A. BERNSTEIN.

SUPPLEMENTAL HORSESHOE.

APPLICATION FILED FEB. 25, 1911.

1,020,792.

Patented Mar. 19, 1912.

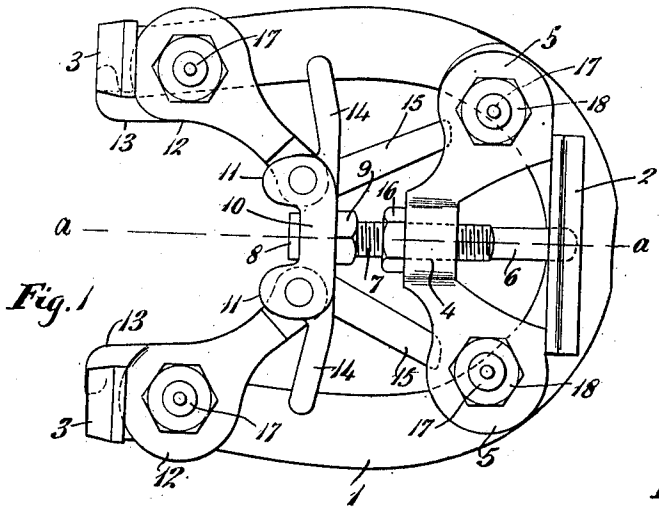

Fig. 1

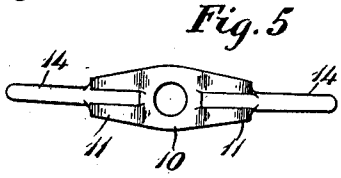

Fig. 5

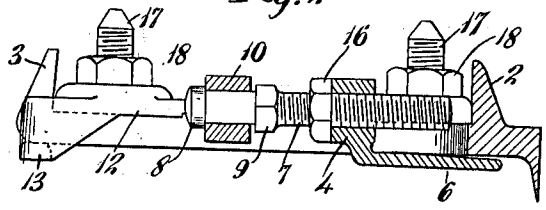

Fig. 2

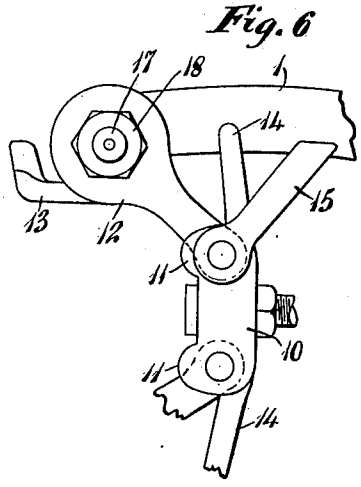

Fig. 6

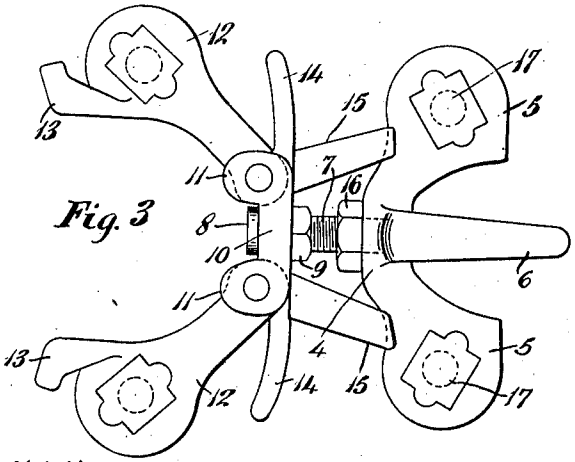

Fig. 3

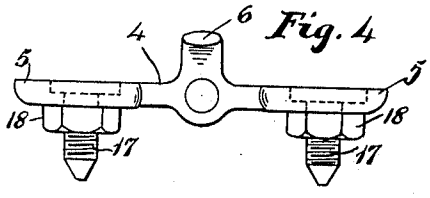

Fig. 4

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SUPPLEMENTAL HORSESHOE.

