

No. 781,277.

PATENTED JAN. 31, 1905.

C. W. FAHEY.
TOOTH CROWN HOLDER.
APPLICATION FILED OCT. 17, 1904.

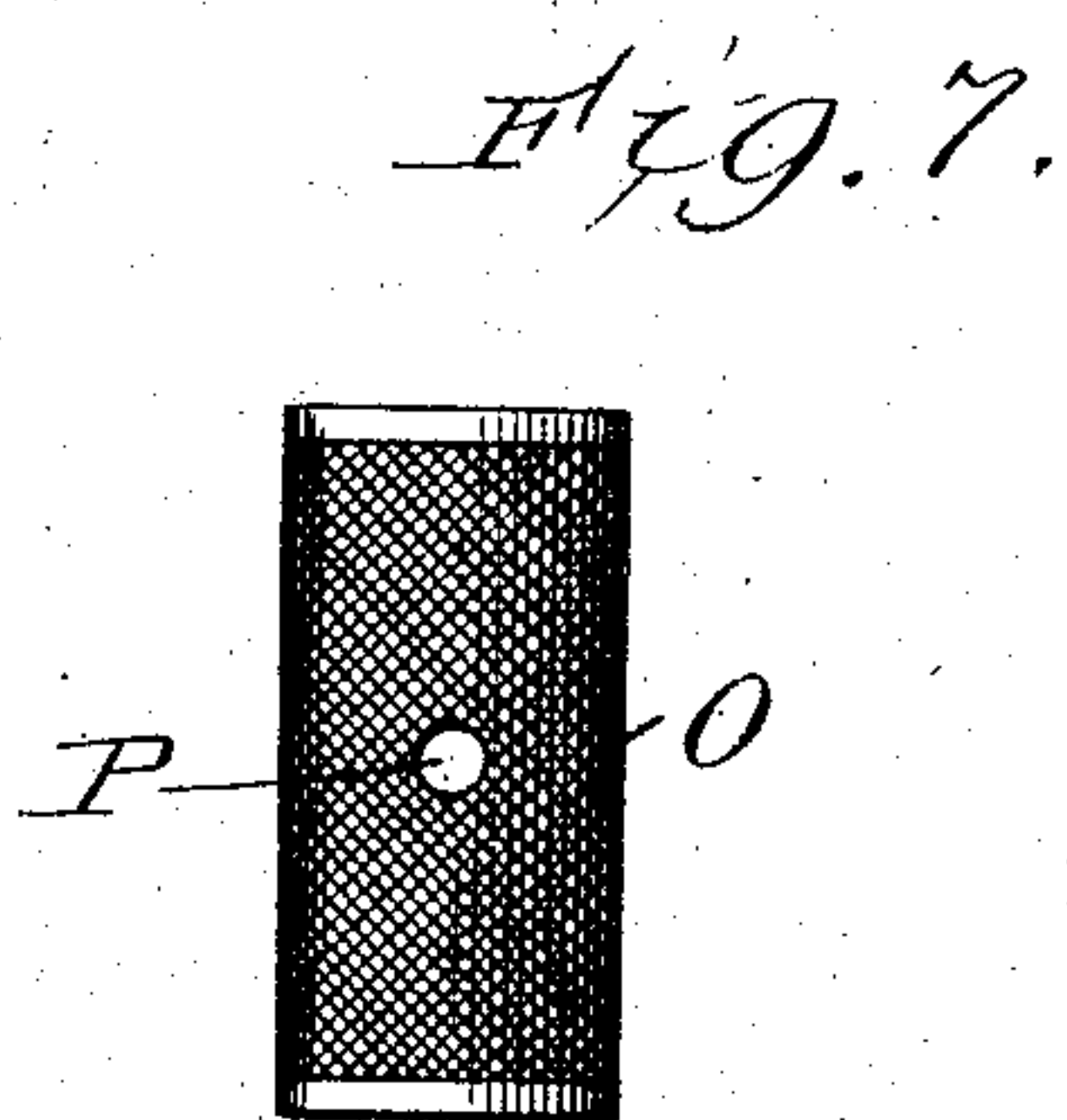
