

[54] MOUNTING STRUCTURE FOR USE IN LUMINAIRE

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[51] **Int. Cl.**.....**F21s 1/10, H01j 5/02, H02b 1/02**

[58] **Field of Search** .250/239; 240/25; 339/126, 128,
339/129

[56] References Cited

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Primary Examiner—James W. Lawrence

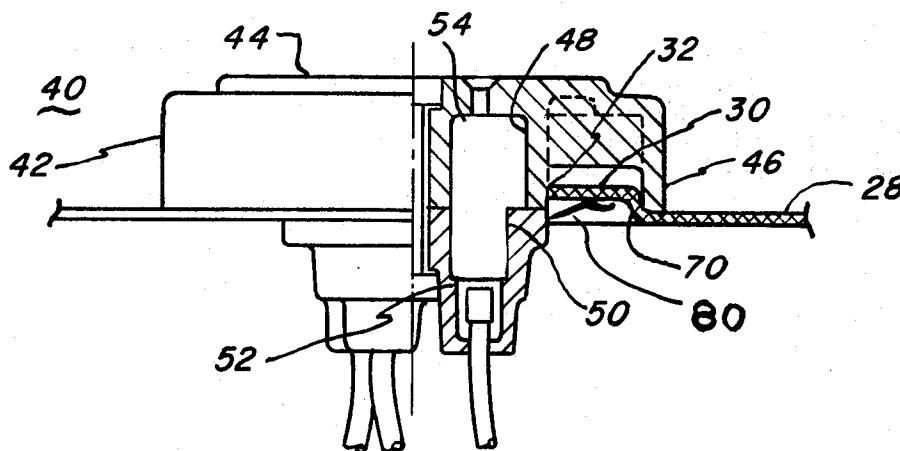
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[57] **ABSTRACT**

Outdoor luminaires are frequently equipped with photoelectric sensing elements to control the operation of the luminaire as a result of the ambient light conditions about the luminaire. The sensing elements are mounted and then oriented toward the north to ensure proper operation. To effect this mounting which allows angular setting of the element, the element is mounted in a mounting receptacle having a cylindrical body designed to fit within a cylindrical aperture in a mounting surface. A push-on spring, of the type known and sold under the trademark "Speed Nut," is secured onto the receptacle wall to affix the receptacle to the mounting surface in a manner allowing angular setting of the receptacle element.

2 Claims, 3 Drawing Figures



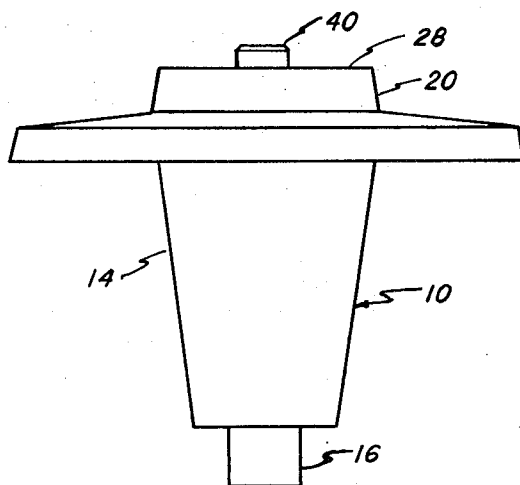


FIG. 1

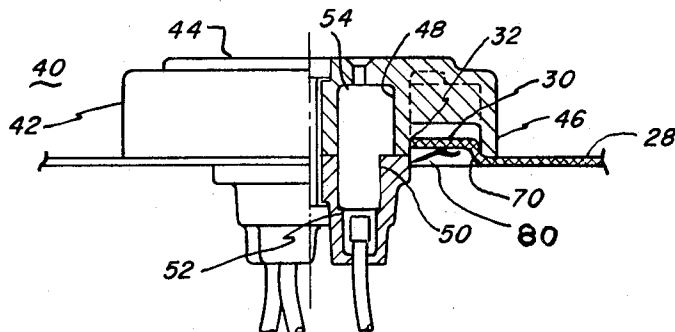


FIG. 2

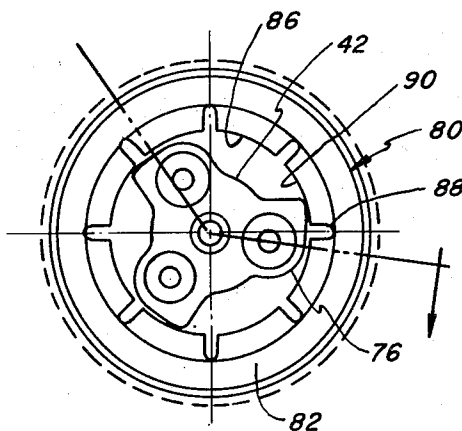


FIG. 3

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MOUNTING STRUCTURE FOR USE IN LUMINAIRE

DESCRIPTION OF PRIOR ART

It has become a feature of some luminaire construction to provide the luminaire with a photoelectric cell exposed to the ambient light conditions to control the on-off condition of the luminaire. The cell is oriented relative to a predetermined direction, such as due north, so that conditions are responded to consistently. To provide this feature, the photoelectric cell assembly is supported within a cylindrical walled carrier with a protruding upper flange. The carrier is positioned within a large opening sized between that of the cylinder and that of the flange. A threaded passage is provided in the tube wall to receive a set screw advanceable against the carrier wall in an engaging relation. To re-orient the cell, the set screw is loosened, the carrier is rotated to the proper angular alignment and the set screw tightened.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an improved photocell mounting structure for use in luminaires.

It is a further object of the invention to provide an improved photocell mounting structure which allows setting of the angular position of the structure for maintenance in that setting.

