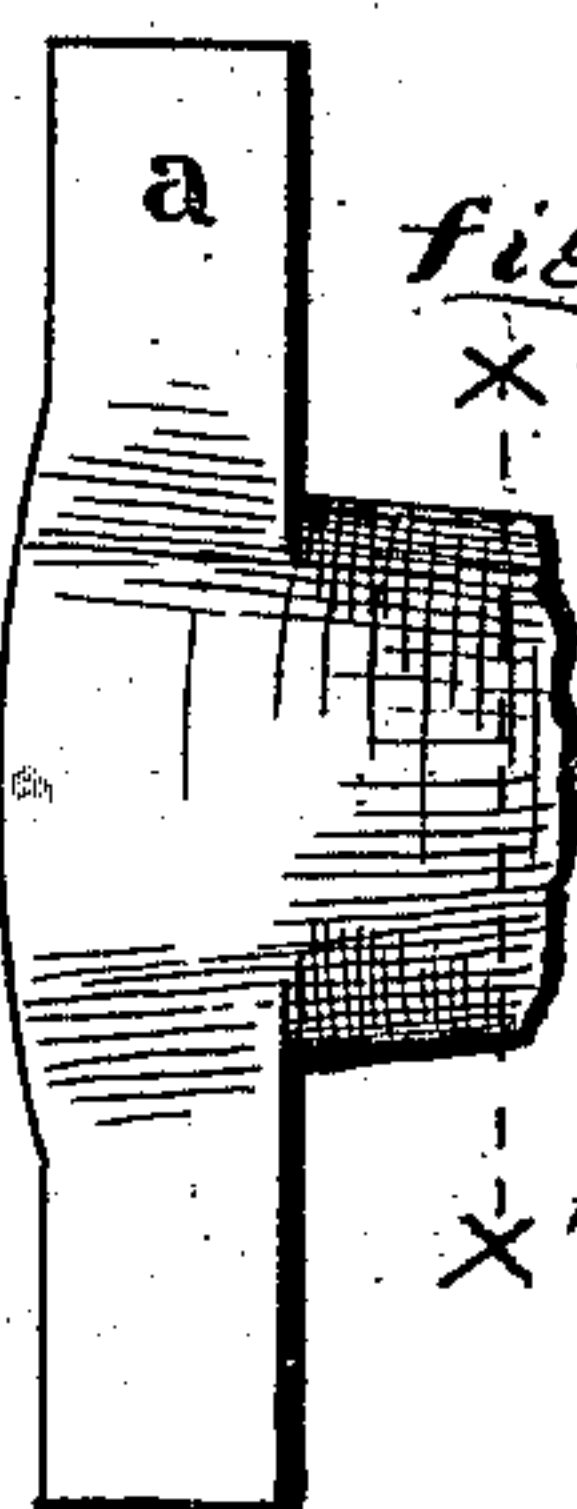
