

No. 744,215.

PATENTED NOV. 17, 1903.

A. LUNGEN.
CIRCUIT CONTROLLER.
APPLICATION FILED NOV. 13, 1902.

NO MODEL.

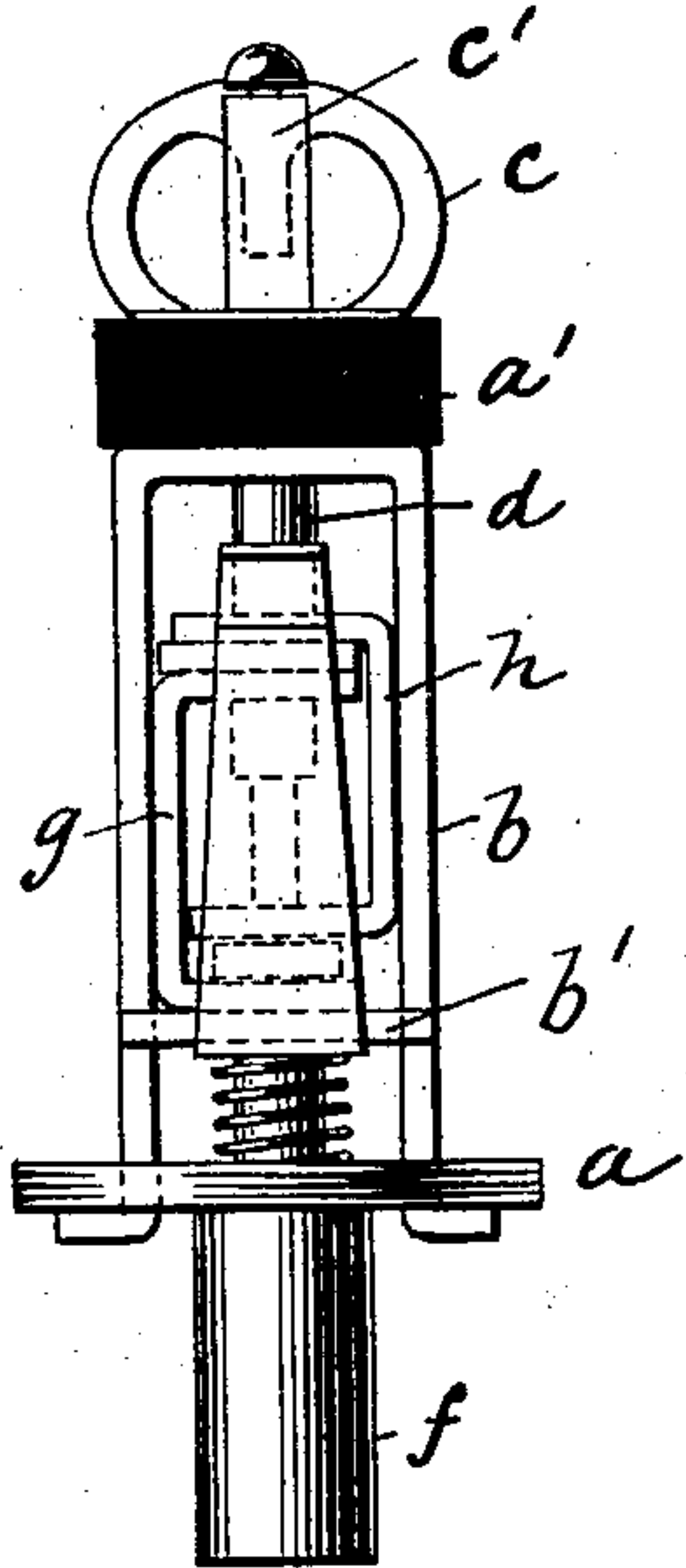


Fig. 1.

