No. 762,998. PATENTED JUNE 21, 1904.

J. C. HIGGINS.

HORSESHOE.

APPLICATION FILED JULY 6, 1903.

NO MODEL.

Fig.1

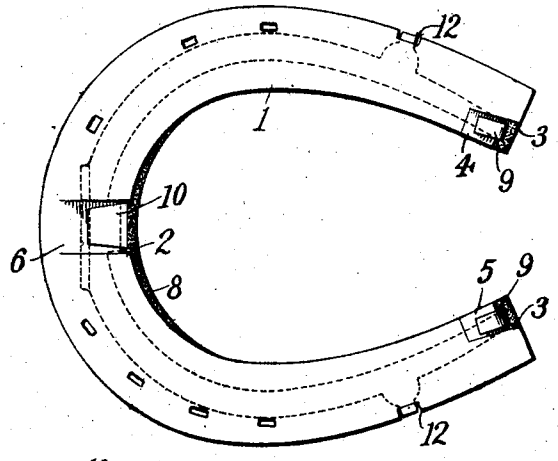


Fig.2

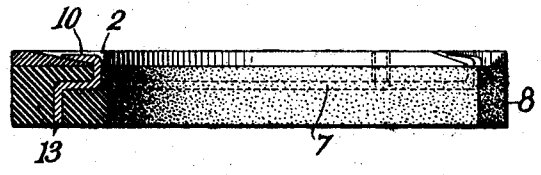


Fig.3

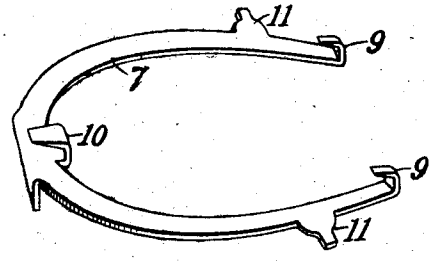


Fig.4

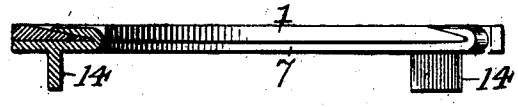
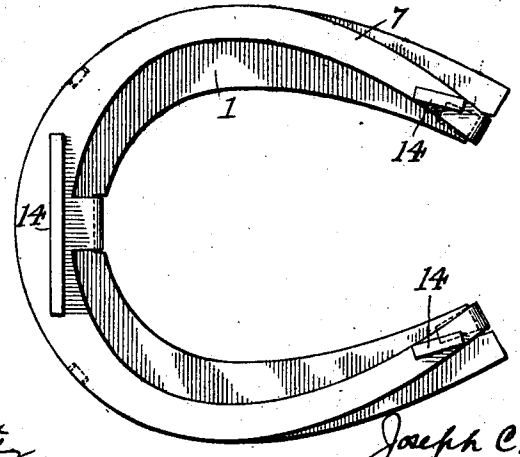


Fig.5



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

No. 762,998. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH C. HIGGINS, OF BOUNDBROOK, NEW JERSEY.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 762,998, dated June 21, 1904.

Application filed July 6, 1903. Serial No. 164,297. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. HIGGINS, of Boundbrook, in the county of Somerset, State of New Jersey, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My invention relates to horseshoes which consist of a shoe part designed to be attached to the hoof in the usual way and a detachable part provided with suitable antislip devices, such as a cushion of resilient material or sharp calks, the detachable part being provided with means for engaging the shoe and means for holding the parts in assembled position.

The invention has for its object to provide a shoe of the kind described, which shall be simple in construction, of which the tread portion may be readily attached and detached, the whole forming an economical and effective device for preventing slipping on icy pavements or for cushioning the impact of the foot when the horse is traveling on a hard or unyielding roadway.

To these ends it consists of the novel features and combinations hereinafter described, and more particularly pointed out in the claims.

Referring now to the drawings, Figure 1 is a top plan view of the shoe and tread assembled, showing the latter in dotted lines. Fig. 2 is a central longitudinal section of Fig. 1. Fig. 3 is a perspective view of the tread-body. Fig. 4 is a central longitudinal section of a shoe in which metal calks are used on the tread-body instead of cushioning material. Fig. 5 is a bottom plan view of the shoe shown in Fig. 4.

The shoe proper, which is secured to the hoof by nails or any other suitable means, is indicated by 1. It is provided with a number of recesses, preferably at the toe and each heel, as shown. These recesses may be arranged at various points in the positions mentioned; but I prefer to make them in the rear edges, one at the center of the toe 2 and another at the inner corner of each heel 3. Extending upward from each recess is a bevel 4, 5, and 6, for a purpose described hereinafter.

