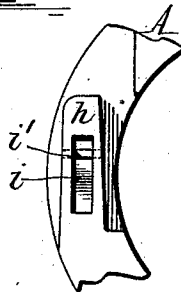
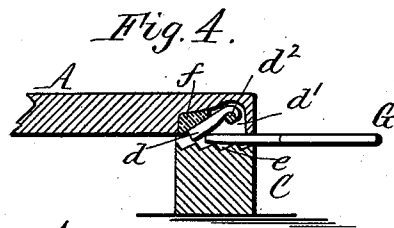
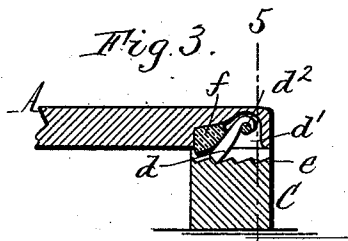
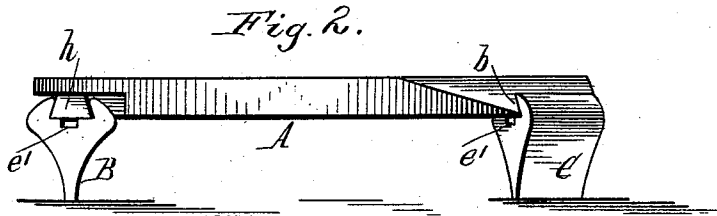
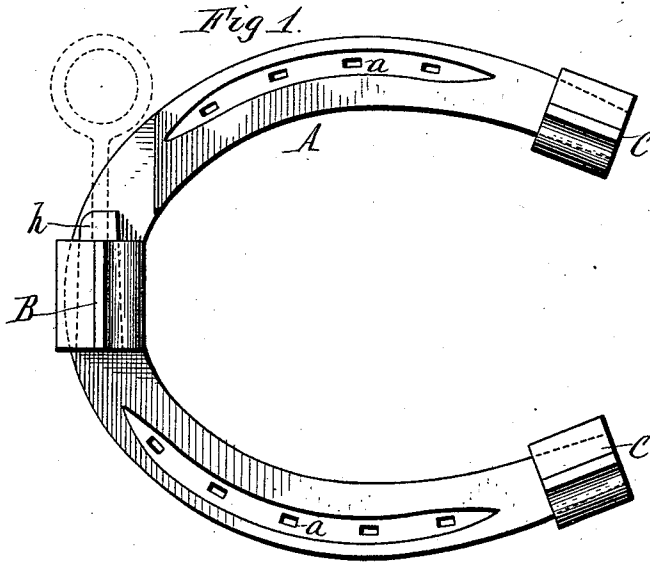


(No Model.)

O. E. BROWN.
HORSESHOE.

No. 524,055.

Patented Aug. 7, 1894.



WITNESSES:

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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 524,055, dated August 7, 1894.

Application filed October 28, 1893. Serial No. 489,338. (No model.)

To all whom it may concern:

Be it known that I, OSCAR E. BROWN, a citizen of the United States, residing at the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Horseshoes, of which the following is a specification.

This invention relates to horse-shoes in which the calks are detachable, so that they may be removed for sharpening them when dull, or be renewed, when worn out.

My invention has for its object to provide a simple fastening which reliably secures the calks to the body of the horse-shoe and which permits the calks to be readily removed.

In the accompanying drawings, Figure 1 is a bottom plan view of a horseshoe containing my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical longitudinal section of the horseshoe through one of the heel calks, showing the locking catch engaged with the calk. Fig. 4 is a similar view, showing the catch unlocked, or in the position in which it permits the calks to be removed. Fig. 5 is a vertical cross section in line 5-5, Fig. 3. Fig. 6 is a bottom plan view of the toe portion of the horseshoe with the toe calk removed.

Like letters of reference refer to like parts in the several figures.

A is the body of the horseshoe having the usual nail holes *a*.

B represents the removable toe calk and C the removable heel calks. Each heel calk is provided in its upper portion with a longitudinal groove or socket *b* which receives the adjacent heel portion of the horseshoe, the socket being undercut or dovetailed in cross section and the heel portion of the horseshoe being correspondingly shaped, so as to hold the calk against downward movement on the shoe. This socket and the contiguous portion of the horseshoe are preferably tapered lengthwise, as indicated by dotted lines in Fig. 1, so that the calk is wedged upon the heel of the horseshoe.

