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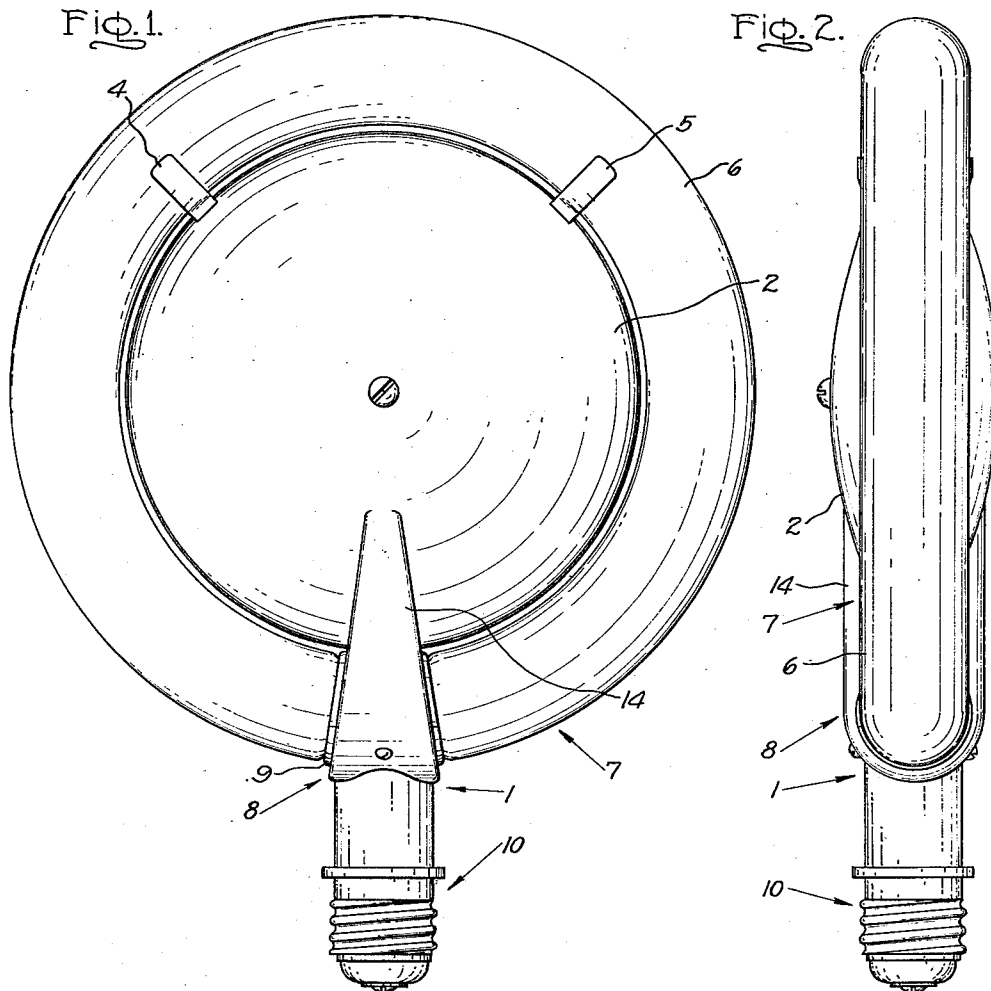
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ADAPTER HOLDER FOR CIRCULAR LAMPS

