(No Model.)

F. E. SAGENDORPH.

STANDING SEAM FOR SHEET METAL ROOFS.

No. 357,634. Patented Feb. 15, 1887.

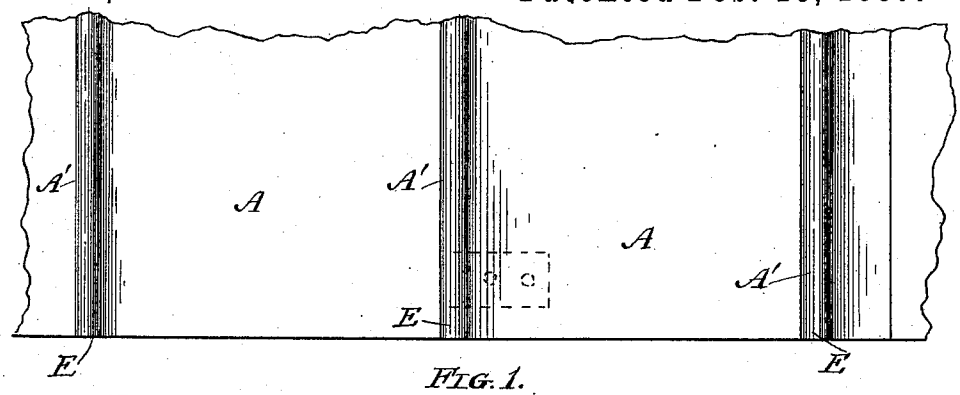


FIG. 1.

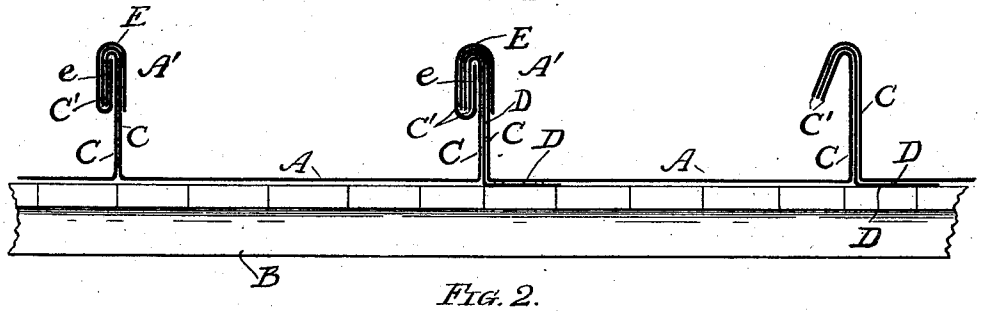


FIG. 2.

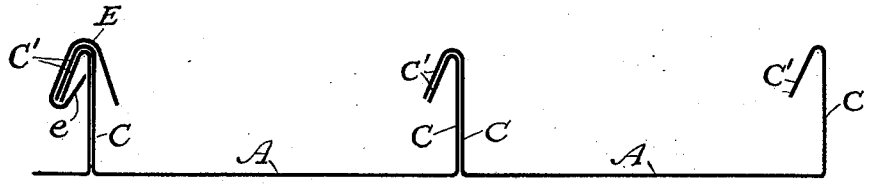


FIG. 3.

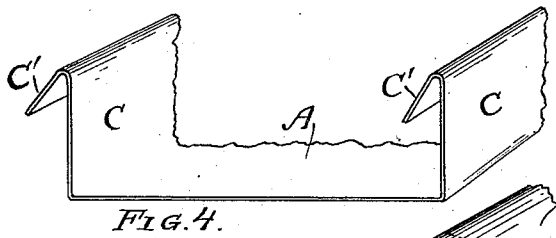


FIG. 4.

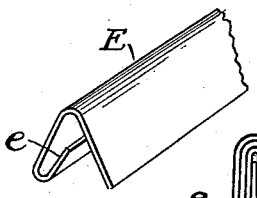


FIG. 5.

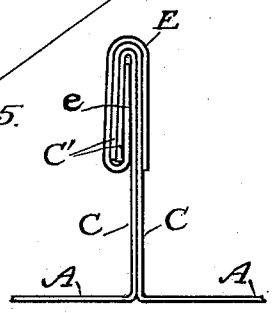


FIG. 6.

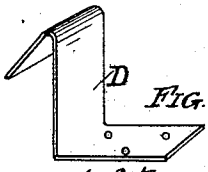


FIG. 8.

