H. J. FILLIEZ.

HORSESHOE.

APPLICATION FILED JULY 24, 1908.

904,193. Patented Nov. 17, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

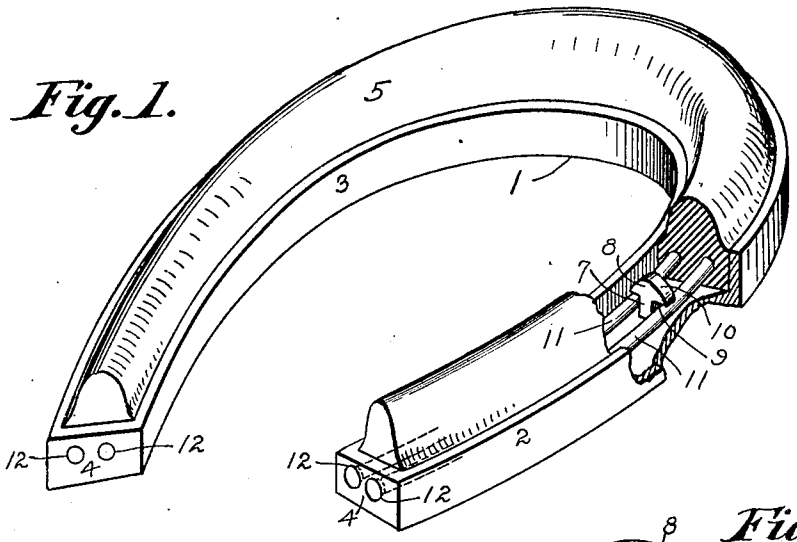


Fig. 2.

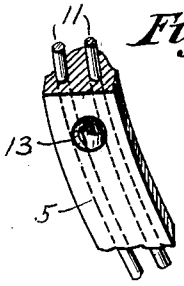


Fig. 3.

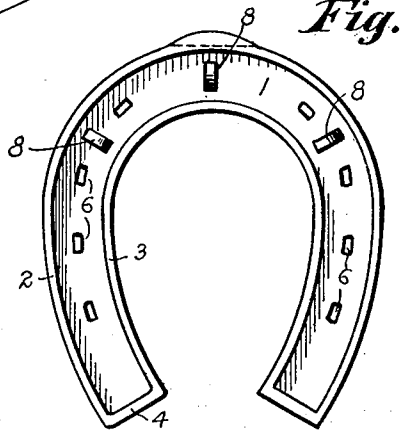


Fig. 4.

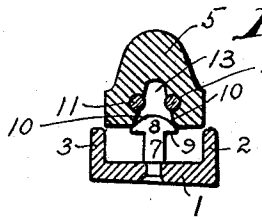


Fig. 5.

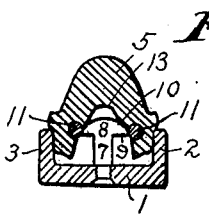
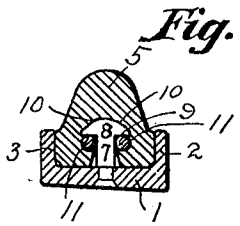


Fig. 6.



WITNESSES

Jos. J. Hosler.

Ruth A. Miller

INVENTOR

J. Herman J. Filliez

BY Harry Grease.

ATTORNEY

THE NORRIS PETERS CO., WASHINGTON, D. C

H. J. FILLIEZ.

HORSESHOE.

APPLICATION FILED JULY 24, 1908.

904,193. Patented Nov. 17, 1908.

