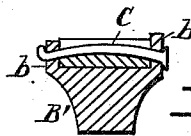
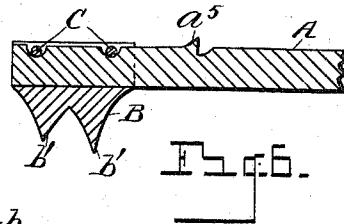
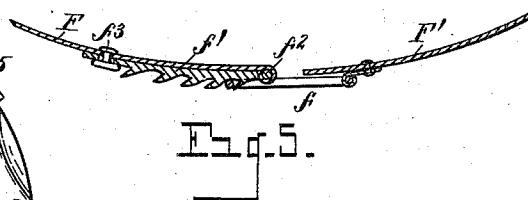
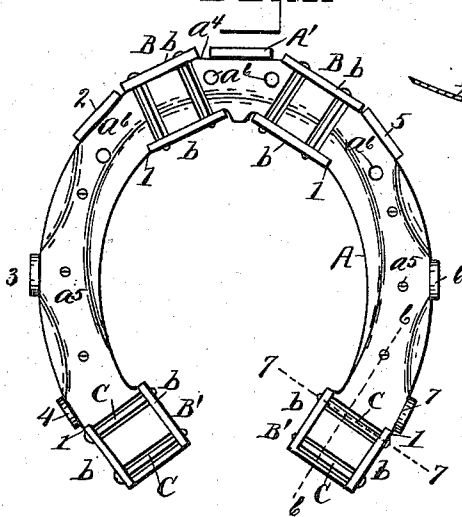
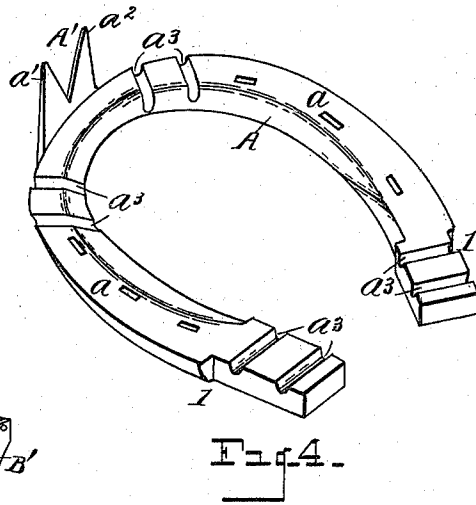
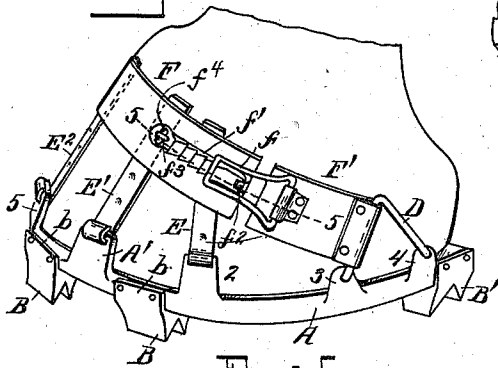
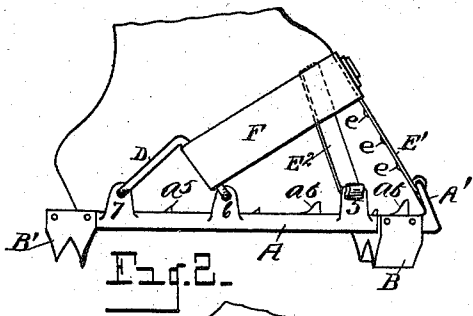


(No Model.)

E. KRANTZ.
HORSESHOE.

No. 577,866.

Patented Mar. 2, 1897.



WITNESSES

O. B. Barnzigs
John F. Miller

INVENTOR

Edward Krantz
By *his* Attorney *M. W. Wright*

UNITED STATES PATENT OFFICE.

EDWARD KRANTZ, OF DETROIT, MICHIGAN.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 577,866, dated March 2, 1897.

Application filed May 23, 1896. Serial No. 593,476. (No model.)

To all whom it may concern:

Be it known that I, EDWARD KRANTZ, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Horseshoes; and I declare the following to be a full, clear, and exact description of the invention, such as 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.

My invention has for its objects an improved horseshoe provided with detachable calks, the shoe itself being either made detachable or to be nailed to the hoof, as may be desired.

