F. ERNST.

HORSESHOE.

No. 187,608. Patented Feb. 20, 1877.

Fig. 1.

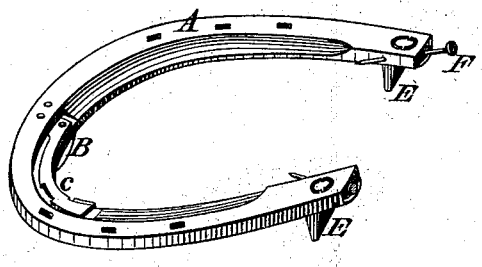

Fig. 2.

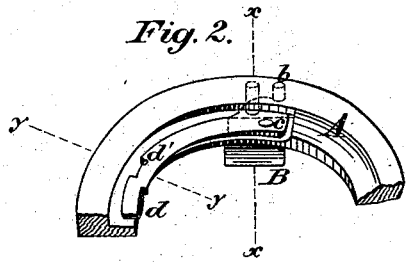

Fig. 3.

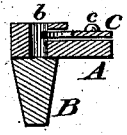

Fig. 4.

Fig. 5.

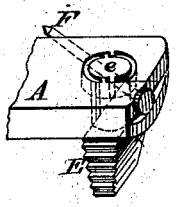

Fig. 6.

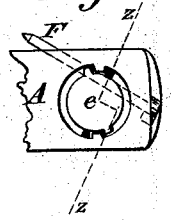

Fig. 7.

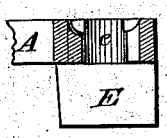

Fig. 8.

Attest:

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Attys

UNITED STATES PATENT OFFICE.

FRANZ ERNST, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CARL KOLLENBERG, OF SAME PLACE.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. **187,608**, dated February 20, 1877; application filed December 20, 1876.

To all whom it may concern:

Be it known that I, FRANZ ERNST, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Horseshoe, of which the following is a true and accurate description, reference being had to the accompanying drawing, being part of this specification.

The nature of this invention relates to an improvement in that class of horseshoes which are provided with removable heel and toe calks; and it consists in the peculiar device of securing these calks to the shoe.

In the drawing, Figure 1 is a perspective view of the horseshoe; Fig. 2, a detailed inside top view of the toe portion of the shoe; Fig. 3, a cross-section at *x x* in Fig. 2; Fig. 4, a similar section at *y y* in Fig. 2; Fig. 5, a detailed perspective view, and Fig. 6 a plan of the heel portion of the shoe; and Fig. 7, a sectional view on line *z z* in Fig. 6. Fig. 8 represents a perspective view of the key for removing the toe-calk.

A is a horseshoe of the usual shape, and B the front calk, provided with two studs, *b*, which fit into corresponding holes at the toe end of the shoe, and are secured therein by a cam-lever, C, being pivoted at one end, *c*, to the center of the shoe, back of the toe-calk. The fulcrum end of said lever C has an eccentric or cam shape, which, by turning the lever into a position as per Figs. 1 and 2, will lock into notches cut into the studs *b*, thereby securing the same firmly to the shoe. Said lever C, in the position when the calk B is securely locked, is hidden in a cavity between the shoe and the horse's hoof, provided for on the inward top surface of the shoe, and it is held in its locking position by a projecting shoulder, *d*. For removing said calk B, the key, Fig. 8, with its pointed end, is inserted from the bottom of the shoe, and at the chamfered notch *d'* behind said lever C, when the lever is pried out therewith, and is turned until the cam part of the lever C releases the studs of the calk B. E is a heel-calk, provided with a shank, *e*, the extreme end of which has two nose projections at opposite sides. Said shank *e* fits into a hole in the heel end of the shoe, having two grooves at opposite sides for the nose projections of said shank to enter, and being countersunk or counterbored from the top, to form a bearing for the nose projections when the calk is turned to its required direction. Two small feathers in the counterbore, against which the nose projections of the shank *e* are to butt, will indicate the position of the calk, in which it is secured by a nail or pin, F, passing from the rear diagonally into and through the heel end, and through a flat notch cut into one side of the calk-shank *e*.

The advantages of removable calks in horseshoes are, that for the frequent sharpening of the calks during winter-time, the whole shoe need not be removed from the horse's hoof, but that the calks, in accordance with the season of the year, the condition of the road or weather, may be interchanged rapidly.

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

1. The removable toe-calk B, provided with the notched studs *b*, in combination with the horseshoe A and locking-lever C, substantially as described and shown.

2. The removable heel-calk E, having shank *e*, provided with nose projections, and to be secured in the horseshoe A by a nail or pin F, substantially as described and shown.

FRANZ ERNST.

Witnesses:

MORITZ STEIN,

EDWARD L. LOEWENTHAL.