

J. D. ALLISON.

DIES FOR FORMING THE SOCKETS OF TOOLS.

No. 176,159.

Patented April 18, 1876.

Fig. 1.

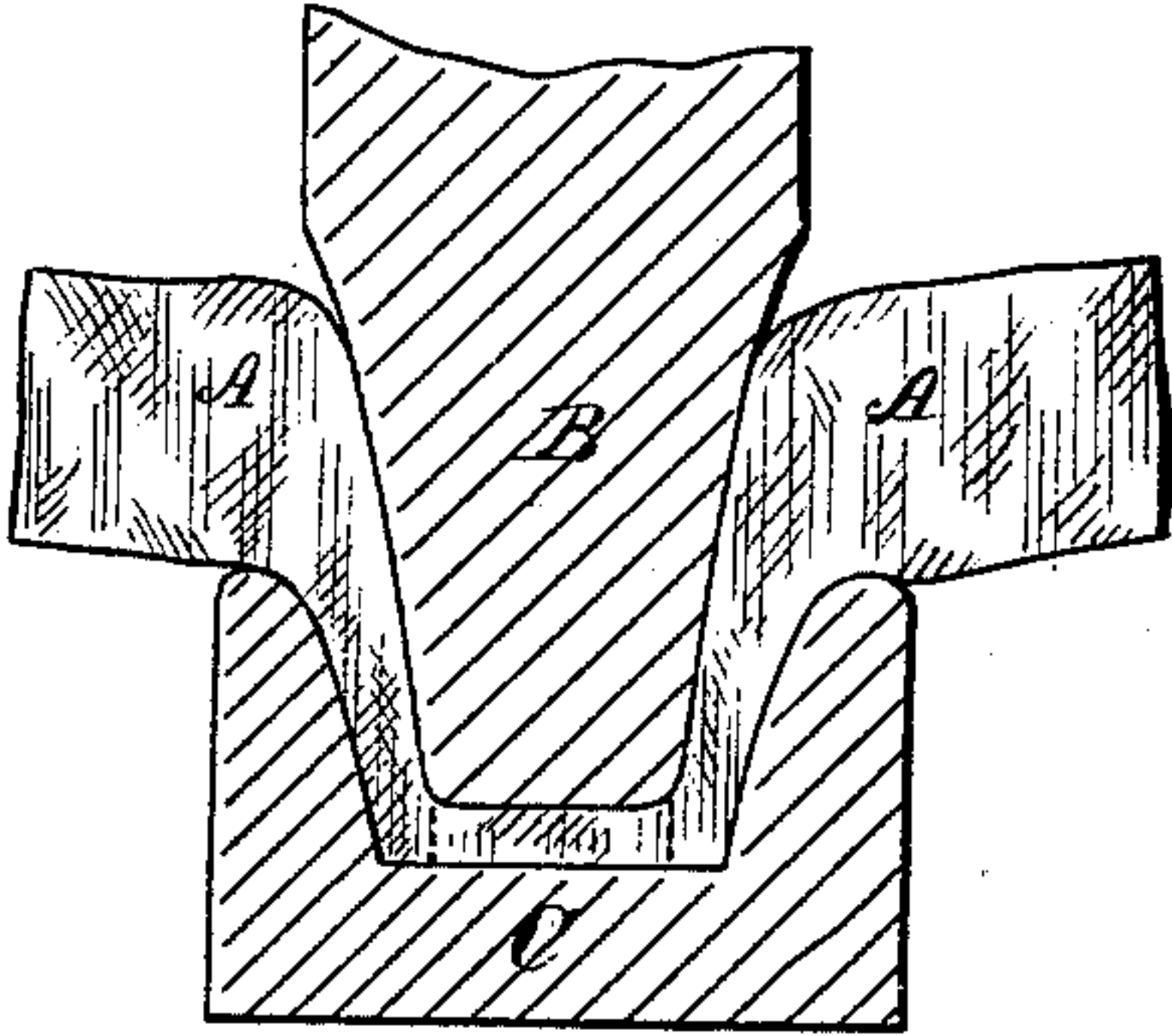


Fig. 2.

