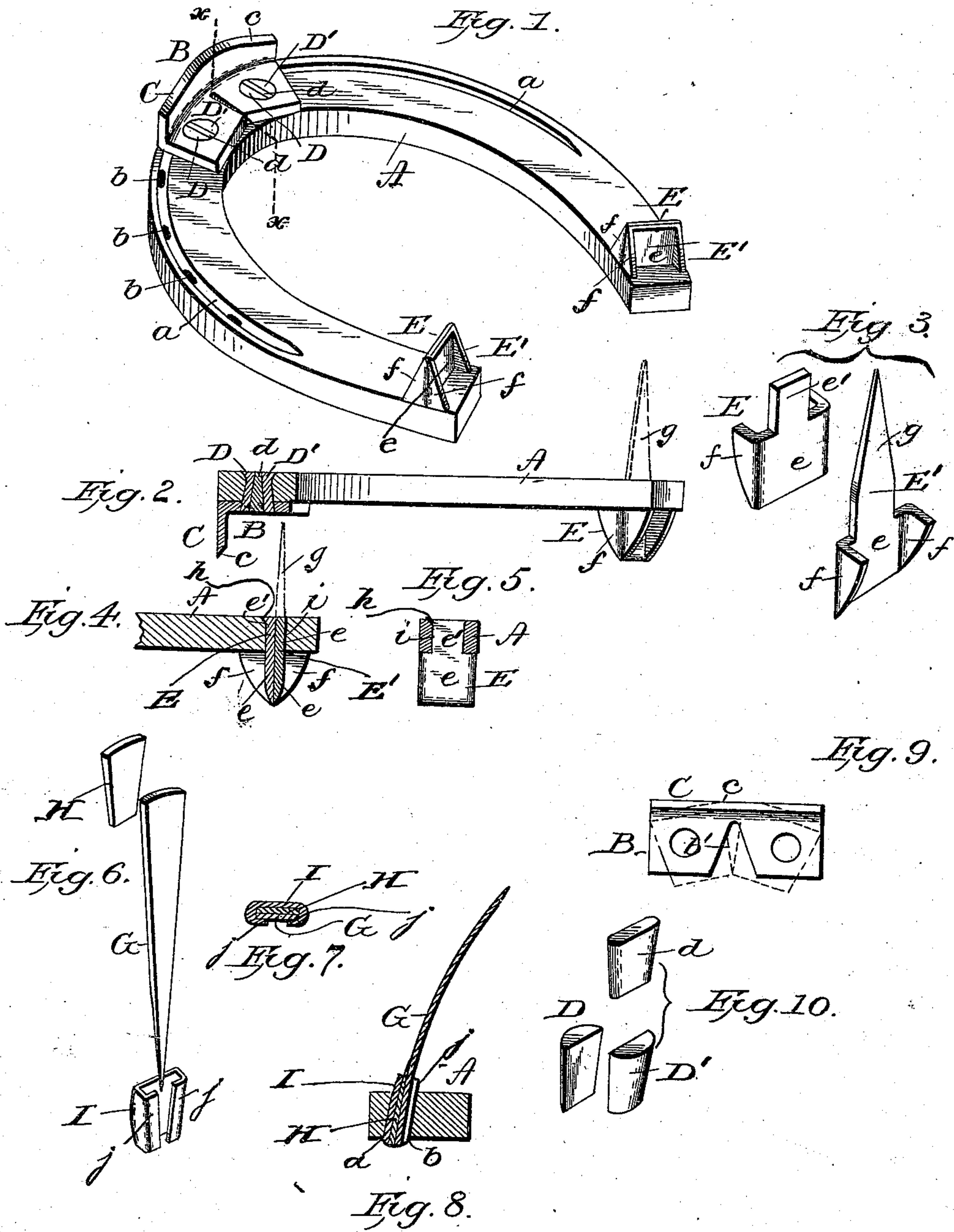


(No Model.)

H. OLSON.
HORSESHOE.

No. 548,923.

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WITNESSES:
H. S. Oursard
J. M. H. H. H.

INVENTOR:
Hakan Olson,
by Louis Baggen Co.
Attorneys.

UNITED STATES PATENT OFFICE.

HAKAN OLSON, OF SOPERVILLE, ILLINOIS.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 548,923, dated October 29, 1895.

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To all whom it may concern:

Be it known that I, HAKAN OLSON, a citizen of the United States, and a resident of Soperville, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Horseshoes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective (inverted) view of my improved horseshoe complete. Fig. 2 is a sectional view through the toe of the shoe and its calk on line *xx* in Fig. 1. Fig. 3 is a detail view of one of my improved heel-calks, its two component parts being separated from the shoe and from each other. Fig. 4 is a sectional view of the heel of the shoe with one of the calks appertaining thereto. Fig. 5 is a similar view of the heel and its appropriate calk, but at right angles to the view shown in Fig. 4. Fig. 6 is a detail view of my improved compound horseshoe-nail with its three component parts separated from one another. Fig. 7 is a transverse sectional view of the same through its stem, wedge, and jacket. Fig. 8 is a longitudinal sectional view of the nail and its fastening devices after it has been inserted into the horseshoe and driven home. Fig. 9 is a plan of the steel blank used for making the toe-calk as it appears before it is bent into shape to form the calk, the dotted lines showing its shape after bending; and Fig. 10 is a detail view of the device for fastening the detachable toe-calk to the shoe.

Like letters of reference designate corresponding parts in all the figures.

