No. 696,649. Patented Apr. 1, 1902.

G. A. LUCK.

HORSESHOE.

(Application filed Jan. 4, 1902.)

(No Model.)

Fig. 5.

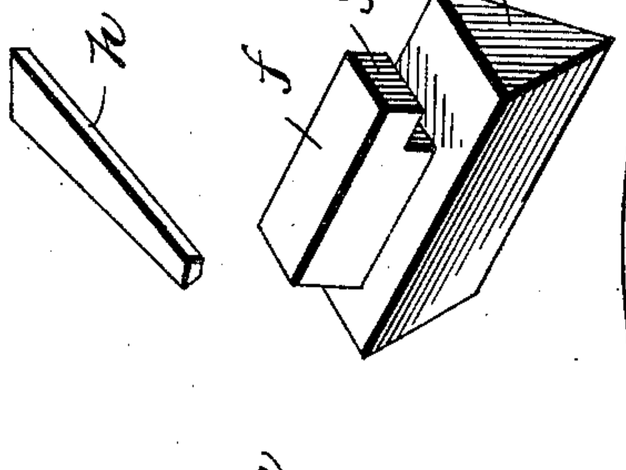


Fig. 2.

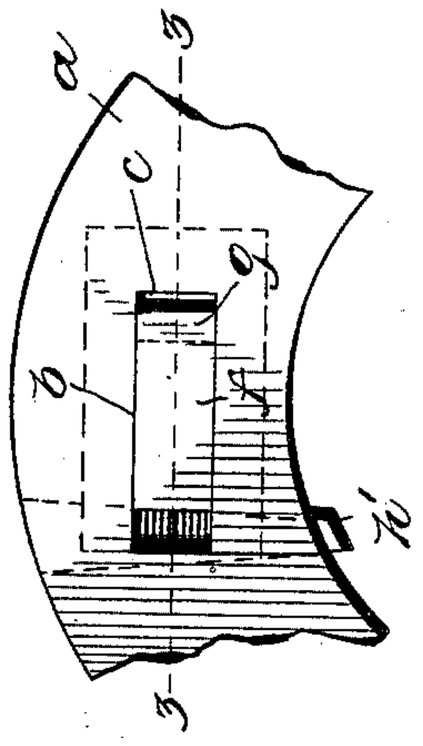


Fig. 3.

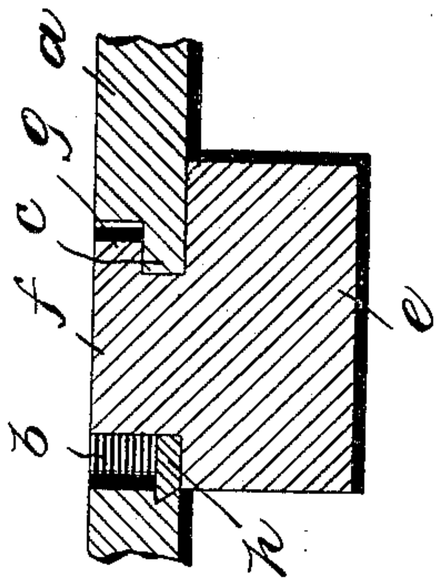


Fig. 4.

