No. 816,436. PATENTED MAR. 27, 1906.

O. C. COVER.

ELECTRIC LIGHT SOCKET AND KEY.

APPLICATION FILED NOV. 12, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

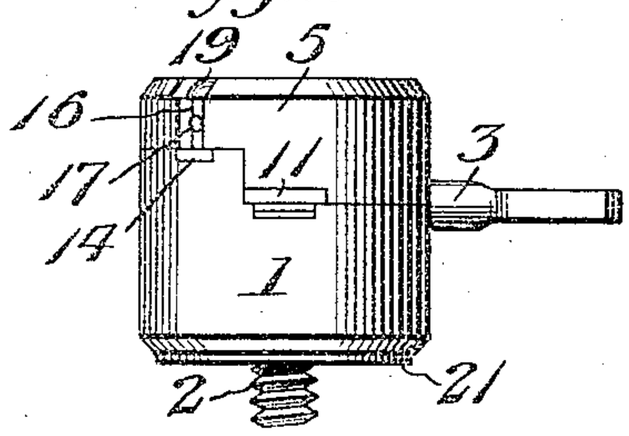


Fig. 3.

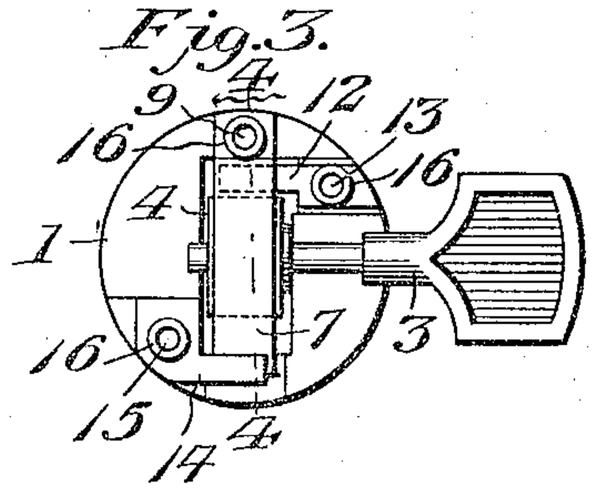


Fig. 2.

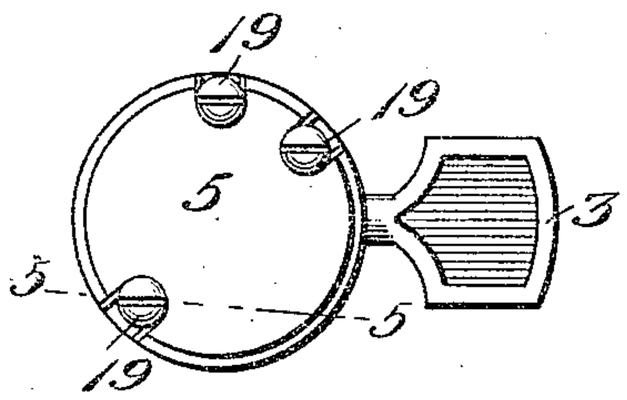


Fig. 4.

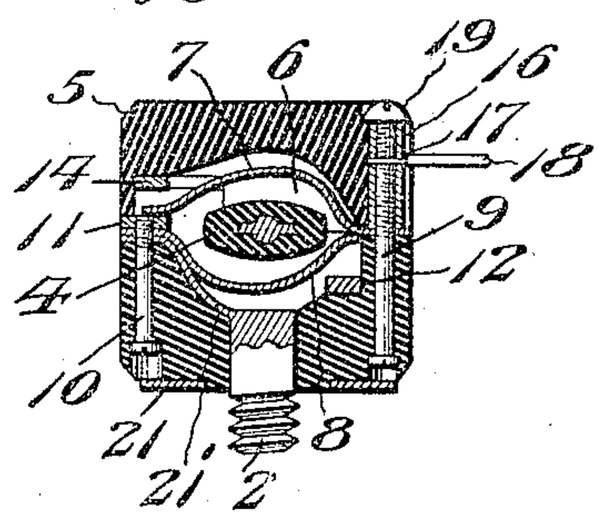


Fig. 5.

