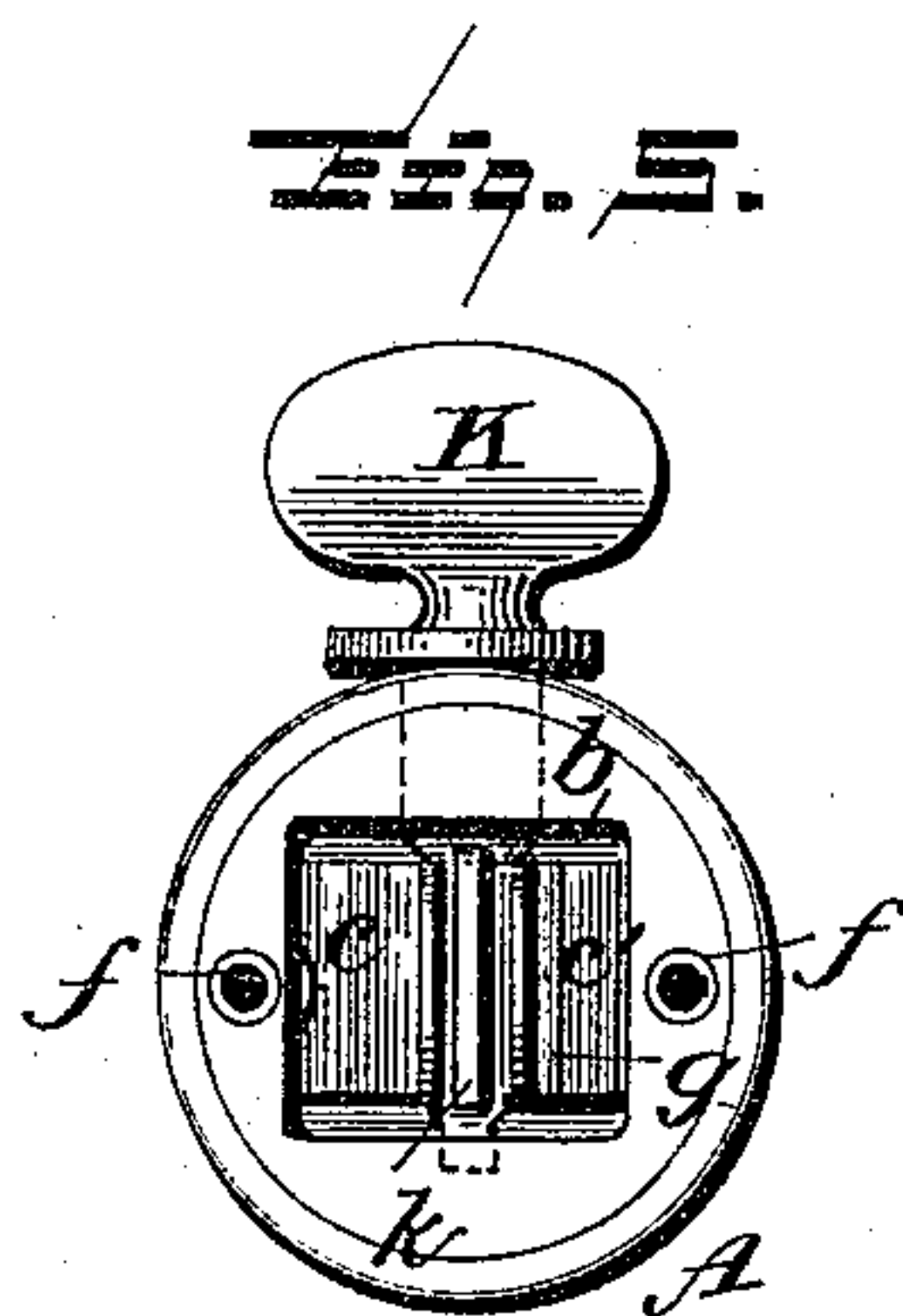
