H. E. MOOMAW.

SHEET METAL ROOFING PLATE.

APPLICATION FILED JAN. 2, 1913.

1,090,330. Patented Mar. 17, 1914.

Fig. 1.

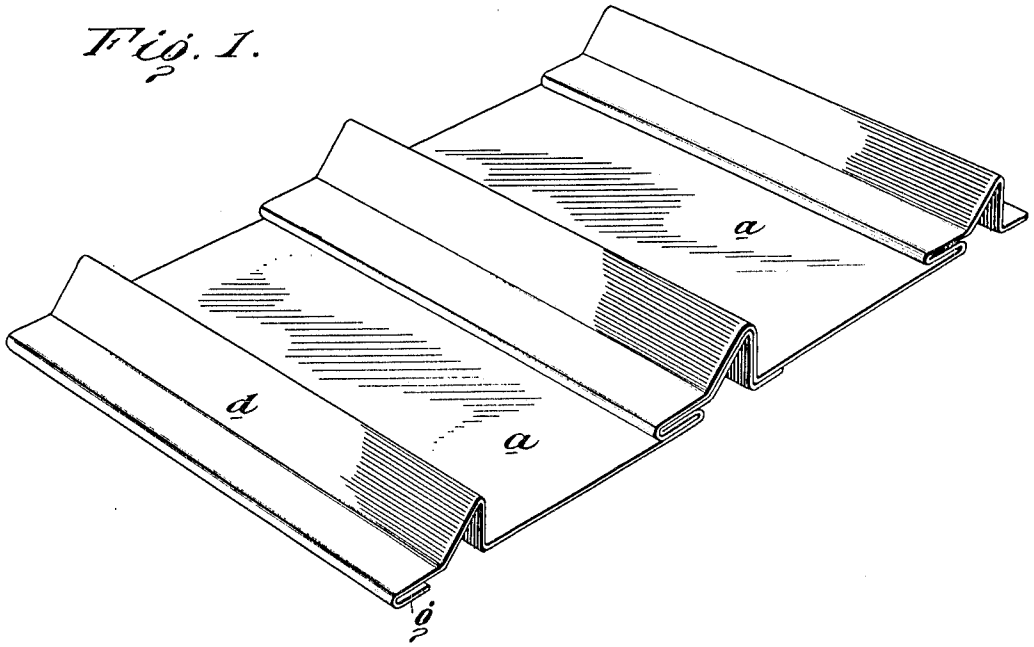


Fig. 2.

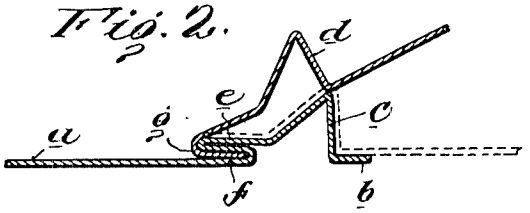


Fig. 3.

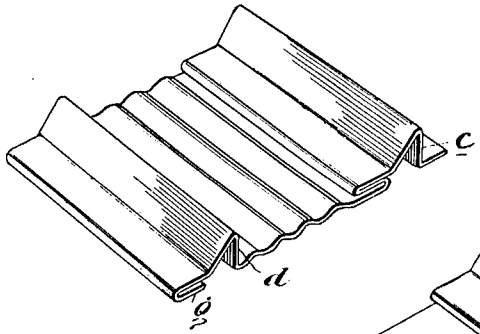


Fig. 4.

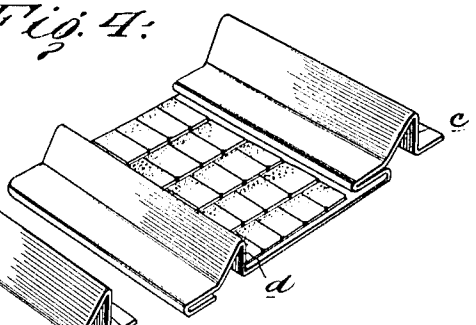
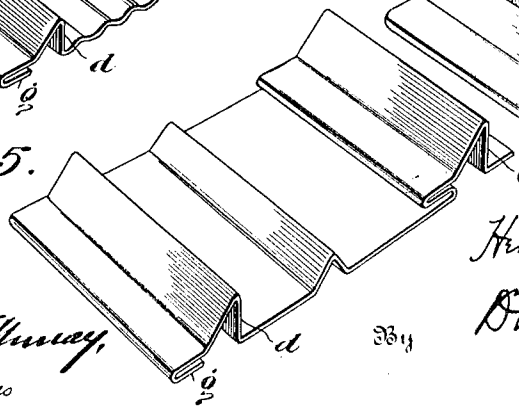


Fig. 5.



Witnesses

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SHEET-METAL ROOFING-PLATE.

1,090,330. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed January 2, 1913. Serial No. 739,779.

To all whom it may concern:

Be it known that I, HENRY E. MOOMAW, a citizen of the United States of America, and a resident of Chattanooga, county of Hamilton, State of Tennessee, have invented certain new and useful Improvements in Sheet-Metal Roofing-Plates, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of portions of a pair of roofing plates constructed and connected in accordance with my invention; Fig. 2 a vertical transverse sectional view showing the manner of interlocking adjacent plates; and Figs. 3, 4 and 5 detail perspective views showing the application of my invention to three different designs of roofing plates.

