April 13, 1948. M. GOLDBERG 2,439,385

ELECTRIC SOCKET

Filed April 10, 1945

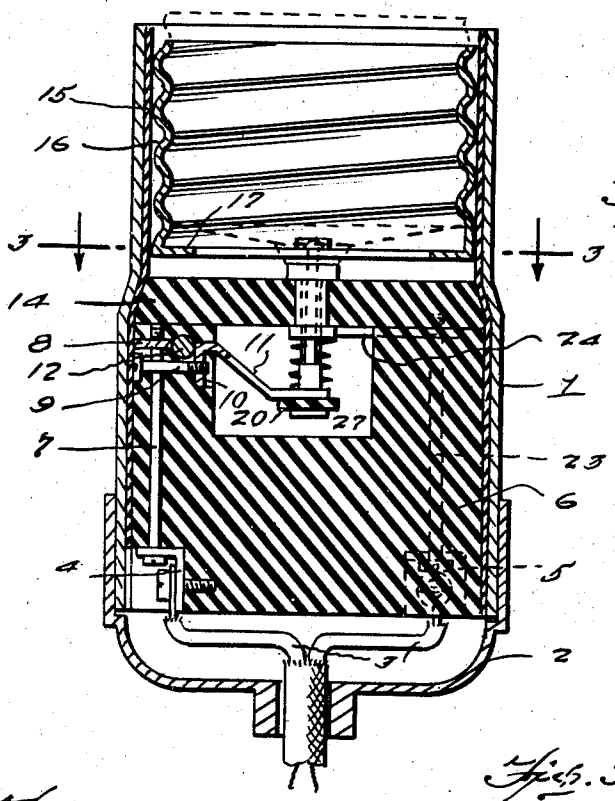


Fig. 1.

Fig. 2.

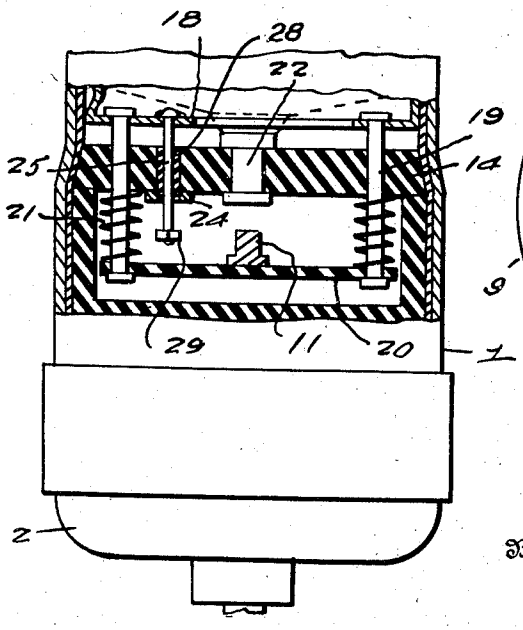
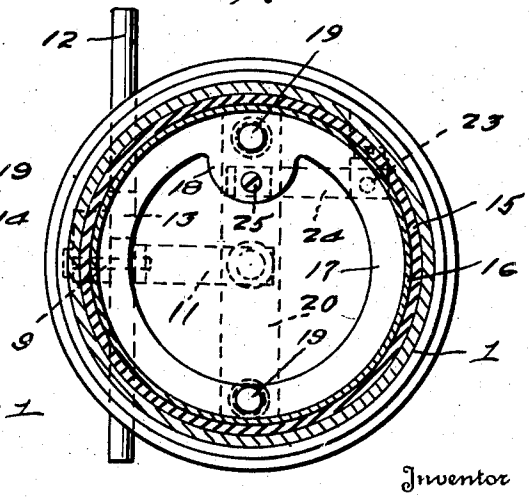


Fig. 3.



Inventor

Morris Goldberg

By McMorrow & Berman

Attorneys

Patented Apr. 13, 1948

2,439,385

UNITED STATES PATENT OFFICE

2,439,385

ELECTRIC SOCKET

Morris Goldberg, Pittsburgh, Pa.

Application April 10, 1945, Serial No. 587,551

3 Claims. (Cl. 200—51.09)

1

This invention relates to electric sockets, and more particularly to a lamp socket having safety features.

A main object of this invention is to provide a novel lamp or screw plug socket having an improved contact regulating structure.

