E. R. PROBERT.

SHEET METAL ROOFING.

APPLICATION FILED APR. 16, 1913.

1,163,556. Patented Dec. 7, 1915.

Fig. 1

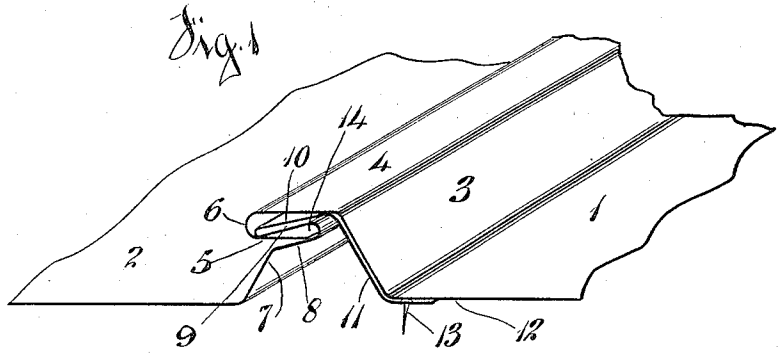


Fig. 2

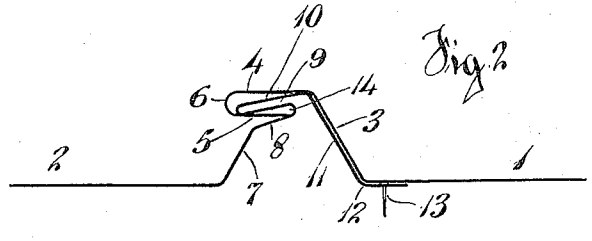


Fig. 3

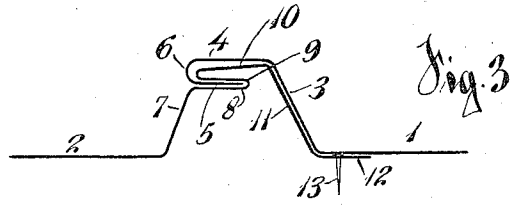


Fig. 5

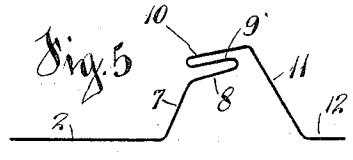
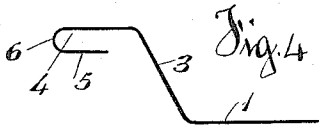


Fig. 4



Witnesses

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SHEET-METAL ROOFING.

1,163,556. Specification of Letters Patent. Patented Dec. 7, 1915.

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To all whom it may concern:

Be it known that I, EDWIN R. PROBERT, a citizen of the United States of America, and a resident of Covington, in the county of Kenton and State of Kentucky, have invented a certain new and useful Improvement in Sheet-Metal Roofing, of which the following is a specification.

This invention relates to sheet-metal roofing that has an elevated lock-joint and is secured to the sheathing below by means of concealed nails or the like.

The object of this invention is to provide an extremely simple, elevated, interlocked joint for the edges of contiguous sheets.

All the features of the invention herein will be minutely described hereinafter and particularly pointed out in the claim.

In the accompanying sheet of drawings, Figure 1 is a fragmentary isometric view showing my improved interlocked joint; Fig. 2, an end elevation of the joint seen in Fig. 1 but without the perspective projection so as to bring more clearly and squarely to view the peculiar manner of making the joint and associating or assembling its parts; Fig. 3, an end elevation of a modified form of the joint in which the hooking recess or groove is made horizontal instead of at an inclination as shown in the first two views; Fig. 4, a fragmentary end view of one joint-edge of a sheet; and Fig. 5, a fragmentary end view of the other joint-edge of a sheet, the formation being the same as that seen in Figs. 1 and 2.

1 indicates the base or body portion of one of the roofing sheets and 2 the base or body portion of the contiguous roofing sheet, the latter being the first one laid on the sheathing and the former duly interlocked in the manner that I shall now describe.

