May 27, 1930. M. N. RUSSELL 1,760,003

SWITCH AND FIXTURE SUPPORT

Filed Jan. 28, 1927

FIG. 1.

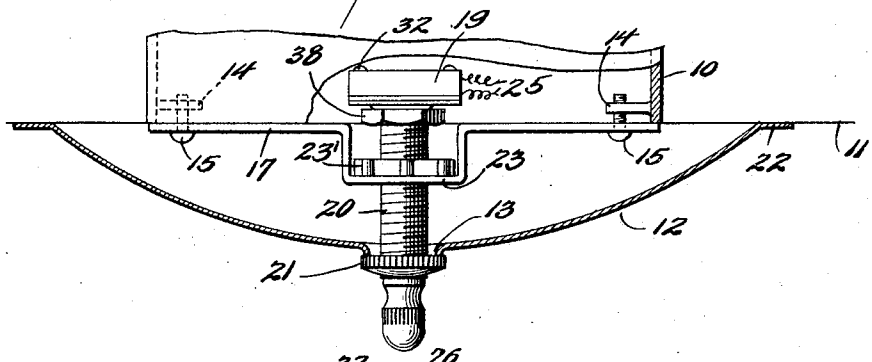


FIG. 2.

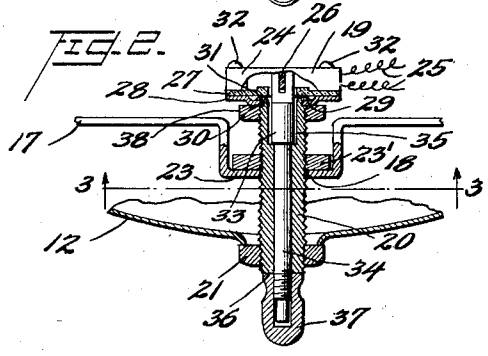


FIG. 3.

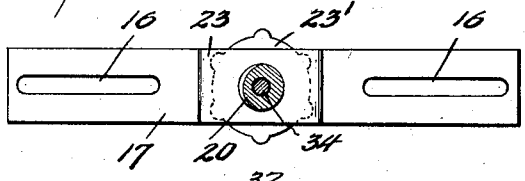
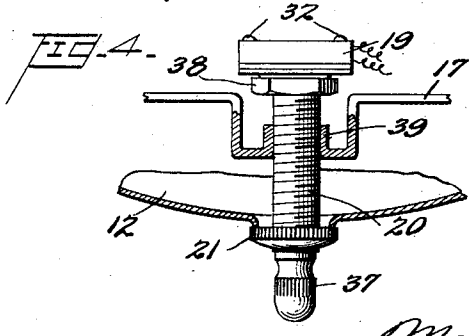


FIG. 4.



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UNITED STATES PATENT OFFICE

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SWITCH AND FIXTURE SUPPORT

Application filed January 28, 1927. Serial No. 164,307.

This invention relates to electrical devices and more particularly to combination switch and canopy supports for electric fixtures.

It is a general object of the present invention to provide a novel and improved combination of the type described.

More particularly it is an object of the present invention to provide a device for attaching a fixture canopy to the wall, the device carrying a switch for the fixture, so arranged that the switch and fixture can be completely wired and the supporting device then adjusted to the proper length to project through the canopy just a sufficient amount to receive a securing nut, without twisting or disarranging the wires of the switch.

Another object of the present invention consists in the provision of a mounting tube, for a fixture canopy, having a switch carried at one end thereof and rotatable in respect thereto.

A further object consists in the provision of a mounting tube adapted to pass through an aperture in a mounting strap attached to an outlet box and to carry on one end a switch rotatable in respect to the tube and provided with an operating means passing through the tube, the tube being adjustable longitudinally in respect to the strap, there being means to lock the switch in respect to the tube when desired.

A still further object of the present invention consists in the provision in a device as just described of means for locking the tube in respect to the strap.

Other and further objects of the invention will be more apparent to those skilled in the art after a consideration of the following specification and accompanying drawing wherein are disclosed two embodiments of the invention, it being understood, however, that various changes may be made therein such as fall within the scope of the appended claims without departing from the spirit of the invention.

In said drawing:

Fig. 1 is a section through a canopy and outlet box showing the device of the present invention applied thereto;

Fig. 2 shows the device in central section;

Fig. 3 is a section on line 3—3 of Fig. 2; and

Fig. 4 is a view similar to Fig. 1 showing a modified form of one of the parts.

In the attaching of canopies of fixtures such as candle brackets and the like to walls, it has been the general practice to attach a stud to a strap or hickey in an outlet box and allow this stud to pass through the canopy and receive an ornamental nut or the like to retain the canopy tightly against the wall. The stud could be adjusted in relation to the strap or hickey so that just the proper amount projected through the canopy. With such an arragement it was convenient to use a canopy switch, i. e. a small switch adapted to be secured in the canopy and having an operating knob on the outside. This construction required two holes in the canopy, one for the stud and one for the switch, and required several additional operations in assembling and mounting. The present device contemplates the combination of the switch and supporting stud so that the canopy need have but a single hole.

Referring to the drawing, there is shown at 10 a conventional form of outlet box such as is usually secured in a wall 11 substantially flush with the surface thereof. The canopy 12 represents any suitable form of canopy as provided on various wall fixtures or brackets. The canopy 12 is provided with a suitable aperture 13. Attached to ears 14 in the box 10 by means of screws 15 is the mounting strap 17 having slots 16 for the reception of the screws. Where necessary or desirable, this strap may be replaced by a suitable adapter secured to the bottom of the box or to a hickey therein, the only requirement being that there be a suitable hole 18 through the strap or other adapter and space behind the same for the switch 19. The walls of the hole 18 are threaded to receive the tube or hollow stud 20 which is threaded into the opening 18 and is adapted to pass through the opening 13 in the fixture canopy and receive over its end the nut 21 which engages the canopy and retains it in position with its periphery 22 in engagement with the wall 11.

