Sept. 16, 1941. F. J. ROESLER 2,256,058

FLUORESCENT LIGHTING FIXTURE

Filed April 17, 1941 2 Sheets-Sheet 1

Fig. 1.

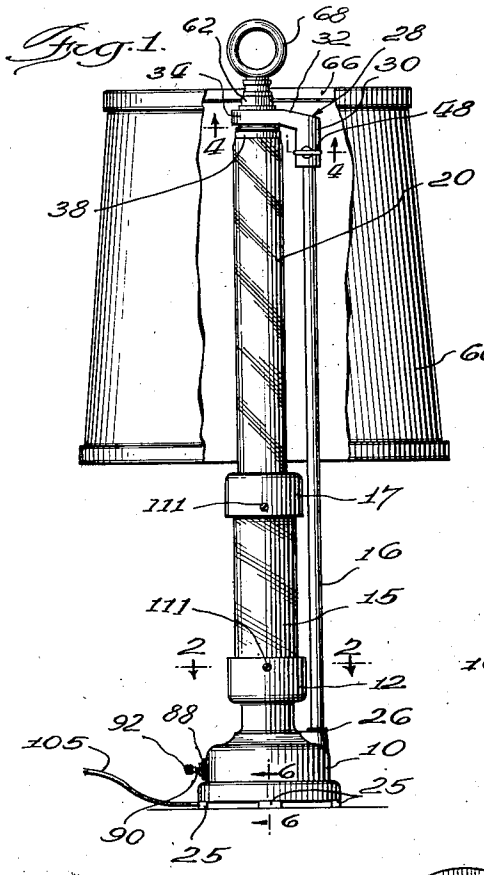


Fig. 2.

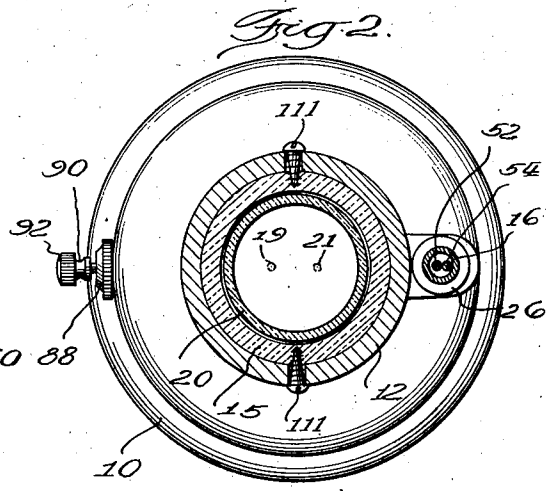


Fig. 4.