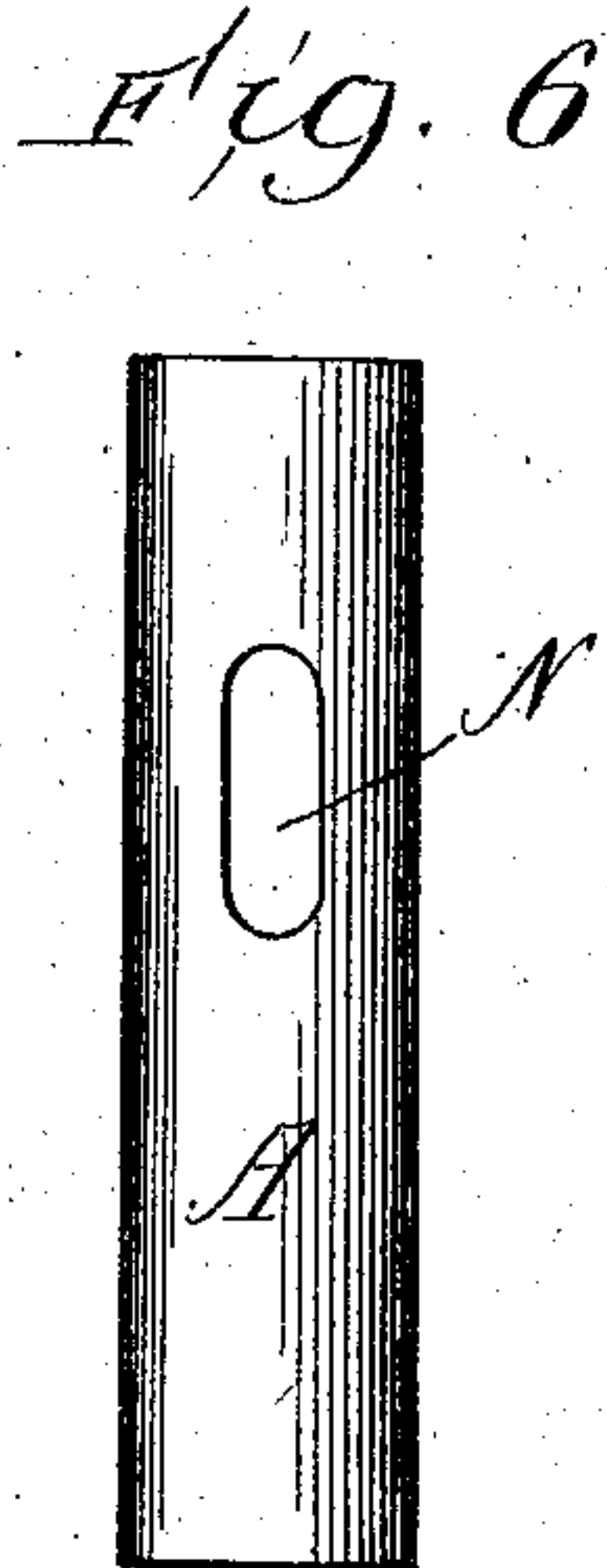
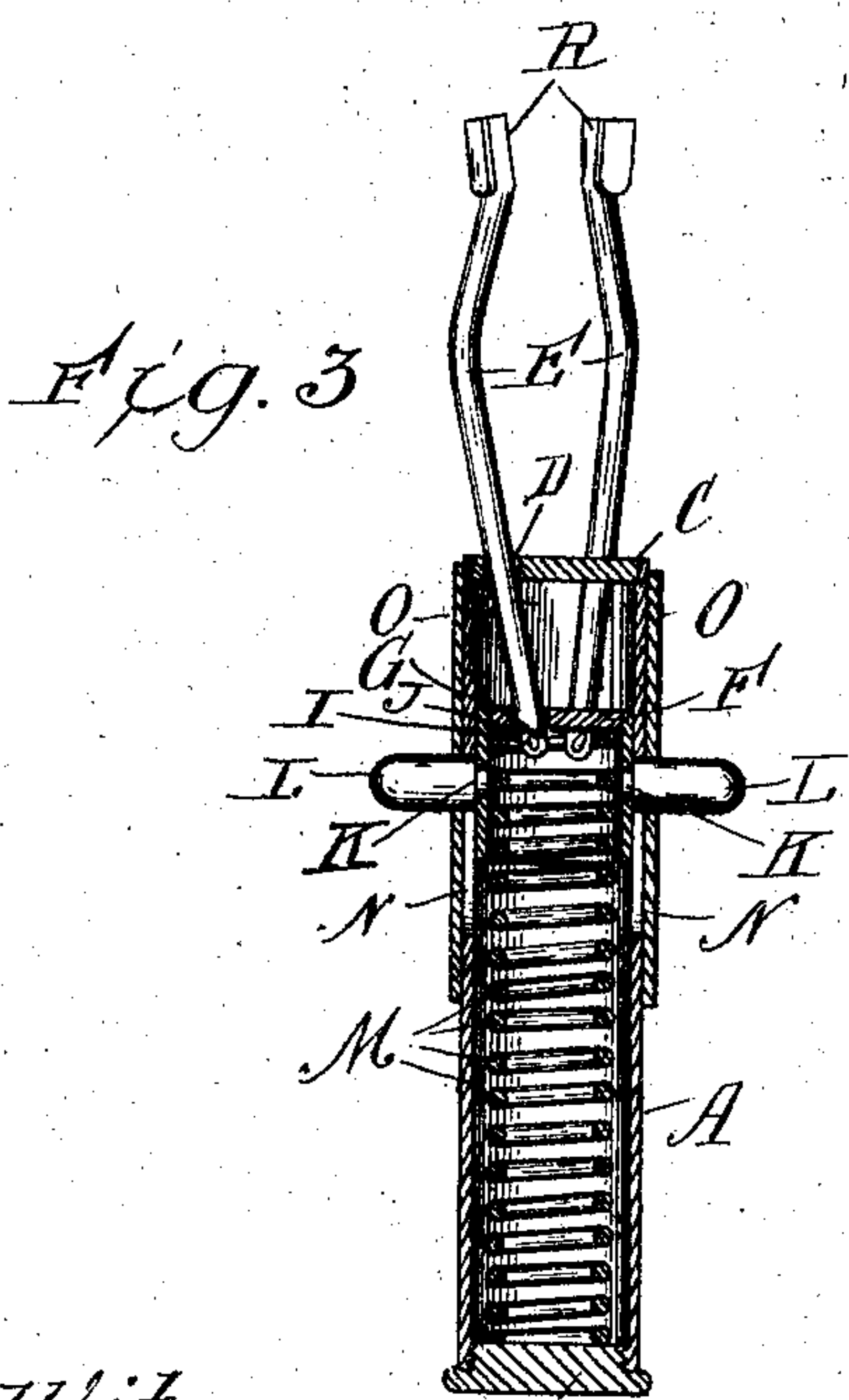
