

(No Model.)

C. B. COOPER.

SHEET METAL ROOF VALLEY.

No. 287,632.

Patented Oct. 30, 1883.

Fig: 1.

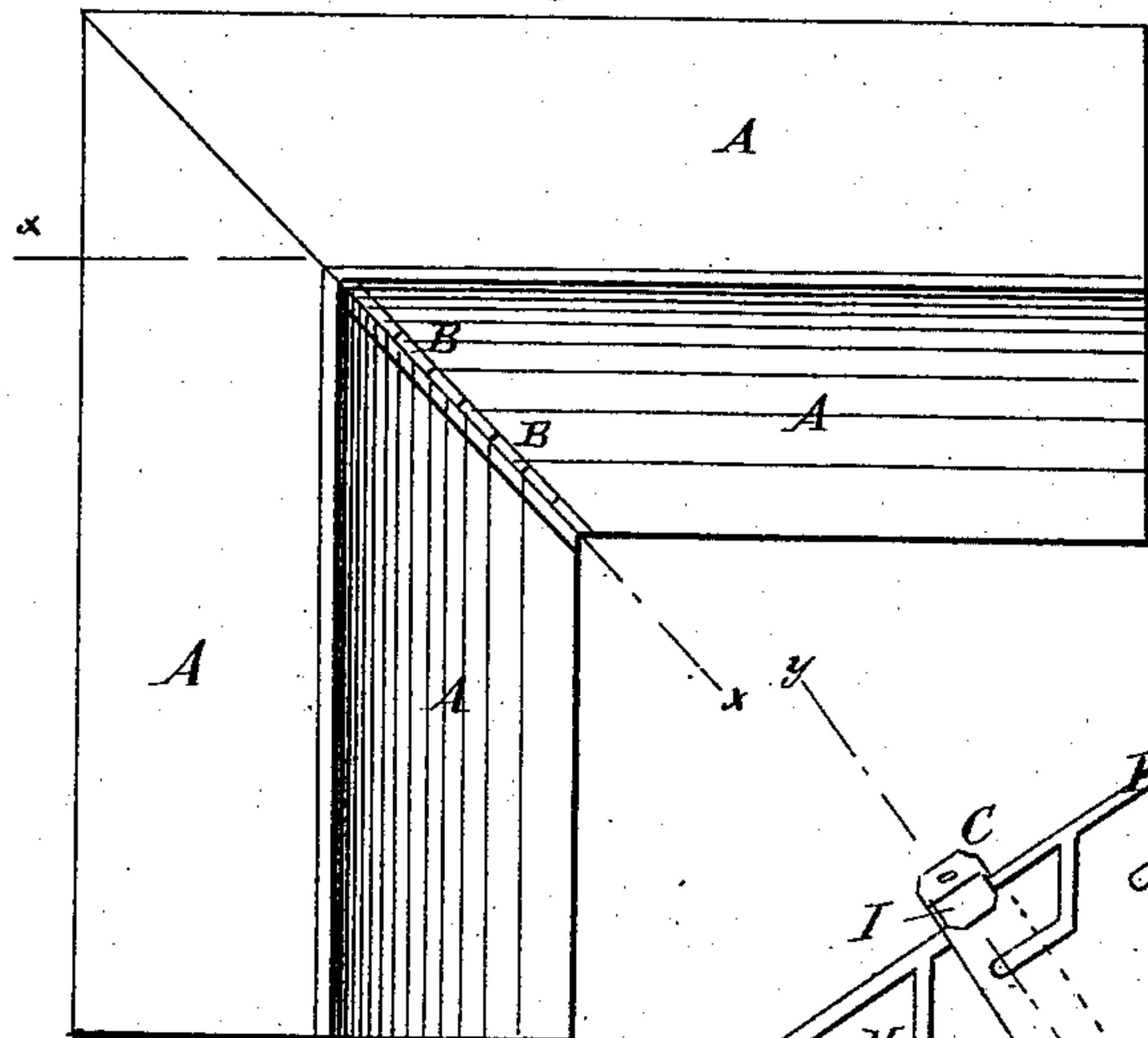


Fig: 2.

