June 26, 1962 E. J. SCHULTZ 3,040,993

LIGHTING FIXTURE

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Fig. 1

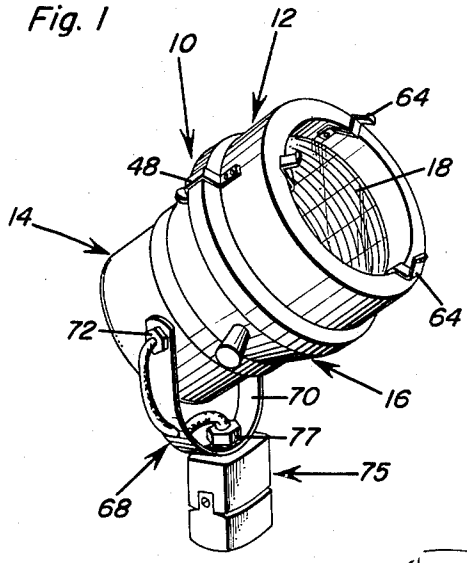

Fig. 2

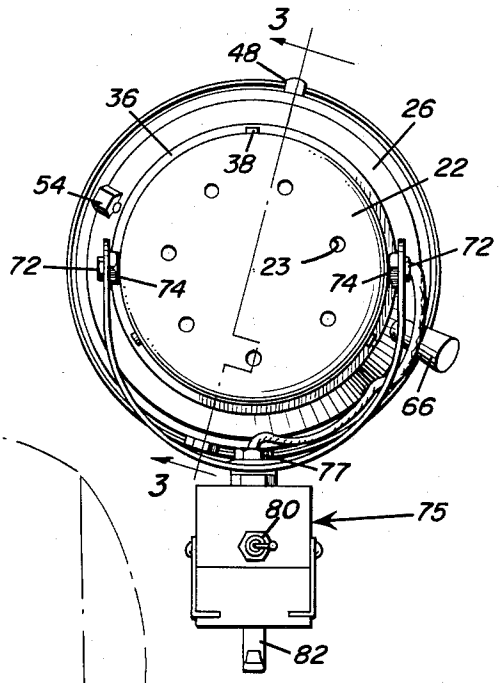

