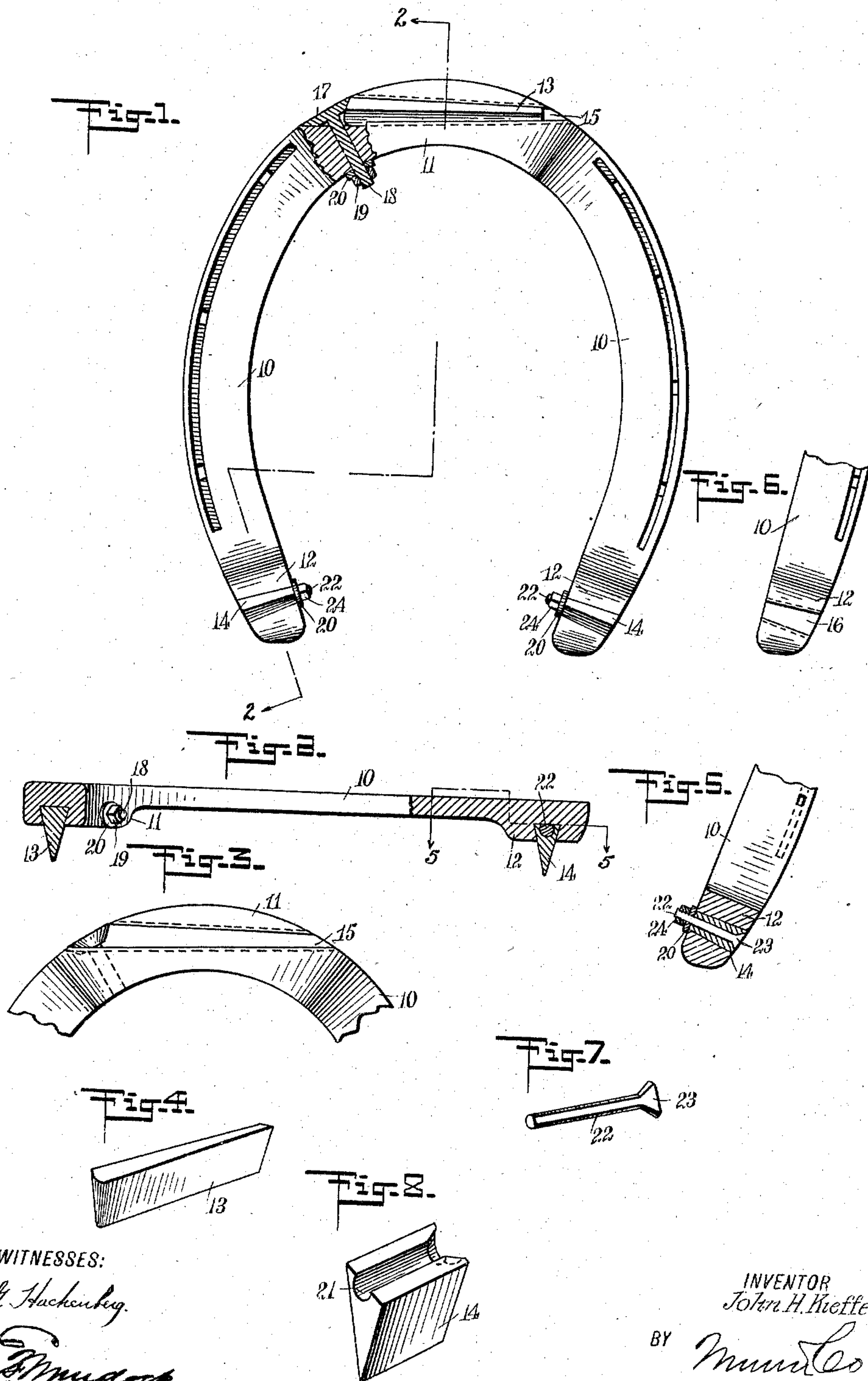


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J. H. KIEFFER.
HORSESHOE.
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WITNESSES:
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JOHN H. KIEFFER, OF ALLENTOWN, PENNSYLVANIA.

HORSESHOE.

967,021.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN H. KIEFFER, a citizen of the United States, and a resident of Allentown, in the county of Lehigh and State of Pennsylvania, have invented new and Improved Horseshoes, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a shoe and removable calks therefor, the attachment whereof is simple in construction and easy of application; to provide means for attaching removable calks to horseshoes by wedging the same therein and preventing the loosening, by auxiliary fastening devices; and to lighten the construction of the shoe without decreasing its durability or increasing its cost.

