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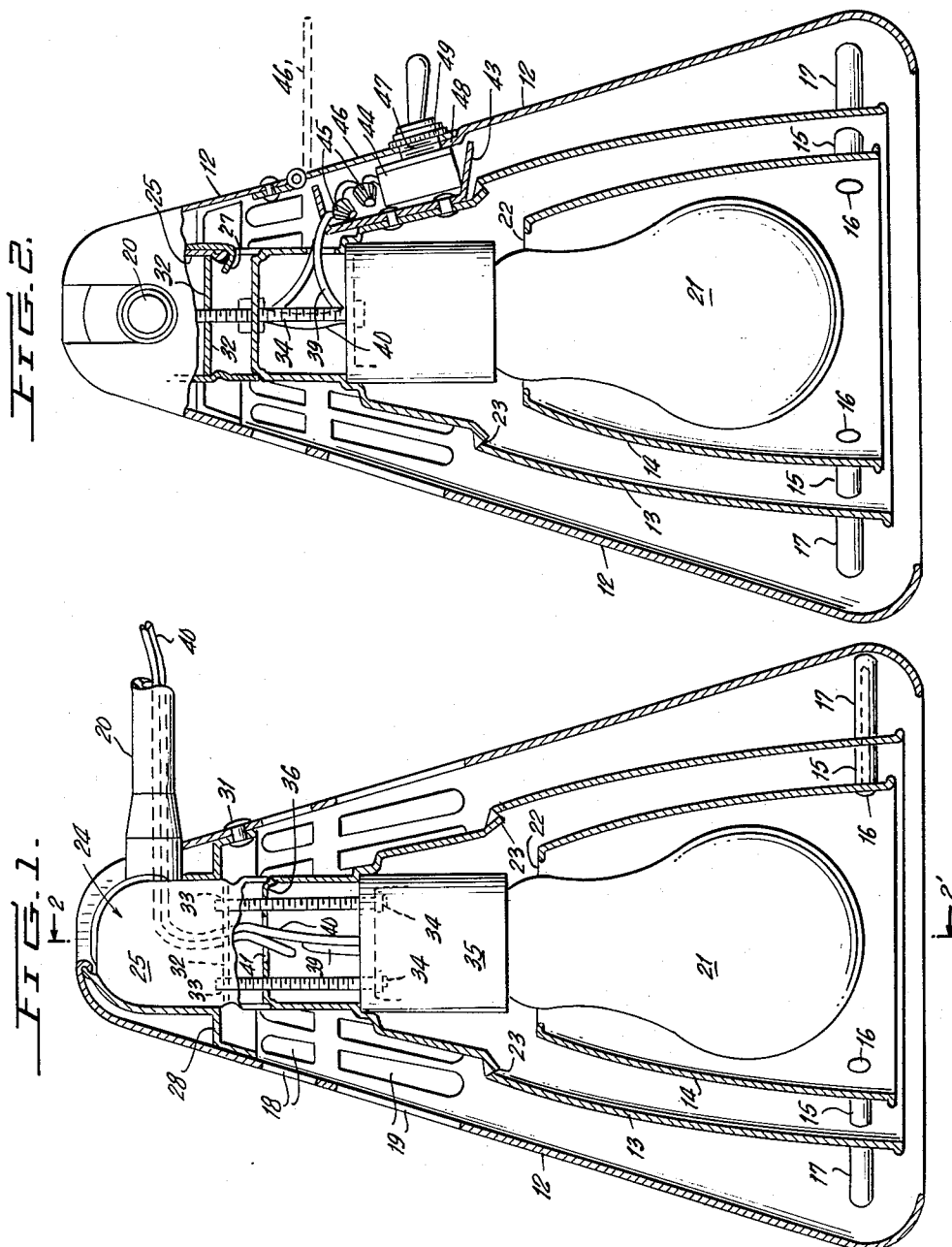
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3,119,567

