No. 676,074. Patented June 11, 1901.

J. McCULLOUGH.

INCANDESCENT ELECTRIC LAMP.

(Application filed Apr. 2, 1901.)

(No Model.)

Fig. 1.

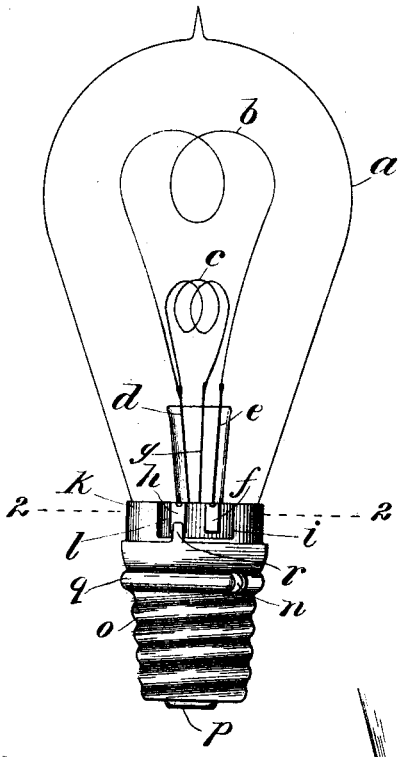


Fig. 3.

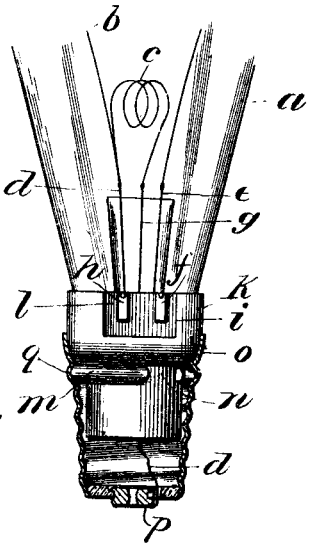


Fig. 2.

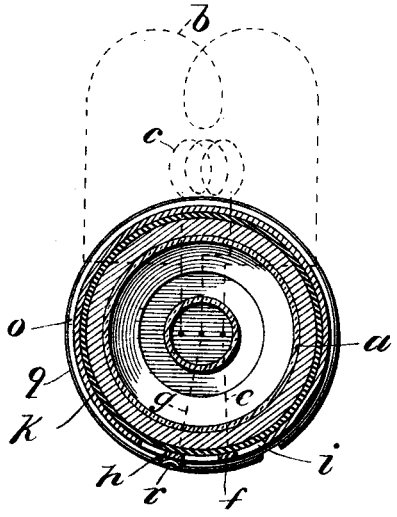
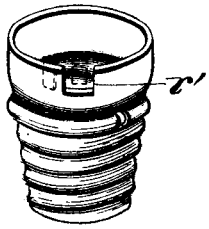


Fig. 4.



Witnesses

L. H. Walker.

[illegible]

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by Vernon W. Dorsey

his Attorney

UNITED STATES PATENT OFFICE.

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INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 676,074, dated June 11, 1901.

Application filed April 2, 1901. Serial No. 54,070. (No model.)

To all whom it may concern:

Be it known that I, JOHN McCULLOUGH, a citizen of the United States of America, and a resident of 62 East Park street, in the city of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

My invention relates to certain improvements upon the incandescent electric lamp described in an application filed by Levi Lobenthal in the United States Patent Office on the 11th day of October, 1900, serially numbered 32,755, and in another application of the said Lobenthal filed of even date herewith; and it more particularly relates to means whereby either one of the two filaments of a double-filament incandescent electric lamp may be thrown into circuit at will, it having for its object to provide for this purpose a device which can be readily used in connection with shades, which if used in connection with the devices in the said applications of Lobenthal prevented ready access to the circuit-maker. For this purpose my invention relates to the arrangement, construction, and combination of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by corresponding marks of reference, Figure 1 is a side elevation of a complete lamp constructed in accordance with this invention. Fig. 2 is a horizontal section taken on lines 2 2 of Fig. 1. Fig. 3 is a fragmental side elevation, partly in section, of the device shown in Fig. 1. Fig. 4 is a perspective view illustrating a slightly-different form of butt.

The lamp-bulb a contains two filaments b and c, the one being of greater candle-power than the other. Thus the filament b may be of sixteen-candle power and the filament c of one-candle power. One corresponding terminal of both of these filaments is connected to the leading-in wire d, while the opposite terminal of the filament b is connected by the leading-in wire e with the contact-plate f, the corresponding terminal of the filament c being correspondingly connected by the leading-in wire g with the contact-plate h. The contact-plates f and h are located in a notch i, formed in the collar k, encircling the base of the bulb, being mounted upon a strip of insulating-fiber l and being separated from but adjacent to each other.

