

(No Model.)

W. N. BREWER.

HORSESHOE.

No. 343,885.

Patented June 15, 1886.

Fig. 1.

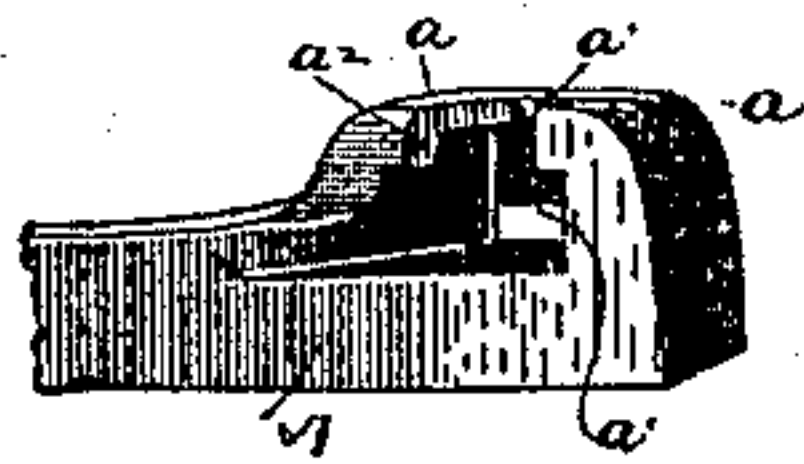
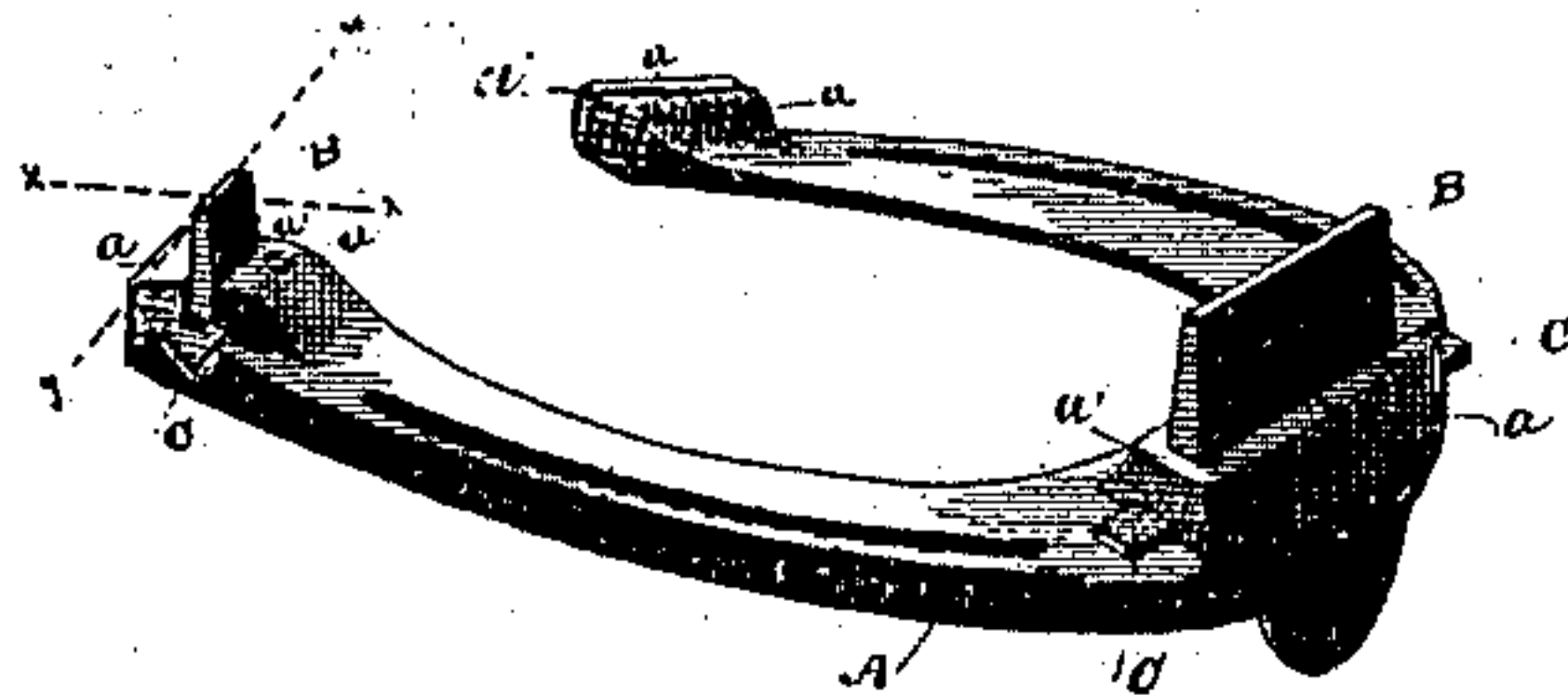


