

A. W. W. MILLER.
INCANDESCENT ELECTRIC LAMP.
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Fig. I.

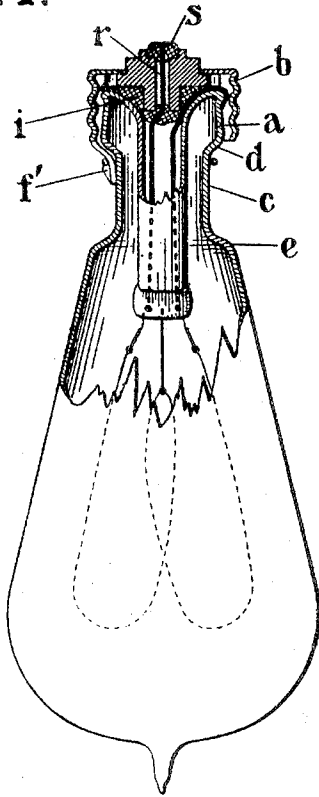
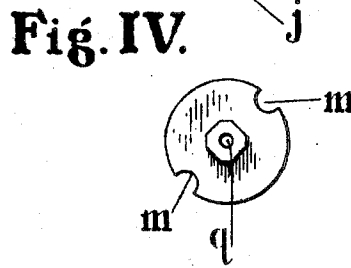
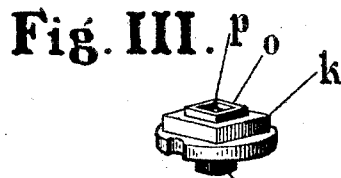
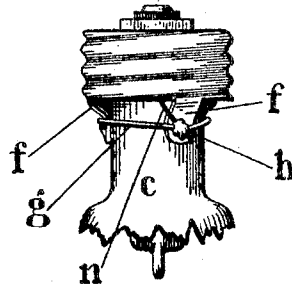


Fig. II.



WITNESSES:

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INCANDESCENT ELECTRIC LAMP.

No. 797,593.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT W. W. MILLER, a citizen of the United States, residing at South Orange, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

The objects of this invention are to provide incandescent electric lamps of cheap and desirable construction in which the neck of the lamp may be cut for repairing either with or without removal of the contact-sleeve.

To this end the invention consists more particularly in a special construction of the neck of the bulb and combining with it a short contact-sleeve. This sleeve is made removable, being detachably bound or clamped on the neck, and associated with it is a special form of insulating disk or button hereinafter described.

A further feature of the invention is the mode of forming the base contact or terminal of the lamp, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a view of the lamp with the neck end in longitudinal section; Fig. 2, an elevation of the neck end of the lamp, and Figs. 3 and 4 are detached views of a special form of insulating-button applied at the base of the lamp.

The lamp is formed with the ordinary internal leading-in-wire tube secured to the neck at the extreme end. At the end and extending for an appropriate distance, as indicated at *a*, the neck is of such diameter as to quite fill the sleeve *b*, there being preferably only sufficient difference in diameter between this part of the neck and the sleeve to permit the ready placing of the sleeve over the neck. The part *c* of the neck is of materially less diameter, forming a shoulder *d*, and where the part *c* of reduced diameter joins the bulb the latter swells outwardly, forming a shoulder *e*. The neck is therefore of two diameters, that of the part *a* adjacent the end being greatest and that of the part *c* between the bulb and *a* being materially less. The sleeve *b* is made of such length that its lower edge terminates in or about in the plane of the shoulder *d*, and is formed with projecting lips or tongues *f*, which being bent inwardly under the shoulder *d* may be secured, as shown, by a binding-wire *g*. The tongues *f* are preferably formed with shoulders *f'* to retain the wire in place, and the ends of the wire are preferably secured by a drop of sol-

der *h*, which electrically connects with the sleeve the leading-in wire, which is shown as passing over the end of the neck and between the part *a* and the sleeve. As appears from Fig. 1, the cylindrical part of the neck *c*, which is of smaller diameter, is of considerable length and should be of such length as to permit the cutting of the neck at this point for repairing the lamp. With the organization disclosed such cutting may be accomplished and the neck re-fused after repair without removal of the sleeve, although the sleeve may of course readily be removed by cutting the wire *g* or fusing the drop of solder *h*, and the same sleeve may readily be replaced after repair of the lamp has been completed.