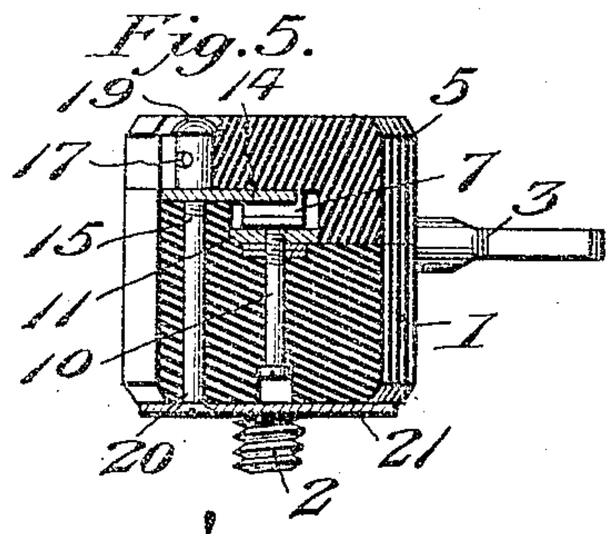


Fig. 6.

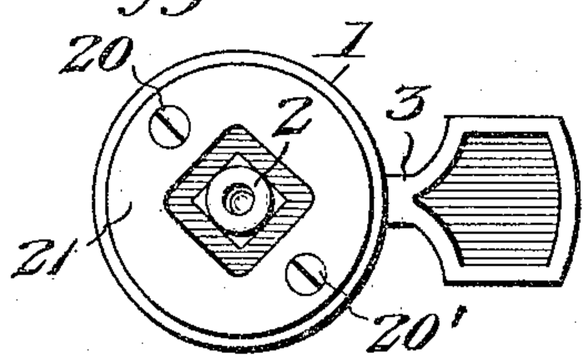


Fig. 7.

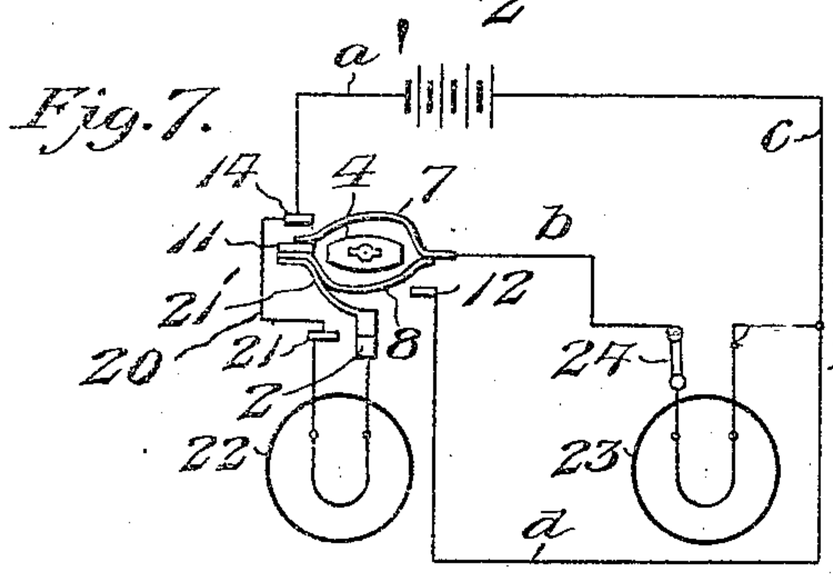
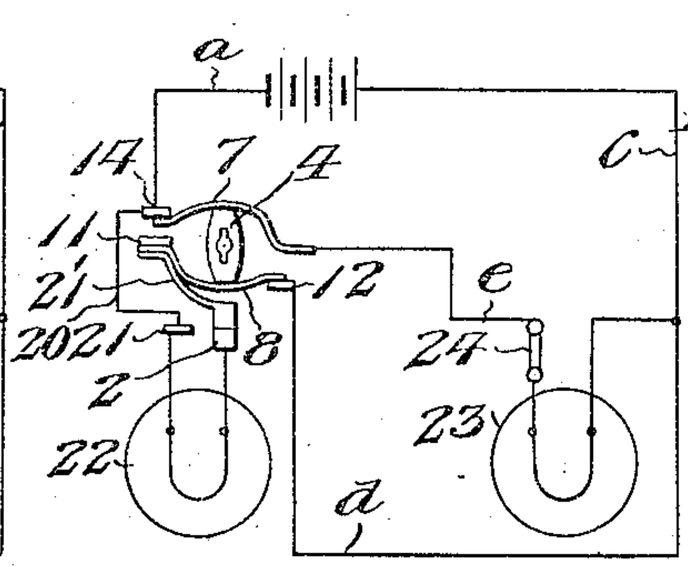


