

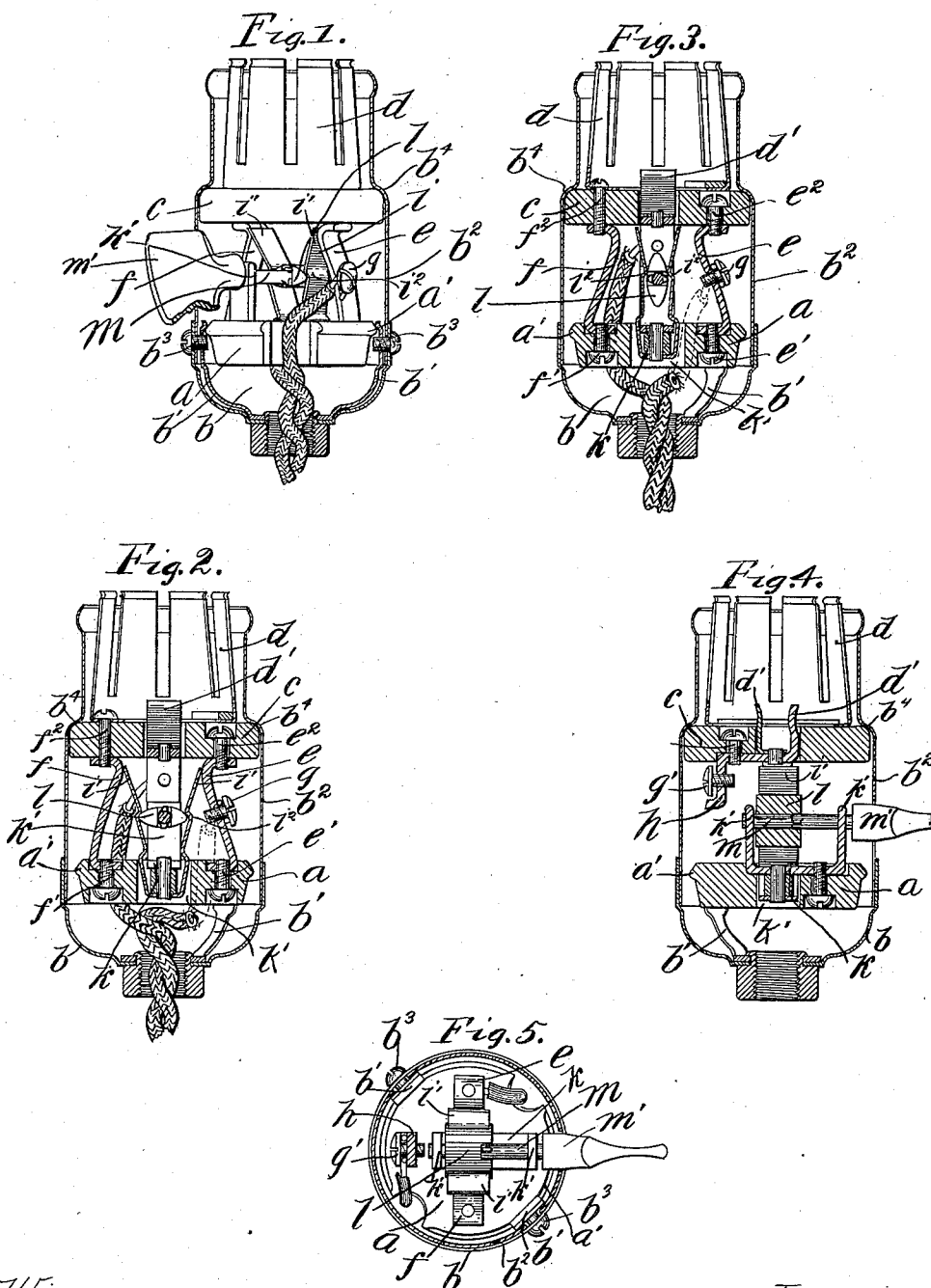
No. 662,510.

