(No Model.)

A. OTTE.

CALK FOR HORSESHOES.

No. 587,399. Patented Aug. 3, 1897.

Fig. 1.

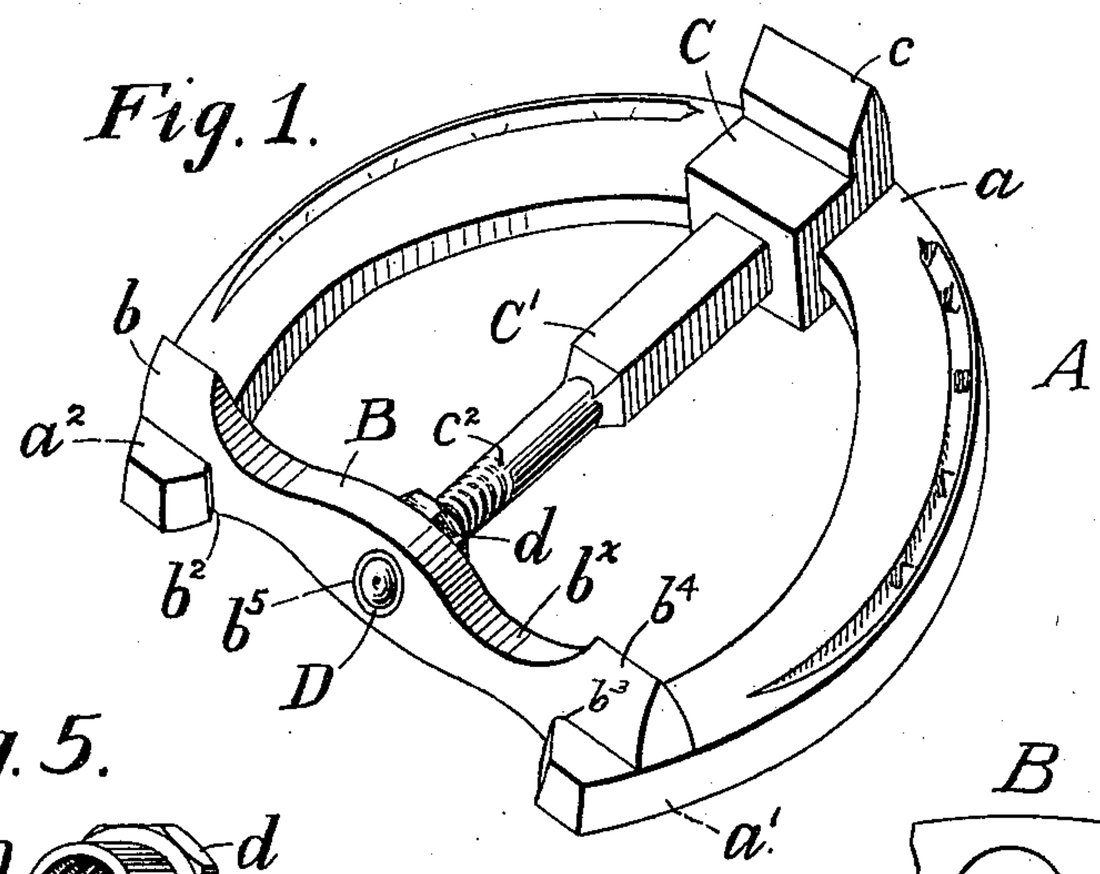


Fig. 5.

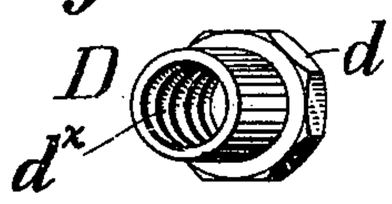


Fig. 4.

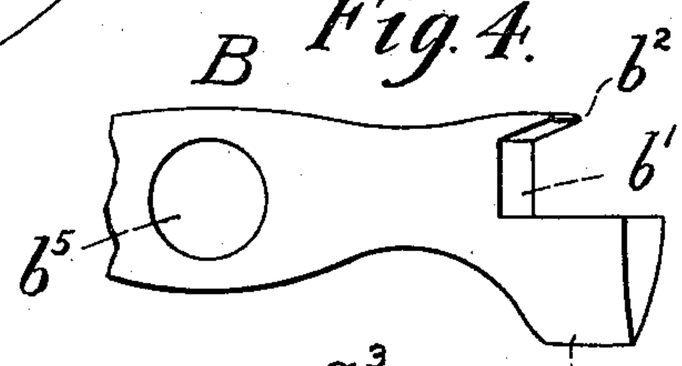


Fig. 3.

