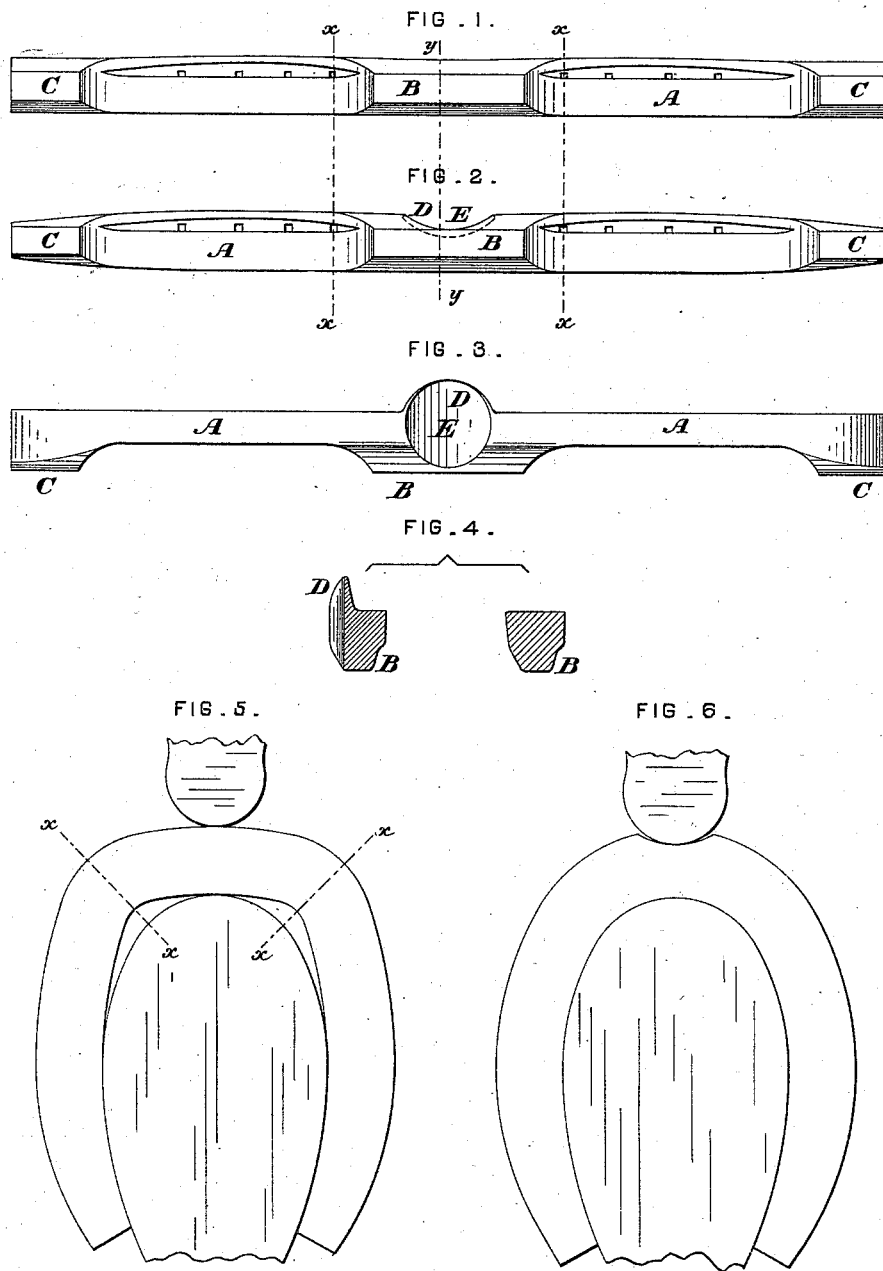


J. FRITZ.
Horseshoe-Bar.

No. 219,632.

Patented Sept. 16, 1879.



ATTEST:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HORSESHOE-BARS.

Specification forming part of Letters Patent No. **219,632**, dated September 16, 1879; application filed April 25, 1879.

To all whom it may concern:

Be it known that I, JACOB FRITZ, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Horseshoe Bars and Blanks, of which the following is a specification.

