

# UNITED STATES PATENT OFFICE.

LONGLEY LEWIS SAGENDORPH, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO HARLAN P. LLOYD, OF SAME PLACE.

## METALLIC ROOFING.

SPECIFICATION forming part of Letters Patent No. 362,118, dated May 3, 1887.

Application filed December 8, 1886. Serial No. 220,967. (No model.)

*To all whom it may concern:*

Be it known that I, LONGLEY LEWIS SAGENDORPH, a resident of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Metallic Roofing, of which the following is a specification.

The object of my invention is to provide a means for uniting the shingles, sheets, or roofing-plates in metallic roofing.

Figure 1 is an end view of a metallic sheet illustrating certain features of my invention. Fig. 2 illustrates another portion of my invention, and is an end view of that side or edge of a sheet which is to be interlocked with the interlocking device shown in Fig. 1. Fig. 3 is an end view of the locking devices shown in Figs. 1 and 2 as interlocked and holding adjacent sheets together. Fig. 4 represents, in perspective, a sheet whose ridges are provided with secondary ridges or crowns, the edge or side of the sheet being formed according to my invention and illustrating the preferred manner of applying my invention in connection with said secondary ridges. Fig. 5 represents a transverse sectional view of the adjacent portions of sheets provided with ridges having secondary crowns and locked together according to my invention, and illustrating the preferred manner of applying my invention to sheets having secondary ridges or crowns.

My invention is applicable to sheets of metallic roofing provided with upright ridges of any description but is preferably used in connection with ridges which are surmounted by a secondary ridge or teat-crown.

A ridge, R, is formed immediately at the edge of the sheet. This ridge R has its free edge turned up within the ridge, forming the lip L. The other side of the sheet is first bent over onto itself, forming a double layer of sheeting, into which the ridge R' r is impressed a short distance from the edge, leaving a lip, A, extending across the entire edge of the sheet. The outer layer or ridge, r, over the ridge R', does not form a complete cover to the ridge R', but falls short of reaching the main body of the sheet.

In applying this roofing the sheet is first nailed to the roof through the lip A, as at z. The next sheet is attached to the first by catch-

ing the lip L under the free edge of the layer r, as shown in Fig. 3. This is accomplished by placing the sheets end to end, adjusting the parts, and pushing the second sheet onto the first one until it completely overlaps it. The layer r approaches close enough to the top of the sheet to prevent the lip L from working out under it. Sheets provided with this form of joint are very easily connected together, and form a joint which is absolutely impervious to water, and also provides for expansion and contraction. When desired, the ridges R and R' and r may each be provided with the secondary ridge e, shown in Figs. 4, 5, and 6. This secondary ridge e is preferably formed at the same time and in one operation with that one of ridges R or R' or r which it crowns and of which it forms a part.

The secondary ridge forms an additional preventive against water or moisture, which, when driven by the wind, rain, or other cause, may have a tendency to pass up under the ridge r and over the ridge R', and thence under the sheet or plate and into the building. The secondary ridge forms a barrier against such passage of water or moisture, and the grooves or creases between said secondary ridge and the metal of the ridge r entering said grooves or ridges carry off what little residue of water or moisture is not stopped by the outer or first portion of the ridge R'.

As heretofore mentioned, the secondary ridge e may, when desired, be omitted altogether, or it may be present in one or more of the main ridges R R' r, as desired.

In practice, one end or side of the sheet will be provided with the locking device consisting of the ridges R' r and lip A, with or without the secondary ridge or ridges e, and the opposite end or side of the same sheet be provided with ridge R and lip L, with or without the secondary ridge or ridges e, and the end or side of one sheet will interlock with the end or side of the adjacent sheet, substantially as already set forth.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. A sheet of metallic roofing having at one side a ridge with an inturned edge and at the other side having a ridge and a nailing-lip present in a double portion of the sheet, sub-



stantially as set forth, the end of the sheet being bent back, forming the nailing-lip, and then extending up over and around the ridge below and stopping short of the main portion of the sheet, substantially as and for the purposes specified.

2. A sheet of metallic roofing having the ridge R, provided with the lip L, lip A, and ridge R', having layer r, substantially as and for the purposes specified.

3. A sheet provided with ridge R', the edge of the sheet beyond the ridge being bent back and thence around over ridge R', forming lip A and ridge r, and the adjacent sheet provided with ridge R, whose edge is bent inward

and upward, forming lip L, the ridge R embracing the ridges R' r and lip L, extending under the ridge r, substantially as and for the purposes set forth.

4. A sheet of metallic roofing having the ridges R' r and provided with secondary ridge or ridges e, and lip A, in combination with the sheet having ridge R, provided with secondary ridge e and lip L, substantially as and for the purposes set forth.

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Witnesses:

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