Jan. 18, 1966 H. V. SHORT 3,230,360

LIGHTING DEVICE

Filed April 22, 1963 2 Sheets-Sheet 1

FIG.2

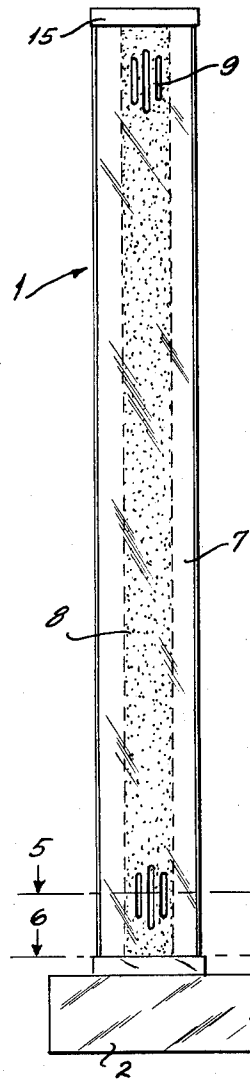


FIG.3

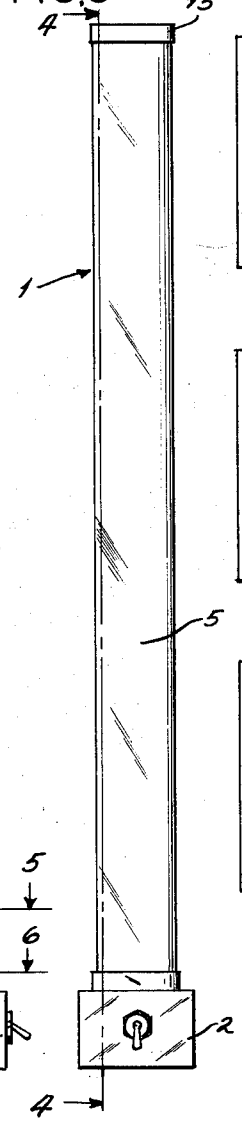


FIG.5

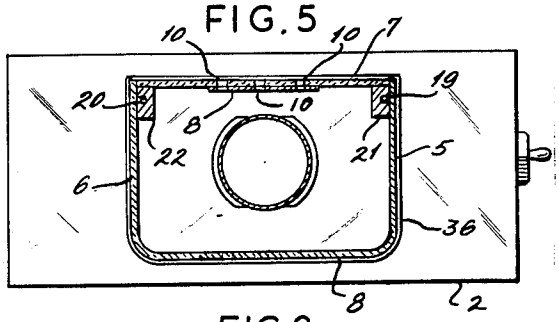


FIG.6

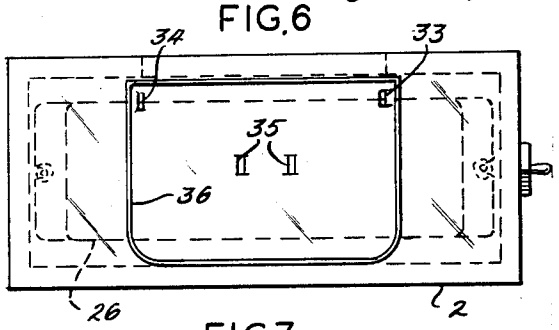


FIG.7

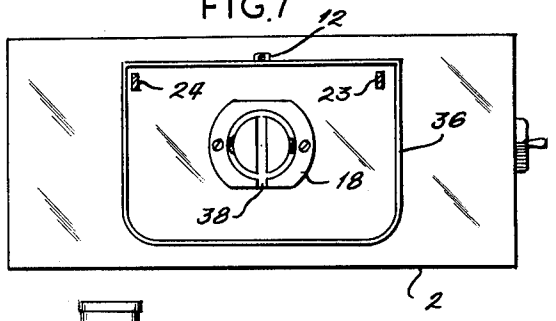


FIG.8

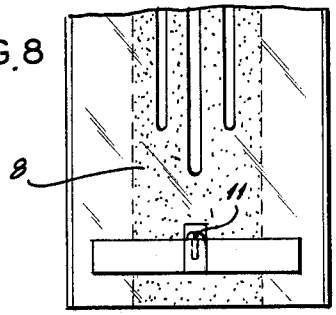
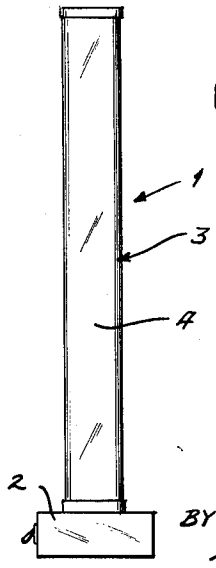


FIG.1



INVENTOR:
HERBERT V. SHORT
BY Sutherland, Asbill & Taylor
ATTORNEYS.

