Nov. 22, 1927.

1,650,549

G. B. THOMAS

CANOPY FIXTURE

Original Filed April 13, 1921

Fig. 1.

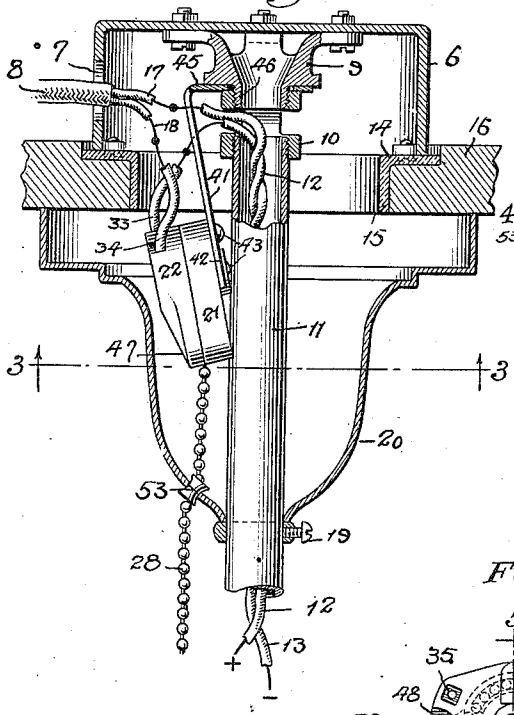


Fig. 2.

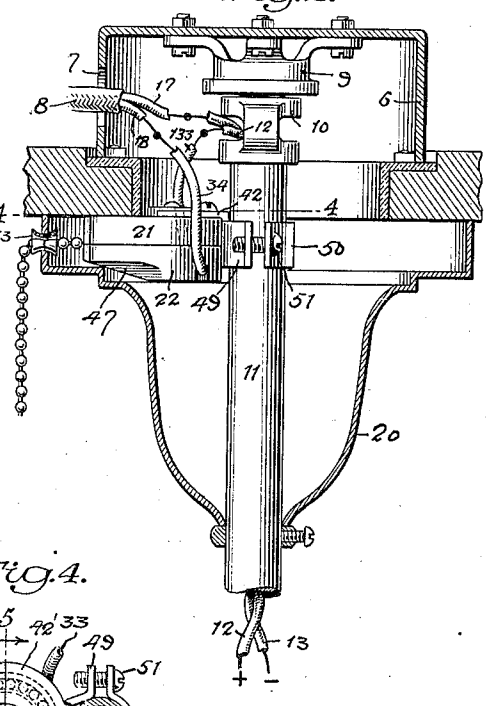


Fig. 4.

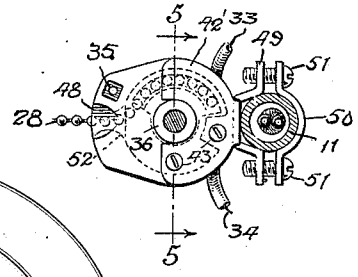


Fig. 3.

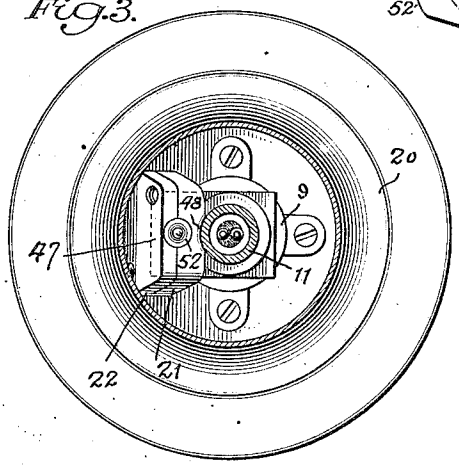
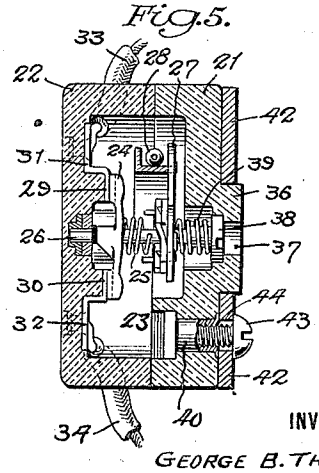


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CANOPY FIXTURE.