Fig. 2.

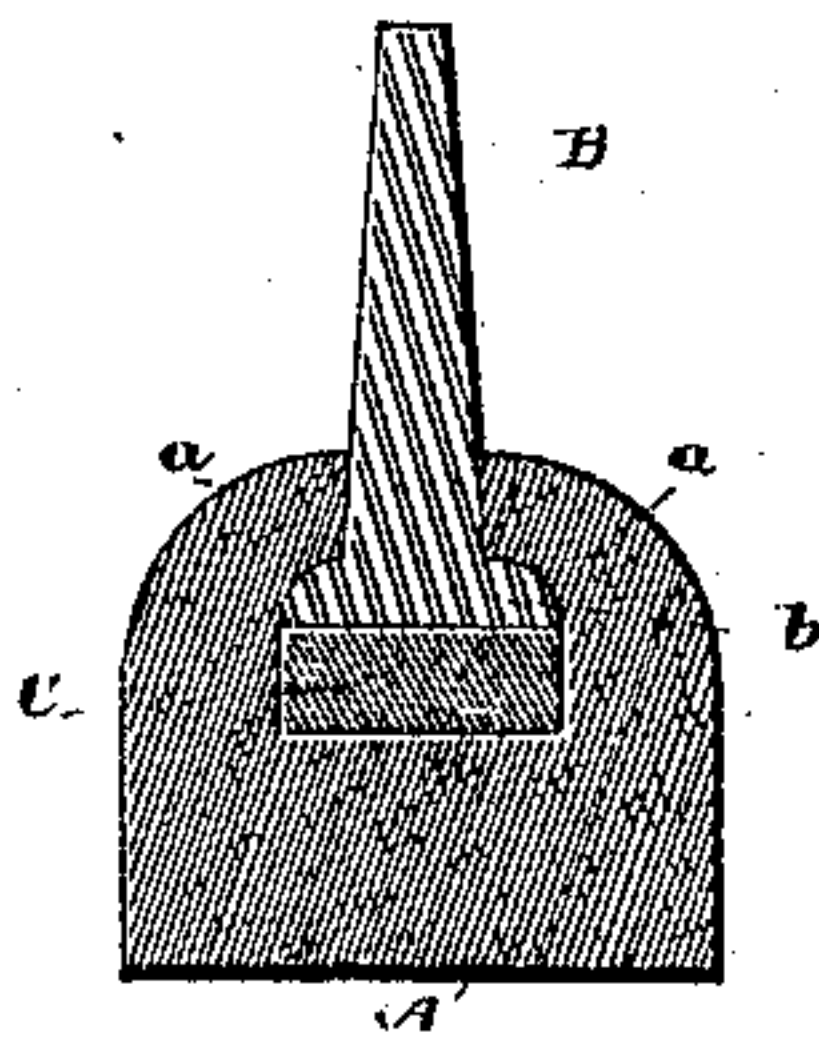


Fig. 3.