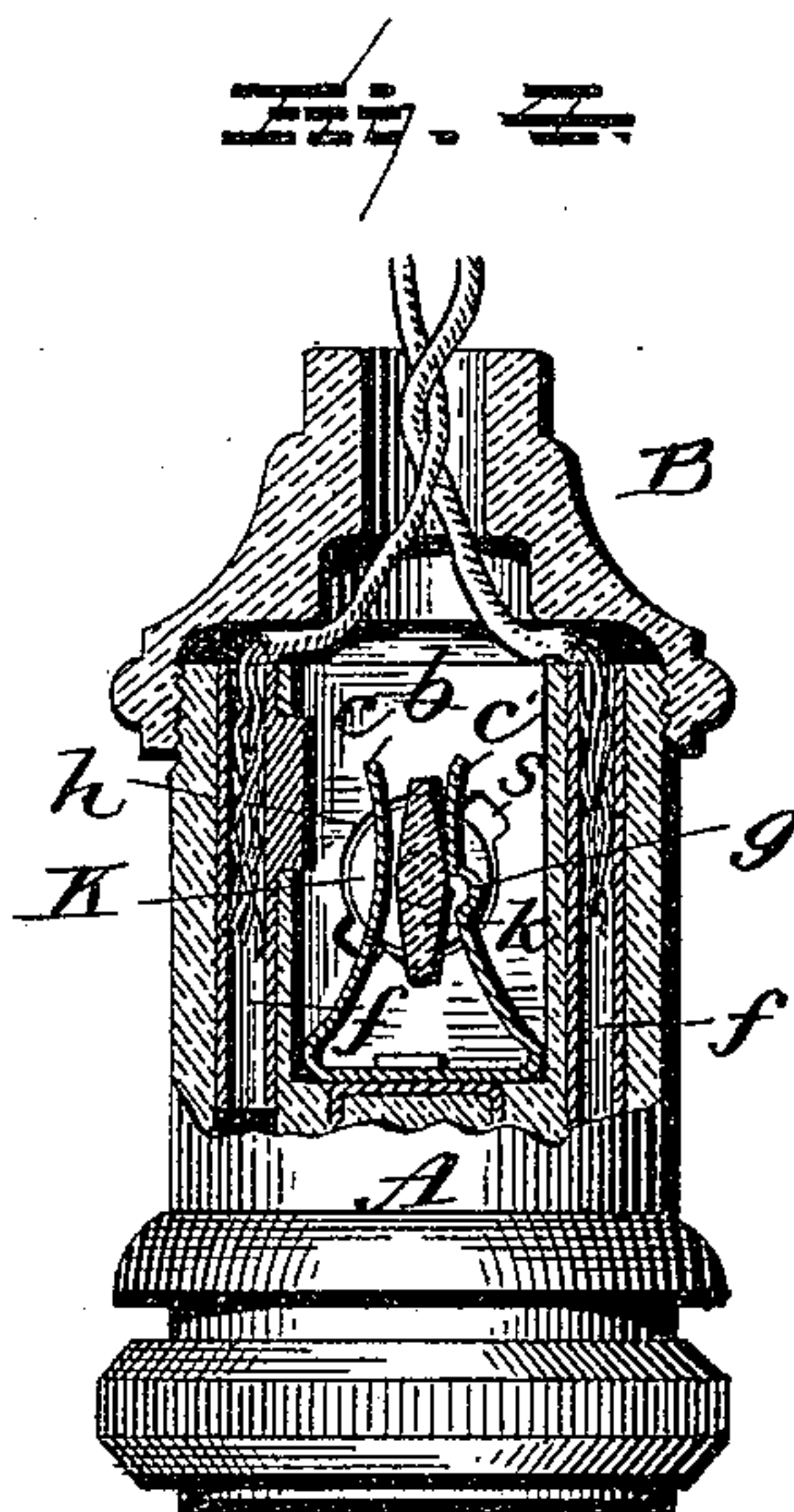
