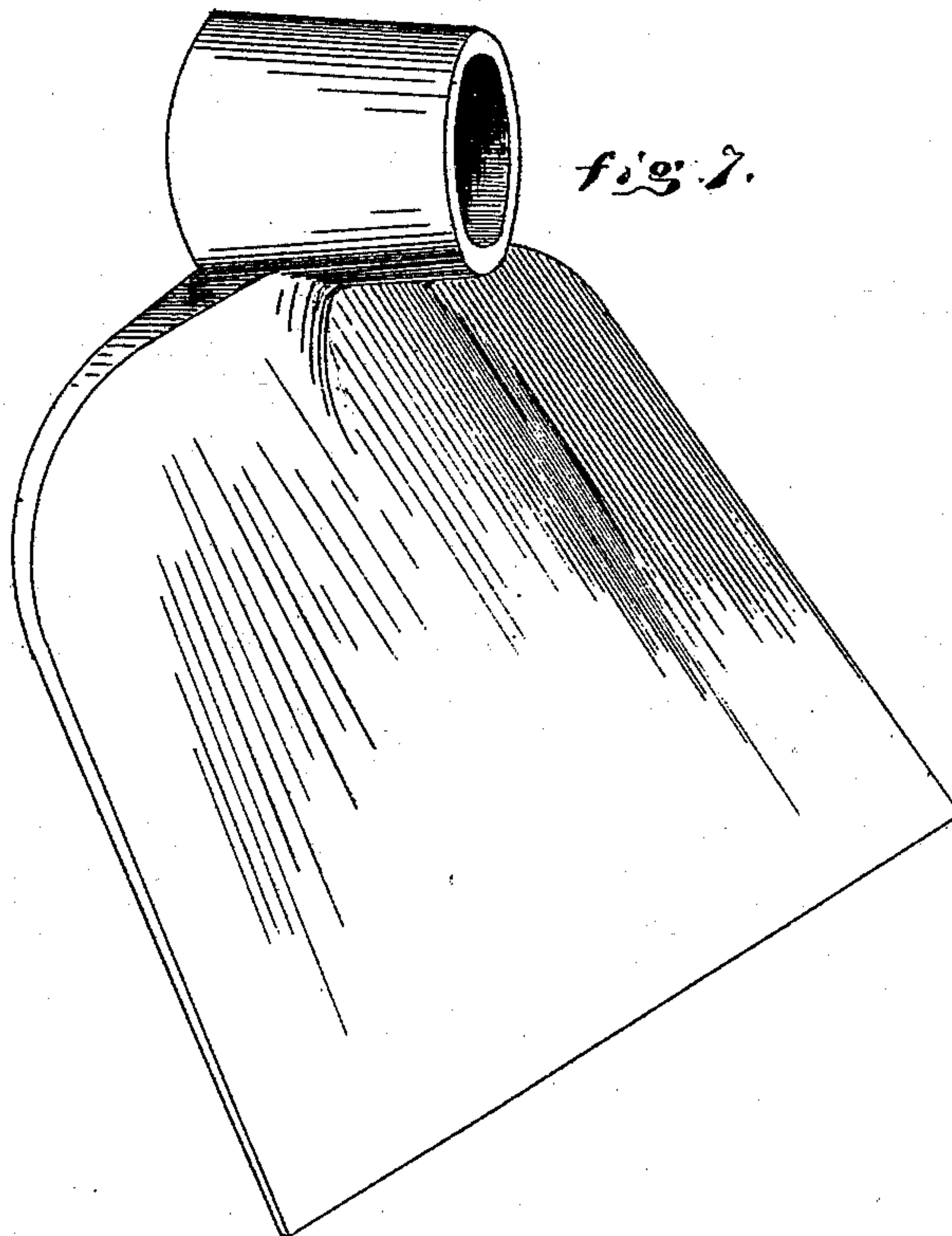
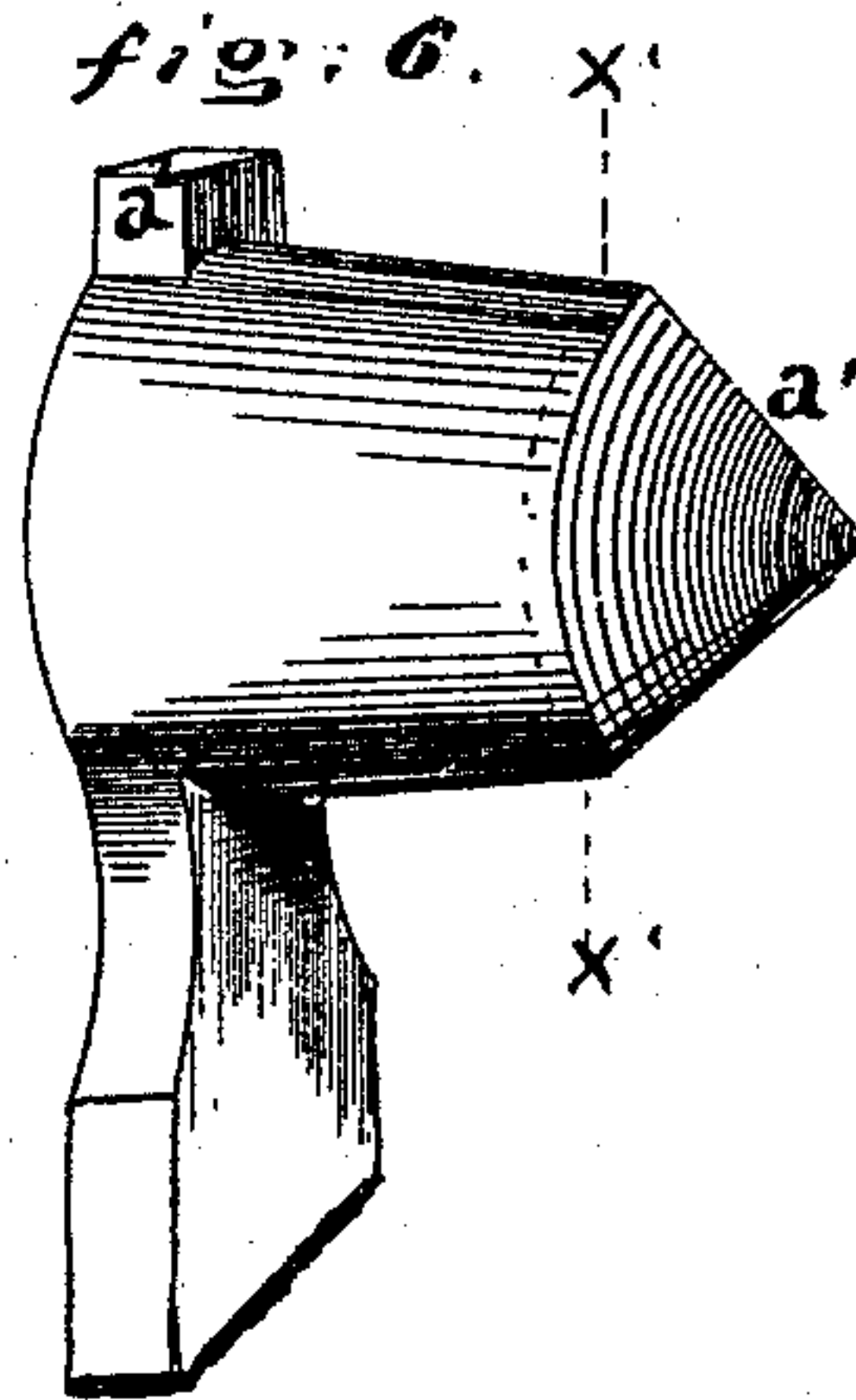
