

(No Model.)

W. L. HEBERLING & H. HEBERLING, Jr.

METAL ROOF.

No. 358,856.

Patented Mar. 8, 1887.

Fig. 1.

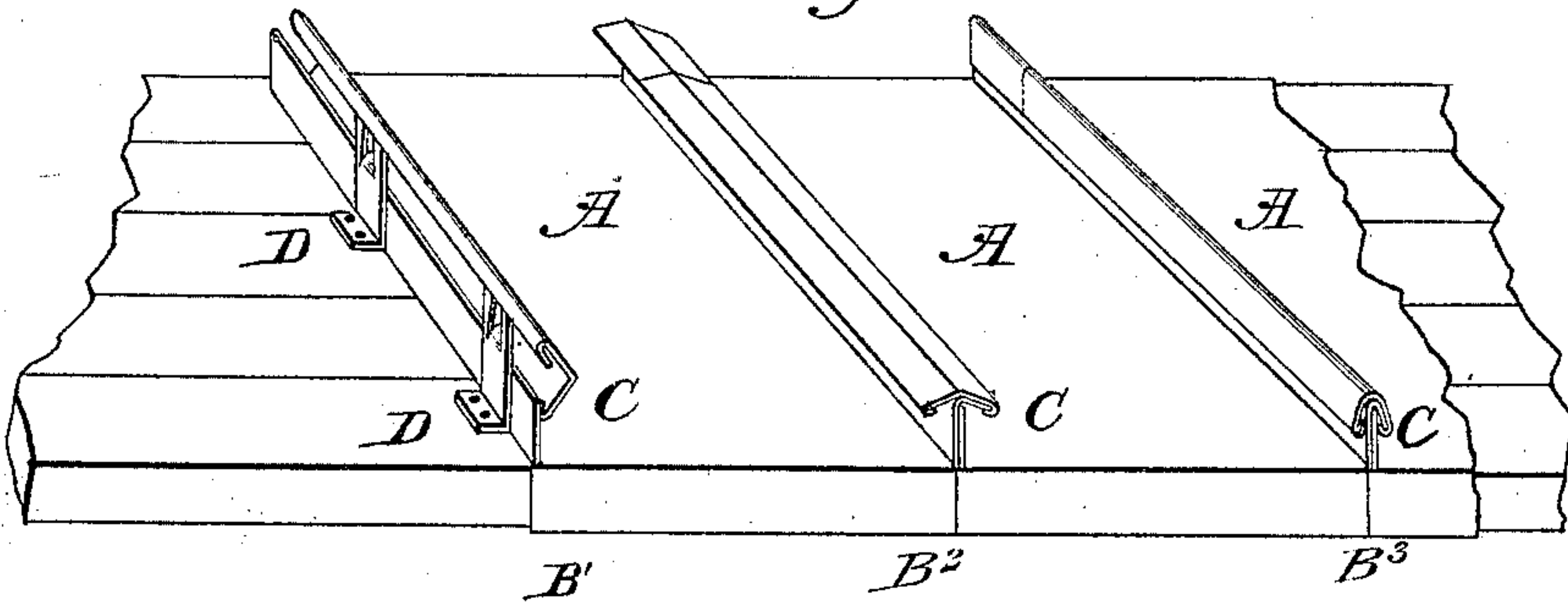


Fig. 2.