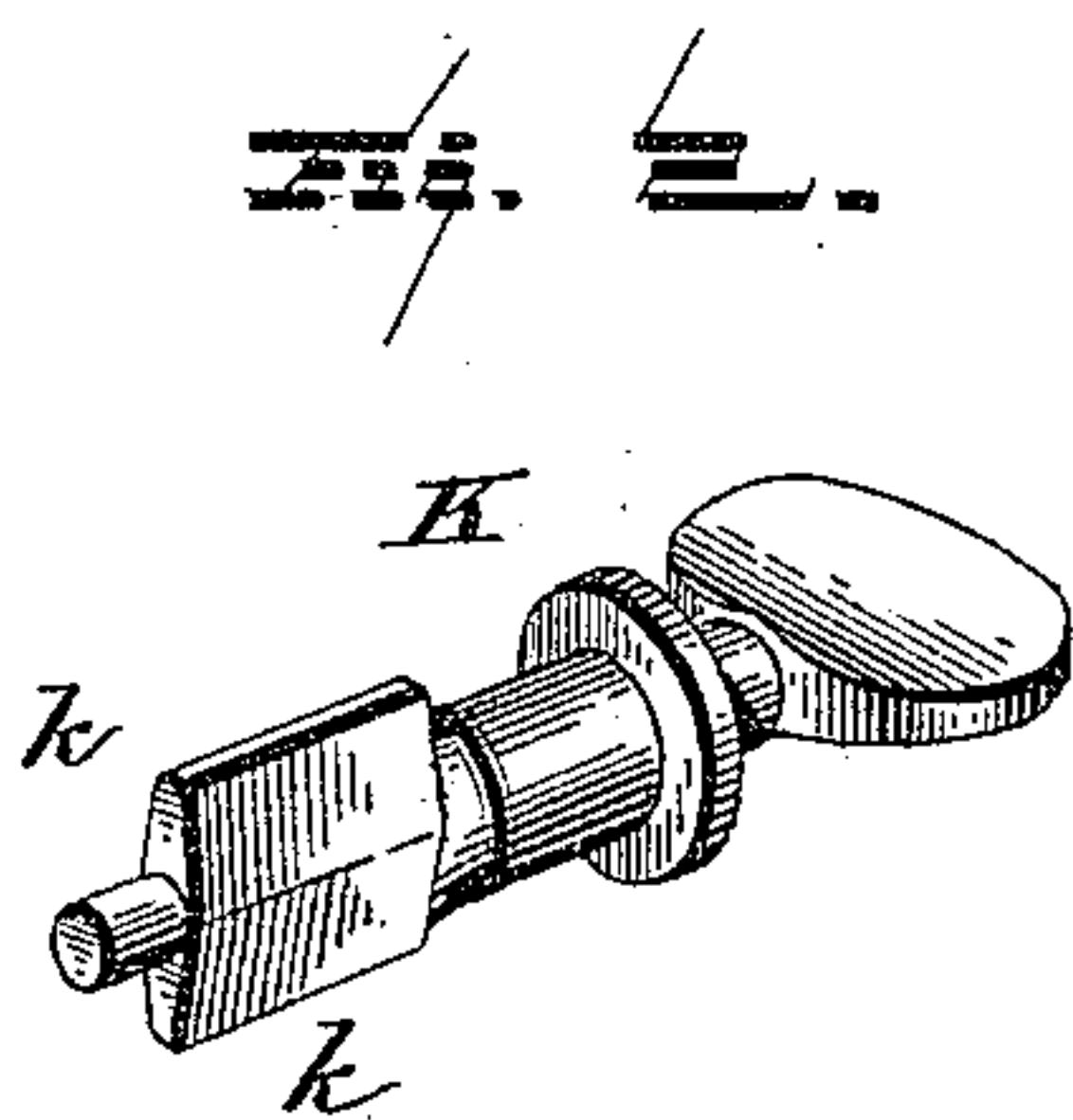