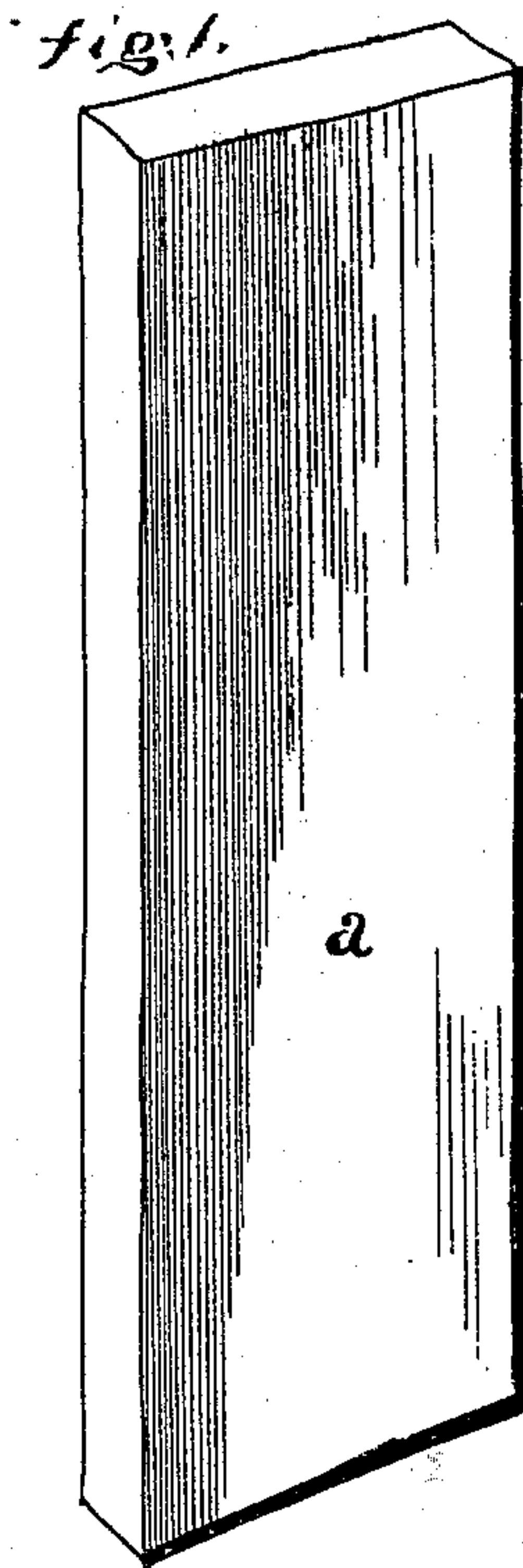


