

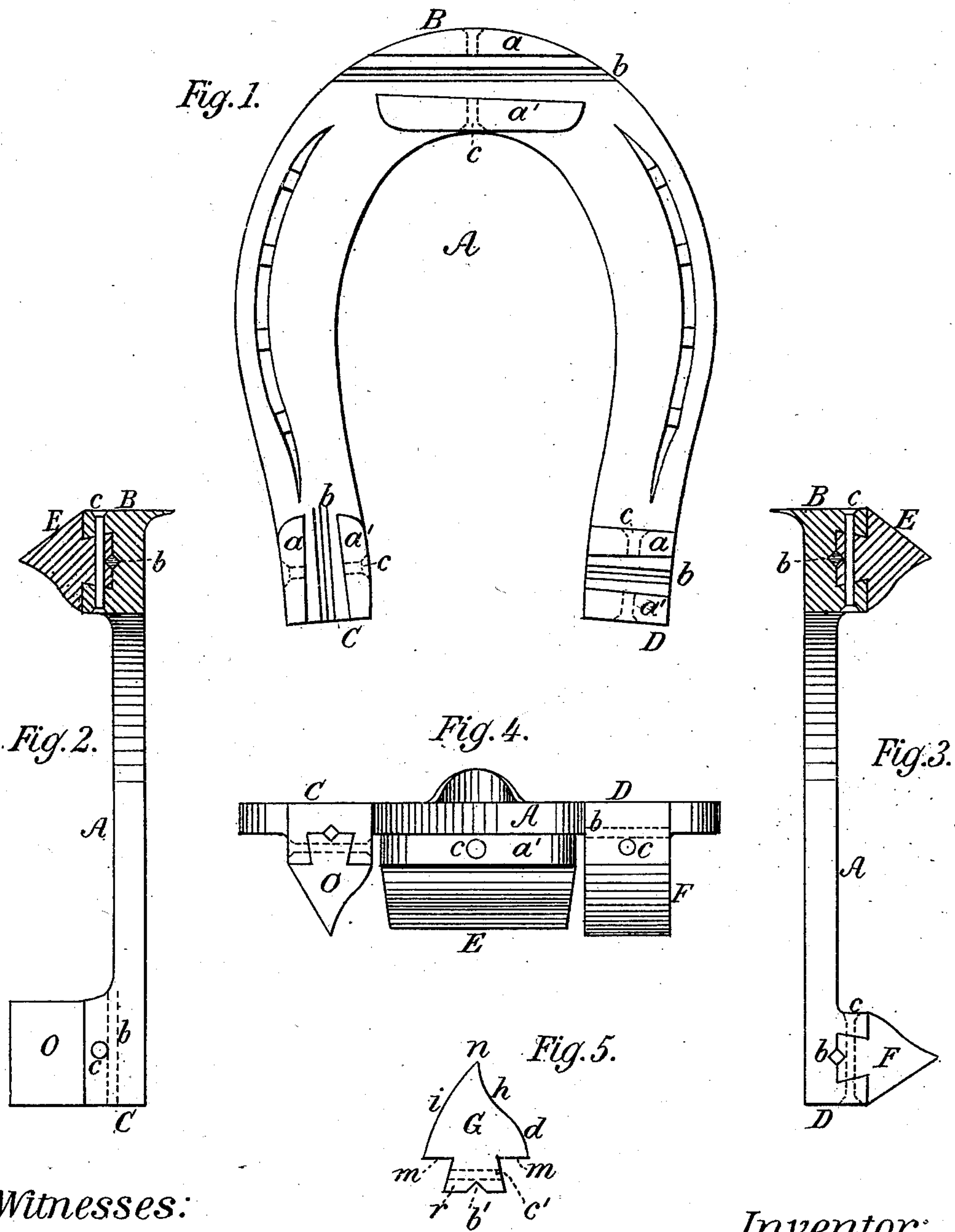
(No Model.)

W. KIRCHEN.

HORSESHOE.

No. 272,963.

Patented Feb. 27, 1883.



Witnesses:

Fred. Artois
Wm. B. Condon

Inventor:

William Kirchen

UNITED STATES PATENT OFFICE.

