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C. MANLEY.

HORSESHOE.

APPLICATION FILED MAR. 29, 1905. RENEWED MAR. 16, 1907.

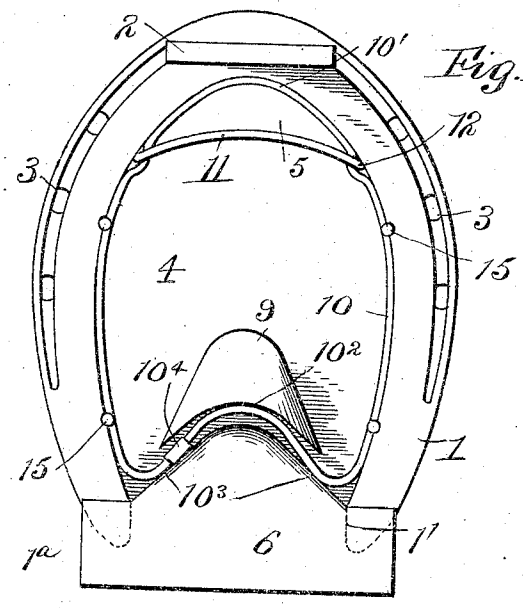


Fig. 1.

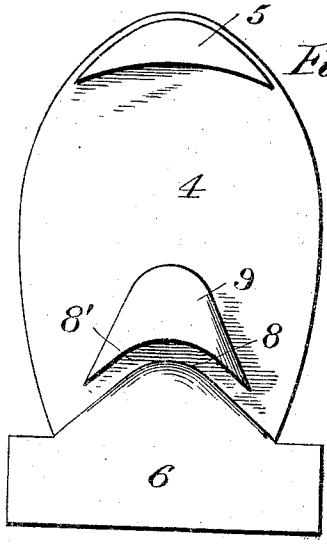


Fig. 2.

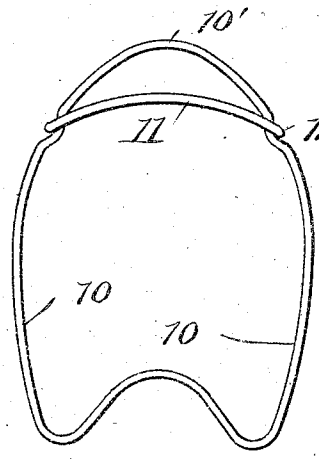


Fig. 3.

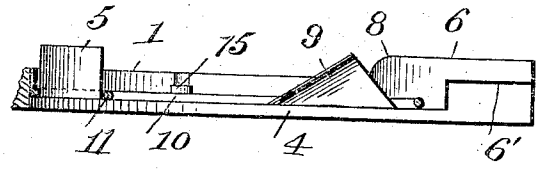


Fig. 4.

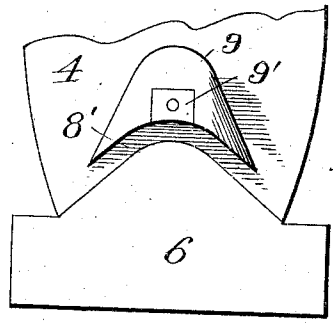


Fig. 5.

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HORSESHOE.

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Application filed March 29, 1905. Renewed March 16, 1907. Serial No. 362,730.

To all whom it may concern:

Be it known that I, CHARLES MANLEY, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification.

My invention relates in general to improvements in horseshoes, and particularly to an elastic or resilient pad to be uted in connection with said shoe.

The object of the invention is to construct an elastic or resilient pad which can be removably attached to an ordinary horseshoe without having to remove the shoe or in any manner disturbing the normal conditions of the shoe after it has once been attached to the horse's hoof.

I am aware that heretofore elastic or resilient pads have been made for horses hoofs, but such pads are attached directly to the hoof by means of the shoe nails which hold said shoe, and also pierce the pad. This is undesirable, inasmuch as it is necessary to always keep the pad on the hoof after it has been placed there, and further that the elastic or resilient material wears away much more rapidly than the metal, the pad becoming valueless after a short time, or as soon as it wears down to the plane of the horseshoe. These permanent elastic pads are also injurious to the horse's hoofs, and inclined to injure the frog thereof, and produce corns and are, therefore, quite undesirable. Attempts have also been made to make a removable pad which could be attached to the shoe, but thus far such attempts have been failures, owing to the fact that the thrust against the pad given by the horse, particularly when the horse is backing, tends to dislodge the pad from the shoe. This, of course, makes the practical value of such a removable pad valueless.

In the present invention a removable pad for horseshoes has been devised wherein the pad can be adjusted to the shoe and removed therefrom at will, so that when it is desired to use the pad upon certain occasions it can be done very quickly, and positively by securing said pad to the shoe. This is accomplished by having the pad made to approximately fit the contour of the inner circle of the shoe. The heel calk and the toe calk of said pad are adapted to be engaged by a spring clamp, and held in proper position with relation to the shoe, that is, within the inner circle of said shoe. In order to prevent the spring clamp from being dislodged from its position against the shoe, the shoe may be upset or have projections for engaging said spring clamp to prevent such dislodgment.

Having thus set forth the advantages of my invention, I will now proceed to state in detail as to the construction and operation of the same, and afterwards point out the features of merit in the annexed claims.

Figure 1 is a bottom view of the horseshoe showing the pad in adjusted position. Fig. 2 is a plan of the pad removed from the shoe. Fig. 3 is a view of the spring clamp. Fig. 4 is an edge view of the pad showing a portion of the shoe in section. Fig. 5 is a modification showing how the clamp retaining lug is reinforced where it engages the spring clamp.