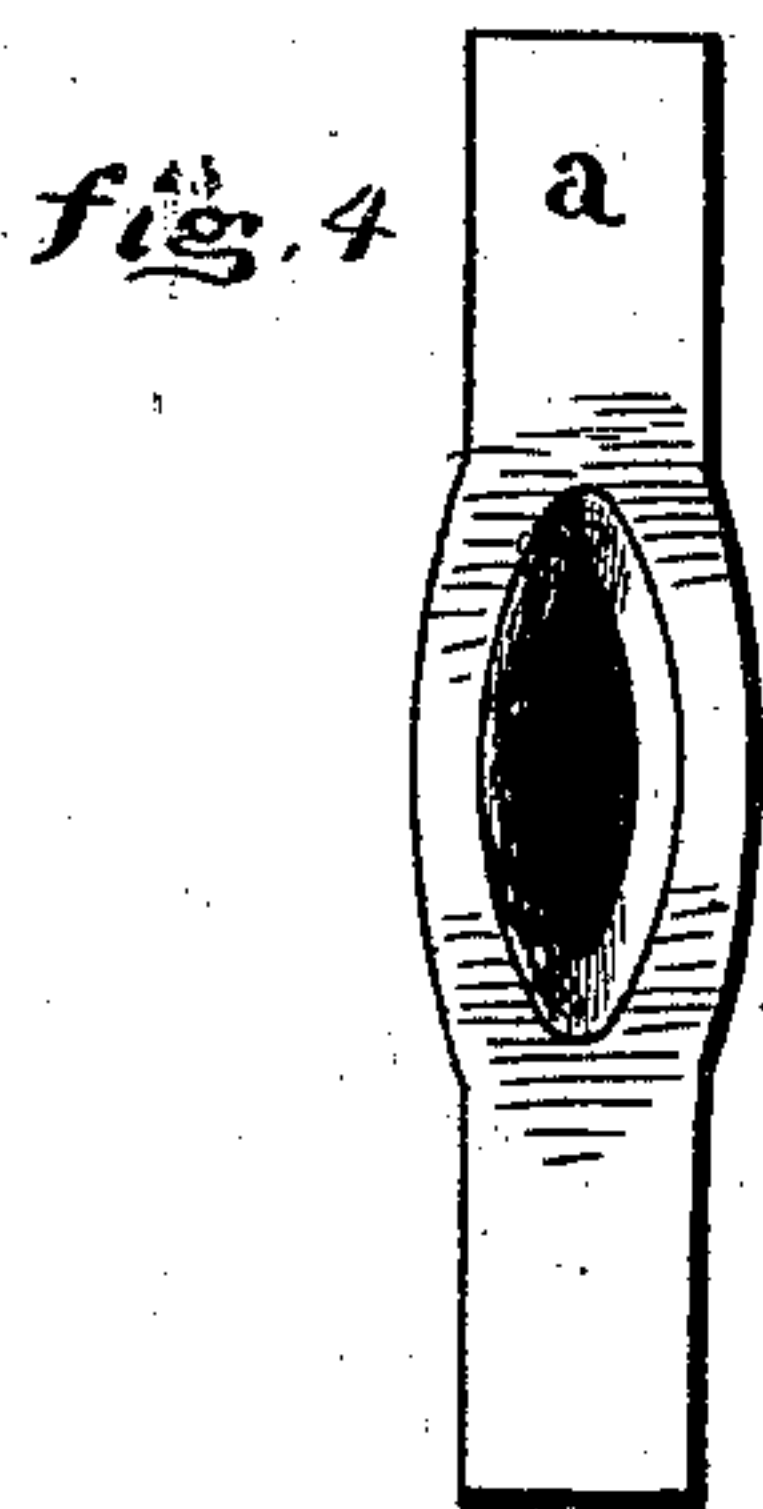
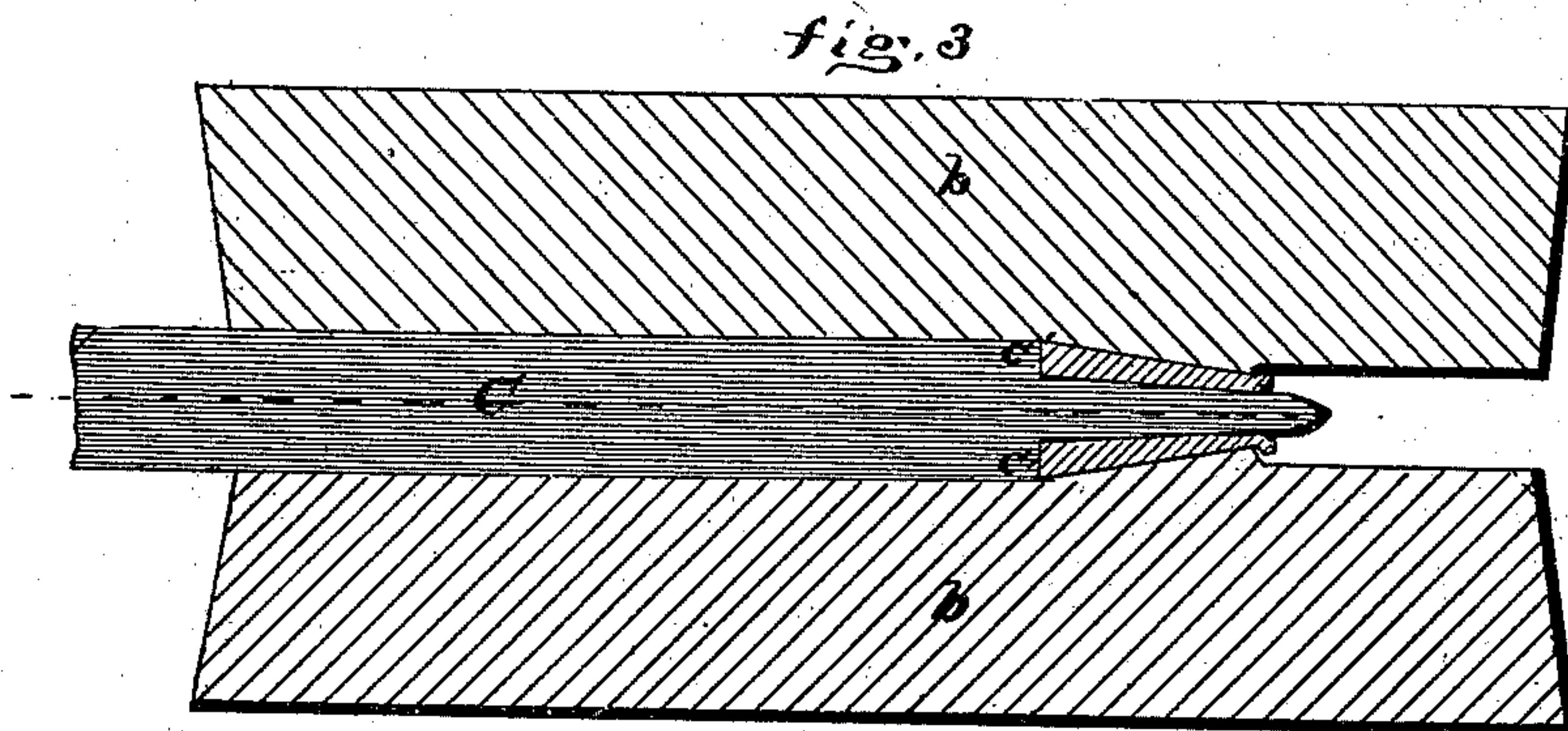