A further object of this invention is to provide an improved lamp socket structure having means for maintaining the socket in safe condition when no lamp or screw plug is mounted therein whereby the possibilities of accidental shock are reduced.

Further objects and advantages of the invention will appear from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a vertical cross-sectional view of an improved electric socket in accordance with this invention.

Figure 2 is a detail view of a portion of the socket of Figure 1 with parts broken away to show the interior construction.

Figure 3 is a cross sectional view taken on line 3—3 of Figure 1.

In the conventional standard electric socket if contact is made with the internal portion thereof by a person during the removal or replacement of a bulb or other screw plug electrical device, a serious shock may result when the fingers touch the contact elements within the socket. It is a prime purpose of this invention to provide a means for automatically disconnecting the socket from the electrical power circuit when the bulb or other screw plug device is unscrewed and removed from the socket and for maintaining the interior of the socket in a safe condition until a new bulb or device is screwed into the socket.

Referring to the drawings, an electric socket is disclosed comprising an outer sleeve 1 of metal, rubber, plastic or other suitable material and an end cap portion 2 through which the electric wires 3, 3 pass for connection to the socket in a well-known manner. One of the wires is connected to a first terminal 4 and the other wire is connected to a second terminal 5. The respective terminals are supported on an insulating body member or base 6 of porcelain, Bakelite or other suitable insulating material. A bolt member 7 connects terminal 4 with a metal contact bar 8, said bolt threadedly engaging said contact bar to rigidly secure terminal 4 to body member 6, said bar 8 being preferably firmly embedded in said body member. A radial bore is provided adjacent the top end of body member 6, said bore being offset with respect to bolt 7 to avoid interference therewith and a bolt 9 is passed there-

2

through into threaded engagement with a contact flange 10 of a spring metal strip member 11, said contact flange 10 being positioned opposite contact bar 8. A transverse bore is provided between contact bar 8 and contact flange 10 which slidably receives a contact bar 12 of insulating material having a metallic contact section 13 adapted at times to be positioned in conducting relation between contact bar 8 and contact flange 10 to provide a control switch.

Positioned on top of body member 6 is an insulating disc forming a partition 14 rigidly held in place within sleeve 1 by a tightly fitting insulating lining sleeve 15 which is appropriately formed to engage disc 14 to maintain it in position on body member 6 and which is substantially flush with the top end of sleeve 1 at its upper end. Slidably mounted within insulating sleeve 15 is a metal shell member 16 suitably corrugated to provide internal screw threads to receive the threaded base of a lamp or screw plug.

Shell member 16 is formed at its lower end with an internal annular flange 17 having formed thereon a lug 18. Diametrically positioned with respect to lug 18 and slidably passing through flange 17 and disc 14 are a pair of elongated vertical pin members 19, 19 headed at both ends and carrying at their lower ends a rigid strip member or cross-bar 20 of insulating material. Coil springs 21, 21 are respectively mounted on pin members 19, 19 bearing between disc 14 and strip 20 to thereby bias shell 16 to a depressed position within sleeve 1.

The inner portion of resilient strip member 11 is vertically offset and bears on strip 20, said strip member 11 being preferably transversely related with respect to strip member 20. Rigidly positioned in disc 14 above the inner end of strip member 11 is a central contact member 22 adapted to be contacted at its top portion by the central contact of a lamp base or screw plug threaded into shell 16. Strip member 11 is biased to be normally maintained out of contact with central contact member 22. However, it may be pressed into contact with member 22 by strip 20 when shell 16 is raised by the vertical thrust developed between said shell and the center contact of a lamp bulb base or screw plug when said base or plug is threaded into said shell.

A bolt member 23 connects terminal 5 to a horizontal metal strip member 24 positioned at the top portion of body member 6. The inner end portion of strip member 24 is formed with an opening through which passes a bolt member 25 carried by and rigidly secured to lug 18 of the

shell 16. Bolt member 25 is normally insulated from strip member 24 by an insulating sleeve. Bolt member 25 carries at its lower end a nut 29 adapted to be raised into contact with strip member 24 when shell 16 is raised resulting from the insertion of a lamp bulb base or screw plug into the socket.

As shown in Figure 1, body member 6 is formed with an internal cavity 27 at its upper portion to receive the various spring biased elements and to permit the motion of said elements resulting from the insertion or removal of a lamp base or screw plug with respect to the shell.