L. CHAPMAN.

DIES AND PUNCHES FOR FORMING THE EYES OF HOES.

No. 172,258.

Patented Jan. 18, 1876.



Witnesses

John Pollitt
George E. Nolan

Inventor

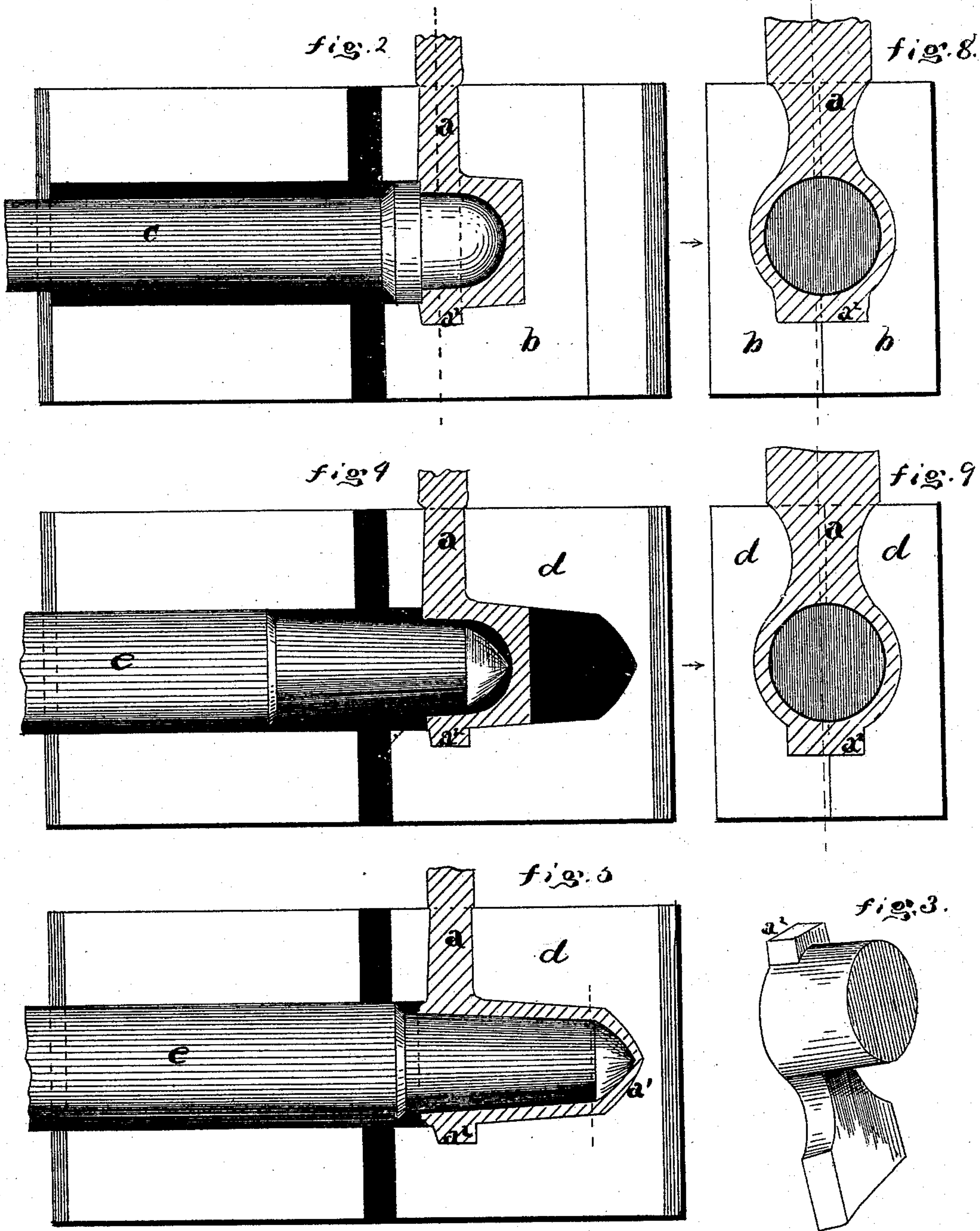
Luke Chapman
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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN DIES AND PUNCHES FOR FORMING THE EYES OF HOES.

