

K. ROTH.
SHEET METAL ROOFING.
APPLICATION FILED JULY 18, 1912.

1,072,508.

Patented Sept. 9, 1913.

Fig. 1.

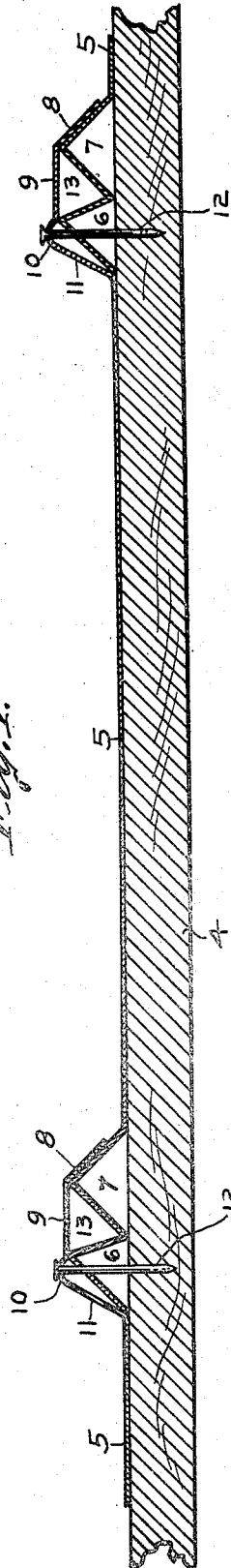


Fig. 2.

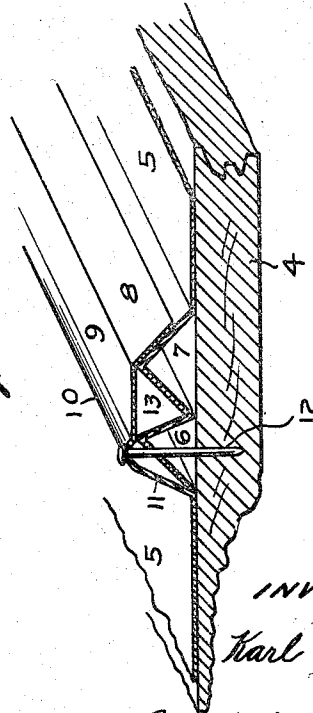
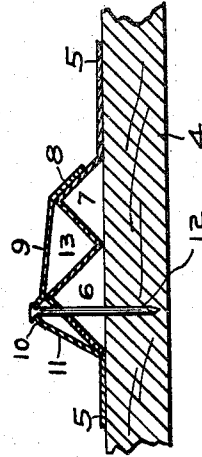


Fig. 3.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

KARL ROTH, OF TERRE HAUTE, INDIANA.

SHEET-METAL ROOFING.

1,072,508.

Specification of Letters Patent.

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Application filed July 18, 1912. Serial No. 710,314.

To all whom it may concern:

Be it known that I, KARL ROTH, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Sheet-Metal Roofing, of which the following is a specification.

This invention relates to improvements in sheet-metal roofing, and the object is to provide roofing plates, preferably of galvanized sheet-iron, of such construction at the joints of the sheets that both edges may be easily and securely nailed without causing leaks.

Another object of the invention is to practically eliminate capillary action at the joints, and, in case any water starts through the joint by capillary action to collect and carry it off before it reaches the sheathing or roof boards.

Another object of the invention is to so form the parts at the joint that they will go together properly without requiring them to be fitted by expert workmen, thus enabling this material to be sold and shipped to farmers and others to be used by them in constructing their own roofs.

I accomplish the objects of the invention by the means illustrated in the accompanying drawing, in which—

Figure 1 is a horizontal vertical section of a roof provided with my improved sheet-metal covering. Fig. 2 is a fragmentary view in perspective of a roof showing one of the joints in vertical section, and Fig. 3 is a section of one of the joints showing a slightly modified form of my device.

Like characters of reference indicate like parts throughout the several views of the drawing.

4 is the sheathing or roof board of any usual and suitable construction.

