

Ward & Munger, Horseshoe.

N^o 42,889.

Patented May 24, 1864

Fig. 1.

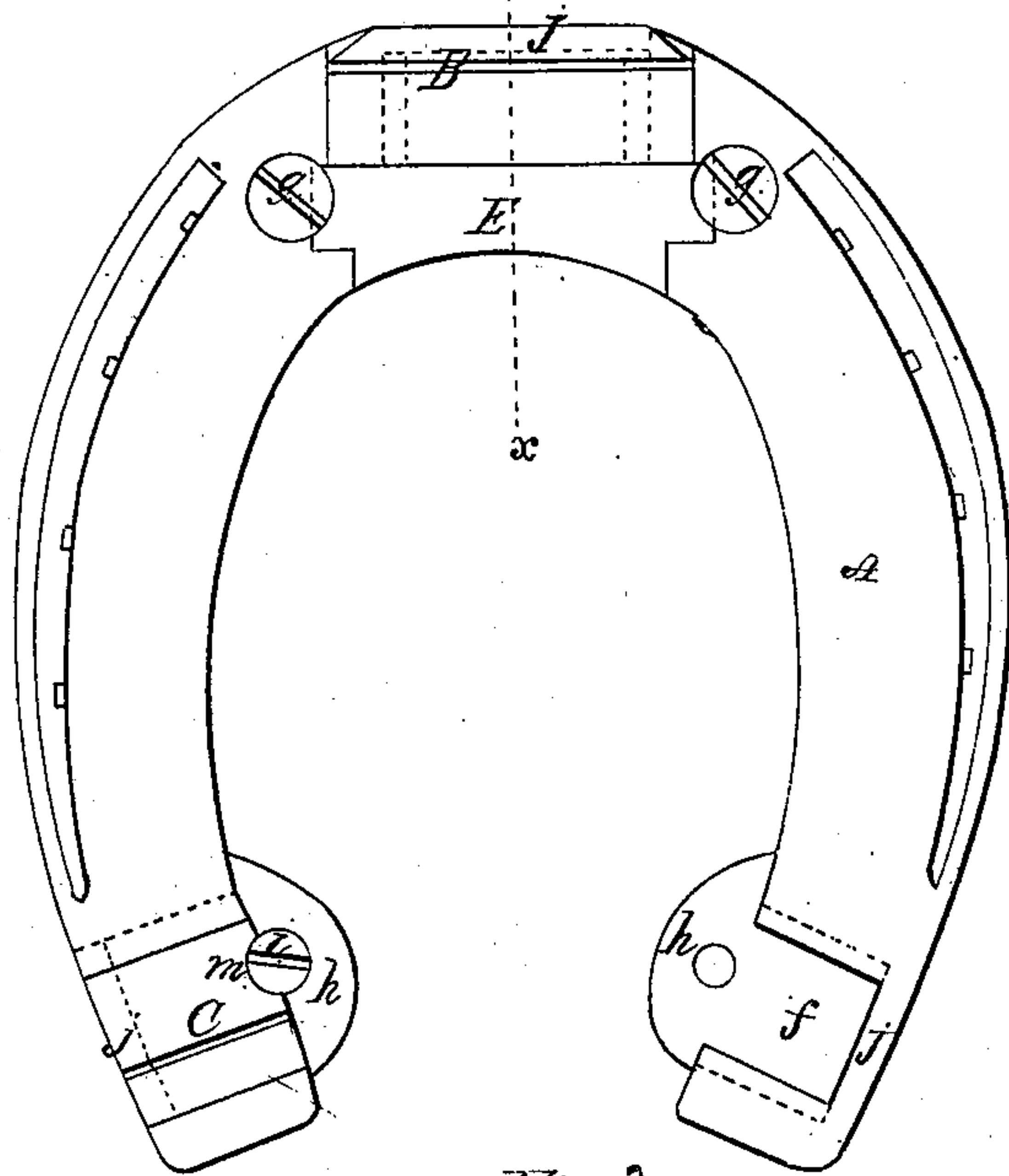


Fig. 3.