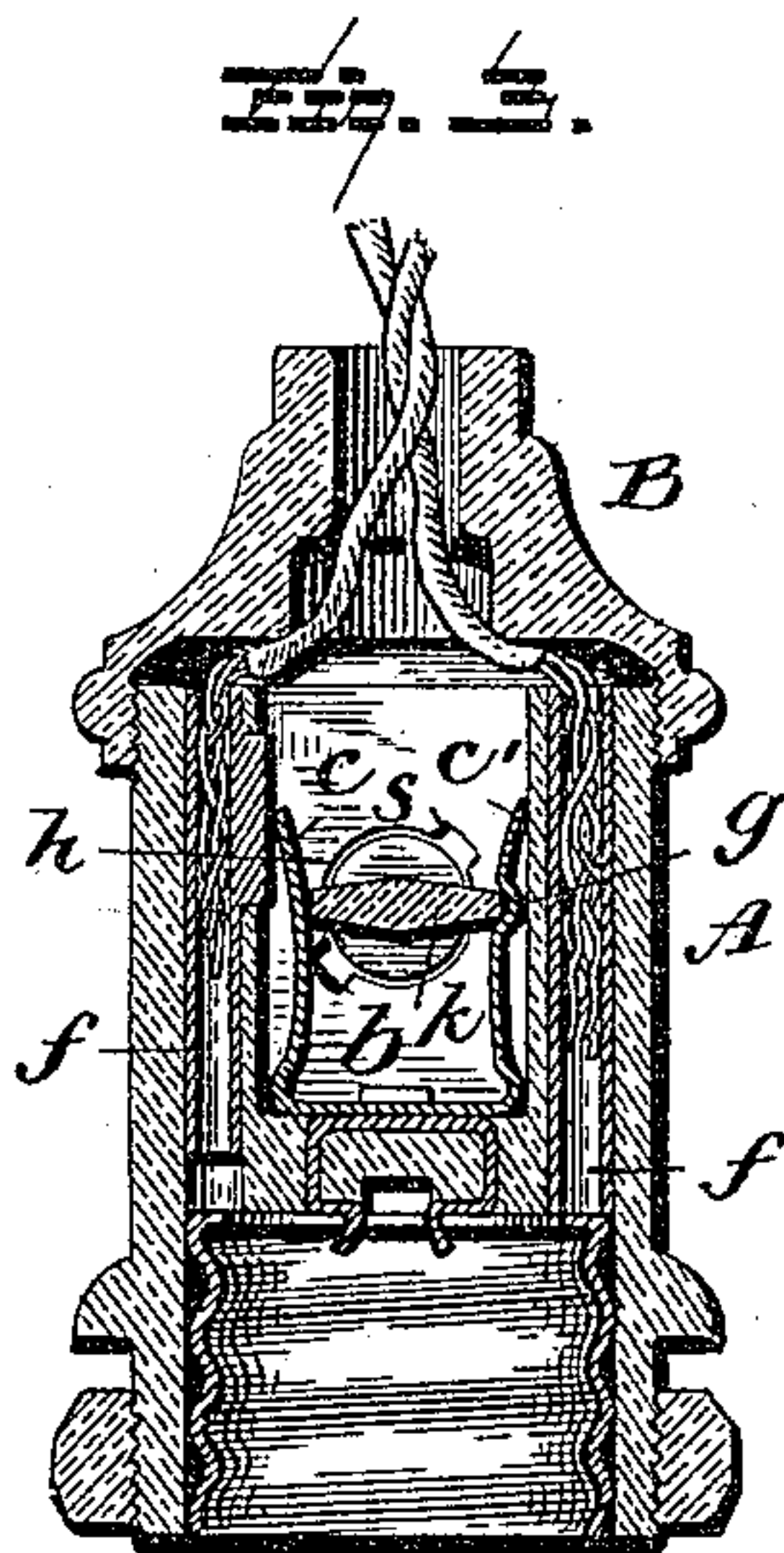