One embodiment of the present invention is disclosed by the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a bottom view of a horseshoe having applied thereto removable calks constructed and arranged in accordance with the present invention, the view being partly cut away in section to show the holding arrangement of the retaining device upon the toe calk; Fig. 2 is a sectional view of a shoe having calks applied thereto constructed and arranged in accordance with the present invention, the section being taken on the line 2—2 in Fig. 1; Fig. 3 is a detail view in fragmentary form, of a shoe constructed and arranged in accordance with the present invention, the toe calk being removed therefrom; Fig. 4 is a detail view in perspective, of a toe calk constructed as employed in the present invention; Fig. 5 is a sectional view taken on the line 5—5 in Fig. 2; Fig. 6 is a detail view in fragmentary form, of one of the heel sections of the shoe, constructed in accordance with the present invention; Fig. 7 is a detail view in isometric projection, illustrating the preferred form of fastening device for the heel calks; and Fig. 8 is a detail view in isometric projection of a heel calk when constructed in accordance with the present invention.

The object chiefly sought in the present invention is to provide a construction of a shoe, and of removable calks therefor, which may be readily and quickly removed from the shoe while the same is on the animal,

which operation requires no special tools or special instruction. In carrying this object into effect the shoe is provided with body portions 10, 10. As it is designed that the body portions 10, 10 be not brought into contact with the ground, the sections of the shoe here are made very light, thus compensating for the thickened toe calk section 11 and the heel calk sections 12, 12. The body portions 10, 10 of the shoe are formed as in the ordinary construction.

The calk sections 11 and 12, 12 differ only in the length, the toe calk section being in that respect formed to receive an elongated toe calk 13, while the small heel calk sections are provided to receive the smaller heel calks 14, 14. In each instance the calks are contracted lengthwise, and are formed to a wedge shape in cross section. The base of the wedge is adapted to fit within undercut grooves 15 and 16, the undercut portions thereof being shown particularly in Figs. 1, 3 and 6, and in dotted lines in said figures. The formation of the grooves and the calks is such that the calks may be placed in the grooves and by slightly tamping the same with a small hammer may be driven solidly home and seated in the said grooves. When seated, the toe calk is preferably secured by the flared head 17 of a bolt 18, which bolt is extended through the thickened calk section 11 beyond the end of the groove 15, the head 17 extending above and blocking the said groove at the rear or enlarged end thereof. When the calk 13 is in position the head 17 rests firmly against the rear end or tail of the calk 13, as shown in Fig. 1 of the drawings. The bolt 18 is secured firmly in position by a nut 19, which in turn is locked in position by a locking washer 20, the said washer being of any usual and suitable construction.

The fastening devices for the heel calks vary slightly from the fastening device above described for the toe calk, in that the calks are provided with grooves 21 shaped to receive in holding relation bolts 22, which are provided with flared heads 23. The heads 23 and the shanks of the bolts 22 are flattened, as seen best in Fig. 7 of the drawings, the flattened sections being arranged to rest against the bottoms of the grooves 16, 16, as seen in Fig. 2 of the drawings. The bolt may be inserted after the calk is placed, or may be placed in the calk and inserted in the groove therewith. It is drawn

tight by a nut 24, which is engaged with the threaded end of the said bolt after the same is placed in operative position. The nuts 24, 24 are held in locked position by locking washers 20, 20, the washers being similar or identical with the washer 20 holding the nut 19 on the bolt 18. When a shoe is thus provided it is obvious that the operation for removing and replacing the calks is simple, all the operation required being that the nuts 19 and 24, 24 be removed from their respective bolts, when the said bolts may be removed from engagement with the shoe and calks. In this position the calks may be driven from the seats in the converged slots 15 and 16, 16 by lightly tapping the said calks on the contracted or entering ends of the same.

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

1. A horseshoe, comprising a thin body portion having recesses formed therein to receive fastening devices for said shoe; a plurality of thickened toe and heel sections formed on said body portion as wearing surfaces therefor; said sections being provided with end contracted grooves having overhung sides and extended transversely to the median line of the said shoe; a plurality of end contracted wedge-shaped calk members, the thickened edge of each being adapted to fit within one of said grooves; a plurality of screw threaded bolts mounted in said sec-

tions adjacent to said grooves, the ends of said bolts being arranged to overlie the broad ends of said calk members; and a plurality of screw threaded fastening devices for said bolts.

2. A horseshoe, comprising a thin body portion having recesses formed therein to receive fastening devices for said shoe; a plurality of thickened wearing sections formed on said body portion at the toe and heel ends of said shoe; said sections being provided with end contracted grooves having overhung sides; a plurality of end contracted wedge-shaped calk members, the thickened edge of each of which is adapted to fit within one of said grooves; said calk members having grooves disposed lengthwise thereof to receive holding devices; a plurality of bolts, one of which is disposed in the groove in each of said calk members, said bolts having screw threaded ends extended beyond the side of said shoe; and a plurality of nuts to engage said threaded extensions adapted to upset against the side of said shoe to draw the bolt and calk member within the groove in said shoe.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN H. KIEFFER.

Witnesses:

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FLORENCE E. KOHL.