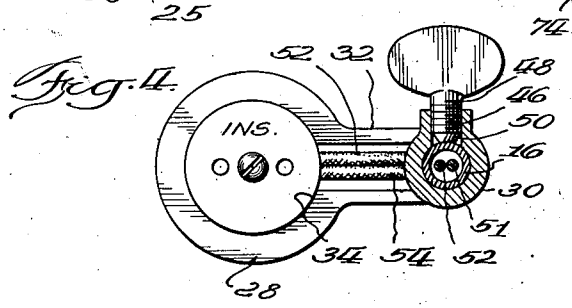


Fig. 3

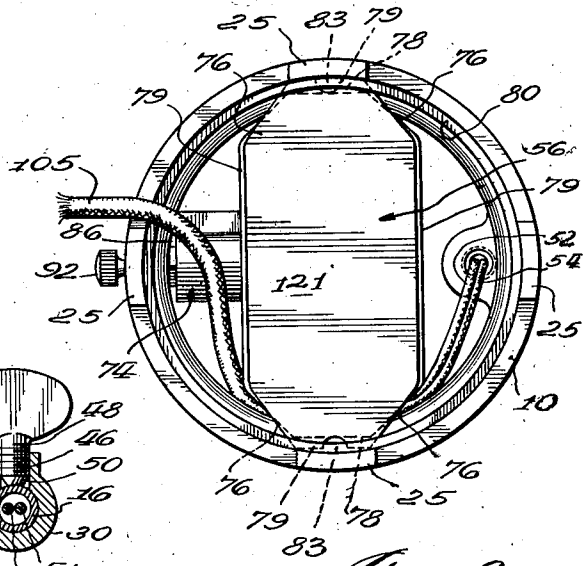
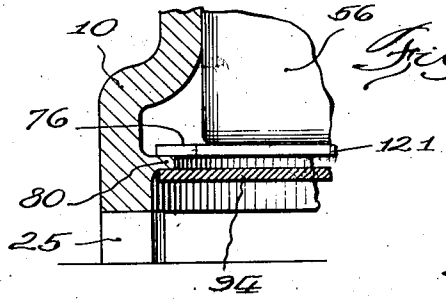


Fig. 6.



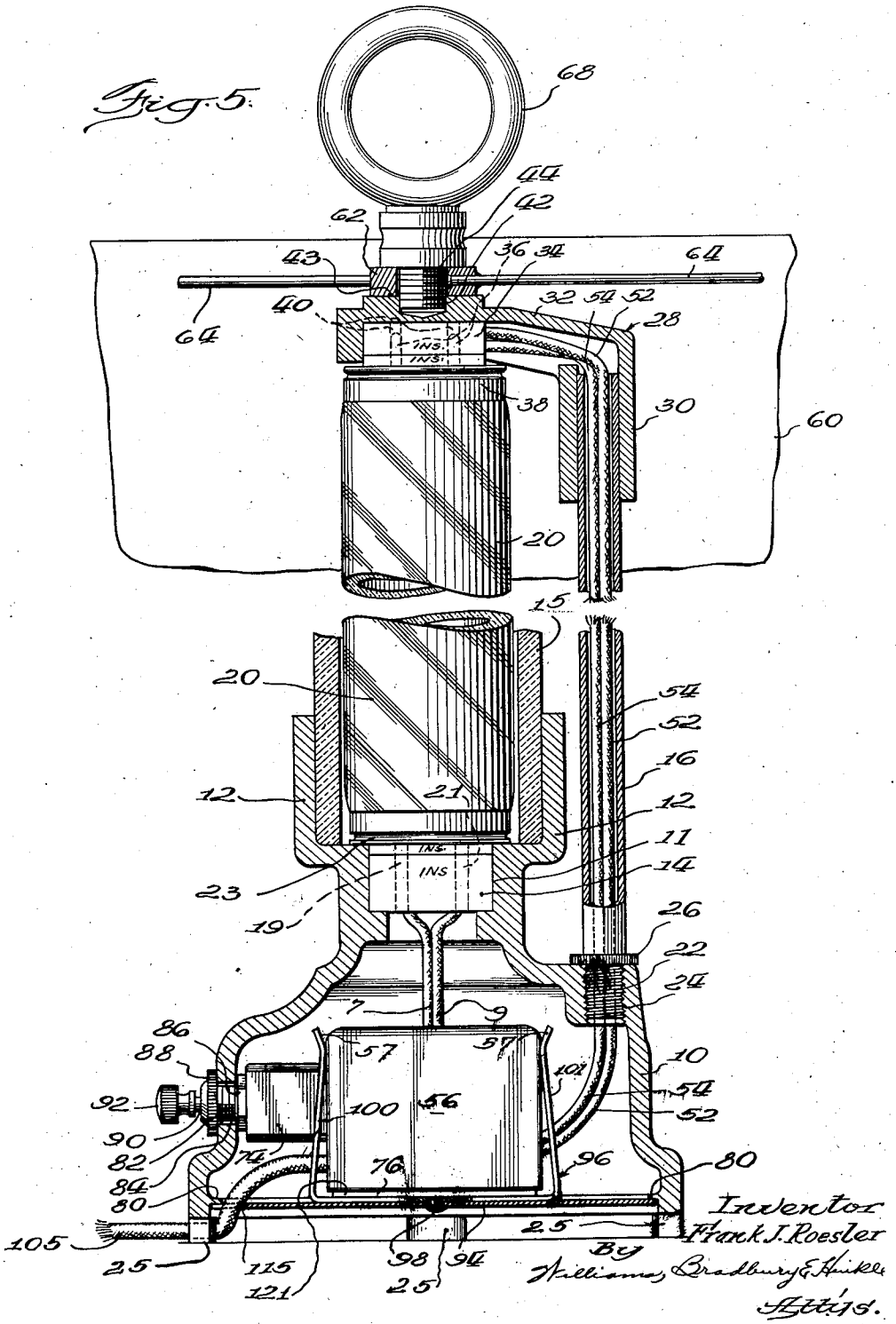
Inventor.
Frank J. Roesler
By
Williams, Bradbury & Hinkle
Attys.

