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ROTATABLE HEAD FOR LUMINAIRES

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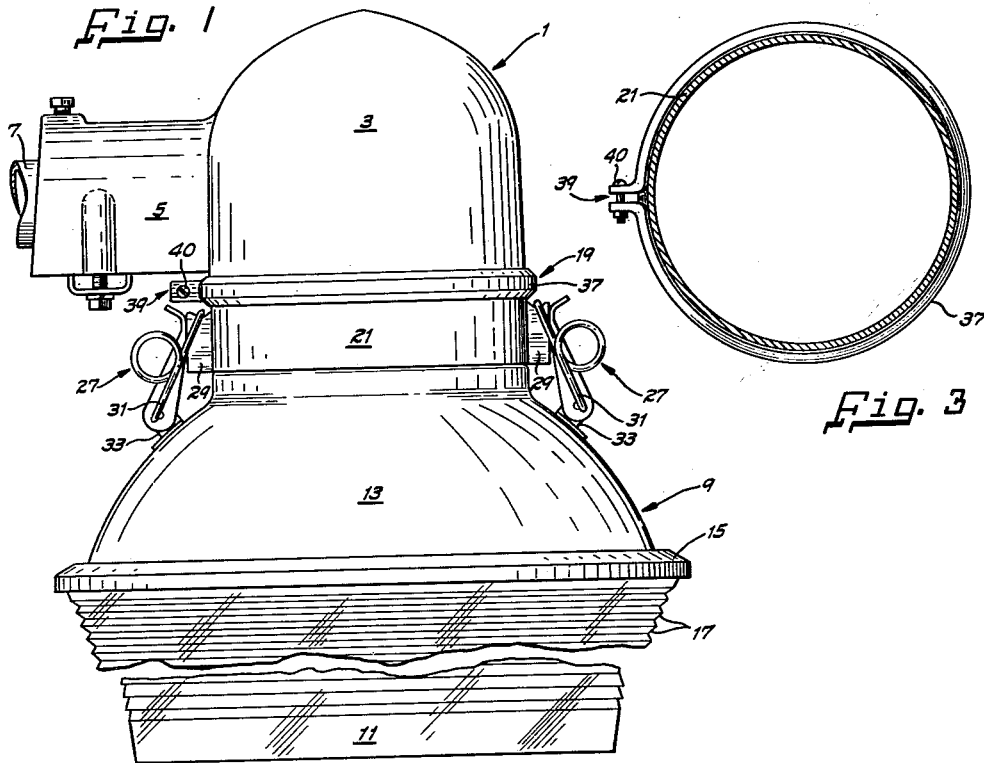


Fig. 3

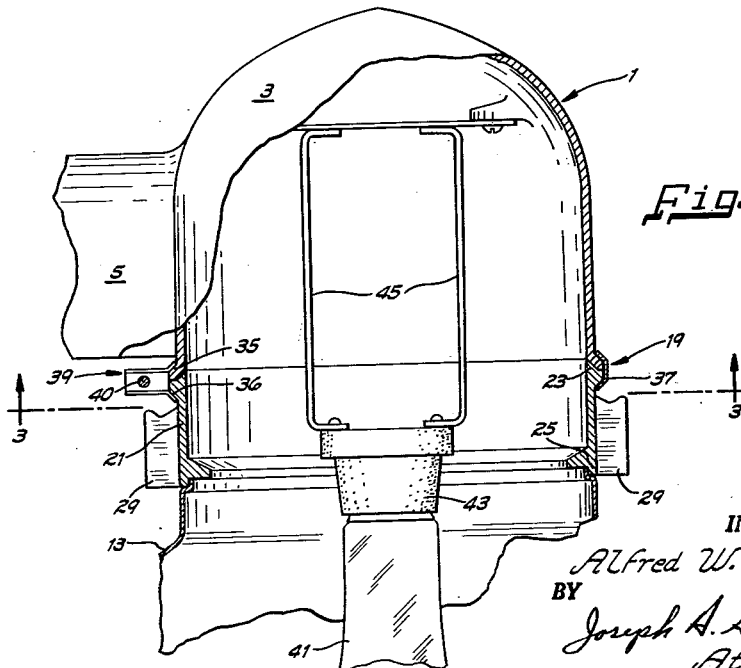


Fig. 2

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## ROTATABLE HEAD FOR LUMINAIRES

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2 Claims. (Cl. 240-25)

This invention relates to means for adjustably connecting and supporting an optical assembly in a luminaire.