LIGHTING FIXTURE

Filed June 7, 1962

2 Sheets-Sheet 1



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FIG. 4-

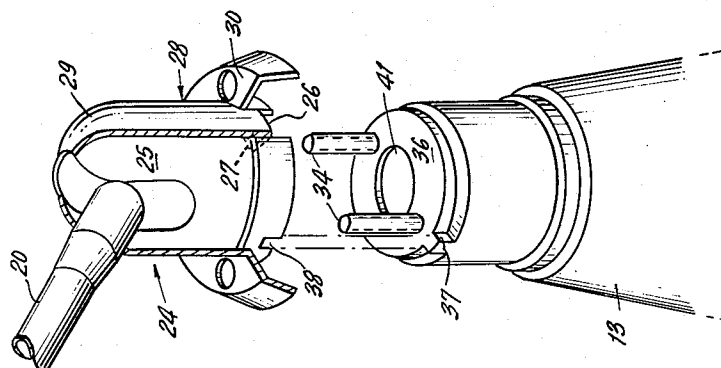
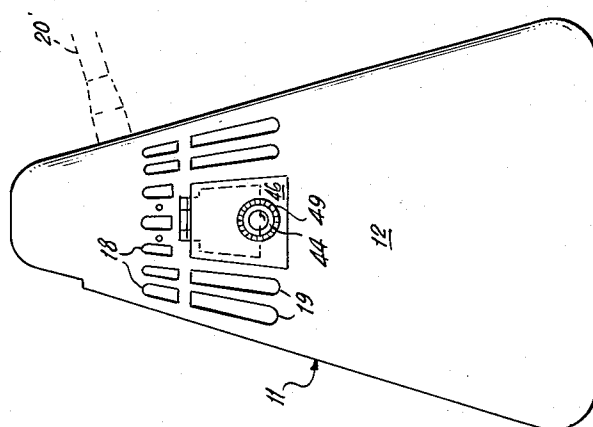


FIG. 3.



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1

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LIGHTING FIXTURE

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This invention relates to an electrical lighting fixture and more particularly to such a fixture having a reflector which remains cool to the touch and which has enclosed therein and rigidly secured thereto a swivel assembly or unit adapted to vary the angular position of the reflector.

It is known to design metallic reflectors of lighting fixtures in such a manner that they may be comfortably handled, even when used in association with a 100 or 150 watt incandescent bulb. One such reflector useful for this purpose is disclosed in United States Patent No. 2,799,773.

When the reflector is embodied in a lighting fixture incorporating a swivel unit adapted to provide an angular or rotative adjustment thereof, and manual handling of the reflector is thus inevitable, it is particularly important to provide a reflector which remains cool to the touch, despite prolonged usage.

It is among the objects of the present invention to provide such an electrical lighting fixture having a reflector which remains cool to the touch with prolonged usage and which has enclosed therein a swivel unit, which fixture is simple and economical to manufacture and which, nevertheless, is ruggedly constructed.

Other objects and advantages of the present invention will be apparent from the following detailed description taken in connection with the accompanying drawings in which:

FIGURE 1 is a vertical section through a lighting fixture embodying the present invention;

FIGURE 2 is a vertical section similar to FIGURE 1, taken along line 2-2' in FIGURE 1;

FIGURE 3 is an exterior elevation of the lighting fixture of FIGURE 1; and

FIGURE 4 is a cut away perspective view, showing the structure by which the intermediate shade of the reflector is secured to the swivel assembly.

Generally, the invention provides, in an electrical lighting fixture having a reflector including three concentric tubular shades, respectively, an inner shade, an intermediate shade of greater height and diameter than the inner shade and an outer shade of yet greater height and diameter than the intermediate shade, a swivel assembly mounted within the reflector rigidly secured by a mounting flange to the outer shade and secured to the intermediate shade and the mounting flange by at least two mounting screws.

The swivel assembly includes a top shell secured to the mounting flange, which shell is provided with a number of notches which are engaged by lugs provided in a roof portion at one end of the intermediate shade to prevent the intermediate shade from moving with respect to the top shell of the swivel assembly, and thereby insure a rigid stable assemblage.

According to a further feature of the invention, a switch box is fastened between the intermediate and outer shades of the reflector, which box provides a cavity including a splice compartment in which the switch leads to the light contained within the fixture may be conveniently spliced. A door for the switch box is pivotally mounted on the outer shade and a switch is received within the switch box and secured therein by an engaging lock nut which locks the door in closed relation flush with the surface of the outer shade when the switch box is closed;

2

the switch is readily removed from the switch box by removing the lock nut.

