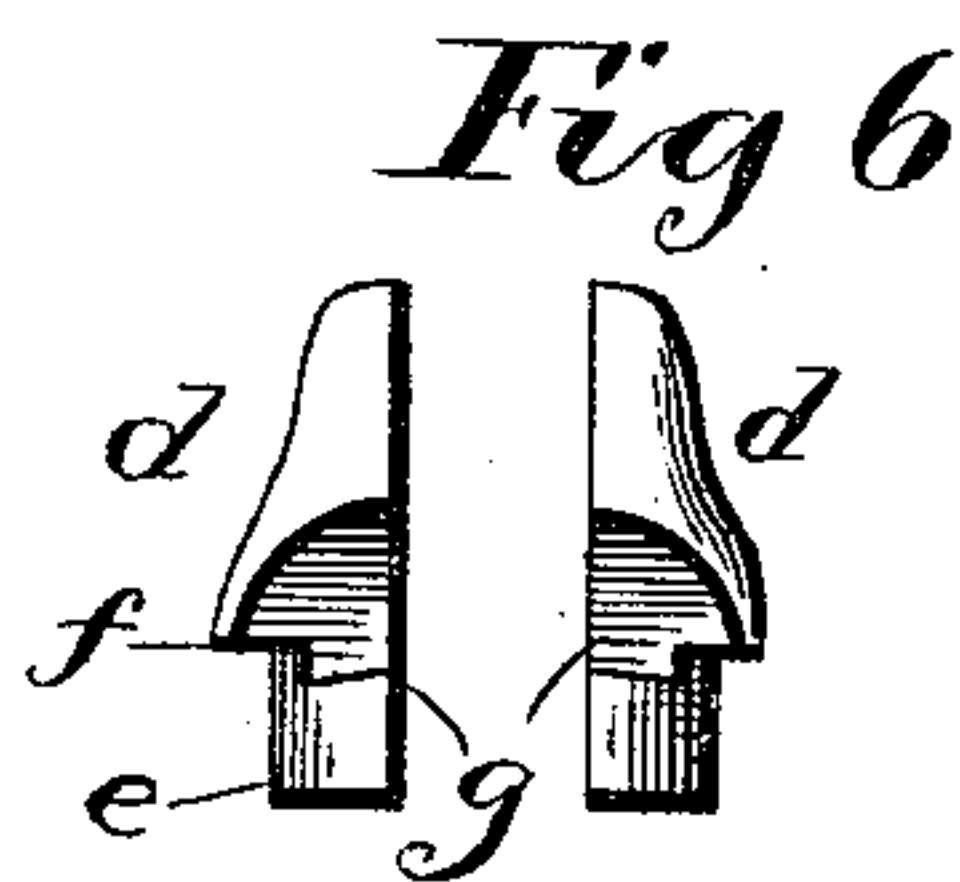
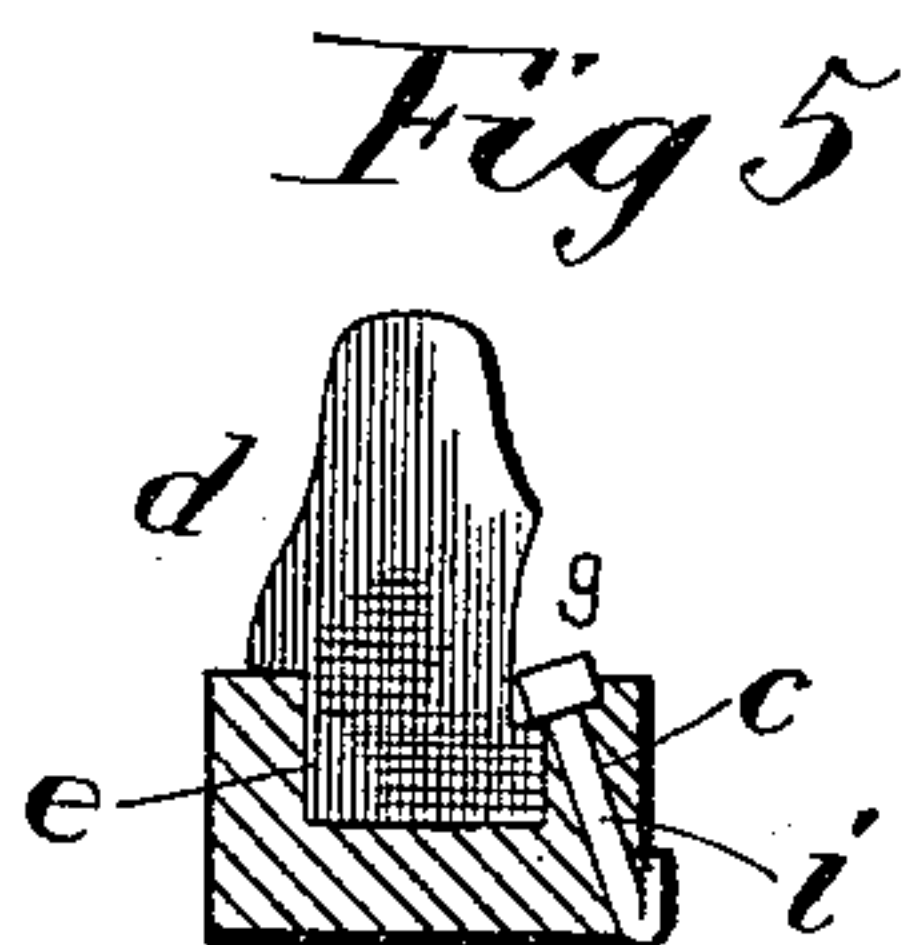
