

J. E. MACDONALD.
 OVERSHOE FOR HORSES AND OTHER HOOFED ANIMALS.
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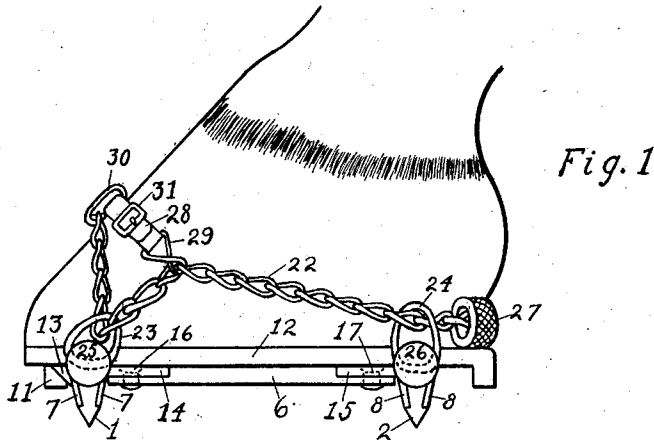


Fig. 1

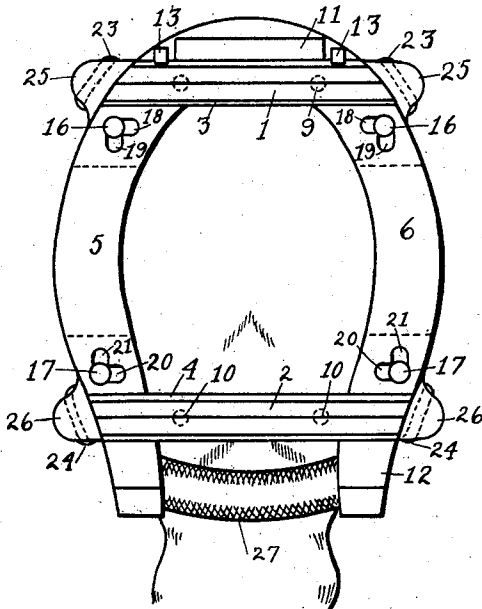


Fig. 2

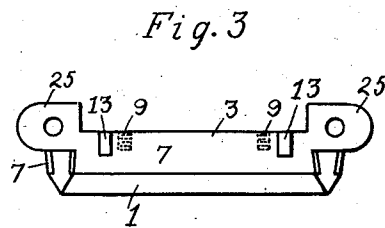


Fig. 3

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OVERSHOE FOR HORSES AND OTHER HOOFED ANIMALS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JEREMIAH E. MACDONALD, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Overshoes for Horses and other Hoofed Animals, of which the following is a specification.

My present invention concerns a detachable overshoe comprising a tread portion and means for securing the same to the foot. The tread portion is preferably composed of an adjustable supporting frame provided with removable contact elements arranged under the toe and heels of the hoof, respectively. The securing means comprises flexibly connected members adjustably secured in detachable relation on the wall of the hoof. The parts composing the tread portion are provided with means permitting limited relative adjustment, forming one of the essential features of my invention, whereby the normal length and width of the frame body may be increased to correspond to slight variations in the size and contour of the hoof.

Another feature of my invention is the provision of rigid calks which are removably mounted in position on the tread frame under the toe and heels of the hoof. These calks and the mountings provided therefor are so constructed that the calks may be removed and replaced by others, or, in event one side only is sufficiently worn to require substitution, may be reversed in position on the mounting, thus performing double service.

Having thus referred to the general character and purpose of my invention, I will proceed to describe a specific useful form of embodiment thereof, in connection with the accompanying drawings, wherein—

Figure 1 is a side view showing the hoof provided with an ordinary horse-shoe, and having my improved overshoe in position thereon; Fig. 2 is a bottom view of the same; and Fig. 3 is a face view of the toe calk and mounting therefor in the tread portion of my device.

The tread portion is shown as comprising a toe calk 1 and a heel calk 2 located under opposite ends of the hoof and removably mounted in their respective positions on a frame including a toe bar 3, a heel bar 4 and two side bars 5, 6, arranged under the

margin of the hoof on opposite sides of the hoof and jointedly attached to corresponding ends of the toe and heel bars 3, 4.

The calks 1, 2, are shown as extending across the corresponding ends of the bottom of the hoof, and provided with a sharpened wearing edge of wedge-like formation and a dove-tailed body-portion which is adapted to slidably engage oppositely arranged converging flanges 7, 7, 8, 8, provided on the lower side of the toe and heel bars, respectively. Said calks are secured in stationary position on the mountings preferably by means of headless screws 9, 9, 10, 10, which are countersunk in the toe and heel bars, respectively, and engage tapped apertures provided at predetermined points therein and in the calks 1, 2.

The toe bar 3 is shown as arranged to engage the rear edge of the toe calk 11 of the shoe 12, which is usually provided thereon, and operates as a fixed support preventing forward displacement of my device in conjunction with other means. I further preferably provide on the front edge of the toe bar 3, on opposite sides of the hoof, shoulders 13, 13, which project forwardly under the shoe 12 and operate as auxiliary supports to the tread portion and particularly serve to reinforce said bar when rearward pressure is applied thereto.

