

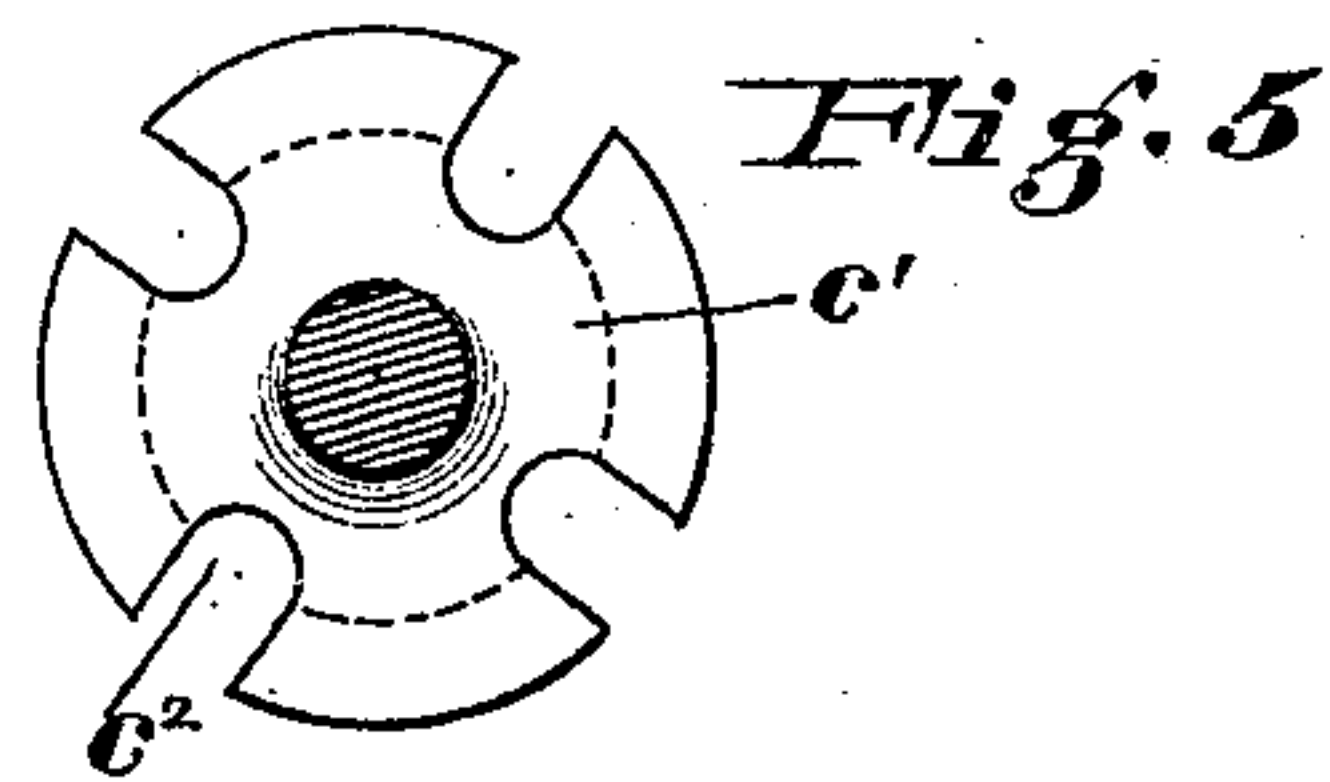
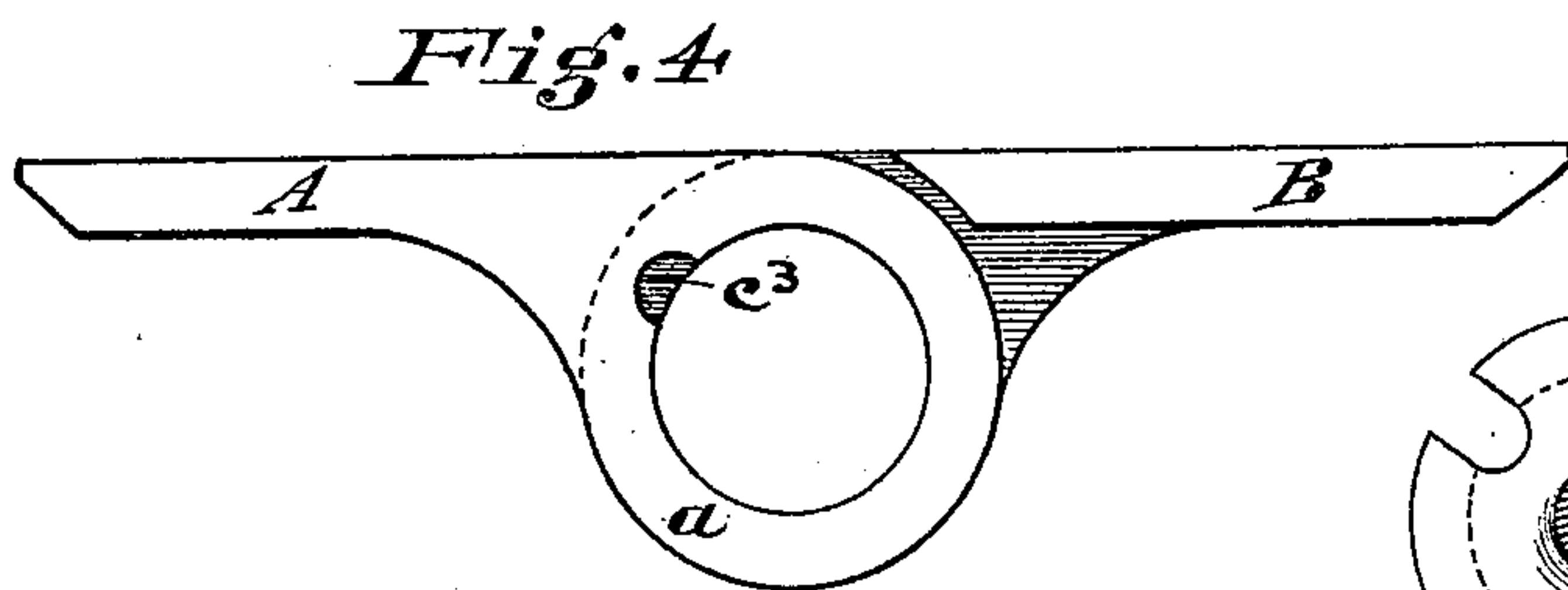