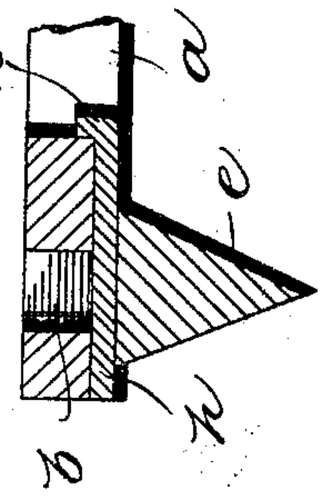
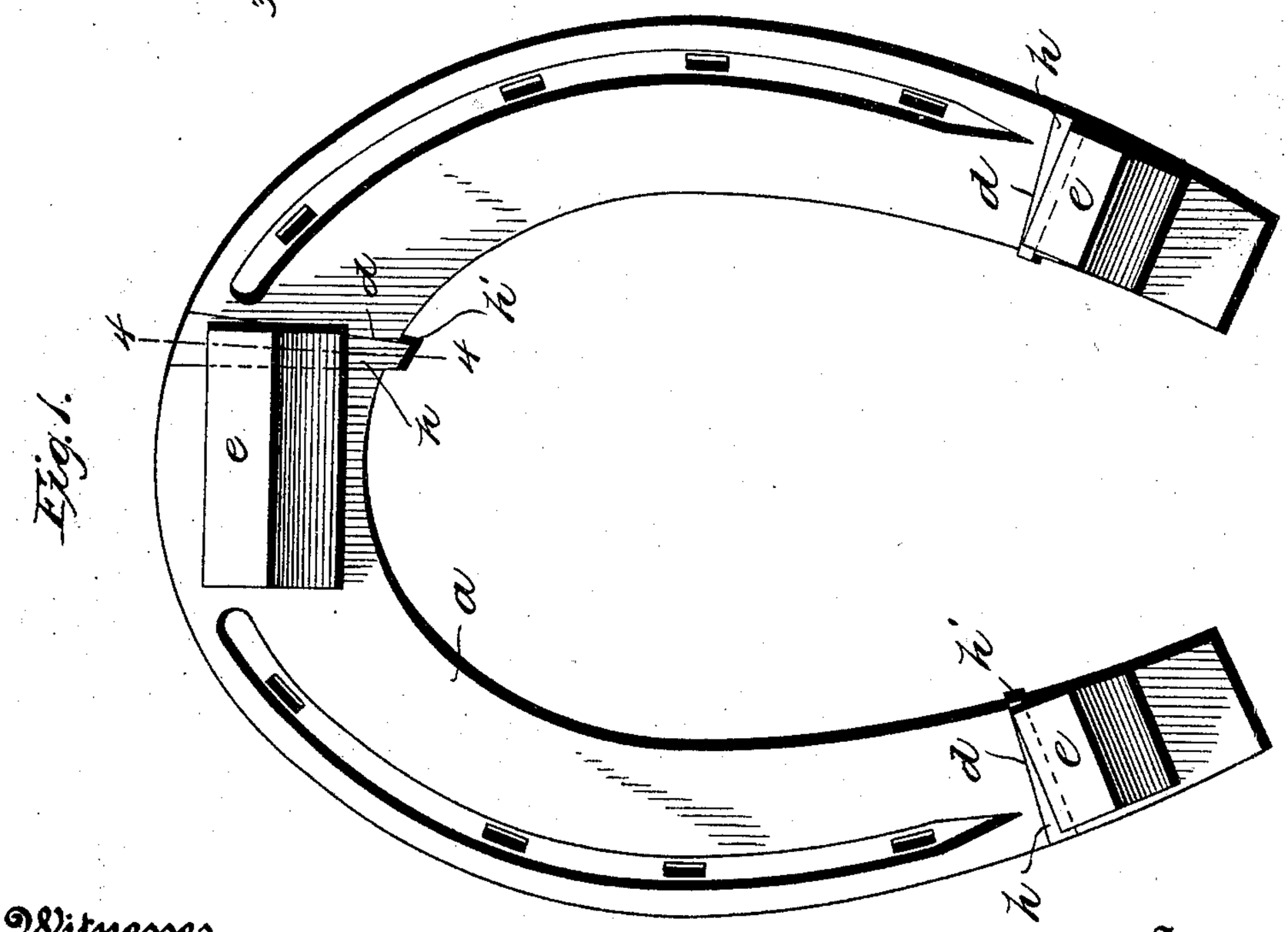


Fig. 1.



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UNITED STATES PATENT OFFICE.