Fig. 5

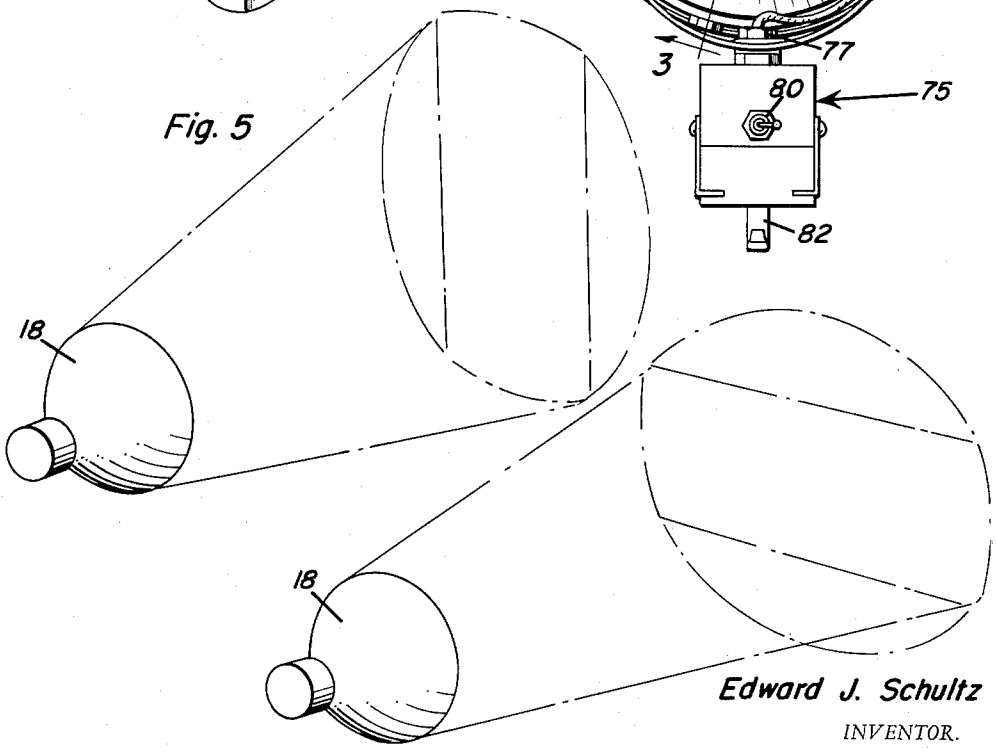

Fig. 6

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Fig. 3

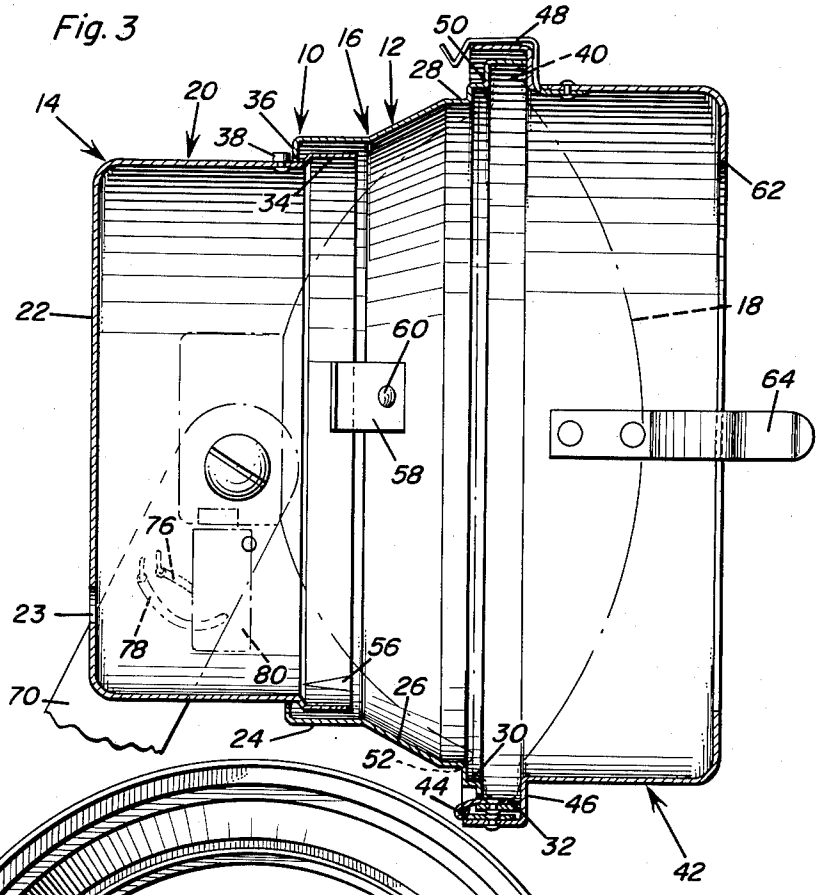
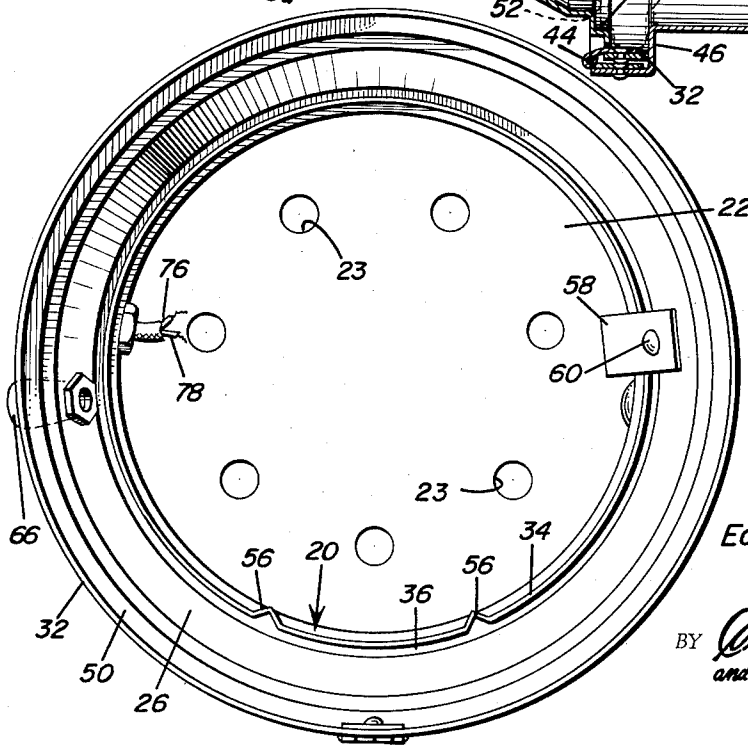