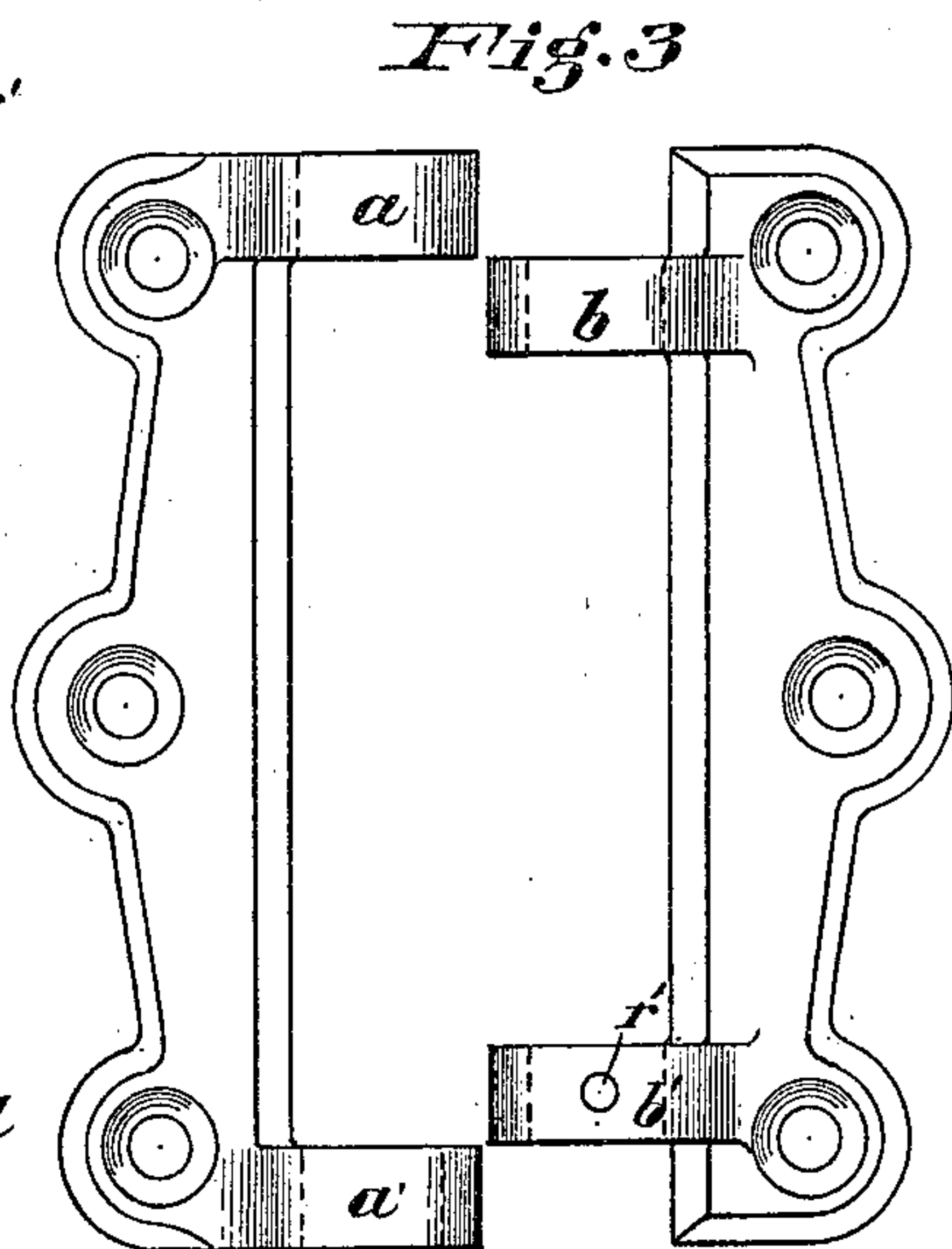