2 SHEETS—SHEET 2.

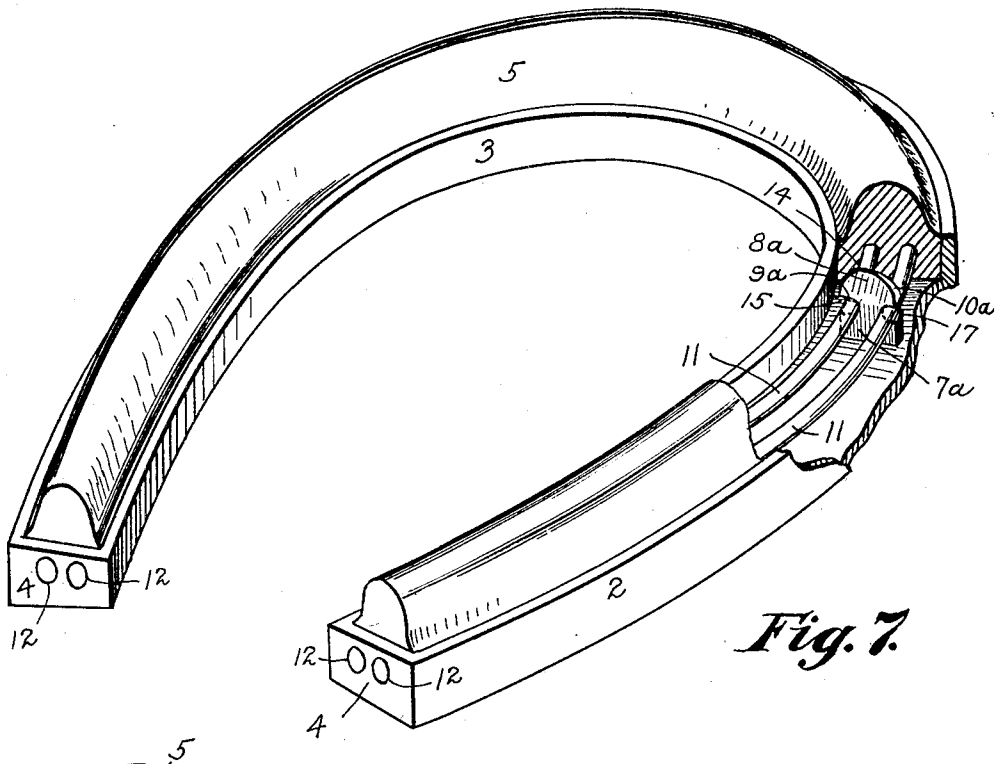


Fig. 7.

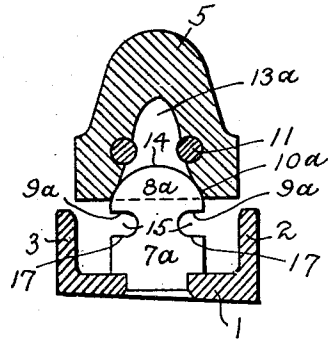


Fig. 8.

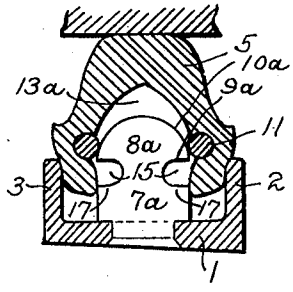


Fig. 9.

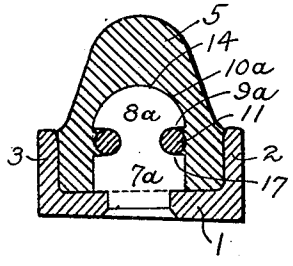


Fig. 10.

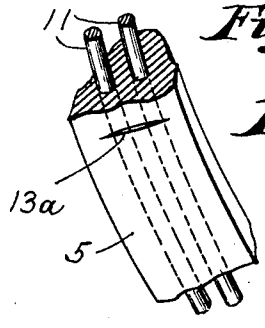


Fig. 11.

WITNESSES

Jos. J. Hosler.

Ruth C. Miller

INVENTOR

J. Herman J. Filliez

BY

Harry Grease

ATTORNEY

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HERMAN J. FILLIEZ, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO EDWARD D. BRANT, OF CANTON, OHIO.

HORSESHOE.

No. 904,193. Specification of Letters Patent. Patented Nov. 17, 1908.

Application filed July 24, 1908. Serial No. 445,072.

To all whom it may concern:

Be it known that I, HERMAN J. FILLIEZ, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Horseshoes, of which the following is a specification.

The invention relates to a horseshoe having an elastic or soft tread. The desirability and utility of a shoe of this character for the humane and economic purpose of saving the horse, and for the further purpose of deadening the noise of use on a hard pavement, is manifest to all; but the expense connected with providing and renewing the shoe and the tread member, has greatly militated against the general use of such a shoe for horses.

The object of the present invention is to provide a shoe in which the metal portion is simple and inexpensive to make, and if necessary, to renew; in which the tread member is composed of an article of regular manufacture and need not be specially produced for use in the shoe; and in which the tread member can be readily renewed in the metal member without the use of screws, or any other than ordinary tools and appliances: whereby the shoe can be applied to and the tread member renewed on the feet of horses at a first and a continuing expense not much, if any, greater than that of providing and renewing an ordinary shoe. These objects of simplicity, convenience and economy, thus set forth in general terms, are attained by the construction, devices and arrangement illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is an under side perspective view of the improved shoe, showing parts broken away to illustrate the method of securing the tread member into the metal member of the shoe; Fig. 2, a fragmentary perspective view of a section of the tread member; Fig. 3, an under side plan view of the metal member of the shoe; Fig. 4, a cross section showing the preliminary position for entering one securing stud into the corresponding hole of the tread member; Fig. 5, a similar section showing the head of the stud partially entered into the tread member; Fig. 6, a similar section showing the head of the stud entirely entered into the tread member and engaged with the wires thereof; Fig. 7, a perspective view of the improved shoe, with parts broken away to illustrate a modified form of the securing stud; Figs. 8, 9 and 10, cross sections showing the method of entering the modified form of stud into the body of the tread member; and Fig. 11, a fragmentary perspective view of a section of the tread member, showing the slit therein for the modified form of stud.

Similar numerals refer to similar parts throughout the drawings.

The metal member 1 of the shoe is provided with the depending outer and inner flanges 2 and 3, which are connected by the cross flanges 4 at the heel ends of the shoe, thus forming a channel in which the tread member 5 is adapted to be secured. The metal member is provided with the usual nail holes 6 by means of which the shoe is fastened to the horse's foot in the usual manner, and with the depending studs 7 by means of which the body of the tread member is secured in the channel of the metal member. The studs are formed on or permanently secured to the metal portion, as by riveting as shown, and the cross head 8 is provided on each stud, thus forming the square shoulders 9 on each side of the shank thereof, and the outer side of the head is crowned to form the rounded or beveled faces 10 on each side thereof. The studs are located in the median line of the channel of the metal portion, one being preferably located at the toe of the shoe and one or more studs in each side of the shoe at intervals from the toe stud.

