

(No Model.)

H. S. HOWARD.
HARROW TOOTH FASTENING.

No. 363,640.

Patented May 24, 1887.

Fig. 1.

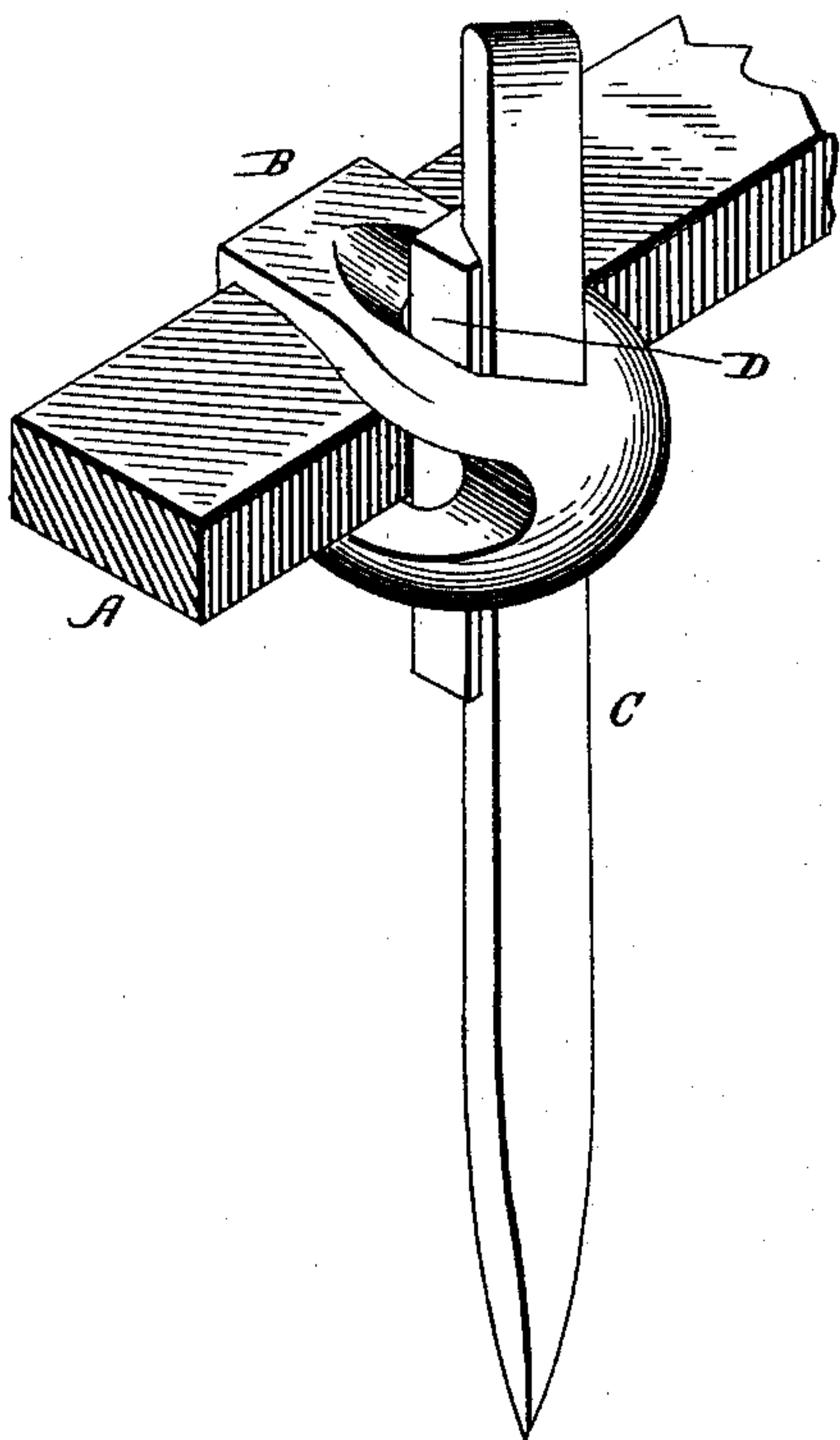


Fig. 2.