Sept. 16, 1941. F. J. ROESLER 2,256,058

FLUORESCENT LIGHTING FIXTURE

Filed April 17, 1941 2 Sheets-Sheet 2

Fig. 5.



Inventor
Frank J. Roesler
By
Williams, Bradbury & Hinkle
Attys.

Patented Sept. 16, 1941

2,256,058

UNITED STATES PATENT OFFICE

2,256,058

FLUORESCENT LIGHTING FIXTURE

Frank J. Roesler, Chicago, Ill., assignor to Electro Manufacturing Co., Chicago, Ill., a partnership composed of John R. Allen, Victor Nemeroff, and Danielle Nemeroff

Application April 17, 1941, Serial No. 388,923

5 Claims. (Cl. 240—81)

This invention relates to fluorescent lighting fixtures and more particularly to a fluorescent fixture of the type adapted to be used as a table or boudoir lamp.

Since the introduction of fluorescent lighting, fixture manufacturers have been confronted with considerable difficulty in providing proper fixtures for use with fluorescent tubes. The difficulty has been caused primarily because of the peculiar elongated shape of a fluorescent tube. The tubes now being sold commercially on the open market come in a variety of lengths, the shortest tube being sixteen inches and each end of the tube must be provided with means for making contact with a source of electrical energy. Up to the present time fluorescent fixtures have assumed a shape corresponding to the elongated tube such, for example, as the various types of ceiling fixtures and desk lamps. However, the production of a fixture adapted to be used with fluorescent tubes of the type known in the trade as a table or boudoir lamp have presented many difficulties not heretofore encountered in the the production of ceiling and desk lamps of the type last referred to.

It is therefore one object of the present invention to provide a fluorescent lighting fixture of the table or boudoir type in which the fluorescent tube is mounted in the base of the fixture vertically and which will provide light in the proper area of the fixture.

Another object of the present invention is to provide a fluorescent lighting fixture of the table or boudoir type in which the fluorescent tube is mounted in a vertical position in such a fashion that the fluorescent tube may be operatively connected to or removed from the fixture with a minimum amount of effort.

Another object of the present invention is to provide a fluorescent lighting fixture of the table or boudoir type in which the direct rays of light from the fluorescent tube are confined to the area covered by the shade.

Another object of the present invention is to provide a fluorescent lighting fixture of the table or boudoir type in which the bulb forms a part of the base member of the lamp.

Another object of the invention is to provide a fluorescent lighting fixture of the table or boudoir type which is easily assembled and economical to manufacture.