My invention consists of the construction, combination, and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective. Fig. 2 is a view in side elevation, showing the opposite side of the shoe from that shown in Fig. 1. Fig. 3 is a plan view of a detachable shoe. Fig. 4 is a view in perspective of a shoe to be nailed to the hoof, the calks being omitted. Fig. 5 is a sectional view on the line 5 5, Fig. 1. Fig. 6 is a sectional view on the line 6 6, Fig. 3. Fig. 7 is a view on the line 7 7, Fig. 3.

I carry out my invention as follows:

A represents the body of the shoe, preferably convexed on its upper surface and provided with a toe-clip A'. In Fig. 4 the body of the shoe is shown provided with a series of nail-holes *a*. In a shoe of the description shown in Fig. 4, to be nailed to the hoof, I prefer that the toe-clip should be bifurcated, as indicated in said figure, such a construction answering both as a toe-clip to protect the hoof in stubbing, while also the two points of said clip *a'* *a''* may be turned in to assist in supporting the shoe on the hoof, said points serving the purpose of two nails to assist in keeping the shoe from starting loose.

B B denote the front or toe calks, having a detachable engagement with the body of the shoe. These toe-calks are similarly constructed, each being formed with lateral upwardly-projecting flanges *b b*, the inner flange being made shorter or lower than the outer flange, as shown.

B' B' denote the heel-calks, of like construction to the toe-calks B B, each having similar flanges *b b*. The body of the shoe adjacent to said calks is provided with transverse grooves *a''* on its upper surface, and the flanges *b b* are perforated, as shown, to permit suitable nails C being driven through the perforations in said flanges, the nails following said grooves *a''*. These grooves are preferably of convexed form, the hoof causing the nails to follow the curvature of the grooves. After the nails have been driven into place their inner ends may be turned up to lock the nails in place. When it is desired to remove the calks, the inner extremities of the nails are bent down, so as to permit the nails being driven out of engagement with the calks. Any ordinary wire nail of suitable size may be employed.

I prefer to construct the calks, especially for cold weather, with two points or edges *b'* *b''*, the front edge or point being longer than the other, so that when the front portion of the calk wears off the rear point or portion will serve to keep the horse from slipping. This construction of the calks will materially diminish the necessity of sharpening the calks as often as would be required in slippery weather were the calks made with a single point or edge. I do not, however, limit myself solely to calks made with two points, inasmuch as for summer weather a single blunt-pointed calk would answer every purpose. By making the front or outer flange of the calk higher than the inner flange it may be carried above the body of the shoe, so that the upper surface of the nail will come even with the surface of the shoe. The rear flange being made lower prevents it from interfering with a foot where the inner portion is lower than the outer wall. I prefer also that the body of the shoe should be recessed on one of its edges, as indicated by the numeral 1, for example, to assist in holding the calk in engagement therewith, especially in a detachable shoe. In a detachable shoe the front portion thereof may be made flat, as indicated at *a''*. For a detachable shoe I also prefer to strike up upon the upper surface thereof a series of spurs *a''* to assist in holding the shoe more firmly to the hoof. Such a shoe may also, if desired, be provided with a series of

points or pins a^6 to enter the hoof. A detachable shoe I also provide with upright flanges 2, 3, 4, 5, 6, and 7. With the flanges 3, 4, 6, and 7 are engaged loops D D, which
 5 may be formed of wire engaged in suitable perforations in said flanges. With the flanges 2 and 5 and also with the toe-clip A' are engaged clips E E' E², having a hinged engagement with the corresponding flanges 2 and 5
 10 and the toe-clip, as shown. Engaged with the loops D D are clamping-arms F F', each being hinged to the corresponding loop, said clamping-arms made to extend over the hoof from loop to loop and provided with a fasten-
 15 ing device at their adjacent ends to hold the shoe upon the hoof over the plates E E' E². The fastening device shown in the drawings consists of a loop f , having a hinged engagement with the arm F', and of a toothed bar
 20 f' , hinged to the outer end of the arm F, as indicated at f^2 , a fastening device or button f^3 being provided to hold the toothed bar f' in engagement with the arm F.

When it is desired to apply the shoe to the
 25 horse, the plates E E' E² are brought up over the outer surface of the hoof in upright position. The hinged clamping-arms F F' are then brought together, the toothed bar f' is engaged with the loop f , said loop engaging
 30 one of the teeth of the bar, after which the bar f' is forced down adjacent to the arm F in locked position, and the fastening device f^3 is engaged therewith to hold the toothed bar in closed or locked position. It will be
 35 evident that by providing the bar f' with a series of teeth the clamping device is made adjustable. By hinging the bar f' also it exerts a leverage force upon the clamping-
 40 arms F F' when said bar f' is forced into locked position. The clamping device may evidently be released in a simple manner.

