J. C. SMITH.

MACHINES FOR THE MANUFACTURE OF HOES.

No. 194,790. Patented Sept. 4, 1877.

Fig. 1.

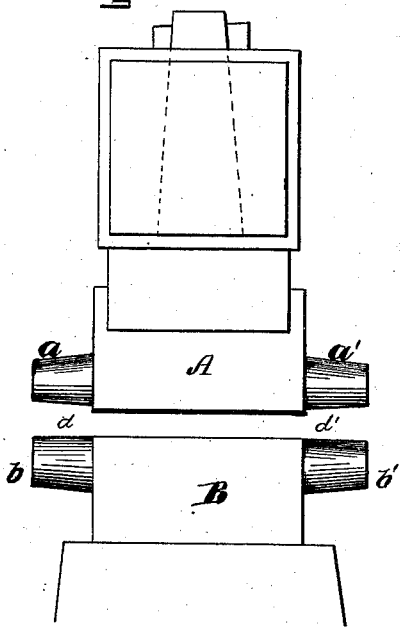


Fig. 2.

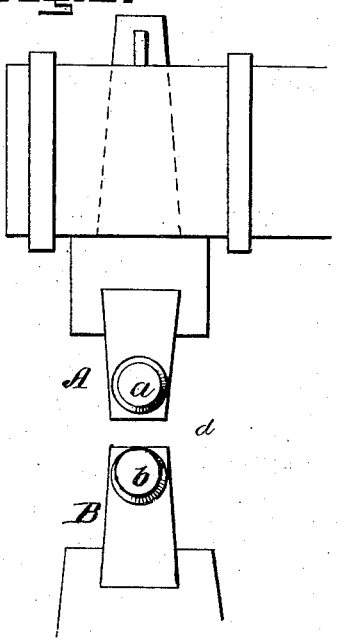


Fig. 3.

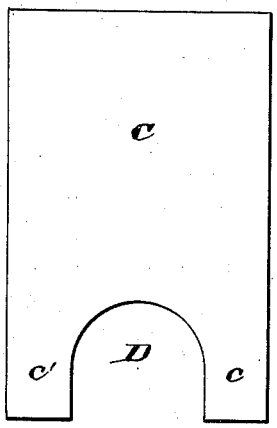


Fig. 4.

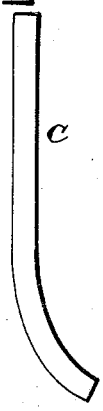


Fig. 5.

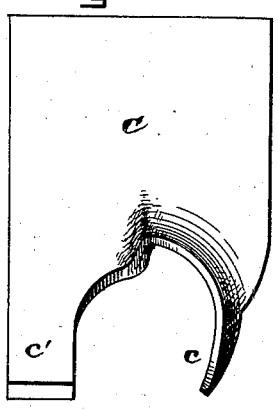
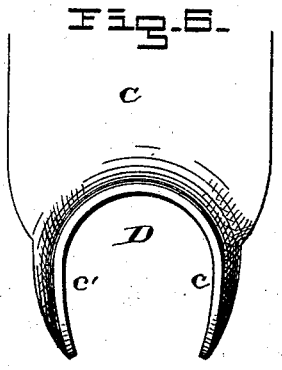


Fig. 6.



WITNESSES

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JOHN C. SMITH, OF EVANSVILLE, INDIANA.

IMPROVEMENT IN MACHINES FOR THE MANUFACTURE OF HOES.

Specification forming part of Letters Patent No. **194,790**, dated September 4, 1877; application filed May 10, 1877.

To all whom it may concern:

Be it known that I, JOHN C. SMITH, of Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in the Manufacture of Hoes; 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 appertains to make and use the same.

This invention relates to certain improvements in the manufacture of hoes; and consists more particularly in the peculiar construction of dies for forming the eyes thereof, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention relates to make and use the same, I will now proceed to describe its construction, arrangement, and operation, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is an end view of a tilt-hammer and anvil, showing my dies ready for use, and Fig. 2 is a side view of the same. Figs. 3, 4, 5, and 6 show various stages of the article during the process of manufacture.

A represents a die of peculiar shape, attached to the head of a tilt-hammer by any suitable means. I prefer to make the upper side of the die wedge-shaped, and insert it into a similar-shaped groove in the head, having a shank, which is passed through the helve of the tilt-hammer, and fastened by means of a wedge, as shown in Figs. 1 and 2 of drawings. The die B is attached to the anvil by means of a wedge-shaped tongue and suitable groove, and has horns *b* and *b'* on either end. The top of these horns is an extension of the line of the face of the die. The die A is provided with shoulders *d* and *d'*, from the base of which the horns *a* and *a'* project upward and outward a suitable distance, substantially as shown in Figs. 1 and 2 of drawings. This form of horn leaves a space of the required form and size for the flange of a hoe-eye when the faces of the dies are brought together.

In forming hoes with these dies, I take a blank, C, and from the end at which the eye is to be formed I punch a piece of the material, so as to leave an aperture, D, as shown in Fig. 3 of drawings. This blank is then heated and bent at its eye end, as shown in Fig. 4. It is then placed between the horns of the dies A B, and the tilt-hammer put in motion, and one side, *c*, of the blank is hammered and drawn into the shape shown in Fig. 5, the metal *c* of blank being drawn out, and at right angles to the body of the blank, and curved as shown. The blank, under the same heat, is then transferred to the horns on the opposite end of the dies, and the other side, *c'*, formed in like manner. The blank, in the condition shown in Fig. 6, is then removed to the horn of an anvil, and the ends *c* and *c'* lapped and welded together to form the eye.

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

In combination with an ordinary tilt-hammer, the dies A B, constructed with horns *a a'* and *b b'*, substantially in the manner 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.

JOHN CLAIBORNE SMITH.

Witnesses:

THOS. E. GARVIN,

G. A. CUNNINGHAM.