(No Model.)

L. L. SAGENDORPH.

WATER PROOF JOINT FOR METAL ROOFING.

No. 426,627. Patented Apr. 29, 1890.

Fig. 1.

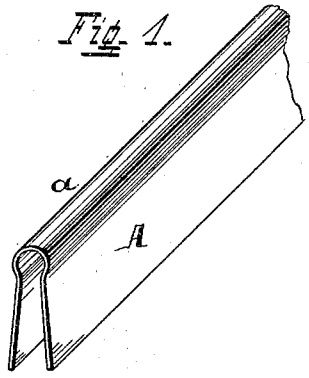


Fig. 2.

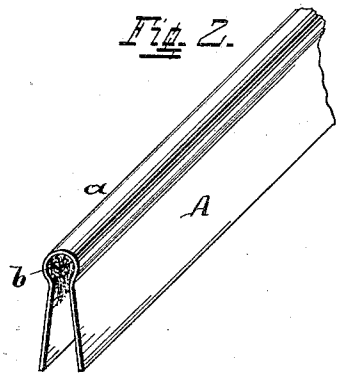


Fig. 3.

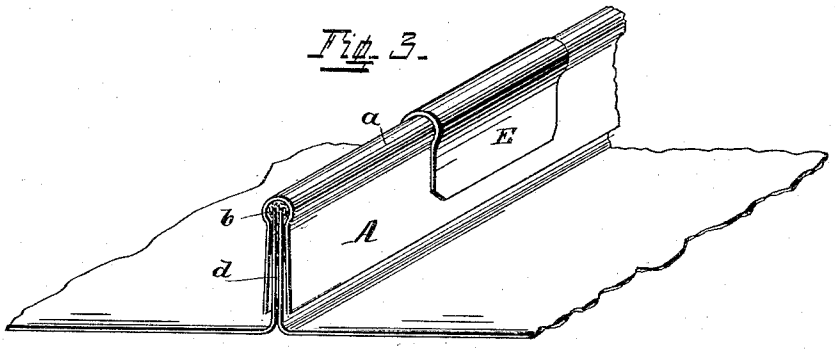


Fig. 4.

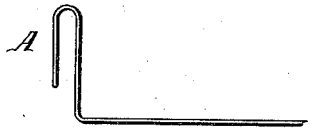


Fig. 5.

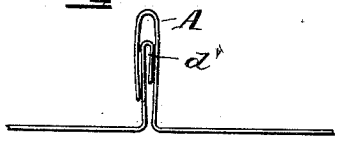


Fig. 6.

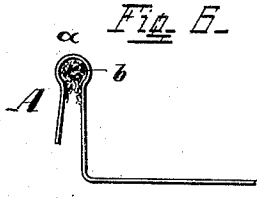


Fig. 7.

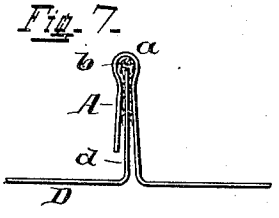
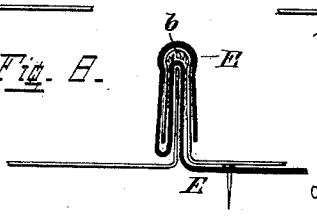


Fig. 8.



Attest
H. J. Hoking
H. S. Hartley

Inventor
L. L. Sagendorph
by Stuehli & Hill Atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LONGLEY LEWIS SAGENDORPH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES N. HARDER, OF PHILMONT, NEW YORK.

WATER-PROOF JOINT FOR METAL ROOFING.

SPECIFICATION forming part of Letters Patent No. 426,627, dated April 29, 1890.

Application filed February 6, 1890. Serial No. 339,483. (No model.)

To all whom it may concern:

Be it known that I, LONGLEY LEWIS SAGENDORPH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Water-Proof Joints for Metal Roofing, of which the following is a specification, reference being had to the accompanying drawings.

The primary object of my invention is to so construct or form the standing-seam joint between the metallic roofing-plates as that the same will be perfectly water-tight, in order that such a roof may be applied to a comparatively flat surface, as will more fully hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective view of the end portion of a separable cap as preferably constructed before the plastic cement is put to place, and Fig. 2 is a similar view showing the plastic cement in place ready for application to the side flanges of the roofing-plates. Fig. 3 is a perspective view of the end portion of a standing seam complete constructed according to my invention, the different parts, however, not being shown compressed as tight as in actual use in order to better illustrate my invention. Figs. 4 and 5 illustrate the old method of forming standing seams. Figs. 6 and 7 are cross-sections taken between the cleats, showing the application of my invention when the seam-cap is formed on one side of the roofing-sheet; and Fig. 8 is a cross-section taken through one of the anchor-cleats.

My invention, while designed more especially for use in connection with vertical standing seams, may be advantageously employed and may be used to render horizontal joints or seams water-tight, and is constructed and applied as follows:

The seam-cap A, whether made separate from or in connection with one side of the roofing-plate, is preferably made as shown—that is, partially tubular at its top portion *a*, in which any suitable plastic cement *b* is placed before placing the cap over the side flange or flanges of the roofing-sheet. The roofing-sheets D (when the seam-cap A is separable) are formed with the vertical side flanges *d*, the cap A fitting over said flanges, as shown in Fig. 3. When the cap is formed on one side of the roofing-sheet, said cap overlaps the side flange *d* of the adjacent sheet, as shown in Figs. 7 and 8. The roofing-sheets and cap are held to place by a suitable cleat E, nailed to the sheeting, as shown, and bent down over one flange *d* and then up and over the cap, as shown in Figs. 3 and 8.

The plastic cement *b* may be placed in the tubular top portion *a* of the seam-cap A before shipment, if desired, or after having arrived at its destination and just before being applied, the cement being of such a nature that it will not readily harden until spread out thin and exposed to the elements. The cement preferably employed in this connection is what is known as "silicate gum cement."

My invention is applied as follows: Having secured the cap over the side flange or flanges of the roofing-sheets and having secured the overlapping cleats to place, said cap, cleats, and flanges are tightly compressed with suitable tongs, which operation causes the surplus cement in its plastic form to run down and spread itself in between said flanges and the inner face of the cap, in which position it will readily harden, and thus render the seam perfectly water-tight.

The advantages of my improvement are many. By using the plastic-cement filling I am able to dispense with the double seaming of the roofing-flange, as shown at *d'* in Fig. 5, which is essential in the old construction. The plastic cement will answer all purposes of solder and is much more secure in case of fire. The caps, when made separate from or in connection with the roofing-sheet, will admit of the plastic cement being shipped with the roofing ready for application. The standing seamed roof, when provided with the water-proof cement, may be applied to a comparatively flat surface—a feature not heretofore attained, as the water in case of a hard rain or melting snow would enter between the flanges and cap and cause the roof to leak.

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

1. As a new article of manufacture, a seam-cap A, having its top portion *a* of a tubular shape, said tubular portion being filled with plastic cement, as and for the purposes set forth.

2. The water-proof joint for metal plates herein shown and described, consisting of a cap A, having along its inverted portion the tubular bend *a*, in which the plastic cement *b* is placed, said cap overlapping the side flange of the roofing-sheet and held to place by a suitable cleat nailed to the sheeting and overlapping the side flange of the plate and cap, substantially as set forth.

LONGLEY LEWIS SAGENDORPH.

Witnesses:
E. P. HOYT,
P. D. SHELMIRE.