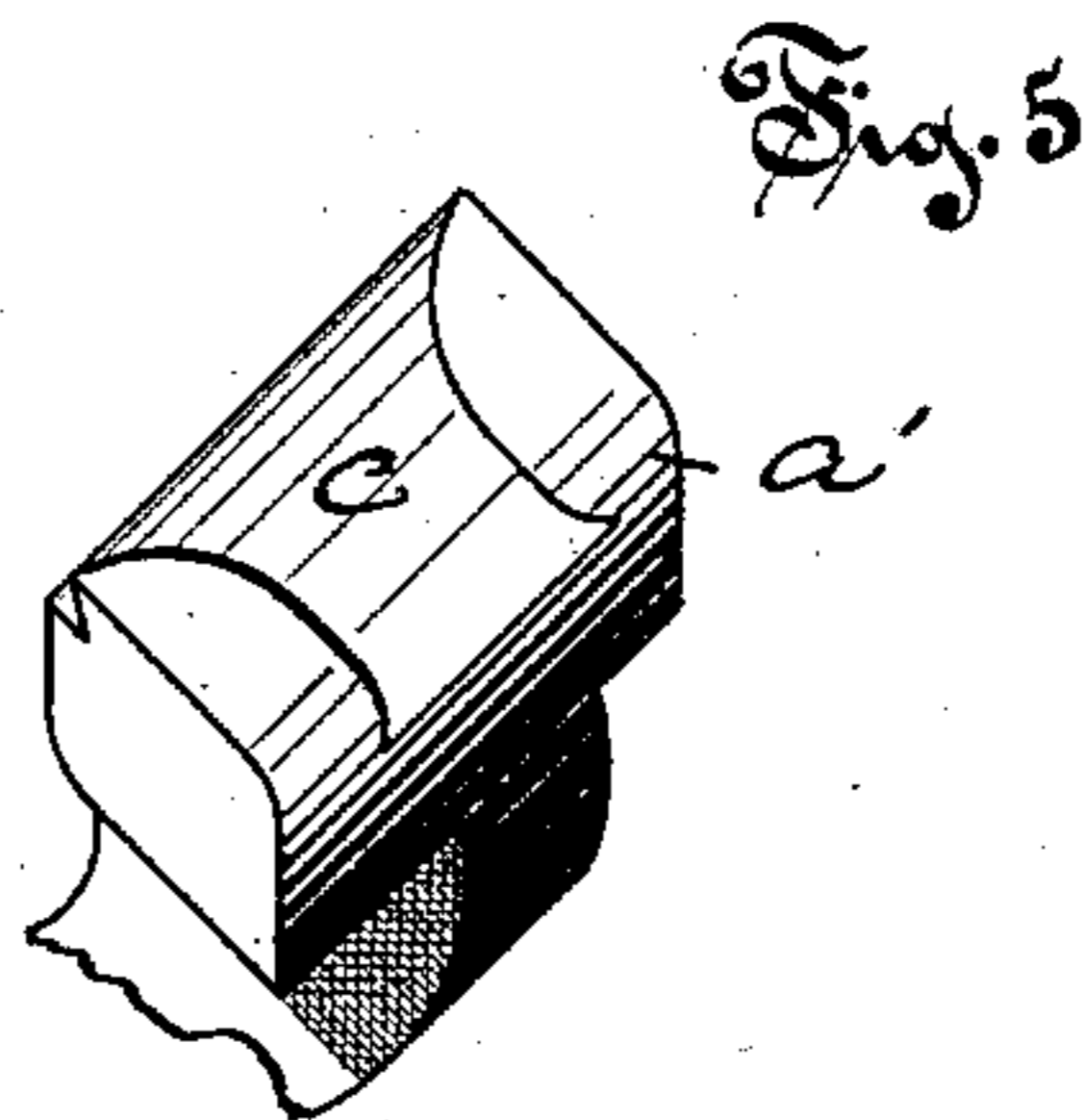
