

(No Model.)

A. D. JEFFREY.
HORSESHOE.

No. 476,798.

Patented June 14, 1892.

FIG. 1.

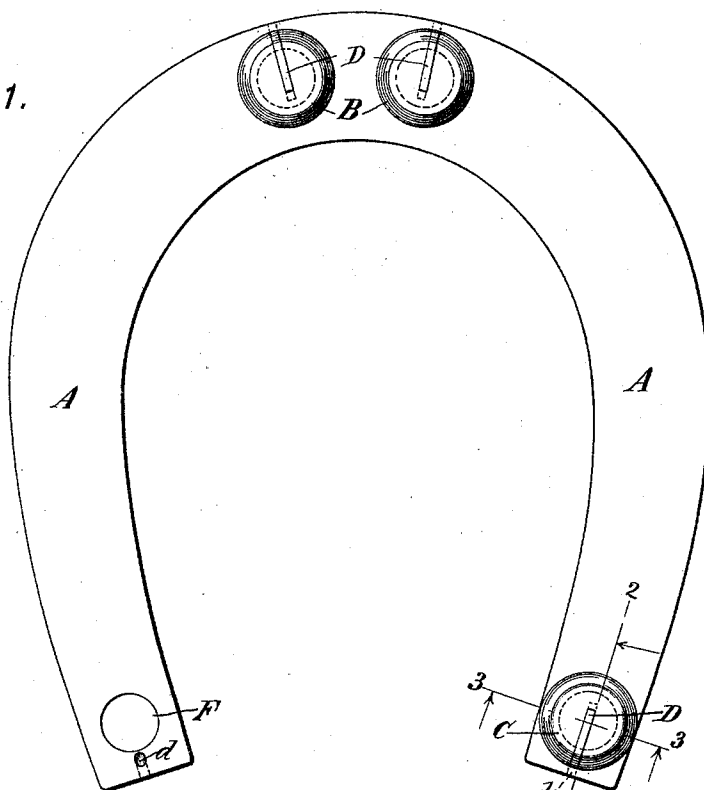


FIG. 2.

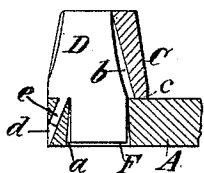


FIG. 3.

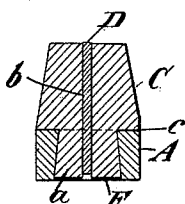


FIG. 4.

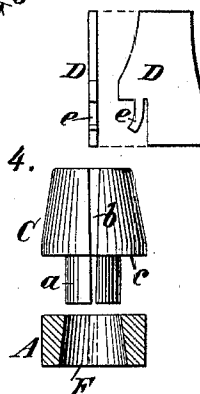
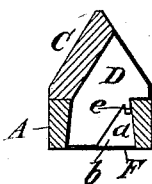


FIG. 5.



WITNESSES:

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ALBERT D. JEFFREY, OF BROOKLYN, NEW YORK, ASSIGNOR OF TWO-THIRDS
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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 476,798, dated June 14, 1892.

Application filed April 4, 1891. Serial No. 387,683. (No model.)

To all whom it may concern:

Be it known that I, ALBERT D. JEFFREY, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification.

This invention relates to horseshoes of the class wherein the calk is not integral with the body of the shoe, and it relates most particularly to removable or detachable calks for horseshoes.

The object of my invention is to provide an independent calk which can be more readily applied to the shoe and locked thereto than has been possible heretofore with calks of this class, and also to provide an independent calk which can be easily and cheaply manufactured, readily applied to and removed from the shoe, and which is of simple construction.

To this end in carrying out my invention in its preferred form I construct the calk with a shank adapted to enter a socket in the body of the shoe and with a preferably vertically-extended tapered slot bifurcating said shank and extending thence into and almost, but not entirely, through the body portion of the calk, and I provide a key adapted to enter said slot and when therein to lock said calk and shoe together, preferably by expanding the bifurcated shank against the walls of the socket, and I further prefer to prevent the displacement of said key by providing a recess in the shoe and adjacent to said socket and a special arm on the key constructed when the latter is in position to engage with said recess and thereby retain the key in position.

In the accompanying drawings, which illustrate the preferred form of my invention, Figure 1 is an under side plan view of a horseshoe provided with my improvements, one of the calks being removed. Fig. 2 is a fragmentary vertical section thereof, cut on the line 2 2 in Fig. 1. Fig. 3 is a fragmentary vertical section thereof, cut on the line 3 3 in Fig. 1. Fig. 4 is a fragmentary cross-section of the shoe, showing the calk and key removed and in elevation; and Fig. 5 is a cross-section showing a modification.

Referring to the drawings, let A indicate the body of the shoe, B B the toe-calks, C the heel-calk, and D the key.

The shoe A may be of any well-known construction and is provided with a socket F at each point where it is desired to attach a calk. The socket F is slightly enlarged internally, preferably being constructed with tapering walls.

The calk C may be of any desired shape and is provided with a shank *a*, adapted to enter the socket F. The shank *a* is preferably cylindrical and of a size sufficient to snugly fit the smaller portion of the socket. The shank, and preferably, also, the greater portion of the body of the calk is traversed by a slot *b*, which by preference entirely bifurcates the shank and extends vertically of the calk throughout its entire height, leaving only a narrow part of the body for connecting together the two sides. The shank *a* is preferably smaller than the body of the calk, thereby leaving a shoulder *c*, which rests against the body of the shoe A when the calk is in position and serves thereby to transmit any strains on the calk directly to the body of the shoe.

