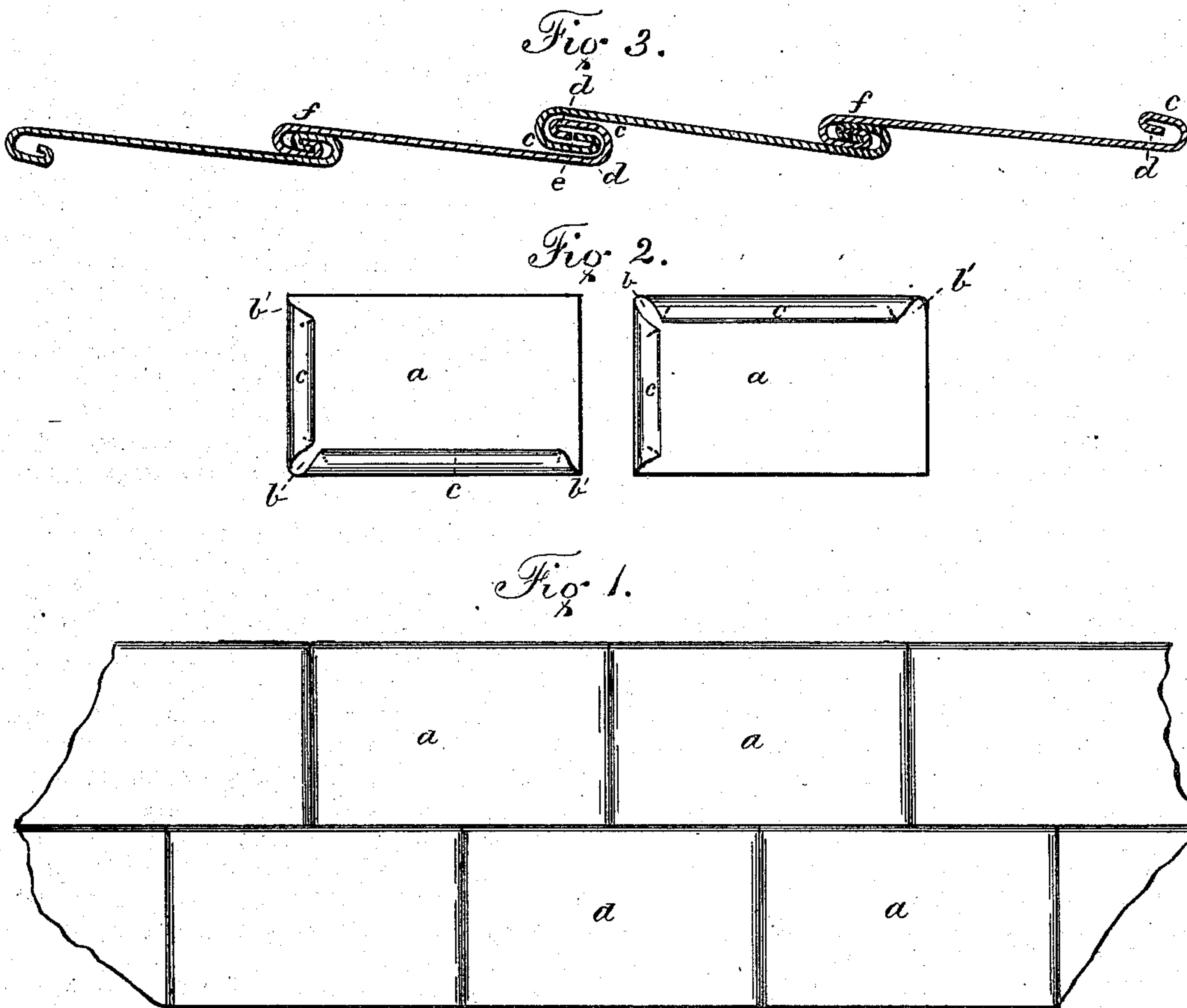


M. WILES.
Metallic Roofing.

No. 154,973.

Patented Sept. 15, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

MOSES WILES, OF COSHOCTON, OHIO.

IMPROVEMENT IN METALLIC ROOFINGS.

Specification forming part of Letters Patent No. **154,973**, dated September 15, 1874; application filed June 18, 1874.

To all whom it may concern:

Be it known that I, MOSES WILES, of Coshocton, in the county of Coshocton and State of Ohio, have invented certain new and useful Improvements in Metallic Roofing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to metallic roofs, constructed with oblong or square sheets of metal; and consists in the peculiar construction of a double hook on each of the four edges of said sheets, and on the upper and under sides thereof, the hooks on opposite edges being turned in opposite directions, in the manner and for the purpose hereinafter more fully set forth.

In the drawings, Figure 1 is a plan view of a portion of roof completed. Fig. 2 shows the upper and under sides of one of the sheets of metal constructed according to my invention; and Fig. 3 is a sectional view, either vertical or longitudinal, of a portion of my roof.

a are the sheets of metal. In preparing the sheets I cut off each corner, which gives to said sheets an octagonal form. Then, by means of machinery adapted to the purpose, I turn over the edges so as to form the hook *c*, and inner hook *d*, the hooks on opposite edges being turned in opposite directions. When the hooks are formed the spaces *b b'* will be left at the corners. The double hooks are constructed with the inner part *d* turned at a short angle, parallel to, and so as to be half the length of, the outer part *c*. The outer part *c* is placed at such angle that space sufficient intervenes between the metal sheets and inner hooks *d* as to permit the latter to pass each other in the act of interlocking the sheets to form the roof.

The metallic sheets, when being laid to form the roof, are interlocked in the usual manner by drawing the hook on one sheet within the hook on the other; the inner hooks are then engaged, the points passing, as shown at *e*, and drawn and locked, as shown at *f*.

In laying the sheets on the base-boards, I begin at the eaves, and, by preference, at the

right-hand side, and lay in rows across the roof. The sheets in the first row do not have turned on them the double hooks on the side next to the eaves, as this side is used to secure the sheets to the base-boards. The sheets are laid one at a time, and so that the double hooks on the upper and left-hand edges shall be above. Each sheet, as laid, may be nailed at the corner in the space *b*, so that when the next row is laid the sheets therein overlap and cover the nail-heads. The first row being completed, the second is attached, the under double hooks of the second overlapping the upper flanged hooks of the first, and joining, as shown in Fig. 3, at *e* and *f*. The spaces *b b'* permit the corners of the sheets to pass and overlap, and form a close joint. Each row of sheets is laid so as to break joint with the preceding row. The roof being covered, the seams are hammered down in the usual manner and soldered.

It will be seen that when the roof is completed there are six thicknesses of metal in each seam. This gives greater strength to the roof, and obviates the difficulty so often experienced in the cracking and bursting of the solder by the action of heat and cold. It will be readily seen, further, that when the seams are hammered down, as at *f*, it would be almost impossible for leakage to take place, even though no solder should be used.

The interlocking of the hooks *d* gives greater firmness to the roof, and is a complete preventive of the drawing out of the seams so often experienced in roofs laid in the ordinary manner.

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

In the construction of a metallic roof, the sheets *a*, having formed on the opposite edges and reverse sides thereof double hooks, composed of the outer hook *c* and inner hook *d*, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

MOSES WILES.

Witnesses:

E. W. JAMES,
WARREN CLEMMENS.