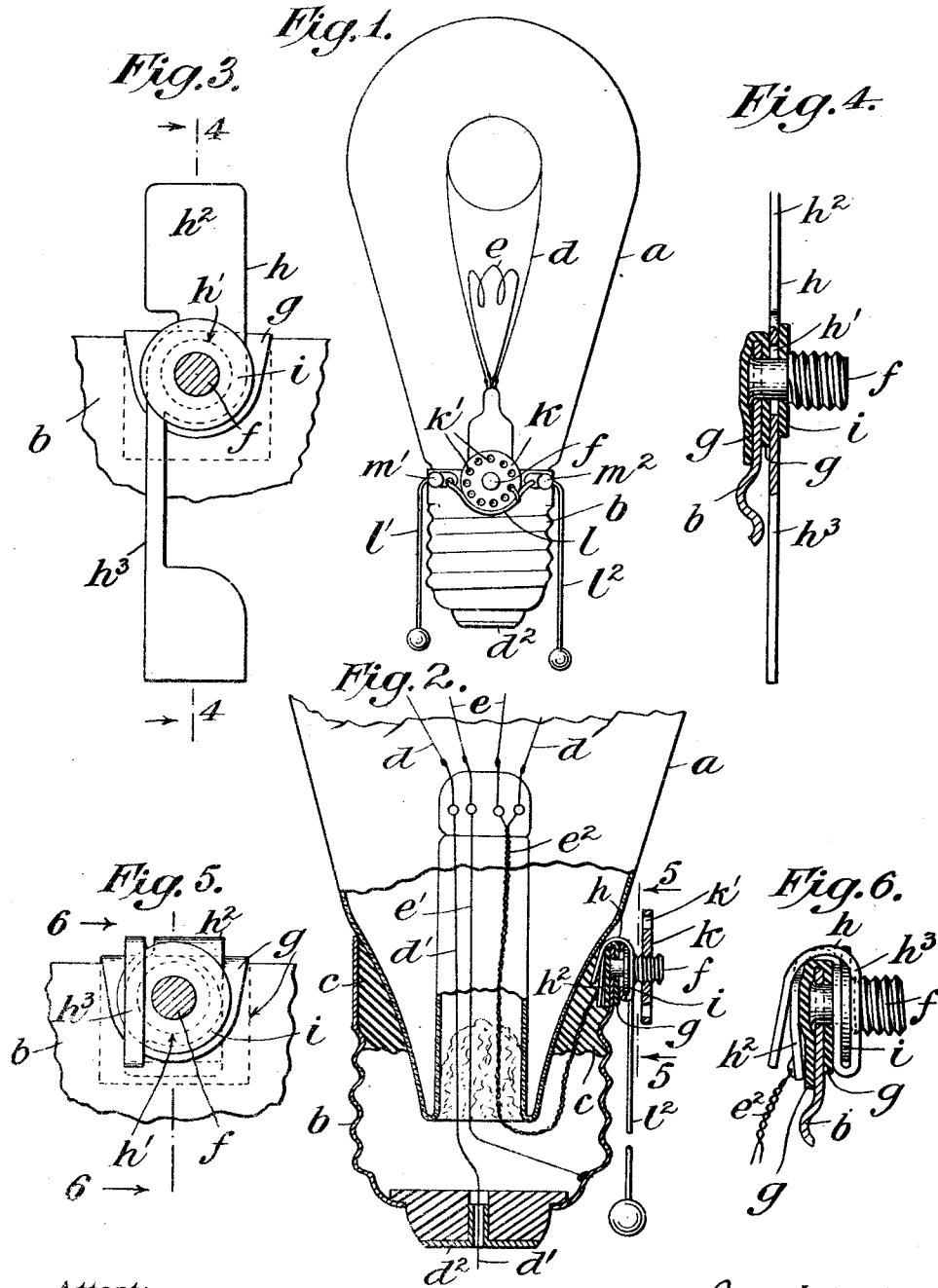


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 INCANDESCENT ELECTRIC LAMP.
 APPLICATION FILED JAN. 5, 1910.

1,123,384.

Patented Jan. 5, 1915.



Attest:
[Signature]
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UNITED STATES PATENT OFFICE.

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INCANDESCENT ELECTRIC LAMP.

1,123,384.

Specification of Letters Patent.

Patented Jan. 5, 1915.

Application filed January 5, 1910. Serial No. 536,545.

To all whom it may concern:

Be it known that I, JOHN J. ROONEY, a citizen of the United States, residing at No. 59 St. John's Place, in the borough of Brooklyn of the city of New York, in the State of New York, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

This invention relates to so-called "turn-down" incandescent electric lamps, and more especially to turn-down lamps of the type of that shown in Letters Patent of the United States No. 480,954, dated August 16, 1892, in which two filaments are connected in series, the relation of such filaments being such that one of the filaments is caused to glow while the other remains dark when the current passes through them in series, while provision is made whereby the current may be sent through one of the filaments alone while the other is cut out, the filament which is thus caused to glow being other than the filament which is caused to glow when the current passes through the two filaments in series.

The invention is particularly concerned with the devices for cutting one of the filaments out of the circuit, one object of the invention being to permit the use of copper contacts so as to reduce the liability of arcing, and another object being to permit cut out or turn-down devices of the same general character as those shown in said patent to be operated by cords rather than by the direct application of the fingers.