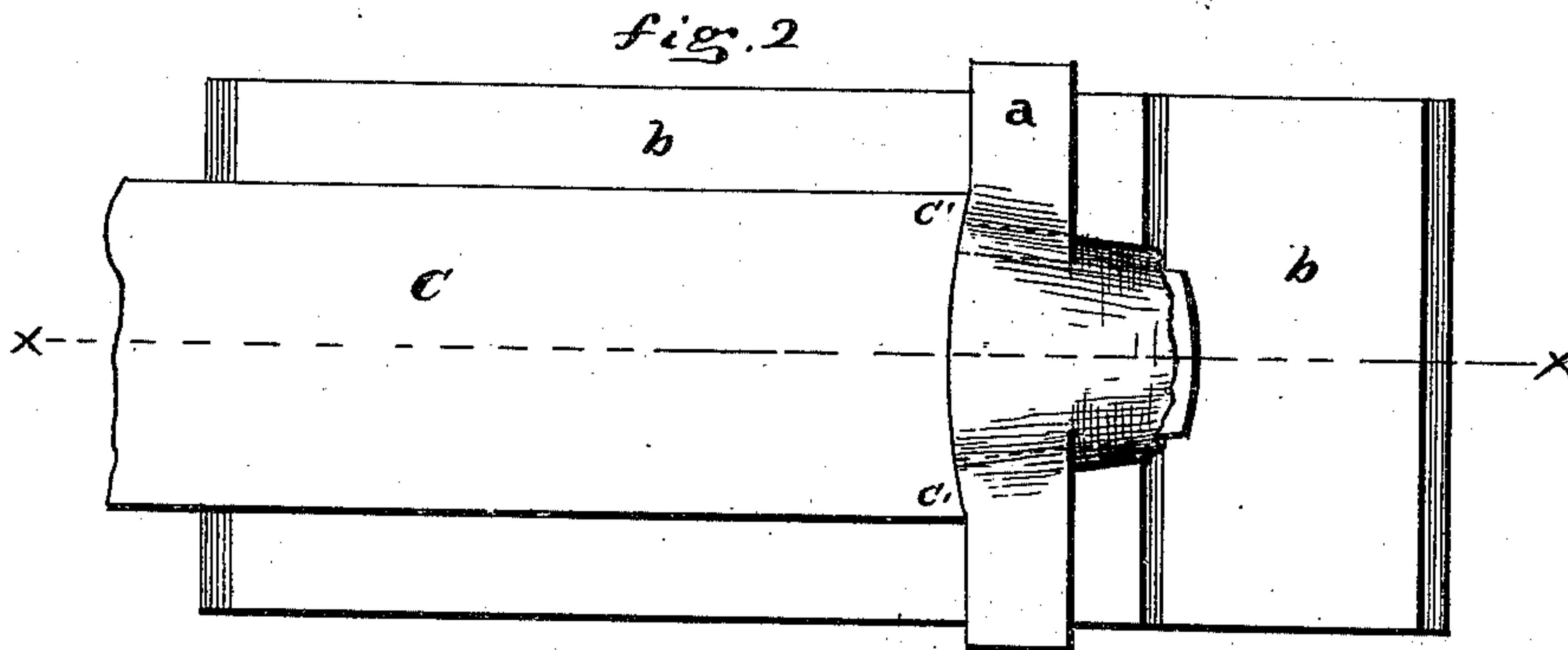