Fig. 4



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LIGHTING FIXTURE

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This invention relates to a novel and useful lighting fixture, and more particularly to a lighting fixture specifically adapted for rotatably mounting an electric bulb and reflector assembly of the type designed to throw a light beam non-circular in cross-section.

The lighting fixture is adapted to rotatably mount an electric bulb and reflector assembly for movement about an axis extending along the beam cast by the bulb and reflector assembly. The lighting fixture further provides a means for rotatably mounting the bulb and reflector assembly for movement about an axis extending at right angles to the beam cast by the assembly and further includes means for rotatably mounting the bulb and reflector assembly for movement about a fixed axis of rotation extending substantially perpendicularly to the last mentioned axis of rotation. In this manner, not only is the bulb and reflector assembly universally mounted by means of the last two mentioned axes of rotation, but the non-circular beam cast by the bulb and reflector assembly may also be rotated about its longitudinal axis.

The lighting fixture is particularly well adapted for lighting various objects in display windows and the like. Lighting fixtures used for window displays are quite often provided with bulb and reflector assemblies adapted to cast a beam substantially rectangular in cross-section. When using a light beam of this character, it is quite often necessary to rotate the beam in order to light the entire subject on which the lighting fixture is trained. If the subject to be lighted is relatively tall and narrow, the rectangular beam cast by the bulb and reflector assembly of the lighting fixture must be rotated to a position complementary to the general outline of the subject being lighted. If the subject to be lighted is relatively short in vertical height but quite wide, it is necessary to rotate the bulb and reflector assembly approximately ninety degrees in order that the beam cast thereby will fully light the object. Of course, objects in window displays are quite often disposed at various inclined angles and therefore the lighting fixture must be capable of rotatably mounting the bulb and reflector assembly so that it may be positioned in any intermediate position. Further, the bulb and reflector assembly of the lighting fixture must of course also be swivelly mounted so that various displays may be lighted from any desired hidden position.

The main object of this invention is to provide a lighting fixture for a bulb and reflector assembly of the type adapted to cast a light beam non-circular in cross-section which will, besides swivelly mounting the bulb and reflector assembly, also enable the bulb and reflector assembly to be rotatably mounted for movement about an axis extending substantially longitudinally of the light beam cast by the bulb and reflector assembly.

A further object of this invention, in accordance with the immediately preceding object, is to provide a means for limiting the rotational movement of the bulb and reflector assembly about its axis of rotation to less than three hundred and sixty degrees inasmuch as it would

be unadvisable to enable repeated twisting of an electrical conductor supplying current to the bulb and reflector assembly.

Still another object of this invention is to provide a lighting fixture in accordance with the preceding objects that will enable rapid replacement of bulb and reflector assemblies.

A still further object of this invention is to provide a lighting fixture to which colored lenses of various types may be readily secured.

And a final object to be specifically enumerated herein is to provide a lighting fixture which will conform to conventional forms of manufacture, be of simple construction and easy to operate so as to provide a device that will be economically feasible, long lasting and versatile in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the lighting fixture;

FIGURE 2 is a rear elevational view of the lighting fixture on somewhat of an enlarged scale;

FIGURE 3 is an enlarged fragmentary longitudinal vertical sectional view taken substantially upon the plane indicated by the section line 3—3 of FIGURE 2;

FIGURE 4 is a front elevational view of the lighting fixture seen from the right side of FIG. 3 with the hinged front cover and the bulb and reflector assembly removed; and

FIGURES 5 and 6 are diagrammatic perspective views showing the manner in which the beam cast by the lighting fixture may be rotated about its longitudinal axis.