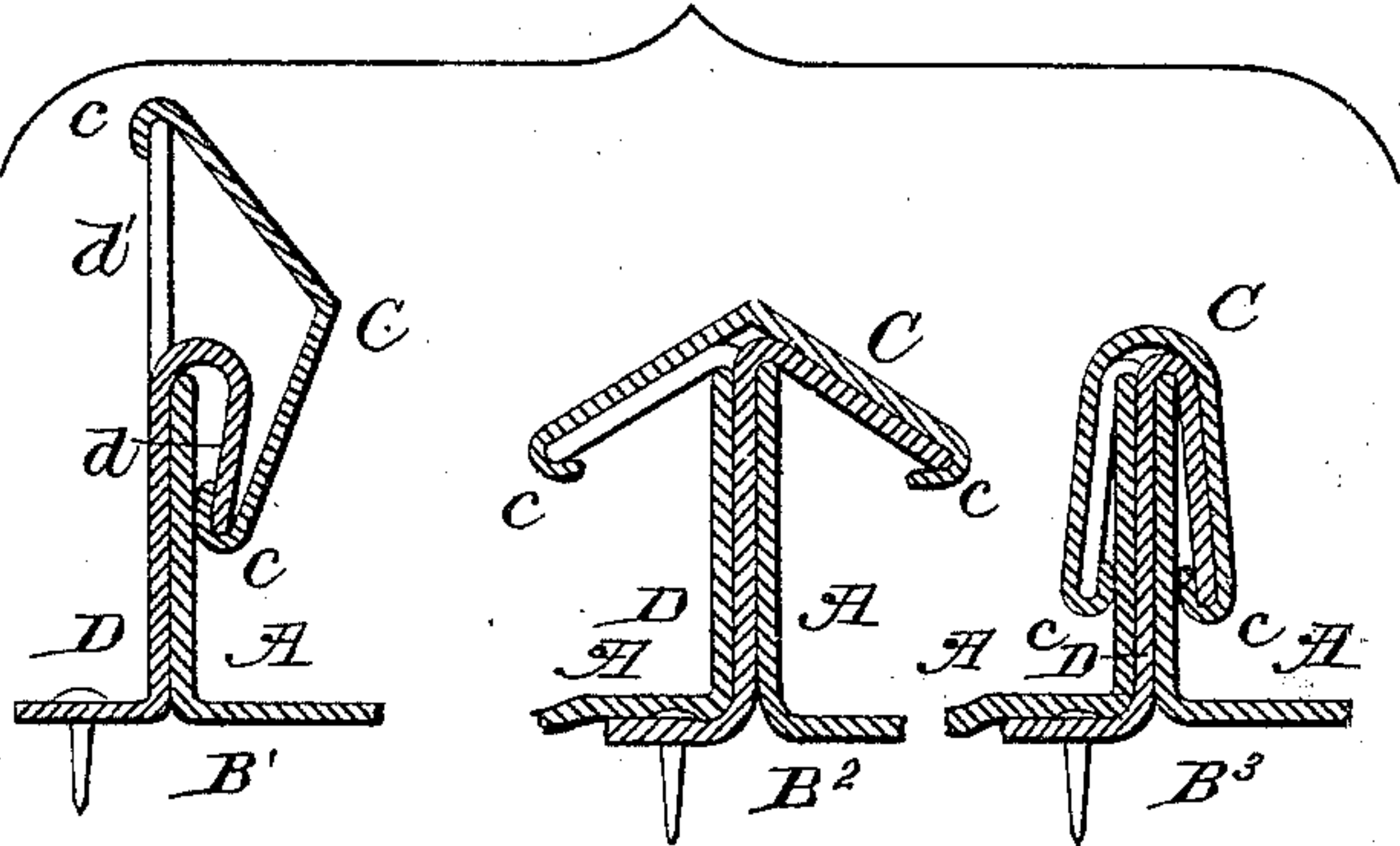


Fig. 3.