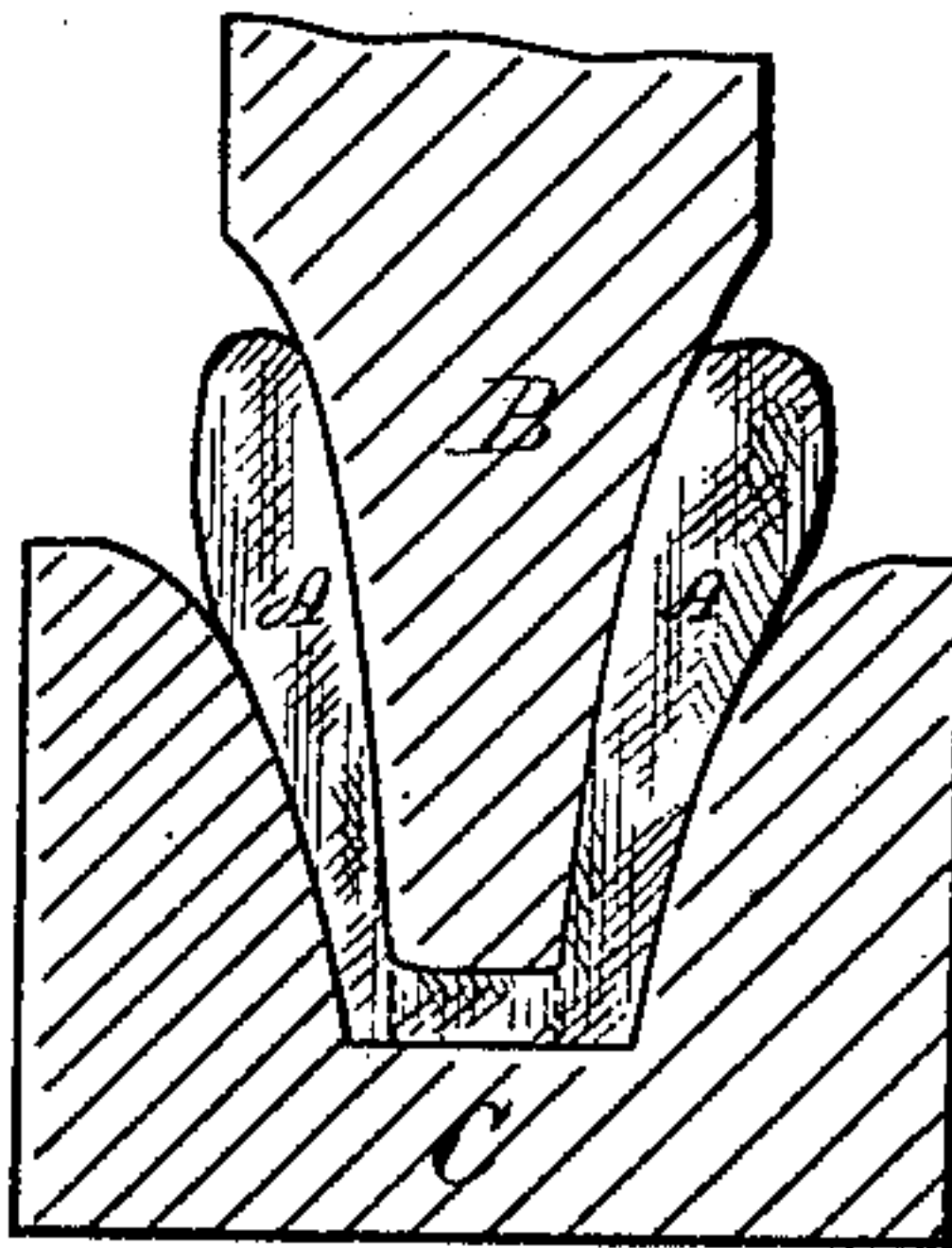


Fig. 3.