WILLIAM KIRCHEN, OF CHICAGO, ILLINOIS.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 272,963, dated February 27, 1883.

Application filed January 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KIRCHEN, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Horseshoes with Adjustable Calks, of which the following is a specification.

My invention relates to an improved horse-shoe with adjustable calks, as a substitute for the common practice of sharpening; and the object of my improvements is to renew or replace worn and dull calks without the annoyance of taking off the entire shoe from the animal, and to furnish a substantial base for joining the calk and shoe.

The several matters of improvements will be specifically pointed out in the claims, and may be briefly stated to consist, principally, in the construction of the calks and mode of fastening the same to the shoe.

Referring to the accompanying drawings, Figure 1 is a full view of the horseshoe, the bottom side of the same turned up. Figs. 2 and 3 show the shoe in section, representing the bars with the calks in position. Fig. 4 is a rear view of the shoe, and Fig. 5 is a side view of one of the calks.

A represents a horseshoe of common pattern. Its front part, B, and rear ends, C D, mounted with dovetail grooved or mortised lugs which rise from the metal of the shoe from its flat surface to a proper height, leaving a level space between the parts *a a'* of the lugs. The same are arranged in diverging position, forming a wedging-base, for the purpose set forth.

G is one of the adjustable calks, as shown in Figs. 4 and 5 in side elevation and front view, approaching in appearance to the triangular form, in the construction of which one side, *i*, represents in shape a rounded surface, or, in preference, a straight one, while the other side is curved at the base *d* convex, and in its course extending toward the upper end, turning in a concave surface, *h*, and connecting therewith the rounded (or straight) side *i*, forming at this junction a sharp edge, *n*, which is the essential object of its construction. The base part *m m* of the calks is flat and even,

the center part of it projecting downward in form of a tenon, *r*, corresponding in shape and size with the mortised cavity of the lugs, and when entering the same forming a dovetail joint with the calk, which is firmly wedged in an upright or vertical position, and secured at the middle of the base by a rivet, *c*, running crosswise in a horizontal direction through corresponding holes, *c'*, provided for the purpose. The center parts of the level space between the parts *a a'* of the lugs are furnished with a narrow V-shaped groove, *b*, and similarly the base *r* of the tenon at *b'*, for the purpose of ramming a square wedge—as, for instance, an iron nail—edgewise into the square cavity formed by the jointed parts, to brace the tenon against the beveled shoulders of the mortised lugs in a rigid condition, to resist more effectually the bearing strain with a firm stand. The toe-calk is naturally fitted for service on the front part of the shoe, and situated across the same, larger in extent than the heel-calks. The double curved side *d h* is to be toward the inside of the shoe on all the calks, and if the sharp edges are getting dull or worn out, the calks can be easily extracted from the lugs and replaced by new ones without taking off the shoe from the hoof. The heel-calks O F are subjected to the same operation of changing when necessary, and are situated on the rear ends, C D, of the bars, and respectively join with the lugs in their particular position, one lengthwise, the other across, and intended, the former one to prevent the horse from sliding or slipping sidewise when turning, the latter assisting in the act of backing, or in going downgrade.

I claim—

1. The combination, with a common-shaped horseshoe, A, of dovetail grooved lugs rising from the metal of the shoe, the parts *a a'* arranged in a diverging position, the space between V-grooved in the center of the flat surface, substantially as and for the purpose described and shown.

2. In combination with the horseshoe A, the triangular-shaped calks, having one side, *i*, curved or straight, the other in its course concave at the base and toward the top turning concave, forming, in conjunction with the curved side, a sharp edge, *n*, the flat base *m* having

a projecting tenon, *r*, provided with a similar V-grooved base as between the parts *a a'* of the lugs, substantially as described, for the purpose set forth.

- 5 3. In combination with the horseshoe A, dovetail grooved lugs with diverging parts *a a'*, the curved calks with projecting tenon *r*, having corresponding holes, *c c'*, for riveting crosswise, and V-shaped grooved parts *b b'*

for wedging lengthwise, substantially as and 10 for the purpose described and specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM KIRCHEN.

Witnesses:

FRED. ARTOS,
WM. H. CONDON.