It is a still further object of the invention to provide a mounting structure for photoelectric cell which includes a cylindrical insulating structure shielding the cell from the interior illumination and which uses a snap-on nut supporting the structure with respect to the luminaire structure.

Other objects along with the features and advantages of the invention will become apparent from the following detailed description when viewed with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of a luminaire embodying my invention;

FIG. 2 is a side elevation, partially broken away, of the assembly mounted in place on the luminaire of FIG. 1; and

FIG. 3 is a bottom view of the assembly of FIG. 2.

DETAILED DESCRIPTION

In FIG. 1, I show an outdoor luminaire 10, of the type adapted to mount atop a post, pole or to a wall for illuminating an exterior area such as a residence, parking lot or the like. A post top or pole top luminaire generally has a vertically disposed lamp (not shown) surrounded by a frusto-conic or downwardly and inwardly tapered refractor 14. The bottom of the refractor is secured within a suitable mounting base 16 or the like for securing the luminaire to the mounting structure. Above the refractor is mounted an umbrella-shaped, opaque cover 20 centrally secured to the housing and mounting base. The cover 20 abuts against the refractor upper edge to hold the luminaire together, suitable positive securing means being provided to affix the refractor and cover permanently to the mounting base.

Within top surface 28 of cover 20, preferably centrally located, is a circular raised platform 30 within which there is provided a cutout 32 generally circular in nature.

The cutout and platform are designed to house the photoelectric control assembly 40 shown in greatest detail in FIGS. 2 and 3.

In those figures are shown the main housing 42 of assembly 40. Housing 42 has a disc-like upper surface 44 with peripheral sidewall 46 depending normally therefrom. Interiorly of sidewall 46, the housing 42 has various wall member 48 within a central area the diameter of which is slightly less than the diameter of cutout 32.

The housing 42 may be suitably molded plastic such that its structure comprises a generally one-piece member to which various components such as photocell 50 may be fastened. The photocell chamber 50 of FIG. 2 has an upwardly open base 52 which is alignable with a cavity 54 defined by inner wall members 48 to fit a photocell within the cavity. A window in a suitable surface of housing 42 allows light transmission through the otherwise opaque housing 42 to the cavity and to a photocell held therein by suitable means. Such photocells and housings are well-known in the art, as set forth in the Prior Art Description herein.

In FIG. 2, it can further be seen that peripheral wall 46 of the housing meets the cover 20 just outwardly of the rim 70 of platform 30. Thus, when the assembly 40 is mounted on the cover 20, the receptacle assembly has its peripheral wall resting on the cover adjacent rim 70, and the central wall members 48 resting within cutout 32. Thus, the assembly is held against horizontal movement by these mating surfaces and presents a central configured triangular stud section 76 within the cutout 32.

To prevent downward movement of the assembly while allowing limited angular movement, a push-on spring fastener 80 of any suitable type such as that known under the trade name Speed Nut may be used. Such fasteners comprise a bowed sheet metal annulus 82 of generally resilient material fashioned with a central opening. The wall 86 of the annulus surrounding the opening has regular radial insets 88 which form about the opening 84 resilient grasping fingers 90. The dimensions of a suitable fastener 80 are selected to cause its fingers 90 to grasp the projecting edges of stud section 76 after the fastener is fitted onto the stud section. The outer edge of the annulus 82 rests within rim 70 of platform 30 to prevent upward movement of the assembly within cover cutout 32. Downward movement of the assembly is prevented by peripheral wall 46 resting against cover 20 outwardly of the platform 30. As previously mentioned, the mating of the wall 46 outside of the rim 70 of platform 30 and the positioning of the stud section within the housing cutout prevents lateral translational movement of the assembly relative to the cover. The bowing of the annulus permits the fastener to have its outer edge abut against the retaining surface in a manner allowing removal, if necessary.

Only limited angular movement of the assembly relative to the cover is permitted by the Speed Nut fastening. The fastener grips the stud section and moves with it angularly, the outer edge of the annulus surface of the fastener sliding in a rotary manner within rim 70 of the platform to a set position.

Against normal force, the fastener will hold the assembly against rotation, the angular movement mentioned being a result of rotational pressure exerted on the assembly manually or by means of a suitable tool. Thus, the photocell can be oriented toward a predetermined direction such as north by manual turning pressure exerted on the assembly. When oriented, the fastener holds the assembly against random movement caused by less than the turning force exerted by manual force on the assembly.

I claim:

1. In a luminaire housing, a receptacle for supporting a photoelectric cell actively exposed to the ambient light comprising a mounting body enclosing said cell and exposing the one end thereof, a peripheral skirt portion of said receptacle extending axially outwardly and downwardly of said body, an opening in the top surface of said housing for receiving therein said receptacle, a cylindrical step wall in said surface surrounding said opening, said skirt portion normally resting on said surface outwardly of said step wall in a mutually positioning relationship, and a push-on spring fastener surrounding said receptacle body, said fastener having resilient grasping fingers bearing against said body to

permit angular movement of said body relative to said housing, said fastener resting within said step wall to hold said receptacle tightly against said housing top surface.

2. In a luminaire housing having a generally horizontal top wall, a receptacle for supporting a photoelectric cell actively exposed to the ambient light, said receptacle including a body portion enclosing said cell and exposing one end thereof, a flanged cover of said receptacle extending outwardly of said body portion parallel to the axis thereof and encircling said cell and body, a generally circular opening in the top wall of said housing for receiving therein said body, a cylindrically stepped wall in said housing outwardly of said opening for mating with said flange to hold said receptacle against lateral and downward movement, and a push-on spring fastener surrounding said body and nesting within the stepped wall inner members on said fastener and grasping the body of said receptacle to hold said receptacle against upward movement out of said opening, while allowing limited angular movement of said receptacle relative to said housing.

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