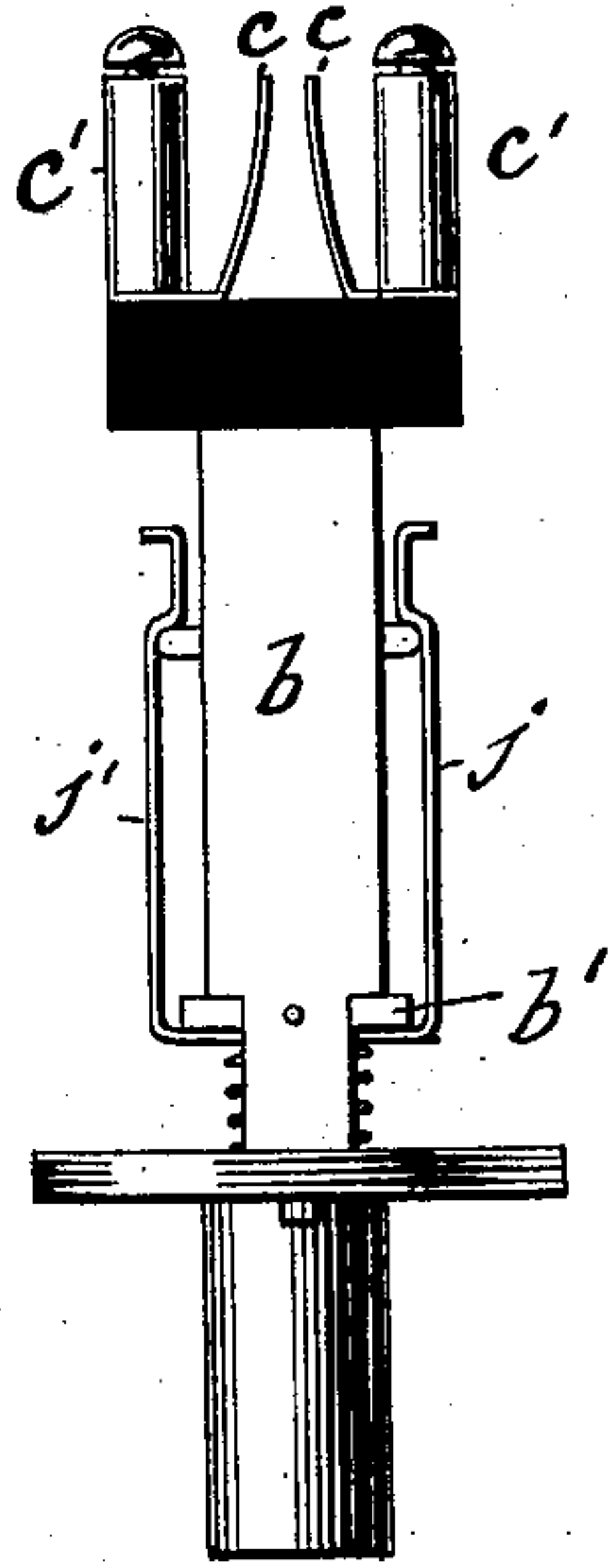


Fig. 2.

