

No. 622,269.

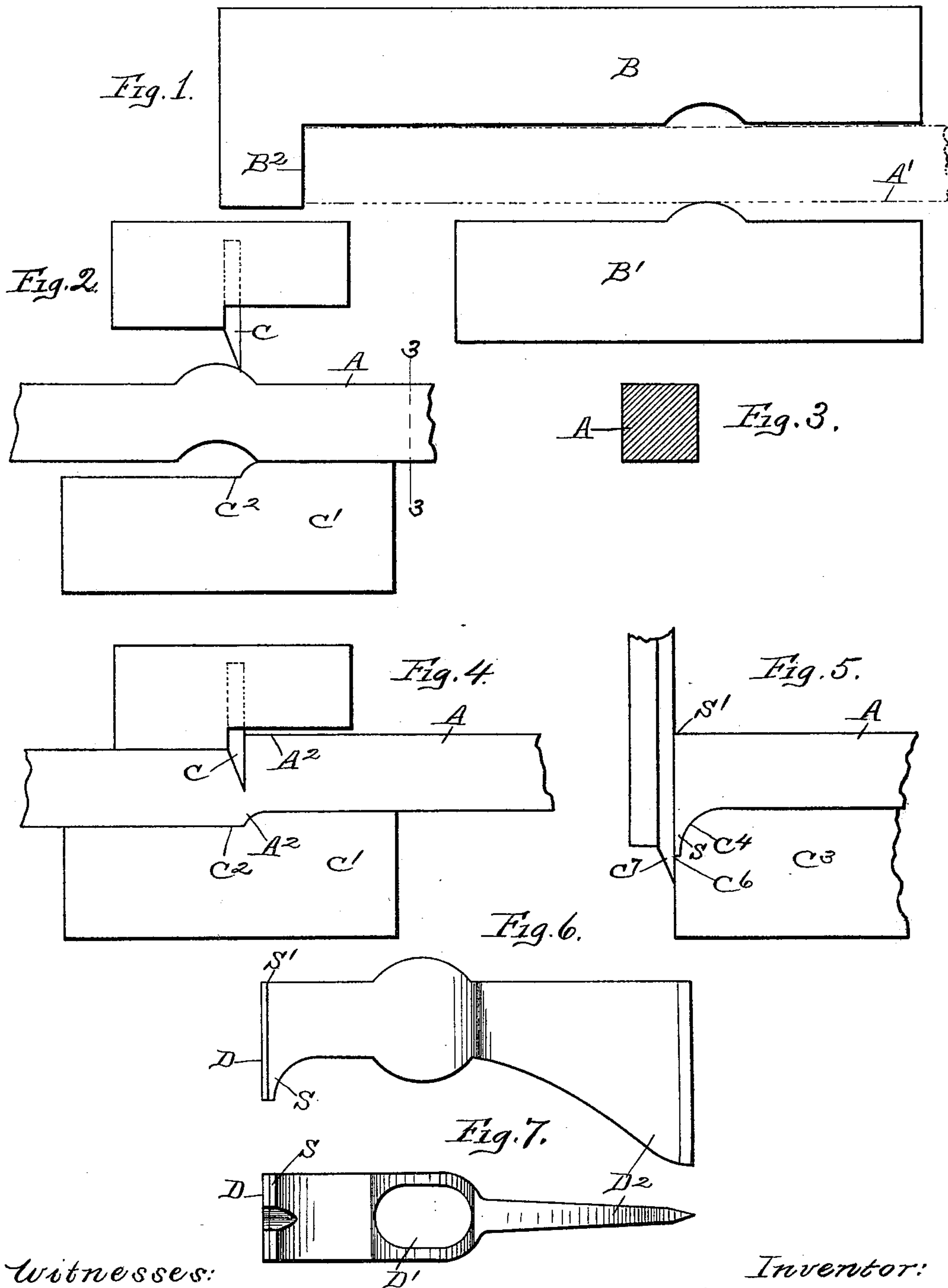
Patented Apr. 4, 1899.

E. ROGERS.

METHOD OF MAKING TOOL BLANKS.

(Application filed July 11, 1898.)

(No Model.)



Witnesses:  
J. E. Curtis.  
L. H. Curtis.

Inventor:  
Ethan Rogers  
By Mosher & Curtis  
attys.

# UNITED STATES PATENT OFFICE.

ETHAN ROGERS, OF BALLSTON, NEW YORK.

