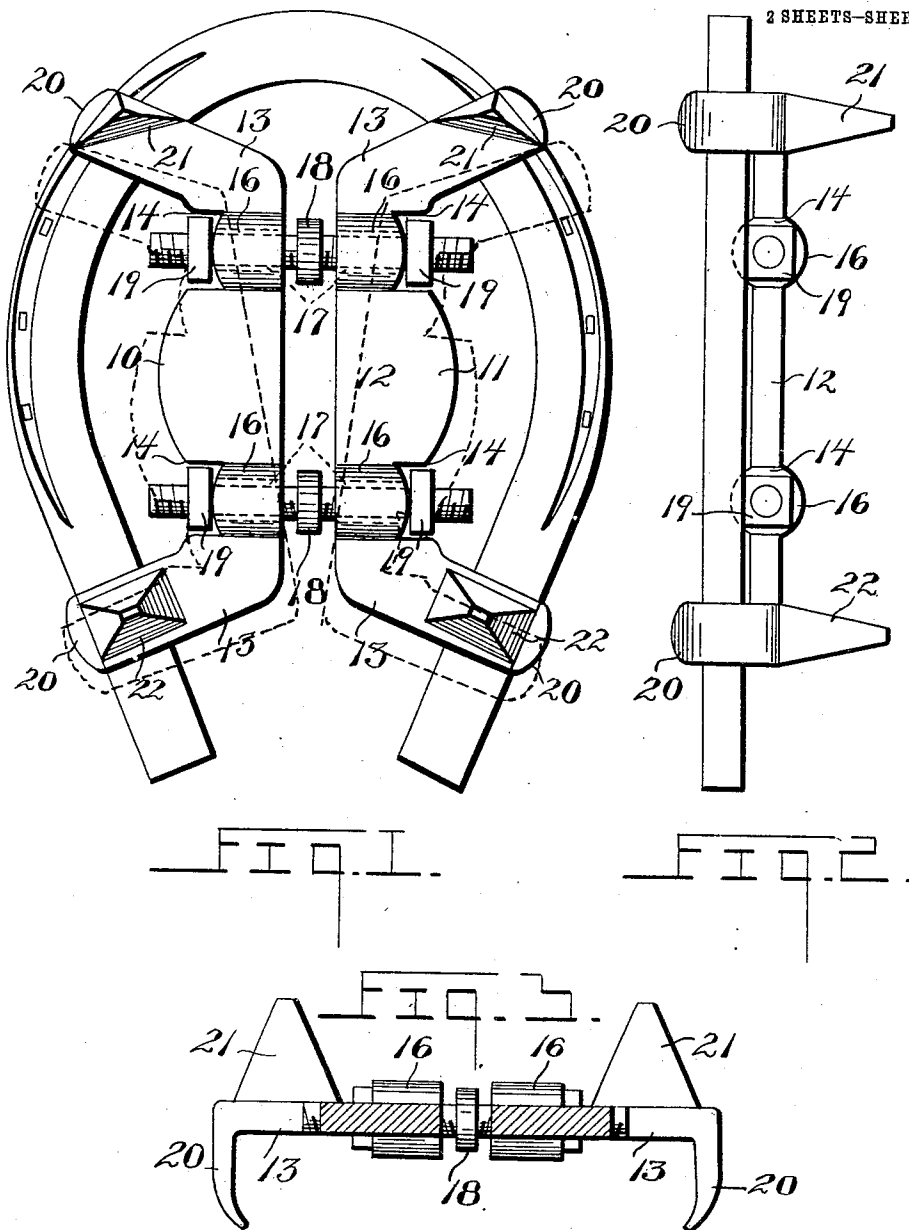


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 APPLICATION FILED DEC. 15, 1909.

1,005,580.

Patented Oct. 10, 1911.

2 SHEETS—SHEET 1.



Witnesses

C. E. Johansen
 M. L. Lorr.

Inventor
 Robert D. Sterling.