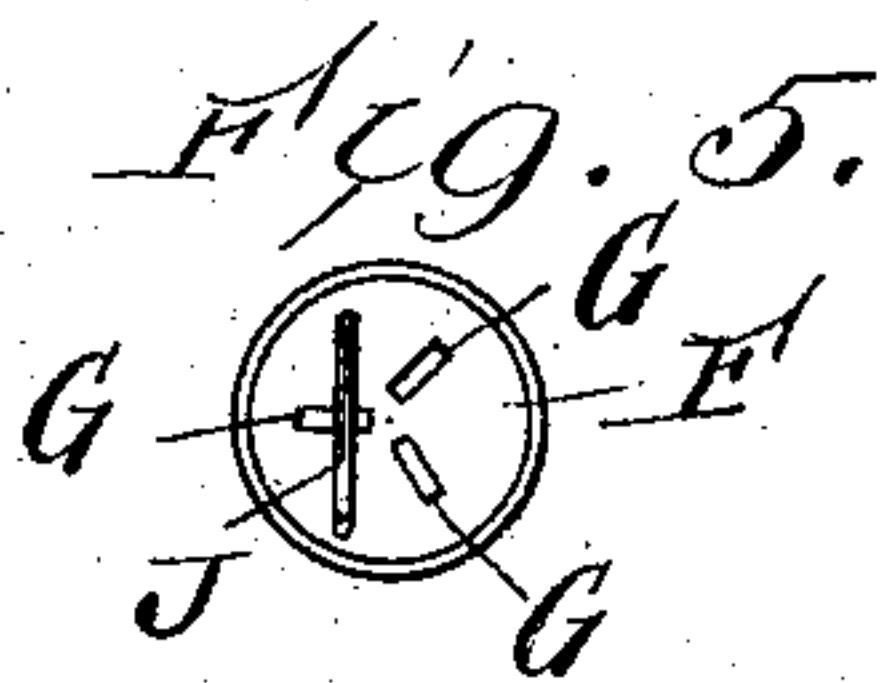