Jan. 18, 1966 H. V. SHORT 3,230,360

LIGHTING DEVICE

Filed April 22, 1963 2 Sheets-Sheet 2

FIG. 4

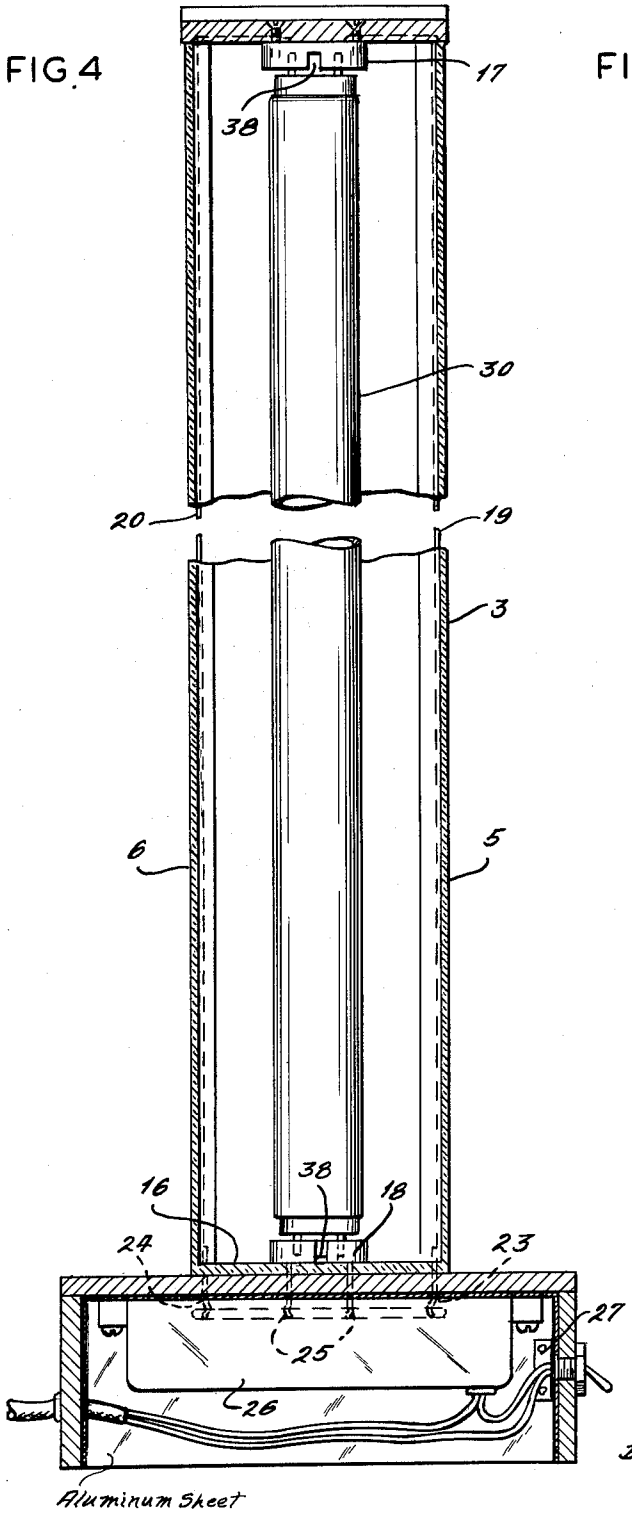


FIG. 9

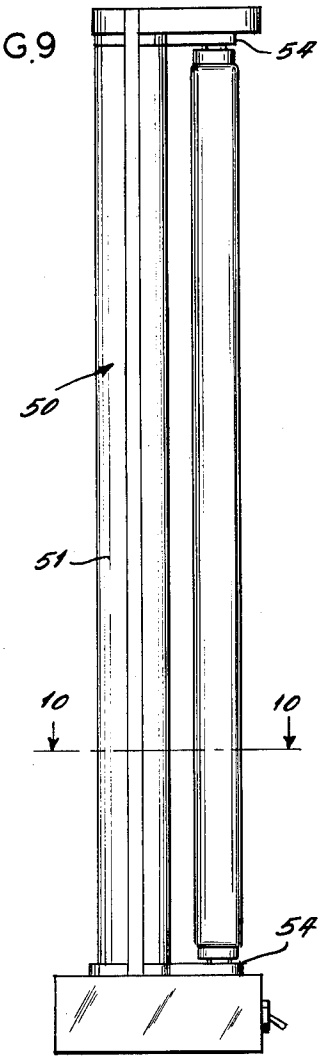
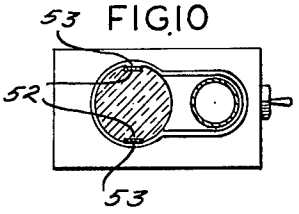


FIG. 10



INVENTOR
HERBERT V. SHORT
BY Sutherland, Cobb & Taylor
ATTORNEYS.