1,020,792. Specification of Letters Patent. **Patented Mar. 19, 1912.**

Application filed February 25, 1911. Serial No. 610,896.

To all whom it may concern:

Be it known that I, ABRAHAM BERNSTEIN, a citizen of the United States, and a resident of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Improvement in Supplemental Horseshoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a supplemental horse shoe adapted to be readily attached to, and detached from, the shoe ordinarily worn.

The object of my invention is to provide such a shoe, the mechanism of which will not interfere with the horse's frog, and in which said mechanism is protected from damage by reason of forcible contact with stones or other inequalities in the road.

It is a further object of my invention to provide such a shoe, which will be braced between the toe and heel-calks of the ordinary shoe, thereby assuring rigidity of attachment, and thus preventing the clamping members of the supplemental shoe from spreading or otherwise causing the ordinary shoe to spring.

A further object of my invention is to provide calks for such shoes, which, on becoming loose, can be readily tightened, and which, if broken or otherwise rendered unfit for service, may be easily replaced.

In the drawings: Figure 1 is a bottom plan view, showing my device attached to an ordinary shoe; Fig. 2 is a section on line *a*—*a* of Fig. 1; Fig. 3 is a top plan view, detached; Fig. 4 is a front elevation of the toe piece; Fig. 5 is a rear elevation of the shoulder piece; Fig. 6 is a top plan view of a portion, showing an auxiliary arm provided for additional strength.

The numeral 1 indicates an ordinary horse shoe, of which 2 is the toe-calk and 3—3 are the heel-calks. The toe piece 4 has arms 5—5, which are adapted to fit against the under side of the shoe 1 and to abut, when clamped, against the toe-calk 2. Said toe piece 4 carries a prong 6 on its upper side adapted to penetrate between the shoe 1 and the hoof, the limit of its forward movement being defined by the upward projecting portion of the toe of the ordinary shoe. A bolt 7 extends through the middle portion of the toe piece, being screw threaded therein. Between the head 8 and a collar 9 of said bolt, the shoulder piece 10 is loosely mounted. Said shoulder piece is equipped with the slotted shoulders 11—11, in the slots of which the arms 12—12 are pivotally mounted, the free ends of said arms being adapted to fit against the under side of the shoe 1, and to abut, when rigidly clamped, against the heel-calks 3—3 of the shoe. Each of said arms 12—12 carries an upwardly projecting prong 13, adapted to grip the upper side of the shoe 1 above the heel-calk and in the rear of the hoof, whereby all interference of the prong with the hoof is obviated. Integrally formed with the shoulder piece 10 are the laterally projecting arms 14—14, adapted to rest against the bottom of the shoe 1, and thus to prevent the bolt and other parts from becoming bent or strained when forcibly contacting with a stone or other inequality. Auxiliary arms 15—15, pivotally mounted on the upper side of the shoulders 11—11 are adapted to rest, when not in use, under the arms 5—5, as shown in Fig. 1, but may be thrown backward, as shown in Fig. 6, in which position they will rest on the upper side of the shoe 1, thus furnishing supports for the shoulder piece 10, which is desirable where the horse is of an especially heavy build or has unusually large hoofs.

The collar 9 is of square or hexagonal shape so that the bolt 7 may be turned by means of a wrench applied to said collar. A lock nut 16 is provided, to lock the bolt 7 when the desired adjustment has been effected.

The calks 17 are inserted in perforations in the arms 5—5 and 12—12, said calks having heads of generally rectangular shape with semi-circular projections at the ends, and the upper surfaces of said arms being suitably countersunk for the receipt thereof. The said calks are threaded on their lower ends, and nuts 18 are provided for tightening the same in the arms. By this arrangement the calks are easily slipped into the arms and tightened thereto, and any subsequent re-tightening or replacement can be readily effected. The upper surfaces of the heads of said calks rest against the bottom of the shoe 1, thus adding to their rigidity.

From the foregoing description the manner of applying my shoe will be apparent.