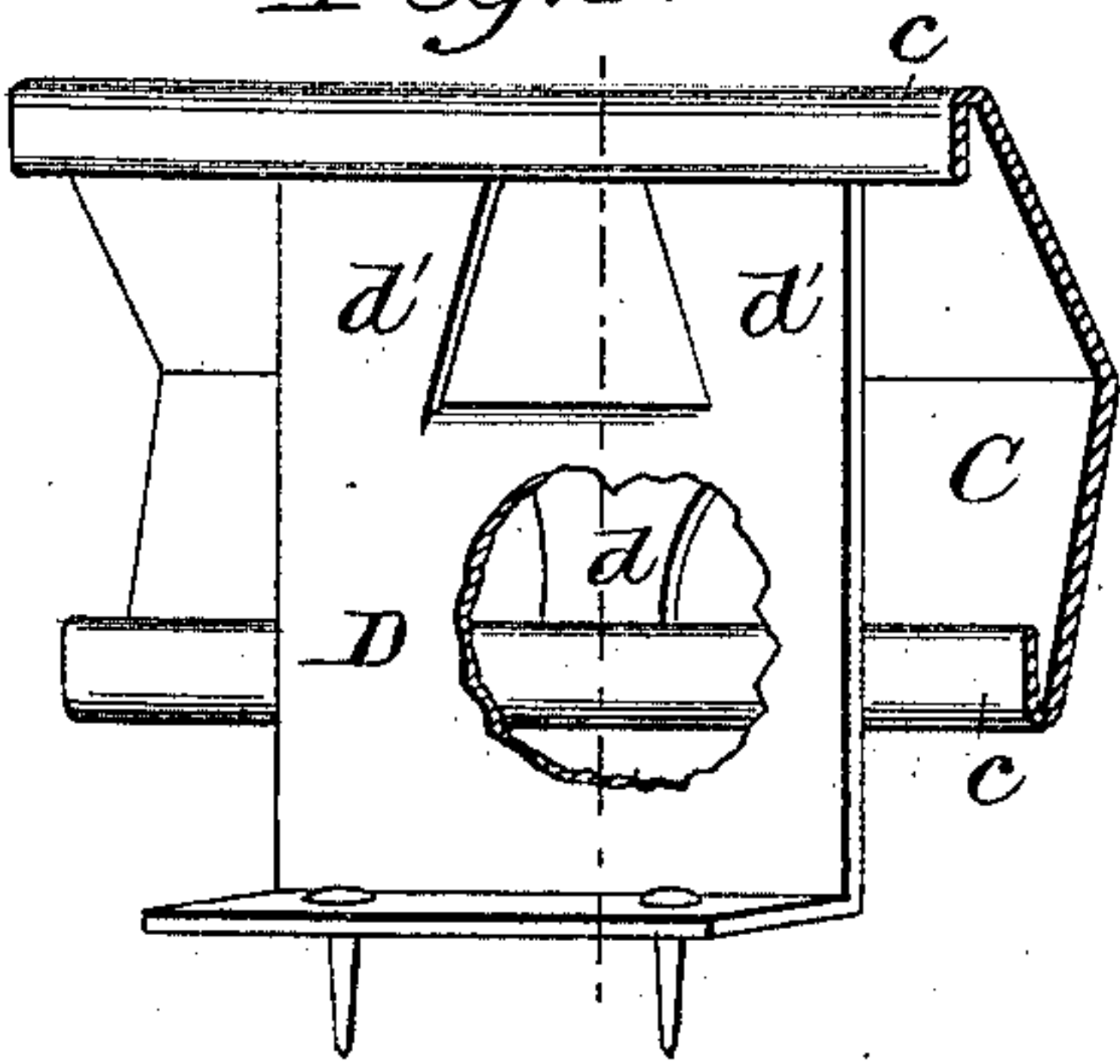


Fig. 4.