This invention has relation to that type of sheet metal roofing covered by my former Patent No. 1,021,844, dated Apr. 2, 1912, in which is shown and covered a sheet metal roofing plate having an upstanding ridge parallel with and a short distance from one edge and another similarly shaped and dimensioned ridge parallel with and a short distance from its other edge, the part of the plate outside of this latter ridge serving as a nailing flange, a longitudinal pocket-like channel being formed inside of and adjacent to this latter ridge and being less in height than the same, whereby the longitudinal edges of a series of such plates may be overlapped and interlocked and the ridges of each pair of adjacent plates fit closely upon each other their entire length to form a reinforced upstanding ridge. Since the grant of this patent this type of sheet metal roofing has been extensively manufactured and used and while it has proven of great practical and commercial value experience has shown that occasionally, by reason of the large sizes of the roofing sheets, the expansion of the sheets is so great as to disconnect or unlock the upper sheet, the shoulders presented by the ridge being inclined and thus permitting the upper sheet while expanding to ride up over the ridge of the lower sheet; and with that class of roofing plates which are ornamented with intermediate ridges or embossings, the flattening or mashing out of these pressed up embossings tends to widen the sheet sufficiently to disconnect the upper sheet from the lower one.

My present improvement is designed to so construct the interlocking joint as to prevent this disconnection of the plates, the construction being such that when the plates are once interlocked and nailed down it will be practically impossible to dislodge or disconnect them without first removing the nails in the nailing flanges.

This improvement will be best understood if it be kept in mind that this type of roofing plates is made in sizes very much larger than the well known metal shingles on the market, this type of roofing plate being designed to take the place of these comparatively small shingles.

In the drawing *a* designates the main part of the plate, *b* the nailing flange formed along one of the longitudinal edges of the plate, *c* the upstanding inverted V or U-shaped ridge formed adjacent to the nailing flange, *d* the second similarly shaped ridge extending along the plate near the opposite edge thereof. To this extent the plate is constructed similarly to the plate in my former patent. At the junction of the inner wall *c'* of the ridge *c* and the main part of the plate, there is formed a longitudinal fold *e*, being made by folding the metal of the plate upon itself. This fold extends the entire length of the sheet and projects away from the ridge, it being inclined upwardly with respect to the upper face of the plate *a*, thus forming a pocket or channel *f* between it and the roofing plate and which opens toward the ridge *d*. The other edge of the plate, that is, the edge of the plate beyond the ridge *d* is folded downwardly and backwardly upon itself to form a longitudinal channel *g* which lies underneath the plate and opens toward the adjacent ridge *d*.

It will be observed that when the edges of the sheets thus constructed are overlapped and interlocked in the manner illustrated, the ridge *d* fits closely down upon the ridge *c* and thus reinforce each other, while the fold *e* fits into the channel *g* and thus locks the free edge of the sheet to the previously nailed plate. It will be observed that by this interlocking arrangement it will be impossible to disconnect the plates by bulging them upwardly, so that high winds can have no effect upon the plates. It will be observed also that the proportions of the parts are such that when the edge of the sheet is started into the channel *f* the inner wall of the ridge *d* will just engage over the apex

of the ridge *c*, whereby when the upper plate is swung downwardly the inclination of the contacting walls of the ridges and the upward inclination of the longitudinal fold *e* will cause the plate to automatically seat itself in its locked position, in which position the walls of the channel *g* closely hug the fold *e* and the walls of the upper ridge *d* closely hug the under ridge *c*, thus making a firm and very rigid seam.

It will be observed that the wall *c*, that is, the wall of the ridge which is on the opposite side from the channel *f* is vertical, standing at approximately right angles to the body of the plate, and that the corresponding wall of the upper ridge is likewise arranged at right angles to the body of the plate. The object of this is to form a positive stop for the upper plate, so that undue expansion of the upper plate under extreme heat cannot unlock and release the upper plate by forcing its edge out of engagement with the lock fold *e*.

It will be observed also that should the roofing plates be embossed as shown in Figs. 3, 4 and 5 and these pressed up parts be flattened out by persons walking on the plates or otherwise, the vertical stop walls will prevent the upper plate being expanded sufficiently to disconnect the edges of the sheets.

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

A sheet metal roofing plate having an upstanding ridge extending along near one of its longitudinal edges, a portion of the plate outside of this ridge being folded under to form a hook like pocket or channel which opens toward said ridge, a second ridge similarly dimensioned and shaped formed along the plate near its other longitudinal edge, the portion of the plate outside this latter ridge forming a nailing flange, and a longitudinal rebent portion folded down at the junction of the plate and the base of the last named ridge to form a longitudinal pocket or channel which opens toward the first mentioned ridge, the walls of the ridges on the opposite sides from the pockets and channels and the hooks respectively being at substantially right angles to the body of the plate, whereby the interlocking parts of the sheets cannot be unfastened by expansion of the body-portion.

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

HENRY E. MOOMAW.

Witnesses:
W. A. Lee,
Sara Lee.