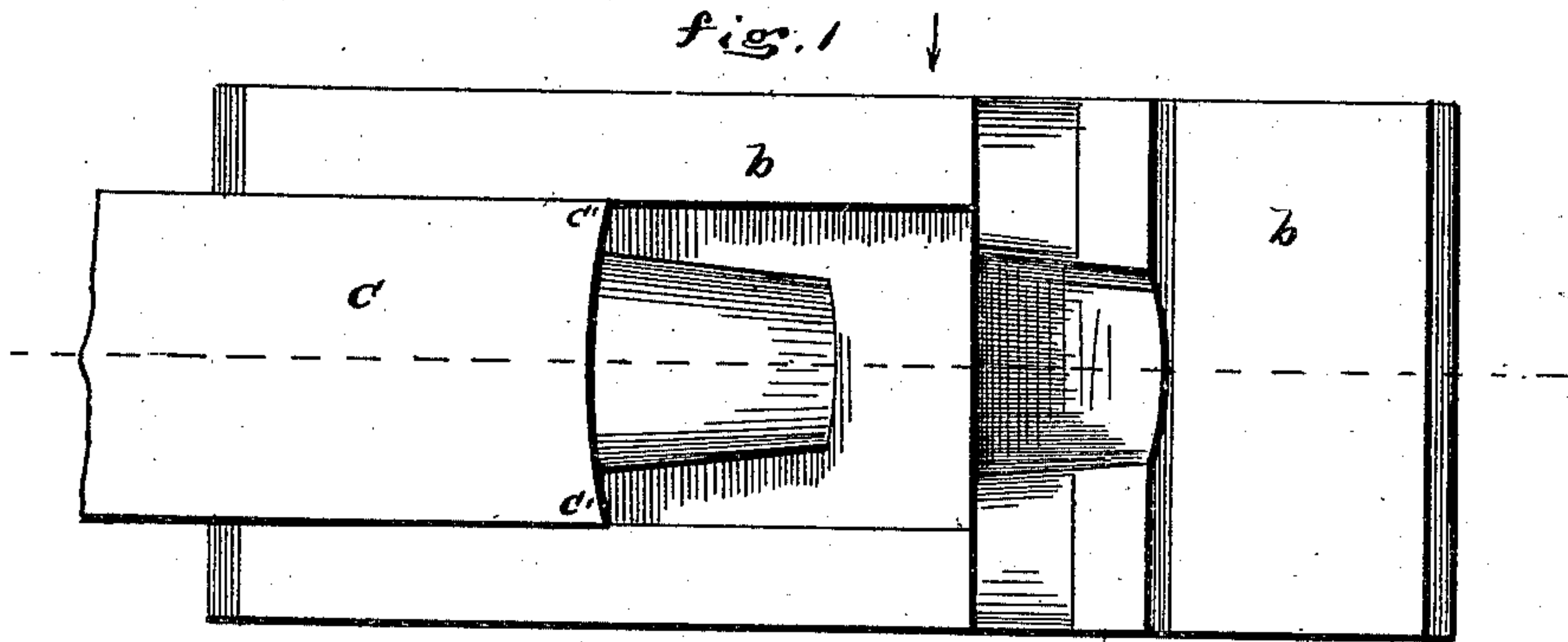