It is thus apparent that when a lamp base or screw plug is threaded into shell 16, contact will be made between member 11 and member 22 and also between nut member 29 and strip member 24 so that the lamp or electrical device may be energized by actuation of switch bar 12. When the lamp base or screw plug is unscrewed from shell 16, contact 11 moves away from contact 22, nut 29 moves away from member 24 and the socket is safe so that no shock will be received if the interior parts of the socket shell are accidentally touched by the fingers.

While a specific embodiment of a safety lamp socket has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention other than those as defined by the scope of the appended claims.

What is claimed is:

1. In an electric socket, the combination, which comprises a sleeve forming a casing with an insulating plug forming a base in one end and a floating threaded shell adapted to receive an electric cord screw plug in the other, a transverse insulating partition in said casing between the base and shell, spaced pins extending from the inner end of the shell through and slidable in said partition, a cross-bar carried by the ends of the pins extending through the partition and on the side thereof opposite to the shell, springs on the pins urging the cross-bar away from the partition and thereby holding the shell inward, a centrally disposed contact extending through said partition with a head on each side thereof, a contact on the cross-bar positioned to contact a head of the said contact centrally disposed in the partition, a contact rod connected to the inner end of the shell extending through and slidable in said partition spaced from said centrally disposed contact, a contact plate on the surface of said partition positioned to be contacted by said contact rod, and connections from a cord extending into the end of the socket in which the base is positioned to said contact plate and contact on the cross-bar, said shell having a centrally disposed opening wherein a centrally positioned contact projecting from a threaded electric plug contacts the centrally disposed contact of the partition and draws the shell and cross-bar carried thereby outward closing the contact on the partition, cross-bar and contact rod.

2. In an electric socket, the combination, which comprises a sleeve forming a casing with an insulating plug forming a base in one end and a floating threaded shell adapted to receive an electric cord screw plug in the other, a transverse insulating partition in said casing between the base and shell, spaced pins extending from the inner end of the shell through and slidable in said partition, a cross-bar carried by the ends of the pins extending through the partition and on the side thereof opposite to the shell, springs on the pins urging the cross-bar away from the partition and thereby holding the shell inward, a centrally disposed contact extending through said partition with a head on each side thereof, a contact on the cross-bar positioned to contact a head of said contact centrally disposed in the partition, a contact rod connected to the inner end of the shell extending through and slidable in said partition spaced from said centrally disposed contact, a contact plate on the surface of said partition positioned to be contacted by said contact rod, a switch connected to the contact on said cross-bar actuated by a handle extending from the casing, and connections from a cord extending into the end of the socket in which the base is positioned to said contact plate and contact on the cross-bar, said shell having a centrally disposed opening wherein a centrally positioned contact projecting from a threaded electric plug contacts the centrally disposed contact of the partition and draws the shell and cross-bar carried thereby outward closing the contact on the partition, cross-bar and contact rod.

3. In an electric socket, the combination, which comprises a sleeve forming a casing with an insulating plug forming a base in one end and a floating threaded shell adapted to receive an electric cord screw plug in the other, a transverse insulating partition in said casing between the base and shell, spaced pins extending from the inner end of the shell through and slidable in said partition, a cross-bar carried by the ends of the pins extending through the partition and on the side thereof opposite to the shell, springs on the pins urging the cross-bar away from the partition and thereby holding the shell inward, a centrally disposed contact extending through said partition with a head on each side thereof, a contact on the cross-bar positioned to contact a head of the said contact centrally disposed in the partition, a contact rod connected to the inner end of the shell extending through and slidable in said partition spaced from said centrally disposed contact, a contact plate on the surface of said partition positioned to be contacted by said contact rod, and connections from a cord extending into the end of the socket in which the base is positioned to terminals in the outer ends of the base connected to said contact plate and contact on the cross-bar, said shell having a centrally disposed opening wherein a centrally positioned contact projecting from a threaded electric plug contacts the centrally disposed contact of the partition and draws the shell and cross-bar carried thereby outward closing the contact on the partition, cross-bar and contact rod.

MORRIS GOLDBERG.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,320,196	Benjamin	Oct. 28, 1919
1,951,981	Johnson et al.	Mar. 20, 1934
2,158,851	Ceader	May 16, 1939
2,158,852	Ceader	May 16, 1939
2,158,862	Phelps	May 16, 1939
2,179,797	Nemeth	Nov. 14, 1939