Filed Sept. 21, 1955

2 Sheets-Sheet 1



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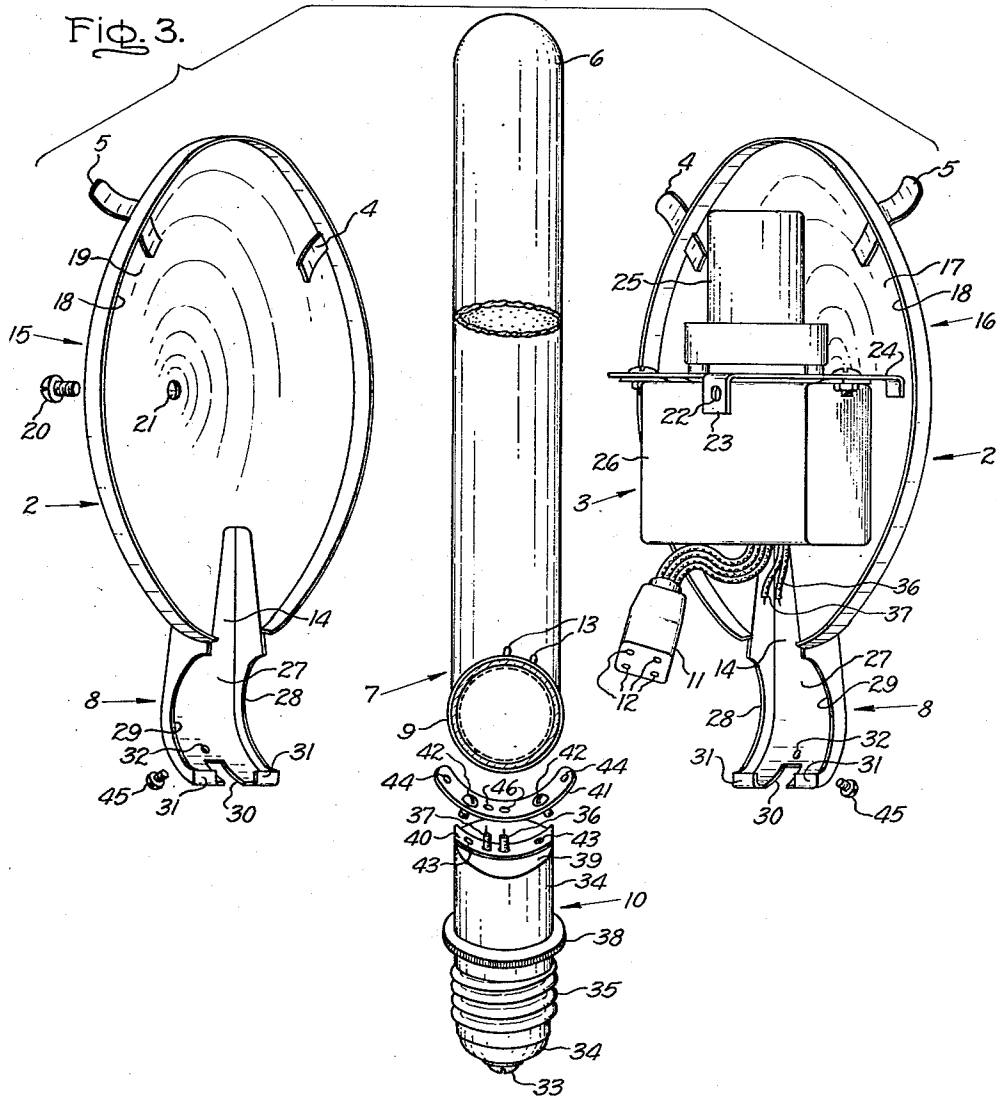
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ADAPTER HOLDER FOR CIRCULAR LAMPS

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2,817,004

ADAPTER HOLDER FOR CIRCULAR LAMPS

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The present invention relates to a combined adapter and holder for circular lamps of the double-ended, tubular, gaseous electric discharge type, such as the circular fluorescent lamps now available commercially.

A commercial form of such circular fluorescent lamps is provided with a base formed as a short tube bridging the gap between the juxtaposed ends of a tubular glass envelope of circular shape. The base has a plurality of spaced apart, electrically insulated contact pins extending generally inward of the circle defined by the lamp and through which the electrical connections are made to the electrodes in the ends of the lamp envelope. Such lamps being of the discharge type require auxiliary equipment for starting and operating the discharge.

A primary object of the present invention is to provide an adapter holder for lamps of the above type by which the lamp is readily mountable in existing lighting fixtures designed for incandescent lamps equipped with screw type bases and with the plane of the circular lamp envelope parallel to the direction in which the screw type socket opens. Still another object of the invention is to provide such an adapter holder providing a housing for the auxiliary equipment for the lamp. A further object of the invention is to provide such an adapter holder of simple structure, the components of which are readily assembled and disassembled for lamp replacements. Further objects and advantages of the invention will appear from the following description of a species thereof taken in connection with the accompanying drawings in which—

Fig. 1 is a front elevational view of an adapter holder embodying the invention with a tubular, circular fluorescent lamp mounted thereon;

Fig. 2 is a side elevational view of the adapter holder and the lamp shown in Fig. 1; and

Fig. 3 is an exploded view showing in perspective the component parts of the adapter holder prior to assembly, with the lamp accommodated thereby shown in a fragmentary, partly sectional view.