Fig. 8.



Inventor

Witnesses

Edwin L. McKee

L. D. Elmore

Owen C. Cover

By Victor J. Evans

Attorney

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ELECTRIC LIGHT SOCKET AND KEY.

APPLICATION FILED NOV. 12, 1904.

2 SHEETS—SHEET 2.

Fig. 9.

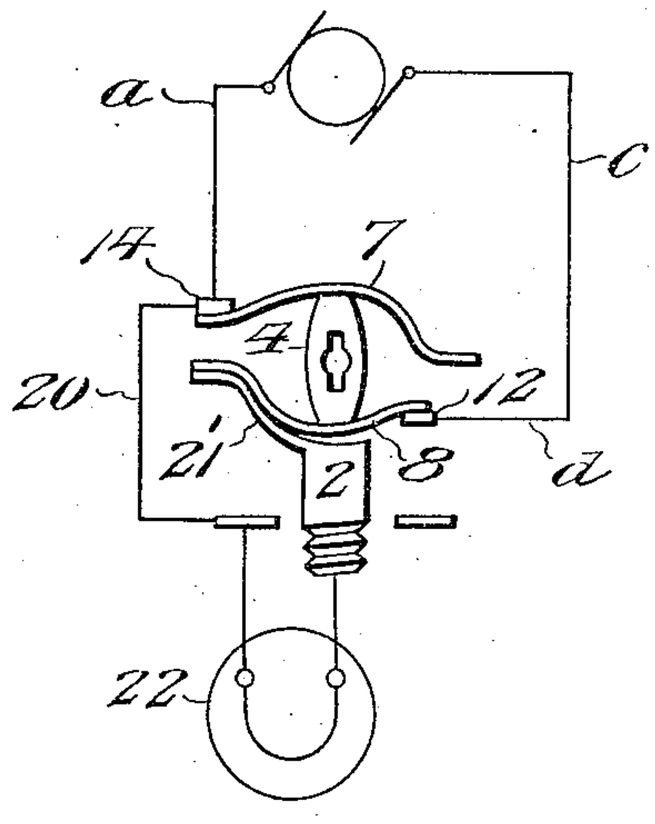
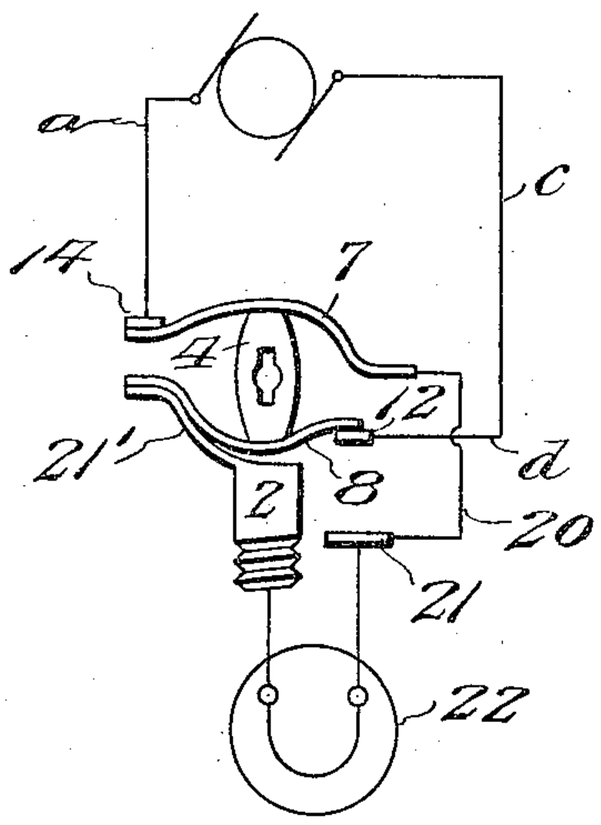


Fig. 10.