GEORGE A. LUCK, OF AMESBURY, MASSACHUSETTS.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 696,649, dated April 1, 1902.

Application filed January 4, 1902. Serial No. 88,463. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. LUCK, of Amesbury, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification.

This invention relates to horseshoes having detachable calks; and it has for its object to provide a simple and effective construction whereby the calks of a shoe may be readily applied and removed and securely held while in place.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a bottom plan view of a horseshoe embodying my invention. Fig. 2 represents a top view of a portion of the shoe. Fig. 3 represents a section on line 3 3 of Fig. 2. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents in separate perspective views the parts which embody my invention.

In carrying out my invention I form in a horseshoe *a*, having flat top and bottom surfaces, a series of mortises *b*, there being preferably three, one for the toe-calk and two for the heel-calks. Each mortise extends from the bottom to the top surface of the shoe and has at one end an inwardly-projecting tongue *c*, which is located below the upper surface of the shoe. In the bottom surface of the shoe I form a series of wedge-shaped or tapering keyways *d*, each extending across said bottom surface, there being one keyway for each mortise, the keyway extending across the end of the mortise opposite the tongue *c*, as shown clearly in Fig. 5.

e e e represent the calks, the body portions of which may be of the wedge shape, as here shown, or of any other suitable form. Each calk has at its upper side an upwardly-projecting tenon *f*, provided at one end with an outwardly-projecting tongue *g*. Each tenon *f* is shorter than the mortise *b* which it is intended to occupy, so that the tenon may be inserted in the mortise and then moved endwise to engage its tongue *g* with the tongue *c* of the mortise. When the tongues *g* and *c* are engaged, as shown in Fig. 3, a wedge-shaped key *h* is inserted in the keyway *d*, the key being formed to bear against the end of the tenon opposite the tongue *g*, and thus prevent longitudinal movement of the tenon in the mortise. The key therefore holds the tenon with its tongue *g* interlocked with the tongue *c* of the mortise. The keyway and key are wedge-shaped, as before stated and as shown in Fig. 1, one edge of the keyway and the corresponding edge of the key being beveled, as indicated in Figs. 3 and 5, to prevent any tendency of the key to drop from the under side of the shoe. The key is made longer than the length of the keyway and the width of the shoe and is made of malleable metal, so that its smaller end *h'* can be turned upwardly against the inner edge of the shoe, as shown in Fig. 4, to prevent endwise movement of the key in one direction, the wedge shape of the keyway and key preventing endwise movement in the opposite direction. The key is thus securely interlocked with the shoe, so that it cannot be withdrawn until its end *h'* is bent downwardly. The wedge shape of the keyway and key also causes the key when driven into the keyway to force the tenon endwise against the shouldered end of the mortise, thus preventing any possibility of a loose fit of the tenon in the mortise.

It will be seen that the above-described construction provides for the ready removal of a calk that is worn out or needs sharpening and the ready replacement of the calk after it has been sharpened or the ready substitution of a new calk for one that has been worn.

I claim—

A horseshoe having flat top and bottom surfaces, a mortise extending through the thickness of the shoe from one of said surfaces to the other, said mortise having an inwardly-projecting tongue at one end, a dovetailed wedge-shaped keyway formed in the under side of the shoe and extending across said mortise at the end opposite said tongue, a calk having a tenon with an outwardly-projecting tongue at one end adapted to engage the tongue in the mortise, and a wedge-shaped key fitted in said keyway and arranged to bear on the tenon to hold the same in en-

gagement with the mortise-tongue, the length of said key exceeding the width of the shoe, so that the smaller end of the key is adapted to be bent upwardly against one edge of the shoe to prevent endwise movement of the key in one direction, the wedge shape of the key-way and key preventing endwise movement of the key in the opposite direction, and causing the key to force the tenon endwise against the shouldered end of the mortise.

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

GEORGE A. LUCK.

Witnesses:
C. F. BROWN,
E. BATCHELDER.