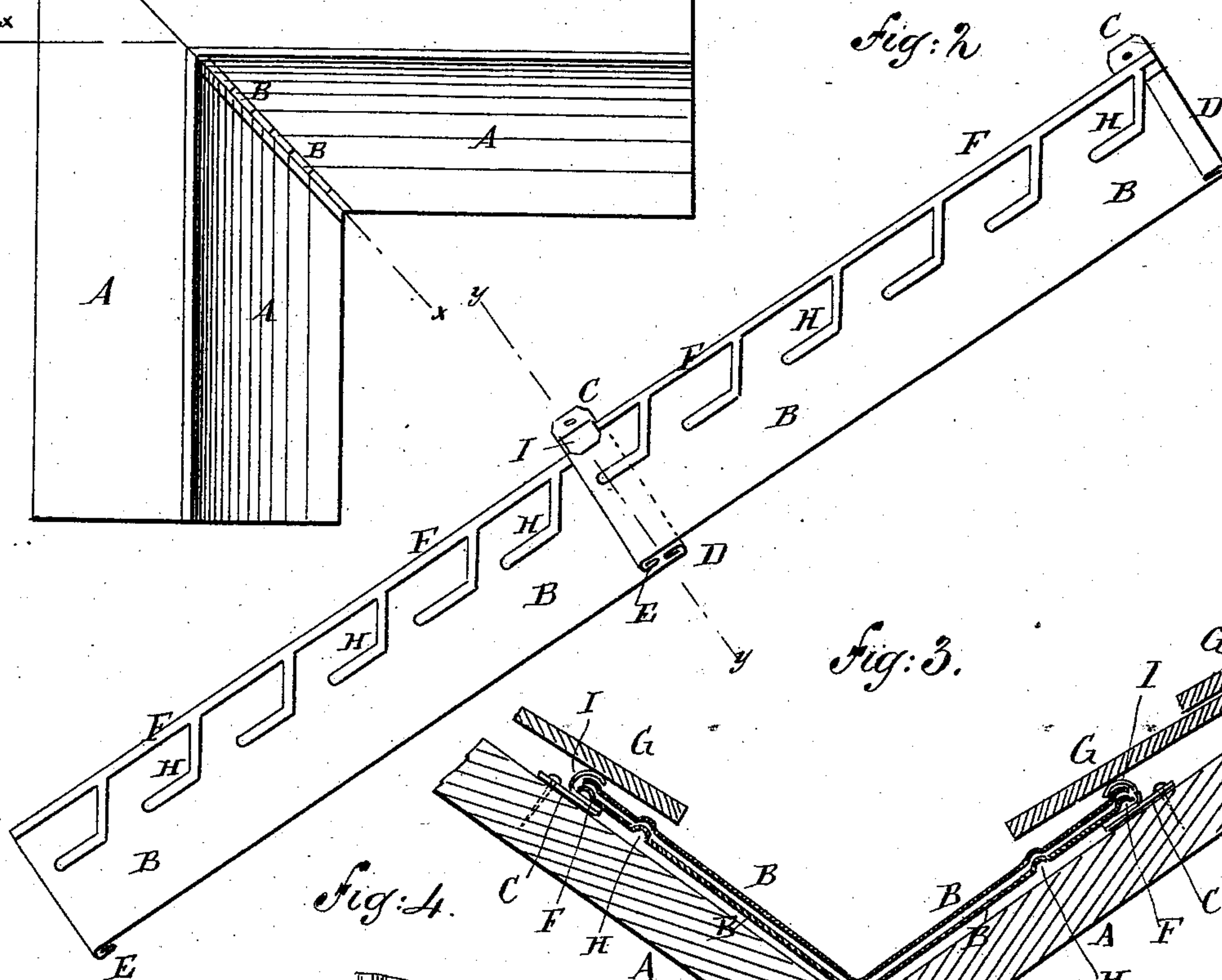


Fig: 3.