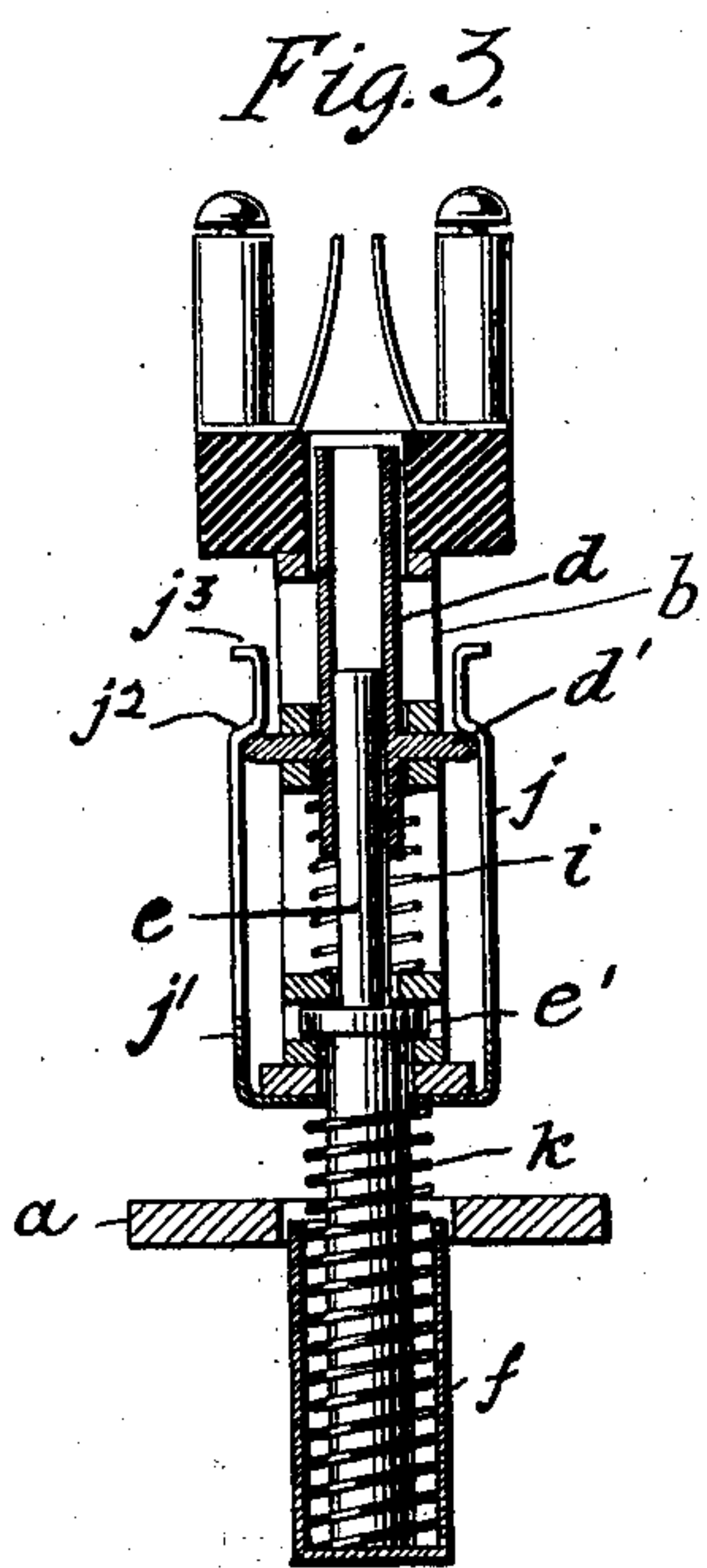


Fig. 3.

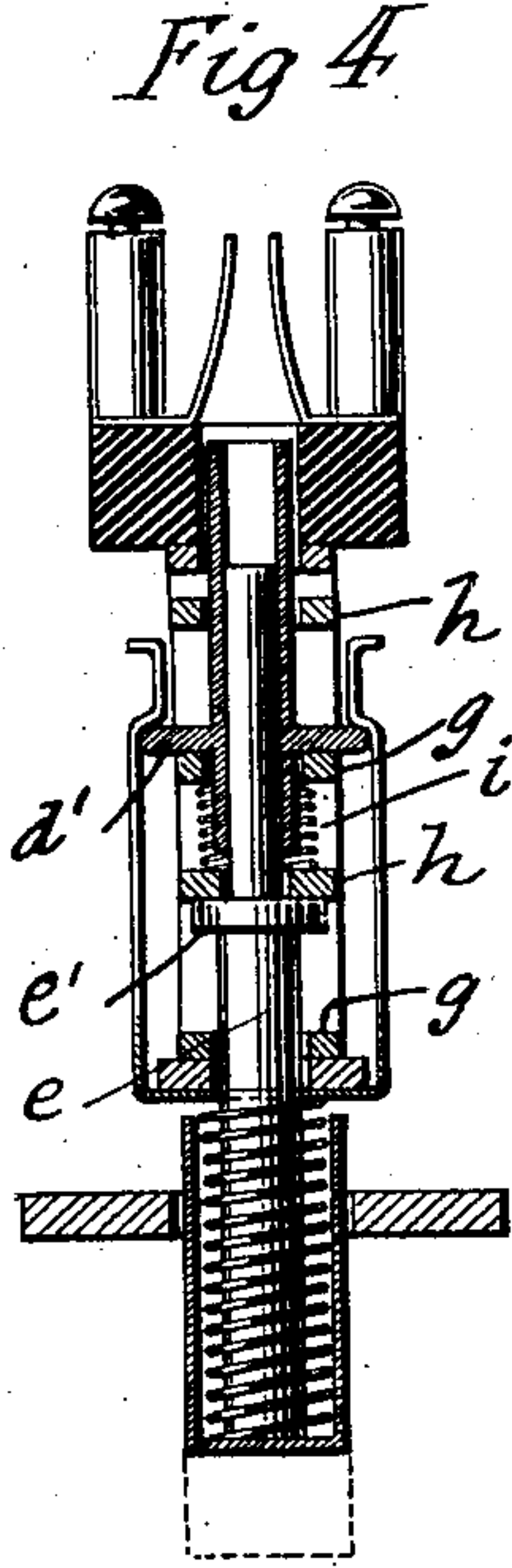


Fig. 4.