This invention relates to horseshoes of that class or type in which both the toe and heel calks are removable; and my improvement consists in a novel and peculiar construction of said removable calks and also in the devices used for fastening them removably to the shoe and fastening the shoe upon the hoof of the animal to be shod, substantially as will be hereinafter more fully described and claimed.

In the accompanying drawings the reference-letter A denotes a horseshoe, which may

be of any approved pattern or construction and is provided on its under side with the usual nail-groove or fullering *a* and oblong nail-holes *b b*. The removable toe-calk (shown in plan in Fig. 9) consists of a plate of steel B, the outer curved side of which is set up at right angles, as shown at C, and ground off to form a sharp edge *c* for the purpose of enabling the shoe to get a firm foothold upon the ice or any other smooth and slippery surface.

The plate B is cut out in the middle, as shown in Fig. 9, by clipping out the triangular piece marked *b'*, which permits of the plate being bent in a horizontal plane, as represented in dotted lines, so as to form the curved outer edge C *c*, conforming to the curvature of the front end or toe of the shoe, to which it is fastened by means of plugs D D', in combination with an intermediate wedge or wedges *d*, as shown more clearly in Fig. 2. This construction and arrangement permits of the easy removal of the toe-calk, when desired, simply by knocking out the wedges *d*, which loosens the fastening-plugs D D', (one pair on each side of the slot formed by the cutting out of the triangular piece *b'* in the blank,) after which the calk is easily detached from the shoe.

Each one of the heel-calks consists of two separate parts E and E', which are, however, of substantially the same construction, as will be seen more clearly by reference to Figs. 3, 4, and 5 on the drawings, from which it will be observed that each part E and E' consists of a square rectangular flat middle part or web *e*, having two triangular wings or side pieces *f f* at right angles to the rectangular middle section *e*. The parts E and E' are independent of each other, but combined in pairs, one pair for each calk, by placing them back to back and inserting the elongated pointed tongue or spike *g* appertaining to and integral with any one of the parts E or E' through the heel-aperture *i* in the shoe. The adjacent part is provided with a short lip or extension *e'*, projecting from its middle web *e*, which is also inserted into the heel-aperture *i*, Figs. 4 and 5, after which the two parts or sections E and E' forming the complete calk are fastened firmly to the heel of the shoe by riveting down and expanding the projecting upper edge of

lip e' , as shown at h , into the countersunk upper end of the aperture c , which in connection or combination with the contiguous spike g firmly fastens this duplex calk $E E'$ to the shoe, yet in such a manner that it may be easily removed when desired.

My improved nail, used on a horseshoe in connection with the toe and heel calks of the construction herein described, and shown in detail in Figs. 6, 7, and 8, is of the usual shape and proportions; but instead of being in a single solid piece it is a "compound" nail consisting of three separate parts or sections, viz: the long flat tapering steel wedge G , which forms the nail-body proper, a wedge-shaped key H of the same outline and proportions as the broad flat head of the nail-body G , and a clamping-jacket I , also wedge-shaped to fit the taper of the body G and key H . In Fig. 6 these several component parts are shown separated from one another, but in the sectional detail views, Figs. 7 and 8, these parts are properly juxtaposed in the position which they will relatively occupy after the nail has been driven home in the shoe with the long tapering spike G extending into the horse's hoof, as usual.

In practice the nail-body G is first inserted into its appropriate nail-hole b and driven partially home, it having been first loosely inserted through the slotted and tapering clamping-jacket I , with the key H inserted between it and the back part of the jacket. (See Figs. 7 and 8.) The nail is then driven all the way home and clinched by driving the projecting broad end of the wedge plug or key H home into the slotted jacket or envelope I , which expands the latter in both directions, so that it, with its contiguous parts H and G , will be wedged firmly into the hole b through which the nail is inserted. By making the jacket or envelope I open on one side it is enabled to expand laterally to any required extent, its side flaps $j j$ on opposite sides of the central slot bearing against the opposite side of the nail-hole b , as clearly illustrated in Fig. 8.

It will be observed that the device for fastening the toe-calk removably to the shoe (illustrated in detail removed from both the calk and the shoe in Fig. 10) comprises three separate parts—viz., the two side pieces D and

D' and the intermediate key or wedge d . When the calk is to be fastened upon the shoe, the semicylindrical side pieces are first inserted into their appropriate holes in the calk-plate B and the registering apertures in the toe part of the shoe and clinched or riveted down, after which the central key d is inserted and driven home. By this construction it will be seen that the calk may easily be removed, when desired, simply by driving out the central key d , which instantly releases the two side pieces $D D'$ and loosens the calk.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination with a horseshoe, of the improved toe calk herein shown and described, consisting of the flat plate B having a middle slot b' , and a curved and sharpened rim C set up at right angles to the flat plate; in combination with the fastening plugs D and D' and intermediate key d ; substantially as and for the purpose set forth.

2. The combination with a horse-shoe, of the improved heel-calks herein shown and described, each comprising a pair of recessed skeleton-blocks set back to back and consisting of a rectangular middle-web e , one having a lip or extension e' and the other having a spike g , said lip and spike being adapted to fit into the aperture i in the heel of the shoe, and each web being provided with triangular side-wings $f f$, projecting at right angles parallel to each other, and bearing with their lower ends against the shoe on opposite sides of the slot i ; substantially as and for the purpose set forth.

3. The combination with a horse-shoe, of the improved nail herein shown and described, comprising a flat and wedge-shaped nail body G , in combination with the slotted jacket I and key H ; substantially as and for the purpose set forth.

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

HAKAN OLSON.

Witnesses:

H. E. OLSON,

OSCAR PETERSON.