Patented Nov. 27, 1900.

E. P. WARNER.
INCANDESCENT LAMP SOCKET.

(Application filed May 20, 1899.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

ERNEST P. WARNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 662,510, dated November 27, 1900.

Application filed May 20, 1899. Serial No. 717,595. (No model.)

To all whom it may concern:

Be it known that I, ERNEST P. WARNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Incandescent-Lamp Sockets, (Case No. 68,) of which the following is a full, clear, concise, and exact description.

My invention relates to a switch-socket for incandescent lamps; and its object is to improve and simplify the construction of such devices in numerous details, especially with regard to the switching mechanism and the mounting of the several parts.

One feature of my invention consists in providing improved means for retaining the base-plate within the base while the parts of the socket are being assembled.

Another feature consists in an improved form of switching mechanism whereby the circuit may be quickly and effectively broken at two points and, further, whereby the movable parts of the switch may be entirely disconnected from any current-carrying part when the circuit is broken to extinguish the lamp, thus lessening the danger of accidental short-circuits.

My invention consists, further, in certain details of construction and combinations of mechanism, which I will hereinafter fully describe and which will be particularly pointed out in the appended claims.

I will describe my invention particularly by reference to the accompanying drawings, wherein—

Figure 1 is a vertical sectional view of a lamp-socket embodying my invention, some of the parts being shown in elevation. Fig. 2 is a vertical sectional view taken through a plane at an angle to that of Fig. 1 and showing the switching mechanism in a position to complete the electric circuit which includes the lamp. Fig. 3 is a view similar in all respects to Fig. 2, except that the switching mechanism is shown in its alternative position with the circuit through the lamp broken. Fig. 4 is a vertical sectional view taken through a plane at right angles with the plane of Figs. 2 and 3. Fig. 5 is a sectional plan view, the upper insulating-plate having been removed to disclose the parts below.

Similar letters of reference are used to designate the same parts wherever they are shown.

The base-plate *a*, whereon the switch parts are mounted, is of a generally circular shape and is held in place within the cup-shaped base *b* by resilient arms *b' b'*. These arms branch upwardly from the bottom of the cup and follow its side walls, the upper ends of said arms being resilient for lightly engaging the beveled upper edge *a'* of the base-plate *a*. This arrangement is provided for convenience in assembling the several parts, so that the base-plate may be maintained within the cup while other parts are being manipulated. The base-plate is of course made from insulating material, such as porcelain, and a second porcelain plate *c*, whereon the contact-terminals *d d'* of the lamp-socket are mounted, is supported from the base-plate *a* by the posts or arms *e f*. The parts *e* and *f* are secured to the base-plate *a* by screws *e' f'*, respectively, and the plate *c* is mounted upon the top of said posts and attached thereto by screws *e² f²*, respectively, screw *f²* also serving to fasten the lamp-terminal *d* in place. The terminal contact-pieces *d d'* shown are adapted for receiving a well-known form of incandescent lamp; but it is evident that these terminals may be given the proper forms for any of the well-known types of lamp-bases.

The shell *b²*, which is designed to inclose and protect the current-carrying parts of the socket, fits snugly within the base *b*, between the walls thereof and the arms *b' b'*, and is held in place by screws *b³ b³*, passing through the base and shell and having threaded engagement with said arms. The upper part of the shell is contracted, leaving a shoulder *b⁴* therein, against which the upper porcelain plate *c* abuts, and whereby the two plates *c* and *b*, with the parts supported thereby, are held in position.