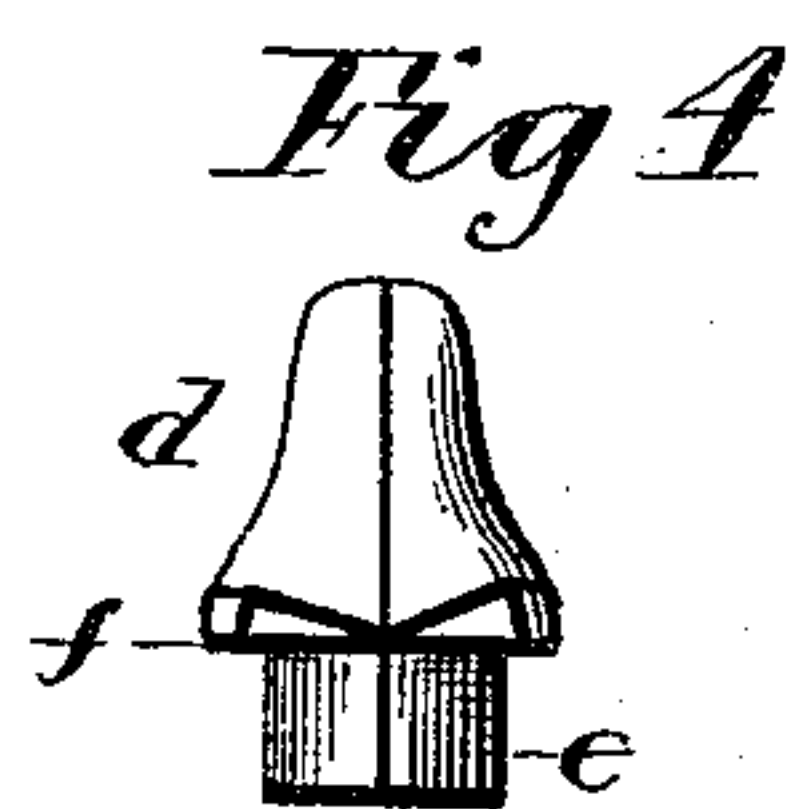