My invention relates to the manufacture of that class of horseshoe bars or blanks in which a solid toe-calk and clip is formed from the solid metal of the bar; and it consists, essentially, in forming a recess at the center of the blank to aid in producing a perfect bend, the said recess being generally produced by striking up the clip from the solid metal of the toe-calk and shoe, all as will be more fully herein-after set forth.

Heretofore it has been customary to roll bars or blanks for horseshoes having solid toe and heel calks formed thereon, and blanks have been rolled with solid toe and heel calks and creases for the nails, but with no clip. These blanks have been bent and the clip afterward formed by swaging or striking up from the solid metal of the toe-calk and shoe. The objection, however, to these methods of forming a shoe is, that the excess of metal at the center of the blank or at the toe of the shoe prevents the blank from bending properly at the center, and renders it liable to bend abruptly at the weaker points—i. e., at the nail-holes in the web nearest the toe-calk.

My invention seeks to obviate this difficulty by forming a recess in the outer edge of the blank, at the center, before bending the same, so as to reduce the metal at this point and materially assist in producing the proper bend; and as this is the proper point for the clip, I prefer to strike up the same from the solid metal, and thus produce the clip and the proper recess at one and the same operation.

In the drawings, which serve to illustrate my invention, Figure 1 is a plan of a bar or blank before the recess and clip are formed. Fig. 2 is a plan of the same after the recess and clip are formed. Fig. 3 is an elevation or edge view of the blank shown in Fig. 2. Fig. 4 shows sections of the bars or blanks taken in the plane of the line *yy* in Figs. 1 and 2. Figs. 5 and 6 are diagrams, which will be hereinafter referred to.

Let A represent the web or body of the blank; B, the toe-calk; C C, the heel-calks, and D the clip.

The blank is first formed by rolling or other means, as shown in Fig. 1, the calks being solid with the web.

Before bending the blank a recess, E, is formed at the center of the same, in its outer edge, as shown, either by swaging or striking up the clip therefrom or otherwise, according to circumstances.

If a clip is required on the shoe, I strike it up, and thus produce the recess E at the same time by displacement; but if a clip is not required I produce the recess by cutting away or reducing the metal in some other way.

In the drawings the clip is shown as formed by displacement of the metal in producing the recess.

In Fig. 4 the view to the right is a section taken on the line *yy* in Fig. 1, and that to the left a section taken on the same line in Fig. 2.

If the blank be bent before the metal is reduced at E, it is very liable to bend abruptly at the weakest points adjacent to the toe-calk, as represented by the lines *xx*—that is, at the first pair of nail-holes—and if pressure enough to compel a perfect bend be brought to bear upon the outer edge of the web it will close the nail-holes and creases, which are always formed before the bending operation. This is illustrated in Fig. 5, which shows the bending of a blank before a recess, E, is formed. At the points *xx* are formed abrupt angular bends.

Fig. 6 shows the blank bent upon the form after the recess E has been produced in it. In this case the metal at the center has been so reduced that the blank bends readily at that point and takes the shape of the form without undue pressure, or such as would mar the perfect form of the creases and nail-holes.

I am aware that the metal at the toe of a shoe has been reduced by striking up the clip therefrom after the blank has been bent, and I make no claim to this; but I am not aware that recesses for this purpose have been formed in the blank before bending.

Having thus described my invention, I claim—

1. A blank for horseshoes having a solid toe-calk, B, and suitable creases for the nails, and a recess, E, formed at the center of its outer edge before the blank is bent, substantially as and for the purposes set forth.

2. The improvement in the manufacture of horseshoes which consists in forming a recess in the center of the blank, so as to reduce the metal at that point before bending, substantially as and for the purpose set forth.

3. The improvement in the manufacture of horseshoe-blanks which consists in forming a blank with a solid toe-calk, and then swaging from the solid metal of the calk and shoe a clip, D, in such a manner that the metal employed to form the clip will, by displacement, leave a recess, E, and then bending the blank

so formed, substantially as and for the purposes set forth.

4. The process of manufacturing horseshoes which consists in first rolling or forming a blank or bar with a solid toe-calk and creases for the nails, then forming the recess E by displacing or cutting away the metal at that point, as shown, and then bending the blank thus formed around a suitable former, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JACOB FRITZ.

Witnesses:

HENRY CONNETT,

ARTHUR C. FRASER.