Referring now more specifically to the drawings the numeral 10 generally designates the lighting fixture comprising the instant invention which includes a hollow housing generally referred to by the reference numeral 12 composed of a base portion generally referred to by the reference numeral 14 and a head portion generally referred to by the reference numeral 16. The lighting fixture 10 also includes a bulb and reflector assembly 18.

With attention directed to FIG. 3 of the drawings it will be noted that the base portion 14 includes a cylindrical wall portion generally referred to by the reference numeral 20 and a rear wall 22 which is suitably apertured as at 23. The head portion 16 includes a cylindrical wall portion generally designated by the reference numeral 24 and a forward outwardly projecting conical wall 26 which terminates in a forward cylindrical wall portion 28 including a plurality of diametrically enlarged portions 30 and 32.

The base and head portions 14 and 16 are alined and their adjacent ends are slightly overlapped. The endmost portion of the overlapped portion of the inner base portion 14 is diametrically enlarged as at 34 and the end of the overlapping portion of the cylindrical wall 24 of the head portion 16 terminates in an inwardly directed annular flange 36. The annular flange 36 projects inwardly beyond projected outermost peripheral surfaces of the diametrically enlarged portion 34 and the cylindrical wall portion 20 of the base portion 14 includes a plurality of circumferentially spaced retaining lugs 38 which extend

outwardly therefrom beyond projected innermost peripheral surfaces of the flange 36. Thus, it wlil be apparent that the diametrically enlarged portion 34 prevents the base and head portions 14 and 16 from extending and the retaining lugs 38 prevent collapsing of the telescoped portions 14 and 16.

The bulb and reflector assembly 18 is provided with an outwardly projecting mounting flange 40 which is seated in the diametrically enlarged portion 32 of the head portion 16. A cover assembly generally designated by the reference numeral 42 is hingedly secured to the walls of the diametrically enlarged portion 32 by means of a hinge assembly 44. The cover assembly 42 includes an inwardly directed retaining flange 46 which engages the outer annular surfaces of the mounting flange 40 of the bulb and reflector assembly 18. A spring clip 48 is secured to the cover assembly 42 at a point diametrically opposite from the hinge assembly 44. The spring clip 48 of course is utilized to retain the cover assembly in a closed position thereby emrbacing the mounting flange 40 of the bulb and reflector assembly between the retaining flange 46 of the cover assembly 42 and the annular flange 50 defining the diametrically enlarged portion 32. Projecting rearwardly from the mounting flange 40 of the bulb and reflector assembly 18 is a positioning lug 52 similar to the positioning lug provided on conventional vehicle sealed beam lamps which is seated in a complementary recess 54 formed in the annular flange 50 and the diametrically enlarged portion 30 of the head portion 16, see FIG. 2 in particular. In this manner, the cover assembly 42 retains the bulb and reflector assembly in position against retraction from a seated position in the diametrically enlarged portion 32 of the head portion 16 and the lug 52 retains the bulb and reflector assembly 18 in position against rotation relative to the head portion 16.

With particular attention directed to FIGS. 3 and 4 of the drawings it will be noted that a pair of lugs 56 are formed integrally with the diametrically enlarged portion 34 of the base portion 14 and project inwardly therefrom. A stop arm 58 is secured to the conical wall 26 of the head portion 16 by means of a suitable fastener 60 and projects toward and overlies the adjacent end of the diametrically enlarged portion 34 of the base portion 14 for engagement with the lugs 56 upon rotation of the head portion relative to the base portion. Thus, it will be noted that rotation of the head portion 16 relative to the base portion 14 is limited to less than three hundred and sixty degrees.

It will be noted that the cover assembly is provided with an enlarged opening 62 in its forward end and also that it may be provided with a plurality of circumferentially spaced spring clips 64 for securing colored lenses and the like over the opening 62. Additionally, the head portion of the housing 12 may be conveniently provided with a handle assembly 66 for providing a means whereby the head portion 16 may be manipulated to adjusted rotated positions relative to the base portion 14.