Referring to the drawings, the adapter holder 1 comprises a disc-shaped metal housing 2 for enclosing the lamp auxiliary equipment 3 (Fig. 3), two angularly spaced apart pairs of lamp engaging spring fingers 4, 4 and 5, 5 extending radially outward from the periphery of the housing 2 and shaped to receive therebetween the inner peripheral portion of the annular glass envelope 6 of the lamp 7.

A hollow arm 8 integral with the housing 2 also extends radially outward from the housing 2 and has a transverse opening for accommodating the base 9 of the lamp 7. A screw-type plug 10 is attached to the outer end of the arm 8 and forms a longitudinal extension of the arm outside the circle defined by the lamp 7. The plug 10 is adapted for insertion into the usual screw threaded sockets of incandescent lamp fixtures, such as ceiling mounted fixtures, floor lamps and the like, with the plane including the circular lamp parallel to the direction in which the socket of the fixture opens.

The hollow arm 8 of the adapter holder provides a

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wiring raceway from the plug 10 around the lamp base 9 and into the interior of the housing 2 for the lamp auxiliary equipment 3. An electrical plug 11 (Fig. 3) having four contact sleeves recessed in cavities 12 in the end thereof is connected to the lamp ballast 26 and engages the four contact pins 13 on the lamp base 9. In the drawings two of the contact pins 13 are shown in Fig. 3. The plug 11 is accommodated partially in the wiring raceway in the hollow arm 8 and partially in the extension of the wiring raceway formed by the outwardly pressed radially extending channel-shaped parts 14 (Fig. 3) in the walls of the disc-shaped housing 2.

A lighting unit including the adapter holder 1, a lamp 7 and the auxiliary equipment 3 for the lamp may be connected into the usual lighting circuits of hotels, homes, stores and the like without changing the existing wiring and, in many instances, without changing the structural details of the existing fixtures, particularly the overhead fixtures found in the corridors, hallways and other locations in such establishments.

As shown in Fig. 3 of the drawings, the disc-shaped lamp auxiliary housing 2 and the arm 8 integral therewith and extending radially outward therefrom are made up of two similar mating parts 15 and 16 bolted together.

In view of the similarity of the parts 15 and 16, the part 16 to which the lamp auxiliary part 3 is fastened is described and it will be understood that the description thereof also applies to the corresponding portions of the part 15 except for the differences in structure noted.

The portion 17 of the part 16 is in the form of a dish shell of circular shape and is provided with a cylindrical flange 18 at its periphery. The portion 17 is referred to hereinafter as the shell 17 and the corresponding portion of the part 15 is referred to hereinafter as the shell 19. The flange 18 on the shell 19 is slightly smaller in diameter than the flange 18 on the shell 17 and is telescopically received by the latter flange when the shells 18 and 19 are fastened together. The shells 17 and 19 are fastened together by a screw 20 which extends through an opening 21 in the shell 19 into engagement with a threaded hole 22 in the tab 23 provided on the bracket 24 fastened, as by welding or soldering, to the inner surface of the shell 17.

The bracket 24 has a lamp starter 25 and a lamp ballast 26, both of conventional structure, fastened thereto. These components of the auxiliary equipment for the lamp 7 are enclosed by the shells 17 and 19 when the latter are fastened together as described above. The fingers 4, 4 and 5, 5 attached to the shells 17 and 19, extend through openings provided at the juncture of the flanges 18 and the periphery of the shells 17 and 19 are attached, preferably by welding, at their inner ends to the inner surface of the shells.

The portions 27 of the parts 15 and 16 forming the hollow arm 8 are extensions of the pressed out portions 14 of the shells 17 and 19 and are provided with upstanding sides 28 and 29, the edges of which are so curved that, when the parts 15 and 16 are fastened together, the said edges define a lamp base-receiving opening extending transversely through the arm 8.

The flanges 18 on each of the shells 17 and 19 do not extend across the portions 27 so that an unobstructed wiring raceway is provided from the end of the arm 8 to which the plug 10 is attached, around the lamp base-receiving opening in the arm and into the interior of the housing 2 defined by the shells 17 and 19.

The outer ends of the portions 27 of the parts 15 and 16 are curved inward and are each provided with a slot 30, upstanding end flanges 31 on opposite sides of the slot and a bolt hole 32 spaced a slight distance from the inner end of the slot 30. The flanges 31 on the body parts 15 and 16 butt against each other and the slots 30 form

a single continuous slot in the end of the arm 8 in the assembled holder for receiving the end parts of the plug 10.