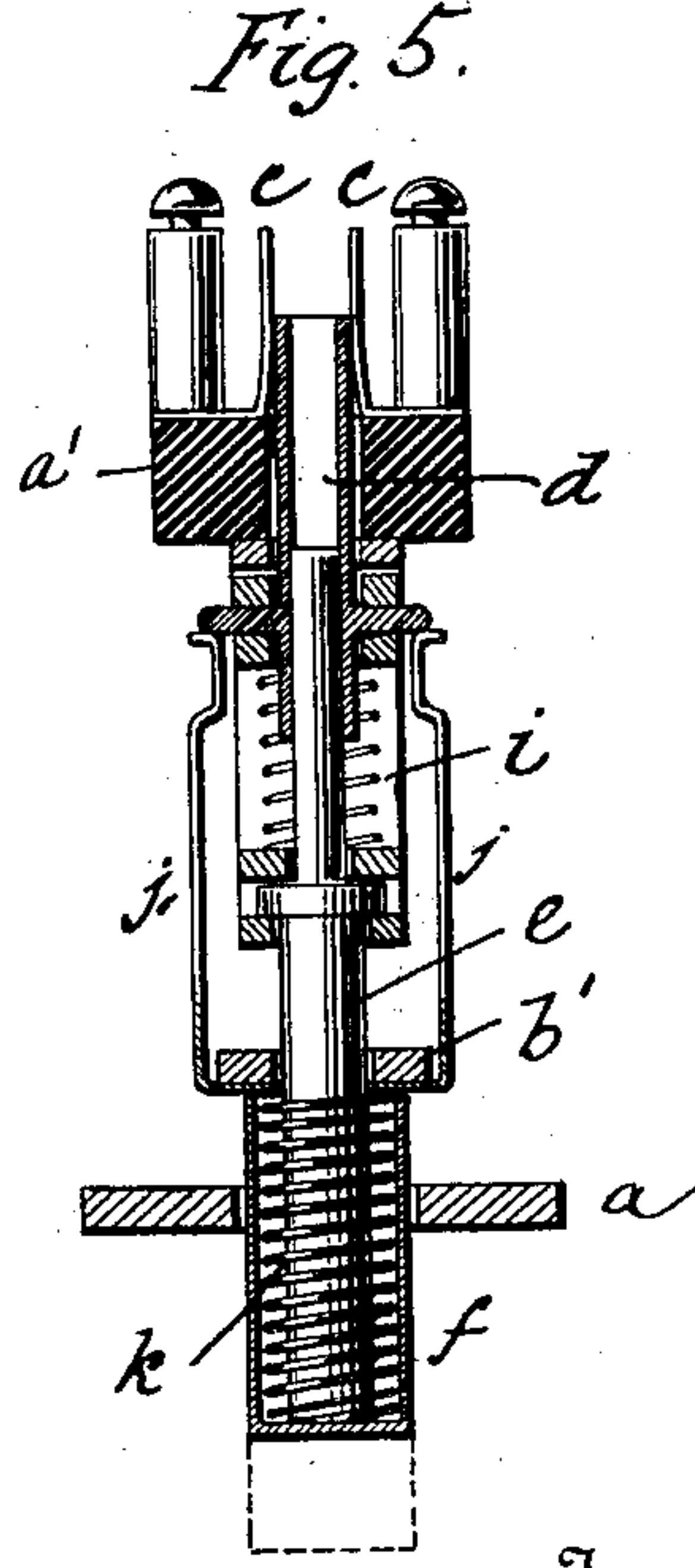


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

ADAM LUNGEN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND ROBERT EDWARDS, OF NEW YORK, N. Y.

CIRCUIT-CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 744,215, dated November 17, 1903.

Application filed November 13, 1902. Serial No. 131,087. (No model.)

To all whom it may concern:

Be it known that I, ADAM LUNGEN, a citizen of the United States, residing at the city of New York, in the borough of Bronx and State of New York, have invented certain new and useful Improvements in Circuit-Controllers, of which the following is a full, clear, and exact description.

This invention relates to electric-circuit controllers of that class in which quick action is obtained by impressing a spring and allowing it to suddenly expand.

The object of the invention is to provide a simple and efficient device of this character adapted for various uses in connection with electric circuits.

The invention consists of the details of construction which will be hereinafter fully described and claimed.

