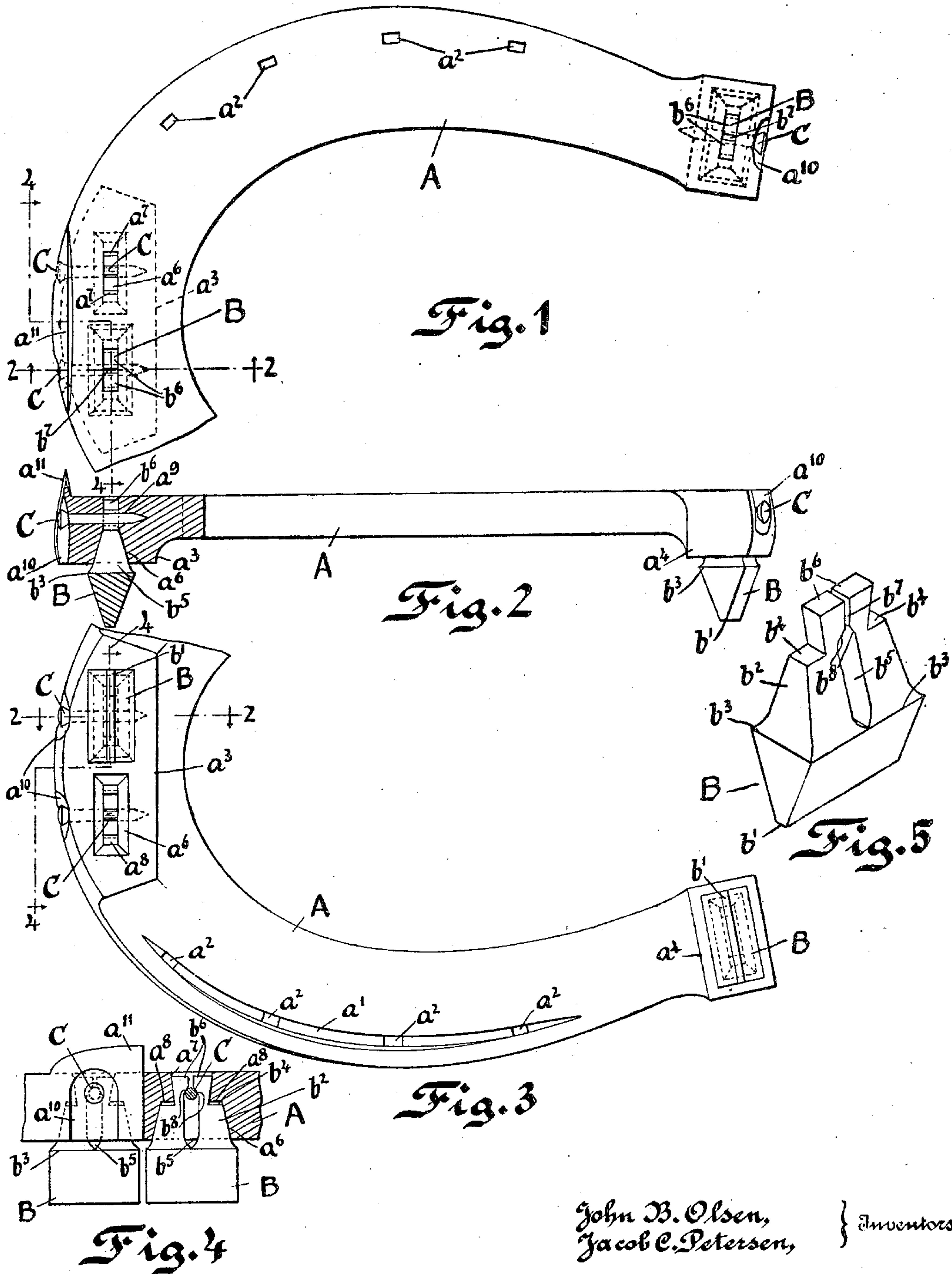


J. B. OLSEN & J. C. PETERSEN.
HORSESHOE WITH REMOVABLE CALK.
APPLICATION FILED JAN. 18, 1909.

934,624.

Patented Sept. 21, 1909.