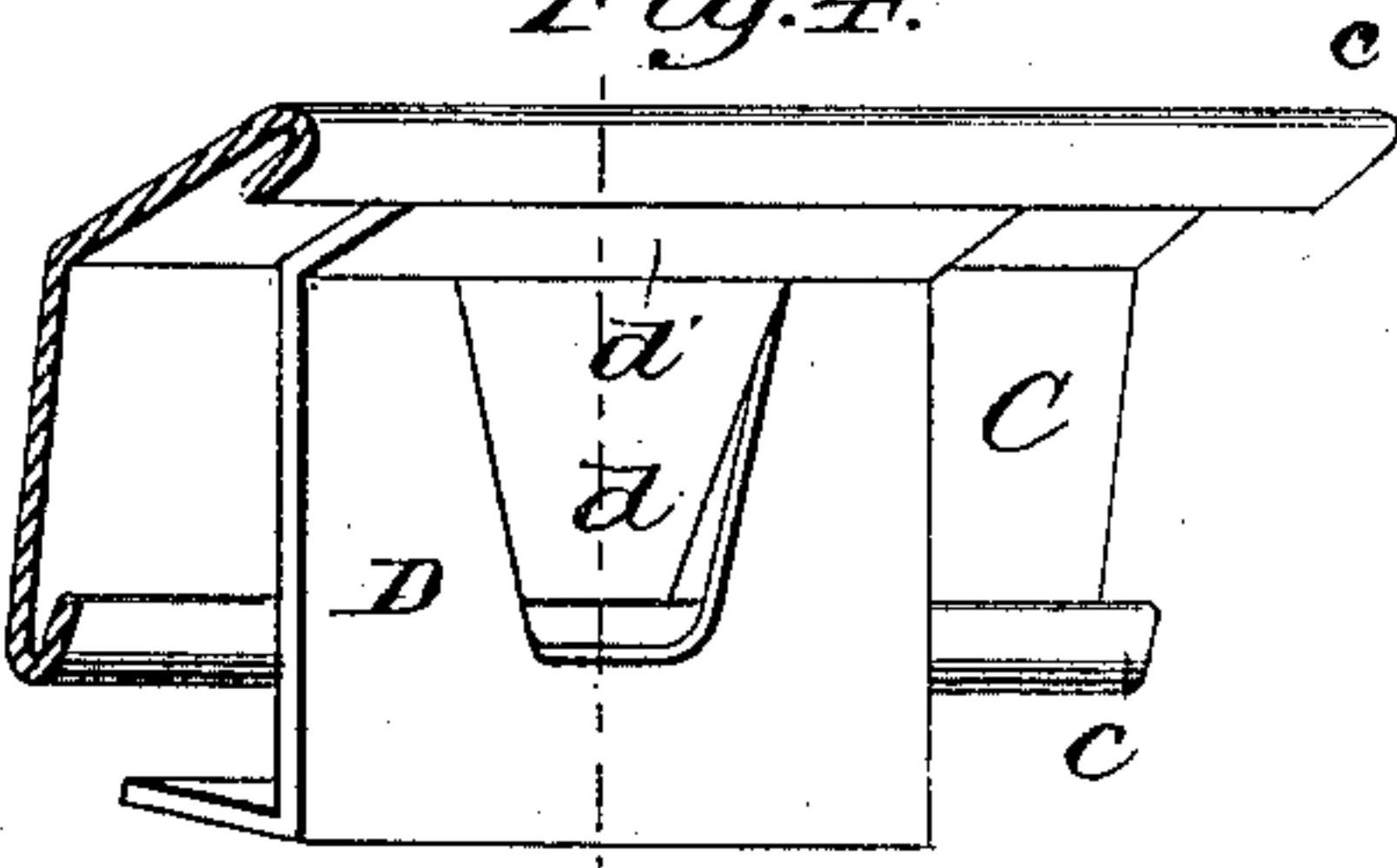


Fig. 5.