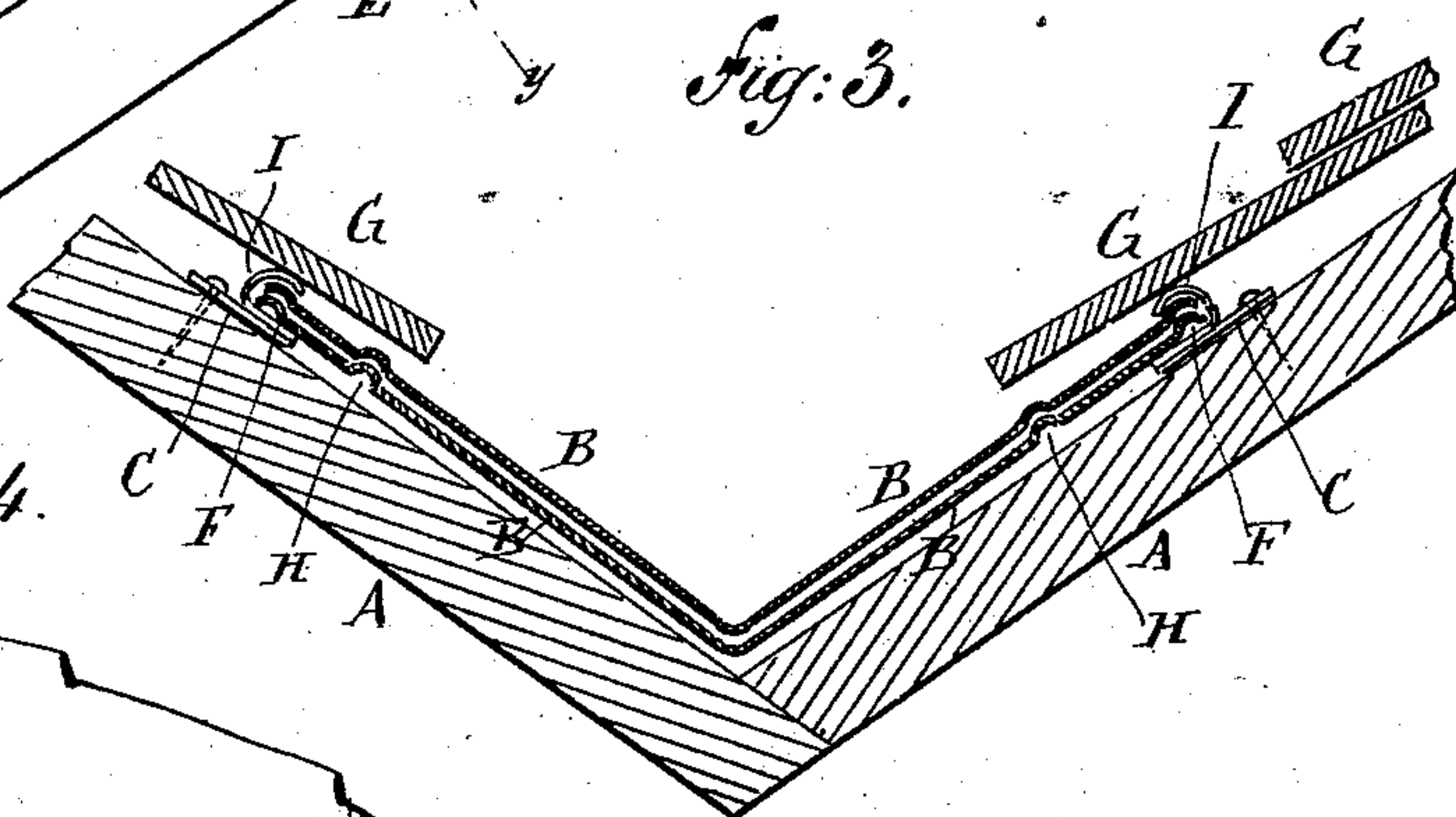


Fig: 4.

