J. C. Woodin,

Metallic Roofing,

No. 3,157. Patented July 8, 1843.

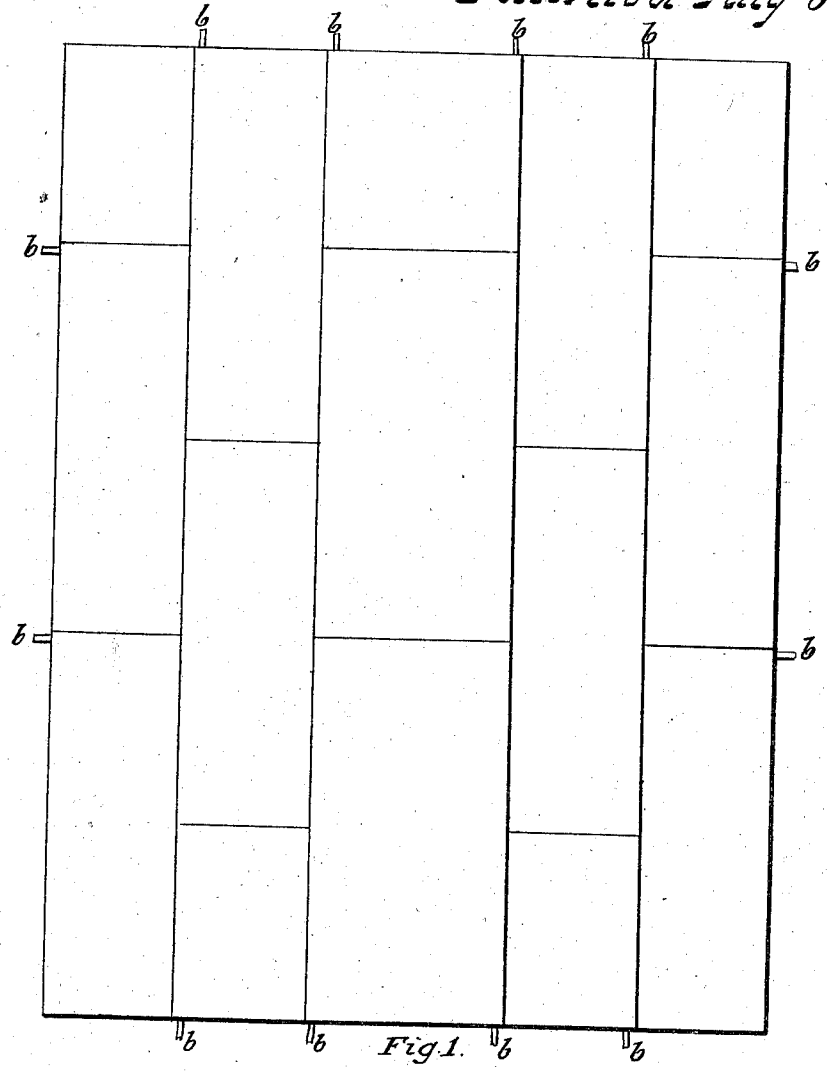

Fig. 1.

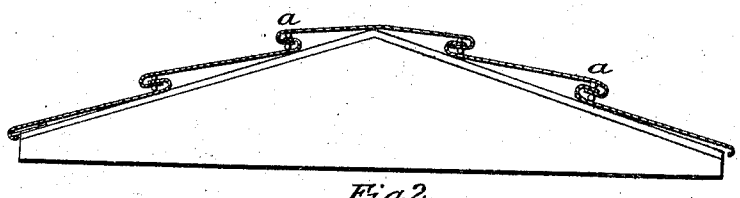

Fig. 2.

UNITED STATES PATENT OFFICE.

JNO. G. WOODIN, OF CINCINNATI, OHIO.

MANNER OF CONSTRUCTING METAL ROOFING FOR HOUSES.

Specification of Letters Patent No. 3,157, dated July 8, 1843.

To all whom it may concern:

Be it known that I, JOHN G. WOODIN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in the Manner of Constructing Metal Roofing, such as of Tin-Plate, Iron, Zinc, or other Metals Used for That Purpose; and I do hereby declare that the following is a full and exact description thereof.

The main difficulties in the construction, or covering, of roofs with sheet metal arise, first, from the expansion and contraction of the material by changes of temperature; in consequence of which when the plates are soldered together, or otherwise permanently secured, the joints are frequently torn apart, the metal is loosened and leakage produced; and secondly, from capillary attraction, in consequence of which moisture passes upward and laterally through the lapped joints, or seams, producing a like effect Numerous plans have been devised to obviate these difficulties, some of them requiring much care and expense in carrying them out, while the work has generally been liable to derangement and injury from persons walking on the roof, or from other causes; the greater number of them have, however, been found not to answer the desired purpose. My improvement not only renders the joinings perfectly water-tight, without the use of solder, but admits of the seams being closed down, of the roof having no more inclination than is requisite to carry off the water, and of its being walked upon without liability to injury.

To effect this, I seam, or turn over, the edges of the plates of metal, so that they will lap, hook, or lock, together, in a manner well known to workmen; between each lap I then insert a cord of any suitable kind of yarn, a narrow strip, or list, of cloth, or other fibrous substance which can be conveniently stretched along the whole length of the lap, or seam and which should be saturated with white lead paint, or other like material; the metal is then to be closed down along the seams so as to embrace the fibrous substance in the middle of the lap; and, when well flattened, the fibrous substance will effectually prevent the passing of water from capillary attraction; while, by its elasticity, it will give all the required freedom of motion, so as to enable the plates to expand and contract without any danger of injury from this cause.

In the accompanying drawing, Figure 1, is a plan of a roof; and Fig. 2, a vertical section through the ridge thereof, from side to side.

In Fig. 2, the metallic plates are shown as not flattened down in the seams, but as being ready therefor, *a*, *a*, *a*, *a*, showing the cord, or strip, of elastic material which is to be stretched from end to end in each of the seams. In Fig. 1, the ends of these yarns, or strips, are shown as projecting out at *b*, *b*, *b*, *b*.

Having thus, fully described the nature of my improvement in the manner of covering roofs with sheet metal so as effectually to render them proof against the infiltration of water, and at the same time to admit of the necessary expansion and contraction of the metal, what I claim therein as new, and desire to secure by Letters Patent, is—

The insertion in the laps of each seam of a cord of any suitable kind of yarn; a strip of cloth, or other appropriate fibrous material, and the confining the same in place by flattening down the seams, as herein fully set forth and made known.

JOHN G. WOODIN.

Witnesses:
M. P. CASSILLY,
GEORGE POTTS.