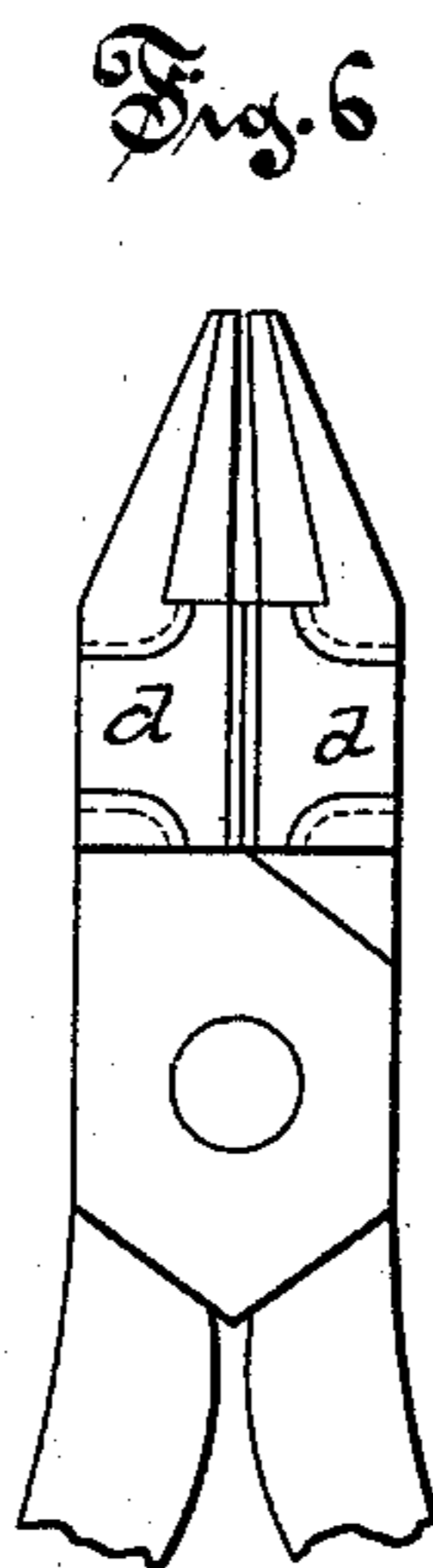
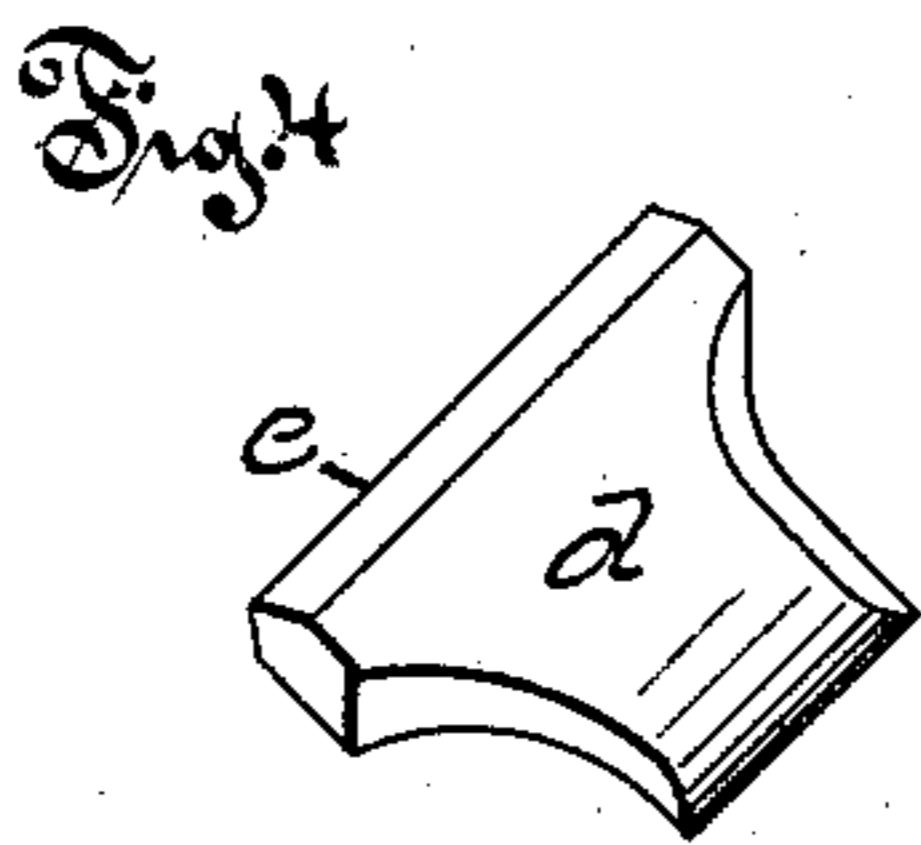