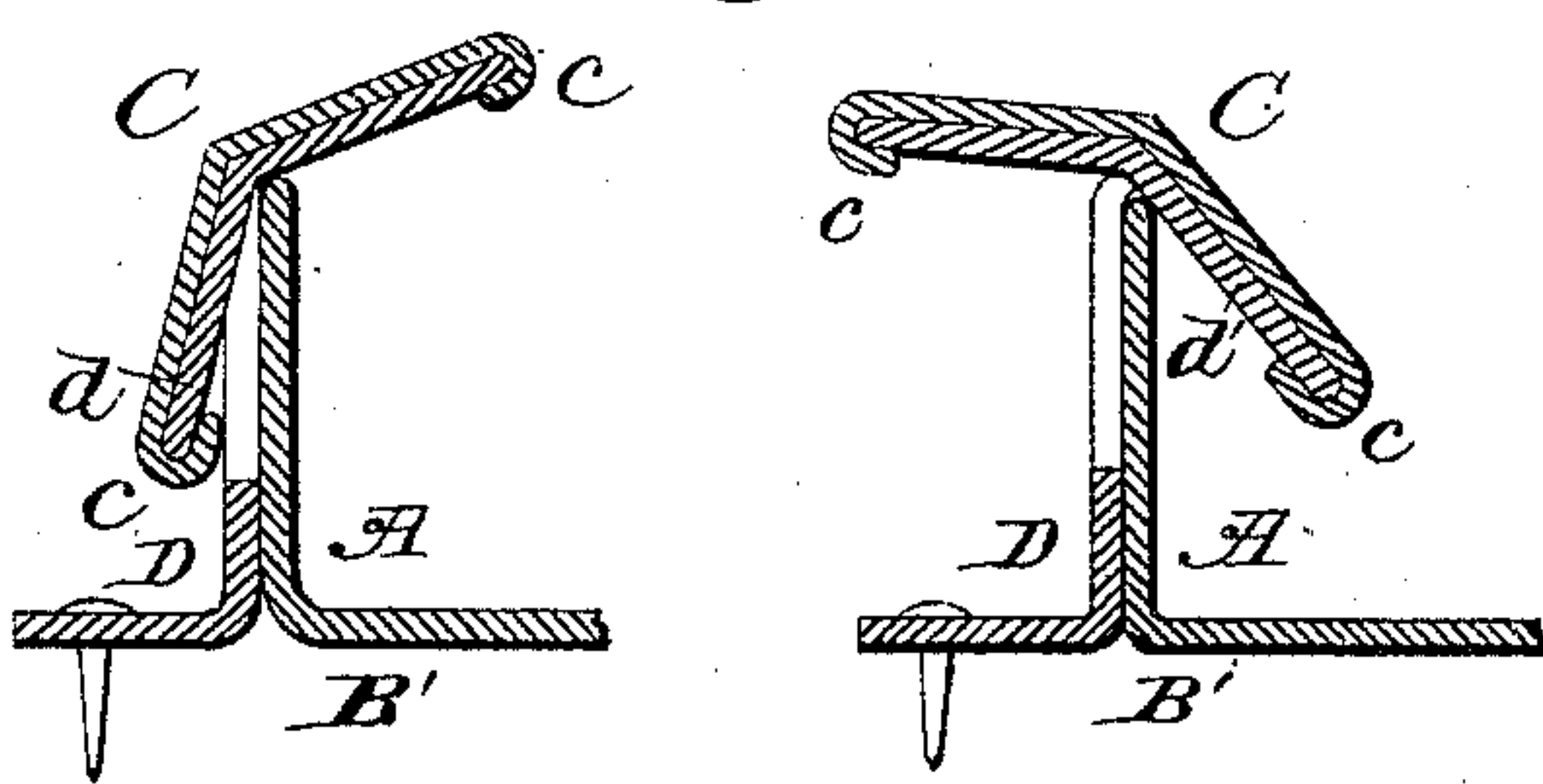


Fig. 8.

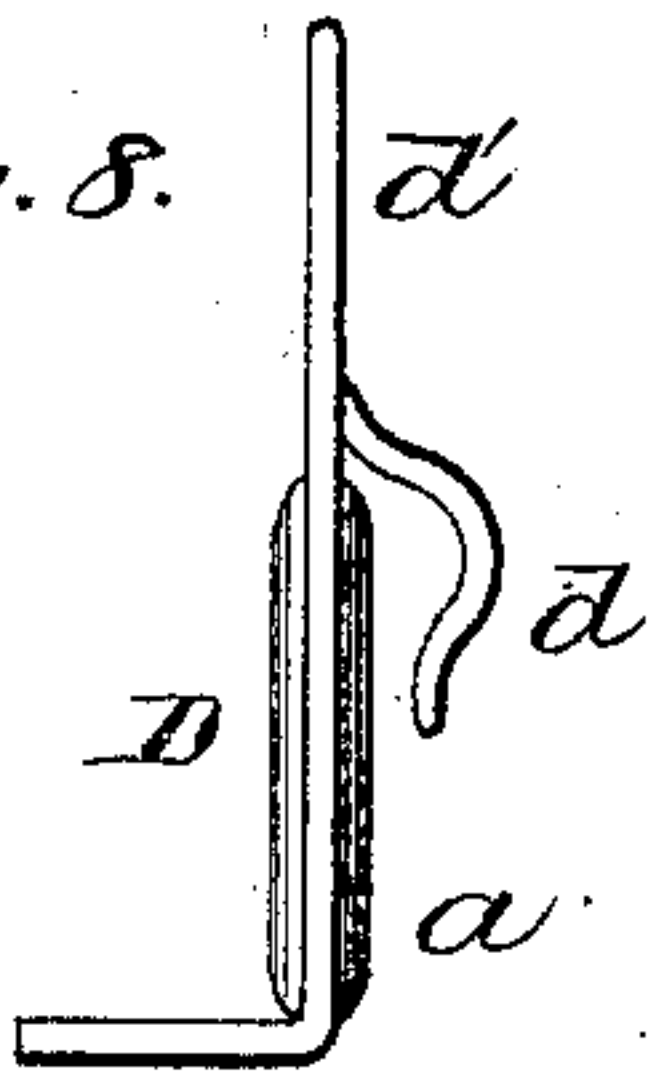


Fig. 6.