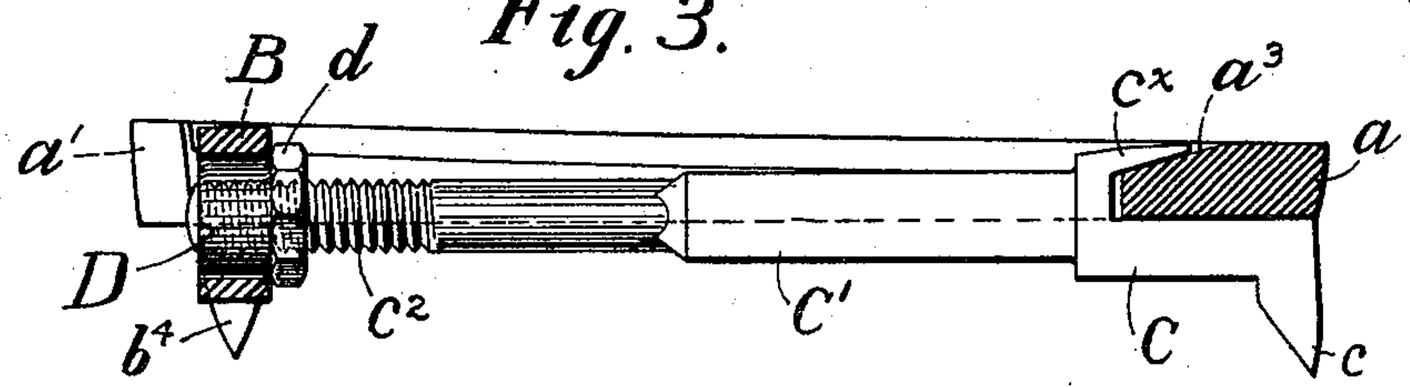
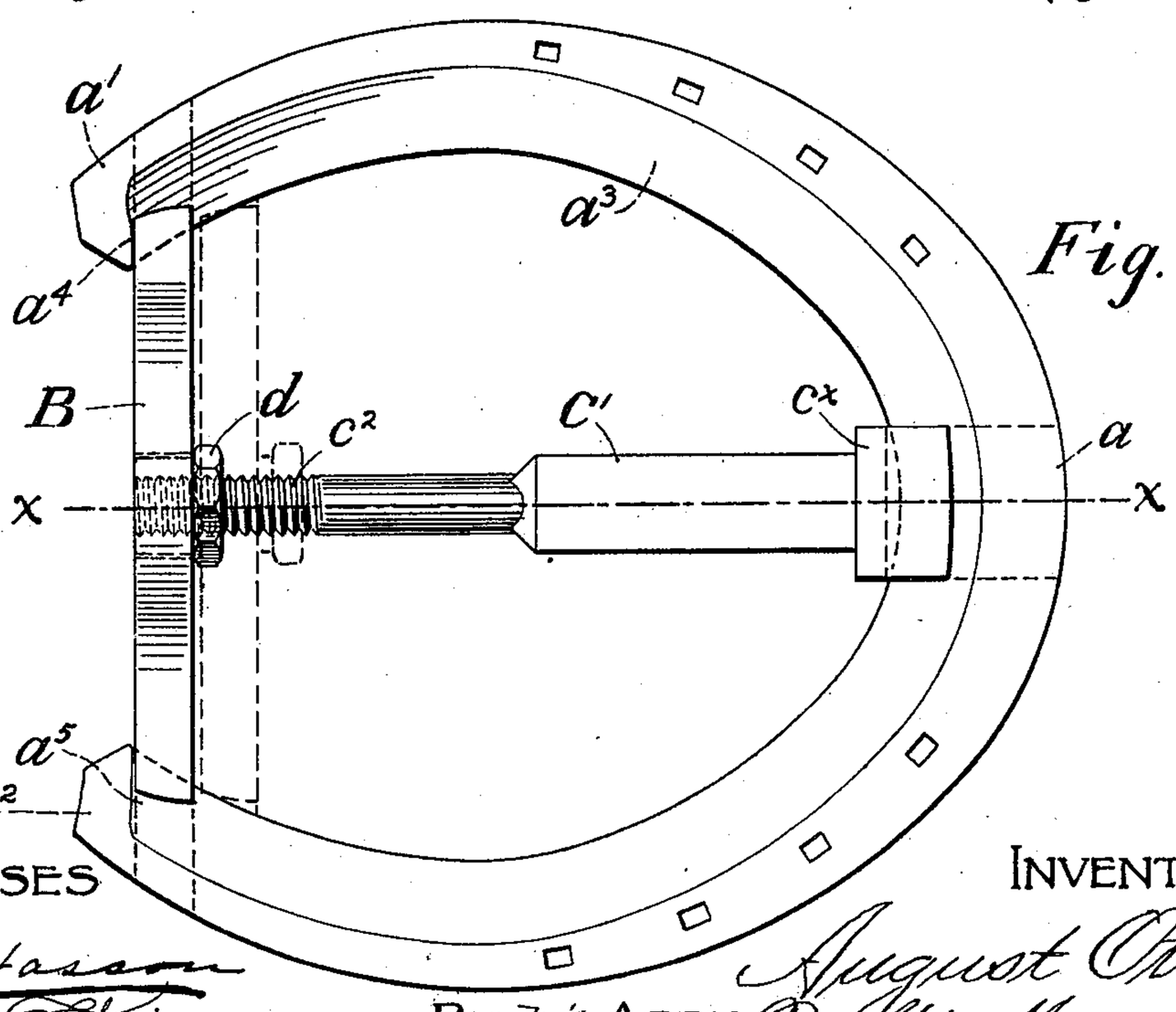