The plug 10 is provided with a central contact 33 at the outer end of its cylindrical, electrically insulating post 34 and a shell contact 35 for engaging the corresponding contacts of a screw threaded socket. The current supply wires 36 and 37 are electrically connected to the said plug contacts 33 and 35. The screw threaded contact 35 may be fixed anti-turningly on the post 34 or, when desired, the shell contact may be mounted for rotation on post 34 in which case sliding contacts are provided within the post 34 for electrically connecting one of the supply wires to the said shell contact 35. The annular flange 38 is provided for turning the plug 10 into a socket.

The end 39 of the post 34 opposite the contact end thereof is concave to fit the convex outer end surface of the arm 8 and is provided with a raised embossment 40 which fits into the slot 30 at the end of the arm 8 to prevent relative rotary displacements between the plug 10 and the housing 2. A metal strip 41 curved to extend partially around the tubular lamp base 9 is fastened by screws 42 engaging threaded holes 43 to the top of the embossment 40 and said strip extends beyond the extremities of the slot 30 in the arm 8 in both directions in the assembled adapter holder. A threaded hole 44 is provided at each end of the strip 41 extending beyond the end of the slot 30 and screws 45 extend through openings 32 in the arm 8 into engagement with the threaded holes 44 in the strip 41 to fasten the plug 10 and housing 2 together. The strip 41 is also provided with holes 46 through which the insulated current supply wires 36 and 37 extend.

The adapter holder is assembled by fastening the part 16 to the plug 10 by a screw 45. The lamp 7 is then placed on the part 16 with the base 9 of the lamp in the curved portion of the channel flanges 28 and 29 and with the lamp envelope 6 against the fingers 4 and 5 on the part 16. The plug 11 is then thrust into engagement with the base contacts 13 and thereafter the part 15 is attached to the plug 10 and the part 16 by the screws 20 and 45 to secure the adapter holder parts together to support the lamp.

Lamp replacements are easily made by removing the screws 20 and 45 to release part 15, lifting off part 15, disconnecting the plug 11, removing the lamp 7, placing another lamp in the adapter holder, connecting the plug 11 to the base of the replacement lamp and then replacing the part 15 and the screws 20 and 45.

While a species of the invention has been shown in the drawing and described above, it will be understood that numerous changes in the form and details of the adapter holder illustrated may be made by those skilled in the art without departing from the spirit and scope of the invention as defined in the appended claims.

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

1. An adapter holder for a tubular electric discharge lamp of circular shape having a base provided with contact pins extending generally inwardly of the circle defined by the lamp, said adapter holder comprising a flat two-part circular housing for the starting and operating auxiliary equipment for the lamp, lamp support means extending from the periphery of said housing for engaging the glass envelope of the lamp at points along the inner periphery of the lamp angularly spaced from said base and from each other, said lamp support means being adapted to support the circular lamp around said housing in a plane including the periphery of said housing, a hollow arm integral with and extending outwardly from said housing in a radial direction and defining a lamp base-receiving transverse opening, an electrical plug attached to the outer end of said arm beyond said base-receiving opening and projecting longitudinally outward from said arm in a plane including the periphery of said housing, said hollow arm providing a wiring raceway around said lamp base opening and extending between said plug and the interior of said housing.

2. An adapter holder for a tubular electric discharge lamp of circular shape having a base provided with contact pins extending generally inwardly of the circle defined by the lamp, said adapter holder comprising a flat two-part circular housing for the starting and operating auxiliary equipment for the lamp, lamp support means extending from the periphery of said housing for engaging the glass envelope of the lamp at points along the inner periphery of the lamp angularly spaced from said base and from each other, said lamp support means being adapted to support the circular lamp around said housing in a plane including the periphery of said housing, a hollow arm integral with and extending outwardly from said housing in a radial direction and defining a lamp base-receiving transverse opening, an electrical plug attached to the outer end of said arm beyond said base-receiving opening and projecting longitudinally outward from said arm in a plane including the periphery of said housing, said hollow arm providing a wiring raceway around said lamp base opening and extending between said plug and the interior of said housing, said housing being dished outwardly and formed with a channelway extending radially inward from said hollow arm to constitute an extension of the wiring raceway provided by said arm.

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