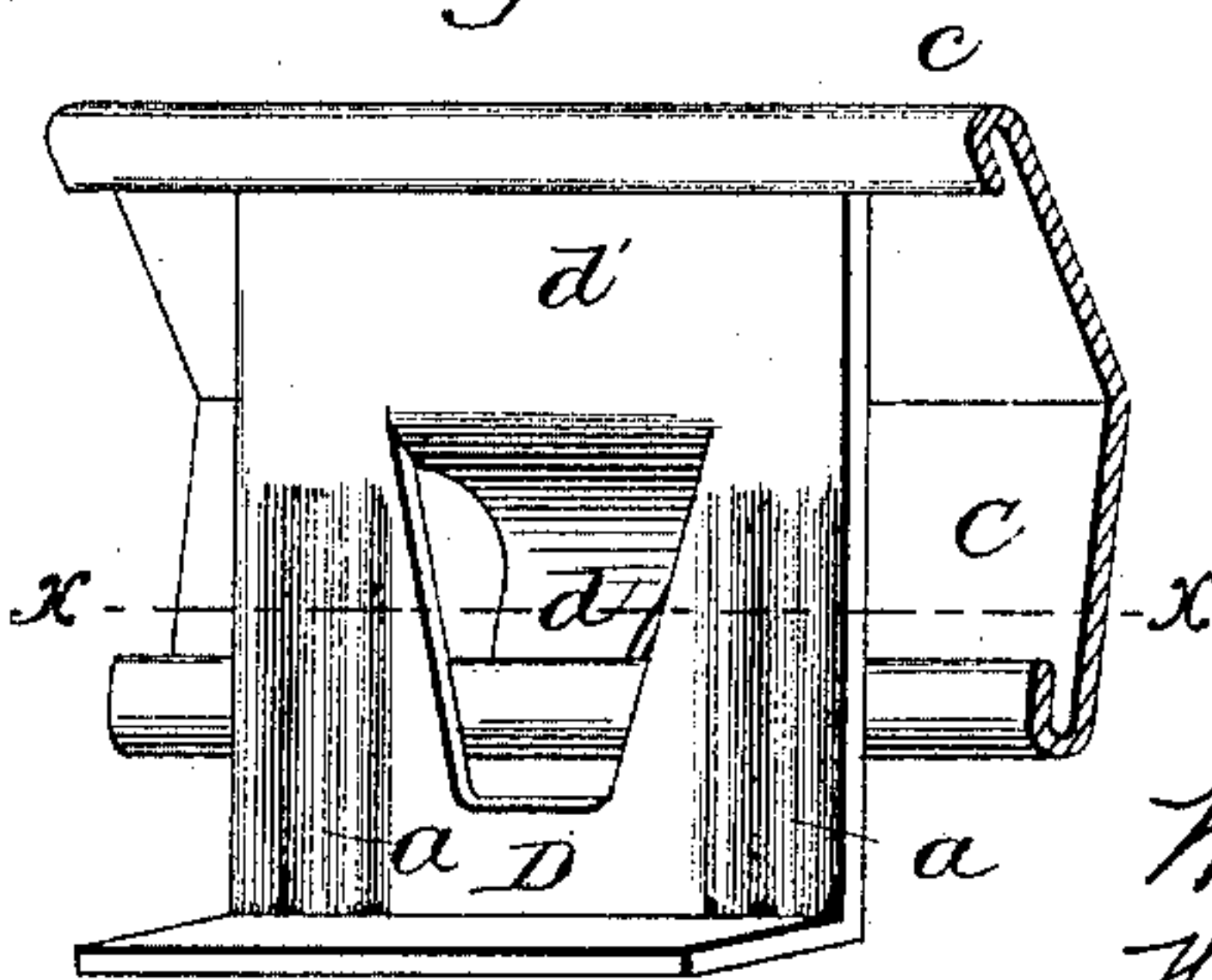
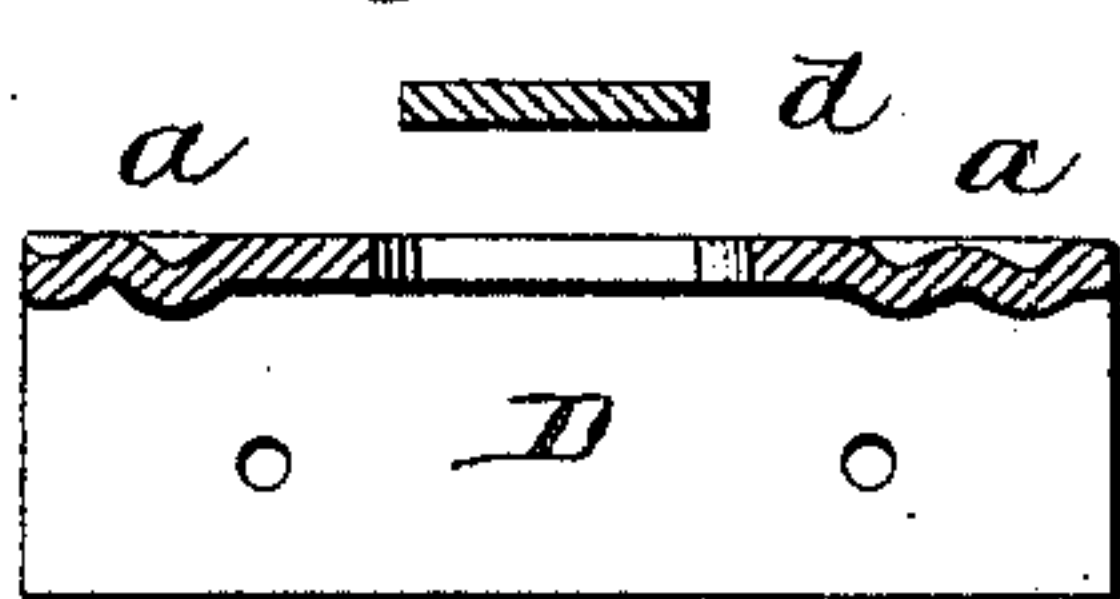