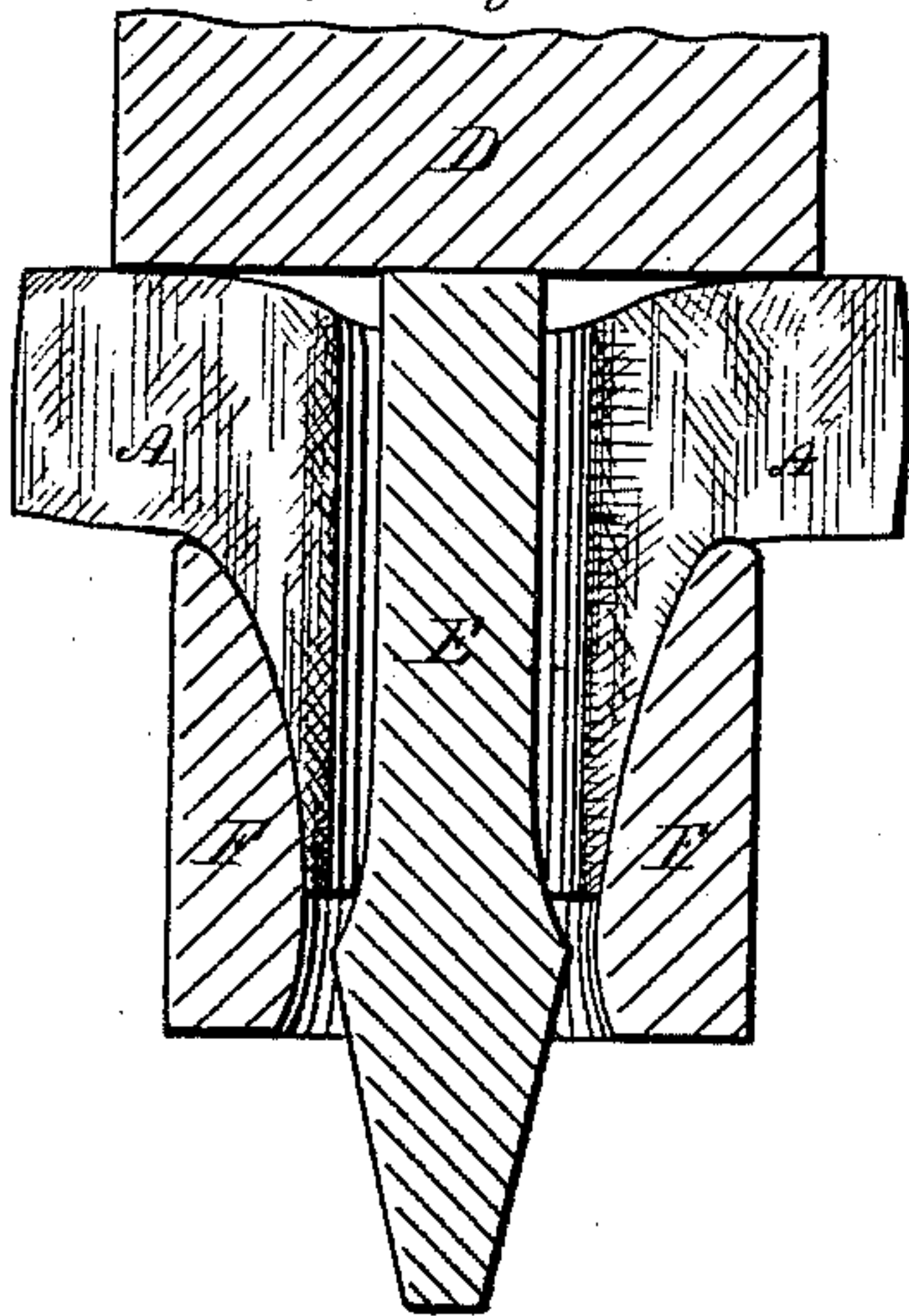


Fig. 4.

