No. 621,090. Patented Mar. 14, 1899.

W. R. HOWE.

ELASTIC TREAD HORSESHOE.

(Application filed May 23, 1898.)

(No Model.)

Fig. 1.

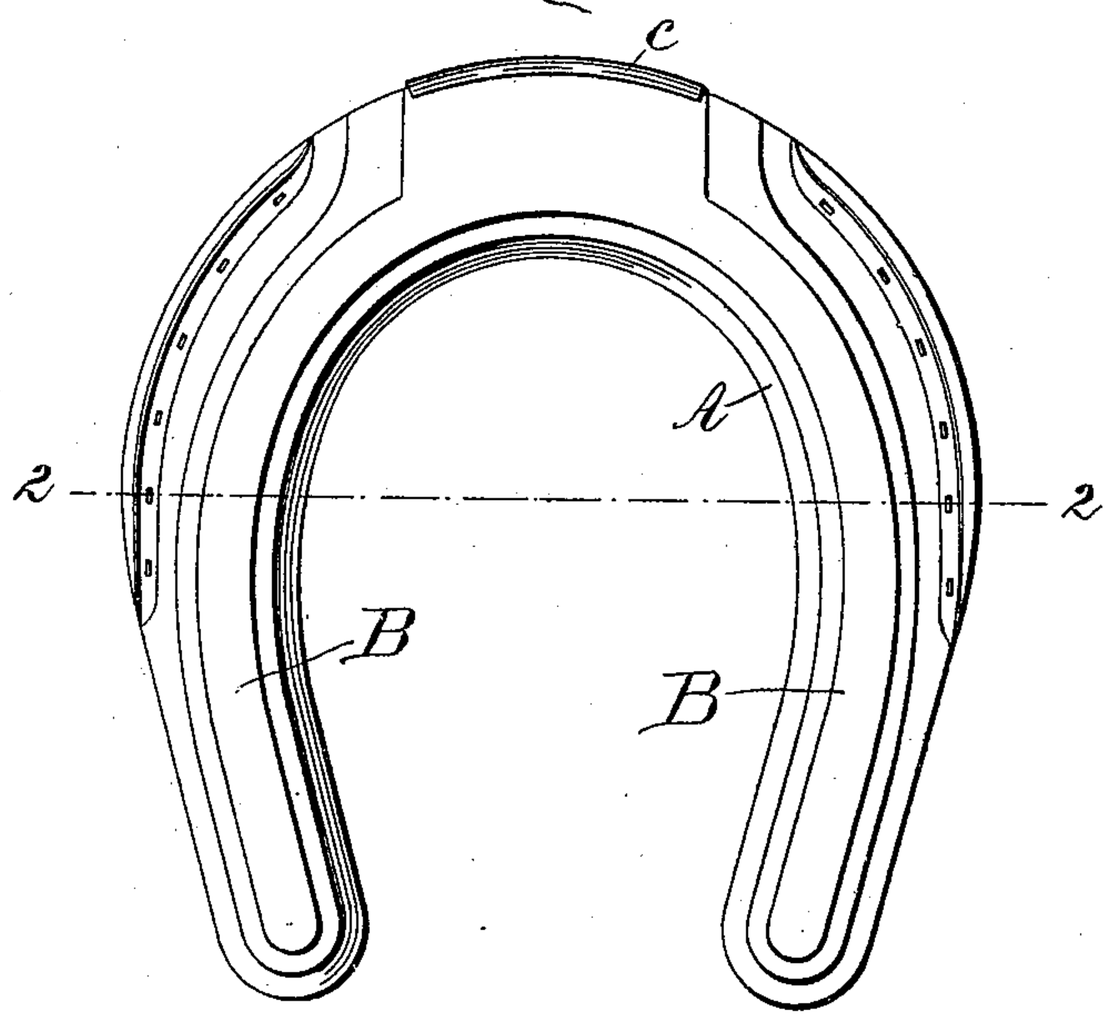


Fig. 2.

