J. B. DAVIS.

METALLIC ROOFING.

No. 104,713. Patented June 28, 1870.

Fig. 1.

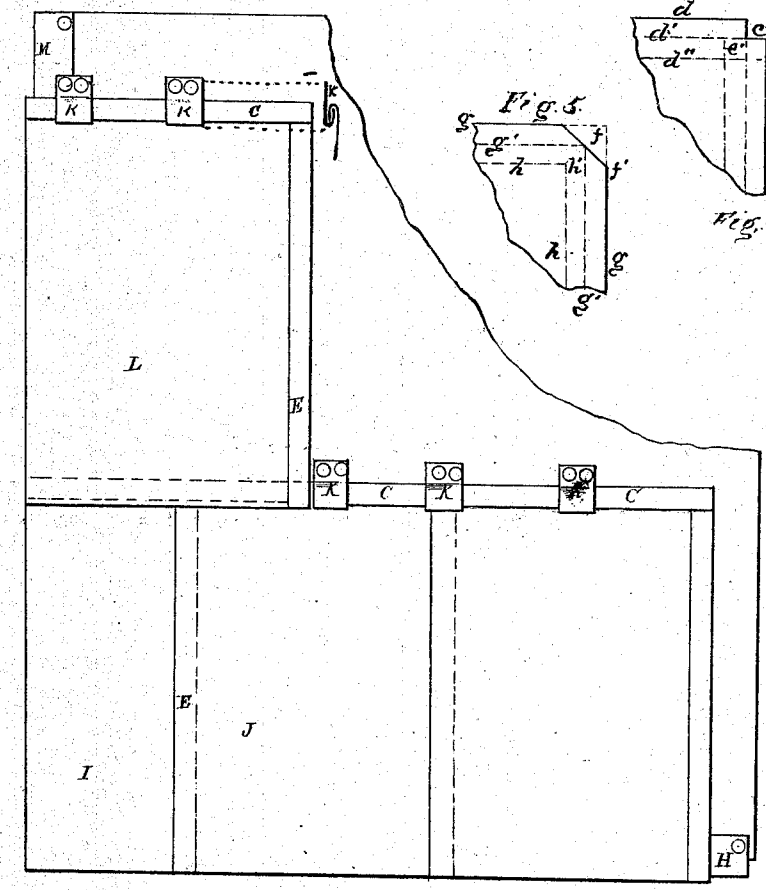


Fig. 5.

Fig. 4.

Fig. 2.

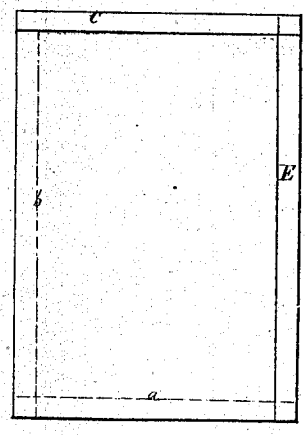
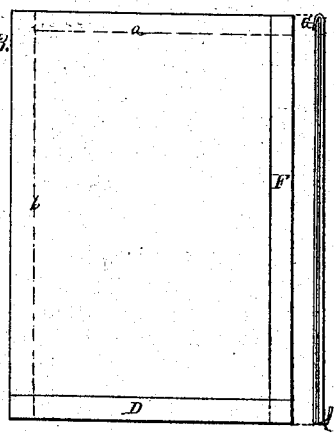


Fig. 3.



Witnesses.

D. L. Humphrey.

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Inventor

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Ri Apr 21 1870

UNITED STATES PATENT OFFICE.

JOHN BOON DAVIS, OF CLEVELAND, OHIO.

IMPROVEMENT IN METALLIC ROOFING.

Specification forming part of Letters Patent No. **104,713**, dated June 28, 1870.

To all whom it may concern:

Be it known that I, JOHN BOON DAVIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Roofing; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawing, marking part of this specification.

Drawing.

Figure 1 is a view of the roof with the sheets attached thereto. Fig. 2 is a side view of a sheet of roofing; Fig. 3, a view of the opposite side of Fig. 2; Figs. 4 and 5, detached sections.

