(No Model.)

A. FREMEREY.

ROPE TREAD HORSESHOE.

No. 604,034. Patented May 17, 1898.

Fig. 1.

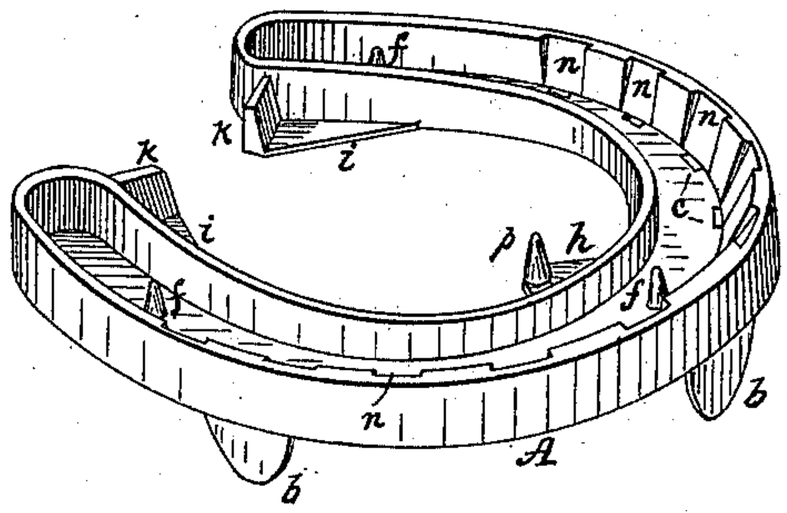


Fig. 2.

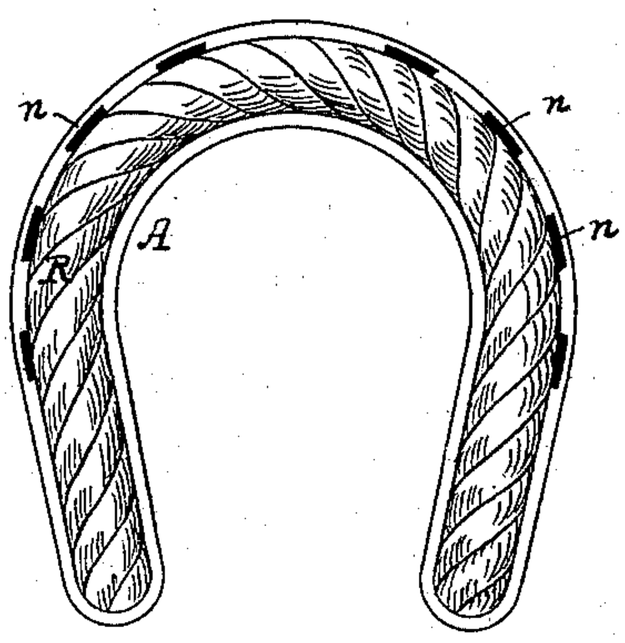
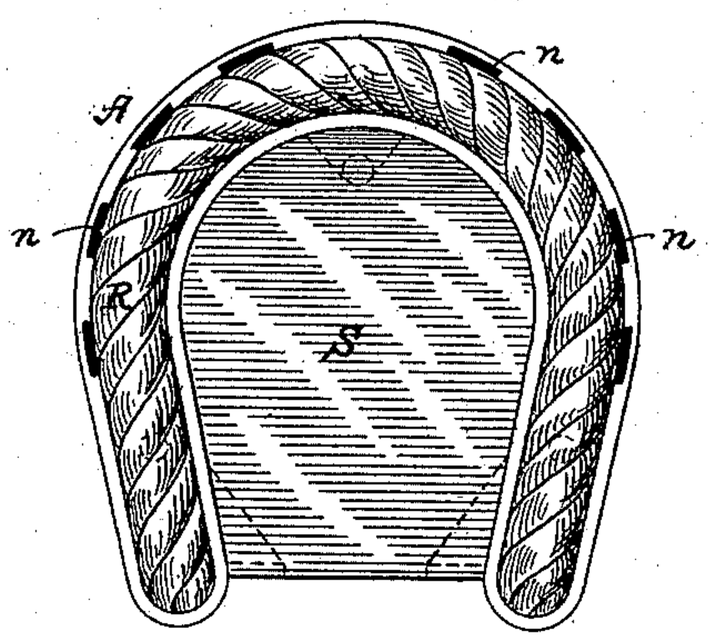


Fig. 4.