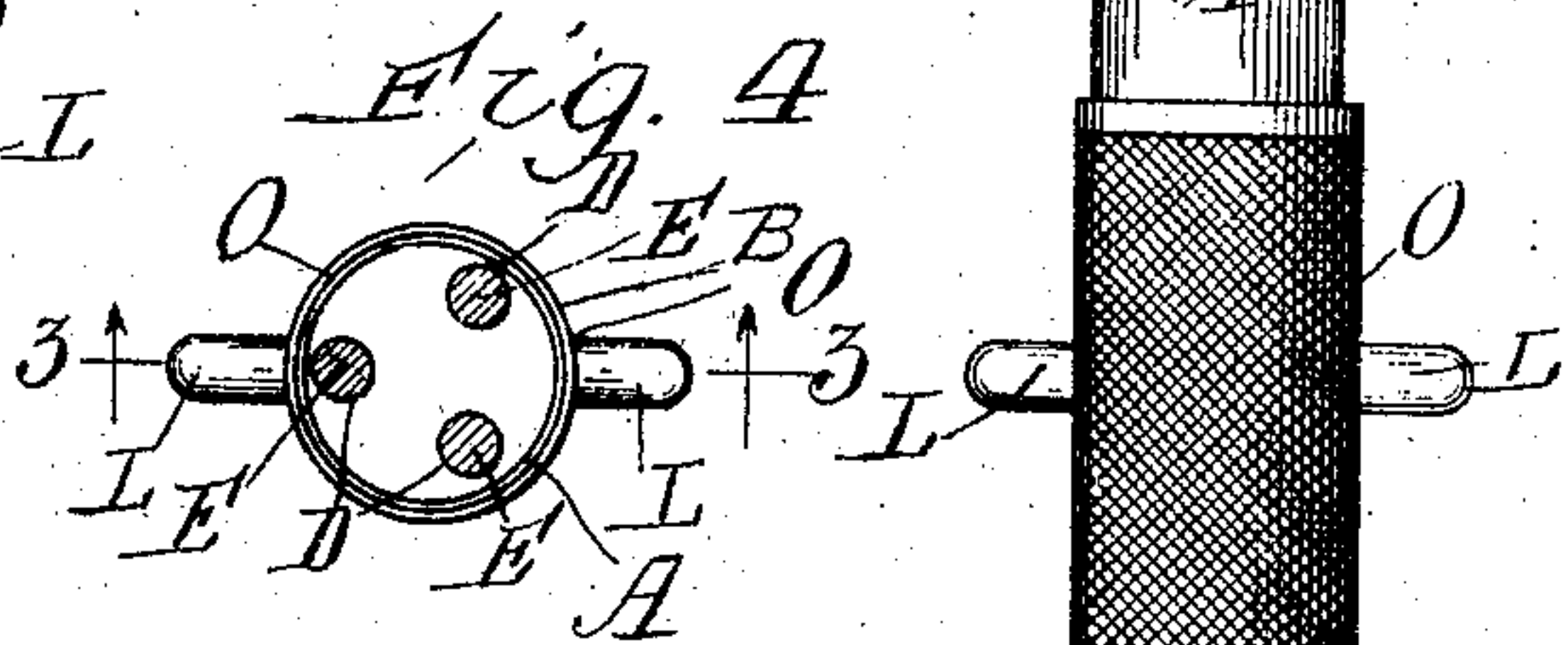
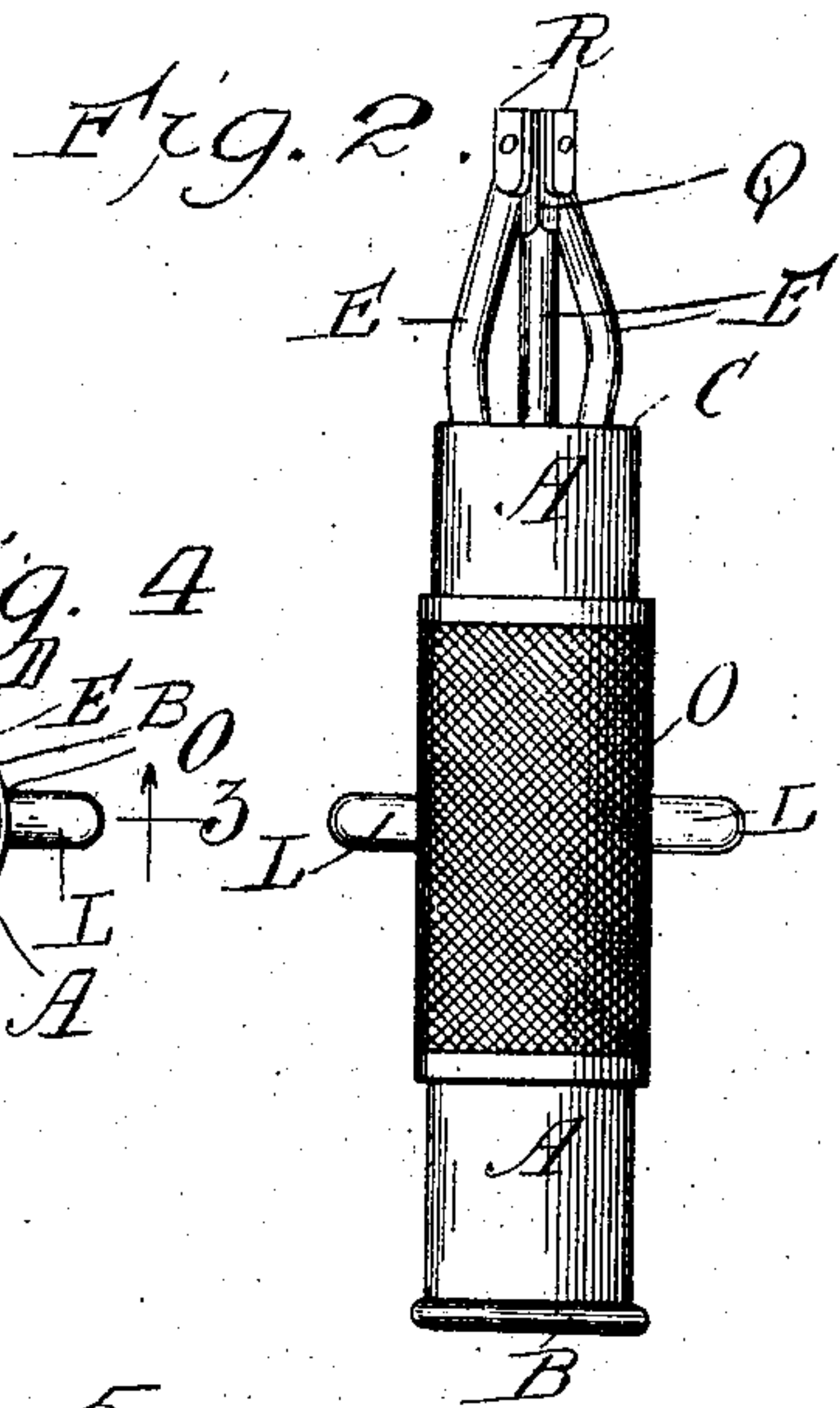