Like letters of reference refer to like parts in the different views.

Objective.

This invention relates to the attachment of sheets of metal to the roof-boards of buildings by means of clamps of metal, whereby they are attached to the boards and by means of laps turned upon the ends and sides of the sheets, whereby they are locked to each other, as hereinafter more fully described.

Descriptive.

In Fig. 1, A represents the roof-boards, to which the sheets B are attached. It will be observed that the ends of each sheet are turned upward and over upon itself, forming a narrow lap, C, Fig. 2, on each side, and a similar lap, D, Fig. 3, upon the other; each of the laps is also indicated by the dotted lines *a*. The sides of the sheets are also turned in like manner, forming a lap, E, Fig. 2, on one side, and a lap, F, Fig. 3, upon the other, and which are also indicated by the dotted lines *b*. An end view of said laps is shown at G, Fig. 3.

Sheets of metal thus prepared with overlapping edges are laid upon the roof as follows: A strip of metal, H, Fig. 1, is first nailed along the edge of the roof, so that it shall project slightly therefrom. Now, at the lower left-hand corner, is laid the first sheet I, in such way that the under lap D shall embrace the projecting edge of the strip H, which will hold the lower end of the sheet close and securely to the roof-boards. A second sheet, J, is now laid, the underlap of the end embracing the strip H and the underlap F of the side locking into the upper lap E of the side, as shown in Fig. 1.

By this it will be seen that each successive sheet laid overlaps the preceding one, and is locked thereto by the upper lap of the preceding sheet and the underlap of the succeeding one, thereby forming a single lock-seam joint of easy construction, durable, and close. The upper end of the sheets is fastened to the roof by a clamp of metal, K, Fig. 1. The end of said clamp is bent, so as to lock into the lap C of the sheet, whereas the opposite end is nailed to the roof-boards, as shown in the drawing.

By this means the upper end of the several sheets is simply and securely fastened to the boards, and which also serve to hold the lower end of a second course of sheets, which are laid as follows: Beginning at the left-hand, as before, the underlap D of the end is locked into the upper lap C, as shown in Fig. 1, L being the first sheet in the second course; a second sheet is now laid, by locking the ends and sides in the manner as above described, and so on through the entire number of courses necessary to cover the building.

It will be observed that the sides of the sheets are secured to the ends of the roof by a strip of metal, M, in like manner as on the ends along the eaves of the roof. At the corners of the sheets, where leakage is most liable to arise, owing to its weak point of construction and way of forming the joint in the ordinary is avoided with my mode of making these corners double-lapping in place of seaming at the angle, as is usually done. From each corner of the plate I cut out a piece, as seen at *c*, Fig. 4, forming a right-angle notch; then a flange or lap is formed by bending the section *d* of the plate along the line *d'* until the edge *d* laps onto the line *d''*; then the section *e* of the plate is folded in the same way, which makes a strong joint at the corners *e'*, where there is, by this means, a double thickness of plates, which gives increased strength to the roof, and security against infiltration or leakage. In the ordinary way, as shown in Fig. 5, a piece is cut from each corner of the plate noted at *f*, to the line *f'*, which leaves the corner exposed, as the section *g* of the plate is poled down along the line *g'*, to form a lap indicated

by the lines *h h*; hence, there is a slit or seam at the line *h'*, where the two laps meet together, and an opening at the extreme point of this slit; in this case the laps do not fold down one upon the other, as seen in Fig. 4; hence the joint at *h'* is imperfect, and cannot be made as durable and proof against leakage as that shown in Fig. 4.

In this manner of laying the sheets and securing them to the roof-boards no nails are exposed to the weather, neither are the sheets of metal nailed, they being entirely held by means of the clamps K in a permanent and secure manner, all the fastenings being covered by the lapping of the sheets; hence, they are not only protected from observation and liability to be torn up, but also secluded from the weather, making the attachment of a strong and durable character.

Claim.

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

The arrangement of the metallic roofing of plate, having side laps E F, reversely to each other, laps C D, also in reverse, with the double-lapped corners at *e'*, in combination with the hooked clamp K, as substantially set forth.

JOHN BOON DAVIS.

Witnesses:
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