In the accompanying drawings, Figures 1 and 2 are side elevations of the device, the views being at right angles to each other; and Figs. 3, 4, and 5 are sectional views showing the construction and operation.

a is a metallic front plate, a' a non-conducting back plate or block, and b a frame connecting the front and back plates together. On the rear of the back plate are mounted two spring-plates c , to which binding-posts c' are connected for securing the terminals of the circuit to be opened and closed by the device. The plate a' is provided with a central passage, through which a rod d is adapted to be projected to make contact with the plates c and bridge the circuit between them. The rod d is hollow and telescoped over the end of a second rod e , which leads outward through the front plate a and carries at its outer end a cap f . Rod d is provided with a collar d' and rod e with a collar e' , both fixed upon the respective rods.

g is a yoke-shaped piece, one arm of which embraces rod e in front of the collar e' , while the other embraces the rod d in front of the collar d' . h is a second yoke-shaped piece having one arm embracing the rod e back of the collar e' and the other embracing the rod d back of the collar d' . Between one arm of yoke h and the opposite arm of yoke g is arranged a coil-spring i , surrounding the two rods.

b' is a cross-piece of the frame, to which are attached two spring-latches j , which extend rearward and are provided with front and rear shoulders j^2 and j^3 , adapted to engage with the collar d' .

The cap f contains a coil-spring k , considerably heavier than the spring i and which extends between the outer end of the cap and the cross-piece b' of the frame. Both rods d and e pass freely through the cross-piece of the frame.

The operation is as follows: The circuit is open when the parts are in the position shown in Fig. 3. To close the circuit, pressure is brought to bear in any desired way upon the cap f to force rod e inward. In this motion collar e' presses against the arm of yoke h and forces it rearward. Spring i thereby becomes compressed, because yoke g and collar d' , against which it rests, is prevented from moving by the engagement of the latches j and j' with the collar d' . However, near the end of the stroke of rod e the tension of spring i becomes so great that it overcomes the hold of the latches and the collar is forced through or beyond the latches to the position shown in Fig. 5, during which movement spring i is released of tension, rod d shoots outward quickly to complete the circuit between the plates c and becomes locked in that position by engagement with the shoulders j^3 of the latches. In this movement to close the circuit the spring k plays no part. Nevertheless, said spring was compressed when rod e was forced inward. On withdrawing the pressure from said rod, which is done only when it is desired to break the circuit, rod e is forced outward by the expansion of spring k , and collar e' is at the same time drawn against the outer arm of yoke g , causing the inner arm of said yoke to compress spring i against the outer arm of yoke h and bring pressure to bear upon the collar d' through the rearward arm of yoke h . When spring i has thus been a second time compressed sufficiently, the collar d' again forces open the spring-latches, allowing the rod d to shoot forward quickly to the position shown in Fig. 3, where the circuit is broken. Hence in the making of the circuit the spring i is compressed by the force acting on the end of rod

e, while in breaking the circuit spring *i* is compressed by the superior force of spring *h* which was incidentally stored in making the circuit.

- 5 A circuit-controller of this character is adapted for various uses. It may be used for momentary closure of the circuit or for holding the circuit closed for indefinite periods. As a burglar-alarm or electric-light switch it
10 may be inserted in the jamb of the door and the circuit altered when the door opens and closes. It may also be used as a floor push-button. The merit of the device lies in its compact form, cheapness of construction, and
15 efficiency in operation.

Having described my invention, I claim—

1. In a circuit-controller, the combination of two rods having motions independent of each other, a spring interposed between said
20 rods and adapted to be compressed and expanded by the relative movements of the rod, and a latch adapted to restrain one rod but to be released by the tension of the spring, substantially as described.

- 25 2. In a circuit-controller, the combination of two telescoping rods having independent motions, a spring interposed between the rods, a latch engaging with one of the rods to prevent its movement and means whereby the
30 compression of the spring will overcome the latch and release the rod, substantially as described.

3. In a circuit-controller, the combination of a pair of circuit-terminals, a movable element adapted to connect and disconnect the
35 same, a latch engaging with said element and adapted to retain it in either of its positions,

a second movable element, a spring interposed between the two elements adapted to be compressed by the relative motion thereof
40 to release said latch, a second spring adapted to be compressed simultaneously with the first and whose power is exerted to again compress the first spring after it has been released, substantially as described.

4. In a circuit-controller, the combination of a circuit-controlling element, a spring adapted to move the same after compression and a second spring adapted to again compress the first after it has done its work.

5. In a circuit-controller, the combination of a reciprocating element, a spring adapted to move said element in both directions, a second spring adapted to be simultaneously compressed with the first spring and to exert
55 its force to again compress the first spring after it has been released.

6. In a circuit-controller, the combination of two telescoping rods, a yoke-shaped frame whose arms loosely engage with the respective
60 rods, a second yoke-shaped frame having a similar engagement with said rods, a spring interposed between said frames, a latch engaging with one of the rods and means whereby movement of the other rod will compress
65 the spring and release the latch, substantially as described.

In witness whereof I subscribe my signature in presence of two witnesses.

ADAM LUNGEN.

Witnesses:

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WALDO M. CHAPIN.