

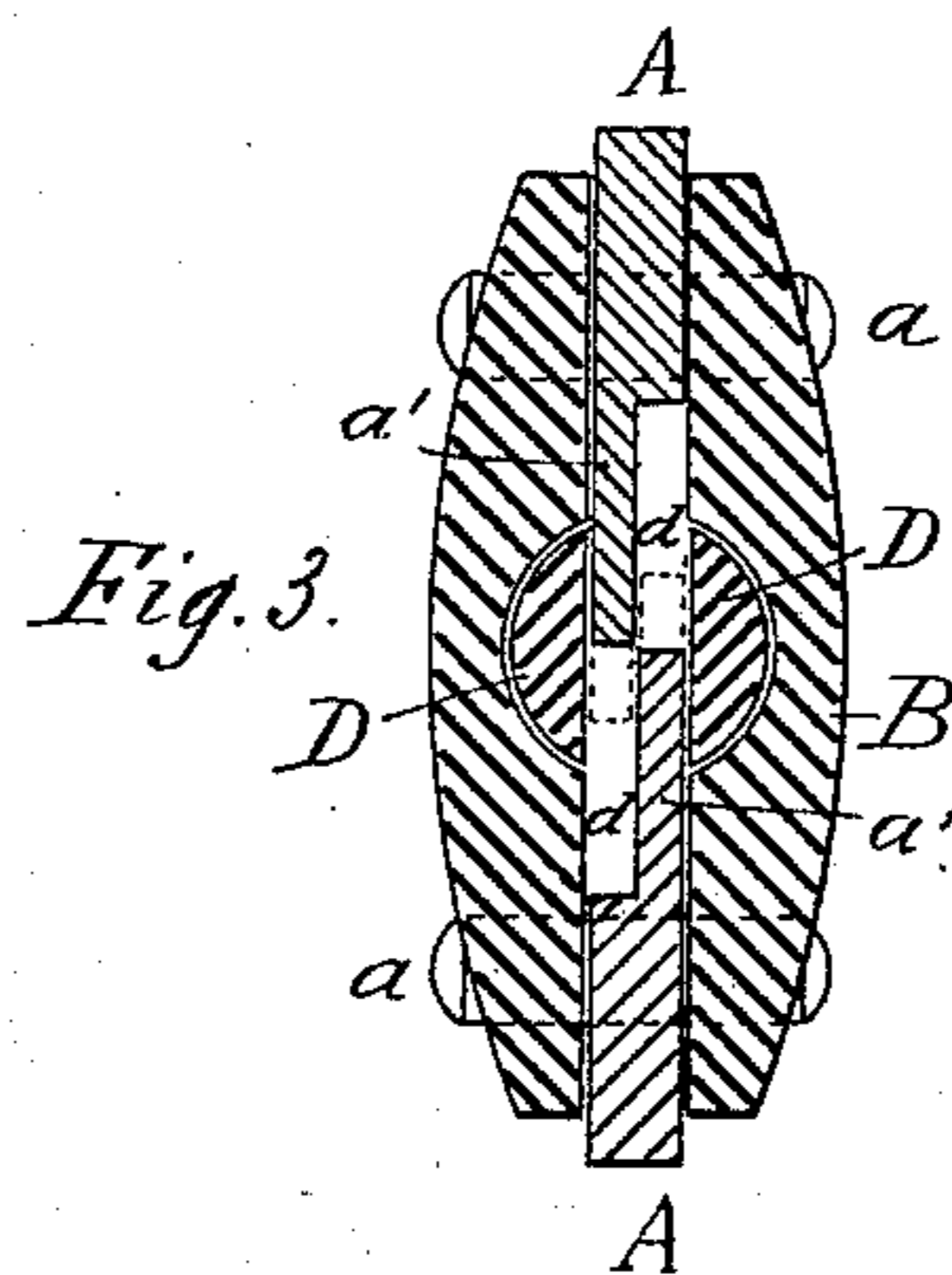