A binding-screw *g* is provided upon the post *e*, whereby one of the conducting-wires may be attached to such post, constituting the same one of the terminals of the circuit. The other conducting-wire is in permanent electrical connection with the screw-post terminal *d'* through an arm *h*, mounted upon said screw-post terminal underneath the plate *c*,

to which arm the conducting-wire is fastened by a binding-screw *g'*. It is evident, then, that to complete the circuit of the conducting-wires up to the terminals *d d'* and thence through the lamp it is necessary to connect electrically the two parts *e* and *f* when it is desired to light the lamp. To do this, I have provided the contact-spring *i*, which is of a general U shape, the lower portion being secured to a suitable brass mounting or bed-plate *k*, fastened within a recess *k'*. The contact-arms *i' i'* of the U-shaped spring extend upwardly between the two posts *e* and *f* and normally are disengaged from the other parts of the switching mechanism, but may be spread apart by a rotatable cam-block *l*, mounted between them, until they engage and electrically connect the posts *e* and *f*. The cam-block *l* is mounted upon a shaft *m*, so that it can turn a short distance in either direction independently thereof, and the shaft is mounted to rotate in bearings *k' k'*, extending upwardly from the bed-plate *k*, said shaft being connected with and operated by the thumb-piece or key *m'*. The upwardly-extending arms *i' i'* are preferably shouldered or buckled where they are engaged by the cam *l*, as shown at *i² i²*, so that the cam will be held against accidental rotation. This also secures a "quick break" by releasing the cam as soon as it has been forced past the shoulders *i²*, the arms being thus permitted to spring toward one another, simultaneously breaking the circuit at two points in series—that is, disconnecting both contact-posts *e* and *f* from the spring. It will be noted that when the circuit is thus broken the parts of the switching mechanism—the spring *i*, cam-block *l*, and shaft *m*, together with their mounting *k*—are entirely disconnected from any of the current-carrying parts, thus effectually preventing accidental short circuits.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. In an incandescent-lamp socket, the combination with the base, of a base-plate contained therein, said base-plate supporting the switching and contact parts, and resilient arms *b' b'* mounted upon the base and having flange-tipped, spring-like ends adapted to engage with the upper edge or periphery of said base-plate, whereby said base-plate is held by said arms against removal from the base, substantially as set forth.

2. In an incandescent-lamp socket, the combination with the base, of a base-plate contained therein, said base-plate supporting the switching and contact parts, arms *b' b'* carried by the base, said arms having resilient flange-tipped ends adapted to engage the periphery of said base-plate to retain the same against removal from the socket, an inclosing shell fitting upon the base, and screws *b³ b³* passing through the base and shell and having threaded engagement with said arms to secure the shell to the base, the base-plate being independent of said screws, substantially as set forth.

3. In a switch-socket, the combination with the base-plate *a*, of an insulating-plate *c* carrying the socket-terminals, posts *e f* uniting said plates and forming contact parts, a pair of spring contact-arms *i' i'* electrically united but normally disconnected from any electrically-energized part, the said arms being adapted respectively to electrically engage with the posts *e f* or open the circuit therebetween at two points, and a cam *l* adapted to be actuated and effect such engagement and disengagement of the contact-arms and posts, substantially as described.

4. In an incandescent-lamp socket, the combination with the base, of an insulating base-plate *a* contained therein, an upper insulating-plate *c*, two arms *e f* mounted upon the base-plate and supporting said upper plate, an inclosing shell *b²* mounted upon the base and having a shoulder *b⁴* engaging with the said upper plate *c*, a lamp-socket terminal *d* electrically connected with one of the said supporting-posts, the other of said supporting-posts being connected with one terminal of the leading-in wires, a second lamp-socket terminal *d'* connected with the other leading-in wire, a U-shaped contact-spring mounted between the said posts and normally disconnected from any current-carrying part, and a rotatable cam *l* adapted to spread the arms of said U-shaped spring apart to engage one with each of said posts, whereby the circuit from one post to the other is completed through said U-shaped spring, substantially as set forth.

In witness whereof I hereunto subscribe my name this 10th day of May, A. D. 1899.

ERNEST P. WARNER.

Witnesses:

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