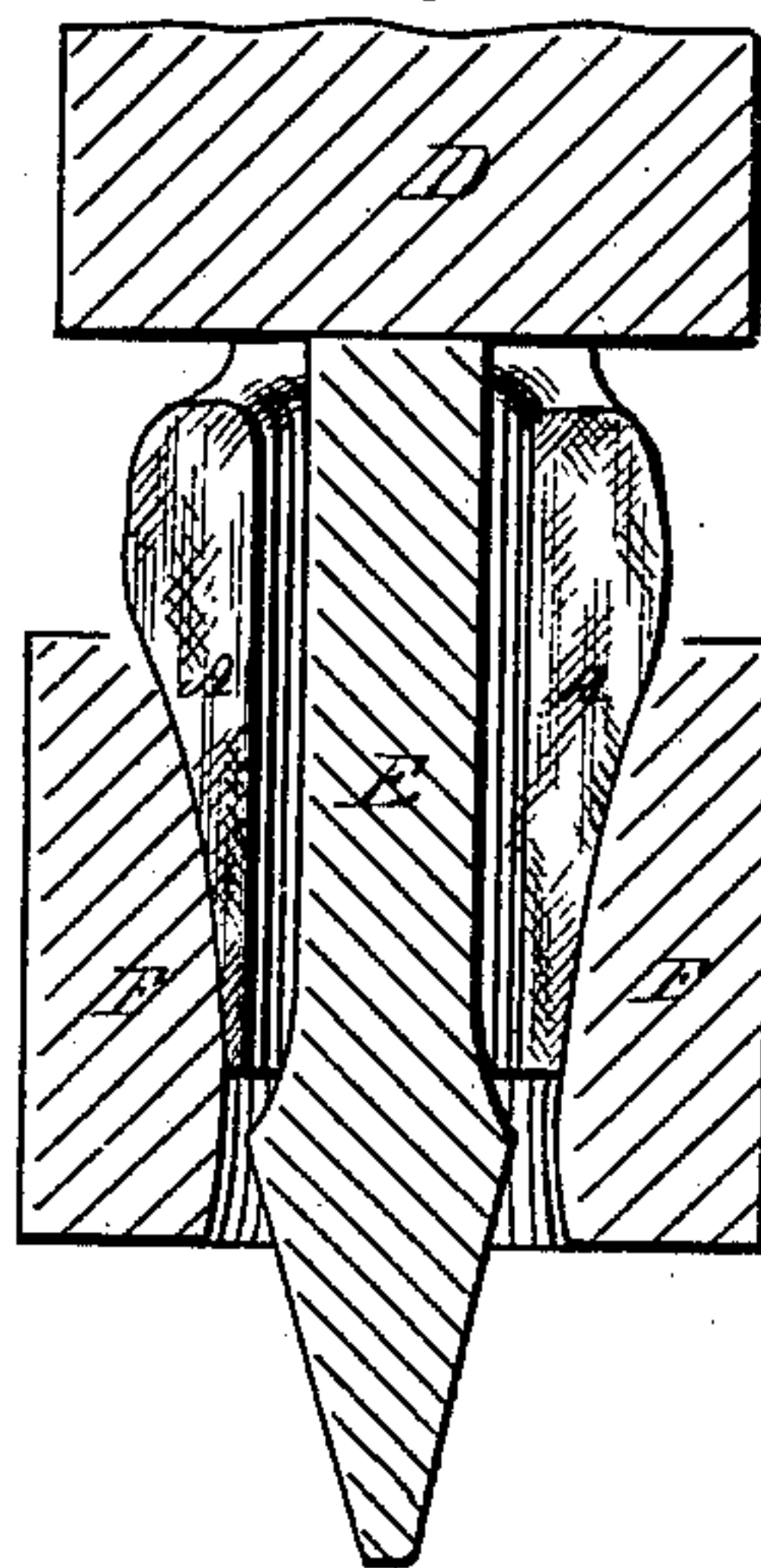


Fig. 6.