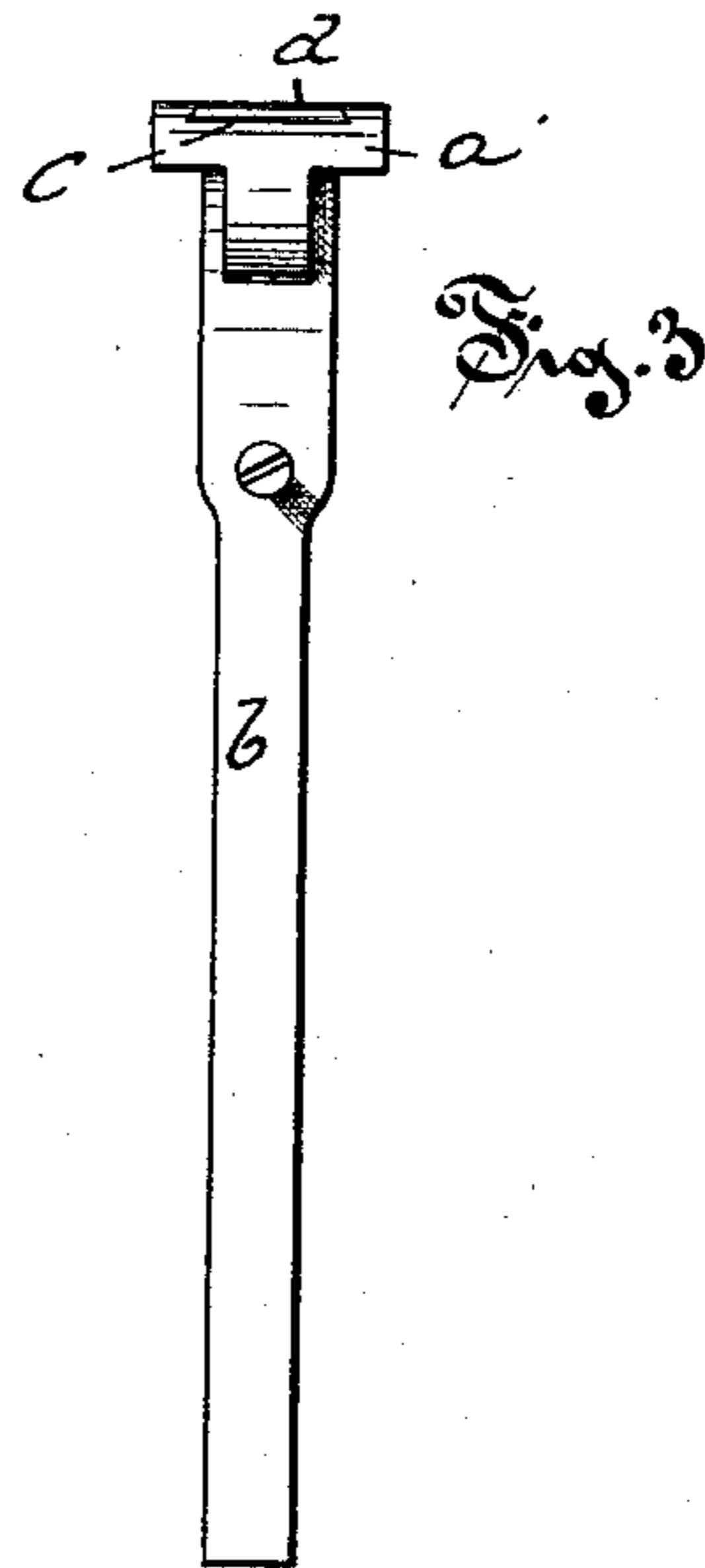