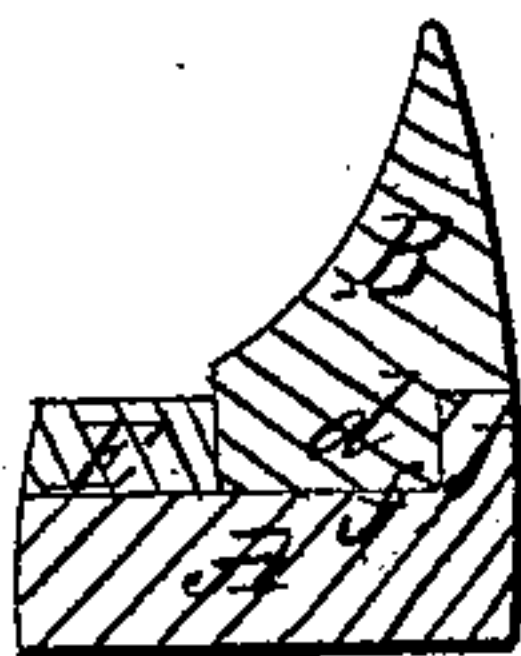


Fig. 4.

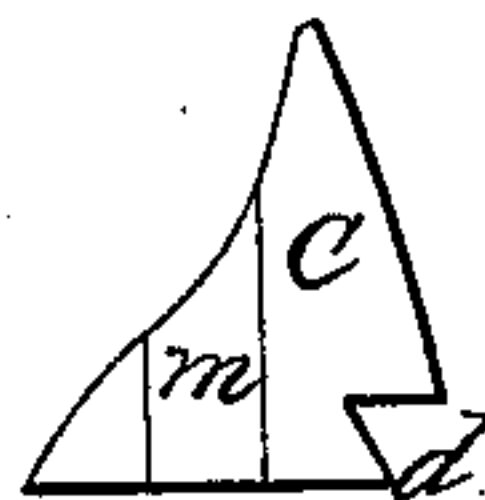


Fig. 2.

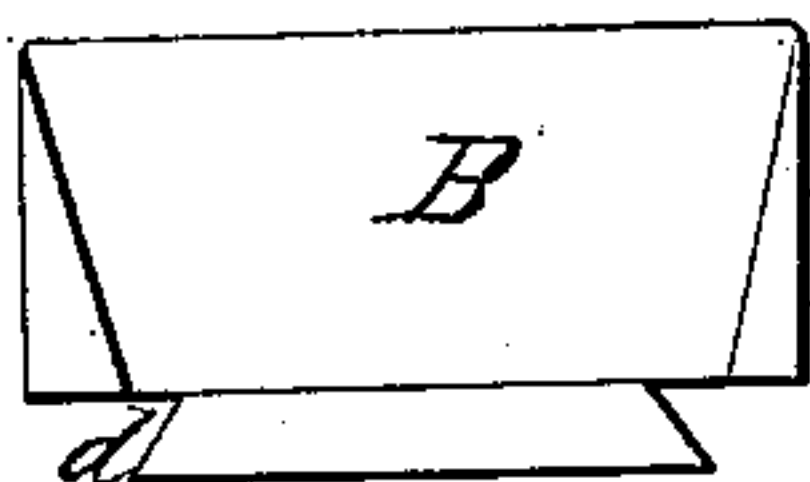
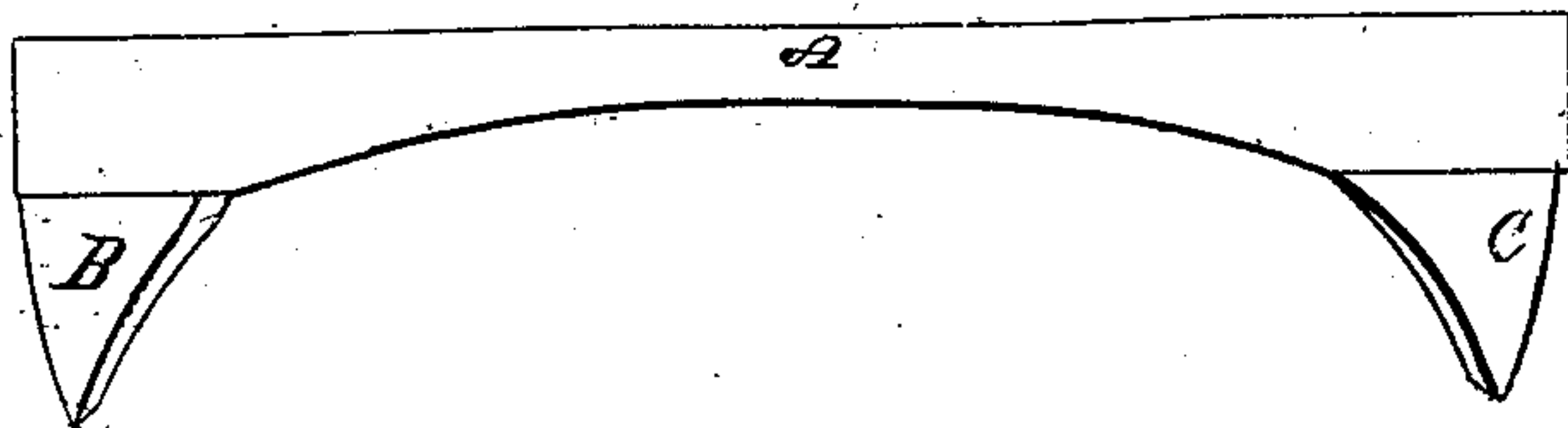


