

No. 676,086.

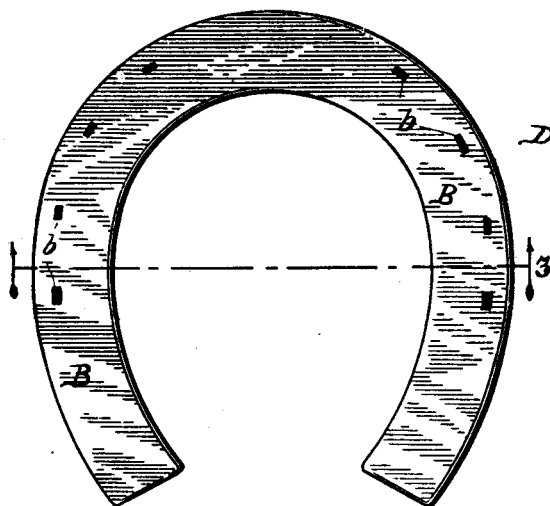
Patented June 11, 1901.

E. F. CULBERTSON.  
RUBBER TREAD HORSESHOE.

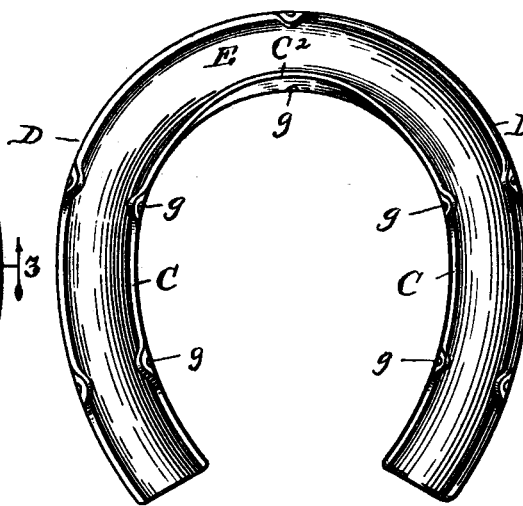
(Application filed Jan. 26, 1901.)

(No Model.)

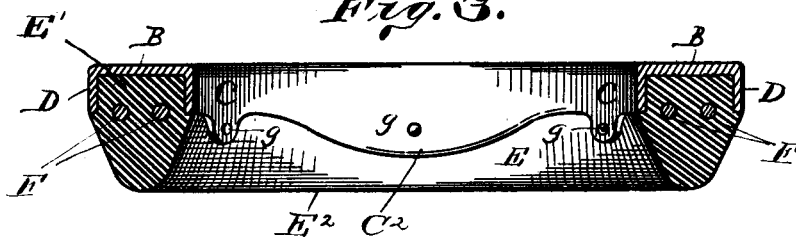
*Fig. 1.*



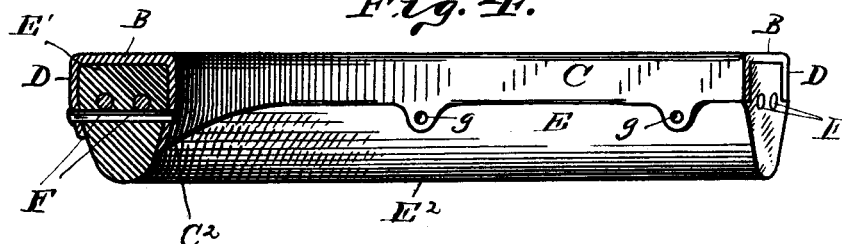
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES:

*F. W. Woerner.*  
*S. Mahlon Unger.*

INVENTOR.

*E. F. Culbertson*  
BY

*Joseph Minturn*  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

ESTA F. CULBERTSON, OF INDIANAPOLIS, INDIANA.

## RUBBER-TREAD HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 676,086, dated June 11, 1901.

Application filed January 26, 1901. Serial No. 44,898. (No model.)

*To all whom it may concern:*

Be it known that I, ESTA F. CULBERTSON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Rubber-Tread Horseshoes, of which the following is a specification.

This invention relates to improvements in rubber-tread horseshoes; and the objects are, first, to provide a soft elastic cushion for the toe, as well as for the heels, of the shoe; second, to provide a shoe that can be shaped and fitted to an animal's foot with the same ease and certainty afforded by the horseshoe of common form; third, to provide a shoe in which an easy lateral as well as front and rear movement is insured, and, fourth, to provide a thoroughly strong and durable construction which will hold together under all conditions of service and which will be simple in construction and inexpensive.