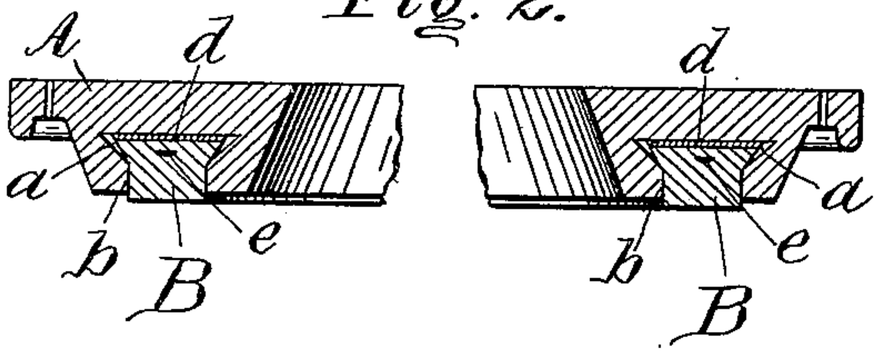


Fig. 3.

Fig. 5.

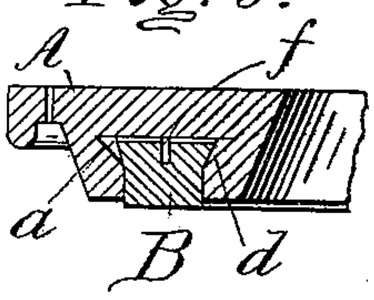
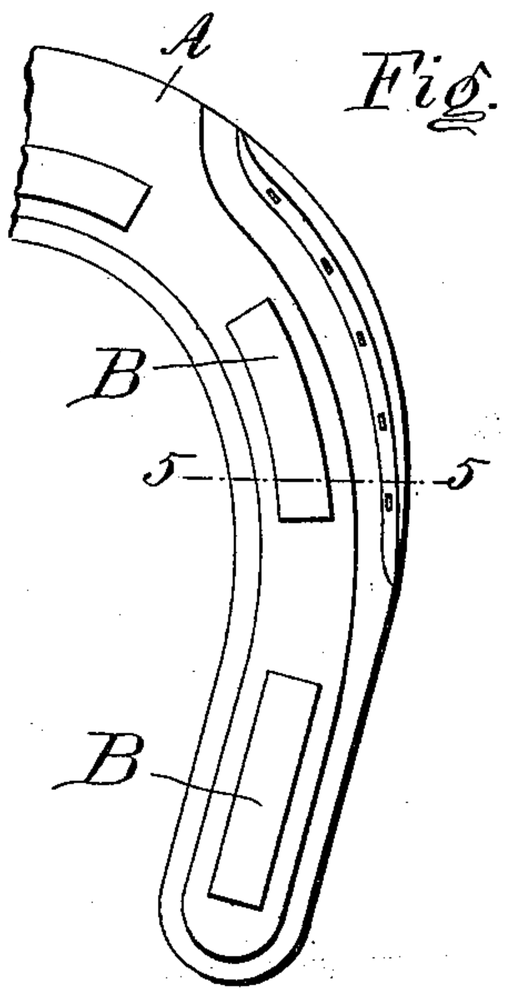


Fig. 4.



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ELASTIC-TREAD HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 621,090, dated March 14, 1899.

Application filed May 23, 1898. Serial No. 681,457. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. HOWE, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Elastic-Tread Horseshoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of horseshoes known as "elastic-tread" shoes, in which elastic material is inserted in suitable grooves in the underside of the shoe to prevent shocks and jars and keep the horse from slipping; and the special object of my invention is to provide means in the shoe itself for retaining the elastic material in place without the necessity of any positive clamping or holding devices such as have been usually employed; and the novelty consists in such construction of the groove or grooves and the packing, to be hereinafter more particularly set forth, and pointed out in the claims, whereby the elastic packing when once inserted in the groove will retain itself without wire or other holding devices.

In the drawings, Figure 1 is a bottom plan view of a horseshoe embodying my invention. Fig. 2 is a transverse section of same, taken on line 2 2 of Fig. 1, the central portion of the shoe being broken away. Fig. 3 is a front view of the shoe. Fig. 4 is a bottom plan view of one-half of the shoe, showing a modification of the packing; and Fig. 5 is a transverse section thereof, taken on the line 5 5 of Fig. 4.

