roof or siding. Fig. 3 is a similar elevation, but showing the above-mentioned plates applied to the ridge-rods preparatory to being clamped thereto. Fig. 4 is a greatly-enlarged transverse section of one of the ridge-rods and its attachments, said section being taken in the plane of the clamp and anchor. Fig. 5 is a plan of a portion of the roof. Fig. 6 is an enlarged vertical section of the roof taken longitudinally of the sheets and in the plane of one of the bent nails or fasteners.

Referring to Figs. 1 and 3, A represents a flat plate of sheet metal of the size usually employed for roofs, sidings, and other similar coverings, the edges of said sheet being provided with longitudinal bends or flutes $a\ a'$, for a purpose that will presently appear.

B and C represent the adjacent sheets or plates, and $b'\ c$ are the bends or flutes thereof.

D is a roof, siding, or other backing, and E E′ are parallel ridge-rods maintained at a suitable distance from said support D by any approved fasteners, anchors F being generally employed for this purpose. These anchors are applied along the rods at proper intervals, and are usually furnished with base-flanges f, which latter are nailed to the backing, as seen in Fig. 2; but if desired, said anchors may have barbed shanks f', capable of being driven into the sheathing or siding, as represented in Figs. 3 and 4.

After the ridge-rods have been secured in their proper positions, the sheet A is applied to the backing D in such a manner as to cause the bends or flutes $a\ a'$ to rest upon said rods. Sheet B is then applied to the backing, thereby causing the bend b' to rest upon and overlap the bend a. The other sheet C is so applied as to cause its bend c to rest upon and overlap the other bend or flute a' of the first sheet A. This method of applying the sheets is carried on until the roof is completely covered, the various sheets being finally secured to the ridge-rods by the clamps G. These clamps are compressed by a powerful implement, thereby holding the sheets in place without employing nails or other fasteners that necessitate perforations in the plates, while at the same time the latter are free to expand and contract with every change of temperature without injuring their functions. Furthermore, the rods E E′ form elevations or ridges in the roof, which ridges project so far above the general level as to prevent water entering the edge joints of the sheets, and on this account there is no danger of these joints rusting out. This method of fastening the overlapping edges of the sheets can be used with corrugated plates, as seen at A′ in Fig. 4, which illustration shows that the joint is a considerable distance above the swell or convex surface of said corrugations. For corrugated plates, I prefer to use extra attachments, such as seen in Figs. 3 and 6. These illustrations show the attachments applied to corrugated plates, a perforation a'' being made in the center of the swell of one of the corrugations, which perforation has a bent fastener H driven through it, and thence into the backing or siding D. This perforation is made near the upper end of the plate, and the end of the overlapping sheet is grooved longitudinally at I to fit over the horizontal extension h of the fastener, which latter has a hook h'. This hook guides the upper plate when it is applied, and prevents its slipping

down and holds the plates closely together. These hooks serve also as gages, that regulate the length of lap at the end of the sheets.

I claim as my invention—

In a sheet-metal covering, the plate A, having edge bends or flutes a a', in combination with the ridge-rods E E', anchors F F', and clamps G, which clamps lock said bent edges around said ridge-rods, substantially as herein described.

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

ELWYN A. MALLORY.

Witnesses:

LINESS JOHNSON,

JAMES H. HATCH.