Witnesses

Edwin L. McKee

P. S. Elmore

Inventor

Owen C. Cover

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

OWEN C. COVER, OF GOSHEN, INDIANA.

ELECTRIC-LIGHT SOCKET AND KEY.

No. 816,436. Specification of Letters Patent. Patented March 27, 1906.

Application filed November 12, 1904. Serial No. 232,514.

To all whom it may concern:

Be it known that I, OWEN C. COVER, a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented new and useful Improvements in Electric-Light Sockets and Keys, of which the following is a specification.

This invention relates to electric lights, and particularly to an incandescent-electric-light system in which a pair of lamps arranged in a circuit may be connected in series, thus to produce a turned-down or dim light effect or be brought singly into play for obtaining full candle-power in either lamp.

The invention further comprises an improved holder and key for the lamps by which the latter may be controlled in the circuit for the purposes above named.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of the improved holder and key. Fig. 2 is a top plan view of the same. Fig. 3 is a similar view with the upper section of the holder removed. Fig. 4 is a vertical section taken on the line 4 4 of Fig. 3 and viewed in the direction of the arrow. Fig. 5 is a vertical section taken on the line 5 5 of Fig. 2. Fig. 6 is a reverse plan view of the holder and key. Fig. 7 is a diagrammatic view illustrating the position of the parts of my improved key when the connected lamps are in series. Fig. 8 is a similar view showing the position of the parts when the connected lamps are abreast. Fig. 9 is a diagrammatic view showing the circuit through a single lamp equipped with my improved key. Fig. 10 is a similar view showing a slight modification in the arrangement of the circuit.

Referring to the drawings, and particularly to Figs. 1 to 6, 1 designates the improved holder, having a central screw-threaded plug or projection 2 for engagement with an incandescent lamp and provided with a turn-button or key 3, carrying a contact portion or head 4, composed of insulating material and arranged within the holder, which latter has an upper removable portion or section 5, whereby access may be had to the internal mechanism.

The holder 1 is provided with an internal chamber 6 for the reception of the contact-head 4 and a pair of spring contact members or plates 7 and 8, retained in place, respectively, by binding-posts or screws 9 10, of which the latter has upon its inner end a nut 11, constituting in practice a contact-point for the free end of the spring-plate 7, while the free end of the spring-plate 8 is adapted to contact with spring-plate 7 or a member or plate 12, maintained in place by a screw 13, there being also arranged to project into the chamber 6 a contact plate or finger 14, maintained in place by a screw 15, and with which plate the free end of spring member 7 may contact under certain conditions, as heretofore explained. The posts 9, 13, and 15 have tapped thereon, within the body of the holder, tubular sleeves 16, provided with transverse perforations 17 for the reception of the ends of electric wires 18, these wires being maintained in place by binding-screws 19, tapped into the ends of the sleeves 16, as seen more clearly in Figs. 4 and 5, while upon the lower end of the holder 1 there is secured, by means of screws 20 and 20′, a contact-plate 21. When the socket is used for turndown purposes in connection with another key-socket, the screw 20 is in contact at its inner end with plate 14 and screw 20′ supports plate 21 to the insulating-body.

When the holder is employed in connection with a single incandescent lamp in the usual manner and the button 4 is turned for moving the free end of spring-plate 7 into contact with the plate 14 and the free end of plate 8 into contact with plate 12, as seen in Fig. 9, the circuit will be established through said plates, the screw or connection 20, plate 21, and post 2 through the lamp, this circuit being broken and the lamp extinguished by turning the button to the position illustrated in Fig. 4, whereby the plates 7 and 8 will move out of contact with the plates 12 and 14, or screws 20 and 9 may be interchanged, as seen in Fig. 10, thus completing the circuit through *a*, 14, 7, 20, 21, 22, 2, 21′, 8, 12, *d*, and *c*, thereby giving a double break at plates 12 and 14.