On the under side of each heel portion of the horseshoe is arranged a catch *d* which is adapted to interlock with one of a longitudinal series of shoulders or ratchet teeth *e* formed in the bottom of the calk socket *b*, as shown in Figs. 3 and 5. This catch prefer-

ably consists of a pawl arranged in a recess or cavity *d'* formed in the under side of the heel and is hung with its upper end upon a transverse pin *d²* arranged in said recess. The pawl is preferably loosely attached to this pin by means of an open hook which is so bent that when the pawl is in its normal forwardly inclined position shown in the drawings, the hook remains in engagement with the pin *d²*, while when the pawl is swung to a backwardly inclined position, its hook may be disengaged from the pin. This forms a simple construction which permits the pawl to be readily removed and replaced by a new one in case it becomes broken.

f is a spring which is interposed between the lower front side of the pawl and the front wall of the recess *d'* and which tends to press the free end of the pawl into engagement with the ratchet teeth of the calk socket, so as to lock the calk upon the horseshoe. This spring preferably consists of a block of rubber which is compressed when the pawl is moved out of engagement with said teeth. These teeth are preferably formed in a longitudinal groove *e'* formed in the bottom of the calk socket, as most clearly shown in Fig. 5. This groove forms a guide channel for a rod or key *G* whereby the free end of the pawl may be lifted clear of the teeth of the calk, as shown in Fig. 4, for releasing the calk, preparatory to withdrawing or driving it off the shoe.

The rubber block *f* will remain in its recess merely by frictional contact but if desired it may be cemented or otherwise fastened in place.

In applying a heel calk to the horseshoe, the dovetail socket of the calk is engaged with the heel of the shoe and firmly wedged upon the latter. In moving the calk forwardly on the heel, the yielding pawl is swung upward by the teeth of the calk and caused to ride over the latter, until the calk is driven home, when the rubber block, which has been compressed by the upward movement of the pawl, expands and forces the abrupt end of the latter into engagement with the front face of the adjacent calk tooth, thereby securely locking the calk on the horse shoe. When it is desired to remove the calk, the locking pawl is disengaged from the teeth of

the calk by inserting the key or rod G in the guide groove *e'* whereby the pawl is swung upward clear of the teeth and the calk is released, permitting the same to be driven off the tapering heel of the horseshoe by a light blow.

The toe calk is constructed in all respects like the heel calks, but the sides of its socket, instead of embracing the edges of the horseshoe, as in the case of the heel calks, engage with a rib or tenon *h* of dovetail cross section arranged on the toe portion of the shoe, as shown in Figs. 1 and 2. The under side of this rib is preferably flush with the under side of the horseshoe body and is formed by recessing or cutting away the body in the manner shown in the above mentioned figures. The rib is tapered to fit the correspondingly shaped socket of the toe calk and is provided with a cavity *i* for the reception of the locking pawl and a pivot pin *i'* for the pawl, as shown in Fig. 6. The pawl is held in engagement with the teeth of the calk by a rubber block seated in the cavity of the rib and is unlocked in the same manner as the heel calks.

When the rubber blocks lose their elasticity, they are readily renewed at nominal cost.

I claim as my invention—

1. In a horse shoe, the combination with the body of the shoe, of a removable calk having an undercut socket which engages with a correspondingly-shaped portion of the horse shoe body, a tooth or shoulder arranged in said socket, and a movable locking catch or pawl attached to the horse shoe body, projecting into the socket of the calk and engaging against the tooth or shoulder in said socket, substantially as set forth.

2. In a horseshoe, the combination with the body of the horseshoe having a tapering dovetail portion, and a locking catch, of a removable calk having a tapering dovetail socket engaging with the corresponding portion of the horseshoe body, and provided in its socket

with ratchet teeth with which said catch interlocks, substantially as set forth.

3. In a horse shoe, the combination with the body of the horseshoe having a dovetail portion, a pivoted pawl, and a spring bearing against said pawl, of a removable calk having a dovetail socket engaging with the corresponding portion of the horseshoe body, and provided in its socket with teeth with which said pawl engages, substantially as set forth.

4. In a horseshoe, the combination with the body of the horseshoe having a dovetail portion, a pivoted pawl, and a block of rubber bearing against said pawl, of a removable calk having a dovetail socket engaging with the corresponding portion of the horseshoe body, and provided in its socket with teeth with which said pawl engages, substantially as set forth.

5. In a horseshoe, the combination with the body of the horseshoe, having a recess and a transverse pin arranged in said recess, of a removable pawl having a hook engaging with said pin, and a detachable calk having a socket which receives the recessed portion of the horseshoe body, and teeth arranged in said socket with which said pawl engages, substantially as set forth.

6. In a horseshoe, the combination with the body of the horseshoe having a tapering dovetail portion and a locking catch, of a detachable calk having a tapering dovetail socket engaging with the dovetail portion of the horseshoe body, a longitudinal guide groove formed in the bottom of its socket, a series of ratchet teeth arranged in said guide groove, and a spring whereby the locking catch is held in engagement with the teeth of the calk, substantially as set forth.

Witness my hand this 23d day of October, 1893.

OSCAR E. BROWN.

Witnesses:

CARL F. GEYER,
CHAS. F. BURKHARDT.