3 indicates an upwardly slanting flange or limb made along one edge of the sheet 1 and extended laterally into an open hook composed of an upper horizontal member 4, a lower horizontal member 5 and a connecting curved member or ligament 6, the lower member 5 being inwardly-turned toward the inclined flange 3 and suitably separated or spaced therefrom.

7 indicates an upwardly-inclined flange along the edge of the sheet 2 that is parallel and adjacent to the edge of the sheet 1 containing the said hook-formation. The upper edge of the flange 7 is extended or bent into S-form composed of the members 8, 9 and 10, such members 8, 9 and 10 being preferably at an inclination of ten degrees, more or less from the plane of the sheets 1 and 2, as best seen in Fig. 2, so that when the joint is effected, with the hook-formation of the sheet 1 in due engagement therewith, the inner edge of the lower hook-member 5 contacts with the first bend made in the S-formation and, also, so that the first bend in the hook impinges against the outer edge of the member 9 of said S-formation and, also, so that the extreme upper edge of said upper member 10 shall impinge against the underside of the bend in the metal made between the members 3 and 4 of the sheet 1. The said impingements or contacts of the hook-formation on the sheet 1 and the S-formation on the sheet 2 effectually prevent the entrance of any moisture or water into the joint, as each impingement forms a suitable barrier in the joint beyond which said moisture or water cannot pass into the sheathing beneath the sheets. The upper end of the S-formation has an extension 11 at an inclination downwardly to correspond to the inclination of the member 3 of the sheet 1, under which it lies in contact, and the lower end of the extension 11 still further extends into a horizontal foot or flange 12 that receives the fastening-nails 13, one of the latter being shown in position, concealed beneath the sheet 1.

The sheet 1 is very readily connected with the sheet 2 by simply inserting the inner edge of the lower member 5 of the hook-formation in the lower loop or opening of the S-formation. In making the coupling or joint between the two sheets the sheet 1 need not be inclined very materially so that the inner edge of the hook shall engage the lower loop of the S-formation and, when the body portion of said sheet 1 is set or laid in place on the sheathing, the locking of the joint is fully made and effected in a most simple and easy manner.

In Fig. 3 I have shown the S-formation as being composed of members 8 and 9 that are horizontal instead of slanting, and the upper member 10 has less slant than the degree of inclination of the same member shown in Fig. 2, but it is not as effective a structure against the inward seepage of moisture or water that is running over the joint, although elevated above the plane of

the sheet 2, because there is not the same impingements or contacts of the lower member 5 of the hook with the lower members of the S-formation as that seen in Fig. 2. Besides there will be no such lower air chamber or vent-passage as that shown at 14 in Fig. 2 in the horizontal, parallel engagement of the members 5, 8 and 9 shown in Fig. 3.

I claim:

An interlocking crimp-joint for contiguous roofing-sheets comprising an elevated, horizontal, downwardly and inwardly turned open hook-formation extended from the upper edge of an outwardly-inclined longitudinal crimp-member along the edge of the body-portion of one sheet, an equally elevated S-shape formation made along the adjacent outwardly-inclined edge of the next contiguous sheet to be joined to said first-named sheet and having slightly sloping and spaced water-shedding members that also provide air-circulating chambers therein, and an integral, inclined flange extending downwardly from the upper limb of said S-shape formation and provided with a lateral, horizontal attaching base or foot adapted to lie below the said elevated hook-formed edge of the first-named sheet, the said elevated, open horizontal hook of the first-named sheet being adapted to laterally and freely enter and occupy at substantially an acute-angle the lower open loop of the said S-shape formation on the second-named sheet for free and open interlocking-engagement at a decided elevation above the body-portions of the respective roofing-sheets and thereby positively and effectively obviating the entrance of water or moisture into the joint or to the sheathing beneath and maintaining a free circulation of air in the open hook-engaged portion of the joint.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."