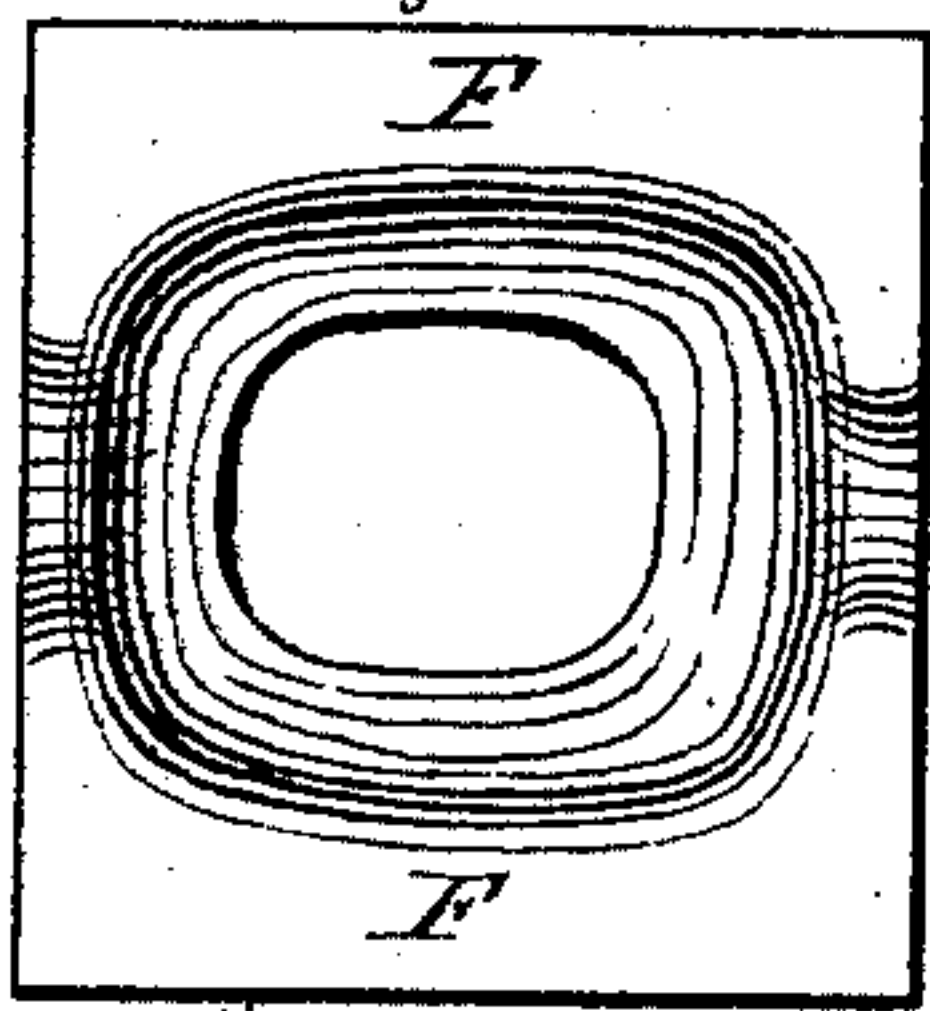
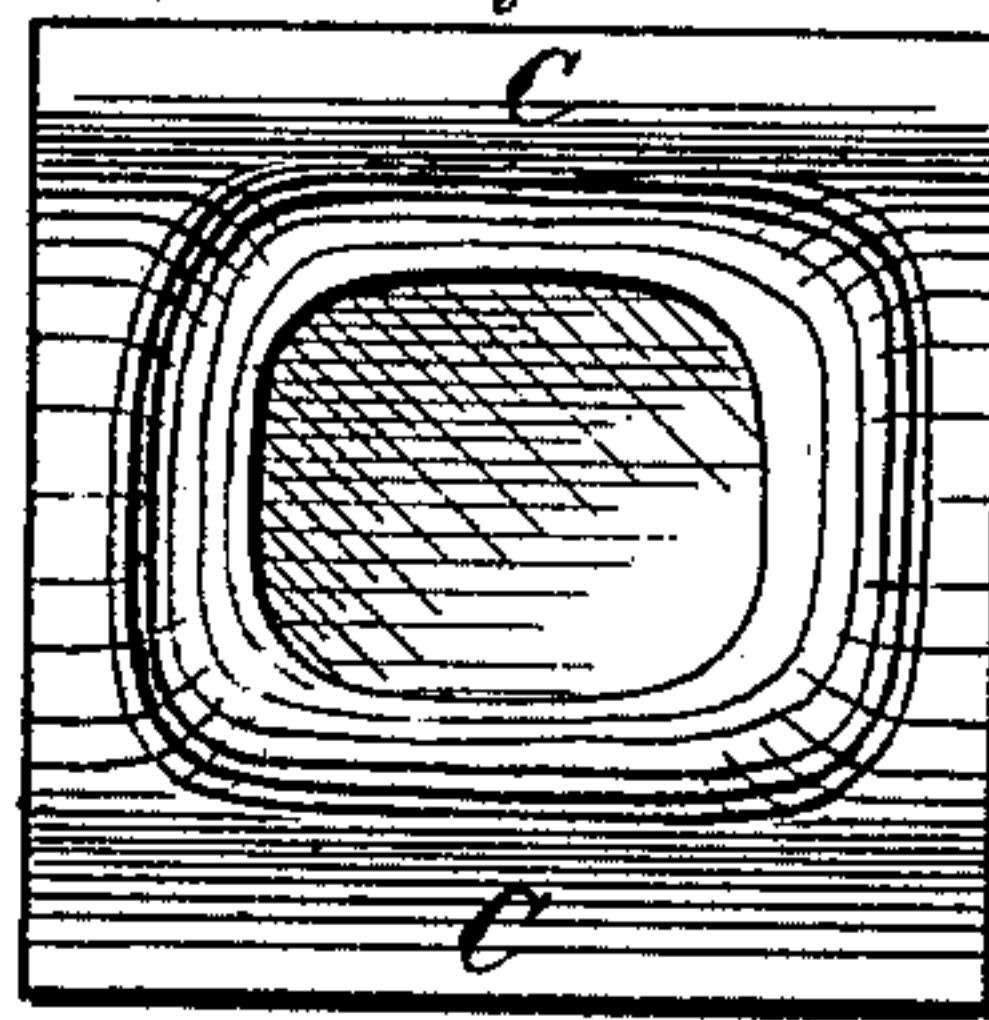