Fig. 2.



WITNESSES

E. L. C. Hasson

R. C. Hadley

INVENTOR.

August Otte

BY his ATTY. Richard C. Manning

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AUGUST OTTE, OF HERINGTON, KANSAS.

CALK FOR HORSESHOES.

SPECIFICATION forming part of Letters Patent No. 587,399, dated August 3, 1897.

Application filed March 30, 1897. Serial No. 629,993. (No model.)

To all whom it may concern:

Be it known that I, AUGUST OTTE, a citizen of the United States, and a resident of Herington, in the county of Dickinson and State of Kansas, have invented certain new and useful Improvements in Calks for Horseshoes; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is a detachable calk for the shoes of horses, which can be applied to the shoe while upon the hoof, either at the toe or heel of the shoe, or both, and removed without loss of time; and it consists in the novel construction and assemblage of parts such as will be first fully described, and specifically pointed out in the claim.

In the drawings, Figure 1 is a view in perspective of a horseshoe from the outer or under side, showing my invention applied thereto. Fig. 2 is an enlarged plan view of the inner or hoof side of the shoe and of the invention, also showing in dotted lines the heel-bar in position for removal of the calks. Fig. 3 is a vertical sectional view taken upon lines $x\ x$ of Fig. 2. Fig. 4 is a broken detail view of the transverse heel-bar. Fig. 5 is a detail view of the thimble and nut.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A represents a "blank" horseshoe of the usual description, the outer or under side having a flat surface without calks.

a is the toe, and a' and a^2 are the separate heels of the shoe.

The inner or hoof side of the shoe is beveled or inclined from a point a considerable distance from the outer edge and in the direction of the inner edge of the shoe, as at a^3, and extends around the inner side of the shoe in the direction of one heel a' of the shoe and terminates at a point a short distance from the end of the shoe in that direction, thus forming a shoulder a^4, and in the direction of the heel a^2 of the shoe terminates at a point the same distance from the end of the shoe as upon the heel a' and at the shoulder a^5.

B represents the detachable heel-bar of the invention. Extending from the outer edge and at one end of bar B, which is about the thickness of the plate composing the shoe, is a calk b. In the said end of bar B, having calk b, and between the calk and the inner edge of said bar is a notch b', the inner side of which notch is inclined, as at b^2, corresponding with the inclination of the inner surface of the shoe, as at a^3, the outer side of which notched end of the bar is in contact with the shoulder a^4 of the shoe. The other end of the bar B is notched, as at b^3, and provided with a calk b^4 in precisely the same manner as described of the notch b' and calk b, and the bar is extended in a transverse direction to the shoe. The outer side of said end of the bar B is in contact with the shoulder a^4 on the heel a' of the shoe. In the bar B at a point equidistant from the ends is a transverse opening b^5.

