

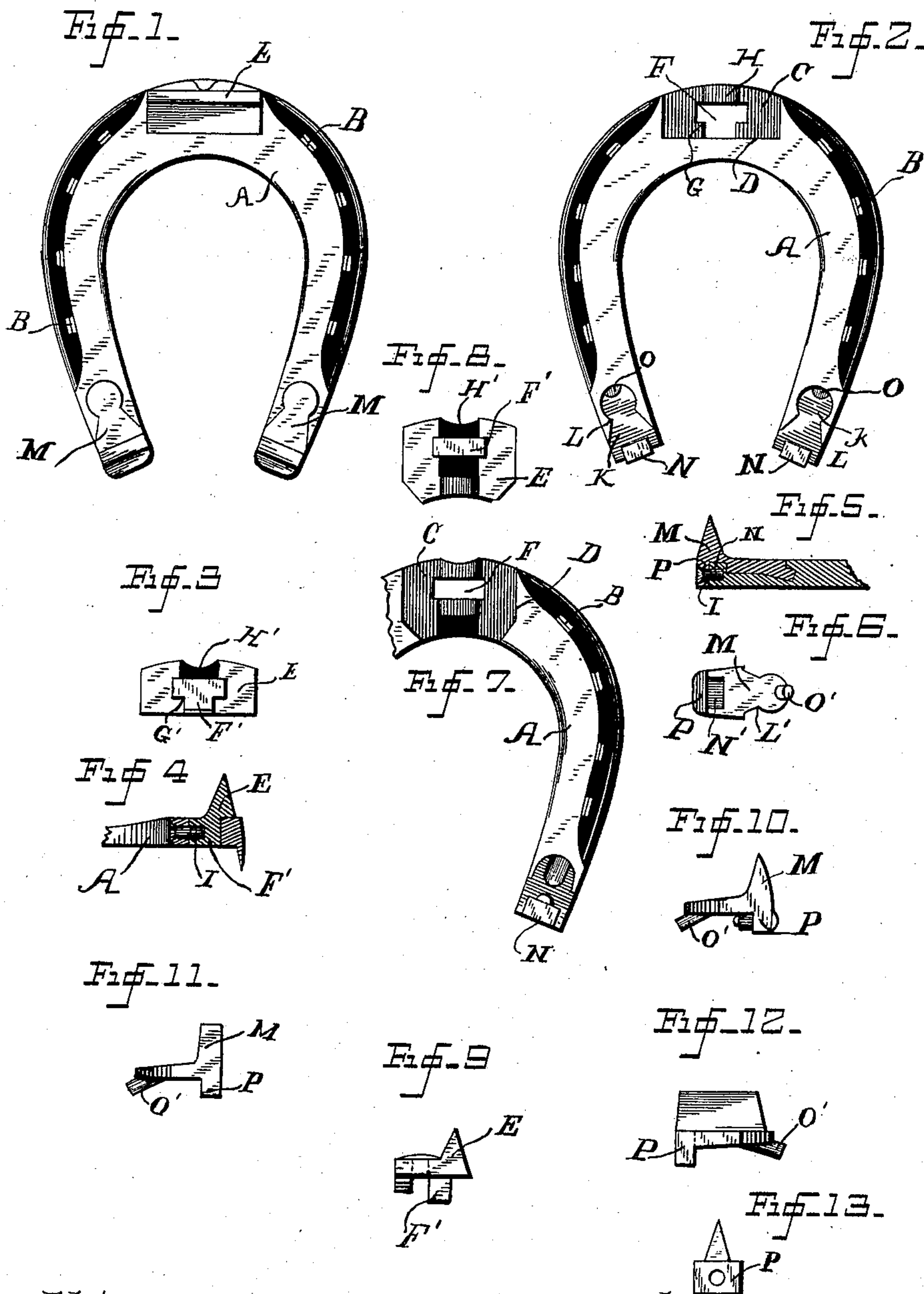
(No Model.)

A. L. STEVENS.

HORSESHOE.

No. 323,082.

Patented July 28, 1885.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 323,082, dated July 28, 1885.

Application filed March 30, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED L. STEVENS, a citizen of the United States, residing at Darien, in the county of Fairfield and State of Connecticut, have invented certain new and 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 appertains to make and use the same.

My invention relates to that class of horseshoes in which the calks are made detachable and interchangeable, and has for its object to simplify and strengthen their construction.

The gist of my invention lies in the specific construction of the parts, which not only permits the handy attachment and detachment of the calks, but causes the wearing and breaking strain while in use to be received and taken up by solid parts of the shoe, so that the calks cannot be broken off, but are bound to stand until worn down. There is, in fact, so little strain upon any of the connecting parts that no springing whatever can take place, and the calks may be removed and replaced at any time, and by a person wholly unskilled in blacksmithing, the only tool required being a screw-driver. In order to accomplish these results and at the same time produce a shoe which shall be economical in cost, I have devised the construction which I will now describe.

I am well aware that numerous horseshoes have been made heretofore which were provided with detachable calks, but none have been produced which combined in one shoe the qualities of economy in first cost, durability, and ease of management in changing the calks.