The invention will be more fully explained hereinafter with reference to the accompanying drawing, in which—

Figure 1 is a view in elevation of a lamp with the invention applied thereto. Fig. 2 is a detail view in section, on a larger scale. Fig. 3 is a detail front elevation of the switch showing the parts in the position they assume when being assembled. Fig. 4 is a vertical section on the line 4—4 of Fig. 3. Fig. 5 is a detail view in section on the plane indicated by the line 5—5 of Fig. 2, but on a larger scale. Fig. 6 is a detail view in vertical cross section on the plane indicated by the line 6—6 of Fig. 5.

The lamp shown in the drawing is of ordinary construction, except so far as the turn-down devices are concerned, compris-

ing a bulb *a*, a screw threaded shell *b* for insertion in a similarly threaded socket and in which the neck of the bulb is seated and secured by suitable cement *c* or other suitable means, a large filament *d* and a small filament *e*. One end of the large filament *d* is connected by a leading in wire *d'* to a contact *d*² and one end of the small filament *e* is connected by a leading in wire *e'* to the shell *b*, while the other ends of the two filaments are electrically connected as by the twisting together of leading in wires *e*². As is usual in lamps of this description, connection is established from the supply wires to the contact *d*² and to the shell *b* when the lamp is screwed into the socket, a key being provided to control the supply of current to the lamp.

In the improved lamp, the shell *b* forms one of the lamp terminals, the leading in wire of the filament *e* being connected directly thereto, and provision is made whereby the common connection *e*² of the two filaments is electrically connected with the shell *b* when the filament *e* is to be cut out or short circuited. To this end a screw threaded post *f* is secured directly to the shell *b*, in electrical contact therewith near the edge thereof. A strip *g* of fiber or other suitable insulating material is folded over the edge of the shell *b*, having in its outer portion an aperture to receive the stud *f*. A strip *h*, of copper, preferably having the form shown in Fig. 3, and having a hole *h'* of such size as to receive the stud *f*, with sufficient clearance to avoid the possibility of contact with the stud, is placed upon the stud and its end portion *h*² is folded over the edge of the shell *b*. An insulating washer *i*, of fiber or other suitable material, is then slipped upon the stud *f*, and the other portion of the copper strip *h* is folded over it and over the edge of the shell *b*, the narrow portion *h*³ of the copper strip overlying the washer *i* at one side of and in juxtaposition to the stud *f* and out of contact therewith. It will be understood, of course, that the insulating strip *g* lies between the shell *b* and the copper strip *h*, so that the latter is completely insulated from the stud *f* and from the shell *b*, the insulating strip being wider than the copper strip. On the stud *f* is mounted a circuit closer in the form of a nut or screw threaded disk *k* which, when screwed home against the portion *h*³ of the copper contact strip, completes the

circuit between the stud and the copper contact strip and, since the common connection e^2 of the filaments is electrically connected to one end of the contact strip h , as shown in Fig. 2, the circuit is therefore completed from the leading in wire d' through the filament d and the common connection e^2 to the shell b , thereby short circuiting the filament e .

The threaded disk or nut k is preferably of copper so that the arcing between the two contacts h and k , as the circuit is closed or opened, is reduced to a minimum. For convenience in operation of the disk k a cord l is connected to the disk, at its edge, and the two parts l' and l'' thereof are led through suitable guides m' and m'' , mounted on the shell b , so that a pull upon one cord rotates the disk in a right hand direction to screw it home against the contact strip h^3 to close the circuit, while a pull on the other cord rotates the disk in the opposite direction to carry it away from the contact strip h^3 to open the circuit. The range of movement which it is possible to give the disk k is very limited and close adjustment is therefore necessary. Accordingly, the disk is provided about its circumference with a series of holes k' into one of which the cord l can be connected so that a partial rotation of the disk in one direction through a small arc shall with certainty close the circuit, while a corresponding rotation of the disk in the opposite direction shall open the circuit.

It will be seen that the stud f is firmly secured to the shell and is not liable to be pulled out as would be the case if it were necessary to insulate the stud from the shell, while at the same time the parts are so arranged that danger of accidental short circuiting is eliminated and the desired operation can be effected with certainty.

I claim as my invention.

1. A switch for incandescent electric lamps comprising a stud secured to the shell of the lamp and in electrical contact therewith, an insulating strip perforated to receive the stud and folded over the edge of the shell, an insulating washer on the stud, a contact strip having a perforation to receive the stud and slipped upon the stud between the shell and the washer and folded over the washer and over the edge of the shell and having the common connection of the filaments of the lamp electrically connected therewith, a circuit closer mounted movably on the stud and movable to complete the circuit between the same and the portion of the contact strip overlying the washer and cords connected to said circuit closer to move the same.

2. A switch for incandescent electric lamps comprising a screw threaded stud secured to the shell of the lamp and in electrical contact therewith, a contact to which the common connection of the filaments is electrically connected, said contact being mounted in juxtaposition to the stud but insulated therefrom and from the shell, a screw threaded disk-like circuit closer mounted on the stud and adapted to complete the circuit between the same and said contact when screwed home, cords connected to said disk to rotate the same in one direction or the other and guides for the cords, said disk-like circuit closer having a series of holes about its circumference in any one of which the cords may be connected.

This specification signed and witnessed this 16th day of November A. D. 1909.

JOHN J. ROONEY.

Signed in the presence of—

ELLA J. KRUGER,

AMBROSE L. O'SHEA.