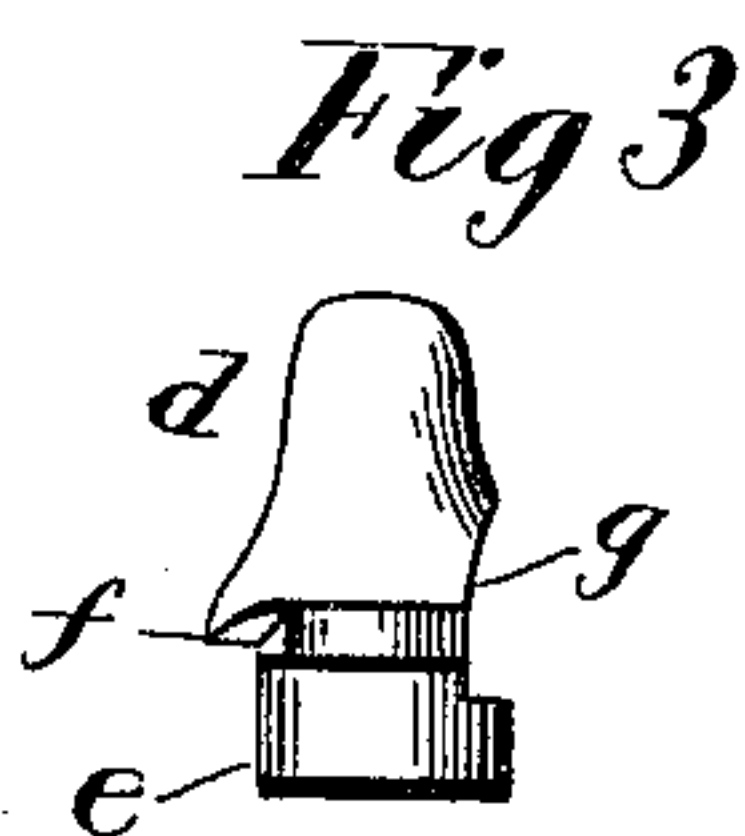
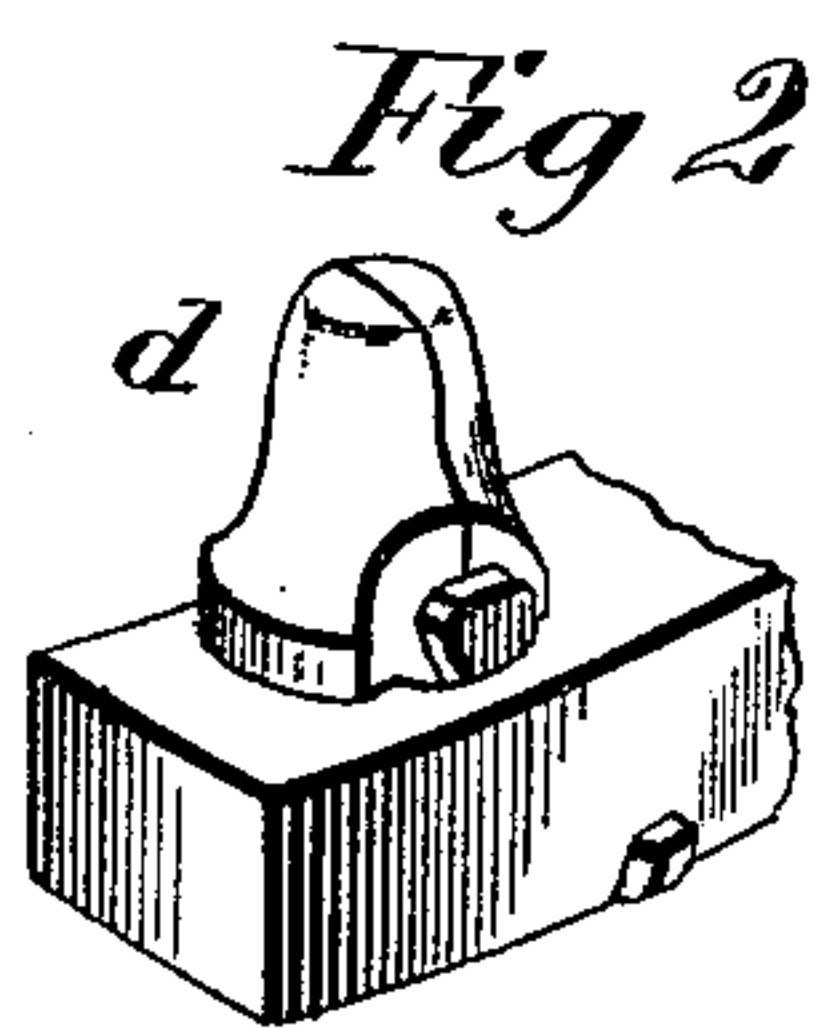