Other objects and advantages of this invention will become more apparent from the following description taken with reference to the accompanying drawings in which:

Fig. 1 is a side view of a fluorescent lighting fixture embodying my invention with a portion of the shade broken away;

Fig. 2 is a cross-sectional view of the fluorescent lighting fixture shown in Fig. 1 taken on line 2—2 thereof;

Fig. 3 is a bottom plan view of the base portion of the fluorescent lighting fixture of Fig. 1 showing the manner in which the various parts are assembled in the base member;

Fig. 4 is a cross-sectional view of the fluorescent lighting fixture shown in Fig. 1 taken on line 4—4 thereof looking in the direction of the arrows;

Fig. 5 is a vertical cross-sectional view of the fluorescent lighting fixture shown in Fig. 1 with the central portion of the tube, a part of the shade and the upper part of a cylinder broken away, and

Fig. 6 is a cross-sectional view of the fluorescent lighting fixture shown in Fig. 1 taken on line 6—6 of Fig. 1 looking in the direction of the arrows.

Referring now more specifically to the drawings and more particularly to Figures 1 and 5, the table or boudoir lamp embodying my invention comprises a hollow base member 10 which is provided with a plurality of legs 25. The base member 10 may be made in any predetermined design, shape or contour. As shown in the drawings, the base member 10 terminates in its upper portion in a husk 12 adapted to enclose a tube receiving socket 14, which is rigidly mounted in an opening 11 in the upper portion of the base member 10 and at the botton of the husk 12.

The tube receiving socket 14 is similar in construction to the standard radio tube receiving socket. The socket 14 is provided with suitable contacts which are connected in turn to the transformer 56 by a pair of wires 7 and 9. The contacts of the socket 14 are adapted to be brought into engagement with the contacts or prongs 19 and 21 (Figure 5) of the tube cap 23 to make proper contact with the contacts of socket 14.

The base member 10 must be greater in cross-section than the husk 12 in order that a hollow shaft 16 may be mounted in the base member. This hollow shaft extends vertically upwardly from the base member to substantially the upper level of the fluorescent tube 20. The shaft 16, as best shown in Fig. 5, is provided with a threaded end portion 22 which is adapted to be threaded into a threaded bore 24 in the base 10 which extends therethrough into the hollow in-

terior. The lower threaded end of the shaft 16 is provided with a knurled nut 26 which is threaded onto the threaded end 22 of the shaft 16 in such fashion as to enable the nut 26 to be tightened against the base member 10, after the shaft 16 has been properly threaded into the bore 24, rigidly to secure the tube 16 in its vertical position.

On the upper end of the shaft 16 there is mounted a hollow L-shaped member 28. This L-shaped member, as shown in the drawings, is made in one piece, but, for convenience in describing the same, it will be described as having two sections, namely, a hollow vertical portion 30 and a horizontal portion 32. The horizontal portion 32 has mounted thereto a tube receiving socket 34 similar in all respects to the tube receiving socket 14 heretofore described. This socket 34 is so mounted in the portion 32 of the L-shaped member 28 that when the L-shaped member 28 is brought into proper alignment over the upper portion of the fluorescent tube 20, the contact members or prongs 36 of the tube cap 38 and the holes 40 in the tube receiving socket 34 will be in perfect alignment so that when the L-shaped member is brought downwardly, the prongs 36 will pass through holes 40 and engage the contacts within the socket 34.

The L-shaped member 28 may assume a variety of forms other than shown herein. These modifications are all within the contemplation of the present invention so long as the modified member or members are so constructed as to permit the raising or lowering of the tube receiving socket 34 to make and/or break the electrical contact made between the contacts in socket 34 and the prongs 36 of the tube cap 38.

In order to insure proper engagement of the contacts of members 34 and 38, it is necessary to prevent movement of the L-shaped member 28 after member 34 has been brought into engagement with tube cap 38. This is accomplished by providing at one side of the vertical portion 30 (Figures 1 and 4), which is slidably mounted over the free end of shaft 16, of the L-shaped member 28, a threaded bore 46 which is adapted to receive a thumb screw 48 having a rounded end portion 50. When the screw 48 is properly tightened in the bore 46, the rounded end portion 50 will bear against the vertical shaft 16 and hold the L-shaped member 28 from being moved in any direction and keep the contacts of members 34 and 38 in proper engagement.