Witnesses

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JOHN B. OLSEN AND JACOB C. PETERSEN, OF RACINE, WISCONSIN.

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Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed January 18, 1909. Serial No. 472,919.

To all whom it may concern:

Be it known that we, JOHN B. OLSEN and JACOB C. PETERSEN, of Racine, Wisconsin, have invented a Horseshoe with Removable

5 Calk, of which the following is a specification.

Our invention has for its object to provide a readily detachable and replaceable calk for horse-shoes and to avoid the practical difficulties which present themselves and the practical objections which are inherent in other forms of calks. Heretofore although many attempts have been made to solve this problem satisfactorily, few if any of the detachable calks which have been invented are in practical use. We find on examination that this is generally due to one of three circumstances, viz: either the calk is practically impossible to remove after it becomes worn down by use and rusted into the shoe; or secondly, that it does not maintain itself firmly in place and becomes loosened by use; or thirdly, it cannot be detached without removing the shoe from the horse's foot.

It is our object therefore, to produce a horseshoe-calk, with means for setting in the shoe, that shall avoid all these difficulties, the same being removable and replaceable at all times without any tools except a nippers or nail-claw and without detaching the shoe from the hoof; and which shall, moreover, retain itself firmly in position and not become loosened.

35 We further aim to produce a calk which, when it becomes worn down to a stub, breaks in two and thus becomes loosened of itself so that it will readily drop out.

Our invention comprises the constructions and combinations which will be hereinafter described and pointed out in the claims.

For the better understanding of our invention we have illustrated same in the accompanying drawings wherein—

45 Figure 1 is a plan view of a portion of a shoe embodying our invention, one of the front calks being removed; Fig. 2 is a sectional elevation thereof, the section being taken on the plane 2; Fig. 3 is a bottom plan view of the same; Fig. 4 is a fragmentary front view of the middle portion of the shoe partially in section on the plane 4, the calk, however, being shown in elevation; and Fig. 5 is a perspective view of the calk on an enlarged scale.

In these drawings every reference letter and numeral refers always to the same part.

The shoe, designated A, provided with the usual means for attaching it to the horse's foot, as for example, a crease a' and nail-holes a^2 , is made with a central calk-lug a^3 and end calk-lugs a^4 on the bottom-side thereof for the calk-sockets a^6 , of which there is one at each end and two in the center, as shown. These sockets are oblong-rectangular in cross-section (see the lower front-socket in Fig. 3, which is open) and pass completely through the shoe forming holes therein. The lower ends of these sockets a^6 are tapered upwardly on all four faces as shown; but the upper ends of the sockets are constricted and tapered in the opposite direction on their end-faces only, as indicated at a^7 . The calk B, which fits in this socket is likewise of oblong-rectangular shape, the lower end which forms the striking surface being appropriately tapered to a blunt edge b^1 , or shaped as may be desired according to the ground on which the animal carrying it has to walk. The upper portion or shank b^2 of the calk is tapered to fit the socket a^6 , and between it and the head is a shoulder b^3 , whereby the calk may be grabbed by a pair of nippers when it is necessary to extract it. The upper end of the tapered shank b^2 is cut off at b^4 slightly below the point at which it would strike the internal shoulder a^8 of the socket a^6 , so that the calk may wedge firmly into the socket, and that pressure thereon tends to drive it only more firmly into place. The shank of the calk is centrally divided into two parts by a cleft b^5 extending from the top to the shoulder b^3 , as clearly shown in the drawings, Figs. 4 and 5; and on the upper end of the shank are a pair of lugs b^6 , the front and rear faces of which are parallel, but the side faces downwardly tapered or dovetailed so as to fit the tapered faces a^7 of the socket. It will be observed that the cleft b^5 has a constriction at b^7 , its faces below said constriction being oblique as shown at b^8 and acting in conjunction with a holding-pin or nail C which fits in a hole or socket a^9 running transversely across the socket a^7 in the constricted portion thereof. A recess around the hole is preferably formed at a^{10} , whereby the head may set flush with the outer surface of the shoe, at the same time enabling it to be readily grabbed by the nippers.