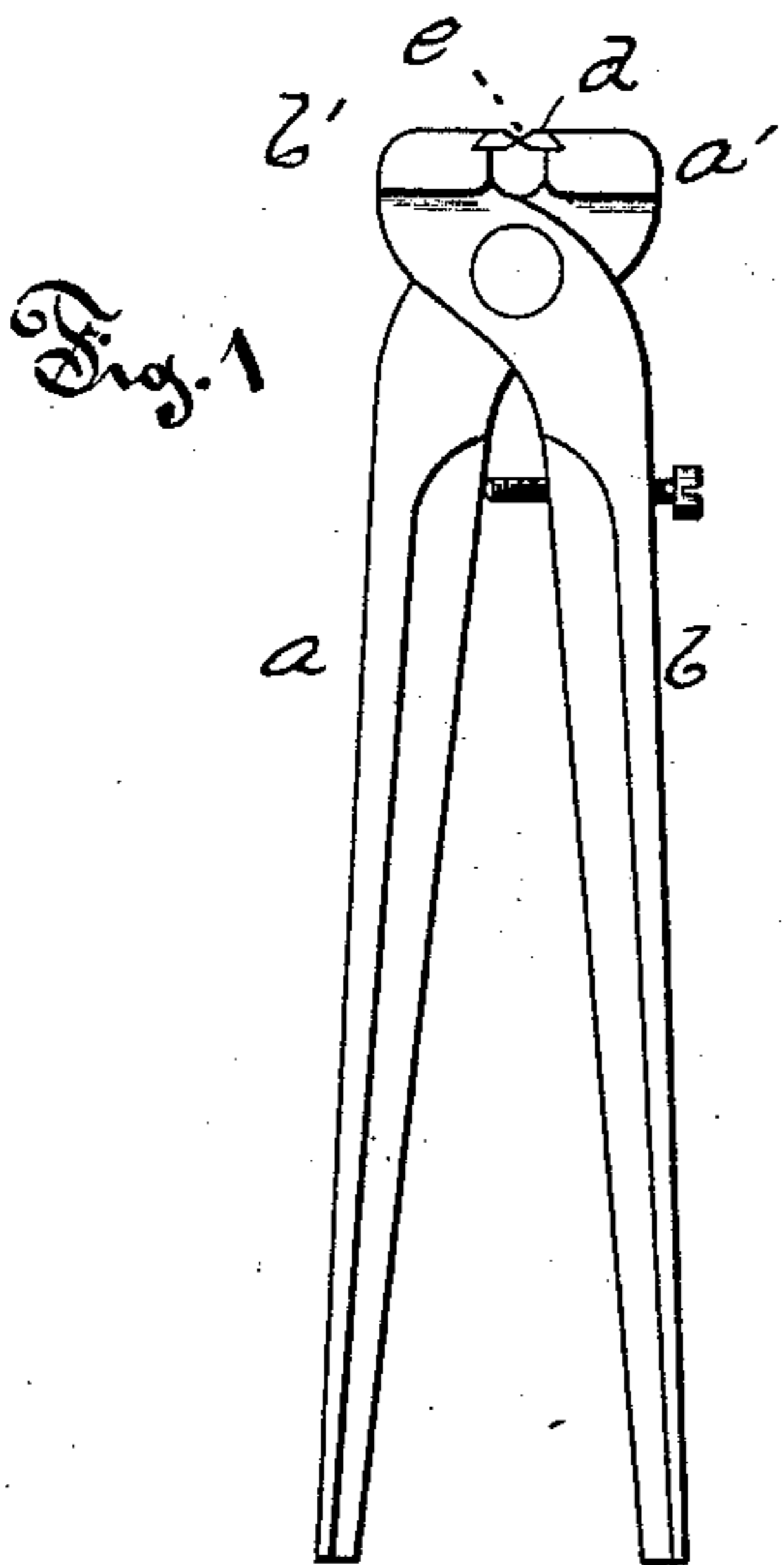


