G. CUSTER.

Horseshoe-Machine.

No. 162,804. Patented May 4, 1875.

Fig. 1.

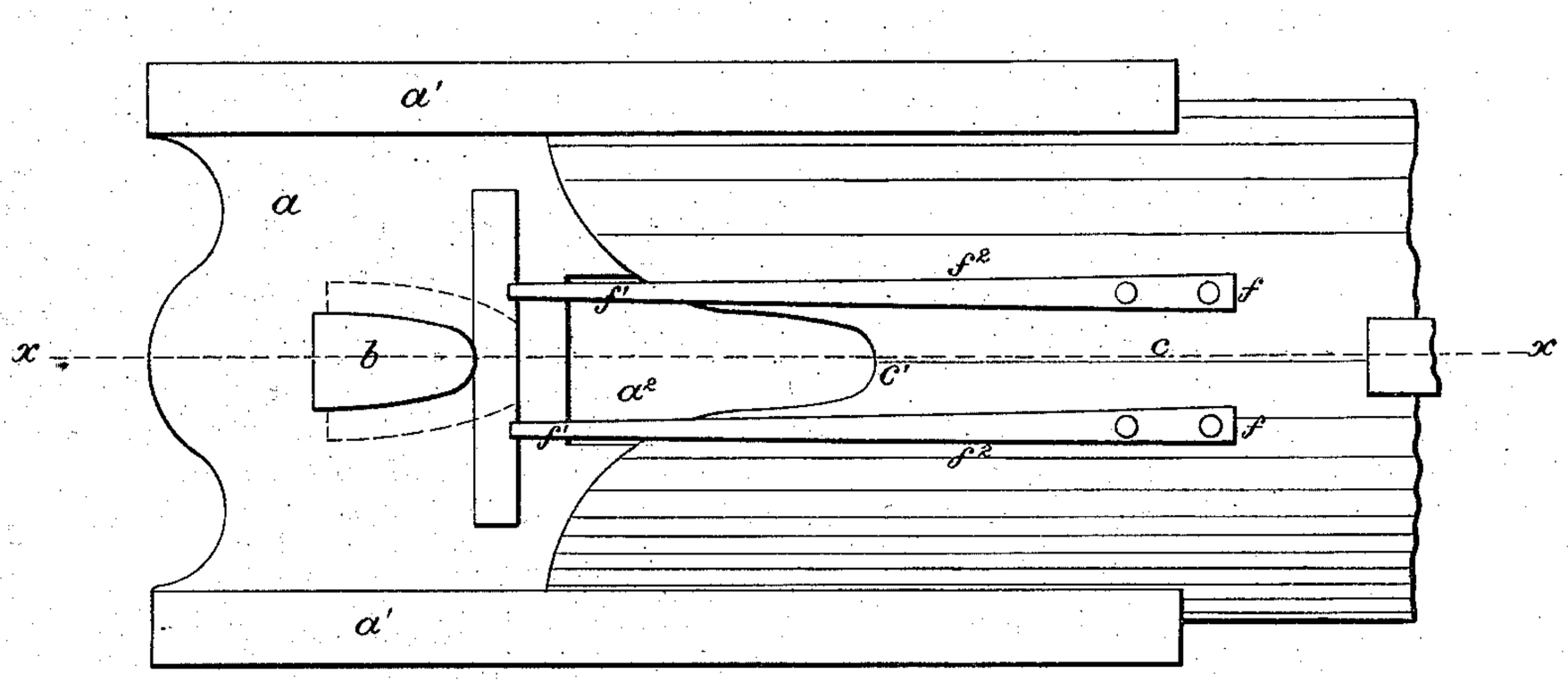


Fig. 2.