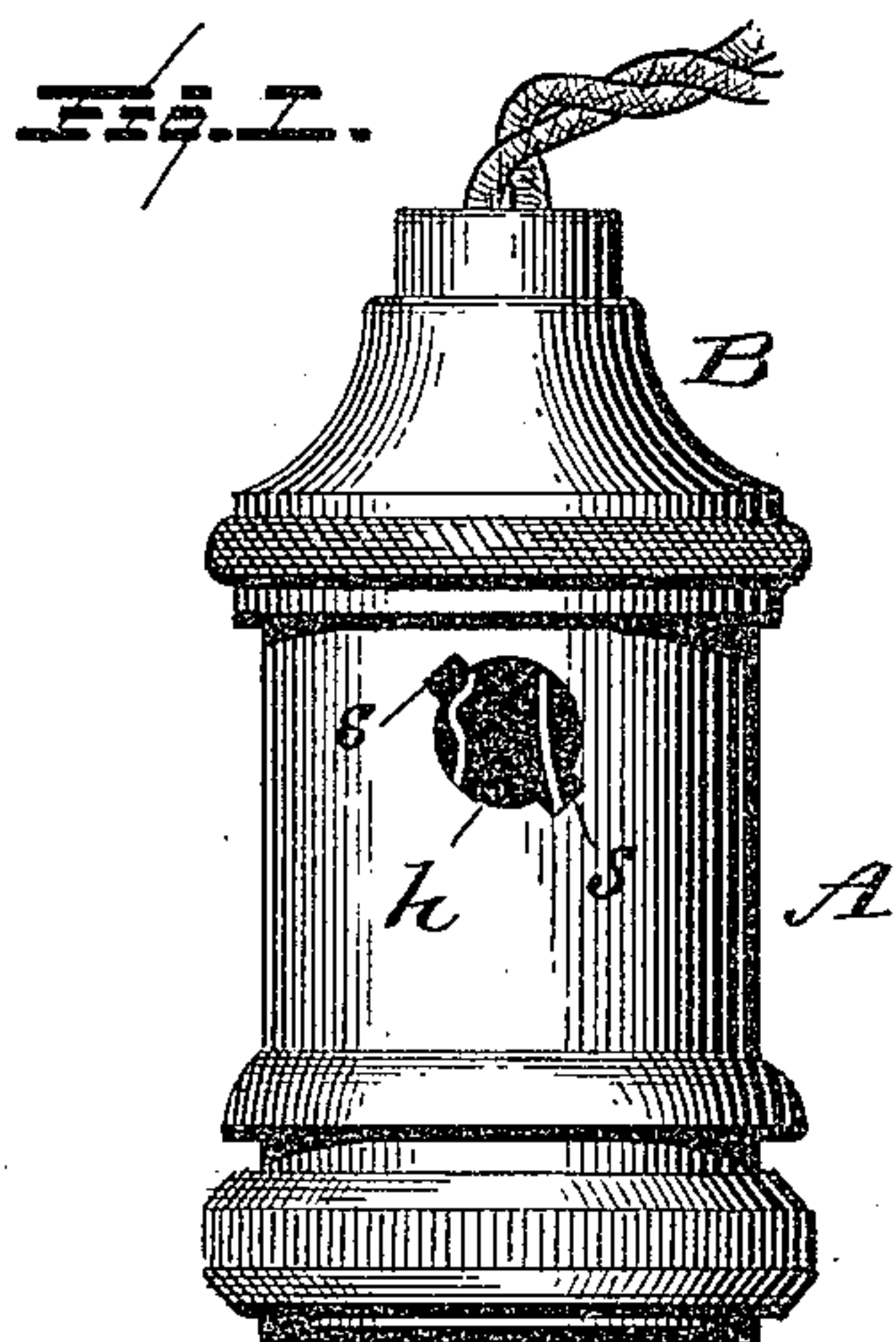