To each of the contacts in the tube receiving socket 34, there is connected one of a pair of wires 52 and 54 which are adapted to be threaded through the hollow L-shaped member 28, the hollow shaft 16, and to be connected to a transformer 56 mounted in the hollow base member 10. Sufficient slack should be provided in the wires 52 and 54, so that when the L-shaped member 28 is raised upwardly by releasing the screw 48, the wires will permit the L-shaped member to be manually raised at least to the height of the upper end of the hollow tube 16.

On the upper half of the portion 32 of the L-shaped member 28, and preferably on the side of the portion 32 directly opposite to the portion in which the tube receiving socket 34 is mounted, there is provided a threaded bore 42 extending vertically downward into the member 32 which is adapted to receive a threaded stud 44. The stud should be of such length that after being tightened in the bore 42 approximately one-half inch of the stud will extend upwardly from the peripheral edge 43 of the bore 42 for the purpose which will become apparent from the following description.

A shade 60, which is preferably considerably longer in length than it is wide, is provided with a suitable mounting frame at its upper end (Figure 5) which comprises what I prefer to call a washer 62 adapted to receive wire frame members 64 extending inwardly toward the center from a hoop 66 mounted in the upper portion of the shade 60. The washer 62 is adapted to fit around the stud 44 and be held rigidly against the upper surface of the member 32 by an ornamental cap 68, which has an internally threaded bore (not shown), adapted to be threaded onto the stud 44 and drawn tightly against the portion 32, hence drawing members 32, 62 and 68 together.

The hollow base member 10 (Figures 1, 3, 5 and 6) is adapted to house the transformer 56 and switch housing 74. The manner in which these last mentioned parts are assembled in the base should be noted in that the assembly of the parts in the hollow base member permits ready accessibility to the housed parts in case repair or replacement is necessary, with the very minimum of effort.

The transformer 56 is substantially rectangular in shape, having flat corners 76, flat end portions 78 and flat sides 79. The bottom portion 121 of the transformer 56 is slightly greater in length than the top portion thereof and thus overlaps the end portions 78 of the transformer to form a flange 79.

The base member 10 is provided with an inwardly directed flange 80 around the inner peripheral edge thereof which serves a dual purpose in the assembly of the parts within the hollow base member 10, as will become apparent from the description to follow.

The transformer 56 is inserted into the base member 10 by forcing the flanges 79 past the flange 80 and drawing the transformer member downward to cause the flanges 79 to be brought to rest on the inner surface of the flange member 80. As will be seen, the cooperation between flanges 79 and 80 will prevent the transformer from dropping out of the base member when the base member is placed in an upright position. To prevent lateral movement of the transformer the flat end portions 78 are adapted to rest against the interior wall of the hollow base member.

Due to the fact that the transformer is generally rectangular, there is a space in the base opposite each of the transformer sides 79 which the transformer does not fill. In these spaces other parts of the assembly (Figures 3 and 5), to be hereinafter described, are mounted. In one of the spaces last referred to there is secured to the interior of the base member 10 a switch housing 74 which is adapted to enclose the working parts of a switch. This switch housing extends from the interior of the base 10 to just short of one of the sides 79 of the transformer 56. Sufficient clearance should be left between the switch housing and the side 79 for a purpose which will become apparent from the following description.

The switch housing 74 is held in position against the side of the base member 10 by means of a hollow tube 82 which is adapted to extend through a bore 84 in the base 10 and be threaded through a hexagonal nut 86 positioned inside the base 10. The hollow tube 82 extends outwardly from the exterior of the base 10 a sufficient distance to permit a knurled nut 88 to be threaded

onto the hollow tube 82 to rigidly secure the members 10, 86 and 88 together.

Extending inwardly through the hollow nut 88 and hollow tube 82 to the interior of the switch is a shaft 90, adapted to be secured in the switch housing 74 to the switch mechanism. The opposite end of the shaft 90 is adapted to receive an ornamental switch cap 92. The shaft 90 is connected to the switch mechanism in the housing 74 in such fashion that when the cap 92 is turned clockwise a quarter turn electrical energy is supplied to each end of the fluorescent tube 20 to energize a starting circuit which gives the tube a dim glow which may be used as a night light. When the cap 92 is again turned clockwise a quarter turn the entire tube will become illuminated.

