Sept. 11, 1928. 1,683,992

M. H. SHOENBERG ET AL

CIRCUIT INTERRUPTER AND SOCKET

Filed May 24, 1926

FIG_1_

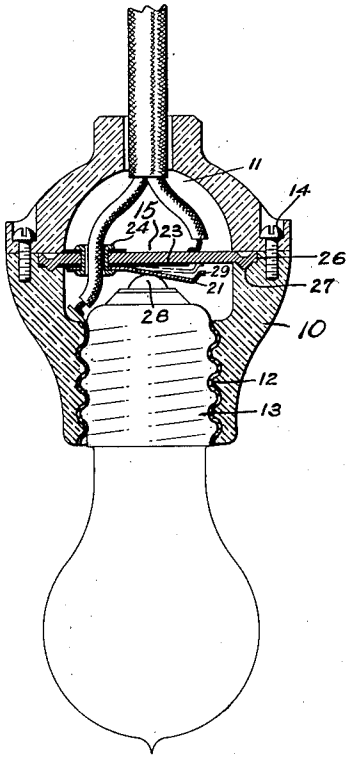


FIG_2_

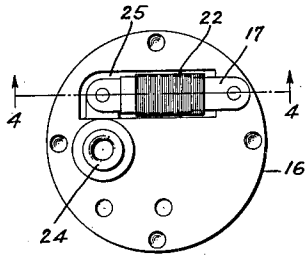


FIG_3_

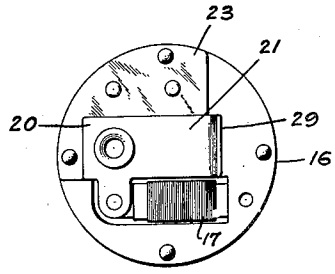


FIG_4_

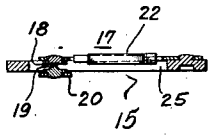
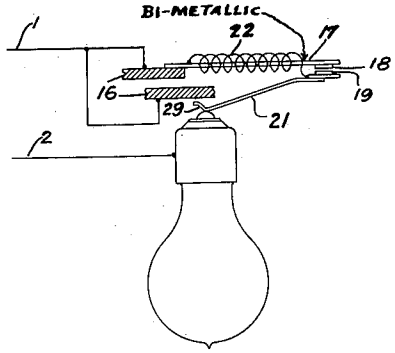


FIG_5_



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MILTON H. SHOENBERG AND LESTER SCHON, OF SAN FRANCISCO, CALIFORNIA; SAID SCHON ASSIGNOR TO SAID SHOENBERG.

CIRCUIT INTERRUPTER AND SOCKET.

Application filed May 24, 1926. Serial No. 111,119.

This invention relates generally to devices for periodically varying the current in a lighting circuit.

In lighting circuits which employ a circuit interrupter it is often desirable to provide a switch for either causing one or more lamps to burn steadily or to flash periodically. In prior arrangements it was necessary to provide a separate manually controlled switch which of course required special connections with the circuit.

It is an object of this invention to devise a combined circuit interrupter and switch whereby the interrupter contact may be either operatively connected in series with the circuit or may be shunted out or made ineffective.

It is a further object of this invention to devise a novel arrangement for incorporating a circuit interrupter in combination with a lamp socket.

It is a further object of this invention to incorporate a switching device in a combined lamp socket and circuit interrupter whereby upon rotation of the light the interrupter element may be either operatively connected in the circuit or shunted out as desired.

Further objects of this invention will appear from the following description in which we have set forth the preferred embodiment of our invention. It is to be understood that the scope of this invention is to be determined from the appended claims and the state of the prior art.

Referring to the drawings:

Figure 1 is a cross sectional elevation showing the device as constructed in accordance with this invention.

Figs 2 and 3 are top and bottom plan views respectively of the interrupter element and its mounting.

Fig. 4 is a cross sectional view taken along the line 4—4 of Fig. 2.

Fig. 5 is a circuit diagram showing the manner in which this interrupter and the lighting socket are connected to a source of current.

The device comprises generally a lamp socket or receptacle which is combined with a suitable form of circuit interrupter, the circuit interrupter being preferably mounted within the hollow socket casing. Thus as shown in Fig. 1, there is provided a lamp socket comprising a hollow body portion 10 and cap 11 forming a hollow casing and constructed of suitable insulating material such as a phenolic condensate product. Secured to the lower portion of the body 10 is an internally threaded metal sleeve 12 which is adapted to receive a threaded connection plug or a lamp base 13. The cap 11 may be removably secured to the body portion as by means of screws 14.