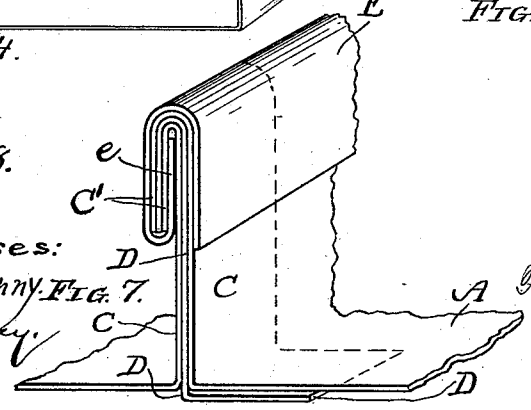


FIG. 7.

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UNITED STATES PATENT OFFICE.

FRANK E. SAGENDORPH, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO E. STARR LLOYD, OF SAME PLACE.

STANDING SEAM FOR SHEET-METAL ROOFS.

SPECIFICATION forming part of Letters Patent No. 357,634, dated February 15, 1887.

Application filed October 11, 1886. Serial No. 215,861. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. SAGENDORPH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Standing Seams for Sheet-Metal Roofs, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a portion of my improved roof. Fig. 2 is an end view of the same, showing the manner of attaching it to the boards. Fig. 3 is an end view showing the manner in which the plates are put together in laying. Fig. 4 is a perspective view of one of the sheets as the same is bent ready to be placed upon a roof. Fig. 5 is a perspective view of a portion of the cap as the same is formed preparatory to attaching it to the seam. Fig. 6 is an enlarged end view of a finished seam. Fig. 7 is an enlarged perspective view of the end of a finished seam, showing the retaining-strip or anchor by which the same is attached to the roof; and Fig. 8 is a perspective view in detail of one of the anchors or retaining-strips.

Like letters of reference indicate like parts in the different figures.

The object of my invention is to so construct a "standing seam" for sheet-metal roofs that the same may be rendered capable of resisting the action of beating rains, or, in other words, that the water may be prevented from being forced between the main vertical flanges of the seam, and thus penetrating to the structure below, all of which is hereinafter more particularly described, and definitely pointed out in the claims.

A in the drawings represents the plates or sheets of a metal roof connected with each other by means of standing seams, as shown at A', Fig. 1, the whole being attached to a wooden or other roof, B, constructed in any well-known way.

Upon the edges, and lengthwise of the respective sheets I form vertical flanges C, of about an inch in height, (more or less,) which are provided, respectively, with reverse or supplemental depending flanges C', bent in the same direction—or, in other words, the one is inclined inwardly toward the body of the sheet, while the other is bent outwardly, the two being in parallel planes oblique to the planes of the vertical flanges C. After placing one sheet in position, a bent strip or anchor-plate, D, Fig. 8, a portion of which is shaped to conform to the flanges C C', while the main body is intended to lie flat upon the roof, is placed over the outermost flange of the sheet and nailed to the roof B. The next succeeding sheet is then placed with its flange C' overlapping the flange C' of the one just laid, while the anchor D is interposed between the two, as shown in Figs. 2 and 7. A cap or strip, E, (shown separately in Fig. 5, and having an upturned flange, *e*,) is then placed over the flanges C C' in such manner that the flange *e* may be interposed between the depending flange C' and the vertical portions C, as shown at the left in Fig. 3. The whole is then compressed by means of a suitable clamp, when the parts named are bent into a tight close-fitting seam, the flanges C C', the hook portion of the anchor D, the flange *e*, and the remaining parts of the cap lying in planes parallel to each other, as shown in Fig. 7. When the seam is thus formed, it will be observed that the depending flanges C' C' serve to prevent the admission of water between the standing flanges C, as it is arrested in its ascent by said depending flanges. By placing paint or cement between the flanges named before clamping them together a seam is provided which is rendered not only impervious to beating storms, but to standing water, which enables said seams to possess all the advantages of soldered joints, while the necessary expansion and contraction from heat and cold are provided for.

I am aware that standing seams in metal roofs are old, and I do not, therefore, claim such a seam, broadly; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination, in a sheet-metal roof, of metal sheets A, having vertical portions C C, the depending flanges C' C', and cap E, constructed and arranged substantially as set forth.

2. In a sheet-metal roof, the combination, with

the depending flanges C' C' of a standing seam, of a cap one portion of which is interposed between the depending and standing flanges, and thence bent upwardly and downwardly upon the outside of said flanges, substantially as and for the purposes set forth.

3. In a sheet-metal roof, the combination of the plates A, vertical flanges C, depending flanges C', with the cap E, and an anchor-plate for securing the same to the structure which it covers, substantially as specified.

FRANK E. SAGENDORPH.

Witnesses:
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