The hollow base member 10 is closed at the bottom by means of a cylindrical disc 94, to one surface of which is mounted a clip 96 which is secured to the disc 94 by means of a rivet 98. The spring clip 96 comprises a pair of oppositely disposed and upwardly directed arms 100 and 101 which are adapted to extend slightly inwardly from the disc 94, so that when the clip is forced along the side surfaces of the transformer 56, the upper ends 57 of the arms 100 and 101 will bear against the transformer with a sufficient gripping action to prevent the disc from dropping from the base member when the base member is turned in an upright position. It will be noted that the arm 100 of the clip 96 is adapted to pass upwardly through the space provided between the switch housing 74 and side 79, as best shown in Figure 5. When the disc 94 is brought into contact with the bottom of the transformer 56, the peripheral edge of the disc will be brought into engagement with the lower surface of the flange 80 (Figures 5 and 6), to close the hollow base member and prevent dust and dirt from getting into the base and fouling the mechanism.

A suitable notch 115 is provided at one side of the disc 94 to permit a wire cord 105 connected to the transformer 56 to pass out of the base member to be connected to a suitable wall socket to furnish electrical energy to the transformer.

Due to the length of the fluorescent tube and the further fact that in a table lamp in particular it is desirable to confine the light from the tube 20 to the area covered by a shade, because the light projected from the area of the tube which is not covered by the shade will reflect directly into the eyes of a person using the lamp for reading, I provide a member 15, made of translucent material which is adapted to fit into the husk 12 (Figures 2 and 5). The member 15 is preferably of a length sufficient to extend upwardly from the husk 12 to a point approximately even with the level of the lower portion of the shade 60. It has been found that the appearance of the lamp is considerably enhanced when the member 15 is made of translucent material, however it should be understood that the cylinder may be made of nonlight-translucent material and still be within the contemplation of the present invention.

Around the upper edge of the member 15 I mount an ornamental cap 17. The member 15 is secured to the cap 17 and the husk 12 by means of a plurality of screws 111.

It will thus be seen that when the fluorescent tube 20 is illuminated, the direct rays of light from the tube will be confined to the area covered by the shade. It should also be noted that the tube 20 cooperates with the base member 10 in such a fashion as to form a part thereof.

It has been found that in certain cases it may be desired to eliminate the member 15 and permit the light from the tube 20 which is outside the area covered by the shade to be unrestricted. This is particularly true when the lamp is employed as a boudoir lamp. If it is desired to eliminate the member 15, the husk 12 can either be entirely eliminated or if the husk is to be retained for the purpose of ornamentation it should be made slightly greater in cross section than the tube 20 to eliminate the area between the tube 20 and the husk 12 which otherwise would be taken up by the lower portion of the member 15.

The husk 12 may, when the lower portion of the tube 20 is to be covered by nonlight diffusing material, be extended upwardly to substantially the lower level of the shade, thus eliminating the member 15 entirely.

From the above description it will be noted that I have provided a new and improved fluorescent lighting fixture of the type known as table or boudoir lamps in which all of the essential requirements of a table or boudoir lamp have been retained, at the same time providing a fixture which is easily assembled, presents a pleasing appearance and satisfies all light requirements of a table or boudoir lamp.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A fluorescent lighting fixture comprising a base, a lower socket mounted in said base, a fluorescent tube with its lower end mounted in said lower socket and extending vertically from said base, a hollow shaft attached to and extending upwardly from said base, a hollow attachment member attached to the upper end of said hollow shaft and having a portion extending laterally above the upper end of said fluorescent tube, an upper socket attached to the upper end of said attachment member, the upper end of said fluorescent tube attached to said upper socket, a shade attached to said attachment member and extending downwardly around said fluorescent tube to cover substantially the upper half of said fluorescent tube, a translucent covering surrounding substantially the lower half of said fluorescent tube, and electrical conducting means extending from said lower socket through said base and from said upper socket through said attachment member, said hollow shaft and said base thence to a source of electrical supply.