Application filed April 13, 1921, Serial No. 460,920. Renewed October 12, 1926.

My invention relates to canopy fixtures, and particularly to canopy switch installations. The object of my invention is to provide an installation in which the switch structure and mounting are of such character that the switch may be housed within the canopy without displacement or deformation of the latter. The mechanism of the switch may be of any character, but I prefer a pull switch, the flexible actuating chain or cord of which passes through the canopy. The installation is particularly applicable to lighting fixtures, the switch being connected in the lamp circuit to control the latter.

The invention is illustrated in the accompanying drawings, in which

Fig. 1 is a vertical section through portion of a canopy fixture showing the switch housed in one position within the canopy;

Fig. 2 is a similar view showing the switch housed in another position in the canopy;

Fig. 3 is a section on the line 3—3, Fig. 1;

Fig. 4 is a section on the line 4—4, Fig. 2; and

Fig. 5 is a section on the line 5—5, Fig. 4, drawn to a larger scale.

A lighting fixture installation is illustrated as typical of the invention. An installation of this character usually comprises an outlet box 6 through the side opening 7 in which the wire main 8 enters. Secured to the base of the box is the usual fixture stud 9 with hickey 10 and fixture pipe 11, through which the wires 12 and 13 are led from the lamp sockets (not shown) to the junction box. The latter is provided with the usual cover 14, the neck 15 of which projects through the plaster 16 of the ceiling or wall, and permits access to the interior of the box for making the necessary connections to the wires 17 and 18 of the cable 8.

Surrounding the fixture pipe 11 and secured therein by a set screw 19 is a canopy 20 of conventional type, which houses-in the junction box connections and imparts a finish to the wall end of the fixture. The particular shape of the canopy is of course subject to innumerable variations, but it is ordinarily such that insufficient room is afforded between it and the fixture pipe to accommodate a switch having sufficient current breaking capacity for use in a lighting installation. Moreover, switches of ordinary type are not equipped with suitable means for securing the same within a canopy. It has consequently been customary to control the lighting circuit either by a wall switch remote from the fixture, or by a switch of ordinary construction mounted on the exterior of the canopy, or nearby the latter, and seriously impairing the general appearance of the installation.

To meet this situation, I have devised a switch of such contour that it may be accommodated within the canopy, while at the same time its mechanism is such that it can safely control the lighting current. I also associate with the switch suitable means for securing it in fixed position within the canopy.

In the form here illustrated, the body of the present switch, which has a generally ovoid shape in plan, and is of slight thickness in side elevation, comprises a pair of insulating buttons 21 and 22, recessed on their meeting faces to afford a switch chamber 23. The switch mechanism mounted within this chamber may be of any suitable sort which will, safely control the lighting circuit. That indicated in Fig. 5 is of the general type disclosed in the co-pending application of Renholdt No. 160,475, and need not be further described than to point out the rotary switch bar 24, its actuating spring 25, the rotary spindle 26, and the ratchet member 27 with associated pull chain 28 for imparting step-by-step rotation to the switch spindle and thus to the switch bar. In circuit-closing position the bar 24 spans the switch contacts 29 and 30, the offset ends 31 and 32 of which are secured to the button 22 and afford wire terminals to which the bared ends of pig-tail leads 33 and 34 are permanently connected in any suitable way, as by soldering. The free ends of the pig-tails 33 and 34 are led out in opposite directions through closely confining apertures in the side wall of the button 22, and their ends are bared to facilitate connection with one of the wire mains, 18, and one of the fixture wires, 12, thus electrically interposing the switch in the lighting circuit. After the pig-tails have been connected to the switch terminals 31 and 32, and the switch mechanism assembled between the buttons, the latter are permanently secured together by suitable screw bolts 35, the heads and nuts of which are waxed-in to prevent ready access thereto.

The button 21 is provided with a central boss 36 which may be pierced at 37 to permit access to the usual adjustable abutment 38 for the ratchet spring 39. In the area surrounding the boss 36 I secure a plurality of tapped rivets 40 for a purpose about to be described.