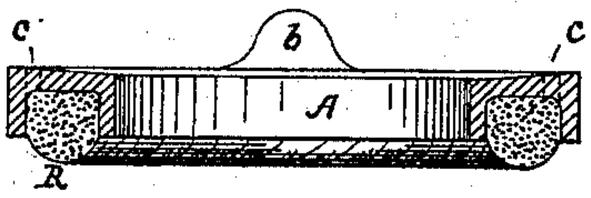


Fig. 3.

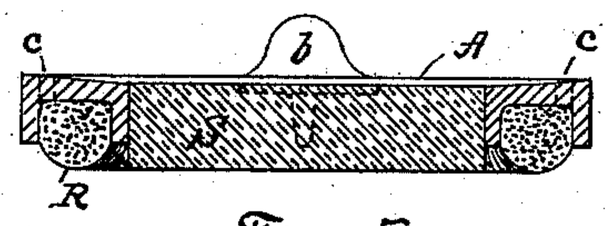


Fig. 5.

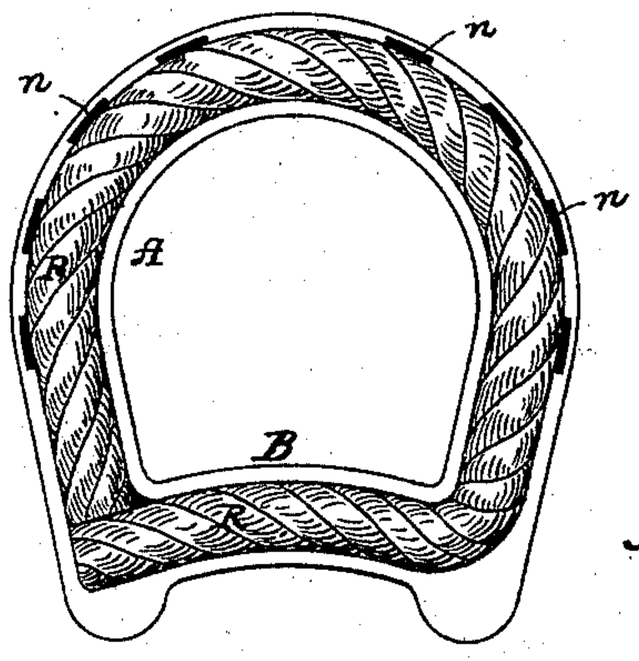


Fig. 6.

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ALFRED FREMEREY, OF COLOGNE, GERMANY.

ROPE-TREAD HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 604,034, dated May 17, 1898.

Application filed April 16, 1897. Serial No. 632,491. (No model.) Patented in England April 20, 1895, No. 5,514.

To all whom it may concern:

Be it known that I, ALFRED FREMEREY, a subject of the King of Prussia, Emperor of Germany, and a resident of Cologne, in Rhenish Prussia, Germany, have invented certain new and useful Improvements in Horseshoes, (for which English patent has been obtained, dated April 20, 1895, No. 5,514,) of which the following is a specification.

My invention relates to the manufacture of horseshoes; and it consists in the construction and combination of parts, substantially as hereinafter described and claimed.

Among the objects of my invention are the following: to produce a metallic shoe with a non-metallic cushion for the purpose of avoiding slipping on the roadway, while also taking a part of the wear and preventing excessive noise on paved streets; to give the foot of the animal a full bearing at all points of the shoe, and to enable the shoe to be applied to and used by a horse with sore or tender feet; also, to adapt the shoe and cushion in such a manner that the shoe may be fitted to the hoof hot, if desired, and permanently applied before the cushion is finally put in place, thus insuring a proper fit of the shoe to the hoof without regard to the cushion, which will thereafter perform its function without affecting or disturbing the comfort of the horse. I also aim to produce a shoe which will dispense with the usual toe and heel calks, either or both, and thus do away with much of the smithing ordinarily required in shoeing a horse.

In the drawings which form part of this specification, Figure 1 is a perspective of the metal shoe made in accordance with my invention, the cushion being absent. Fig. 2 is a face view of a similar shoe with the cushion in position, but without the seating devices for a sole. Fig. 3 is a vertical section of the shoe shown in Fig. 2. Fig. 4 is a face view of the shoe shown in Fig. 1, with the cushion and elastic sole in position. Fig. 5 is a vertical section of the shoe shown in Fig. 4, and Fig. 6 is a face view of a shoe with heel-bar and continuous cushion.