The clamping-arms F F' are preferably one longer than the other, thereby bringing the latch or lock mechanism in desired position.
 45 The device f^3 may be in the nature of a swivel to turn about into desired position to lock the bar F', said bar being preferably constructed with an elongated slot f^4 to receive said fastening.

It will be obvious that when the points on the toe-calks B B have become worn their position may be reversed, thereby giving a sharper effect to the calks. The heel-calks B' B' are preferably located to the rear of the
 55 flanges 4 and 7.

The plates E E' E², I prefer to corrugate or roughen on the inner surface, as indicated, for example, in Fig. 2 at e , wherein the plate E' is shown provided with a series of spurs or
 60 points to engage in the surface of the hoof. These spurs or points may run entirely across said plates and assist materially in clamping the shoe to the hoof.

What I claim as my invention is—

65 1. A horseshoe constructed with transverse grooves a^3 on the upper surface of the body of the shoe, having in combination therewith

detachable calks, constructed with flanges b , b embracing the lateral edges of the body of the shoe, and transverse fastening devices
 70 passed through said flanges and grooves above the body of the shoe, for the purpose set forth.

2. A horseshoe constructed with transverse grooves a^3 on the upper surface of the body of the shoe, having in combination therewith
 75 detachable calks, constructed with flanges b , b embracing the lateral edges of the shoe, and transverse fastening devices passed through said flanges and grooves above the body of the shoe, said calks each provided with double
 80 points or edges b' , b' , one of said points or edges being longer than the other, for the purpose set forth.

3. A horseshoe having the body thereof constructed with transverse grooves a^3 upon its
 85 upper surface, and with a double-pointed toe-clip, said body having in combination therewith detachable calks, each provided with marginal flanges embracing the lateral edges of the body of the shoe, and fastening devices
 90 passed through said flanges and grooves above the body of the shoe to hold the calks in engagement with the body of the shoe, for the purpose set forth.

4. A horseshoe constructed with transverse
 95 grooves a^3 on the upper surface of the body of the shoe, having in combination therewith detachable calks, constructed with marginal flanges b , b embracing the lateral edges of the body of the shoe, and fastening devices passed
 100 through said flanges and grooves above the body of the shoe, the body of said shoe provided with spurs a^5 struck up from the upper surface thereof, for the purpose set forth.

5. A horseshoe having the body thereof constructed convex on its upper surface, and provided with transverse grooves of convex form on its upper surface, and in combination therewith detachable calks, each provided with perforated marginal flanges embracing
 110 the lateral edges of the body of the shoe, and fastenings passed through said flanges and grooves above the body of the shoe, the inner extremities of said fastening devices being clenched to hold the calks in engagement
 115 with the body of the shoe, substantially as set forth.

6. A horseshoe having the body thereof constructed with transverse grooves a^3 on the upper surface thereof, and with upright flanges
 120 and a toe-clip, each projecting upward above the upper surface of said body, said body having in combination therewith detachable calks, provided with marginal flanges embracing the edges of the body of the shoe, fasten-
 125 ing devices passed through said flanges and grooves over said body engaging said calks with the body of the shoe, clamping-plates having a hinged connection with said upright flanges and toe-clip, and clamping-arms to
 130 hold said clamping-plates upon the hoof, substantially as set forth.

7. A horseshoe provided with clamping-plates, having a jointed connection therewith,

clamping-arms having a jointed connection therewith, and a fastening device to unite said clamping-arms, said clamping-plates arranged to be turned up under and to be held in place by said clamping-arms, for the purpose set forth.

8. A horseshoe having the body thereof provided with flanges 2, 3, 4, 5, 6 and 7, clamping-plates E, E² having a hinged connection with the flanges 2, 5, loops D, D engaged with the flanges 3, 4 and 6, 7, clamping-arms F, F' having a jointed engagement with said loops, respectively, and a fastening device to unite said clamping-arms, said plates arranged to be turned up under and to be held in place by said clamping-arms, for the purpose set forth.

9. A horseshoe having the body thereof provided with flanges 2, 3, 4, 5, 6 and 7, clamp-

ing-arms E, E², having a hinged connection with the flanges 2, 5, loops D, D engaged with the flanges 3, 4 and 6, 7, clamping-arms F, F', having a jointed engagement with said loops, respectively, and a fastening device to unite said clamping-arms, said fastening device consisting of a loop f, jointedly connected with one of said arms, a toothed bar jointedly connected with the other of said arms, and a fastening to engage said toothed bar with the corresponding clamping-arm, for the purpose set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

EDWARD KRANTZ.

Witnesses:

N. S. WRIGHT,
JOHN F. MILLER.