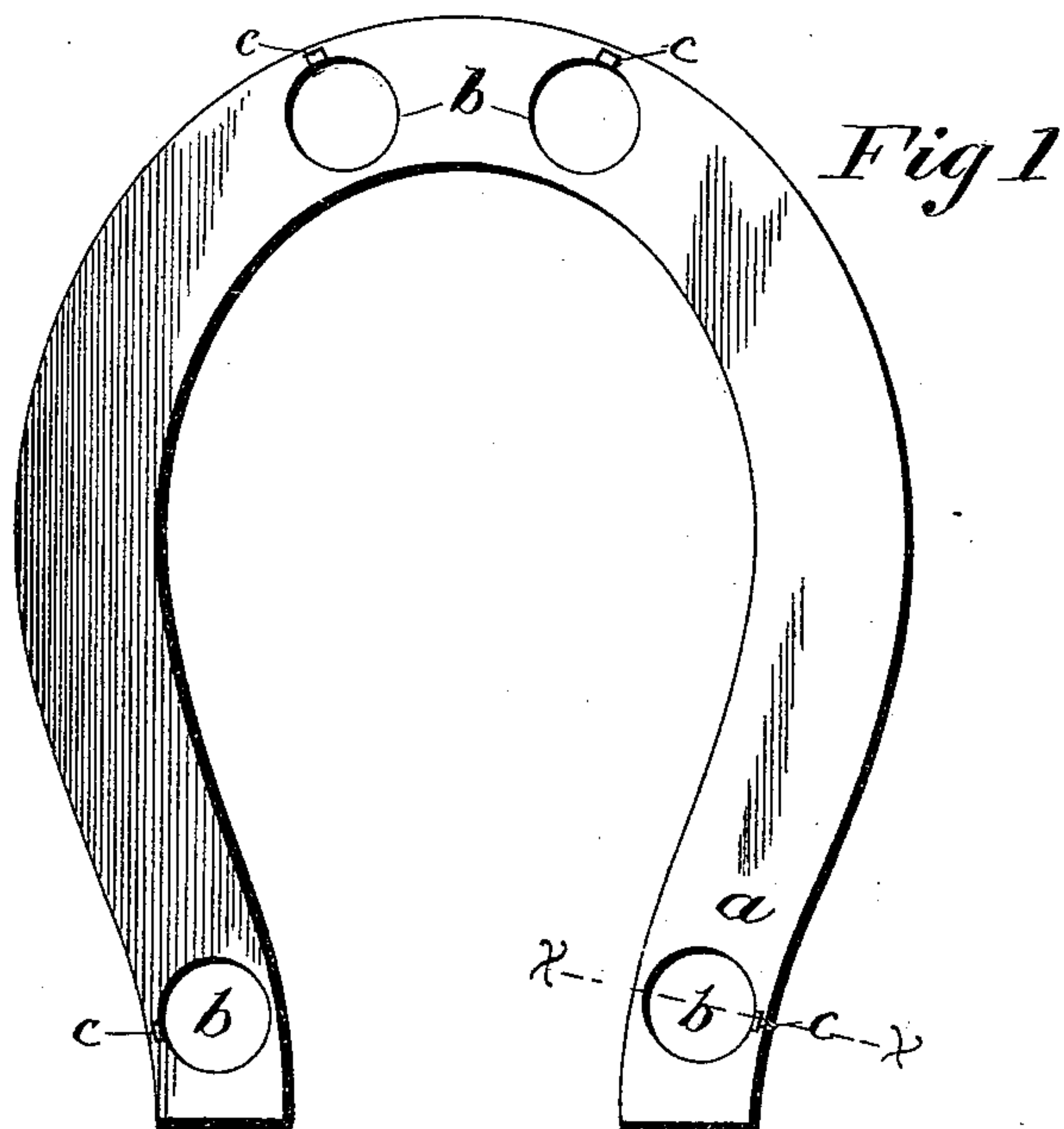