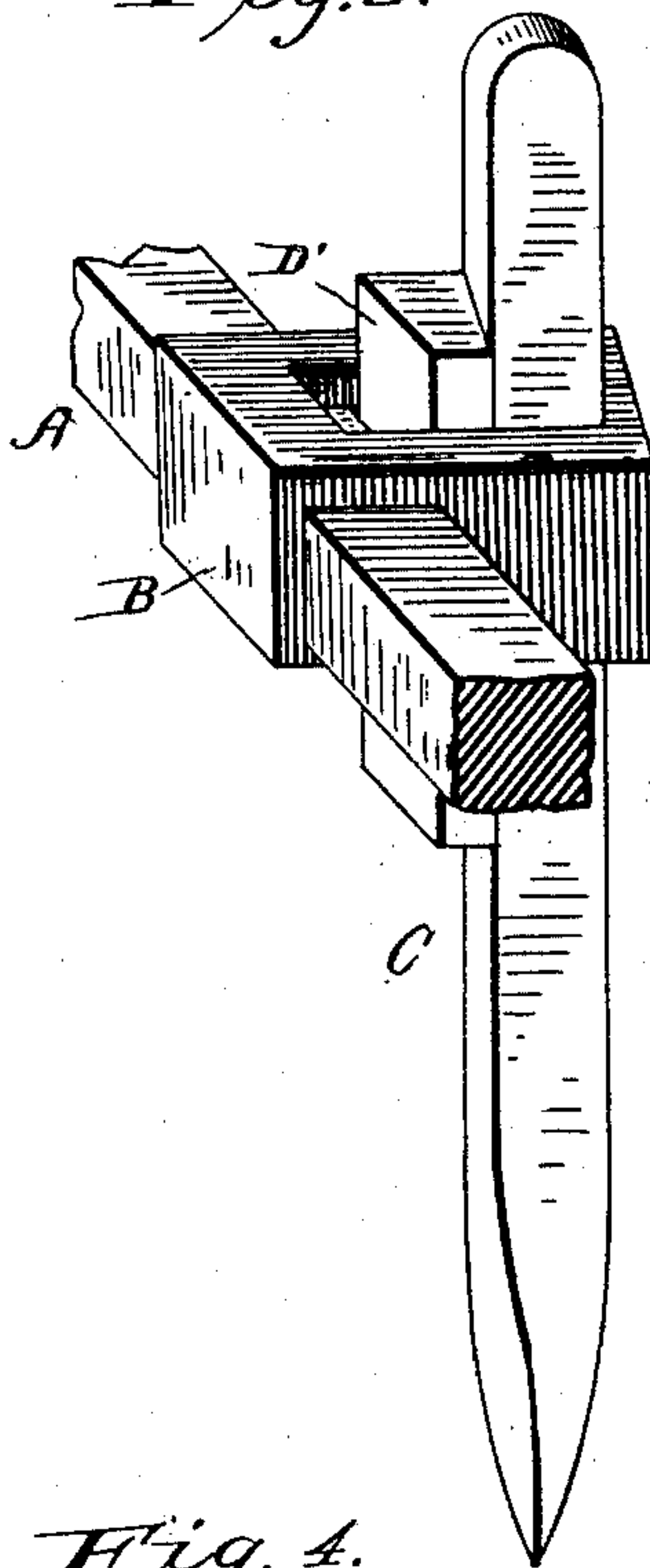


Fig. 3.