While it is possible to arrange the switch within the canopy without supporting it otherwise than by permitting it to wedge itself between the fixture pipe 11 and the wall of the canopy, this does not afford a workmanlike installation. In order to secure the switch properly within the canopy, I provide bracket means of any suitable sort, adapted to be attached to the switch on the one hand, and to the fixture on the other hand, to hold the switch in fixed position within the canopy, and to relieve the latter of any strains incident to the operation of the switch mechanism. In the form shown in Fig. 1, the bracket 41 comprises a piece of strap metal forked at one end 42 to straddle the boss 36, and apertured to receive screws 43 which pass through the holes 44 in the forked end of the strap, and enter the tapped rivets 40 to clamp the bracket to the switch. At its opposite end the bracket is offset at 45 to afford a securing arm pierced to fit over the hub 46 of the stud 9, against which it is clamped by the screwing-up of the hickey 10.

When a bracket of this type is used, the switch is held with its nose end projecting downward into the narrower area of the annular chamber afforded between the pipe 11 and the canopy 20. To accommodate the switch to this restricted area, the nose of the button 22 (which is faced outward toward the canopy wall) is beveled at 47 to afford ample clearance between the canopy wall and the switch at this point. For the same purpose the button 21 (which lies against the pipe 11) is preferably grooved at 48 (Figs. 3 and 4) at its nose end to permit the switch to hug the pipe at this point and thus further increase the clearance between the canopy wall and the switch body.

In Figs. 2 and 4 I have shown a modified construction of the bracket, adapted to clamp upon the fixture pipe 11. One element 49 of the bracket is integral with the fork 42′ secured to the switch, while the cooperating member 50 of the clamp embraces the pipe, the clamping screws 51 passing through the offset ends of the bracket members, and serving to hold the switch in horizontal position. The beveled nose 47 of button 22 now permits this portion of the switch body to enter the restricted area afforded between the base of the canopy and the ceiling or wall 16.

The switch actuating member may be of any suitable type. Where it is of the pull-chain type illustrated, I preferably arrange between the buttons 21 and 22 at the nose ends of the latter, a double funnel-shaped bushing 52, which is clamped in position on the assembly of the buttons.

To permit the chain to make a free exit from the canopy, the latter is punched through either at its lower end, as in Fig. 1, or adjacent its base, as in Fig. 2, and a guide bushing 53 secured therein. The insertion of this bushing is facilitated if it is formed in two parts, which are assembled with the canopy by inserting one part in the hole punched in the canopy, and screwing the other part thereon from the opposite face of the canopy wall. The bushing is self-sustained in position by its flared ends.

It will be recognized that whether mounted in one position or the other, or in some way other than that indicated, the switch is of such construction and contour that it is readily accommodated within the canopy to one side of its axis, between the pipe 11 and the canopy wall, and affords an installation of greatly improved appearance, as well as of sound workmanlike electrical construction, adapted to standard canopy constructions without alteration of the latter.

Various modifications in detail will readily occur to those skilled in the art, which do not depart from what I claim as my invention.

I claim—

1. An electric switch comprising an insulating body having an exterior boss, and tappet sockets spaced from said boss, in combination with a supporting bracket engaging said boss and pierced to receive securing screws taking into said tapped sockets.

2. An electric switch for installation within a canopy comprising a pair of insulating buttons recessed on their adjacent faces, terminals and a switch mechanism housed between said buttons, pig tails connected to said terminals and projecting at spaced points through channels formed in one of said buttons, a flexible switch operating member projecting from the switch chamber through a channel formed between said buttons, together with a supporting bracket exteriorly secured to one of said buttons and projecting from the insulating body in the direction opposed to said switch operating member and adapted for clamping engagement with a tubular support housed by the canopy.

3. An electric switch for installation within a canopy comprising a shallow insulating body, terminals housed within said body, pig tails connected to said terminals and projecting at spaced points from said insulating body, a supporting bracket secured to said body and extending therefrom at a point between said pig tails, in combination with a switch mechanism housed within said

body, and a flexible switch operating member extending from the opposite end of the body.

4. An electric switch for installation within a canopy comprising a pair of insulating buttons recessed on their adjacent faces, means for sealing said buttons in juxtaposed relation, wire terminals, and a switch mechanism housed within said body, pig tails connected to said terminals and extending at spaced points from one end of the body, a flexible switch operating member extending from the opposite end of the body, and a supporting bracket exteriorly secured to the body and extending therefrom in a direction opposed to the switch operating member.

In testimony whereof I have signed my name to this specification.

GEORGE B. THOMAS.