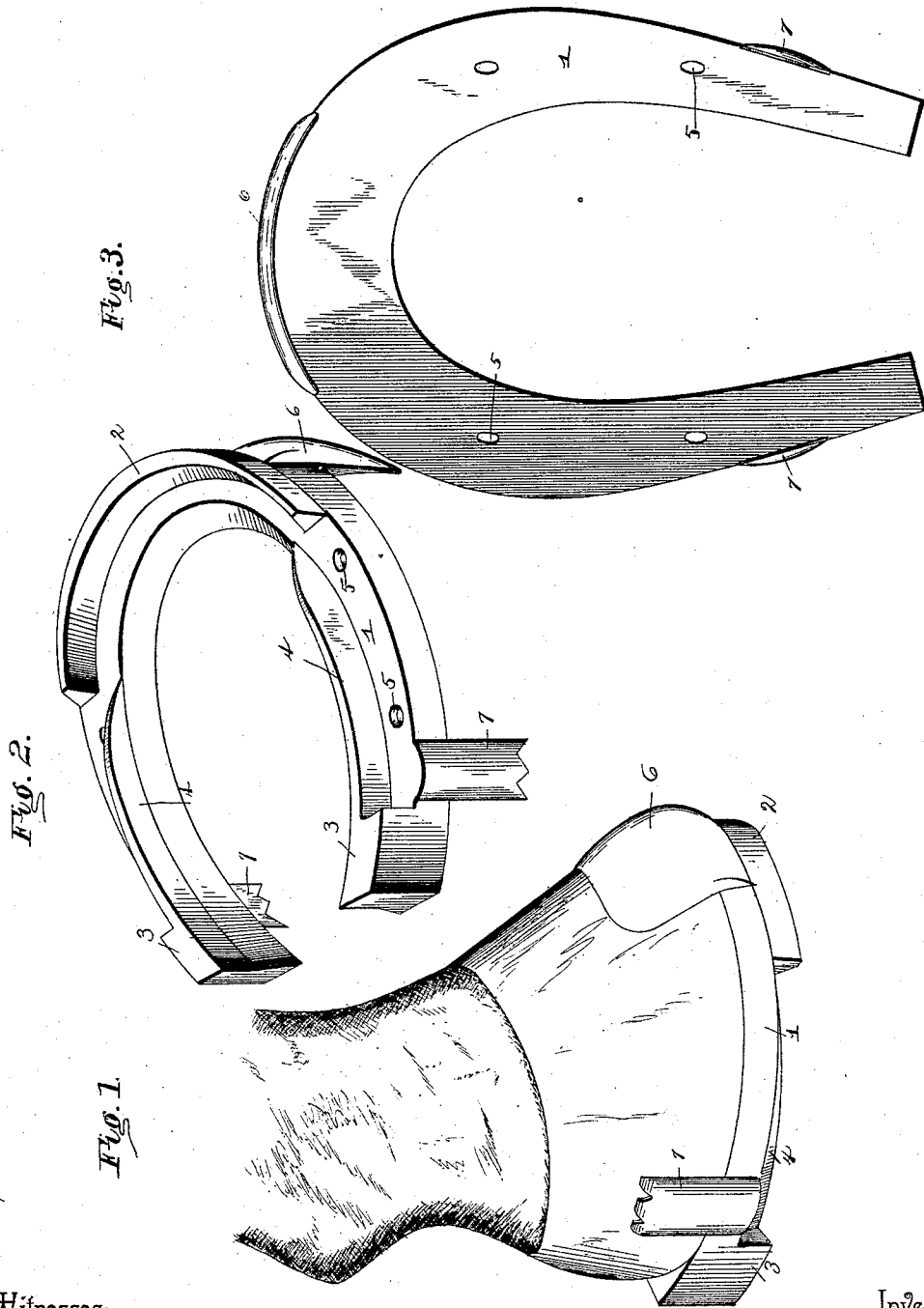


(No Model.)

J. E. BULL.
HORSESHOE.

No. 472,520.