Referring now to the drawings in detail, the embodiment of the lighting fixture illustrated includes a reflector indicated generally at 11 in FIGURE 3, comprising a conical outer tubular shade 12, a shorter intermediate tubular shade 13 and a still shorter inner tubular shade 14. The inner shade 14 is secured to intermediate shade 13 by a number of non-conductive spacers 15, three of which are shown in FIGURES 1 and 2 spaced 120° apart from one another, and through each of which a nail 16 is driven. The intermediate shade 13 is spaced from the outer shade 12 by non-conductive spacer members 17 which maintain the intermediate shade 13 and the inner shade 14 spaced from and properly aligned with the outer shade 12. The spacers reinforce the fixture structure, maintaining the shades in concentric relation while at the same time providing even dissipation from the fixture of heat.

The outer shade 12 is provided with a number of tandem openings consisting of upper cooling slots 18 and lower cooling slots 19 which permit the passage of air, heated by a lamp 21 within the fixture, to the ambient atmosphere. The inner shade 14 is open at 22 at its upper end adjacent the neck of lamp 21; shade 14 is supported solely by the spacers 15 in order to minimize the conduction of heat from lamp 21 thereto. The intermediate shade 13 is provided with a number of vent openings 23 which allow passage of the heated air from such space into the zone separating the intermediate shade 13 and the outer shade 12. A passageway for escape of the heated air to the ambient atmosphere is thereby assured.

As shown in the drawings the inner shade 14 is recessed within the intermediate shade 13 and the latter is recessed within the outer shade 12 in order to minimize the possibility of accidentally touching the shades which become heated after prolonged operation of lamp 21.

The swivel assembly, indicated generally in FIGURES 1 and 4 at 24, includes a top shell 25 carried by a supporting arm 20 and provided with a pair of slots or notches 26, one of which is shown in the drawing, which accept tabs 27 formed integrally with a mounting flange member 28 for the swivel assembly, thereby firmly securing the top shell to the member 28. The mounting flange member includes an upper cup shaped portion 29 in which the top shell 25 is received and a depending flange portion 30 which is suitably fastened, as by a rivet 31, to the outer shade 12.

The top shell 25 includes within it an insulated washer 32 which is provided with two tapped holes 33 for receiving mounting screws 34 therein. The mounting screws 34 are received in a lamp socket 35 in which lamp 21 is mounted, and secure the lamp socket to the top shell 25. The mounting screws 34 additionally pass through apertures in an end or roof portion 36 of the intermediate shade 13, thereby securing the intermediate shade relative to the top shell 25 and the socket 35. This assemblage, in conjunction with the spacer members 15 and 17, provides a simple yet rugged and stable construction.

In order to prevent the intermediate shade 13 from turning in top shell 25, a pair of positioning lugs 37 is provided in the roof portion 36 of the intermediate shade; the lugs engage with and seat in a corresponding pair of slots 38 in the top shell 25 (one of each pair of lugs 37 and slots 38 is shown in FIGURE 4) and thus prevent rotatory movement of the intermediate shade relative to the top shell.

The lamp socket 35 has attached to it a pair of wires 39 and 40 which pass through an aperture 41 in the intermediate shade. A strain relief bushing 42, which is shown only in FIGURE 2 for purposes of clarity, is

mounted in aperture 41 to prevent fraying of the wires 39 and 40.

A switch box 43 is mounted between the intermediate shade 13 and the outer shade 12 aligned with an aperture in the peripheral surface of the outer shade. The switch box 43 provides a cavity in which a switch 44 is positioned and further provides a splice compartment for the splicing of switch leads to wire 39 leading from the lamp socket, by means of wire nuts 45. Apertures are additionally provided in the intermediate shade 13 and the switch box 43 to permit the passage of the wires therethrough. A hinged switch door 46, indicated in dotted line in its open position (FIGURE 2), is suitably fastened to the outer shade 12, as by riveting. The switch 44 includes a threaded nipple 47 which extends through the opening in the outer shade 12 in abutting relation to a depressed portion 48 of the surface of the outer shade. When the hinged switch door 46 is closed, a fastening member such as knurled nut 49 is tightened on the threaded nipple 47, fastening the door 46, the depressed portion 48 and the switch 44 in secure engagement, with the door positioned in closed relation, flush with the surface of the outer shade 12.

