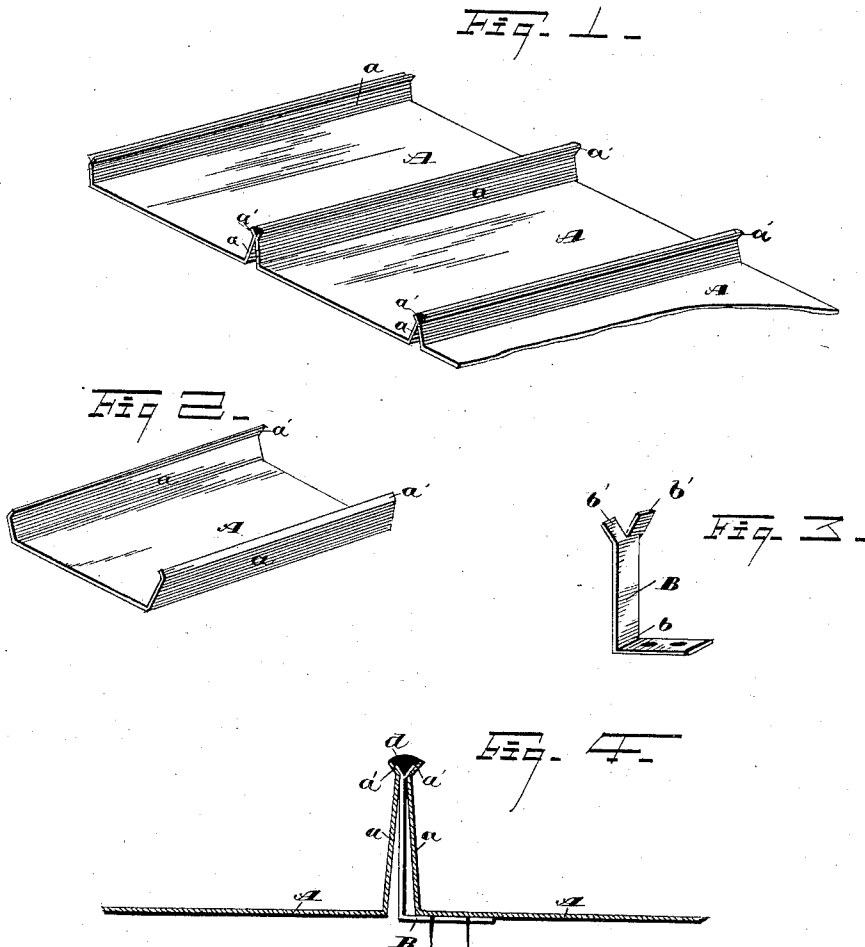


(No Model.)

B. GOODMAN.
METAL ROOFING.

No. 319,228.

Patented June 2, 1885.



WITNESSES

Wm. H. Monroe
Geo. W. King

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UNITED STATES PATENT OFFICE.

BENEDICT GOODMAN, OF AUBURN, INDIANA.

METAL ROOFING.

SPECIFICATION forming part of Letters Patent No. 319,228, dated June 2, 1885.

Application filed March 31, 1885. (No model.)

To all whom it may concern:

Be it known that I, BENEDICT GOODMAN, of Auburn, in the county of DeKalb and State of Indiana, have invented certain new and useful Improvements in Metal Roofing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in metal roofing; and it consists in certain features of construction, and in combination of parts hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in perspective of a portion of roofing embodying my invention. Fig. 2 is a view in perspective of a portion of a detached plate of roof. Fig. 3 is a view in perspective of a securing-cleat. Fig. 4 is an elevation in transverse section of a portion of two plates and securing-cleats, illustrating the finished work.

A represents metal sheets that are arranged lengthwise up and down the slope of the roof. These sheets at *a* are turned up at the edges an inch or two, more or less, according to the width of the sheet, but are not bent quite at a right angle, so that when two sheets are brought together at the top they will be separated at the bottom, as shown in Fig. 4. This arrangement allows the sheets to expand or contract without breaking or straining the joints. The extended edges at *a'* are bent back, as shown, so that when two sheets are brought together a slight V-shaped trough is formed for soldering. (See Fig. 4.)

B are cleats bent at right angles at *b*, and provided with holes for securing the cleat to the roof. The upright part of the cleat is slitted a short distance, and the ends *b'* are bent in opposite directions, so that when the cleat is in position between two sheets the ends *b'* will conform to the inside of the trough. The slitting and bending of the ends of the cleats is not essential; but the soldering is more conveniently done when they are arranged in this manner.

In constructing the roof we will suppose that the plate on the left hand in Fig. 4 has been secured. The cleats are arranged in position at suitable intervals and nailed to

the roof-boards. Next the sheet at the right hand is brought in position and the slight trough at the top is filled with solder, that is preferably left crowning at the top, as shown at *d*, Fig. 4. The solder secures the sheets to each other and secures the cleats to both. In soldering these troughs the workmen may hold the upright parts *a* together with tongs or other suitable tools, so that the two sheets at the bottom of the trough are in actual contact, except at a very short distance on either side of the cleats. The cleats are usually narrow strips of tin or other suitable metal, and although sufficient in tensile strength to hold the plates down are quite flexible, and do not therefore interfere with the expansion or contraction of the plates. The joints therefore are not strained or the sheets buckled by contraction and expansion. The slight trough presenting upward is in the most convenient position for soldering, and the roof can be laid with very little labor, and when completed is not liable to leak or get out of order.

I am aware that it is not new to form a trough at the meeting edges of the metallic roofing-plates, fillingsaid trough with a packing of wick, covering the trough with a sheet-metal cap and securing cleats to the plates and to the roof, and hence I make no claim to such construction.

What I claim is—

In metal roofing, metal sheets bent upward along the edges at something less than a right angle, the extreme edges bent farther back, so that two abutting sheets will form a slight trough presenting upward so-called "cleats" consisting of metal strips secured to the roof-boards and extending up between contiguous plates, the cleats preferably slitted at the upper end and the parts bent to conform to the sides of the trough, and the parts secured by soldering in the trough, the solder extending flush with or crowning above the edges of the trough, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 24th day of March, 1885.

BENEDICT GOODMAN.

Witnesses:

EPHRAIM J. LESH,
GEORGE C. RALSTON.