Fig. 5.



Witnesses.

Wendell R. Burks
J. E. Palmer

Inventor.

John D. Allison
By Theo. C. Ellis Attorney

UNITED STATES PATENT OFFICE.

JOHN D. ALLISON, OF CROMWELL, CONNECTICUT.

IMPROVEMENT IN DIES FOR FORMING THE SOCKETS OF TOOLS.

Specification forming part of Letters Patent No. **176,159**, dated April 18, 1876; application filed March 3, 1876.

To all whom it may concern:

Be it known that I, JOHN D. ALLISON, of Cromwell, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Dies for Forming the Sockets of Tools; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to such tools as hammers, picks, adzes, &c., which are made with an elongated eye or socket for the reception of the handle; and its object is to provide a simple and expeditious manner of forming the socket from a bar of metal of the proper size for the body of the tool.

My invention consists in dies and punches of the form and construction hereinafter described.

In the accompanying drawing, Figure 1 shows a longitudinal section, and Fig. 2 shows a lateral section, of the first pair of dies used in partially forming the socket. Fig. 3 shows a longitudinal section, and Fig. 4 a lateral section, of the dies used in completing the forging of the socket. Fig. 5 is a top view of the lower die in Figs. 1 and 2, and Fig. 6 is a top view of the lower die in Figs. 3 and 4.

A is the bar of metal, of which the hammer or other tool is to be formed. B is the upper one of the first pair of dies, and C is the lower. The bar is laid over the recess in the lower die C, and is struck by the upper die or punch B in a drop-hammer or press, so as to force the metal down into the recess, while the punch B penetrates the metal nearly to the bottom, as shown in Figs. 1 and 2. The bar

is then removed from these dies, and the bottom of the depression formed is punched out in any ordinary manner of punching metals. The bar is then placed in the second dies. D is the upper die. E is a detached punch or plug, of the form shown in the drawing, with an enlarged lower end to act upon the metal of the socket, and a smaller shank above. F is the lower die, which has an opening entirely through it for giving form to the exterior of the socket. The bar, as previously partially formed, is placed with the socket resting in the lower die, and the plug E is placed in the recess already formed in the bar. The die is then allowed to fall upon it in a drop-hammer, which drives it through the socket, enlarging and opening it to the required form, and elongating it as shown in the drawing. The plug E falls through the opening in the lower die into a vessel of water underneath, which cools it for the next operation.

The punching of the socket draws down the central portion of the bar, as shown in Figs. 1 and 3, so that it becomes necessary to straighten it. This is done by dropping the flat die D upon the top of the bar while it remains in the die F. The hammer or other tool is then finished in the usual manner.

What I claim as my invention is—

1. The dies D F and plug E, constructed and used conjointly, substantially in the manner herein described.
2. The combination of the dies B C, the plug E, and the dies D F, for forging the elongated sockets of tools, substantially as described.

JOHN D. ALLISON.

Witnesses:

THEO. G. ELLIS,
WENDELL R. CURTIS.