## METHOD OF MAKING TOOL-BLANKS.

SPECIFICATION forming part of Letters Patent No. 622,269, dated April 4, 1899.

Application filed July 11, 1898. Serial No. 685,593. (No model.)

*To all whom it may concern:*

Be it known that I, ETHAN ROGERS, a citizen of the United States, residing at Ballston, county of Saratoga, and State of New York, have invented certain new and useful Improvements in Methods of Making Tool-Blanks, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures.

Figure 1 of the drawings is a view in side elevation of a set of forming-dies in position to receive between them one end of a metal bar indicated by dotted lines. Fig. 2 is a side elevation of the metal bar after it has been formed by the dies and dies for first severing operation. Fig. 3 is a vertical cross-section of the bar, taken on the broken line 3 3 in Fig. 2. Fig. 4 shows in side elevation the position of bar and dies at the end of the first severing operation. Fig. 5 is a similar view showing the severed bar and the relative position of the severing-dies at the end of the second and final severing operation. Fig. 6 is a similar view of the severed bar formed into a hammer-hatchet blank. Fig. 7 is a bottom, plan, or edge view of the blank shown in Fig. 6.

The dies herein shown and described may be operated in a machine like that shown in United States Letters Patent No. 531,221, issued to me December 18, 1894, for improvements in machines for making ax-polls, to which patent reference may be had for a description thereof.

A metallic bar A is first heated and then pushed in between the members B and B' of a bending-die. The female member B is shown provided with a stop B<sup>2</sup>, adapted to be engaged by the inserted end of the bar and determine the length of the successive blanks. The position of the inserted bar is indicated by the dotted lines A'. These dies serve to give the bar the form shown in Fig. 2, wherein

an intermediate portion is shown projected to one side of the bar, convexed on the upper and concaved on the under side. Two operations are required to sever the blanks from the bar. A cutter C is first inserted through the convexed side at about the position indicated in Fig. 2, while the end portions of the bar are both successively supported by the die-block C'. It will be observed that this block is concaved or cut away at C<sup>2</sup>, so that no support is afforded for the intermediate portion of the bar concaved on that side, as shown in Fig. 2. The cutter, however, forces the intermediate portion downward until it reaches the cut-away portion of the die-block, making a downwardly-offsetting projection just to the right of the knife, leaving the upper surface of the main bar to the right of the knife approximately plane, as seen at A<sup>2</sup>, Fig. 4. The knife-supporting block presses out that part of the convexed side of the bar which lies to the left of the knife. The cutter is then withdrawn and the bar supported at one end only, as by the die-block C<sup>3</sup>, having the rounded blank-forming surface C<sup>4</sup>. The cutter C<sup>7</sup> is then applied to sever the blank by continuing to cut through the lower convexed side of the bar, which being unsupported by the die-block is forced a considerable distance downwardly to one side of the bar to the stationary knife C<sup>6</sup>, as shown in Fig. 5, thereby forming a support S for the claw-piece D, which is afterward welded onto the blank. It is only necessary to attach the claw-piece, form the eye D', and bit D<sup>2</sup> to form a complete hammer-ax provided with a nail-pulling claw.

The object of forming the blank ready for the claw attachment, bit, and punching in the manner described is to produce the supporting claw-shank S and at the same time preserve the hammer-head full and square at S'. Unless the bar is first bent so as to have its upper surface convexed, as shown in Fig. 2, the corner S' would be forced down and rounded by the cutter, which would necessitate additional heavy swaging operations in expensive dies to bring the head into the required form. The same would be true of the claw-support S unless the same was drawn down along the partially-supporting die-block C<sup>4</sup>, as before described.



By my improved method I am able to produce a perfect blank without the use of swaging-dies usually employed in shaping similar articles.

5 What I claim as new, and desire to secure by Letters Patent, is—

The herein-described method of making hammer-ax blanks which consists in heating a metallic bar, forcing an intermediate portion of the bar to one side, partially severing  
10 the bar through the intermediate portion on the convexed side and at the same time successively supporting the end portions whereby the convexed side is made approximately

plane, and afterward completing the cut 15 through the remaining side with one of the end portions of the bar unsupported, whereby the unsupported intermediate portion on the supported end of the bar is forced a considerable distance to one side of that end, substantially as described. 20

In testimony whereof I have hereunto set my hand this 2d day of July, 1898.

ETHAN ROGERS.

Witnesses:

GEO. A. MOSHER,  
FRANK C. CURTIS.