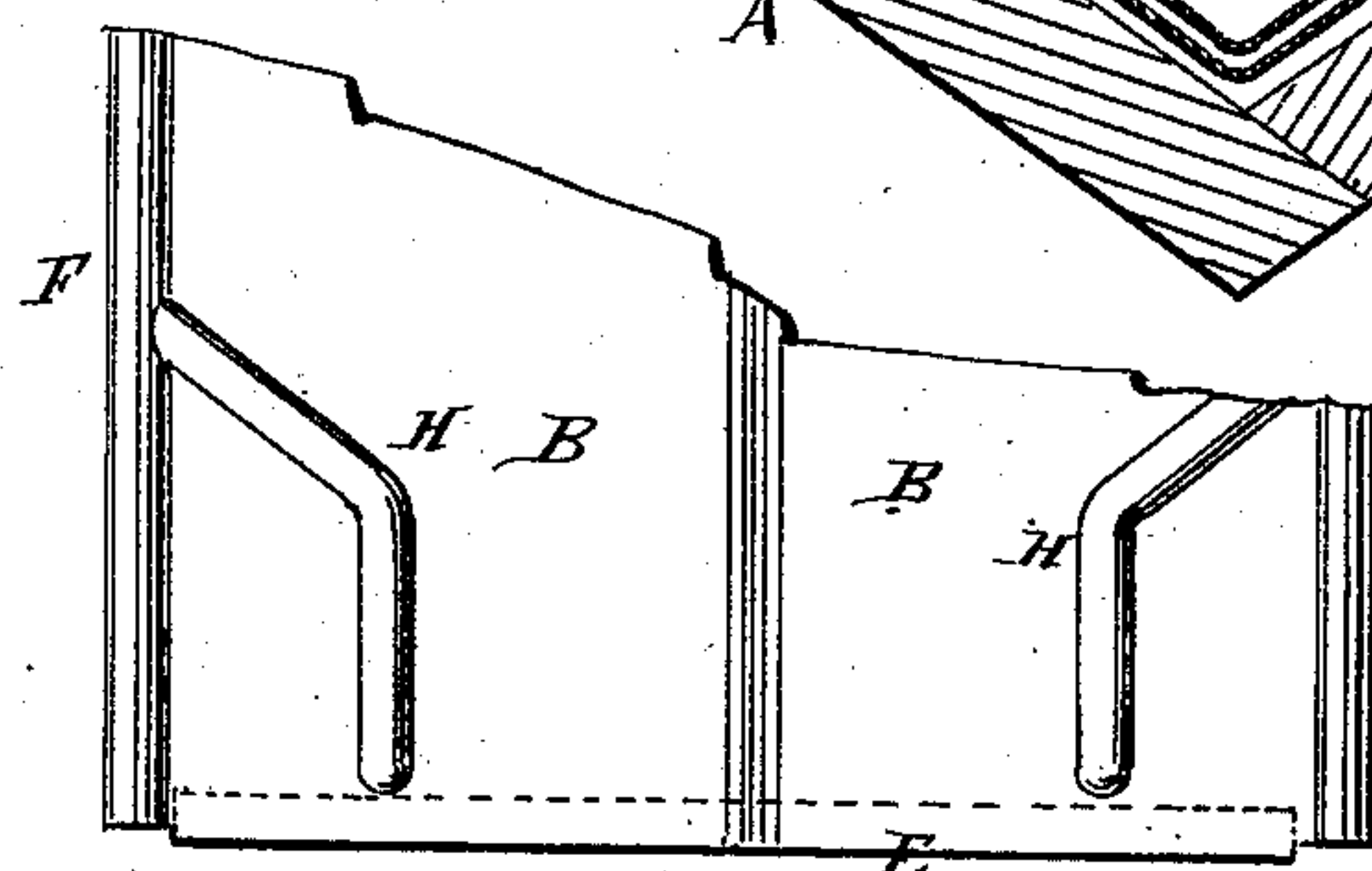