The ends of the arms 5—5 and 12—12 and the prongs 6 and 13—13 having been placed loosely in their respective positions, the bolt 7 is unscrewed, thereby forcing the toe piece, with the arms 5—5 and the prong 6, forward until the said arms abut against the toe-calk 2 of the shoe 1, and simultaneously forcing the shoulder piece backward, the arms 12—12 moving backward and outwardly, adapting themselves to the contour of the shoe, until they abut against the heel-calks 3—3. When the desired rigidity has been attained, the nut 16 is screwed against the toe piece thereby locking the parts. The perfect adaptability and accurate self-adjustment of my supplemental shoe to any irregularity in the shape of the ordinary shoe will also be readily understood from the above description.

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

1. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece and adapted to abut against the front sides of the heel calks of a shoe, and means expansively to connect said toe piece and said shoulder piece.

2. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece and adapted to abut against the front sides of the heel calks of a shoe, means expansively to connect said toe piece and said shoulder piece and for locking said toe piece and said shoulder piece in any desired relation.

3. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece and adapted to abut against the front sides of the heel calks of a shoe, calks in said toe piece and said arms, and means expansively to connect said toe piece and said shoulder piece.

4. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece, means expansively to connect said toe piece and said shoulder piece, and adapted to abut against the heel calks of a shoe, and laterally projecting arms on said shoulder piece.

5. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece, auxiliary arms pivotally mounted on the upper side of said shoulder piece, and means expansively to connect said toe piece and said shoulder piece.

6. A device of the character specified comprising a toe piece, a shoulder piece, arms pivotally mounted in said shoulder piece and adapted to abut against the front sides of the heel calks of a shoe, calks in said toe piece and said arms, means expansively to connect said toe piece and said shoulder piece, and laterally projecting arms on said shoulder piece.

7. A device of the character specified comprising a toe piece adapted to engage the underside, and to abut against the toe-calk, of a shoe, a shoulder piece, arms pivotally mounted in said shoulder piece, said arms being adapted to engage the under side, and to abut against the heel-calks, of a shoe, a prong on said toe piece adapted to engage the upper side of a shoe, prongs on said arms adapted to grip a shoe, and means expansively to connect said toe piece and said shoulder piece.

8. A device of the character specified comprising a toe piece adapted to engage the under side, and to abut against the toe-calk, of a shoe, a shoulder piece, arms pivotally mounted in said shoulder piece, said arms being adapted to engage the under side, and to abut against the heel-calks, of a shoe, a prong on said toe piece adapted to engage the upper side of a shoe, prongs on said arms adapted to grip a shoe, means expansively to connect said toe piece and said shoulder piece, and laterally projecting arms on said shoulder piece.

9. A device of the character specified comprising a toe piece adapted to engage the under side, and to abut against the toe-calk, of a shoe, a shoulder piece, arms pivotally mounted in said shoulder piece, said arms being adapted to engage the under side, and to abut against the heel-calks, of a shoe, a prong on said toe piece adapted to engage the upper side of a shoe, prongs on said arms adapted to grip a shoe, means expansively to connect said toe piece and said shoulder piece, and auxiliary arms pivotally mounted on the upper side of said shoulder piece.

10. A device of the character specified comprising a toe piece adapted to engage the under side, and to abut against the toe-calk, of a shoe, a shoulder piece, arms pivotally mounted in said shoulder piece, said arms being adapted to engage the under side, and to abut against the heel-calks, of a shoe, a prong on said toe piece adapted to engage the upper side of a shoe, prongs on said arms adapted to grip a shoe, auxiliary arms pivotally mounted on the upper side of said shoulder piece, means expansively to connect said toe piece and said shoulder piece, and laterally projecting arms on said shoulder piece.

11. A device of the character specified comprising a toe piece adapted to engage the under side, and to abut against the toe-calk, of a shoe, a shoulder piece, arms pivotally mounted in said shoulder piece, said arms

being adapted to engage the under side, and to abut against the heel-calks, of a shoe, a prong on said toe piece adapted to engage the upper side of a shoe, prongs on said arms adapted to grip a shoe, means expansively to connect said toe piece and said shoulder piece, and means for locking said toe piece and said shoulder piece in any desired relation.

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