The tube 20 may be adjusted so that it

projects any desired distance from the wall surface by rotating it. In this way, it is adjustable for varying depths of canopy, so that just the proper amount projects through the canopy to receive the nut 21. To further provide suitable adjustment for various depths of canopy, the strap 17 may be provided with the central offset portion 23 through which the hole 18 passes. The strap may then be applied either as shown or may be inverted to further retract the tube 20 within the box 10. It may be found desirable to provide a lock nut such as 23' to secure the stem of the tube in fixed position after it has been adjusted to the proper length so that the nut 21 may more readily be tightened.

The switch 19 may be of any of the conventional canopy switch types and herein has been shown as of the flat variety in order that less depth be needed. The internal structure has not been fully disclosed since such structures are well known. It is sufficient to state that the body portion 24 is preferably formed of a non-conducting plastic composition which receives the stationary contacts connected to the wires 25. A spring 26 is adapted to bridge the stationary contacts when properly positioned. A suitable insulating plate 27 serves to position the spring 26 and to cover the contacts so that the top of the switch may be closed by a metal plate 28. This plate is pressed outwardly near the center as shown at 29 and is provided with a central aperture to receive the reduced portion 30 of the tube 20. After this reduced portion has been passed through the opening in the plate 28, it is swaged over as at 31 to retain the plate in position, but not sufficiently tight to prevent rotation. In fact, the switch and the tube 20 are adapted for relative rotation with but little effort. The plate 27 is attached to the switch body by means of the screws 32. The contact spring 26 is straddled by a split insulating rod 33 carried on the end of the metal stem 34. The stem 34 is received in the bore of the tube 20 and the rod 33 in the counter bore 35 thereof. The stem 34 extends beyond the end 36 of the tube 20 and is adapted to receive thereon the operating knob 37 which is preferably slightly less in diameter than the tube 20 in order that the nut 21 may be removed or placed in position without removing the operating knob 37.

Arranging the switch to be rotatable in respect to the tube 20 materially simplifies the operation of mounting and wiring the fixture. The tube 20 may be assembled in the strap 17 and the strap mounted on the box. The fixture and the switch are then suitably wired to the service wires and the canopy is then fitted over the tube 20 to determine whether or not the tube is in the proper position. If it needs adjustment either inwardly or outwardly, the same is obtained by rotating this tube so that its threaded engagement with the strap will cause the proper movement. The switch is prevented from rotating by its terminal wires 25 which, therefore, do not become twisted, tangled or broken. Any amount of adjustment may be made without affecting these wires. When the adjustment is found to be proper, it may sometimes be desirable to lock the switch against rotation in respect to the stem in order that the terminal wires may not take the operating torque of the switch. This may readily be accomplished by tightening the lock nut 38 threaded on the tube 20 so that it engages with the metal cover plate of the switch. The canopy is then placed in position and the nut 21 applied and tightened.

The lock nut 23 is of such a diameter that it projects beyond the edges of the strap 17 as shown in Fig. 3 so that it may readily be tightened with the fingers. This nut, however, may be eliminated. If it is eliminated, it is preferred to provide the strap 17 with an inwardly turned tubular portion 39 which forms the wall of the threaded hole through the strap for receiving the tube 20. In this manner, a greater number of threads in the strap are engaged by the tube 20 and there will be sufficient friction to normally prevent the tube from rotating when the nut 21 is being applied.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. The combination with an outlet box and a canopy, of a strap secured adjacent the open side of said box, said strap having a threaded opening therethrough at right angles to said open side of said box, a supporting tube passing through said opening and having adjustable threaded engagement with said strap to thereby support said tube, a switch supported solely by the end of said tube facing said box, said switch and tube being relatively rotatable, an operating means for said switch passing through said tube, said canopy having a hole therein through which said tube passes and means to support said canopy solely from said tube.

2. The combination of an outlet box, a strap secured across the open end thereof, an offset portion near the center of said strap, said offset portion having a hole therethrough, a threaded supporting tube screwed into said hole with one end in said box, a lock nut on said tube to secure the same in adjusted position in said strap, a switch having a housing, said box end of said tube passing into said housing and rotatably secured therein, a lock nut on said tube to secure said tube and housing against relative rotation, a rod extending through said tube, attached to the switch mechanism and having an operating knob at the outer end, a canopy over said box, said tube passing

through said canopy, and a nut threaded on said tube and holding the canopy in position.

3. In a device of the type described, in combination, a securing strap adapted to be attached to a support, a hollow stem passing through said strap and adjustable longitudinally therein, means on said stem to engage a fixture to secure the same to said support, a switch on one end of said stem, a switch operator on the other end of said stem, and means passing through said stem associating said switch and operator.

4. In a device of the type described, in combination, a securing strap adapted to be attached to a support, a hollow stem passing through said strap in threaded engagement therewith, means on said stem remote from said support to engage a fixture, a switch carried by the end of the stem adjacent said support, and means passing through said stem to control said switch.

5. In a device of the type described, in combination, a securing strap adapted to be attached to a support, a hollow stem passing through said strap in threaded engagement therewith, means on said stem remote from said support to engage a fixture, a switch carried by the end of the stem adjacent said support, and bodily rotatable thereon, and means passing through said stem to control said switch.

In testimony whereof I hereunto affix my signature.

MARK N. RUSSELL.