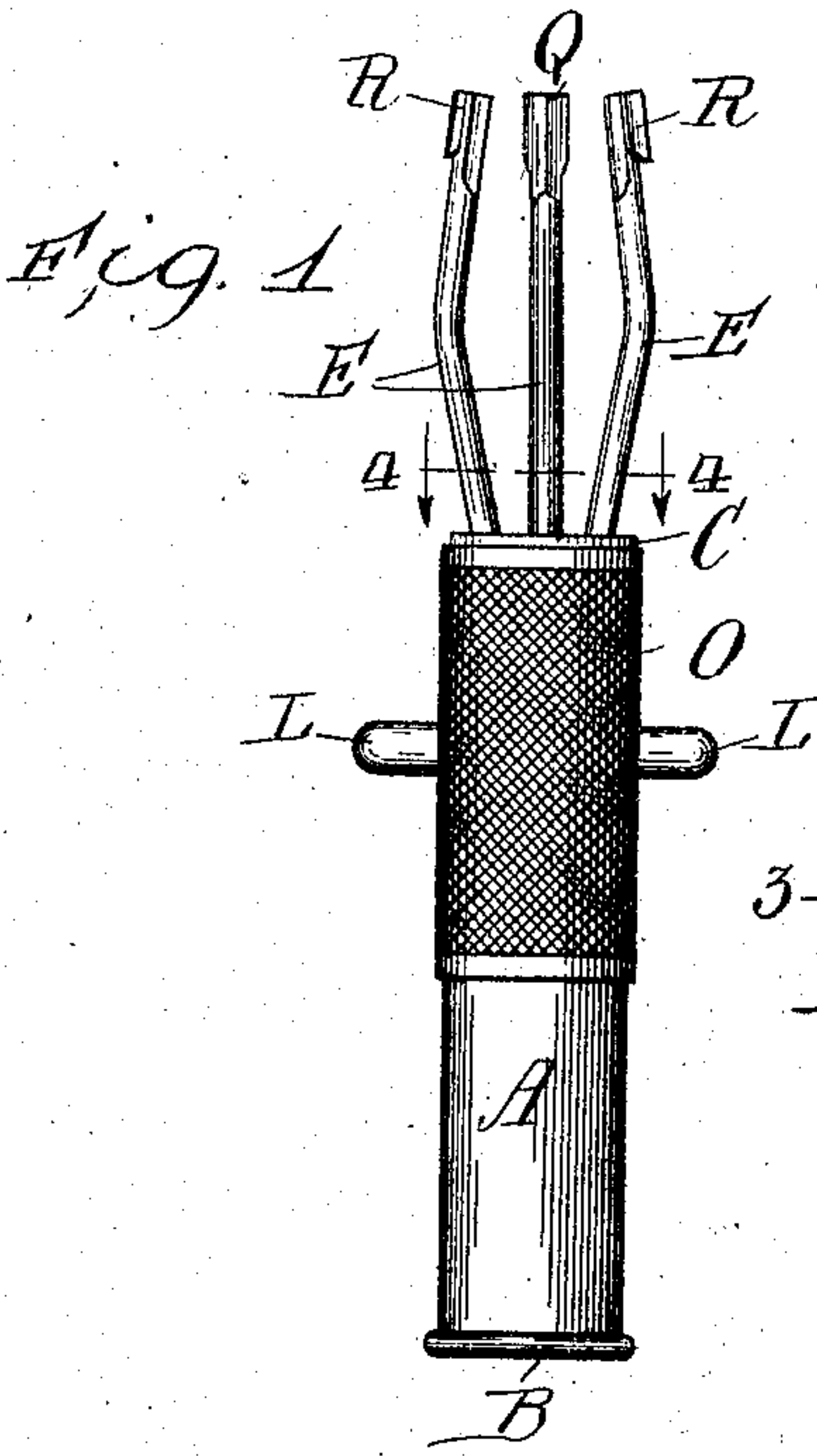
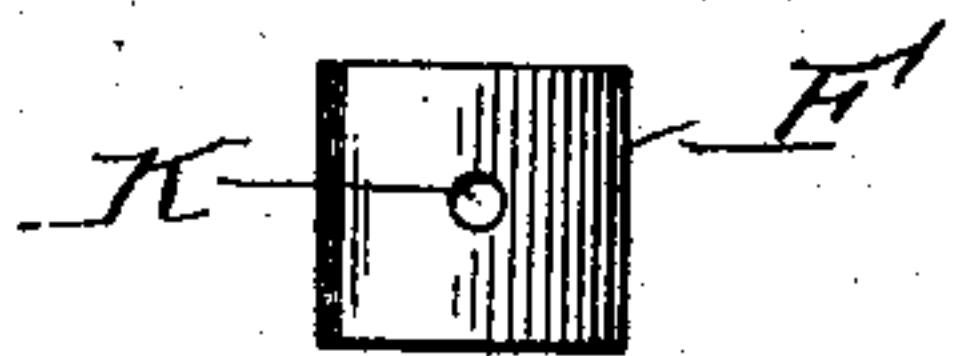