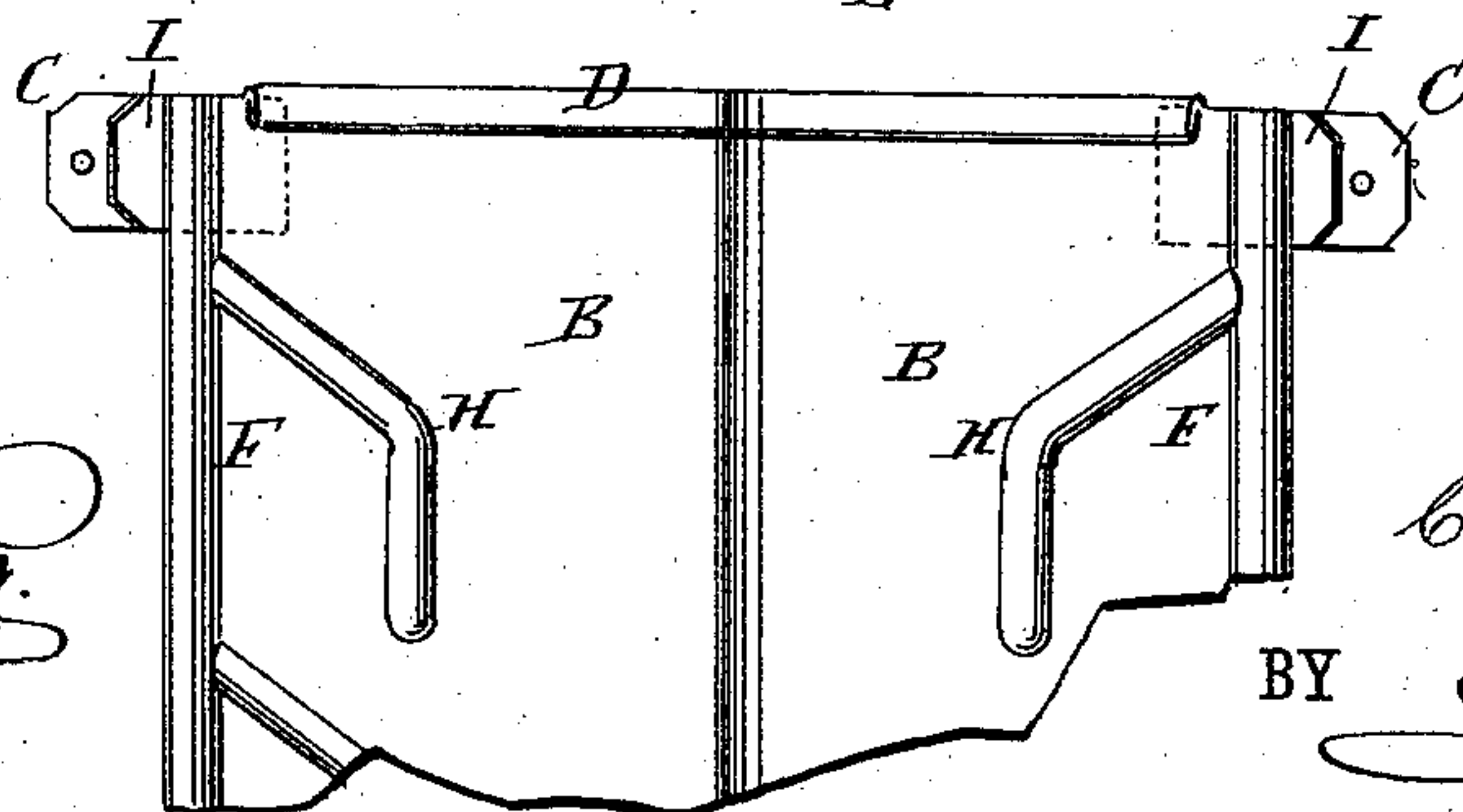