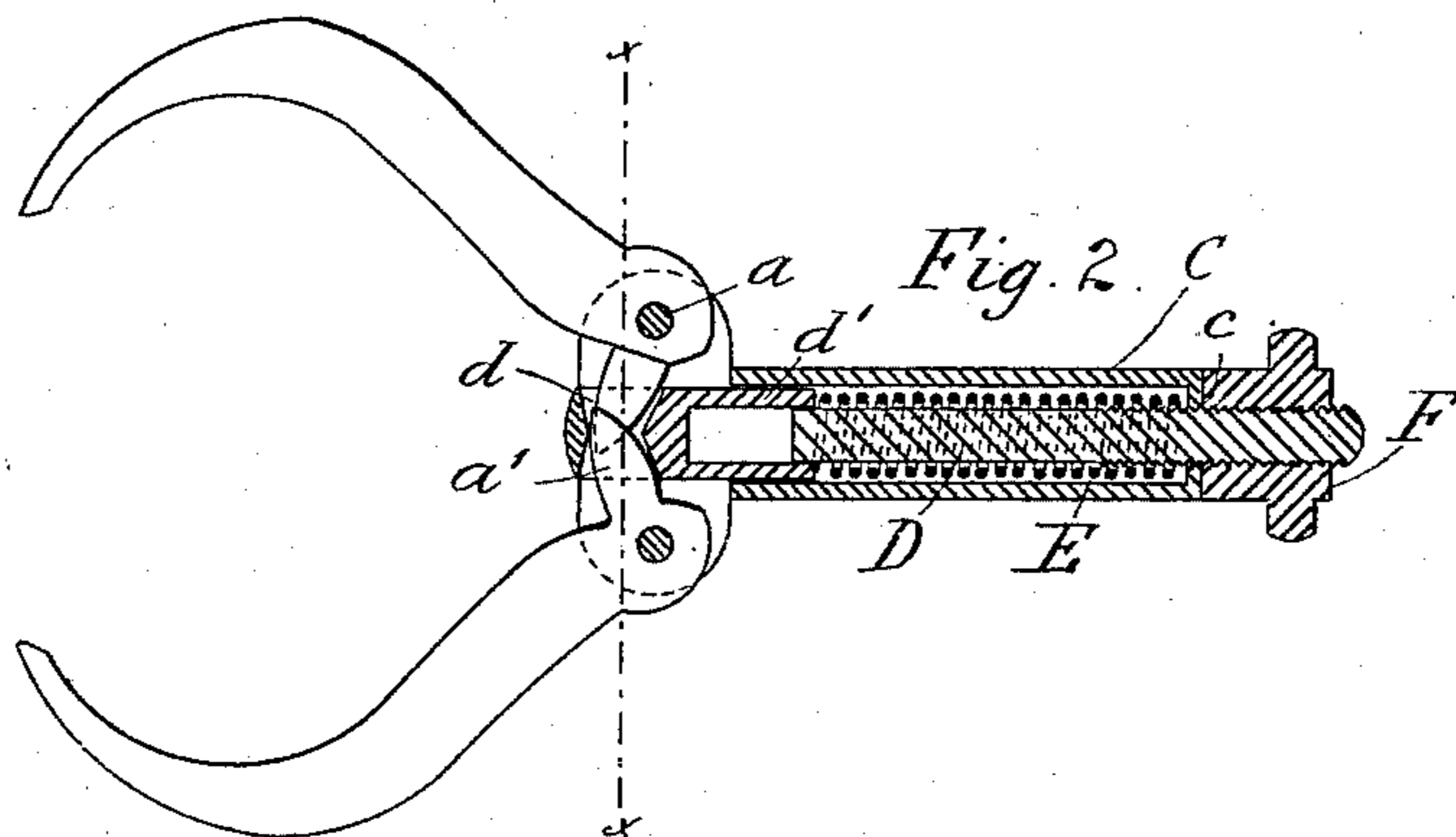