Fig. 8



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES W. FAHEY, OF CHICAGO, ILLINOIS.

TOOTH-CROWN HOLDER.

SPECIFICATION forming part of Letters Patent No. 781,277, dated January 31, 1905.

Application filed October 17, 1904. Serial No. 228,794.

To all whom it may concern:

Be it known that I, CHARLES W. FAHEY, a citizen of the United States, residing at No. 880 Clifton Park avenue, in the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tooth-Crown Holders, of which the following is a specification.

The object of my invention is to provide a crown-holding chuck having a plurality of jaws which automatically adjust themselves to the various sizes and irregular shapes of the crowns to be held and in which one of the jaws may be instantly removed and replaced for the better adaptation of the chuck to the character of the crown to be held. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the chuck complete, showing the jaws fully extended by the pressure of the spring. Fig. 2 is an elevation of the chuck complete, showing the jaws closed and spring compressed. Fig. 3 is a central sectional view through the line 3 3, Fig. 4, showing the notch in the end of the slip-jaw and its engagement by the small spring. Fig. 4 is a cross-sectional view through the line 4 4, Fig. 1, showing the face-plate, the holes therein, and the jaws. Fig. 5 is an interior plan view of a sliding head with which the jaws are pivotally connected, showing the holes therein and the small spring by which the slip-jaw is engaged. Fig. 6 is an elevation of the case of the chuck, showing the oblong holes in the sides through which the finger-pins project and in which they are moved. Fig. 7 is an elevation of a sliding cover through which the finger-pins project and by which it is moved longitudinally on the case. Fig. 8 is an elevation of a sliding head in which the finger-pins are secured and by which it is moved longitudinally in the case and by which the jaws are operated.

