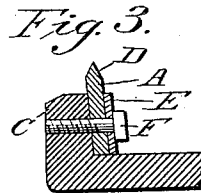
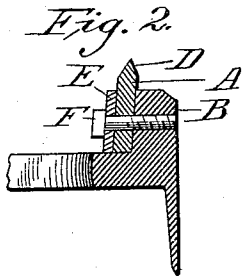
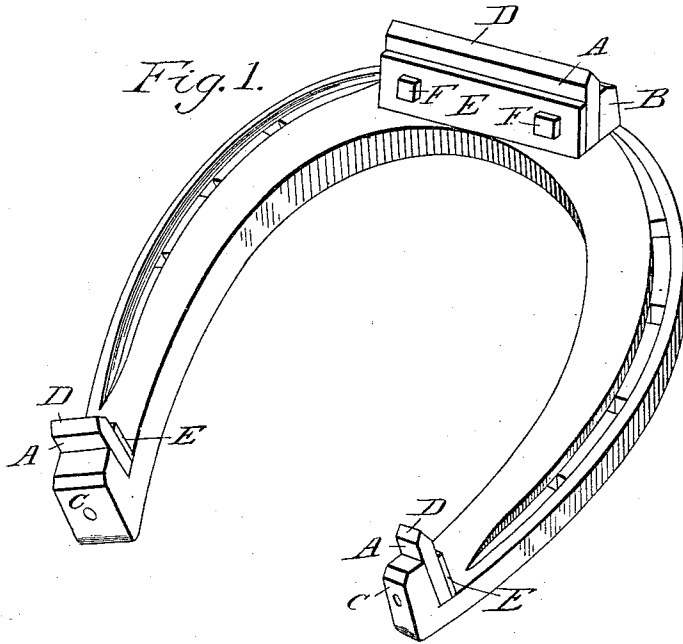


(Model.)

J. L. CROCKER & C. L. BRIDGES.
HORSESHOE WITH DETACHABLE ICE CALKS.

No. 473,384.

Patented Apr. 19, 1892.



Witnesses:

Emma Hinkel.
Jno Williams

Inventors:

John L. Crocker.
Charles L. Bridges
By their Attorney
Eugene Ayres.

UNITED STATES PATENT OFFICE.

JOHN L. CROCKER AND CHARLES L. BRIDGES, OF ST. JOSEPH, MISSOURI.

HORSESHOE WITH DETACHABLE ICE-CALKS.

SPECIFICATION forming part of Letters Patent No. 473,384, dated April 19, 1892.

Application filed October 1, 1891. Serial No. 407,470. (Model.)

To all whom it may concern:

Be it known that we, JOHN L. CROCKER and CHARLES L. BRIDGES, citizens of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Ice Toe and Heel Calks; and we 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 of reference marked thereon, which form a part of this specification.

This invention relates to the combination of a horseshoe having toe and heel calks integral therewith, detachable bevel-edged plate-calks adapted to fit against the inner surface of the integral calks and against the under part of the shoe, and detachable braces with fastening-bolts, as hereinafter described.

In the drawings, Figure 1 is a perspective view of our improved horseshoe with attachments complete. Fig. 2 is a transverse sectional view of the horseshoe, toe-calks, and brace-plate; and Fig. 3 is a transverse section of one of the heel-calks and connecting-plates.

In the drawings the letter B designates the integral toe-calk of the shoe, and C the integral heel-calks thereof. These calks are each provided with screw-threaded holes for the reception of bolts whereby the detachable calks are braced and secured, as hereinafter described.

The detachable ice toe and heel calks marked A are made of plate-steel cut the width of the integral shoe-calks B and C and about one-quarter of an inch higher than the same. The height, however, may be varied in manufacture, according to preference. The lower or ground edge of the detachable plate-calks A

are beveled either in or out or both in and out, as at D, and the said calks are adapted to fit snugly against the under part of the shoe and against the inner surface of their respective integral calks, and are thus securely held by the braces E (which fit flatly against the inner surfaces thereof, as well as against the under part of the shoe) and bolts F, holes for the reception of the same being made in the detachable calks and braces to correspond with the bolt-holes of the integral shoe-calks, as shown. The height of the braces E is about equal to that of the integral shoe-calks B and C, while that of the detachable calks is somewhat in excess of the same to insure a solid footing, as well as to provide for the wear and tear and necessary sharpening of the detachable calks.

A feature of this invention consists in the combination, with the shoe-calks, of the detachable braces, which permits of detachable calks of any desired thickness being employed. If desired, the detachable braces E may be omitted, in which case the heads of the bolts would rest directly against the ice-calks.

Having described our invention, what we claim as new, and desire to secure, is—

The combination of a horseshoe provided with integral calks, detachable calks, and detachable braces with the bolts whereby the detachable parts are secured to the integral calks of the shoe, substantially as and for the purpose set forth.

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

JOHN L. CROCKER.
CHARLES L. BRIDGES.

Witnesses:

JNO. WILLIAMS,
EMMA HECKEL.