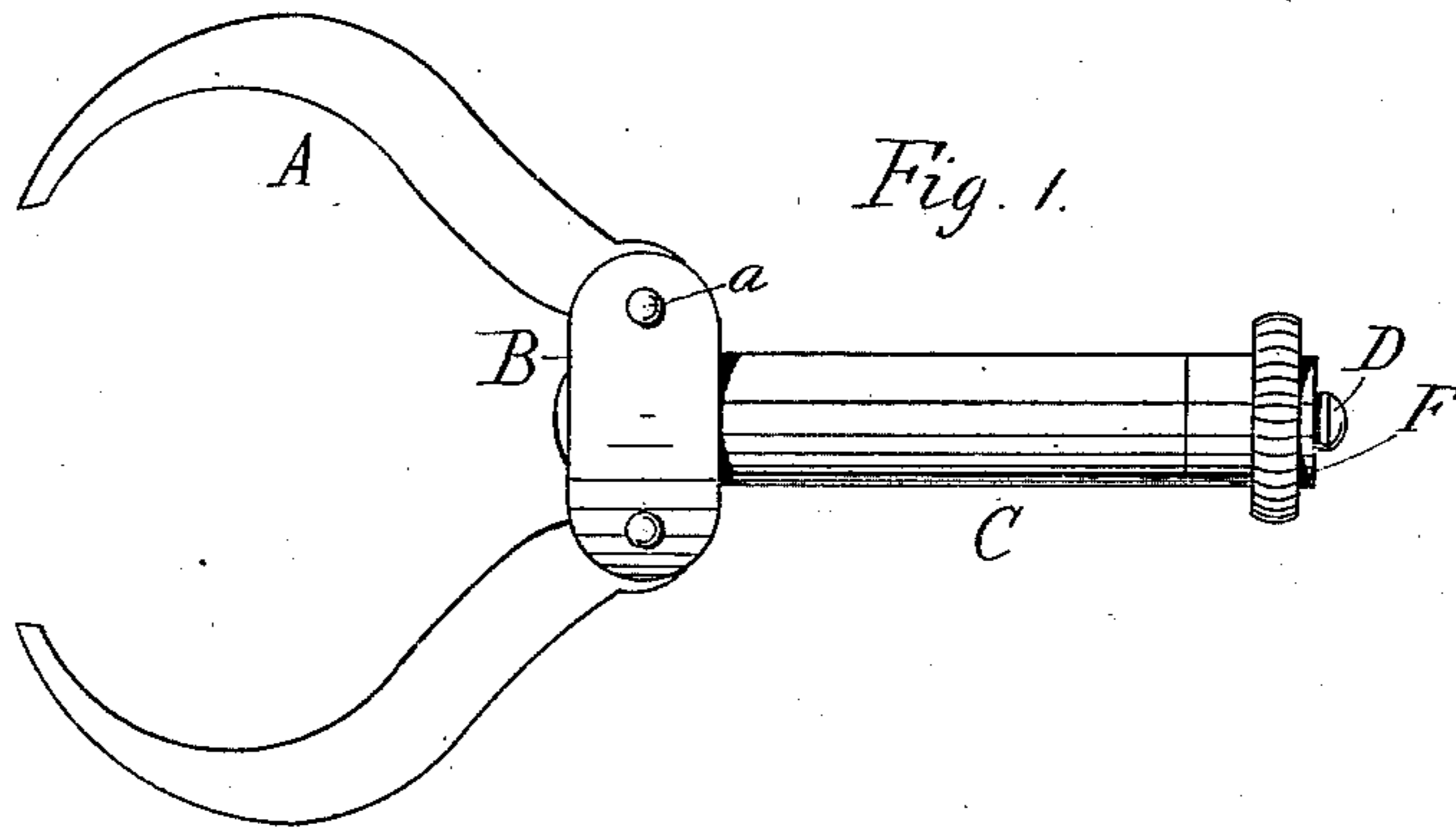
(No Model.)