The case A may be of any suitable material, shape, diameter, or length. One end is closed by a removable cap B. The other end is formed as a face-plate C. This face-plate is pierced by three holes D, as shown in Fig. 4. Three jaws E extend through these holes into the case A. These holes form the bearings for

these jaws, through which they are free to slide as they are opened and closed. Inclosed in the case A is a sliding head F, which is pierced by three holes G. These holes are oblong and correspond in position with the holes D in the face-plate, except that the radius is less than that of the holes D. Into these holes G the ends of the jaws are loosely fitted, the end of each jaw being shouldered to abut against the head F. Two of the jaws are loosely secured to the head by the pins H, which are affixed in the jaws. The end of the third jaw is notched, as shown at I, and is so shaped as to be slipped into the hole in the head and into engagement with the spring J, which is secured to the head and adjusts itself in the notch, the notch being so shaped that the jaw may be slipped out with ease. While the jaw is engaged by said spring, the pivotal connection thus made holds this jaw securely while in use.

In the head F at opposite sides are holes K, adapted to hold the finger-pins L. Inclosed in the case A is a coiled spring M, one end of which rests on the cap B, and the other end fits in the head E, the internal diameter of the spring being large enough to allow the free play of the ends of the jaws E and spring J. In the sides of the case A are oblong holes N, through which the finger-pins project and in which they are free to be moved. Over the case and covering these oblong holes is a sliding cover O, having holes P through which the finger-pins extend. The movement of the several parts, actuated by the pressure of the fingers on these pins and the reverse pressure of the coiled spring, is limited by the length of the oblong holes N in the case A.

As it is clearly evident that by using a closed coiled spring in place of the open spring M, and thus reversing the spring-pressure, the jaws can be automatically closed and the tool be thereby made useful for other purposes, I therefore reserve the right to so reverse the pressure on said jaws.

When the chuck is constructed as described and shown, it is operated as follows: It is grasped in either hand, with the cap B in the hollow of the hand and a finger over each pin. By closing the hand and fingers the pins are drawn toward the cap B, the head F compress-

ing the spring M and drawing the jaws through the holes D in the face-plate C. This movement brings the gripping ends of the jaws together ready for insertion into the crown to be held.

5 When so inserted, the hand is opened. The spring-pressure thereby released forces the jaws forward and outward till the extending movement presses the gripping ends firmly against the interior of the crown placed
10 thereon.

The essential features of my invention are, first, the relative radial positions of the pivotal and the bearing points of the jaws, by which a radial movement of the jaws is ob-
15 tained, the extent of which is governed by the relative positions of the face-plate and the sliding head; second, the loose pivotal connections of the jaws with the sliding head by which each jaw is free to rotate slightly in
20 the head and face-plate, thereby permitting the gripping ends to adjust themselves sideways to the irregular forms of the crowns to be held; third, the construction by which one of said jaws can be slipped in and out of said
25 chuck at pleasure, thus permitting the use of two jaws instead of three when the shape or size of the crown requires the change. I reserve the right to increase the number of jaws and to have two or more slip-jaws and to use
30 the mechanical equivalents of the several parts by which the aforesaid essential features are secured.

What I claim, and desire to secure by Letters Patent, is—

35 1. In a chuck of the kind described the combination of an elongated case having a perfo-

rated face-plate, a perforated sliding head inclosed in said case, a set of jaws inserted into said case through said face-plate and said sliding head to which they are attached, and means 40 for moving the sliding head in said case and thereby opening and closing said jaws, substantially as described and for the purposes specified.

2. In a chuck of the kind described, the combination of an elongated case having a perforated face-plate, a perforated sliding head inclosed in said case, a set of jaws inserted into said case through said face-plate and said sliding head to which they are attached, one of 50 said jaws having a notch, and a spring secured in said head, adapted to enter said notch and hold said jaw, and means for moving said sliding head and opening and closing said jaws, as described and for the purposes specified. 55

3. In a chuck of the kind described, the combination of an elongated case having a perforated face-plate, a sliding head inclosed in said case and supporting two finger-pins extending through said case, a set of jaws inserted into 60 said case through said face-plate and sliding head to which they are attached, a spring secured in said sliding head adapted to engage and hold one of said jaws, a coiled spring inclosed in said case and head, and a cover to slide 65 on said case and to engage the finger-pins, substantially as described and for the purposes specified.

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