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAML. WARD, OF CAMBRIDGE, AND L. J. MUNGER, OF CHARLESTOWN, MASS.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. 42,889, dated May 24, 1864.

To all whom it may concern:

Be it known that we, SAMUEL WARD, of Cambridge, and L. J. MUNGER, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Horseshoes; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view of the bottom of a shoe with one of the heel-calks removed; Fig. 2, a separate view of a toe-calk; Fig. 3, a section of the line *xy* of Fig. 1; Fig. 4, an inside view on one of the heel-calks, and Fig. 5 a side view of the shoe.

Like parts are indicated by the same letters in all the drawings.

The nature of our invention consists in the peculiar manner of constructing the shoe so that the calks may be attached to and detached from the shoe without removing the shoe from the hoof of the horse, and yet be firm and substantial when so attached.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

We construct the plate *A* in any of the usual forms, with the addition of the projections *h* on the inner sides of the heel and an increased thickness of the plate at the toe and heels. Dovetailed mortises *f* are cut in the heels and toe of the plate from the inner side, leaving a substantial flange, *j*, on the outer side or rim. Into these mortises, from the inner side, are inserted the calks provided with dovetailed tenons or shanks *d*, to fit the mortises *f*, and a shoulder projecting over the flange *j*, bringing the outer edge of the calks flush with the outer edge of the plate *A*; also with shoulders projecting over on the plate back of mortises for

heel-calks, and on each end of mortises for the toe-calk. The heel-calks are held firmly in position by means of a screw, *i*, inserted in the projections *h*, with a thick and substantial cylindrical head pressing against the inner side of the calks, which are made concave to fit it. Across the back of the base of the toe-calk is a mortise to receive the bar *E*, which is held in position by the screws *g g*.

We are aware that horseshoes have been constructed with calks that could be attached to and detached from the shoes, and that such calks have been made with dovetailed tenons or shanks and with corresponding mortises in the plate of the shoe. Generally the mortises to receive the tenons upon the calks have extended entirely across the plate or base of the shoe, as shown in the drawings accompanying the patent issued to Joseph Carlin, No. 26,832, January 27, 1860, and we are not aware that the outer side of the calk has in any case been supported by a flange, *j*, left upon the plate or base, as shown by the drawings accompanying this application.

Having thus described the construction and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Attaching the heel-calks in the manner and by the means substantially as described.
2. Confining the toe-calk in its mortise by means of the perfecting portion *j*, the bar *E*, and the screws *g g*, substantially as described.
3. Constructing the inside of the heel-calks with a concavity, *m*, to fit the head of the screw *i*, substantially as set forth, and for the purpose described.

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Witnesses:

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A. G. MOULTON.