(No Model.)

J. C. HIGGINS.
DETACHABLE CALK FOR HORSESHOES.

No. 439,008.

Patented Oct. 21, 1890.



Witnesses.
C. C. Burdine
H. E. Pecker

Inventor
J. C. Higgins.
per O. E. Duff

Atty

UNITED STATES PATENT OFFICE.

JOSEPH C. HIGGINS, OF NEW BRUNSWICK, NEW JERSEY.

DETACHABLE CALK FOR HORSESHOES.

SPECIFICATION forming part of Letters Patent No. 439,008, dated October 21, 1890.

Application filed October 31, 1889. Serial No. 328,832. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. HIGGINS, a citizen of the United States, residing at New Brunswick, in the county of Middlesex and State of New Jersey, have invented a certain new and useful Improvement in Detachable Calks for Horseshoes, of which the following is a specification.

This invention relates to certain improvements in horseshoes and calks therefor.

The object of the invention is to provide an improved adjustable calk, and thereby avoid the common practice of sharpening, and to renew or replace worn and dull calks without the annoyance of taking off the entire shoe from the horse's foot.

These objects are accomplished by and my invention consists in certain novel features of construction and in combinations of parts more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a bottom plan of a shoe without the calks. Fig. 2 is a detail perspective of a portion of the shoe, showing a calk located in position thereon. Fig. 3 is a side elevation. Fig. 4 is a view of the side opposite that of Fig. 2. Fig. 5 is a section on line *xx*, Fig. 1, through a calk and the shoe. Fig. 6 is a detail elevation of a calk, showing the two sections composing the same separated.

In the drawings, the reference-letter *a* indicates a horseshoe provided with the transverse vertical sockets or openings *b* extending through the shoe, the toe being preferably provided with two such calk-receiving sockets and the end of each leg or the heels of the shoe being each provided with a socket, as shown in Fig. 1. Each such socket *b* is provided with an oblique locking-key aperture *c* at its lower end opening through the outer side of the lower edge of the wall of the socket and from thence extending upwardly and diagonally through the shoe to and through the upper edge of the periphery or outer edge of the shoe, as clearly shown in Fig. 5. The sockets *b* are for the reception of the calks *d*. Each calk is formed in two vertical sections, the calks being centrally divided, so that the two sections are exactly alike and fit together to form the perfect calk. The calks are constructed of a conical

form, so that the base of the cone is larger than the socket *b*, which base is provided with a rounded or cylindrical shank *e* to snugly fit in the socket, thereby forming the bases or lateral shoulders *f*, which bear against the under surface of the shoe around the socket in which the central shank fits. The outer side of the calk opposite the lower end of the aperture *c* for the locking-pin is provided with a tangential or transverse recess *g*, forming at its lower end an abrupt shoulder across the shank, from which shoulder the wall of the recess extends downwardly. The other side of the calk diametrically opposite the recess *g* is formed to make the double-wedge-shaped recess *h*—i. e., the base *f* of the cone is formed in a double incline, making with the under face of the shoe the double-wedge-shaped recess, as shown in Fig. 4. The two halves of the calk are placed together and the shank thereof inserted in the calk-socket *b*, with the recess *g* opposite the lower end of the aperture *c*. A locking-pin *i*, consisting usually of an ordinary headed horseshoe-nail, is driven into the hole *c* from the bottom upward, so that its end will extend out through the upper end of the hole. This end is then clinched down on the outer edge of the shoe, so that the nail will be retained. The head of the nail is thereby located in the recess *g*, bearing against the calk and directly below the shoulder of said recess. Hence the calk is firmly and rigidly locked in the socket against any displacement, as the shank of the calk fills the socket above the head of the pin and cannot pass out without first removing said pin. After the pin has been removed the calk can be easily detached by driving a wedge under one of the inclined faces of the recess *h*.

Great advantages are attained by the vertically-divided calk. The lower ends of the calk-sections, by reason of the concussion, tend to spread or separate and are held apart by being partially upset at their lower ends. The lateral pressure thus produced at the base and shank tightens the calk firmly in the socket, and thereby prevents all frictional wear at the point of contact with the shoe and also prevents all rattling sounds.

What I claim is—

1. The combination, with the shoe having

a vertical socket and an oblique aperture extending through the lower edge of the socket and upwardly through the outer edge of the shoe, of the removable calk having a base
5 bearing against the shoe and a shank fitted in and completely filling said socket, the calk being provided with a side recess at the junction of its base and shank, thereby forming a shoulder on the same side with and above
10 the lower end of said aperture, and the locking-nail in said aperture, with its outer end clinched on the edge of the shoe and its head rigid in said recess below said shoulder, as set forth.

15 2. The combination, with a horseshoe having a vertical socket, of a calk having a shank fitted in said socket, said calk and shank being formed of two similar vertical sections, for the purpose set forth, fitted together to
20 form a single calk, and means for securing the calk, substantially as described.

3. The combination, with a horseshoe having a vertical socket, of a conical calk having a base bearing against the shoe, a shank fit-

ted in said socket, and a side recess at the
25 junction of base and shank, said calk being centrally and vertically divided through said recess into separate similar sections, for the purpose set forth, and the single locking-pin
30 fixed to the shoe with its head fitted in said recess and securing the calk, as set forth.

4. The combination, with a horseshoe having a vertical calk-socket, of a conical calk having a base, a shank fitted in said socket and provided on one side with a recess at
35 the junction of base and shank and on the diametrically-opposite side having its base shaped to form a double-wedge-shaped recess, said calk being vertically divided centrally through said two recesses into similar
40 separate sections, and the fixed locking-pin having its head fitted in said side recess, as set forth.

JOSEPH C. HIGGINS.

Witnesses:

R. HARDENBERGH,
GEO. K. PARSELL.