In the accompanying drawings, forming part of this specification, Figure 1 is a bottom view of the shoe complete; Fig. 2, a similar view with the calks removed; Fig. 3, an inverted plan view of a toe-calk; Fig. 4, a section through the toe of the shoe with the calk in place; Fig. 5, a section through the heel of the shoe with the calk in place; Fig. 6, an inverted plan view of a heel-calk. Fig. 7 is a plan view illustrating modifications in the attachment of both the toe and heel calks. Fig. 8 is a view of the corresponding toe-calk inverted; Fig. 9, a side view of the same, the

calk being smooth; Fig. 10, a side view of the modified form of heel-calk; Fig. 11, a similar view, the calk being smooth; and Figs. 12 and 13 are, respectively, side and end views of a "side" calk adapted to be attached in the same manner.

Similar letters indicate the same parts in all the figures.

A is the body of the shoe, which may be of any preferred form, and B the nail-holes by which it is attached in the ordinary manner.

C is a cut-away portion at the toe of the shoe, the plane thereof being slightly below the surface of the shoe, leaving shoulders D, which support the calk.

E is the toe-calk, which is made to correspond with the cut-away portion.

F is a slot extending through the shoe, into which shoulders G project, as shown in Fig. 2.

H is a lug projecting upward from the cut-away portion at the tip of the shoe. The toe-calk E is provided with a lug, F', which corresponds in shape with the slot F, and which is provided with notches G', into which shoulders G fit.

H' is a depression at the front of the calk, which receives lug H upon the shoe. The calk is held in place by a screw, I, which passes through the metal of the body at the center of the curve and as far into lug F' as may be thought best. The body is preferably countersunk about the screw-hole, as indicated in Fig. 2, so that the head of the screw will lie flush with the surface. At each of the ends of the shoe are cut-away portions, K, similar to that at the toe of the shoe, which receive the heel-calks M. The forward part of this cut-away portion is made in the form of a portion of a circle greater than a semicircle, whereby shoulders L are formed, which project into the cut-away portion, as will be again referred to.

At the extreme ends of the shoe are lugs N, which are internally screw-threaded to receive holding-screws I, as clearly shown in Fig. 5.

At the extreme forward end of the cut-away portion is a recess, O, which extends forward and downward into the body of the shoe, as is also shown in Fig. 5. The heel-calks M correspond in shape with the cut-away portions K. The forward ends are made to fit



the circular parts of the cut-away portions, and are provided with notches L', into which shoulders L fit depressions N', which receive lugs N, and lugs O' which project forward and downward and closely fit in recesses O in the body of the shoe. It will thus be seen that the calks are firmly held against displacement in any direction.

P P are downwardly-projecting lugs at the rear ends of the calks, which cover and bear against the ends of the body of the shoe. Attaching-screws I pass through lugs P and engage in lugs N, as clearly shown in Fig. 5.

The calk is inserted by pushing it forward and downward, and when in position is securely locked against movement in any direction.

It is of course well understood that the great objections to the use of detachable calks have been that they could not be readily attached and detached owing to the springing of the parts in use, and that the means of attachment were not sufficiently strong to prevent the calks from breaking out. By my present construction I am enabled to spring the shoe, if necessary, when the calks are in place, without causing them to bind in the slightest. The greatest strength is of course required in the toe-calk, the tendency being to break it off backward. It will be observed that I have so distributed the strain that the attaching-screws are wholly released and the strain taken up by the solid metal of the body of the shoe, while all parts of the calks themselves are made strong and able to bear any amount of service without breaking.

In the modified form the cut-away portions for the toe-calks extend entirely across the toe of the shoe, and the shoulders which support the calk are parallel part way across, as in the other form, and then incline toward each other, as clearly shown in Fig. 7. Back of slot F in this form are an additional lug and depression, as also shown in Fig. 7. The toe-calk (see Fig. 8) corresponds in shape with the cut-away portion, and the holding-screw passes through the additional lugs on the calk and toe, respectively, instead of through the body of the shoe, then into a single heavy lug upon the calk, as in the preferred form.

In the attachment of the heel-calks in the modified form shoulders L and notches L' are dispensed with, the calk is made slightly

shorter, and lugs N do not project beyond the body of the shoe, as I have shown them in the preferred form.

It will of course be understood that this mode of attachment is equally applicable to all styles of calks—as, for example, smooth calks and side calks, as illustrated in Figs. 11, 12, and 13. In case a smooth shoe is desired, plates without any calks are attached in the same manner as I have shown.

Having thus described my invention, I claim—

1. A horseshoe having at the toe a slot and a lug, in combination with a removable calk having a lug adapted to engage said slot and a depression corresponding with the lug upon the shoe, and an attaching-screw adapted to be turned in from the back to hold the calk in place.

2. A horseshoe having at the toe a lug and a slot with shoulders projecting into it, in combination with a removable calk having a depression at the toe corresponding with the lug upon the shoe, and a lug corresponding with the slot and having notches in which the shoulders fit and an attaching-screw.

3. The shoe having a cut-away portion at the toe which is provided with a lug and a slot, in combination with a calk adapted to fit in said cut-away portion and having a depression and lug to engage the corresponding parts of the shoe, and an attaching-screw which enters from the back to hold the calk in place.

4. The shoe having cut-away portions K at the ends which are provided with inclined recesses O and lugs N, in combination with heel-calks having lugs O' which engage recesses O, lugs P which cover the ends of the shoe, and depressions N' which receive lugs N.

5. The shoe having cut-away portions K, with shoulders L, recesses O, and lugs N, in combination with calks adapted to fit in said cut-away portions, and having notches which receive the shoulders, and lugs O' and P, depressions N', and attaching-screws.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED L. STEVENS.

Witnesses:

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