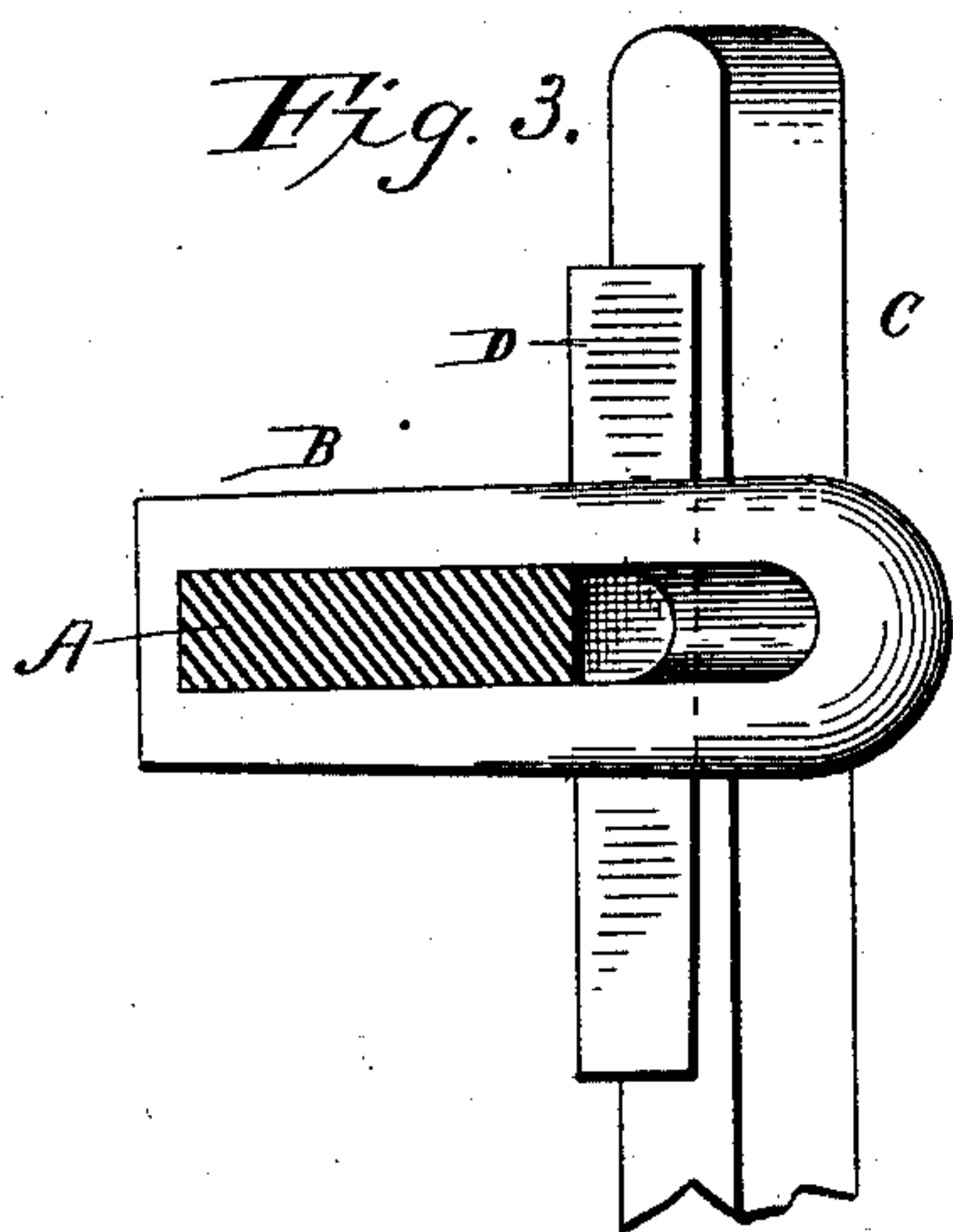
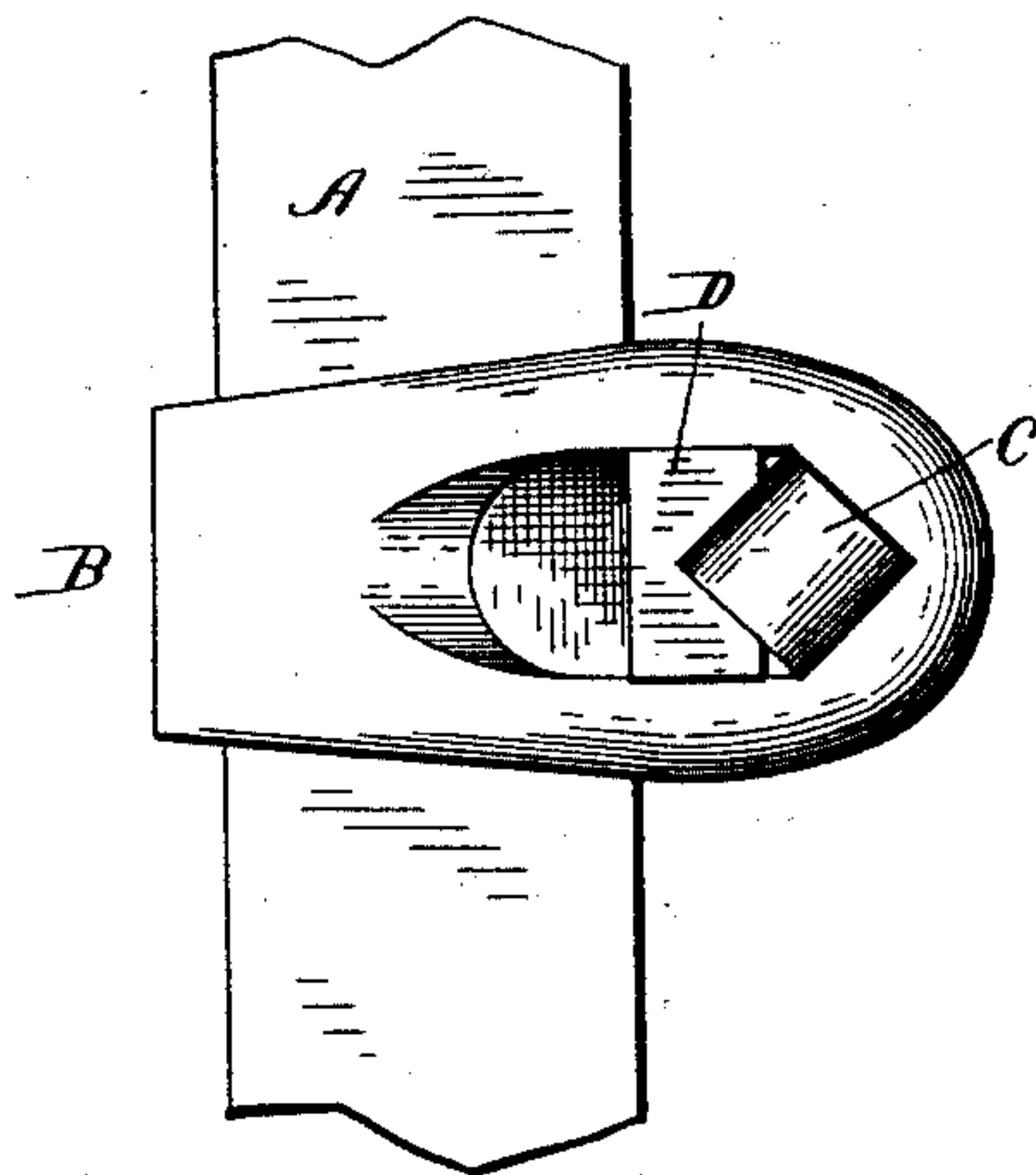


