(No Model.)

A. C. KANNEBERG.

SHEET METAL ROOFING.

No. 403,844. Patented May 21 1889.

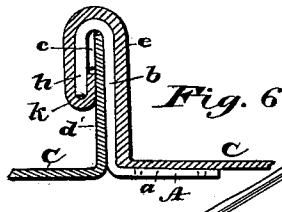


Fig. 6.

Fig. 7.

Fig. 2.

Fig. 1.

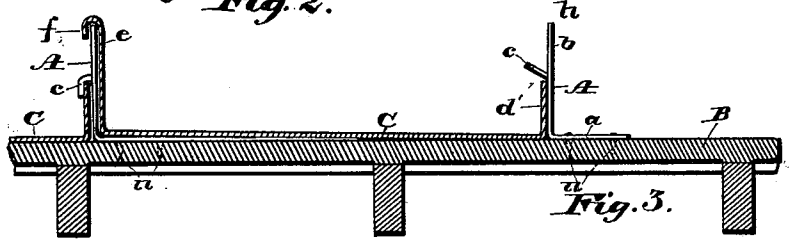


Fig. 3.

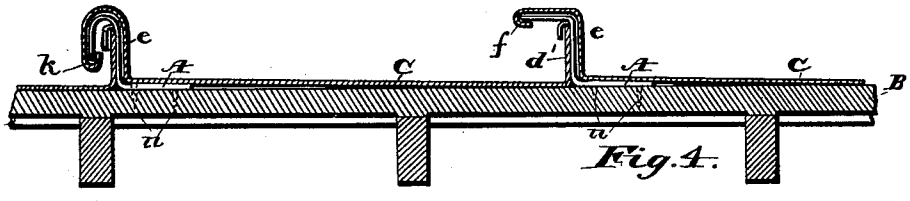


Fig. 4.

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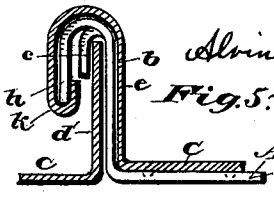


Fig. 5.

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UNITED STATES PATENT OFFICE.

ALVIN C. KANNEBERG, OF CANTON, OHIO.

SHEET-METAL ROOFING.

SPECIFICATION forming part of Letters Patent No. 403,844, dated May 21, 1889.

Application filed October 29, 1888. Serial No. 289,420. (No model.)

To all whom it may concern:

Be it known that I, ALVIN C. KANNEBERG, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Sheet-Metal Roofing, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in sheet-metal roofing; and it consists in providing means by which the sheets are more securely held to the lining and the operation of laying greatly facilitated and the initial cost reduced.

With these ends in view my invention consists in certain features of construction and combination of parts, as will be hereinafter described, and set forth in claim.

Figure 1 of the accompanying drawings is a perspective of the anchor as cut from the sheet, and shows the first operation. Fig. 2 is a similar view and shows the anchor bent at right angle in shape to be secured to the lining, and is the second operation. Fig. 3 is a sectional view showing the first stage in the operation of constructing the roof. Fig. 4 is a similar view showing the operation of construction progressively. Fig. 5 is a sectional view of the seam, showing the upper portion of the anchor folded down, the tongue passing into the aperture from which it was cut. Fig. 6 is a sectional view of the joint through the anchor finished. Fig. 7 is a view in perspective of a section of roof, showing the finished joint.

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

The object of this invention is to provide better and more compact means for securing sheet-metal roofing to the lining, (or sheeting;) and it consists in providing an anchor, as A, having a broad base or horizontal portion, as *a*, a vertical portion, as *b*, and a tongue portion, as *c*, in combination with the adjacent flanges of the sheets of metal.

In the operation of manufacturing the anchor A, as hereinbefore referred to, I prefer to form the plates, as shown in Fig. 1, by cutting them from sheets of metal with a die so arranged as to form the tongue *c* at one and the same operation. The dies may be operated in any of the well-known forms of drops or presses, the operation of which is well understood and will need no further explanation. After the blanks for anchors, as shown in Fig. 1, have been formed perforations, as *d*, are punched therein, and the body of the blank bent at right angle to form a horizontal body portion, *a*, and a vertical body portion, as *b*, the tongue *c* projected outwardly, as shown in Fig. 2.

In the construction of roofing the anchors, as shown by Fig. 2, are placed in line and nailed to the lining B. The metal sheet C may be of any desired width and length, having edges turned upward at right angles, forming flanges *d' e*, the latter flange being wider than the flange *d'* and turned upon itself, as shown at *f*. The flange *d'* is of such a width as to bring the upper edge in line with the base of the tongue *c*. The sheet C is then placed on the lining, as shown in Fig. 3, the bent portion of the flange *e* embracing the top portion, *h*, of the anchor, the flange *d'* resting under the base of the tongue *c*, which is then bent down over the edge *d'*, as shown in Fig. 4. It will be noticed that the tongue *c* when so bent down will secure the flange *d'* in position during the operation of turning the flange *e* down, as shown in Figs. 4 and 5, the top portion, *h*, of the anchor bent over and down with the flange *e*, the extreme edge resting in the bottom of the groove *k*, formed by bending the flange *e*, as shown, the tongue passing into the perforation *m*, from which it was cut, as shown in Fig. 5, and when pressed together forming the finished joint, as shown in Fig. 6. By this arrangement of parts it will be noticed that the full strength of the metal employed in the anchor to secure it to the lining is also employed in the groove *k*, thus utilizing the full strength of the metal anchor, first, as secured to the lining by the nails *n*, and, second, by the full width of the upper portion of the anchor on the upper sheet forming the joint, upon which the security of the roof depends. By this means of construction the roofing is held securely to the lining without driving nails through or otherwise puncturing the metal sheets composing the same.

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

In devices for securing sheet-metal roofing in position, the combination, with two adjacent upturned flanges of the sheets of metal of different heights, of an anchoring-piece secured at one end to the roof and projecting up between the said adjacent flanges of the sheets of metal, the anchoring-piece having a tongue partially severed therefrom, the base of the tongue being located at the upper edge of the lowermost of the two upturned flanges, the top of the anchoring-piece being embraced by a folded-over edge of the higher of the two upturned flanges, and the opening formed in the anchoring-piece by the partial severing of the tongue therefrom being free to receive the tongue in the finished seam, substantially as set forth.

In testimony whereof I have hereunto set my hand this 24th day of October, A. D. 1888.

ALVIN C. KANNEBERG.

Witnesses:
W. K. MILLER,
CHAS. R. MILLER.