Fig. 7.



Witnesses:
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METAL ROOF.

SPECIFICATION forming part of Letters Patent No. 358,856, dated March 8, 1887.

Application filed April 5, 1886. Serial No. 197,833. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. HEBERLING, of Bath, Mason county, Illinois, and HENRY HEBERLING, Jr., of Mount Pleasant, Jefferson county, Ohio, citizens of the United States, have invented certain new and useful Improvements in Metal Roofs; and we 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to that class of metal roofs which have standing seams, and particularly to means for closing up these seams.

The object of our invention is to provide anchors that are more perfectly adapted for use with hemmed-edged caps, especially when these caps are V-shaped, than any other form of anchors that we now know of, and also to cheapen while improving the construction of such roofs, the objection to the anchors generally used with these caps being the difficulty and uncertainty of securing and maintaining their proper relation and adjustment with them in their application to the seams.

In the accompanying drawings, where similar letters designate similar parts throughout the several views, Figure 1 shows a section of roof with our improvement in different stages of application, as at the seams B', B², and B³, respectively. Fig. 2 is an enlarged view of a vertical cross-section of the seams shown in Fig. 1, taken through the center of the anchor D. Fig. 3 is a full-sized detail view in perspective of one of our anchors with a segment cut away, showing it attached to a section of cap C. Fig. 4 is a similar view of a modified form of anchor, also attached to a section of cap. Fig. 5 is a vertical cross-section taken through the center of Fig. 4, showing the appearance of these parts, when of this form, in the first and second stages of their application to a roof, as at B' and B², respectively. Fig. 6 is a full-sized detail view in perspective of an improved form of our anchor D adjustably attached to a section of cap C. Fig. 7 is a top view of the lower section of the anchor shown in Fig. 6 cut horizontally on the line X X,

showing its corrugations *a* and *a*. Fig. 8 is an edge view in elevation of the anchor seen in Figs. 6 and 7, showing more clearly the curve of its flange-retainer *d* and its relative position to its opposite, *d'*.