With particular attention directed to FIGS. 1 and 2 of the drawings it will be noted that the fixture 10 includes a mounting assembly generally referred to by the reference numeral 68. The mounting assembly includes a generally U-shaped bracket 70. The free ends of the U-shaped bracket 70 are suitably apertured and receive therethrough threaded sleeves (not shown) secured through the cylindrical wall portion 20 by means of retaining nuts 72 on the outside of the U-shaped bracket 70 and retaining nuts 74 on the inside of the cylindrical wall portion 24. It may thus be seen that the housing 12 is rotatably mounted for movement about an axis extending transversely thereof. The mounting assembly 68 includes a mounting base generally referred to by the reference numeral 75 which includes an upwardly extending threaded sleeve (not shown) which is passed and secured through an aperture (not shown) formed in the bight portion of the U-shaped bracket 70 by means of retaining nut 77.

It is of course to be understood that the bulb and reflector assembly 18 is to be operatively connected to a source of electricity. To this end, one end of conductors 76 and 78 is secured to a terminal socket 80 in which the bulb and reflector assembly is plugged. The conductors 76 and 78 then pass through one of the threaded sleeves (not shown) secured through the cylindrical wall 20 by means of retaining nuts 72 and 74 and subsequently through the threaded sleeve (not shown) secured through the bight portion of the U-shaped bracket 70 by means of retaining nut 77 and into the mounting base 75. The mounting base 72 is provided with a suitable toggle switch assembly 80 for selectively opening and closing the electrical circuit to the bulb and reflector assembly and at least one male electrode for engagement with a source of electricity.

In operation, the mounting base 75 of the fixture 10 is suitably secured in position and connected with a source of electricity. Then the housing 12 may be swivelly adjusted by means of the mounting assembly 68 to the desired position. The toggle switch 80 may then be utilized to close the circuit to the bulb and reflector assembly 18 to light the object at which the fixture is directed. As desired, the head portion 16 of the housing 12 may then be rotated by manipulating the handle assembly 66 until the beam cast by the bulb and reflector assembly 18 is rotated to the desired position such as those illustrated in FIGS. 5 and 6 of the drawings.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with an electric bulb and reflector assembly of the type adapted to throw a light beam which is non-circular in cross-section, a light fixture, said fixture comprising a hollow housing, said housing including axially aligned base and head portions, mounting means rotatably mounting said head portion on said base portion for movement about an axis extending longitudinally of said housing, support means carried by one of said portions adapted for engagement with a permanent support and for pivotally mounting said one of said portions for movement above axes extending transversely thereof relative to said permanent support, the end of said head portion remote from said base portion being open, the open end of said head portion defining generally annular seat means removably receiving the outer periphery of said bulb and reflector assembly therein, said head portion including closure means on said open end movable into and out of engagement with the portions of the outer periphery of said bulb and reflector assembly remote from said annular seat means whereby the outer periphery of said assembly is removably embraced between said closure means and said seat means, means securing said assembly against rotation relative to said head portion, the adjacent ends of said base and head portions being cylindrical and slightly telescoped, said mounting means including a diametrically enlarged portion formed on said adjacent end of the innermost of said portions, an inturned annular flange on said adjacent end of the outermost of said portions projecting inwardly beyond the outer peripheral surfaces of said diametrically enlarged portion and a plurality of circumferentially spaced retaining lugs carried by the innermost of said portions extending outwardly therefrom for abutting engagement with the outer face of said annular flange whereby said lugs and flange interlockingly engaging said telescoped portions with each other against extension and collapsing.

2. The combination of claim 1, said support means also including means rotatably journaling said housing

for movement about a fixed axis of rotation extending at right angles to said last mentioned axis of rotation.

3. The combination of claim 1, including coacting means carried by said inner and outer portions limiting rotation of said head portion to less than 360° relative to said base portion.

4. The combination of claim 1, wherein said coacting limiting means includes an inwardly directed lug on one of said telescoped portions and a stop arm carried by the other of said telescoped portions engageable with said inwardly directed lug upon rotational movement of one of said telescoped portions to the other.

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