To set a calk in place, the lugs b^6 are squeezed together sufficiently to enter the constricted portion of the socket a^6 and when firmly in place the nail C is thrust in, and the point thereof acts on the oblique surface b^8 in a wedge-like manner, forcing the dovetailed lugs b^6 outward against the surfaces a^7 of the socket and at the same time acting to draw the calk more firmly into the socket.

The resiliency of the metal allows the necessary constriction and spread of the lugs b^6 to take place without difficulty, and when the nail is driven into place, the calk is held so firmly as to be absolutely immovable.

Even if the calk become rusted into place, it can be readily removed at any time by simply withdrawing the nail, which can be done by nippers or nail-claw. After withdrawing nail the calk can be knocked loose with a hammer or withdrawn by nippers catching under the shoulder b^3 as previously described. And even if the calk should become worn down practically flat with the shoe, in other words, worn down below the shoulder b^3 , in this case the cleft b^5 causes the stump left in the hole to fall apart of itself into two pieces, which are readily loosened and removed separately. Thus it is impossible for the calk to become stuck in the hole or worn down so far that it cannot be removed, as is the case with other calks thus far invented. By this construction we overcome one of the greatest practical difficulties in this branch of the art.

We usually prefer to form the shoe A with a toe-clip a'' , but this is not essential to our invention.

Various changes and modifications in the construction as herein shown may be made without departing from the spirit of our invention, and we wish it understood therefore that the latter is not otherwise limited than by the reasonable scope of our claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A horseshoe-calk having an upwardly tapered shank and dovetailed lugs of reverse taper on the upper end of said shank; said shank being centrally cleft from the top downward.

2. A horseshoe-calk having an upwardly tapered shank and dovetailed lugs of reverse taper on the upper end of said shank; said calk being of a single piece centrally cleft from the top downward; in combination with a shoe having a socket fitting said tapered shank and with the upper end tapered downwardly to engage with said lugs.

3. A horseshoe-calk having an upwardly tapered shank and dovetailed lugs of reverse taper on the upper end of said shank; said calk being centrally cleft from the top downward; in combination with a shoe having a socket fitting said tapered shank and

with the upper end tapered downwardly to engage with said lugs; and a pin removably set in a socket transverse to said calk passing through the cleft thereof and wedging said lugs apart.

4. A horseshoe-calk having an upwardly tapered shank and dovetailed lugs of reverse taper on the upper end of said shank; said calk being centrally cleft from the top downward; in combination with a shoe having a socket fitting said tapered shank and with the upper end tapered downwardly to engage with said lugs; and a pin removably set in a socket transverse to said calk passing through the cleft thereof and wedging said lugs apart; the inner face of said cleft being provided with surfaces (b^8) which are engaged by said nail and act to draw the calk more firmly into its socket.

5. A horseshoe-calk having an upwardly tapered shank and dovetailed lugs of reverse taper on the upper end of said shank; said calk being centrally cleft from the top downward; in combination with a shoe having a socket fitting said tapered shank and with the upper end tapered downwardly to engage with said lugs; and a pin removably set in a socket transverse to said calk passing through the cleft thereof and wedging said lugs apart; the shoe being provided with a recess around the head of said nail whereby the latter can be grabbed by nippers while sitting flush with the outer surface of the shoe.

6. In combination with a shoe having a recess which forms a calk-socket, a calk having a shank fitting in said socket, and said shank having an aperture provided with downwardly diverging oblique surfaces, a pin fitting in a socket in said shoe and traversing said aperture, and holding said calk in place, said pin or nail abutting against said oblique surfaces and acting against them to draw said calk more firmly into its position.

7. A horseshoe-calk which is cleft longitudinally to a point slightly below the lower surface of the shoe, whereby it will fall apart into two pieces when it becomes worn down nearly flush with the shoe; in combination with a pin fitting in a socket and extending from the outer edge of the shoe transversely across the said calk and through the cleft thereof, said cleft having oblique downwardly diverging faces which are held by said pin to draw the calk upwardly and hold it firmly in its socket.

In witness whereof we have hereunto set our hands this 31st day of December, 1908.

JOHN B. OLSEN.
J. C. PETERSEN.

Witnesses:

LOUIS MOGENSEN,
DORA JENSEN.