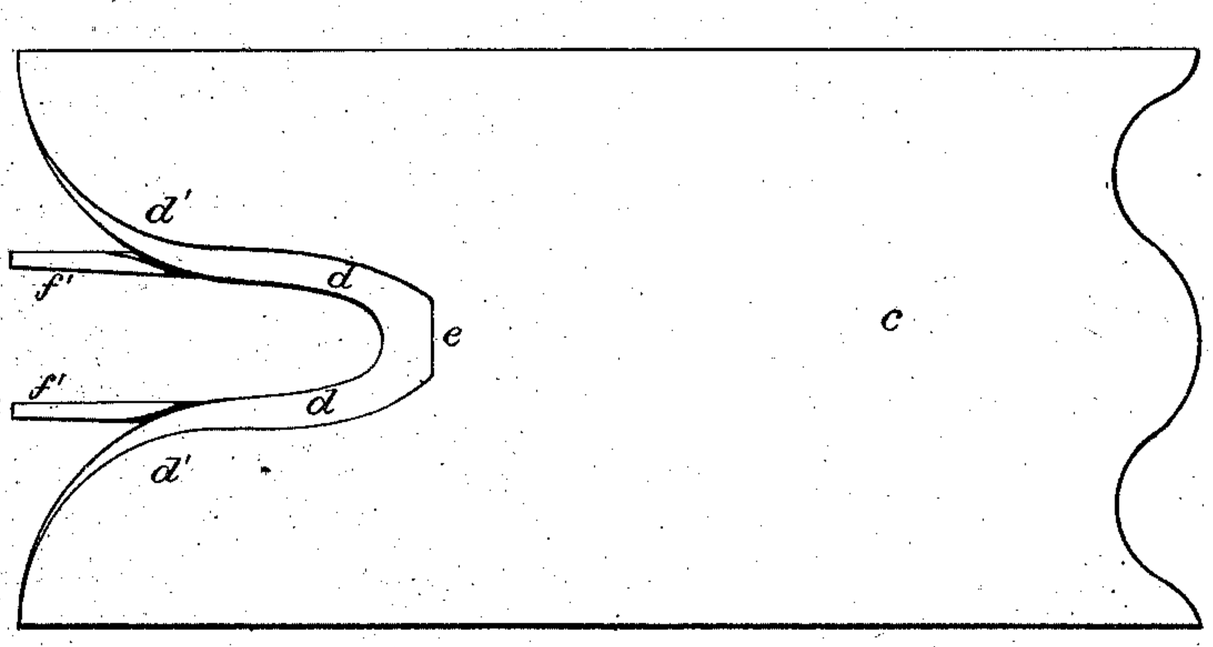
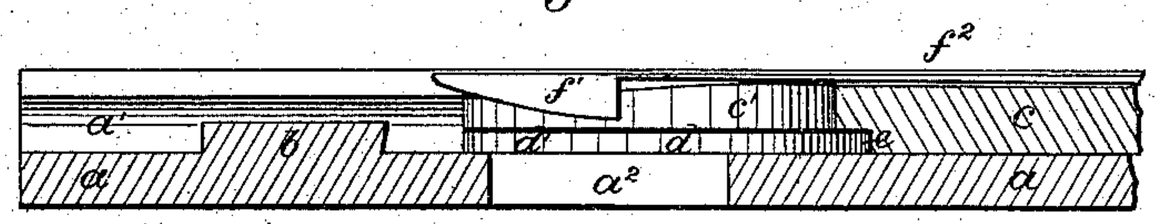


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE CUSTER, OF MONROE, MICHIGAN.

IMPROVEMENT IN HORSESHOE-MACHINES.

Specification forming part of Letters Patent No. **162,804**, dated May 4, 1875; application filed March 18, 1875.

To all whom it may concern:

Be it known that I, GEORGE CUSTER, of Monroe, in the county of Monroe and State of Michigan, have invented certain new and useful Improvements in Horseshoe-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of horseshoe machines which bend the shoe from a prepared blank cut to proper length before being placed in front of the advancing bending-block.

It has for its object to provide a machine that will properly shape the shoe and form on the toe thereof a straight end for the toe-calk, and, after the shoe shall have been formed, remove it from the swage-block and deposit it in a suitable receptacle under the machine.

It consists in the construction of the bending-blocks and dies in the manner hereinafter fully explained and pointed out in the claim.

In the drawings, Figure 1 is a plan view. Fig. 2 is an under side view of the upper bending-block, and Fig. 3 is a section of the machine on the line *x x*, Fig. 1.

a is the under block. It has constructed on its sides the guide-grooves a^1, and has formed through its center the rectangular recess a^2, which is made of sufficient size to admit the passage of a shoe after the latter has been bent into proper shape. *b* is the male die, made of such size as to correspond with the size required for the inside of the shoe. Its sides have a slight outward inclination, so as to give a bevel to the inner edge of the shoe. It is rigidly attached to the block *a*, near the end thereof, with its rounded end toward the opening a^2. It rises from the plate to a height about twice the thickness of a shoe. *c* is the upper block that slides in the grooves a^1. It has formed in its forward end the half-oval recess *c'*, which neatly fits around the die *b*, and is provided with a suitable shank or eye by which to connect it with the operating machinery. *d* is the female die, formed by rabbeting out the under side of the block *c* around the recess *c'*. It is so constructed that when the block *c* is moved forward against the blank, the die *d* will bend the blank around the former, and impart the exact form desired for the shoe. The block *c* has outwardly-curved sides or extensions *d'*, which first come in contact with the ends of the blank and commence the bending operation, thus avoiding the frequent breaking of blanks experienced in ordinary dies. The die *d* is made of width and depth to correspond to the width and thickness designed for the shoe when formed and complete. *e* is a straight edge, constructed across the inner end of the die *d*. When the blank is pressed about the die *b*, the edge or face *e* will form on the end of the shoe—a straight or square toe—in proper shape and form for the reception of the toe-calk. *f* are two hooks or draw-bars provided with the draw-heads f^1. The heads f^1 are tapered to a point at their outer ends and are arranged so that in the operations of the machine they pass close by and on either side of the die *b*. The heads *f* reach almost to the surface of the block *a*. They are provided with flexible shanks f^2, which permit said heads to rise over the blank in the forward movement of swage-block *c*, and in the return of said block will catch the ends of the shoe and draw the latter back till it will drop through the recess *c'*.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The improved horseshoe-forming machine, composed of the blocks *a c*, constructed with the recesses a^2 *c'*, die *b*, hooks or draw-bars *f*, and female die *d*, constructed with a flat surface *e*, as described, substantially as and for the purpose set forth.

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

GEORGE CUSTER.

Witnesses:

LEWIS DARRAH,

CHAS. KIRCHGISSNER.