2. A fluorescent lighting fixture comprising a base having an opening and terminating in its upper portion in a husk, a lower socket positioned in said opening in said base at the bottom of said husk, a fluorescent tube with its lower end mounted in said lower socket and extending vertically from said base, a hollow shaft attached to and extending upwardly from said base, an L-shaped member attached at its lower vertical end to the upper end of said hollow shaft, the upper horizontal end of said L-shaped member ending directly above the upper end of said fluorescent tube, an upper socket attached to said upper end of said L-shaped member for positioning in alignment with said lower socket, a shade attached to the upper horizontal portion of said L-shaped member, said shade extending downwardly around said fluorescent tube to cover substantially the upper half of said fluorescent tube, a covering, the lower end of said covering

mounted within said husk, a cap attached to the upper end of said covering, said covering surrounding substantially the lower half of said fluorescent tube, and electrical conducting means extending from said lower socket and through said base, and from said upper socket and through said L-shaped member, said hollow shaft and said base to an electrical source of supply.

3. A fluorescent lighting fixture comprising a base, a transformer carried within said base, a switch mechanism in communication with said transformer positioned within said base and having a manually operable member on the exterior of said base, electrical conducting means leading from said transformer to an electrical source of supply, a lower socket mounted in said base, a fluorescent tube with its lower end mounted in said lower socket and extending vertically from said base, a hollow shaft attached to and extending upwardly from said base, a hollow attachment member attached to the upper end of said hollow shaft and having a portion extending laterally above the upper end of said fluorescent tube, an upper socket attached to the upper end of said attachment member, the upper end of said fluorescent tube attached to said upper socket, a shade attached to said attachment member and extending downwardly around said fluorescent tube to cover substantially the upper half of said fluorescent tube, a translucent covering surrounding substantially the lower half of said fluorescent tube, and electrical conducting means extending from said lower socket through said base to said transformer, and from said upper socket through said attachment member and said hollow shaft to said transformer.

4. A lighting fixture of the table or boudoir type adapted to be used with a fluorescent tube, a base member, said base member terminating in its upper portion in a husk, a shaft secured to said base member and adapted to extend vertically upward therefrom, means mounted on the free end of said shaft and adapted to extend laterally inwardly therefrom, a pair of tube receiving sockets, one of said sockets being mounted in said base at the bottom of said husk and the second of said sockets being mounted in the lateral portion of said means, a fluorescent tube secured at each end in said sockets, means for securing a shade to said first means, a hollow means adapted to enclose said first socket and extend upwardly therefrom to substantially the lower level of said shade, and means for supplying electrical energy to each of said sockets including a manually operable switch, said switch being operative in one position to light up each end of the tube and operative at another position to cause the tube to be illuminated over its entire length.

5. A fluorescent lighting fixture comprising a support adapted to house a starting mechanism, a lower socket mounted in said support, a fluorescent tube with its lower end mounted in said lower socket and extending vertically from said support, a hollow shaft attached to and extending upwardly from said support, a hollow attachment member attached to the upper end of said hollow shaft and having a portion extending laterally above the upper end of said fluorescent tube, an upper socket attached to the upper end of said attachment member, the upper end of said fluorescent tube attached to said upper socket, a shade attached to said attachment member and extending downwardly around said fluorescent tube to cover a substantial portion of said fluorescent tube, a covering surrounding a substantial portion of said fluorescent tube, to conceal substantially all of said fluorescent tube not concealed by said shade, and electrical conducting means extending from said lower socket through said support and from said upper socket through said attachment member, said hollow shaft and said support thence to a source of electrical supply.

FRANK J. ROESLER.