Patented Apr. 12, 1892.



Witnesses:

Chas. A. Ford.
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By his Attorneys,

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J. E. Bull. Inventor

UNITED STATES PATENT OFFICE.

JAMES EVERETT BULL, OF TRACY CITY, TENNESSEE.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 472,520, dated April 12, 1892.

Application filed November 12, 1891. Serial No. 411,681. (No model.)

To all whom it may concern:

Be it known that I, JAMES EVERETT BULL, a citizen of the United States, residing at Tracy City, in the county of Grundy and State of Tennessee, have invented a new and useful Horseshoe, of which the following is a specification.

This invention relates to improvements in horseshoes; and the objects in view are to reduce the cost of manufacture, increase the durability and security when upon the hoof, and to so construct the shoe as to prevent slipping.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a horseshoe constructed in accordance with my invention, the same being in position upon a hoof. Fig. 2 is a bottom perspective view. Fig. 3 is a plan view.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing my shoe I prefer to mold the same in contradistinction to forming it of wrought-iron. I have found by experience that a shoe molded of malleable iron is equal in durability to the ordinary wrought-iron shoe, and that by molding the same and subsequently heating and immersing in a suitable tempering solution said shoe is greatly superior in durability to the wrought-iron shoe. I therefore prefer to mold and subsequently temper the shoe hereinafter described, though, as will be seen, certain characteristics of the shoe may be employed independent of such process.

The shoe consists of the usual tread portion 1, provided at its front end and upon its under side and near its outer edge with a curved toe-calk 2, extending well around or nearly to the quarter of the shoe. At the heels of the shoe are located the heel-calks 3, and said calks are reduced and at their inner front edges merge into curved fins or flanges 4, which extend along the inner edge of the shoe to about opposite the terminations of the toe-calk. Such a constructed shoe I have found by experience to effectually re-

sist the tendency of slipping and give the hoof of the animal a firm grip or hold upon the surface. At intervals between the ends of the toe-calk and the heel-calk countersunk nail-openings 5 are formed, two in this instance being shown and deemed sufficient in view of the hereinafter-described construction. The toe is provided upon its upper side with a wide curved flange 6, and the quarters are provided at their outer edges with a pair of opposite upwardly-disposed keepers or lugs 7, tapered toward their upper ends and preferably serrated, as shown.

The shoe thus described is all formed integral and possesses the advantages heretofore described. After molding the shoe is heated—that is, the toe portion thereof—and immersed in the solution, whereby the calk at the toe of the shoe is made equal to tempered steel. I have found by experience that a solution composed of saltpeter, prussiate of potash, alum, sal-ammoniac, and table-salt added to water serves as an efficient tempering solution. Other solutions may be employed, if desired.

In applying the shoe the keepers or lugs 7 are spread to admit of the reception of the hoof, after which the nails are applied and the upper ends of the keepers inwardly bent or clinched, so as to take into a rasp-kerf formed in the quarters of the hoof. By the addition of these keepers to the shoe two nails will be found ample to maintain the shoe tight upon the hoof and prevent any lateral straining of the nails, and also hoofs of slightly-varying sizes may be fitted with practically the same kind of shoe, in that the keepers may be slightly spread to receive the hoof and conform to its width.

Having described my invention, what I claim is—

1. The herein-described shoe, consisting of the tread portion, the curved toe-calk extending rearwardly to a point near the quarters and at the outer edge of the shoe, the heel-calks, and the flanges extending from said heel-calks along the inner edge of the shoe to points opposite the ends of the toe-calk, substantially as specified.

2. The herein-described shoe, integrally

molded and consisting of the tread portion
having the toe-flange and curved toe-calk, the
opposite malleable serrated keepers, the heel-
calks, and the flanges extending along the in-
5 ner edge of the shoe from the heel-calks to
points opposite the toe-calks, substantially as
specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JAMES EVERETT BULL.

Witnesses:

ED. VAN BERGEN,
C. J. BISSELL.