The elastic tread member is preferably made of a section of an ordinary rubber tire for a vehicle having a substantially rectangular base portion adapted to fit in the channel of the metal member, and a rounded tread portion protruding therefrom, with two longitudinal wires 11 located side by side at an interval apart and embedded in the body of the rubber. The section of rubber tire is cut to the length of the shoe channel from one heel end to the other, and the parallel wires are cut to a length slightly in excess of the rubber portion. The tire section is then bent laterally to the form of the metallic member, and the protruding ends of the parallel wires are inserted in apertures 12 provided in the cross flanges at the heel ends of the shoe. A number of holes 13 are cut, bored or burned, as may be preferred, in the body of the tread member and extend-

ing between the wires thereof, in position to register with the studs of the metal member. The ends of the wires being engaged in the apertures of the heel flanges, the body of the tread member is pressed downward into the channel of the metal member, and in so doing the heads of the studs enter the registering holes and crowd the elastic body and the wires embedded therein laterally until the wires have passed the ends of the cross head, whereupon the resiliency of the body forces the wires back and under the square shoulders formed by the head of the stud, thereby securely fastening the tread member in the channel of the metal member. In this relation of the parts, the ends of the wire can be slightly riveted in the respective apertures, and it is evident that the tread member is thus firmly and securely held in position.

It is evident that the parallel wires will stiffly support and secure the body of the tread member in the channel of the metal member at all places between the respective studs and the heel ends of the shoe, and that the tread member can not be removed from the metallic member without laterally displacing the wires to clear the ends of the cross head of the studs, which it is practically impossible to do without cutting away the exposed portion of the rubber over the head of the stud. When the tread member has been worn down to the heads of the studs, or the edges of the flanges, it can be readily removed from the metal member by merely cutting away sufficient rubber from over and about the studs to enable the wires to be wedged apart to pass over the ends of the cross heads of the studs; all of which is readily done without removing the metal member from the foot of the horse. It is furthermore evident that a renewal of the tread member of the shoe only requires the insertion of a new section of ordinary rubber tire in place of the one which has been worn, and that the expense of such renewal is so moderate as to permit the use of the elastic tread shoe in lieu of an ordinary wholly metal shoe.

In the modified form of the invention, illustrated in Figs. 7 to 11 inclusive, the securing studs 7^a are in the form of transversely disposed plates with a rounded upper end edge 14, and having notches 15 in each side edge near the upper end, thus forming, as before, the crowned cross head 8^a with the square shoulders 9^a and the rounded faces 10^a, of which cross head the upper edge 14 may be somewhat flattened or sharpened if desired, as shown in Fig. 7.

In the modified form of the securing studs, the notches are made large enough to neatly receive the wires 11 of the tread member, and the shoulders 17 formed on the lower sides of the notches prevent any downward displacement of the wires, whereby the same are firmly held in a fixed position when the tread member is secured in the metal member, thus preventing any movement or abrasion of the wires against the shank of the stud. When the modified form of studs is used, it is only necessary to cut a transverse slit as 13^a in the body of the tread member, as shown in Fig. 11, in which slits the comparatively flat studs are adapted to be easily entered.

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

1. A horseshoe composed of a metal member having depending side flanges and apertured heel-end cross flanges with depending studs between the side flanges having bevel crowned cross heads thereon, and an elastic tread member having a base portion adapted to fit in the channel of the metal member and having parallel longitudinal wires embedded in its body with protruding ends entered in the cross flange apertures, there being holes in the base of the tread member adapted to receive the studs, whereby the parallel wires are wedged apart by the heads of the studs and are then engaged under the shoulders thereof.

2. A horseshoe including a metal member having depending flanges with depending studs between the flanges having bevel crowned cross heads thereon, and an elastic tread member having a base portion adapted to fit in the channel of the metal member and having parallel longitudinal wires embedded in its body, with holes in the base of the tread member adapted to receive the studs, whereby the parallel wires are wedged apart by the heads of the studs and are then engaged under the shoulders thereof.

3. A horseshoe including a metal member having depending studs with bevel crowned cross heads thereon, and an elastic tread member having parallel longitudinal wires embedded therein, with holes in the body of the tread member adapted to receive the studs, whereby the parallel wires are wedged apart by the heads of the studs and are then engaged under the shoulders thereof.

4. A horseshoe including a metal member having depending studs with transversely beveled crowned ends, and having notches in the side edges thereof, and an elastic tread member having parallel longitudinal wires embedded therein, with slits in the body of the tread member adapted to receive the studs, whereby the parallel wires are wedged apart by the heads of the studs and are then engaged in the notches thereof.

HERMAN J. FILLIEZ.

Witnesses:
ABLE G. HEAVNER,
RUTH A. MILLER.