(No Model.)

J. W. COLLIER.
INCANDESCENT ELECTRIC LAMP SOCKET.

No. 438,431.

Patented Oct. 14, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES W. COLLIER, OF NEW YORK, N. Y.

INCANDESCENT-ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 438,431, dated October 14, 1890.

Application filed August 15, 1890. Serial No. 362,089. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. COLLIER, of the city, county, and State of New York, have invented a new and useful Improvement in
5 Sockets or Holders for Incandescent Electric Lamps, of which the following is a specification.

My invention has particular relation to the construction and arrangement of the key and
10 contact-springs of an incandescent lamp socket or holder, the object being to provide a simple and effective means for holding securely the key in the socket, while at the same time making it possible to detach and replace
15 the key readily and quickly. To this end that portion of the key which enters the socket has on it a wing or wings, for the passage of which a suitable slot is formed at the edge of the opening or hole in the socket through which
20 the key is inserted between the contact-springs, these springs being so placed with reference to the slot that they will hold the key open or closed in a position where its wing or wings will be out of register with the slot.

25 The nature of the improvement will be readily understood by reference to the accompanying drawings, in which I have represented it as applied to a holder of the kind set forth in my patent, No. 409,929, of August 27, 1889.

30 In the drawings, Figure 1 is an elevation of the socket with the key removed. Fig. 2 is a view of the key. Fig. 3 is a vertical section of the holder with the key turned to close the circuit. Fig. 4 is a like section with the key
35 turned to open the circuit. Fig. 5 is a plan of the holder (with cap removed) with the parts in the position seen in Fig. 4.

It is not necessary to show or describe in detail the circuit-connections of the holder A.
40 It is sufficient to say that they are similar to those described in my hereinbefore-named Letters Patent, *ff* being the tubular or socketed contacts for reception of the leading-in wires, which are held in place by the cap B.
45 The movable contacts for completing the circuit are contained in the chamber *b* of the holder and they consist of spring-conducting strips *c c'*, between which enters the key K, by which they are operated. This key consists of a cylindrical stem provided with a
50 flattened, winged, or flanged portion *k*, which extends between and is intended to operate

the contact-springs. In one side of the holder is a hole *h* of the diameter of the cylindrical portion of the neck or stem of the key, and the
55 hole at the proper points is extended laterally to form a slot or slots *s* for the passage of the winged or flattened part of the key. A quarter-revolution of the key will cause it to move from open to closed circuit position and vice
60 versa. The slot *s* is set quartering, or at an angle of forty-five degrees to each position, so that when the key is in either one of the two positions which it occupies when in use, its
65 flanged or flattened portion will be out of register with the slot *s*, as seen in Figs. 3 and 4.

To insert the key, all that is needed is to hold the contact-springs apart, and then to insert the key through the hole *h* until its inner end enters the socket formed for it in the side
70 of the chamber *b* opposite the hole *h*. When the key has been thus inserted, its part *k* will be between the contact-springs, which when released will spring together and in so doing will bring the key to the position shown in
75 Fig. 3. Manifestly the key can be withdrawn just as easily as it can be fitted to the holder.

To insure retention of the key in closed-circuit position, as in Fig. 4, I form in one of the contact-springs a shallow groove or concavity
80 *g* at the point where it meets the edge of the part *k* when in this position. Each spring can be provided with such a groove, if desired.

Having described my invention, what I claim herein as new, and desire to secure by
85 Letters Patent, is—

The combination of the holder or socket provided with contact-springs and having a hole
90 *h* and cross-slot *s* in its side, with the key provided with a winged or flattened portion *k*, extending between and adapted to operate upon the springs, the arrangement of parts being
95 such that when the key is in either one of the two positions which it occupies when in use its flanged or flattened portion *k* will be out of register with the slot *s*, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 14th day of August, A. D., 1890.

JAMES W. COLLIER.

Witnesses:

W. C. SOUTHWICK,
WILLIAM MCCORMICK.