(No Model.)

E. STEVENS.
CUTTING PLIERS.

No. 299,872.

Patented June 3, 1884.



Witnesses
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UNITED STATES PATENT OFFICE.

ELISHA STEVENS, OF MIDDLETOWN, CONNECTICUT.

CUTTING-PLIERS.

SPECIFICATION forming part of Letters Patent No. 299,872, dated June 3, 1884.

Application filed September 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, ELISHA STEVENS, of Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Cutting-Pliers; 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 drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Figure 1 is a side view of one form of pliers embodying my improvement. Fig. 2 is a top view of the same, showing the removable cutter in plan view in the head of the pliers. Fig. 3 is a back view of the head of the cutting-pliers, showing one edge of the removable blade. Fig. 4 is a detail perspective view of the cutting-blade. Fig. 5 is a side view of a combined pincher and cutting-plier embodying my improvement.

My invention relates to the class of pliers in which the cutting-blades are removable; and it consists in the improved form and location of the mortise, and of the special form of cutter adapted to fit and operate in said mortise.

In the accompanying drawings, Figs. 1, 2, and 3, the letter *a* denotes one lever-arm of a pair of cutting-pliers of ordinary construction; *b*, the other arm, and *a'* and *b'* the heads of the respective arms. In the upper surface of each of the heads is formed a mortise, *c*, preferably of uniform depth from front to rear, tapering in curved lines from the rear to the front, where the mouth is broadened, as seen in Fig. 2. The sides of this mortise are undercut, as seen in Figs. 3 and 5, and it is open on front, rear, and top. The blade *d* is a flat plate of suitable material—as steel—having cutting-edge *e*, and is shaped, as to thickness and size of the bearing parts, to conform exactly to the outline of the mortise in the heads. The handle-levers are made preferably of cast metal, the mortises in the heads being formed in the process of casting, and the blades are preferably drop-forgings, all the parts so made being readily and cheaply assembled, and providing a serviceable tool.

The peculiar advantage of my form of cutting-blade and its socket is that the strain in cutting thrusts the blade firmly into its seat, and continued use tends only to seat the blade more firmly and not to loosen it. A great difficulty with pliers having blades provided with projecting lips or parts bearing against the inner surface of the heads is that these parts are broken very quickly in using the tool, and in other similar forms the blades are loosened and rendered useless.

As soon as my improved blade requires re-sharpening or becomes worn out, it is readily removed from its socket by being driven inward, the open end of the mortise giving ready access to it, and a new one inserted in its place. If desired, a screw may be inserted in the head at right angles to the plane of the blade, the hole through the blade being slightly elongated in the direction of the cutting-strain. The main feature of my invention consists in providing a socket for the cutting-blade, and in so placing the tapered blade in the socket that the strain of cutting tends to bind the blade firmer to its seat.

In Fig. 6 my invention is shown as applied to a combined pincher and cutting-plier, the cutters *d* being inserted in suitable mortises in the sides of the plier-heads. The cutters and the mortises in their heads are similar in form to those already described in the other style of cutting-pliers.

I am aware that cutting-pliers have been made with removable cutters dovetailed into sockets, and also with cutters having tenons and rectangular bearing-shoulders, and these I do not broadly claim.

I claim as my improvement—

In combination, in cutting-pliers, the pivoted levers, the heads of which are provided with shallow mortises open on front, rear, and top, with the limiting sides undercut and tapered from front to rear, and the removable cutting-blades without depthwise projecting bearing-shoulders, and shaped and tapered to fit said mortises, all substantially as described.

ELISHA STEVENS.

Witnesses:

A. C. TANNER,
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