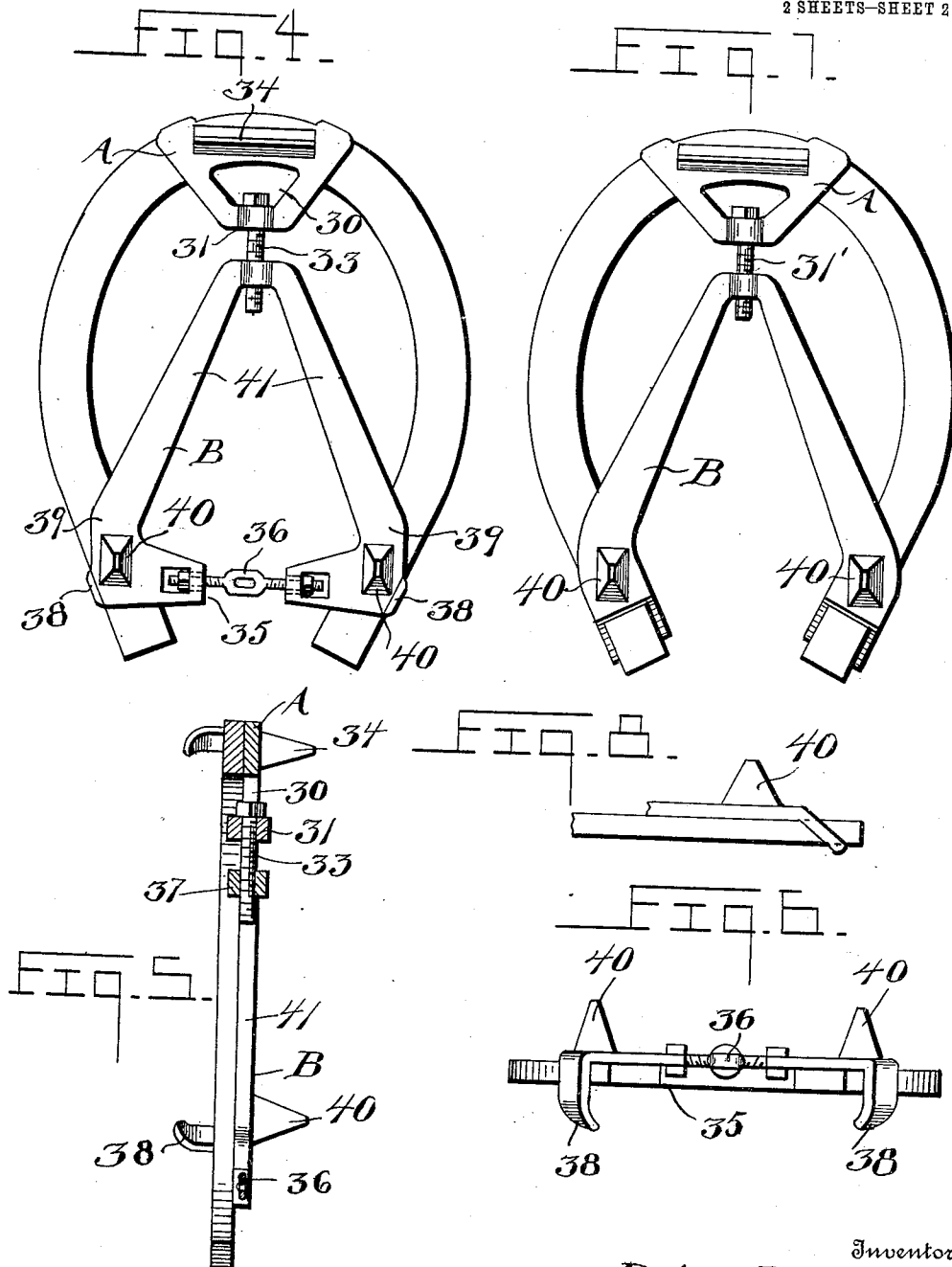
By Woodward & Chandler.
 Attorney

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UNITED STATES PATENT OFFICE.

ROBERT D. STERLING, OF DENVER, COLORADO.

HORSESHOE-CALK.

1,005,580.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed December 15, 1909. Serial No. 533,186.

To all whom it may concern:

Be it known that I, ROBERT D. STERLING, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Horseshoe-Calks, of which the following is a specification.

This invention relates to horse-shoe calks, and has for its object to provide such a device which will comprise extremely simple parts adapted to be manufactured at a low cost, and which may be assembled with a minimum amount of difficulty.

A most important object of the invention, however, is to provide such a device which may be readily adjusted to different sized hoofs so that the calk members will be arranged to support the hoofs at points properly spaced from the central line of force caused by the weight of the horse supported upon the ankle.

Another object is to enable the adjustment of the calk members to the widest spacing possible upon shoes of various sizes with the use of but a single size of calk clamp.

A further very important object is to provide means for holding the calks positively against longitudinal movement upon the shoe.

In the accomplishment of these objects it has been found necessary to use a clamping member engaging the exterior of the hoof and two tightening members, whereas in previous devices engaged on the exterior of the shoe but one tightening member has usually been employed, and this has been insufficient to prevent longitudinal movement of the calk upon the shoe at times, as frictional engagement of the clamps with the shoe is entirely depended on to overcome such tendencies.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a bottom view of my device applied to a shoe, Fig. 2 is a side view, Fig. 3 is a cross section thereof, Fig. 4 is a bottom view of a modified form of the

device, Fig. 5 is a longitudinal sectional view of the modification, Fig. 6 is an end view of the modification, Fig. 7 is a bottom view of a further modified form. Fig. 8 is a fragmentary side view of the modification shown in Fig. 7.

Referring to the drawings there is shown a calk comprising two opposed shoe-engaging members 10 and 11, respectively which will be termed the clamps. These are adapted to be cast integrally, and each comprises a longitudinally extending central portion 12 having the outwardly divergent horizontal arms 13 at the end on the outer side of the central portion 12, and adjacent the base of each arm 13, there is formed a recess 14, the inner wall of which is convex from front to rear for a purpose to be subsequently indicated.