United States Patent Office

3,230,360
Patented Jan. 18, 1966

3,230,360

LIGHTING DEVICE

Herbert V. Short, 2703 Melrose, Alton, Ill.

Filed Apr. 22, 1963, Ser. No. 274,395
5 Claims. (Cl. 240—51.11)

This invention relates to fluorescent lighting devices.

With the exception of a few applications, such as bathroom fixtures, gooseneck reading lamps and the like, fluorescent lamps are presently used almost exclusively in overhead fixtures.

One of the objects of this invention is to provide a portable fluorescent lighting device which is attractively decorative in appearance, effective to give usable light, and which is efficient, easy to manufacture, convenient to use and simple to maintain.

Other objects will become apparent to those skilled in the art in the light of the following description and accompanying drawing.

In the drawing,

FIGURE 1 is a view in front elevation of one embodiment of lighting device of this invention;

FIGURE 2 is a view in rear elevation of an embodiment of lighting device of this invention which may be the same as the device shown in FIGURE 1;

FIGURE 3 is a view in side elevation of the device shown in FIGURE 1;

FIGURE 4 is a sectional view taken along the line **4**—**4** of FIGURE 3;

FIGURE 5 is a sectional view taken along the line **5**—**5** of FIGURE 2;

FIGURE 6 is a sectional view taken along the line **6**—**6** of FIGURE 2;

FIGURE 7 is a top plan view of the base of the device shown in FIGURE 2, with the troffer diffuser removed;

FIGURE 8 is a fragmentary enlarged view of the lower end of a back panel;

FIGURE 9 is a view in side elevation of another embodiment of the device of this invention; and

FIGURE 10 is a sectional view taken along the line **10**—**10** of FIGURE 9.

In accordance with this invention, generally stated, a fluorescent lighting device is provided which includes an elongate, light-transmitting fluorescent lamp support, which carries, on opposite ends, fluorescent lamp sockets. Conductors are carried by and preferably within the support and are connected to at least one of the sockets. A base is provided which contains electrical accessories for a fluorescent lamp. The top surface of the base is adapted to receive one end of the support. Electrical connections are provided between the electrical accessories within the base and the conductors and the fluorescent lamp sockets.

Preferably, the support takes the form of a vertically oriented troffer surrounding a fluorescent tube about 270°. For example, the troffer can be rectangular, and open on one side. The conductors preferably extend along edges of the side walls, but it is also contemplated that the conductors may take the form of substantially flat, relatively wide strips which serve a decorative function. In the embodiment in which a troffer-diffuser is also the support, end walls are provided, the top one of which carries, on its inside surface, a socket for a fluorescent lamp. The bottom end wall also carries such a socket, on its inside surface. The open side of the troffer may be closed by a removable side wall which may be entirely light transmitting or which may carry on its inside surface a reflecting metallic strip, which serves the double function of reflecting light, and it is believed, giving better electrical characteristics to the fluorescent lamp. The removable side wall may be provided with slots to provide ventilation.

Referring now to the drawing for an illustrative embodiment of this invention, and particularly to FIGURES 1–8, reference numeral **1** indicates one embodiment of lamp constructed in accordance with this invention. The lamp **1** includes a base **2** and a vertical, light transmitting troffer-diffuser **3**. The troffer-diffuser **3** is made of a suitable light-transmitting plastic, such as polystyrene, which contains sufficient pigment to render it translucent, hiding a fluorescent tube **30** when it is unlighted, but transmitting light from the tube.

The troffer-diffuser **3** has three walls which are either integral with or secured to one another: front wall **4**, and side walls **5** and **6**, and in the embodiment shown in FIGURES 2 and 5–8, a removable rear wall **7**. The rear wall or panel **7** has a central strip **8** of reflective and electrically conductive material, and top slots **9** and bottom slots **10**, to provide ventilation. In addition, the panel **7** has, at its lower edge, a ground clip **11**, connected to the strip **8** and to a ground connection **12** in the base **2**, when the lamp is assembled.

The troffer **3** also has a top **15** and a bottom **16** secured to opposite ends of the front and side walls **4**, **5** and **6**. The top **15** carries, on its inside surface, a fluorescent tube socket **17**. The bottom **16** carries, on its inside surface, a fluorescent tube socket **18**. Each of the sockets **17** and **18** has a side opening **38** for the reception of tube prongs, directed toward the removable rear panel **7**. Conductors **19** and **20** are electrically connected to the top socket **17** and run down the back inside edge of the side walls **5** and **6** respectively. In this embodiment, the conductors **19** and **20** run in channels in beads **21** and **22** respectively, laminated to the inside surface of the side walls. The beads **21** and **22** are also of transparent or translucent materials. In other embodiments, the conductors may be contained in channels cut into the edges of the side walls themselves, or may take the form of flat, thin conductors laminated into two ply walls. The embodiment being described is a simple and effective one.