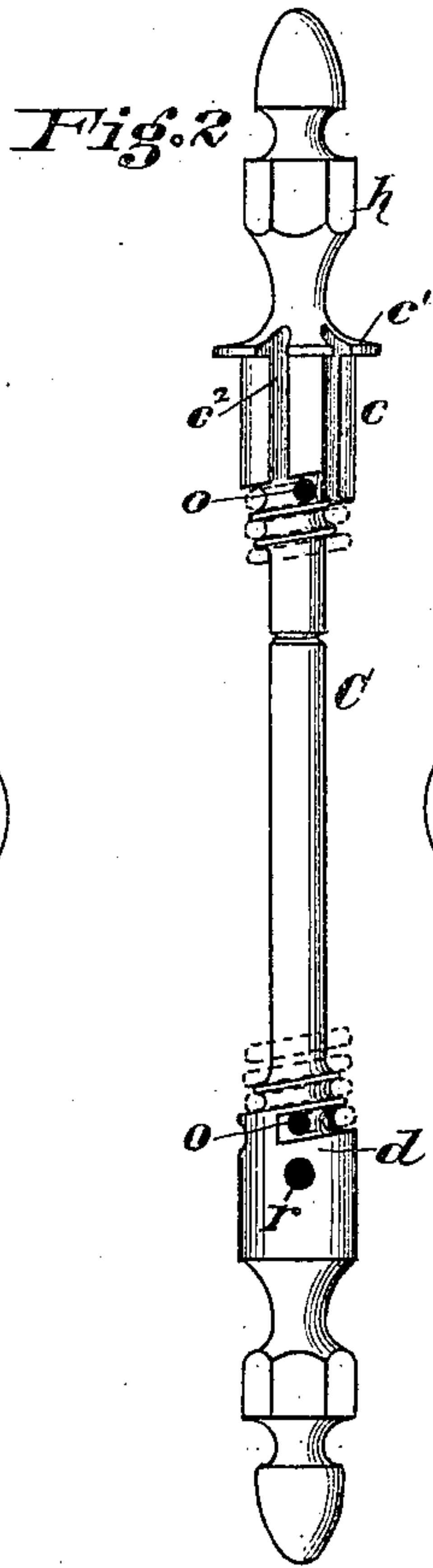
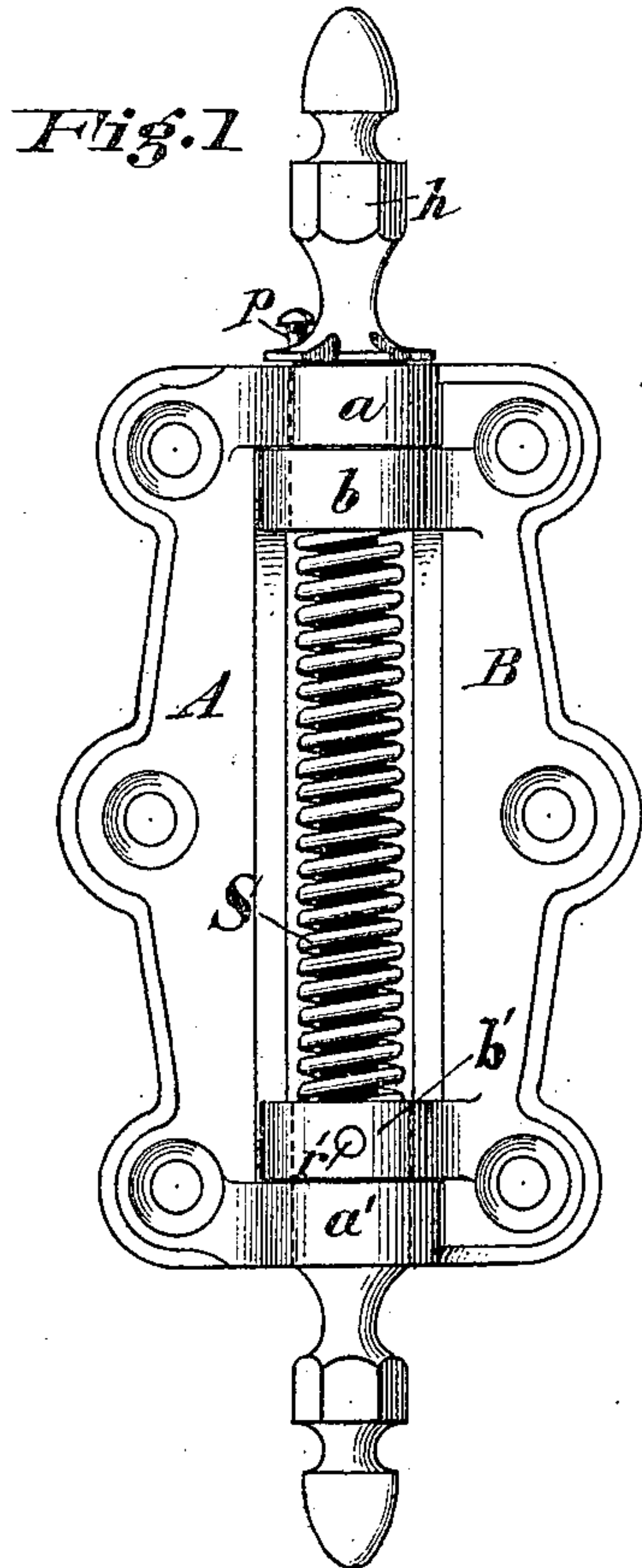
(Model.)