Secured in the open end of the lamp-neck by means of a suitable seating *i* of cement of any appropriate character is an insulating-button, preferably of porcelain or of vitreous character. On the under face of this button is a hub *j*, which may be square or of other appropriate cross-section, preferably angular, to hold the button against turning, and on its upper face is formed an angular boss *k*, around which closely fit the edges of the correspondingly-shaped opening in the end of the sleeve. The button being firmly seated the effect is to lock the sleeve against rotation should it be liable to turn because of insufficient tension on the binding-wire *g*. In the edge of the button are formed opposite notches *m*, through one of which passes the leading-in wire *n*, that extends between the neck of the sleeve and is secured to the sleeve, as in Fig. 2. Projecting beyond the boss *k* is a smaller one *o*, which may be of any cross-section, although it is shown as square, and in its face is a cavity *p*, preferably angular in cross-section, communicating with which is a passage *q*, through which one of the leading-in wires extends and the outer end of which is secured by solder *s*, that fills the opening or cavity *p* and constitutes with the end of the wire embedded in it the base-terminal of the lamp. The cavity *p* being angular in cross-section there is no possibility of this piece of solder turning in the event that it should not adhere sufficiently to the surface of the cavity in the button.

The piece or drop of hardened metal *s* has been called "solder." Of course any appropriate metal that may be softened or rendered fluid by heat applied as desired and that then hardens on cooling may be used.

The face of the body of metal *s* is ground or turned off flat. The use of the smaller boss *o* in which is the cavity for this metal raises the base-contact above the boss *k* and obviates possibility of the boss *k* striking against the socket-contact.

I claim as my invention—

1. An incandescent-lamp bulb having a neck provided with a cylindrical inner portion formed with straight parallel sides connected to the bulb and a cylindrical outer portion of larger diameter connected to the inner portion of the neck by a shoulder, a contact-sleeve enveloping only the outer portion of the neck and having parts engaging the shoulder and means for preventing the sleeve from turning.

2. An incandescent-lamp bulb having a neck formed with a cylindrical inner portion next the bulb and a cylindrical outer portion of larger diameter connected to the inner portion of the neck by a shoulder, a contact-sleeve enveloping only the outer end of the neck and having portions engaging the shoulder between the inner and outer portions of the neck, an insulating-button applied to the neck and engaging the sleeve to hold it against turning, a leading-in wire extending centrally through the button and a leading-in wire electrically connected with the sleeve.

3. An incandescent electric-lamp bulb having a neck formed with an inner part next the bulb and an outer part of larger diameter connected to the other part of the neck by a shoulder, a button of insulating material secured to the base of the lamp and having a projecting angular base on its outer face, a sleeve having a corresponding opening embracing the base and which surrounds the upper or outer part only of the neck, devices carried by the sleeve engaging the shoulder formed between the outer part of the neck and the inner part thereof, and means for binding said projecting parts inside the shoulder.

4. In an incandescent electric lamp, the combination of the bulb, sleeve and leading-in wires, of an insulating-button, centrally apertured, formed with a projection *j* extending into the open end of the neck, a boss

k embraced by a correspondingly-shaped opening in the sleeve and a cavity *p* in its face, substantially as and for the purpose set forth.

5. An incandescent-lamp bulb combined with an apertured button cemented to its end and having a solder-receiving cavity, a contact-sleeve slipped over the button and locked to it against rotation, leading-in wires, one of which is electrically connected with the sleeve and the other of which passes through the apertured button, a hardened solder seated in the cavity in the face of the button and electrically connected with and securing one of the leading-in wires and means for securing the inner end of the sleeve to the neck of the lamp.

6. The herein-described insulating-button for the base end of an electric lamp, formed on its inner face with a perforated projecting hub, and on its outer face with bosses of unequal cross-section, and the inner or outer one of which is formed on its outer face with a solder-receiving cavity communicating with the perforation in the hub for the purpose specified.

7. In an incandescent electric lamp, the combination with the bulb and sleeve of an insulating-button secured to the base end of the lamp and formed with a solder-receiving cavity and with a boss to which the sleeve is locked, leading-in wires one of which is electrically connected with the sleeve and the other secured to a hardened solder seated in the cavity in the face of the button.

8. An incandescent-lamp bulb having a neck formed with a cylindrical inner portion having straight parallel sides and a cylindrical outer portion of larger diameter connected thereto by a shoulder, a contact-sleeve enveloping only the outer end or larger portion of the neck and having tongues *f* bent to engage the shoulder and means for confining the tongues inside the shoulder.

In testimony whereof I have hereunto subscribed my name.

ALBERT W. W. MILLER.

Witnesses:

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KATHARINE MACMAHON.