The objects of the invention are accomplished by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of the shoe on the side which comes next to the horse's hoof; Fig. 2, a view of the under side of the shoe; Fig. 3, a section on the line 3 of Fig. 1, and Fig. 4 a longitudinal vertical central sectional view of the shoe.

Like letters of reference indicate like parts throughout the several views of the drawings.

B is a metal plate of usual horseshoe shape having nail-holes *b*, through which nails are driven in the usual manner to secure the shoe to the hoof. This plate also has the inside flange C and the outside flange D, forming a channel along the under side of the shoe, in which channel is seated the rubber E. One side, *E*<sup>1</sup>, of this rubber is flat with square corners, while the diametrically opposite side, *E*<sup>2</sup>, thereto is preferably half-round. The flat side is placed inside of the channeled metal shoe and should make a tight fit in said channel. Formed longitudinally through said rubber, nearest to its flat side, are the holes to receive wires F F. The rubbers are made in long straight pieces, which are cut into strips of required lengths. Wires F F are placed in the holes before the rubbers are bent into

horseshoe shape. The drawings show two holes for wires; but more than two or only one may be used, if desired.

In practice it is intended that the rubber material used for vehicle-tires be used for the rubber portions of my invention. Rubber tires for vehicles are now so generally used that enough to renew the shoes of a horse in an emergency can be found at nearly any country blacksmith-shop. The flanges C and D are at right angles to the plate B to allow the rubber-tire strip to be inserted without hindrance, and the said flanges are parallel with each other to receive the rubber-tire material, which is of uniform width throughout and is cut off of the long tire-strips in lengths to suit the requirements of the shoe with which it is to be used.

A shoe with an open center and open between the plates of the heel is obtained by the above construction, which affords free ventilation to the frog of the foot.

The flanges C and D have perforations through which, after the wired rubber has been inserted, pins or rivets *g* are inserted and retained by riveting the ends to prevent withdrawal. These rivets pass under the wires F—that is, the wires F are between the rivets and the metal shoe B—whereby the withdrawal of the rubber from its channel is prevented. As the rubber extends unbrokenly from end to end of the shoe, all parts of the latter are equally cushioned and the half-round outer surface allows the foot to adapt itself naturally to the surface over which the animal is traveling.

The inside flange C of the shoe opposite the front of the shoe extends out so as to cover more of the rubber than does the flange on either side of the middle. The purpose of this extension C<sup>2</sup> is to additionally support the rubber at the toe, where the striking of the horse's foot occurs with the greatest frequency and violence. It will probably be found most convenient to cast the metal shoe. The rubber portion may be of some other shape than half-round on the outer sides thereof.

In applying the shoe to a horse's foot the metal base is first fitted and nailed on, after

which the rubber part is placed in position in the channel and secured by means of the rivets.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. In an elastic-tread horseshoe, a metal base with perforations therethrough whereby it may be nailed to the animal's hoof, said base having parallel perforated flanges, an elastic pad of same cross-section throughout its length laid against the base between the perforated flanges, a wire or wires inserted in the elastic pad between the flanges of the metal base, and rivets connecting the flanges at their perforations and crossing the wires on the outer sides thereof, substantially as described and shown.

2. In an elastic-tread horseshoe a base with a central opening under the frog of the foot to allow ventilation, said base having holes whereby it may be nailed to the hoof and having parallel inside and outside flanges, an elastic pad consisting of a section of rubber vehicle-tire seated on the base between the flanges and secured by rivets reaching from

one flange to the other and secured to said flanges and passing through the elastic pad, and wires passing longitudinally through the elastic pad between the rivets and the base, substantially as described and shown.

3. In an elastic-tread horseshoe, a metal base having an open center, flanges parallel with each other on the inner and outer edge of the base, a rubber pad of uniform thickness seated in the groove formed by the flanges and extending out much farther than the flanges, rivets passing through the rubber transversely and through the flanges, wires passing longitudinally through the rubber between the rivets and the base, the inner one of the above-mentioned flanges being elongated opposite the toe of the shoe, as and for the purposes specified.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 18th day of January, A. D. 1901.

ESTA F. CULBERTSON. [L. S.]

Witnesses:

J. A. MINTURN,  
S. MAHLON UNGER.