The structure above described is claimed in the applications of the said Lobenthal and is described by me for the purpose of explaining the use of my improved switching mechanism in connection therewith.

The collar k of the lamp has an annular flange m formed thereon, as by spinning, the flange being interrupted for a short distance, as at n.

The butt or base o is externally threaded and may be of any improved construction to fit within the socket now in common use, having upon its face the usual insulated contact button or plate p, which when the lamp is in place within its socket contacts with one of the leads supplying the lamp, the walls of the butt itself forming the contact for the other lead, as is well known. The butt after the collar k is inserted therein is spun down to form an annular groove q, receiving the annular flange f upon the lamp-collar and holding the lamp and collar together, the metal of the butt being forced into the said groove at a point corresponding with the interruption n in the flange m, the metal so depressed acting as a stop-lug to prevent the rotation of the lamp and collar within the butt beyond a predetermined degree.

The leading-in wire d of the lamp continues through the base of the bulb and is connected with the contact button or plate p at the base of the butt, the butt having a finger r projecting at one side thereof upwardly beyond its upper edge adjacent to the contact-plates f and h.

In a lamp constructed in accordance with this invention the butt may be screwed home within its socket, and if the finger r rests upon the contact-plate f a circuit will be completed from one lead through the button p, leading-in wire e, plate f, finger r, and wall of the butt o back to the other lead, while if the finger rests upon the contact-plate h a

corresponding circuit will be made through the lower-candle-power filament *c*. It will thus be seen that by varying the contact of the plate *f* or *h* with the finger *r* either of the said filaments may be thrown into circuit at will, and this variation of contact between the finger and plates is accomplished by a slight rotation in the butt of the bulb and collar attached thereto, the limiting-lug *n* being so proportioned and disposed as to permit a sufficient movement of the collar in respect to the butt to accomplish this result.

Instead of using a short butt or base *o* and forming a finger upon the upper edge thereof to contact with the contact-plates *f* and *h* I may, if I so prefer, use a longer butt and cut the upper edge of the latter away in a notch, as at *r'*, Fig. 4, whereby the said butt will only be permitted to contact with one of the contact-plates at a time, as is indicated in dotted lines in the said figure.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a lamp-bulb and its collar, of two filaments within the lamp, contact-plates upon the collar connected with the corresponding terminals of the said filaments, and a butt, adapted to be received in a suitable socket, rotatably secured upon the collar and adapted to make contact with either of the said contact-plates according to the rotation of the collar within the butt, substantially as described.

2. In a lamp the combination with a lamp-bulb having a plurality of filaments therein, of a collar secured upon the base of the lamp and having contact-plates thereon insulated from each other and connected with the corresponding terminals of the said filaments, a butt adapted to be received in a suitable socket mounted upon the collar, and in which the collar rotates and is secured, a contact-plate upon and insulated from the butt connected with the corresponding terminals of the said filament, and means upon the butt to contact with either of the said contact-plates upon the collar according to the position of the collar in the butt, substantially as described.

3. In a lamp the combination with a lamp-bulb having a plurality of filaments therein, of a collar secured upon the base of the lamp and having contact-plates thereon insulated from each other and connected with the corresponding terminals of the said filaments, a butt adapted to be received in a suitable socket mounted upon the collar, and in which the collar rotates and is secured, a contact-plate upon and insulated from the butt connected with the corresponding terminals of the said filament and means upon the butt to contact with either of the said contact-plates upon the collar according to the position of the collar in the butt, and means for limiting the rotation of the collar in the butt, substantially as described.

4. In a double-filament electric lamp the combination in a lamp-bulb having two filaments therein, of a collar upon the base of the said bulb, having two contact-plates thereon insulated from each other and connected with the corresponding terminals of the two filaments, the collar having an annular flange upon its base, a butt adapted to be received in a suitable socket, having an annular groove to receive the flange upon the collar and to permit the rotation of the latter, a contact-plate upon and insulated from the butt, connected with the corresponding terminals of the two filaments and means for closing a circuit from the said butt to either of the said contact-plates upon the rotation of the collar in the butt, substantially as described.

5. In a double-filament electric lamp, the combination in a lamp-bulb, having two filaments therein, of a collar upon the base of the bulb having two contact-plates thereon insulated from each other and connected with the corresponding terminals of the two filaments, the said collar having an annular flange around its base, a butt, adapted to be received in a suitable socket and having an annular groove to receive the flange upon the collar and to permit a limited rotation of the latter, a contact-plate upon and insulated from the butt, connected with the corresponding terminals of the two filaments and means for closing the circuit from the said butt to either of the said contact-plates upon the butt upon a rotation of the collar in the butt, substantially as described.

Signed by me at New York city, New York, this 28th day of March, 1901.

JOHN McCULLOUGH.

Witnesses:
CHRISTOPHER A. MAY,
HENRY C. GOTTESMAN.