5 are the roof plates which are usually formed out of galvanized sheet-iron, the longitudinal dimensions of which extend from the eave to the ridge or comb of the roof, and it is to the means for joining the longitudinal edges of these strips to prevent leakage, that my invention particularly relates. One longitudinal edge of each sheet 5 is provided with a pair of parallel inverted V-shaped corrugations 6 and 7, the inner wall of the corrugation 6 being preferably a little nearer vertical than the corresponding wall

of the corrugation 7 for reasons which will presently appear. The edge having the corrugations 6 and 7 will be the under portion,—that is, the part that is overlapped by the edge of an adjacent sheet in making a joint. The opposite longitudinal edge of the sheet 5 will have a single longitudinal corrugation with oblique sides and flat top, of sufficient width between its sides to embrace both of the corrugations 6 and 7 of the adjacent sheet. The outer wall 8 will be of the same slope as the inner wall of the corrugation 7, but it will not extend into contact with the top surface of the sheet 5, by approximately a third of an inch, in order to allow for a considerable depth of rain-water on the upper surface of said roof plates before reaching the wall 8 where capillary action would begin between said wall 8 and the contacting wall of the corrugation 7. This eliminates much of the danger due to capillary action. The top 9 rests upon the apex of the corrugations 6 and 7, merging into an arch 10 and thence into the oblique inner wall 11 which connects with the body of the plate 5. The arch 10 produces a bead-like formation through which the nails 12 are driven for securing the roof plates to the boards 4. The location of the corrugation 6 under the arch or bead 10 supports and stiffens the latter for convenient nailing without danger of materially denting and battering the joint out of shape. The support afforded to the bead 10 by the corrugation 6 is increased by increasing the angularity of the inner wall of the corrugation 6, in the manner hereinabove mentioned.

It is important that the apex of the corrugation 6 be at one side of the bead 10 to guard against the possibility of the point of the nail 12 being deflected into the gutter between the two corrugations 6 and 7. The gutter 13 is intended and particularly adapted to collect any water passing by capillary action over into it between wall 8 and the supporting wall of corrugation 7, and should the nail 12 be deflected into the gutter 13 it would perforate the bottom of the gutter causing disastrous leakage. But by placing the apex of corrugation 6 to one side of the bead 10 the nail, after passing through the bead 10, will contact with the oblique wall of the corrugation 6 immediately under it,

and will pass directly through it in nearly every case, and if deflected at all it will be in a direction toward the body of the sheet 5.

The principal purpose for continuing the 5 outer wall of the corrugation 6 down into contact with the body of the sheet at the bend forming the wall 11 is to guide the bent edges of the sheets into their proper relative position with the apex of corrugation 6 10 at one side of the bead 10, and the wall 8 in contact with its supporting wall of the corrugation 7. The bead 10 clearly defines the line where all nails are to be driven, and by driving the nails at the top of the bead, in- 15 stead of more or less down on a sloping side as is frequently done, there is little or no chance for rain-water to leak through the nail-hole, because the nail-hole is located at the very top of the water shed where only 20 single vertical drops could pass through it.

In the modification shown in Fig. 3 the corrugation 7 is made lower than the corrugation 6 whereby a lateral slope is given to the top 9, which insures a more thorough 25 and rapid draining off of the rain-water.

Having thus fully described my invention, what I claim as new and wish to secure by Letters Patent of the United States, is—

A sheet metal roofing consisting of a plurality of metal sheets with overlapping 30 edges, each sheet provided along one edge with two inverted V-shape corrugations; the opposite edge of each sheet having a single corrugation with two sides and a top to embrace both corrugations of the sheet be- 35 low, the inner side and top of said single corrugation being joined by an arch forming an externally appearing bead, and the apex of the nearest underlying corrugation being approximately at the junction of the bead 40 and top of said single corrugation.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this, 11th day of July, A. D. one thousand nine hundred and eleven.

KARL ROTH. [L.S.]

Witnesses:

L. B. WOERNER,
F. W. WOERNER.