In Figs 7 and 8 I have illustrated diagrammatically a pair of lamps 22 and 23, included in a multiple or series circuit, in which is arranged a button or key 4 and spring-arms 7 and 8, adapted for movement at their free ends into contact with points 11, 12, and 14, there being included in the circuit for lamp 23 a key-socket 24.

In practice when it is desired to light simply the lamp 22 the button 4 is turned to the position illustrated in Fig. 8, whereby the free end of spring member 7 will contact with the point 14 and the free end of spring 8 with the point 12, the key-socket or lamp 23 being under these circumstances turned off. Thus the circuit will be established through a wire *a*, contact 14, connection 20, plate 21, lamp 22, post 2, plate 21′, spring member 8, contact 12, wire *d*, and a wire *c*, thereby cutting out the lamp 23, the circuit therethrough being broken at key-socket 24 in the lamp 23, and thus giving the full strength or candle-power of the lamp 22. If, however, a dim light is desired, both lamps are brought into circuit by turning the button 4 to the position illustrated in Fig. 7 and turning in the key-socket at lamp 23, thus establishing the circuit of the lamps 22 and 23 in series through the wire *a*, contact 14, connection 20, plate 21, lam , 22, post 2, connection 21′, plate 8, plate 7, wire *b*, lamp 23, and wire *c*, whereby the strength of the current will be divided between the lamps and a dim or turned-down effect obtained in both lamps if of about the same resistance.

It is to be particularly noted that the plates 7 and 8 are of substantially semicardioid form and curved gradually from end to end in reverse directions, whereby the key 4 may be readily turned, and this without bending the plates short, this feature contributing largely to the ease of operation of the device.

From the foregoing it is apparent that I produce a simple efficient device whereby one or more lamps may be readily controlled in series or in multiple for obtaining a full-strength or dim light. In attaining these ends it is to be understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. A device of the class described comprising a body having a chamber and a lamp-engaging post terminating within the chamber, a pair of oppositely-disposed spring contact members sustained within the chamber, a fixed contact with which the free end of one of the members may engage, a pair of spaced fixed contacts between which the free end of the other member is adapted for movement and with either of which it may engage, and an operating member common to and adapted for moving both of the spring members.

2. In an electric-lamp system, a circuit having a pair of lamps included therein, a pair of oppositely-disposed spring contact members arranged within the circuit, a fixed contact with which one of the spring members may engage, a pair of fixed contacts between which the other spring member is adapted for movement and with either of which it may engage, and an operating member common to both of the spring members for actuating the same to circuit the lamps in series or multiple.

3. In an electric-lamp system a circuit containing a pair of lamps, a socket having a pair of spaced contacts, an oppositely-disposed fixed contact, and contact members one of which is operable between the spaced contacts and the other operable with relation to the fixed contact, and means for operating said contact members to divide the circuit through both of said contact members or through but one of said members, whereby to arrange the lamps in series or in parallel circuit.

4. An electric-lamp system including a pair of lamps, a socket having spaced contacts included in the circuit of one of said lamps, oppositely-disposed spaced contacts included in the circuit of the other lamp, and spring-contact members adapted for operation to connect the first-mentioned spaced contacts and connect the lamps in parallel or to disconnect one of each of said pair of spaced contacts and thereby connect the lamps in series.

5. A socket for electric-lighting systems comprising a body having oppositely-disposed spaced contacts, spring contact members arranged within the body and respectively connected at opposite ends to one of each of said pair of spaced contacts, the remaining ends of each of said contact members being free, and means for operating said contact members to include all of said spaced contacts in the circuit or but one of each of said pairs of contacts.

In testimony whereof I affix my signature in presence of two witnesses.

OWEN C. COVER.

Witnesses:
LEWIS E. IHRIG,
FRANK H. SHAFFER.