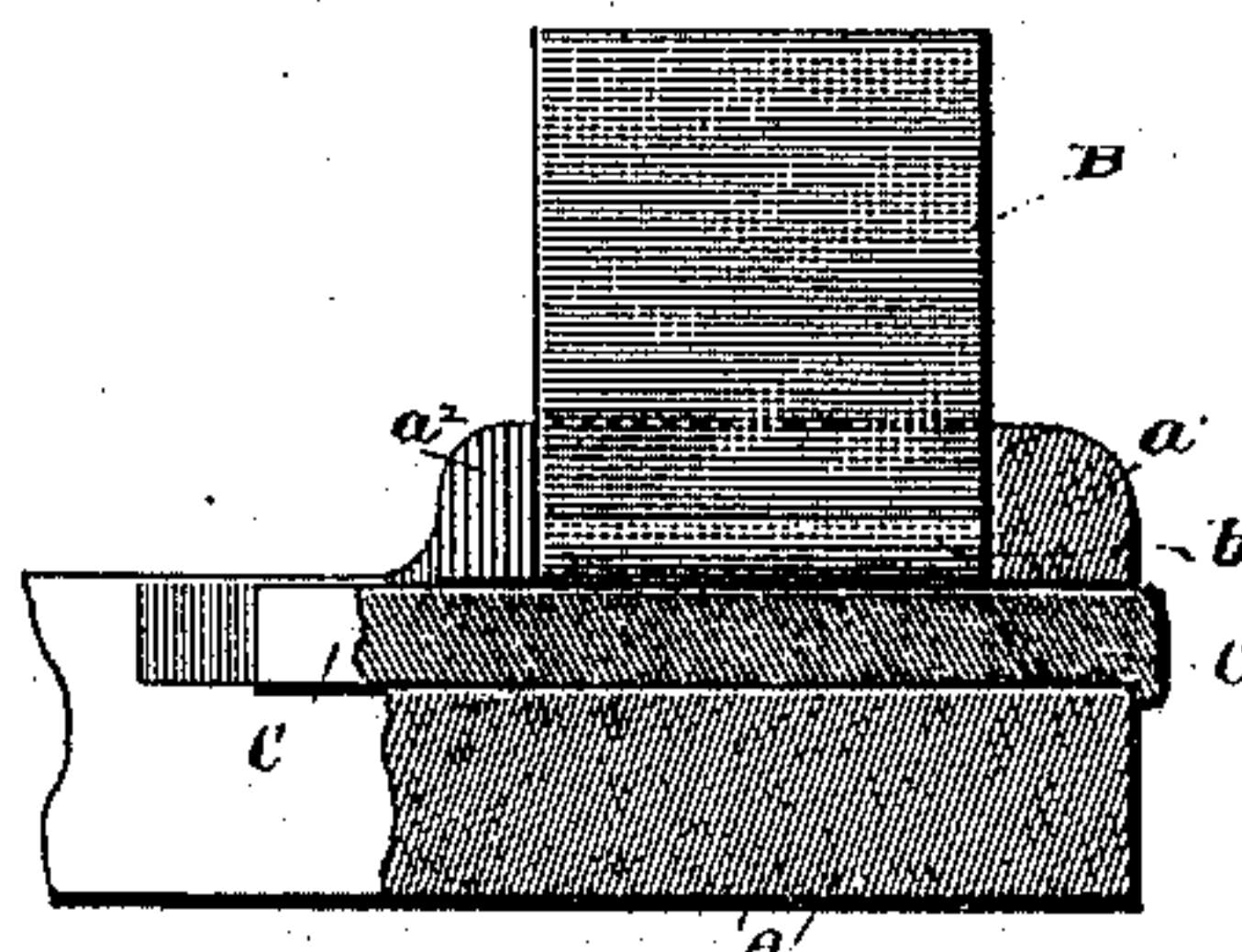


Fig. 4.

WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM N. BREWER, OF CLEVELAND, OHIO.

## HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 343,885, dated June 15, 1886.

Application filed May 4, 1886. Serial No. 201,080. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM N. BREWER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and  
5 useful Improvements in Horseshoes; and I do hereby 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 pertains to make and use the same.

10 My invention relates to improvements in horseshoes in which removable calks having T-shaped heads are secured, respectively, between depending lugs, the latter having undercut inner faces to correspond with the calk-  
15 heads. The calk is held to its seat by a key interposed between the head of the calk and the body of the shoe, and each pair of lugs have a connecting cross-bar at one end and internal shoulders at the other end, that engage  
20 the end of the calk-head when the latter is seated, to the end that the calk is held by the said cross-bar and shoulder from being displaced endwise, and the key, serving only as a blocking to hold the calk to its seat, does not  
25 cause extra strain on the parts.

Heretofore of the various horseshoes having detachable calks none seem to have possessed sufficient merit to bring them into use to any considerable extent.