Mounted within the interior of the socket and above the sleeve 12 there is a circuit interrupter element 15, preferably of the type shown in our copending application No. 133,136, filed Sept. 2, 1926. Such an interrupter comprises a metal plate in the form of a disc 16 upon which is mounted a bimetallic element 17. The movable end of this element carries a contact 18 which is grounded to the disc 16, this contact co-operating with an insulated contact 19. This insulated contact is carried by a spring metal strip 20, one end of which forms a spring contact strip 21 which is sprung away from the lower face of the disc 16. A heating resistance 22 is suitably positioned upon the bimetallic element and is preferably connected in shunt with the contacts. A sheet of insulating material 23 is inserted between the strip 21 and the disc, and an eyelet 24 is employed for securing strip 21 to the disc, the eyelet being suitably insulated from the metal disc. As shown in Figs. 2 and 3 the bimetallic element 17 is adapted to operate within a recess or slot 25 in the disc 16 and is offset from the center of the disc so that the spring 21 may extend centrally of the disc.

For securing the interrupter within the socket a recess 26 is provided in the upper end of the body portion whereby the edge of the disc may be clamped between the body 10 and the cap 11. Struck out projections 27 may be provided on the disc for interlocking with the body portion, thus preventing rotation of the disc. When thus supported the contact strip 21 extends in a position to engage the central contact 28 of the lamp base 13. The end of the contact strip 21 is extended beyond the edge of the insulating sheet 23 and is provided with an inturned portion 29 which is adapted to make electrical contact with the lower face of the disc when pressed upwardly.

The circuit interrupter is electrically connected as shown in Fig. 5. One supply line

1 is grounded to the disc 16 while the other line 2 is connected to the socket sleeve 12. When the central lamp base contact is screwed in sufficiently far to simply contact with the spring 21 then the circuit interrupter will be connected in series with the lamp and will cause the lamp to light periodically. When it is desired to burn the lamp steadily it is screwed more tightly into the socket to bring the portion 29 into electrical contact with the lower face of the disc, thus shunting out the interrupter contacts.

We claim:

1. A device of the class described comprising an electrical socket, a circuit interrupter mounted within said socket for repeatedly varying current supplied to the same, and switch means incorporated with said circuit interrupter for shunting out said circuit interrupter.

2. A device of the class described comprising an electrical socket adapted to receive a light base, a circuit interrupter associated with said socket for repeatedly varying current supplied to the same; and switch means operable upon rotation of said light base to shunt out said circuit interrupter.

3. A device of the class described comprising an electrical socket having a hollow casing, a plate disposed within said casing, a circuit interrupter mounted on said plate, a spring contact mounted on the underside of said plate for contacting with the central contact of a light base, said first mentioned contact forming one of the terminals for said circuit interrupter and being adapted to be forced upward by rotation of the light base to shunt out the circuit interrupter.

4. A combined socket and circuit interrupter comprising a hollow casing, a threaded metal sleeve disposed in the lower end of the casing for receiving a light base, a plate mounted within said casing above said sleeve, a spring contact disposed below said plate and insulated from the same, a circuit interrupter having contacts connected in series with a source of current and in shunt with said plate and spring contact, whereby a light inserted in said socket will contact with said spring contact to be operatively connected to a source of current in series with the interrupter contacts, further insertion of said light causing the spring contact to touch the plate and shunt out the circuit interrupter.

5. A combined socket and circuit interrupter comprising a hollow casing, a threaded sleeve disposed in the lower end of the casing for receiving a light base, a metal disc disposed within said casing above said sleeve, a circuit interrupter mounted on said disc and offset from the center of the same, a spring strip mounted on the underside of said disc and insulated from the same, the end of said strip being adapted to be contacted by a lamp base inserted in the sleeve, said disc and strip forming the two terminals for the circuit interrupter, means for connecting a supply of current to said disc and sleeve whereby a light inserted in the sleeve will be connected in series with the interrupter element but may be further inserted to force the spring strip into contact with the disc to shunt out the circuit interrupter.

6. In a device of the class described, an electrical socket having a casing, an interrupter element mounted on said casing for repeatedly varying current supplied by the socket, and switch means operable upon rotation of a light inserted in the socket for shunting said interrupter element.

7. In a device of the class described, an electrical socket including a casing, a threaded metal sleeve contact for engaging a lamp base, and a central contact; an interrupter element inserted in series with said contact for repeatedly varying current supplied to a lamp inserted in the socket, and switch means associated with the central contact for shunting the interrupter element upon rotation of the light.

8. A device of the class described comprising an electrical socket adapted to be connected to current supply lines, a circuit interrupter cooperably associated with the socket and said supply lines for repeatedly varying current supplied by the socket, and switch means mounted on the socket for effecting continuous supplying of current to the socket and serving as a means for rendering said circuit interrupter inoperative.

9. In a device of the class described, an electrical socket, a circuit interrupter cooperably associated with said socket to recurrently vary current supplied by the socket, and switch means cooperably associated with the socket and adapted to be opened and closed by movement of a lamp base inserted in the socket, said switch in one position thereof serving to render said circuit interrupter inoperable to interrupt current supplied by the socket whereby the lamp may be burned steadily.

In testimony whereof, we have hereunto set our hands.

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LESTER SCHON.