The conductors **19** and **20** are electrically connected at their lower ends to male connectors (prongs) **23** and **24** respectively. The lower socket **18** is electrically connected to male connectors (prongs) **25**. It can be seen that the troffer-diffuser **3** is a completely self-contained unit, with self-supporting light-transmitting walls, tube-receiving sockets, a fluorescent tube, and plug-in connections. It can be seen that such a troffer-diffuser can be demounted for cleaning, replacement of tubes (though tubes can be inserted and removed without demounting the troffer-diffuser) or repair (though, absent some accident, no repair should be necessary).

The base **2** contains the usual ballast **26**, the body of an on-off switch **27**, and interconnecting wiring, including electrical connection to a source of current (generally ordinary "household" 115 v., 60 cycle A.C.) not here shown. The base has, in its top, sockets **33**, **34** and **35**, complementary to prongs **23**, **24** and **25** respectively.

A collar **36**, secured to the base, is proportioned snugly to receive the lower end of troffer-diffuser **3**, so as to give added support to the troffer-diffuser, and to conceal any gap caused by imperfect abutment of the troffer-diffuser bottom and the upper face of the base.

In the embodiment shown in FIGURES 9 and 10, a vertical tube support **50** is provided, independent of a shade, of transparent or translucent, but in any event light transmitting material. The tube support **50** includes a cylindrical column **51**, with diametrically opposed channels **52** formed lengthwise in it, and flat, thin conductors **53** in the channels, tube sockets **54** mounted on opposite ends of the column **51** and electrical connections to the socket. The base of this embodiment is substantially the same as the base of the embodiments shown in FIGURES 1–8, except that the sockets for reception of prongs

extending from the lower ends of conductors 63 and the lower tube socket 54 are positioned complementarily to the prongs, which are somewhat differently positioned with respect to one another than the prongs of the other embodiment.

A shade or diffuser of any desired configuration or character can be used in connection with the device of FIGURES 9 and 10, but the column 51 will not substantially diminish the amount of light transmitted in any direction, and the conductors 53, having their narrow edge toward the tube will be scarcely detectable through a translucent shade when the lamp is lighted.

It can be seen that the broad thin conductors of the second embodiment of device can be used in the walls of the first embodiment, for decorative effect. The conductors can be put into shallow channels in the inside surface of the walls or laminated between two sheets making up the walls, or confined by a bead as in the first embodiment, and may be positioned anywhere it is desired to display them.

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

1. A fluorescent lighting device comprising a troffer-diffuser having side walls of light transmitting material normally oriented vertically, conductors extending along and within said side walls, end walls each carrying a fluorescent tube socket, said end walls being secured to said side walls to form an integrated troffer-diffuser-fluorescent tube carrier, a base containing electrical accessories including a transformer for a fluorescent tube, said base having a top wall adapted at its upper surface demountably and remountably to receive one of the end walls of said troffer, and plug and socket type electrical connectors in said one end wall and said bottom wall connected to make electrical connection between said electrical accessories in said base, said conductors, and said fluorescent tube sockets.

2. The device of claim 1 wherein the conductor lies in channels formed within two side walls interiorly of the troffer and adjacent edges thereof.

3. The device of claim 1 wherein the conductors are laminated within the material of said side walls.

4. The device of claim 1 wherein the conductors are flat strips and perform a decorative function.

5. A fluorescent lighting device comprising an elongate, light transmitting fluorescent tube support carrying, on opposite ends, fluorescent tube sockets, conductors carried by and within said support and connected to at least one of said sockets, a base containing electrical accessories including a transformer for a fluorescent tube, said base having a top wall adapted on its upper surface demountably and remountably to receive one end of said support, and plug and socket type electrical connectors in said one end and said base wall and connected to make electrical connection between said electrical accessories in said base, said conductors and said fluorescent tube sockets.

References Cited by the Examiner

UNITED STATES PATENTS

2,298,336	10/1942	Babb.	
2,336,750	12/1943	Roney et al.	240—51.11 X
2,440,668	4/1948	Tarbox	174—117 X
2,631,225	3/1953	Gadomski	240—51.11
2,645,709	7/1953	Thorstensen	240—81
2,679,578	5/1954	Hanger	240—51.11
2,821,800	2/1958	Hardesty	240—2.1
2,847,560	8/1958	Peak et al.	240—8.16
2,998,840	9/1961	Davis	174—117

NORTON ANSHER, *Primary Examiner.*

CHARLES R. RHODES, *Assistant Examiner.*