J. H. BARKER.

SPRING HINGE.

No. 246,708.

Patented Sept. 6, 1881.



Attest  
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# UNITED STATES PATENT OFFICE.

JOSEPH H. BARKER, OF CINCINNATI, OHIO.

## SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 246,708, dated September 6, 1881.

Application filed December 20, 1880. (Model.)

*To whom it may concern:*

Be it known that I, JOSEPH H. BARKER, a citizen of the United States, residing at Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Spring-Hinges, of which the following is a specification.

This invention relates to improvements in the construction of that class of hinges which are composed of two leaves, having projecting loops or bearings connected by a pintle divided horizontally into two sections, to which are respectively attached the ends of a coiled spring.

The object of my invention is to construct such hinges with simple and inexpensive devices, by which the tension of the spring can be conveniently adjusted without disconnecting the parts of the hinge.

The improvements will be fully hereinafter described, and specifically pointed out in the claim.

My invention is embodied in mechanism, illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my invention. Fig. 2 is a detached view of the divided pintle. Fig. 3 is a detached view of the members of the hinge separated. Fig. 4 is an upper-end view of the members together; and Fig. 5 is an end view of the upper head, showing the pin-recesses.

Similar letters of reference in the specification and drawings indicate similar parts.

In the drawings, A and B designate the right and left members respectively of the hinge, which are preferably constructed, as shown, in the form of skeleton-plates, provided with screw-holes for their proper attachment to the door and jamb, and with loops or bearings  $a$   $b$   $a'$   $b'$  for the pintle.

