E. L. BROWN.

Horseshoe.

No. 168,369. Patented Oct. 5, 1875.

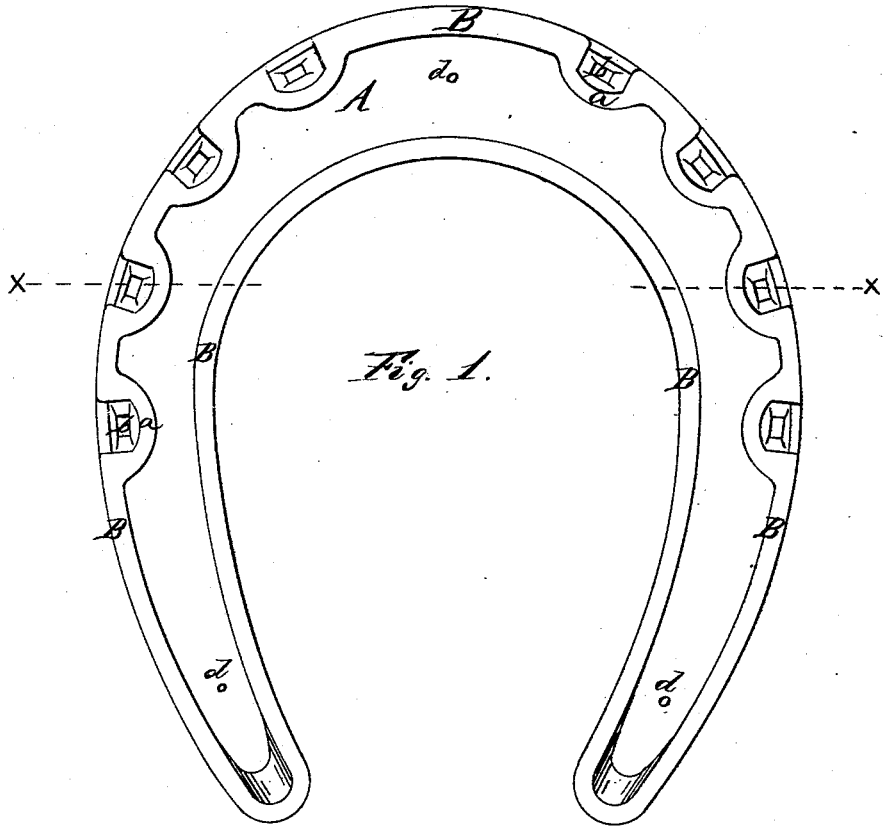
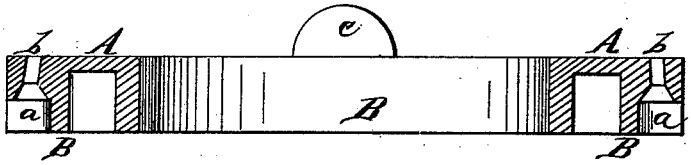


Fig. 1.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD L. BROWN, OF PLAINFIELD, NEW JERSEY.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. **168,369**, dated October 5, 1875; application filed July 17, 1875.

To all whom it may concern:

Be it known that I, EDWARD L. BROWN, of Plainfield, in the county of Union and State of New Jersey, have invented certain Improvements in Horseshoes, of which the following is a specification:

My invention relates to that class of horseshoes designed to contain a more or less elastic filling held in a recess in its under surface, to receive the jar incident to the blow given by the foot of the horse upon the pavement or other hard or unyielding surface, and to give to the animal a firm and reliable footing upon smooth surfaces.

Said invention consists in the formation of the metallic shoe, with its flanges for holding the elastic material, as aforesaid, extending out to the outer boundary of the shoe, and having indentations or recesses therein for the introduction of the nails for fastening the shoe to the foot, as hereinafter described, by which construction the full and proper breadth of the tread of the shoe is retained, and at the same time the proper facilities for safely and securely attaching the shoe to the foot are secured, as hereinafter more fully set forth.

Figure 1 is an under-side view of a shoe constructed according to my invention, and ready for the introduction of the elastic material hereinbefore mentioned. Fig. 2 is a vertical section of the shoe, showing the parts toward the top of the page from the line *x x* in Fig. 1.

A is the top of the shoe, which is shaped to fit the foot of a horse, and of the general form adapted for that purpose. B is a flange, which extends entirely around the outer and inner edges and ends of the plate A, to receive and retain the elastic filling, as already stated, between the outer and inner portions and the ends of the said flange. This flange forms the outer and inner portions of the lower part of the shoe, and the metallic portion of the tread, the outer portion of this flange being through nearly the whole of its length coincident with the outer boundary of the plate A, so that this metallic tread of the shoe extends entirely out to the outer boundary of the shoe itself. At the points where nails are required this flange B is curved or indented inward, as shown at *a*, to give places or pockets where the nails may be driven outside of the said flange without diminishing the breadth of the tread of the shoe, and also to protect the head of the nail from being bent, so as to injure the opposite leg of the horse or do other damage—such, for example, as straining or breaking the nail itself, and thereby loosening the shoe. *b b* are the nail-holes through which the nails are driven into the hoof. These nail-holes are slightly inclined inwardly and upwardly, as shown, so as to give the nails the proper direction at their entrance into the hoof; and the lower portions of these nail-holes are flared, as shown in the drawings, to give a recess into which a portion of the head of the nail may be driven, and where it is supported, thus adding to the security which is afforded to these nail-heads in the recesses at *a* by the flange B, which nearly surrounds them. These indentations at *a* in the outer flange of the shoe also have the advantage that, by giving a somewhat broken edge to this flange, they increase and improve the hold of the horse upon any of the surfaces on which he usually travels. In setting the shoe, the nails are inserted and driven down even with the flange B, in the usual manner, with the hammer, and then driven home with a nail, set so as to sink their heads as much as practicable into the flaring portion of the nail-holes; and this construction thus enables the nails to be guided properly, and with all possible certainty, into the hoof, and to be driven home with reasonable convenience. The usual clips, common on the upper surface of horseshoes, may extend from the upper surface of this shoe, and form a part of it, as shown at *c* in Fig. 2. The shoes I have described may be made of any proper or suitable metal, steel being perhaps the best, and, when constructed as I have described, are ready to receive the elastic filling, which may be of any compound suitable for that purpose, of which compound vulcanized india-rubber will probably generally form a large component part, though various fillings may be used, according to the choice of the manufacturers or the demands of the public, it being generally desirable that it should be inserted into the shoe in a state which will insure its adhesion to the metal, and then afterward vulcanized or hardened

in place. It should also properly project slightly below the edges of the flange B. To secure a perfect contact between the elastic filling and the metallic shoe, small holes should be made through the top plate A, as shown at *d d*, through which the air can escape during the process of filling the shoe. This construction avoids, on the one hand, the injurious diminution of the proper and full size of the tread of the shoe which is involved by setting the entire outer flange inside of the line of the nails, and on the other the serious objections which apply to the driving of the nails through the elastic material, among which objections may be mentioned the uncertainty of the direction of the nail, the unsatisfactory nature of the bearing thus afforded to the head of the nail, and the eloignment thus involved of head of the nail from the point subjected to the principal strain.

I claim as my invention—

A horseshoe constructed with vertical flanges, forming an annular space, to be filled with elastic material, on its under side, and having its outer vertical flange extended to and made the full size of the outer boundary of the shoe, except at the nail-holes, where it is carried inside of, and partly around, said nail-holes, to admit the nails outside of said flange, substantially as hereinbefore set forth.

EDWD. L. BROWN.

Witnesses:

WM. C. HICKS,

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