While the lighting fixture of this invention has been illustrated in connection with a single embodiment, it will be understood that various changes may be made in the disclosed embodiment without departing from the scope of the invention. Thus the supporting arm 20, on which the lighting fixture is swivelly mounted, may be connected to any desired portion of the top shell of the swivel assembly, thus pivoting the fixture at its side rather than its end, for example, as shown in dotted line at 20' in FIGURE 3.

Since other changes may be made in the lighting fixture of the present invention without departing from the scope of the invention, it will be understood that all matter contained in the above description and shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. In an electrical lighting fixture having a reflector comprising three concentric shades, respectively, an inner tubular shade, an intermediate tubular shade of greater height and diameter than said inner shade, said intermediate shade terminating in an apertured roof portion at one end thereof, and an outer tubular shade of greater height and diameter than said intermediate shade and including spacer means securing at least the inner and intermediate shades in fixed spaced relation, the improvement comprising:

- (a) a mounting flange rigidly secured to said outer shade; and
- (b) an assembly mounted within the reflector including
 - (1) a lamp socket having an apertured base,
 - (2) a top shell secured to said mounting flange, and
 - (3) a plurality of mounting screws passing through the apertured base of the lamp socket and the apertured roof of said intermediate shade and being secured to the top shell to maintain the lamp socket, the intermediate shade and the mounting flange in fixed spaced relation.

2. The electrical lighting fixture defined in claim 1, in which said outer shade has a cut-out defining an opening through which a switch is mounted, the outer shade further including an extension extending into said opening which extension is depressed relative to the surface of said outer shade; and including a switch assembly comprising:

- (a) a switch mounted between said intermediate and outer shades, said switch having a threaded nipple abutting the extension of the outer shade and extending outwardly of the fixture;

(b) an apertured door pivotally mounted on said outer shade, said door covering the opening in the outer shade with the threaded nipple of said switch passing through the door aperture when the door is positioned in its closed position, and

(c) a fastening nut threadedly engaging said nipple and securing the switch and the extension of the outer shade together with the pivotally mounted door in closed position flush with the surface of said outer shade.

3. The electrical lighting fixture defined in claim 1, in which the top shell of said assembly is provided with a plurality of notches, and in which the roof portion of said intermediate shade includes a plurality of lugs seated in said notches and preventing said intermediate shade from moving with respect to said top shell.

4. In an electrical lighting fixture having a reflector comprising three concentric shades, respectively, an inner tubular shade; an intermediate tubular shade of greater height and diameter than said inner shade, said intermediate shade having a shoulder portion near one end thereof terminating in an apertured roof portion at said end having a plurality of positioning lugs thereon; and an outer conical shade of greater height and diameter than said intermediate shade, said outer shade having a cut-out defining an opening through which a switch may be mounted and including an extension extending into said opening, which extension is depressed relative to the surface of said outer shade; and including spacers securing the inner, intermediate and outer shades in fixed spaced relation;

(a) a mounting flange rigidly secured to said outer shade;

(b) an assembly mounted within the reflector including:

- (1) a top shell secured to the mounting flange and provided with a plurality of notches engaged by the positioning lugs on the apertured roof portion of said intermediate shade to thereby prevent movement of the intermediate shade with respect to the top shell,

(2) a lamp socket having an apertured base, and

(3) a plurality of mounting screws passing through the apertured base of the lamp socket and the apertured roof of said intermediate shade and being secured to said top shell, said mounting screws maintaining the apertured base of the lamp socket in abutment with the shoulder portion of said intermediate shade and securing the roof portion of said intermediate shade and the mounting flange in fixed spaced relation; and

(c) a switch assembly mounted on said outer shade, including

(1) a switch mounted between said intermediate and outer shades, said switch having a threaded nipple abutting the extension of the outer shade and extending outwardly of the fixture,

(2) an apertured door pivotally mounted on said outer shade, said door covering the opening in the outer shade with the threaded nipple of said switch passing through the door aperture when the door is positioned in its closed position, and

(3) a fastening nut threadedly engaging said nipple and securing the pivotally mounted door, the switch and the extension of the outer shade together with the door in closed position flush with the surface of said outer shade.

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