Fig: 5.



WITNESSES:

Chas. Nida.
C. Sedgwick

INVENTOR:

C. B. Cooper

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES B. COOPER, OF NASHVILLE, TENNESSEE.

SHEET-METAL ROOF-VALLEY.

SPECIFICATION forming part of Letters Patent No. 287,632, dated October 30, 1883.

Application filed August 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BARCLAY COOPER, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Sheet-Metal Roof-Valleys, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improvement, shown as applied to a roof. Fig. 2 is a longitudinal section of my improvement, taken through the line *x x*, Fig. 1. Fig. 3 is a cross-section of the same, enlarged, taken through the line *y y*, Fig. 2, and showing a part of the roof-boards and shingles in section. Fig. 4 is a plan view of the lower end of a valley-section enlarged. Fig. 5 is a plan view of the upper end of a valley-section enlarged.

The object of this invention is to facilitate the construction of roof-valleys and promote reliability in the use of such valleys.

The invention consists in sheet-metal roof-valleys made in sections, with upwardly-projecting beads along their side and upper end edges, a downwardly-projecting bead at their lower end edge, and pairs of lugs at their upper corners, whereby the overflow of water will be prevented, the shingles will be kept out of contact with the upper surfaces of the sections, and the sections can be readily secured to the roof-boards and to each other, as will be hereinafter fully described.

A represents the roof-boards, which meet at an angle and form a valley or gutter, as shown in Figs. 1 and 3.

B are strips of sheet metal bent longitudinally at such an angle that they will fit into the angle of the roof-boards A, as shown in Fig. 3. The sections B are laid with the lower end of each upper section overlapping the upper end of the next lower section, as shown in Fig. 1.

To the upper corners of each section B are attached lugs C, which project in such directions as to lie squarely upon the roof-boards A, and are perforated to receive the nails that secure them to the said roof-boards. With this construction the sections B are fastened at their

upper ends only, and are thus free to expand and contract without affecting their position upon the roof-boards. The upper end edge of each section is flanged or bent over upward upon itself, forming an upwardly-projecting bead, D, and the lower end edge of each section is flanged or bent over downward upon itself, forming a downwardly-projecting bead, E. The beads D E, when the adjacent ends of the sections B are overlapped, will be at a little distance apart, leaving an air-space between them, and preventing the water passing down the valley from flowing over the upper edges of the lower sections, and thus getting access to the roof-boards.

Along the side edges of the sections B are formed upwardly-projecting beads F, upon which the shingles G, metal plates, or slates covering the roof, rest and receive a firm support. The beads F also prevent the water from flowing over the side edges of the sections B beneath the shingles G and wetting the roof-boards A. Another advantage of the beads F is that they prevent the parts of the shingles that overlap the side parts of the sections B from resting upon a flat surface, and thus retaining moisture, and causing it to pass over the edges of the said sections B by capillary attraction.

If desired, branch beads H may be formed extending inward from the beads F, and bent downward toward the lower ends of the sections B, as shown in Figs. 2, 4, and 5, to offer an additional safeguard against the passage of water over the side edges of the said sections B. The free lower end of each upper section, B, is held down upon the upper end of the next lower section by lugs I, attached to the upper corners of each section, and which are bent down over the side edges of the lower ends of the upper section, as shown in Figs. 2 and 3, so that the said lower ends will be held securely in place.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. Sheet-metal roof-valleys made in sections, substantially as herein shown and described, with upwardly-projecting beads along their side and upper end edges, a downwardly-projecting bead at their lower end edge, and pairs of lugs at their upper corners, as set forth.

2. In sheet-metal roof-valleys, the upwardly-projecting beads F, formed along the side edges of the valley-sections B, substantially as herein shown and described, whereby the shingles will be supported and the overflow of water will be prevented, as set forth.

3. In sheet-metal roof-valleys, the beads D E, formed upon the ends of the sections B, substantially as herein shown and described, to prevent water from flowing back between the overlapped ends of the sections, as set forth.

4. In sheet-metal roof-valleys, the upwardly-projecting branch beads H, formed in the

sides of the sections B, near the longitudinal beads F, to offer an additional safeguard against the overflow of water, as set forth.

5. In sheet-metal roof-valleys, the combination, with the sections B, of the pairs of lugs C I, substantially as herein shown and described, whereby the said sections can be readily secured to the roof-boards and to each other, as set forth.

CHARLES B. COOPER.

Witnesses:

JAMES T. GRAHAM,
EDGAR TATE.