The arms 13 and the central portion 12 are of a common thickness, but the end portions of the central portion 12 are thickened vertically, as shown at 16, and are provided with suitable horizontal and transversely extending slots 17 oblong in a horizontal direction, and receiving slidably therethrough the oppositely threaded end portions of the turn-buckle 18 carrying on its opposite ends suitable nuts 19 held against rotation in the recesses 14. The outer ends of the arms 13 are provided with upwardly extending clamp tongues 20 arranged to engage against the outer portion of the horse-shoe and hoof. Formed on the under sides of the arms 13 immediately adjacent their extremities are the calk members, those at the forward end of the device being provided with triangular bases and numbered 21, and those at the rear of the shoe being rectangular in form and numbered 22. The bases of the forward calk-members are in the form of an obtuse triangle, the long side of which is presented rearwardly and extends transversely of the major dimension of the calks when in assembled position, being inclined slightly forward at their inner ends. The calk members 21 are of trihedral form, the rearward face being extended almost at right angles to the major plane of the clamp members, and adapting it to effective gripping engagement with road surfaces.

In use, the turn-buckles 18 are engaged with the nuts 19 to hold the members 10 and 11 in sufficient spaced relation to allow the presentation of the tongues 20 upwardly and outwardly of the shoe to which the

device is to be attached, after which the buckles 18 are operated to draw the opposite members into firm clamping engagement with the shoe.

- 5 It will be seen that the position of the calk longitudinally of the shoe may be readily adjusted by loosening one of the turn-buckles and tightening the other at the end toward which the device is to be moved.
- 10 Thus danger of the calk being adjusted too far to the rear upon the shoe and allowing the forward end to become too much worn or the animal's foot to tilt forward may be obviated, and likewise adjustment of the
- 15 device too far forward upon the shoe may be also avoided.

- In Fig. 6 there is shown a modification of the device in which three calk members are used, carried upon two castings A and B
- 20 forming the front and rear members respectively, and adapted to be readily adjustable with respect to their longitudinal spacing, so that the calk members may be always disposed as closely as possible adjacent the
- 25 front and rear ends of the shoe. The forward member is approximately triangular in shape, having two upwardly extending shoe-engaging fingers upon its forward edge spaced adjacent opposite sides of the casting,
- 30 and is provided with an opening 30 adjacent its rearward angle at the rear side of which there is provided a thickened portion 31 extending upwardly, and provided with suitable openings therethrough receiving
- 35 a headed bolt 33 revolvably mounted therein. The casting A carries also the transversely extending calk member 34 spaced from its forward edge. The casting B is in the form of a triangular frame having
- 40 its base side split as at 35 and having in threaded engagement with the opposite sides thus formed the oppositely threaded turn-buckle 36 adapted to be operated for relative adjustment of the two sides. At
- 45 the forward apex of the frame, there is provided a suitable longitudinally extending threaded opening 37 engaged with the threaded end of the bolt 33. At the base angle of the frame enlarged portions 39 are
- 50 formed having upwardly extending fingers 38 at their outer sides arranged to engage opposite sides of a shoe and on their lower faces are provided with the rectangular calks 40. The side arms 41 of the frame B are
- 55 intended to be slightly resilient, in order to allow of the lateral adjustment of the rear ends thereof, as described.

In Fig. 7 there is shown a further modification

in which the enlargements 38 are provided on their rear sides with an upwardly extending and rearwardly inclined portion having an opening therethrough adapted to receive the rear end of a shoe, and in which the necessity for the rear turn-buckle is eliminated, the adjustment of the device being accomplished entirely by means of the single forward screw 31'.

By the use of the forms shown in Figs. 4 to 8 inclusive, the position of the calk members 34 and 40 may be more positively adjusted with respect to the center of weight upon the hoof. It will be readily appreciated that to obtain a maximum efficiency in such devices it is necessary to have the calks disposed as nearly adjacent the rear end of the shoe and the forward end thereof as possible, and to accomplish this the rear calks must be adjustable laterally with respect to each other, and these two calks and the forward portion of the device must be relatively adjustable longitudinally. These adjustments are attained with great efficiency in the present device and at the same time the parts are held securely in rigid relation after being adjusted.

What is claimed is:

A calk member comprising two sections, each having a longitudinally extending body portion disposed in parallel relation to the other section, each of the sections having a laterally extending arm at each end provided with an upwardly extending shoe engaging finger at its extremity, one of the fingers being adapted to engage adjacent the rear end of a shoe and the other adjacent the forward end, said body portion having a transversely extending enlargement adjacent the base of each arm provided with passages transversely oblong in the direction of the major dimension of the calk section, said body portion being recessed adjacent the base of each arm, the inner walls of the recesses being convexed longitudinally of the major dimensions of the sections, turn-buckle members disposed slidably in the passages and nut members held against rotation in said recesses and supported for rocking action upon the convexed inner wall thereof, to allow angular adjustment of the two sections, as described.

In testimony whereof I affix my signature, in presence of two witnesses.

ROBERT D. STERLING.

Witnesses:

MARGARET B. STERLING,
EMMA A. DICKSON.