L. CHAPMAN.

DIES AND PUNCHES FOR FORMING THE EYES OF PICKS.

No. 172,259.

Patented Jan. 18, 1876.



Witnesses

John Pollitt  
George E. N. Law.

Inventor

Luke Chapman  
By W. E. Simonds.  
Atty.

# UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT, ASSIGNOR TO THE  
COLLINS COMPANY, OF SAME PLACE.

## IMPROVEMENT IN DIES AND PUNCHES FOR FORMING THE EYES OF PICKS.

Specification forming part of Letters Patent No. **172,259**, dated January 18, 1876; application filed  
February 24, 1875.

### CASE F.

*To all whom it may concern:*

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Dies and Punches for producing elongated or socket eyes upon pickaxes, adzes, and other tools and articles having similar elongated or socket eyes, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a face view of one of the two dies made use of, showing the punch in side view. Fig. 2 is a view the same as Fig. 1, except that the stock is shown as inserted and operated on. Fig. 3 is a view of the dies closed together, the stock inserted and operated on in longitudinal section on the plane indicated by the dotted line *xx*. Fig. 4 shows a top view of the bar after being operated on. Fig. 5 shows a side view of the bar after being operated on.

The dies shown in the drawings are intended for producing an elongated eye on a pickax. By appropriate changes in the shape of the matrix of the dies and in the punch, substantially the same principle can be made use of in the production of elongated eyes upon adzes, hammers, and other tools, and articles generally having elongated or socket eyes. The stock-bar operated on is commonly of wrought-iron, and must be appropriately heated before submission to the action of the dies and punches. The relative size and length of the

bar to be operated upon is approximately shown in Figs. 4 and 5. The bar *a* is appropriately heated and grasped between the dies *b*, which, moved by appropriate machinery of requisite power, close together, the shape of the matrix of the dies and the size of the stock-bar being, by preference, so shaped and proportioned that the closing of the dies will upset the bar somewhat and force an extra amount of stock into the matrix of the dies. Then the punch *c*, moved by machinery of proper kind and force, moves forward to position shown in Figs. 2 and 3, punching and elongating the eye. The punch now retreats, the dies open, and the forging is taken out, having an appearance substantially as shown in Figs. 4 and 5. The ragged end of the eye is now sawed off on the dotted line *x' x'*, and the ends of the forging, known as a pickax-poll, finished by common processes into pickax shape. The main novelty in this apparatus, mechanism, or device is the punch, having the shoulder *c'* all around the punch proper for forming the top of the bar or forging; and

I claim as my invention—

The dies *b b*, in combination with the punch *c*, having the shoulder *c'*, substantially as and for the purpose set forth.

LUKE CHAPMAN.

Witnesses:

WM. EDGAR SIMONDS,  
GEORGE E. NOLAN.