Either by casting in malleable iron, steel, or composition or by drop-forging I shape the shoe with the usual contour, having the body A and one or more clips *b*, as shown.

The under face of the shoe is formed with a groove extending substantially from heel to heel and occupying most of the width of its face and much of its depth. At the bottom of this groove the nail-holes *c* are formed at its outer edge, thus occupying the usual position, and the nails are applied by the smith in the ordinary way. I prefer to make the shoe with one or more pointed pins *f* projecting from the floor of the groove, the purpose being to penetrate the rope cushion and prevent it from becoming displaced in use. Such a shoe is easily applied to the hoof, needing practically no shaping, but merely shaving or paring the hoof, as usual, and setting to a face by heating and burning, the nails then being driven and clenched according to the regular practice. As soon as the shoe is thus placed firmly on the hoof the cushion is applied, consisting of a piece of tarred rope R, whose diameter is such as to require some force to get it into the groove in the shoe. Such rope when in position is held also by the pressure of the hoof upon the ground, and the longer it is worn the more securely fixed it becomes.

The rope surface will generally at all times in the life of the shoe project slightly beyond the face of the metal, and I have found that the wear is almost alike in both the metal body and rope cushion, so that the cushion always affords a grip on the roadway, and this is enhanced by the continual gathering up of particles of sand and similar material.

The shoe wears with great uniformity and is very durable in all kinds of roads and under all sorts of stresses. It is lighter than the ordinary iron shoe and the cushion favors the animal and prevents many of the injuries which befall the hoof or foot.

In many cases of injured or tender feet or other causes of lameness which ordinarily prevent the use of a horse it can be shod with my improved shoes and can then be worked without any discomfort whatever.

In some cases I construct the shoe of the form and character shown in Figs. 4 and 5. Here the body of the shoe is as before described, but has in addition the plate *h*, projecting back from the inner front of the shoe about on line with the floor of the groove, and the plates *i*, projecting inwardly from both

heels. The plate *h* has a pointed pin or barb *p* formed on it, as shown, and the plates *i* have stops *k* at their rear ends. In the space thus formed inside the shoe I then place a felt pad or sole S, forcing it down on the pin *p* and behind the stops *k* on the plates *i*, so as to find a seat on all three plates *h i i*. The sole S is thus prevented from being pushed out of position to the rear when applied to the road-surface by the animal in hauling a load, while the face of the sole S acts as an additional point of traction and also helps the cushioning effect of the rope filling. The general result is to insure the horse against accidental slipping on slippery ground in all weathers and add to the ease and comfort of daily work.

In some special cases it is desirable more completely to distribute the resistance throughout the whole peripheral surface of the foot. In such cases I make the shoe as in Fig. 6, with the body joined across the heels by the bar B, the groove following the same formation and the tarred rope R passing around and closing the entire length of the groove.

In all cases I prefer to form the outer wall of the groove with the inclined notches *n*, each notch leading down to one of the nail-holes of the shoe. Besides guiding the nails in the act of applying the shoe these notches constitute a sure guide to the hidden nail-hole if at any time it becomes necessary to replace a nail which may become loosened. At such time removal of the rope R is difficult if not impracticable, owing to its hardened and compacted condition; but with the notches as a guide the nail can be tightened and reclenched, or it can be driven out and a new nail substituted.

What I claim, and desire to secure by Letters Patent, is—

1. A metal horseshoe consisting of the body A grooved as described from heel to heel and having nail-holes at the bottom of the groove, plates *h* and *i*, pin *p*, and stops *k*, in combination with the rope filling R and felt sole S, substantially as set forth.

2. The metal horseshoe consisting of the body A grooved as described from heel to heel and having nail-holes *c* at the bottom of the groove, the inclined notches *n* in the outer wall extending the depth of the shoe and corresponding with and leading to the nail-holes in the bottom of the groove, and pins *f*, in combination with the rope filling R, substantially as described.

Signed at Cologne, in the county of Rhineland and Kingdom of Prussia, this 11th day of February, 1897.

ALFRED FREMEREY.

Witnesses:
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