The key D may be of any suitable construction and is designed to force the bifurcated portions of the shank *a* into intimate contact with the enlarged portion of the socket F. This may be done in various ways; but I prefer to accomplish it by constructing the slot *b* with tapered walls where it traverses the shank *a*, the taper of these walls corresponding substantially with the internal taper of the socket F. The remainder of the slot *b* is preferably of uniform size and the key D is preferably of uniform thickness and adapted to closely fit the width of that portion of the slot *b* which traverses the body of the calk. By this construction when the key is driven home in the slot *b* its lower portion in passing the tapered portion of the slot spreads the bifurcated sides of the shank until the latter entirely fills and is in intimate contact with the side walls of the socket F.

When the calks have been placed in their respective sockets and their wedges driven home, the latter may be clinched in position and the shoe used; but I prefer to provide

mechanical means for preventing the displacement of the key D when in position. To this end I provide a suitable recess in the shoe-body and means on the key D, adapted to enter such recess and by engagement therewith prevent the displacement of the key. Preferably this is accomplished by constructing the body A of the shoe with a recess or hole *d*, adjacent to the socket F and extending angularly relatively thereto and through the shoe, and by providing an arm or analogous provision *e* on the key D, adapted, as the latter is driven home in the calk C, to enter said hole *d* and prevent displacement of the key. This construction is particularly desirable where the calks are to be removed while the shoe is on the horse's foot, as in such a case the key D may be displaced by inserting a tool in the hole *d* and driving the key D outwardly by a force exerted on its arm *e*, whereupon after the removal of the key the calk can be detached by withdrawing its shank from the socket. In many cases, however, the key D will not thus be locked in position, since, as it is shaped to correspond approximately in contour with the exterior outline of the calk and as to be withdrawn it must in the form shown be moved downwardly, it will in use be constantly forced into the locked position.

I prefer to so locate the recess *d* that when the calk and key are in place and the arm *e* of the latter is in engagement with the hole *d* the key will extend in a direction approximately parallel with the direction of strain of the shoe when in use, whereby liability of loosening the key during use is avoided; but this is not an essential feature, since the key may project in any desired direction.

In using my invention the shoe-body A is first provided with the necessary socket, and also with the hole *d*, when the latter is required. The calks are then inserted in their respective sockets, after which the respective keys are driven home, whereupon the shoe is ready for use. To remove a calk, either for renewal or for the substitution of one of a different character, the key is first driven out, whereupon the calk can be removed.

My invention provides an improved calk which can be readily applied to the shoe by any person without the use of tools, which can be very easily removed, and which can be cheaply made.

It will be understood that I do not limit myself to the particular details of construction and arrangement hereinbefore described and which constitutes the preferred form of my invention. These may be variously modified, or used in part only, as desired, without departing from the essential features of my invention.

Fig. 5 shows a modification in which my invention is shown as applied to a sharp calk. In the form shown the key D enters the slot *b* angularly, and its arm *e* engages with the wall of the socket F, being turned into contact

therewith after application or in any suitable manner. In this construction the hole *d* is omitted.

What I claim is, in horseshoes, the following-defined novel features and combinations, substantially as hereinbefore set forth, namely:

1. A horseshoe having a socket, in combination with a removable calk therefor having a shank adapted to enter said socket, said calk constructed with a vertical slot bifurcating its shank and extending thence into and almost but not entirely through its body portion, and a key adapted to enter said slot at the body end and when driven home therein to spread said shank laterally and thereby lock said calk and shoe together.

2. A horseshoe having a socket, in combination with a removable calk therefor having a shank adapted to enter said socket, said calk constructed with a vertical slot entirely bifurcating its shank and extending thence into and throughout the vertical length of its body portion and laterally almost but not entirely through its body portion, whereby the two halves of the calk are tied together only by a narrow part of its metal and are hence readily expansible, and a key adapted to enter said slot at the body end and when driven home therein to spread said shank laterally and thereby lock said shoe and calk together.

3. A horseshoe having an internally-enlarged socket and constructed with a hole adjacent thereto but extending angularly relatively thereto and through the shoe, in combination with a calk therefor having a split shank adapted to enter said socket, and a key adapted to enter said split shank and thereby lock the calk to the shoe and said key constructed with an angularly-extending arm adapted, when the key is in position, to enter said hole in the shoe, whereby by engaging therewith it prevents displacement of the key and the latter can be removed by acting on said arm through said hole from the other side of the shoe.

4. A removable calk for horseshoes, consisting of an integral body portion and a reduced shank *a* integral therewith, said body and shank constructed with a vertical slot traversing throughout their entire height and laterally through said shank and almost but not entirely through said body, whereby the two halves of the calk are tied together only by a narrow part of its metal and are hence readily laterally expansible, whereby a key may be entered into said slot at the body end and driven home therein toward the shank end for laterally spreading the shank to lock the calk to a horseshoe.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALBERT D. JEFFREY.

Witnesses:

GEORGE H. FRASER,
CHARLES K. FRASER.