Specification forming part of Letters Patent No. **172,258**, dated January 18, 1876; application filed
February 24, 1875.

CASE E.

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 the manufacture of Planters' Hoes, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a view showing the relative size of the bar or stock made use of. Fig. 2 is a face view of one of the two duplicate dies forming the first set, showing the stock or bar after being operated upon, in longitudinal section. Fig. 3 is a view of the product of the first set of dies. Fig. 4 is a face view of one of the two duplicate dies forming the second set, with the product of the first set inserted, shown in longitudinal section, ready to be operated on. Fig. 5 is a view the same as Fig. 4, except that the punch has advanced and done its work. Fig. 6 is a view of the product of the second set of dies. Fig. 7 is a view of the finished hoe. Fig. 8 is a view in cross-section of the first set of dies, the punch, and the stock. Fig. 9 is a view in cross-section of the second set of dies.

These planters' hoes are usually made of iron with steel edge.

The letter *a*, Fig. 1, denotes a bar of about the size relative to the dies, which is worked or operated upon by these dies. The dies and punches are worked by proper machinery of the requisite power. The bar *a* is properly heated at the end to be operated upon by the dies, and inserted in the first set of dies *b b*, which close together, face to face, upsetting the bar and forcing an extra amount of stock into the matrix of the dies. The punch *c* then advances to the position shown in Fig. 2, making a corresponding hole in the stock, and causing the metal to fill the matrix of the

dies. The stock is then taken from these dies, properly heated, and similarly grasped in the second set of dies *d d*, as shown in Fig. 4. The punch *e* then advances and does its work, as shown in Fig. 5, greatly elongating the eye and leaving it with the web-cap *a*¹. Fig. 6 shows the product of the second set of dies. The cap-web is then sawed off on the plane *x'*, the lug *a*² which has availed to keep the stock while in the dies from crushing down under the action of the punches is removed, and the forging worked into the finished shape shown in Fig. 7. It is essential that both of the sets of dies have the recess for forming and holding the lug *a*², that the punch *c* be rounded or semi-spherical on its point, and the punch *e* should be tapering, cylindrical, and pointed, substantially as shown.

I intend to have other patents on dies and punches of even date herewith, one marked Case B, which shows dies and punches for forming the eyes of round or oval eyed adzes, and another marked Case D, which shows dies and punches for forming solid-head-adz eyes. In both these cases the dies and punches differ materially in shape from those herein described; and I do not intend to cover or claim herein dies and punches such as are shown in either of said cases.

I claim as my invention—

1. The combination of the dies *b b* and punch *c*, where all are constructed, arranged, and designed for operation and use substantially as shown and described.

2. The combination of the dies *d d* and punch *e*, when all are constructed, arranged, and designed for operation and use substantially as shown and described.

LUKE CHAPMAN.

Witnesses:

WM. EDGAR SIMONDS,
GEORGE E. NOLAN.