A is the body of the shoe, of the usual and suitable material. The under surface of the shoe is formed with a groove *a*, running from heel to heel and cut away at the toe, so as to dispense with the front wall of the groove thereat. This groove *a* is enlarged or made dovetailed at the base and is preferably formed with vertical side walls *b b* for short distances inward. At the toe-opening the groove is also formed in the same way, while a flange of metal *c* is left attached to the base of the shoe to be turned up, as hereinafter described.

B is the elastic packing, preferably of soft vulcanized rubber or other suitable material, having the similar characteristics of elasticity and adhesiveness on wet or slippery surfaces. The inner surface of this elastic packing is preferably provided with a strip of canvas *d* to give substantial backing against the base of the groove, or instead of this strip of canvas the rubber may be hardened at the base. The strip of rubber is also provided with a longitudinal opening *e* through the same from end to end, or a longitudinal slit *f*, as shown in Fig. 5, may be formed instead of the opening. This elastic material is formed of the same shape as the groove, with an enlarged portion at the base, the enlarged portion, however, being somewhat narrower than that portion of the groove to allow for expansion, as hereinafter set forth. The packing is inserted in the groove from the toe-opening, the end portions being readily pushed back to the heel, and then the flange *c* is bent up and over the front of the toe portion to hold same in place. It will be evident that from this construction the packing will be held in the groove by the side flanges thereon, so that it cannot be displaced while in use, and it will also be evident that there will be room for the packing to expand within the groove while in use, so that the wear on the packing, which extends, as shown, slightly beyond the bottom surface of the shoe, will be very much less than it would be if the packing were arranged to fit the groove snugly.

The purpose of the longitudinal opening *e* or of the slit *f* is to allow more ready expansion without wear on the top surface of the packing, while the purpose of hardening the base of the packing or providing the canvas strip *d* is to prevent wear on that portion of the packing and also to more readily insure said expansion within the groove.

In Fig. 1 I have shown a continuous groove from heel to heel; but instead of forming a continuous groove a series of short grooves or slots may be substituted to receive corresponding pieces of packing. These shorter grooves or slots may be merely portions of the continuous groove, as shown in Fig. 4, or the slots may be round, oblong, or of any desired external shape, it being understood, of course, that the slots are wider at the base than at the ground-surface and that the packing is of the same character as for the continuous groove. When these short grooves

are used, it will be preferable to form the slits *f* in the base of the packing to allow for a more ready insertion of the sections of packing.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a horseshoe, the combination, with the metal body, provided with a groove on its under side wider at the base than at the surface, of an elastic packing in said groove and projecting slightly therefrom, said packing being also wider at the base than at the surface but narrower than the base portion of said groove, whereby when inserted the packing will be retained in place by the side walls of said groove but will be readily expansible therein, substantially as shown and described.

2. In a horseshoe, the combination, with the metal body provided with a groove on its under side wider at the base than at the surface, of an elastic packing in said groove and projecting slightly therefrom, said packing being also wider at the base than at the surface but narrower than the base portion of said groove, and having a longitudinal opening or slit therein to assist in the expansion thereof within the groove, substantially as shown and described.

3. In a horseshoe, the combination, with the metal body provided with a groove on its under side wider at the base than at the surface, of an elastic packing in said groove, hardened or bound with canvas at its base, and projecting slightly from said groove, said packing being also wider at the base than at the surface, but narrower than the base portion of said groove, whereby when inserted the packing will be retained in place by the side walls of said groove but will be readily expansible therein, substantially as shown and described.

4. In a horseshoe, the combination, with the metal body, provided with a groove on its under side wider at the base than at the surface, and a toe-opening with a flange at the front thereof, of an elastic packing in said groove and projecting slightly therefrom, said packing being also wider at the base than at the surface but narrower than the base portion of said groove, whereby when inserted the packing will be retained in place by the side walls of said groove, said toe-flange being turned up over the packing to hold the toe portion in place, substantially as shown and described.

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