In the practical application and construction of my invention, 1 is a horseshoe of ordinary construction having the usual toe calk 2 and the customary fastening means as shown at 3. 4 is a pad which may be made of any suitable material that is elastic and resilient, but preferably of rubber. The body portion of this pad is made to conform approximately to the contour of the inner circle of the shoe, said body portion of this pad being in thickness less than the cross section of the shoe. On the toe end of this pad, and forming part thereof, is the elastic toe calk 5, which is preferably in the form shown in Figs. 2 and 4, although it may be of any desired shape or design. The toe calk projects beyond the working plane of the shoe any desired distance, but approximately about the distance shown in Fig. 4. Formed integral with or attached to the body of the pad in any suitable manner, is the heel calk 6, which projects beyond the plane of the shoe approximately the same distance as does the toe calk, and as shown in Fig. 4. The heel calk is cut away as shown at 6′ so that the ends 1′ of the shoe will rest against the calk, at the same time the calk will extend over the end 1′ of the shoe in the manner shown at 1^a. The inner or forward portion of this heel calk,

or that portion which is nearest the toe calk is rounded as shown at 8. Just forward of this rounded portion is a lug or projecting portion 9 which serves to engage a spring clamp in the manner hereinafter explained. Between the forward rounded portion 8 of the heel calk 6 and the lug is an incurvated channel 8′, which is adapted to receive the spring clamp 10, said channel being of a width greater than the diameter of the spring clamp. This clamp 10 is preferably made of spring wire and is of a shape corresponding to the inner circle of the shoe and is adapted when placed in operative or clamping position to engage the side of the shoe, the toe calk and the lug 9 forward of the heel calk in the manner shown in Fig. 1. The forward end 10′ of the clamp engages the toe calk, the rear portion of said toe calk being engaged by a cross wire 11, which is secured to the clamp by being bent around said clamp in the manner shown at 12 in Fig. 3. The rear end of the clamp is bent with relation to the heel calk and the lug 9 in the manner shown in Fig. 1, that is so that the point 10^2 of the clamp engages the lug while the points 10^3 engage the rounded portion of the heel calk. The ends of the clamp may be fastened together in any suitable manner, such as brazing, or by using a sleeve as shown at 10^4. After the clamp has been placed in position to engage the pad and prevent it from being dislodged, the inner edge of the shoe may be upset in the manner shown at 15, that is, so that the upset portion will engage the top of the clamp and prevent said clamp from being dislodged by any pressure or accident, but so that it can be dislodged when it is desired to remove the pad.

If it is desired the toe calk can be omitted from the pad, in which case the cross wire 11 would be omitted from the clamp. It is sometimes desirous to have such a structure owing to the fact that it may be preferred to have the toe calk on the shoe of metal.

In Fig. 5 a slight modification is shown wherein the lug 9 may be reinforced where it engages the clamp 10 at the point 10^2 as shown at 9′. This reinforcement is preferably a piece of metal inserted within said lug and secured to the body of the pad so that one surface thereof will engage the clamp at the point 10^2 and aid in removing any excess of strain upon the lug proper.

The pad is attached to the shoe and removed therefrom in the following manner; The pad is first placed within the inner circle of the shoe and forced down until it engages the hoof, the heel calk resting in the position shown in Fig. 1, that is so that the ends of the shoe 1′ will rest within the cut-out portion 6′ of said heel calk. The spring clamp is then placed down over the toe calk and the rear part forced within the incurvated channel 8′, allowing the point 10^2 to engage the lug 9 and the points 10^3 to engage the portion 8 of said calk. In any suitable manner the inner face of the shoe is then upset as shown at 15, so that the upset portion will engage the clamp and hold it down tight against the body of the pad and prevent said pad from being dislodged. The pad cannot be dislodged by any thrust, whether the horse be pulling or backing, or be removed in a direction longitudinal to the shoe and the hoof of the horse. When horses are backed the great strain placed upon the pads by reason of the angle of thrust will not dislodge the pad owing to the fact that the lug 9 will firmly press against the point 10^2 of the spring clamp and force it rearward, thereby expanding the rear ends of the clamp against the side of the shoe and more firmly locking said clamp in its proper position, and in consequence preventing the pad from slipping or shifting its position when a thrust as above described is given the shoe. Thus it will be seen that under all conditions of strain placed upon the pad, said pad cannot be removed owing to the fact that the tendency of the spring clamp is to constantly spread at the rear portion and bind the pad firmly within its proper position.

Of course, it is obvious that certain details of construction can be varied without departing from the spirit of my invention.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In combination, a horse shoe, a pad provided with lugs and capable of being removably attached to said shoe, a flexible clamp engaging said lugs to attach the pad to the shoe, and means on said shoe for engaging and retaining the clamp in position.

2. In combination, a horse shoe, a pad provided with lugs and capable of being removably attached to said shoe, an endless wire engaging the lugs on the shoe to expand said clamp when a longitudinal thrust is given the pad by reason of striking the pavement.

3. In combination, a horse shoe pad provided with lugs and capable of being removably attached to said shoe, an endless wire passing between the pads and means on said shoe for holding the clamp against longitudinal thrust, the lugs on the pads and the means on the shoe cooperating to more firmly lock said clamp when longitudinal thrust is given said pad.

4. In combination with a horse shoe, a pad capable of being removably attached to said shoe and having a heel calk therein extending below the plane of the shoe face, and a lug adjacent to the heel calk, and a

flexible clamp adapted to attach the pad to the shoe by engaging the heel calk and lug on the pad and the inner wall of the shoe.

5. In combination, a horse shoe, a pad shaped to the contour of the inner surface of the shoe and capable of being removably attached to said shoe, a clamp adapted to attach the pad to the shoe, a heel calk and a lug in said pad adapted to engage the clamp and cooperating with the shoe to hold the pad in the desired position.

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