The oppositely-projecting folding portions *d* and *d'* of our anchors engage the opposite hemmed edges *c* and *c* of the cap C, as seen in Figs. 3, 4, and 6, and are so related that when the hems *c* and *c* of the cap C are passed over their extreme portions their bearing surfaces will not permit the anchors to be turned sideways sufficiently to free them from the hems of the cap. When the anchors are inserted in the cap at the factory, or before their application to the roof, they are prevented from escaping at the ends of the cap, or from having more freedom than is necessary, by bending a small portion of the hem *c* in closely, so that they cannot slide past it. Thus retained our anchors are adjustably attached to the caps. The adjustability of our anchors in their caps permits the application of both to the roof at the same time without the use of caps of different lengths for alternating to span openings in the sheeting, and without any waste of capping from sliding one cap into another to bring anchors into proper position, and enables the workman to adjust the anchors freely according to the requirements of the sheeting or his own judgment in nailing them fast, and as the retaining ends of every anchor are properly secured in position under the hems of its cap, and with proper handling must remain so secured, every anchor must do full service in its place, and thus conduce to the construction of a most perfect roof.

The adjustable attachment of our anchors to their caps, enabling them to be handled together, and their placement on the roof in position, as at B', Fig. 1, so facilitates the operation of the workman that with them he is enabled not only to do perfect work, but to lay his roof very rapidly.

The caps C may be made flat on top and the anchors made to fit them; but they are preferably bent at the factory in V shape, to partially form their ridges, thus conducing to their equal lap on each side of the seam, and requiring but one application of the seaming-tongs to fold them down tightly over the seam.

It is an essential characteristic of our anchors—some of which are of forms not herein illustrated—that their oppositely-projecting flange-retainers are arranged centrally with each other, or approximating so nearly thereto, that in engaging the opposite hemmed edges of the cap the end bearings of one retaining portion shall be mainly within the same longitudinal section of the cap that is engaged by its opposite or opposites.

Fluting or corrugating the upright portion of a sheet-metal anchor, as in Figs. 6, 7, and 8, stiffens it greatly and prevents it from breaking down or bending at the wrong place, and forces the folding-down parts to act properly on the flanges of the seam and retain their right position well down in the hems of the cap, bringing it properly to its place and retaining it there.

In some instances the anchor may be corrugated also above its bending-line on its folding-down portions to great advantage.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. One or more roof-anchors each having oppositely-projecting flange-retainers arranged centrally with each other, and with their extremes firmly held under closely-compressed inwardly-turned folds on the opposite edges of a seam-cap, so that all may be applied to the roof together.

2. A seam-cap combined with one or more roof-anchors each having oppositely-projecting folding-over portions arranged centrally with each other and loosely engaging opposite turned-under edges of the cap, being adjustably retained thereby, so that all may be applied to the roof at the same time.

3. A roof-anchor having a portion to fold down over the flange of a metal sheet on one side, and arranged centrally with this another portion to fold over the flange of the next adjoining sheet when used with the extremes of these parts projecting into the edge-folds of a seam-cap to secure it to the roof.

4. A roof-anchor which consists throughout of a single thickness of sheet metal, and which has parts forming oppositely projecting flange-retainers, that part which projects down on one side being arranged centrally, or approxi-

imating thereto, with that portion which folds down on the opposite side, and with these parts adapted to receive over them the inwardly-turned edges of a seam-cap, and to retain their hold within said cap while being folded down with it over the flanges of the seam.

5. A roof-anchor the full width of the upper portion of which folds over and forms one undivided flange-retainer, and having opposite this one or more flange-retainers formed from that portion of the anchor which stands upright between the seam, being stamped out therefrom, except at their upper ends, where they merge into and project from the ridge portion of the oppositely-projecting retainer, forming with it one single arch-piece, which overlaps the flanges of the seam, and is united at its ridge with the upright portion of the anchor.

6. The combination, with metal sheets having their edges flanged for joining together, and a hemmed-edged cap for folding over these seams when so joined, of a roof-anchor which consists throughout of a single thickness of sheet metal, and which has parts forming oppositely-projecting flange-retainers, that part which projects down on one side being arranged centrally, or with that portion which folds down on the opposite side, and with these parts adapted to receive over them the inwardly-turned edges of a seam-cap, and to retain their hold in said cap while being folded down with it over the flanges of the seam.

7. A sheet-metal roof-anchor fluted or corrugated at or near right angles with its bending-lines on one or both sides of these lines to cause it while being applied to the roof to bend where desired, and there only.

In testimony whereof we affix our signatures in presence of two witnesses.

WM. L. HEBERLING.

H. HEBERLING, JR.

Witnesses as to signature of William L. Heberling:

D. D. DIERKER,

MOSE MORRIS.

Witnesses as to signature of H. Heberling, Jr.:

J. W. ONG,

N. M. ONG.