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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HARROW-TOOTH FASTENING.

SPECIFICATION forming part of Letters Patent No. 363,640, dated May 24, 1887.

Application filed March 23, 1887. Serial No. 232,145. (No model.)

To all whom it may concern:

Be it known that I, HARLAN S. HOWARD, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Harrow-Teeth Fastenings; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to harrows having metallic frames, the construction of the teeth and the mode of securing same to the frame forming an important factor.

The object of my invention is to construct a harrow which, while it is not expensive, yet is eminently practical and durable.

In the accompanying drawings, making a part of this specification, Figures 1 and 2 are perspectives showing differently-shaped side bars of the frame, as of the boxes and wedges. Fig. 3 is a perspective showing some of the parts in section. Fig. 4 is a plan view.

In the figures, A A represent the side bars of a harrow, which are to be made of metal, square or oblong, rectangular, or other suitable shape. Passed over these bars are boxes B B, made sufficiently large to allow the harrow-tooth and a wedge to be passed in between the frame and tooth. These boxes are made of metal, and may be made skeleton-shaped, as seen in Fig. 1, or solid, as seen in Fig. 2.

The harrow-teeth are made square at their upper ends, but after leaving the boxes a little distance their lower ends become dagger-pointed and have two cutting-edges. After the tooth has been inserted in the box a wedge is placed in said box between the bar and the tooth. The wedge may be made V-shaped on one face to embrace the angular tooth, as shown in Figs. 1, 2, 4, or may be made tapering or beveled in cross-section, as represented in Fig. 2.

When the tooth is adjusted in the box with the cutting-edge front, the wedge is driven in firmly and holds it in place.

It will be readily perceived that one face of the wedge bears against the side bar and the other against the tooth, so that when driven down it holds the tooth firmly in place.

By removing the wedge the tooth may be readily turned to bring its other cutting-edge to the front or regulate the distances of the teeth apart upon the frame.

As a general thing, I prefer to use the V-shaped wedge, as it clamps the tooth upon two sides.

The harrow-frame may be made either square or triangular, as may be desirable, and the cutting-edge can be adjusted to the line of draft. The boxes to be used in an oblique or triangular frame would be made to correspond with obliquity of said frame.

This harrow costs a very little more than the ordinary wooden harrow, but is far more durable and not liable to get out of order.

I am well aware that harrow-teeth have been secured to their bars by means of clasps embracing a harrow-bar and wedges. I therefore broadly disclaim such fastenings. My improved clasp is closed on top, bottom, and ends, and the tooth is secured in the end of the clasp by means of a V-shaped wedge driven between the tooth and the harrow-bar, which latter is not slotted or notched.

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

1. A harrow-tooth fastening consisting of the vertically and horizontally slotted loop, in combination with a double V-shaped wedge driven between the tooth and the edge of a harrow-bar, substantially as and for the purposes described.

2. The combination, with a harrow-bar and a harrow-tooth having cutting-edges, of a loop or clasp having vertical and horizontal passages through it, and a wedge of a double-V shape driven between the harrow-bar and the tooth, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HARLAN S. HOWARD.

Witnesses:

L. E. STEVENS,
J. N. HOBBS.