At the toe of the shoe, extending from the inner edge to the outer edge and over the outer side of the shoe, is a plate C, upon the forward end of which plate is a calk c. The rear end of the plate is bent at right angles over the inner edge of the shoe, and the opposite sides are forged or beveled, as at $c^\times$, to a point in the direction of the end and then bent at an angle to the shoe upon the inclined surface a^3. With the inner side portion of the plate C, in the direction of bar B, is rigidly connected one end of a brace-bar C', the other end of which bar is cylindrical in form and screw-threaded, as at c^2. Said screw-threaded end of bar C' is considerably less in diameter than the opening b^5 on bar B and is extended through said opening to a position, as in Fig. 1, in line with the outer side of said bar. Upon the screw-threaded end c^2 of bar C' is a thimble D, internally screw-threaded, as at $d^\times$, which extends within the opening b^5 and between the screw-threaded end of the bar and said opening, and upon the inner end of the thimble is connected rigidly a nut d.

In the attachment of the calks to the shoe while upon the hoof of the animal the thimble D is turned or adjusted upon the threaded end c^2 of bar C' in the direction of the plate C as far as permitted and the bar B is moved in the same direction. The hoof then being raised to the ordinary height for shoeing purposes, the beveled end $c^\times$ of the plate C is in-

serted beneath the toe a of the shoe, the calk c being directed outwardly. The beveled side b^2 of the notch b' is inserted between the hoof and the shoe with the calk b directed outwardly. The other end of the bar is placed in position in the same manner as that of the end having calk b. The nut d and the thimble D are then turned upon the threaded ends of bar C′ until the nut d is brought in contact with the inner side of bar B. The nut d is then turned by suitable force, a wrench being preferably used, and the bar B is forced against the shoulders a^4 a^5 at the respective ends or heels a' a^2 of the shoe, and the calks are firmly united with the shoe.

For the purpose of detaching the calks the operation above described is reversed.

The advantages of my invention are such as to supply the calks at times of the greatest need, especially when frozen surfaces of ground incur a danger to animals smooth-shod and the urgency for the calks is immediate. A further utility found in the described manner of attaching the calks to the shoe is in the advantage presented for sharpening the calks which have become dull from constant wear. When once attached, the calks upon the hoof are firm and secure in position, the width of base of each calk, as well as the bar C′, serving to resist lateral strain upon the bar. The calks may be employed either at the toe or heel, each plate C or bar B being readily fashioned with or without the calks, as the necessity requires.

I have shown the outer edge of the bar B between the calk b^4 and the point of connection of the bar C′ therewith curved inward in a slight degree, as at $b^\times$, and in the same manner in the direction of calk b, thereby presenting more of the calk from the edge of the bar; but the edge may be made straight, if desired.

In the slight expansion which may occur in forcing the heels a' a^2 of the shoe outwardly to permit the bar B to engage the shoulders a^4 a^5 no strain is brought upon the hoof of the animal, owing to the distance the heel describes from the portion secured to the hoof by the nails nearest thereto.

In order to provide for different sizes of horseshoes, the bar B may be made in different lengths, so as to fit the heels, between which the distance will vary. Should it become necessary or convenient to make the bar intact with the shoe, the toe-calk will be readily removed or inserted in place, as though the bar B were also detachable, the thimble being adjusted upon the threaded end c^2 of the bar C′, so as to permit the said end c^2 to be extended through the opening b^3 and the plate C withdrawn from the shoe.

It will be observed that when the shoe is upon the hoof the strain in ascending steep grades is mainly upon the transverse plate B, and this strain is relieved from the longitudinal bar C′ in my invention and is taken up by the shoulders a^4 a^5 on the shoe.

Having fully described my invention, what I now claim as new, and desire to secure by Letters Patent, is—

The combination with the horseshoe having a beveled or inclined surface upon its inner side, a plate extending over the outer and also the inner inclined surfaces at the toe of said shoe and adapted to carry a calk, and a transverse bar having calks at the heel of said shoe, said bar having a notch at each end, and the sides of each notch inclined or beveled conformably to the surface of the inner side of said shoe, and also provided with an opening at a point central from the opposite ends of said bar, and a brace-bar extending in the longitudinal direction of said shoe having one end connected rigidly with the said plate at the toe of said shoe and the other end screw-threaded and extending through the opening in said transverse bar, an internally-screw-threaded thimble upon the threaded end of said brace-bar concentric with the sides of the opening in said transverse bar, and a nut on the inner side of said transverse bar rigidly connected with said thimble, and a shoulder upon the inner side of each heel of said shoe adapted to receive the outer side portion of the notched end of said transverse bar, for the purpose described.

AUGUST OTTE.

Witnesses:
FRED. D. CARMAN,
ERNST MEYER.