R. CRITTENDEN & R. G. HENRY.

CALIPERS.

No. 278,225.

Patented May 22, 1883.



WITNESSES:

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RALPH CRITTENDEN, OF HARTFORD, AND ROBERT G. HENRY, OF WATERBURY, CONNECTICUT.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 278,225, dated May 22, 1883.

Application filed March 22, 1883. (No model.)

To all whom it may concern:

Be it known that we, RALPH CRITTENDEN, of Hartford, in the county of Hartford and State of Connecticut, and ROBERT G. HENRY, of Waterbury, in the county of New Haven and State of Connecticut, have jointly invented certain new and useful Improvements in Calipers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates especially to that class of calipers employed in fine work, and has for its object the production of a device which may be quickly and accurately adjusted, and of such shape and construction as to be carried in the pocket with ease and safety.

To this end our invention consists, essentially, in bows of the usual shape pivoted in a slotted head upon a suitable shank. The bows are each provided with a short arm extending downward within the slotted head through a sliding shaft, which is operated by means of a nut at the extremity of the shank opposite to the slotted head. A slot is formed in the sliding shaft or bar, wherein is fitted a gib, held in place against the short arms by means of a spiral spring, said spring taking up all the back-slack as the arms are opened.

In the drawings, Figure 1 is a view in side elevation of our improved calipers, and Fig. 2 is a vertical longitudinal section. Fig. 3 is an enlarged cross-sectional view at line *x x* of Fig. 2.

Like letters of reference, wherever they occur, indicate corresponding parts in all the figures.

A are the bows of the calipers, pivoted upon a rivet, *a*, passing through the slotted head B of shank C. A short arm, *a'*, having rounded or curved edges extends from each bow A, as shown. These arms are about one-half the thickness of the bows and overlap each other.

D is a slotted shaft, passing through shank C. Said shaft is enlarged and provided with a slot at *d*, within which the arms *a'* play. A spiral spring, E, is coiled around shaft D, and finds a bearing at one extremity against a gib, *d'*, which presses against the arms *a'*. The other extremity of the spring bears against a shoulder, *e*, upon the interior of shank C. Shaft

D is screw-threaded at *d*², and a thumb-nut, F, engages therewith.

In setting the instrument to any desired width between the points of the bows, the nut is turned to the right or left, as desired. By turning it to the left the shaft is advanced, and as the arms upon the bows bear against the front of the slot in said shaft and are pushed forward by the spring-actuated gib, the bows open gradually, all back-slack being taken up by the spring as the shaft advances.

If desired, a gage may be affixed to the calipers in order to facilitate setting to any predetermined width.

Having now fully described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. In calipers, the bows provided with short arms projecting into the slotted head of a shank wherein said bows are pivoted, the width between the points of the bows being regulated by means of a slotted shaft passing through the hollow shank of the instrument, said shaft having a slot therethrough at one extremity, wherein is located a gib engaging with the short arms of the bows and with a spring, the other extremity of the shaft bearing a screw-thread upon which a thumb-nut plays, substantially as shown and described.

2. In calipers of the character herein specified, the combination, with the short arms of the bows, of the gib in the slotted shaft, and a spiral spring coiled around said shaft, substantially as and for the uses and purposes shown and described.

3. In an instrument of the character herein specified, bows A, having short arms *a'*, hollow shank C, bearing slotted head B, slotted shaft D, gib *d'*, spring E, and thumb-nut F, the whole combined and arranged to operate substantially as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands, each in the presence of two witnesses.

RALPH CRITTENDEN.
ROBERT G. HENRY.

Witnesses:

STEPHEN TERRY,
SAMUEL O. PRENTISS,
WILLIAM A. HOLLMAN,
CHAS. G. ROOT.