30 Without particularizing, the difficulty in the main seems to have been twofold: first, the straining of the parts in keying the calks, by reason of which strain the shoe or lugs were easily broken, and, second, the want of any  
35 practical device for holding the calk from driving endwise. In view of these difficulties I have devised the horseshoe illustrated in the accompanying drawings.

40 Figure 1 is a view in perspective of a horseshoe embodying my invention, one of the heel-calks being removed. Fig. 2 is an enlarged view in perspective, showing one of the sockets of the heel-calks looking from the outside of the shoe. Figs. 3 and 4 are enlarged eleva-  
45 tions in section, respectively, on the lines  $x x$  and  $y y$ , Fig. 1.

A represents the body of the horseshoe, and B the detachable calk. The calks have T-shaped heads that are secured between lugs  $a$ ,  
50 the latter being made integral with the body of the shoe and set in pairs, the lugs having

undercut inner sides to correspond with and form seats for the head of the calk when the latter is separated slightly from the body of the shoe. The lugs for the heel-calks are set ob-  
55 liquely, the inner ends thereof extending farther rearward, as shown. Each pair of lugs  $a$  is connected at one end by a cross-bar,  $a'$ , the latter being separated from the body of the shoe to leave room for the passage of the point  
60 of the key C. The cross-bars are preferably respectively on the inner end of the lugs at the heel of the shoe. The toe-calk being set straight across the shoe, the cross-bar may be on either end of these lugs. The cross-bar  
65 forms an abutment for one end of the calk, the latter being entered from the opposite end of the lugs. At the open end the lugs have internal shoulders,  $a^2$ , that abut the ends of the calk-head when the latter are seated. In en-  
70 tering the calks the heads thereof are placed against the body of the shoe and the calk slid endwise between the lugs, the flanges of the heads passing under the projections that form the shoulders  $a^2$ . The calk having been cut of  
75 suitable length, when the latter abuts the cross-bar the other end thereof will fit nicely inside the shoulder  $a^2$  when the calk is brought to its seat. The key C is inserted between the body  
80 of the shoe and the head of the calk, and holds the latter to its seat, and the cross-bar and shoulders of the lugs hold the calk from moving endwise. The key C only serves as a block-  
85 ing, and it is not necessary to drive the key with any considerable force, but, on the contrary, the key need only be crowded in tight enough to prevent it from rattling, and there-  
90 fore does not strain the lugs or the body of the shoe between the lugs. The removable calks of a horseshoe receive heavy and oft-repeated  
95 knocks against the paving-stones, and if the lugs are under heavy strain from keying the calks they are likely to be broken or bent so as to loosen the calks. With my improved  
100 construction the lugs, as aforesaid, are not under any strain from keying, and therefore not liable to be broken. By the reason of the oblique line in which the heel-calks are set the tendency is to drive these calks inward and  
105 rearward; but the inner ends of the heel-calks, as aforesaid, abut the cross-bar  $a'$ , and are therefore held securely from displacement in



this direction. The aforesaid shoulders are ample to hold the calks firmly in the other direction. The toe-calk, being set straight across the shoe, is less liable to be driven endwise, 5 but it is held in the same manner by the shoulders on one end and the cross-bar on the other. The shoe is preferably made of malleable cast-iron, or of steel casting, if preferred, and the calks are made of steel, the latter being rolled 10 into bars of suitable size and shape in cross-section, from which bars the calks are cut into suitable lengths. The keys are rectangular in cross-section, and made slightly tapering lengthwise, and the key-seat on the body of the shoe 15 is made to correspond with the tapered key. After the key is in place the point thereof is bent, riveted, or upset a trifle to prevent the key from backing out. Such fastening, however, does not prevent the key from being read- 20 ing removed by means of a hammer and punch.

What I claim is—

In a horseshoe, the combination, with removable calks, the same having laterally-projecting heads, of lugs made integral with the shoe and set in pairs, said lugs having under- 25 cut inner sides to correspond with and engage the head of the calks, each pair of lugs having a cross-bar at one end, said cross-bar being separated from the body of the shoe, internal shoulders at the other end of the lugs to engage 30 the calk-head, and a key interposed between the body of the shoe and the head of the calk, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 23d 35 day of April, 1886.

WILLIAM N. BREWER.

Witnesses:

CHAS. H. DORER,  
ALBERT E. LYNCH.