

(No Model.)

A. G. BROWN.

CIRCUIT CONTROLLING KEY FOR INCANDESCENT ELECTRIC LIGHTS.

No. 345,880.

Patented July 20, 1886.

Fig. 1.

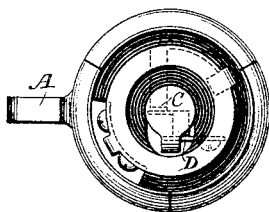


Fig. 2.

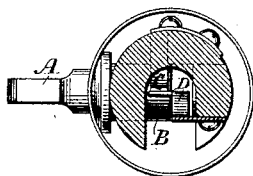


Fig. 3.

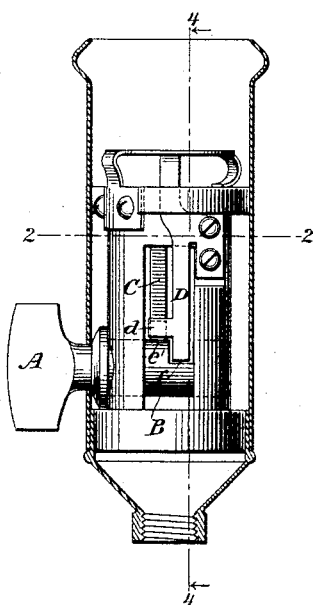


Fig. 4.

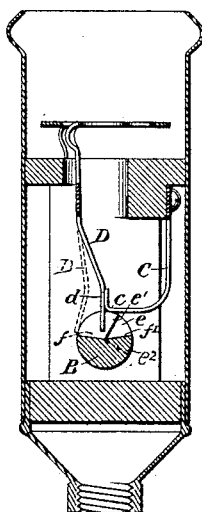
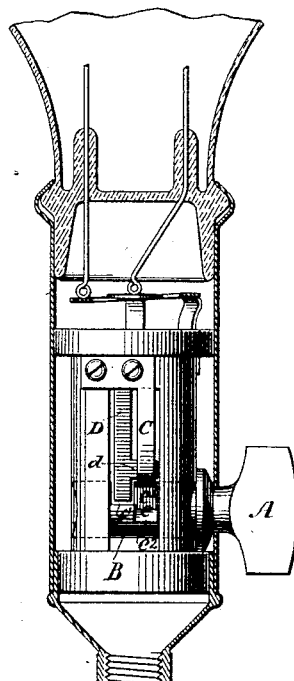


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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CIRCUIT-CONTROLLING KEY FOR INCANDESCENT ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 345,280, dated July 20, 1886.

Application filed February 10, 1886. Serial No. 191,401. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR G. BROWN, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Circuit-Controlling Keys for Incandescent Electric Lights, of which the following is a specification.

My invention relates to the class of devices employed for cutting electric lights into and out of circuit.

The object of the invention is to provide convenient means for securing reliable electric connections between the conductor leading from the main or supply and the leading-in wire of an incandescent lamp.

The invention is applicable also to other forms of circuit controllers or switches, but will for convenience be described particularly in its application to incandescent lights.

The invention consists in applying to a suitable revolving key-shaft two resilient contact-arms, the one of which is designed to be connected with a leading-in wire of the light and the other with a supply-conductor. The two arms extend toward different points in the axial line of the key-shaft, and the latter is cut away in certain portions, so that when it is desired to close the circuit one of the contact-arms is sprung backward, while the other is pressed upward into the path of the former, which is then released, and by its resilience carries an extension against the second contact-arm. This insures a reliable contact and prevents the possibility of a partial contact being made. By turning the key still farther the second contact arm escapes beyond a shoulder upon the shaft and slides out of contact with the other contact-arm. The friction between the two insures a bright contact-surface.

In the accompanying drawings, Figure 1 is a plan of a holder and circuit-controller embodying the features of the invention. Fig. 2 is a transverse section of the same, taken on the line 2 2. Figs. 3 and 5 are side elevations, partly in section; and Fig. 4 is a vertical section of the holder, taken on the line 4 4.

Referring to the figures, A represents the

handle of a key, and B its shaft. A contact-spring, C, is bent upward at its end, as shown at *c*, and presses against the shaft B. A second spring, D, also presses against the shaft B. The spring D is provided with a lateral projection, *d*, which extends into the path of the end *c*. The belt of the shaft B, against which the spring C presses, is cut away, as shown at *e*, forming a shoulder, *e'*. The periphery of the shaft, by pressing against the spring, will raise it into the position shown in Fig. 4 in full lines. When the key is turned forward, however, the spring C will escape beyond the shoulder, and by its resilience spring back into the space *e*. The belt against which the spring D presses is also cut away, as shown at *f*, and when the circuit is closed the end of the spring extends into this space, as shown in full lines. When the key is turned forward, however, the shoulder *f'*, striking against the spring D, presses it forward into the position shown in dotted lines. This occurs at the same moment that the spring C is being raised by the shoulder *e'*, so that while the latter spring is being bent upward the spring D is pressed out of its path until it is placed in the position shown in dotted lines. Thereupon the spring D escapes beyond the shoulder *f* and snaps against the spring C, thereby forming a firm electrical connection. By means of this device it is insured that the contact-points shall either be entirely separated or else firmly pressed against each other. In other words, there can be no half-way position of the two with reference to each other.

The connections of the springs C and D with the conductors leading from the supply and to the lights, or to the contact-points against which the leading-in wires are to be placed, may be of any suitable character, and no detailed explanation is necessary.

The application of this invention, it is evident, is not in any manner limited to holders for incandescent lights; but it may be employed for connecting lights or other translating devices with supply systems, or in any other manner utilized where the connections and interruptions of a circuit are required to be certain and reliable.

I claim as my invention—

1. An electric-circuit-controlling device consisting of the combination, substantially as hereinbefore set forth, of two resilient arms, 5 a key-shaft against which said arms press, a shoulder or lug for pressing one of said arms away from its normal position, a shoulder or lug for simultaneously pressing the second arm into position to be engaged by the first-named arm when released, and means for 10 thereupon releasing the first arm and permitting it to strike against the second.
2. An electric-circuit controller consisting of the combination, substantially as hereinbefore set forth, with a shaft and means for revolving the same, of a circuit-closing arm, a 15 shoulder or lug upon said shaft for moving said arm against an opposing force, a second circuit-closing arm, a contact-surface upon 20 said shaft for moving said second arm in a direction approximately at right angles to the movements of the first arm and into the path of the same, and means for subsequently releasing the first arm.
- 25 3. The combination, substantially as herein-

before set forth, of the key A, the shaft B, the resilient arm C, having the contact-surface c, means for bending said arm by turning said shaft, a spring, D, having the extension d, and the shoulder f upon said shaft for suddenly 30 releasing said spring and permitting it to make contact with the spring C.

4. The combination, substantially as hereinbefore set forth, of two contact springs or arms, a shaft for forcing one against an opposing 35 force into the path of the second, and at the same time forcing the second away from the path of the first, an opening in said shaft for subsequently releasing the second while the first is still under tension, and means for 40 subsequently releasing the first spring and allowing it to move away from the second.

In testimony whereof I have hereunto subscribed my name this 31st day of December, A. D. 1885.

ARTHUR G. BROWN.

Witnesses:

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CHARLES A. TERRY.