The toe and heel bars 3, 4, are shown as constructed with extensions 14, 14, 15, 15, respectively, provided on the inner sides thereof and arranged under the margins of the hoof on opposite sides of the same. Said extensions serve as connections for the side bars 5, 6, which are shown as movably secured thereto preferably by rivets 16, 16, 17, 17, projected through coincident apertures provided therethrough, said rivets being represented as countersunk at their upper ends in the respective bar extensions and the side bars cut away on their upper sides at points of engagement with the calk extensions to receive the same, whereby the frame of the tread portion may preserve an even bearing surface for the shoe 12.

For the relative adjustment of the parts composing the tread frame and as a means for permitting a limited lateral and longitudinal extension thereof, I preferably provide short slots 18, 18, 19, 19, 20, 20, 21, 21, in the side bars 5, 6, and opening into the apertures receiving the rivets 16, 16, 17, 17, the slots being so arranged therein that the

toe and heel bars 3, 4, may be spaced relatively farther apart, and likewise the side bars 5, 6.

The remaining portion of my device concerns the securing means whereby the tread portion is supported in stationary position under the hoof by members which engage the hoof only and have no positive bearing upon the skin or sensitive tissue of the foot or ankle. Said securing means preferably comprises a band disposed about the periphery of the hoof wall, having connections with the tread portion of each side of the hoof and tightening means for taking up the slack in the band. Said band is shown as an endless chain 22 circumventing the hoof wall, being seated well down in the notches formed by the heels of the hoof and the projecting ends of the shoe 12, and passing through metal loops 23, 23, 24, 24, which are secured through apertured lugs or extensions 25, 25, 26, 26, of the toe bar 3 and heel bar 4, respectively, on each side of the hoof. Said lugs or extensions 25, 25, 26, 26, are shown as forming shoulders at opposite ends of their respective bars which are adapted to engage the sides of the shoe 12 and serve to prevent lateral movement of the tread portion when in position on the hoof. Said band 22 is preferably masked or cushioned at the heel by a covering of fabric 27, of any suitable material, to prevent the chain from working forward and wedging the shoe from the hoof, while the slack in the band is taken up preferably by means of a tension-band, shown as a leather strap 28 passing diagonally across the toe of the hoof and connected to the band 22 on each side of the hoof at points preferably forward of the region of maximum width thereof, and also at a central point over the toe, suitable loops 29, 30, being adopted at the several points of connection which permit movable engagement therewith and adjustment of the strap 28. The strap 28 is preferably doubled through the attaching loops 29, 29, and the ends secured together by a buckle 31, thereby increasing the tightening effect of a pull on the end of the strap.

As the band 22 passes loosely through the tread connections 23, 24, it will be observed that it is not positively anchored at any point and the tension thereon exerted by the tightening of the strap 28 causes all slack to be taken up at every point in the band 22, drawing up the tread portion in close stationary engagement with the bottom of the shoe 12 and automatically distributing the tension evenly at all points around the hoof.

It will be understood that terms descriptive of the material herein stated as used in the construction of the bands 22 and 28 are not intended as words of limitation, and

that any suitable material or slight modifications in the construction thereof, as well as in other parts of my device, may be adopted without departing from the spirit and purpose of my invention.

I claim:—

1. In an overshoe of the class described, a tread portion comprising a rigid frame adapted to be widened or lengthened relatively to the hoof and flexibly supported thereon, and removable contacts carried by the frame and extending across the hoof.

2. In an overshoe of the class described, the combination with a tread portion comprising an adjustable rigid frame arranged around the margin of the hoof, of means provided under the toe and heels of the hoof for widening and lengthening the frame.

3. In an overshoe, a rigid quadrilateral frame comprising jointedly connected members intervening the hoof and the ground, and means provided at opposite ends of the hoof for widening or lengthening the frame.

4. In an overshoe, a tread portion having spaced contact elements, each of said elements being adjustable lengthwise of the hoof and including a receiving portion and a removable contact portion to serve as a calk and extending across the hoof.

5. In an overshoe of the class described, the combination with a tread portion intervening the hoof and the ground, of flexible supporting means arranged on the wall of the hoof and comprising an endless band about the periphery of the hoof wall and connected to the tread portion, and means provided on the toe of the hoof for taking up slack in the band at a plurality of points between adjacent tread connections.

6. In an overshoe of the class described, the combination with a tread portion, of flexible supporting means arranged on the wall of the hoof and including an endless band disposed about the periphery of the hoof wall and connected to the tread portion, and a tension member for tightening the band and adapted to apply stress thereto in lines convergent from a plurality of points intermediate adjacent tread connections.

7. In an overshoe, a tread portion adapted to be widened or lengthened and comprising spaced members arranged under the margins of the hoof on opposite sides thereof and adjustable relatively to each other, and a heel member and a toe member transversely connected to each of said side members at opposite ends of the hoof and adjustable relatively to each other.

8. In an overshoe, a tread portion movably secured on the hoof and comprising contact members arranged on opposite sides of the region of maximum width and extending across the hoof, and means provided away from the frog of the foot for adjust-

ing said members relatively to each other whereby the mean distance therebetween may be increased or diminished.

5 9. In an overshoe, a tread portion flexibly supported on the hoof and adapted to be widened or lengthened and including a plurality of plates jointedly connected in series and extending around the margin of the hoof and transversely between the heels
10 of the hoof, said plates having removable

contact members provided thereon on opposite sides of the region of maximum width of the hoof.

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

JEREMIAH E. MacDONALD.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."