The pintle C is divided across its length in two parts—the upper part,  $c$ , and the lower part,  $d$ —which are preferably formed to fit one into the other at the dividing-line, as shown. Both parts are formed with enlarged cylindrical heads, which fit snugly in the seats  $a$   $b$   $a'$   $b'$ , but allow the members A and B to turn thereon; but below the heads the divided parts are extended in corresponding sections of smaller diameter, the difference being equal to or greater than the diameter of the wire used for

the spring. The upper head,  $c$ , of the pintle is also provided with a projecting flange,  $c'$ , formed as part thereof, provided with marginal recesses,  $c^2$ , which are extended downward along the cylindrical head  $c$ , thus forming a seat for a retaining-pin, in connection with a recess,  $c^3$ , in the bearing, as hereinafter more fully described. The lower edge of the head  $c$  and the corresponding upper edge of the head  $d$  are each preferably formed as a spiral incline of one revolution, at the bottom of which, in the offset, is a hole,  $o$ , in the pintle for the reception of the turned-over end of the spring-coil S. In the process of making, the wire is first turned over at one end, riveted in the lower one of the holes  $o$ , and then coiled upon the pintle as a mandrel until the head  $c$  is reached, when the wire is cut off, the end turned over and riveted securely in the remaining hole  $o$  of the divided pintle. The lower head,  $d$ , is also provided with one or more radial recesses,  $r$ , as shown, forming a socket for a retaining-rivet or set-screw,  $r'$ , inserted through the pintle-loop  $b'$ , when the parts are in position, for the purpose of holding the pintle and spring rigidly to the member B of the hinge. The upper head,  $c$ , of the divided pintle and the upper end of the spring are held to the member A by a removable pin,  $p$ , inserted in the recesses  $c^2$  of the upper head, and engaging also a corresponding recess in the inner surface of the pintle-loop  $a$ . Above the bearings the pintle is extended into a squared head,  $h$ , for the application of a wrench in setting the spring or adjusting its tension.

In putting the parts together, the members A and B being placed properly in contact, the spring-pintle is inserted from above through the openings in the bearing-loops  $a$   $b$   $a'$   $b'$  and secured by a set-screw,  $r'$ , passing through the loop  $b'$  into the recess  $r$  of the pintle-head  $d$ , thus holding all parts together. A wrench is then applied to the head  $h$ , and the pintle turned until the spring has the desired degree of tension, and the retaining-pin  $p$  inserted in one of the recesses  $c^2$  of the pintle-head  $c$  and the corresponding enlargement  $c^3$  of the bearing-aperture, and the parts thus secured at that point. The pin  $p$  being removable, the tension may be at any time changed with facility to suit the conditions of use without removing



the hinge from the door. The spring may also be left out of tension and the hinge used as in ordinary cases.

5 The leaves of the hinge may be cast in shape complete. The pintle may also be formed by casting, and requires no further manipulation, except to spin the wire coil and attach the same. By forming the leaves as skeleton-plates, with the pintle-loops projecting in-  
10 wardly over a common opening, all waste of material is avoided.

A hinge has heretofore been constructed of two leaves, having projecting loops or bearings connected by a pintle, which is divided  
15 horizontally into two sections, to which are respectively attached the ends of a coiled spring, the upper pintle-section adapted to rotate and engage a notch in one of the bearings of the leaves, in order to adjust the tension of the  
20 spring. A spring-hinge has also been provided with a head having lateral apertures, to which are adapted a removable pin for the purpose of adjusting the tension of the coiled spring; but the above-mentioned constructions  
25 of hinges do not constitute my invention and are not claimed by me.

Having described my invention, I claim and desire to secure by Letters Patent—

In a spring-hinge composed of two leaves, A B, connected by a pintle, C, divided horizon- 30 tally into two sections, to which are respectively attached the opposite ends of the coiled spring, the leaf A, having the loop or bearing  $a$ , constructed with a vertical recess,  $c^3$ , the cylindrical head  $c$  of the upper pintle-section, 35 constructed with the vertical recesses  $c^2$ , and the lateral flanges  $c'$ , having marginal recesses coinciding with the vertical recesses in the said head, and the detachable pin  $p$ , arranged to pass downward within the vertical recesses  $c^3$  40 and  $c^2$ , the whole being constructed, arranged, and combined as herein shown and described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOS. H. BARKER.

Witnesses:

L. M. HOSEA,

C. P. DOOLITTLE.