The tread portions of the shoe comprise a metal body 7, embedded in a cushion 8, of soft rubber or other suitable yielding material. The tread-body 7 is provided at heel and toe with clips 9 and 10, which are adapted to engage the bevels on the recesses in the shoe.

In assembling the device the shoe 1 is first secured to the hoof and the tread portion then attached by sliding it thereon in such a way that the clips 9 and 10 will engage the bevels, as shown in Figs. 1 and 2. In order to prevent the tread from being detached when in use, means are provided for holding the two in assembled position. While various devices may be used for this purpose, I prefer to provide the tread-body with a plurality of projections or lugs 11 and the shoe with notches 12 in such positions as will bring them directly over the lugs when the tread is adjusted. The lugs may then be bent upward into the notches, and thus will prevent the tread from slipping backward in use. The precise position of the lugs and their coacting notches is immaterial; but I prefer to place them near the heels, so that they will prevent any possible lateral bending of the tread-body. As shown, the recesses in the heels of the shoe are at the inner corners thereof, and thus the clips 9, bearing against the sides of the recesses, will prevent the tread from springing outward, while the lugs bent around the outer edge of the shoe will prevent the tread from bending inward.

The wear of the tread being greater at the toe, I provide at that point a reinforcement, such as the flange 13. This is preferably formed integral with the tread-body 7 and extends flush with the surface of the resilient material in which said body is embedded.

The cushion-tread above described is intended particularly for use on a hard roadway, such as that made of asphalt or granite paving, and while it is also useful on icy pavements I have provided a special form of tread for use under such conditions. This is

shown in Figs. 4 and 5 of the drawings and, as will be seen therefrom, consists of a tread-body, preferably of the form before described, but having in place of the yielding material a plurality of metal calks 14. These may be secured to the body 7 in any suitable way; but I prefer to make them integral therewith.

The shoe part 1 constitutes to a certain extent what may be termed a "permanent" part of the device, inasmuch as it is not intended to be removed when the tread wears out. On the contrary, when it becomes necessary to renew the latter it may be removed by bending down the lugs 11 and slipping it backward until the clips and bevels are disengaged. A new tread, either of the cushion form or one with metal calks, may then be readily substituted, as before described.

The various parts may obviously be made of different materials than those specifically mentioned without departing from the proper scope of my invention, as also the precise method of securing the various clips and lugs to their respective elements. It will generally be found preferable, however, to make the parts of malleable iron either by stamping and bending the same into the desired form or by casting. A tread-body in order to make the assembled device light in weight may be merely a thin plate, as shown, or a plurality of such plates or otherwise. If the body is considerably narrower than the shoe 1, it will be found desirable to make the base parts of the lugs 11 rather broad, as shown, so that the ends will bend upward into the notches 12 at the outer limit of the broad part instead of at the edge of the body, as would otherwise be the case. This feature, however, as well as the form of the clips shown are mere details and may be varied without departure from the spirit of the invention.

What I claim is—

1. In a horseshoe, the combination with a metal shoe having recesses at the toe and at each heel, said recesses being open to the rear, of a metal tread-body having forwardly-extending clips at the toe and heel, adapted to engage the recesses in the shoe, whereby the parts may be assembled by a single forward movement of the tread-body, and means for locking said tread-body against retraction when the parts have been assembled, as set forth.

2. In a horseshoe, the combination with a metal shoe having forwardly-beveled and rearwardly-open recesses at the toe and each heel respectively, of a metal tread-body having forwardly-open clips at the toe and heels adapted to engage the beveled recesses in the shoe, whereby the parts may be assembled by a single forward movement of the tread-body, and means for locking said tread-body against retraction when the parts having been assembled, as set forth.

3. In a horseshoe, the combination with a metal shoe having recesses at the toe and at each heel, said recesses being open to the rear, of a metal tread-body having forwardly-extending clips at the toe and heels, adapted to engage the recesses in the shoe, whereby the parts may be assembled by a single forward movement of the tread-body, and lugs on one of the parts for engaging notches in the other to hold the same against longitudinal movement relative to each other, as set forth.

4. In a horseshoe, the combination with a metal shoe having a beveled recess in the inner edge of the toe, and a beveled recess at the inner corner of each heel, of a tread-body having a clip at the toe and at each heel adapted to engage the beveled recesses in the shoe, and lugs arranged to engage notches in the shoe to hold the parts in assembled position, as set forth.

5. In a horseshoe, the combination with a metal shoe having a beveled recess in the inner edge of the toe, and a similar recess at the inner corner of each heel, of a cushion-tread having a tread-body embedded therein, said tread-body having a clip at the toe and at each heel adapted to engage the beveled recesses in the shoe, a flange at the toe extending downward to the surface of the cushion-tread, and a plurality of lugs adapted to be bent into notches in the shoe to hold the parts in assembled position, as set forth.

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Witnesses:
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