My invention contemplates the provision of support means for the optical assembly of a luminaire which permits adjustment of the optical assembly relative to the light source of the luminaire to control the positioning of the light pattern produced by the combination optical assembly and light source.

Accordingly, it is an object of my invention to provide means for connecting an optical assembly in a luminaire and supporting the optical assembly for adjustable movement, independent of the luminaire, to control the positioning of the luminaire light pattern.

It is another object of my invention to provide connecting means for connecting an optical assembly in a luminaire which incorporates a minimum of parts and includes adjustable clamping means which is accessible from the exterior of the luminaire.

A further object of my invention is to provide means for adjustably connecting an optical assembly to any standard luminaire head.

A still further and more specific object of my invention is to provide a luminaire including support means for an optical assembly of the luminaire, which support means is accessible from the exterior of the luminaire and is adapted to support the optical assembly for 360° of rotation about a vertical axis and relative to the luminaire light source.

A more complete and thorough understanding of these and further objects and advantages of my invention may be had from a reading of the following description in connection with the drawings in which:

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

FIG. 2 is an enlarged view of a portion of the luminaire of FIG. 1 partially in cross section.

FIG. 3 is a cross sectional view taken along lines 3-3 of FIG. 2.

The drawings and the following description relate to a preferred embodiment of my invention. A luminaire 1 preferably includes a standard dome-shaped head 3 provided with laterally extending adjustable slip fitter means 5. The adjustable slip fitter means 5 is adapted to receive pipe mounting means 7 to connect the luminaire in its normal operating position.

The adjustable slip fitter means 5 may take the form of that which is illustrated and described in a co-pending patent application, Serial No. 830,099, filed on July 28, 1959, in the name of Philip B. Clark and Donald W. Harling and assigned to the assignee of this application. Accordingly, no specific illustration or description of the slip fitter means 5 is contained herein and reliance is placed upon the description of the slip fitter in the above identified co-pending patent application.

Also, included in the luminaire 1 is an optical assembly 9. The optical assembly 9 includes light refractor 11 and reflector 13 which are fixedly connected by a clamping ring 15. The light refractor 11 includes a plurality of light refracting prisms 17. The light refractor 11 preferably takes the form of the refractor disclosed in a co-pending application of Philip B. Clark and Donald W. Harling, Serial No. 811,036, which was filed on May 11, 1959 and is a continuation of an application filed on

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April 30, 1956, in the name of the same inventors and having a Serial No. 581,739, now abandoned; both of said applications being assigned to the assignee of the present application. Reliance is placed upon application Number 811,036 for a specific disclosure of the light refractor 11 and therefore no specific description of the refractor will be made herein. Suffice it to say that the light refractor 11 through its light refracting prisms 17 is capable of controlling the light which is to be produced by the luminaire and transmits this light in a fixed predetermined light pattern.

To connect the optical assembly 9 to the head 3 and complete the luminaire assembly, I provide adjustable support means 19. Support means 19 includes a generally circular adapter member 21 the upper end 23 of which, in the final luminaire assembly, abuts the open end of the head 3 as probably most clearly illustrated in FIG. 2. The lower end 25 of the adapter member 21 engages the top portion of the reflector 13. Latch means 27 is provided to connect the optical assembly 9 to the adapter member 21. The latch means 27 includes a spring latch 31 which is pivotally mounted on a bracket 33 fixed to the reflector 13 of the optical assembly 9. The free end of the latch 27 engages mounting ears 29 which are preferably integral with the adapter member 21. It can then be seen that the optical assembly 9 is held in fixed relation to the adapter member 21 by the latch means 27 and is therefore rotatable therewith.

To complete the assembly of luminaire 1 the support means 19 also includes clamping means in the form of a flexible generally circular open ended clamping band 37 and fastening means 39 disposed at the open end of the flexible clamping band 37. Fastening means 39 includes nut and bolt means 40 adapted to selectively tighten and loosen the band 37. The luminaire head 3 is provided with clamp receiving means, preferably in the form of a circumferentially extending flange member 35, adjacent the open end thereof; and adapter member 21 is also provided with clamp receiving means preferably in the form of a circumferentially extending flange member 36 disposed at the upper end of the adapter member 21 to be adjacent flange 35 when the adapter member 21 is brought into contact with the head 3. As can be seen in FIG. 2 the flexible band 37 is of a general U-shaped cross section and embracingly engages the flange members 35 and 36 of the head 3 and adapter 21 respectively.

Therefore, the optical assembly can be selectively fixedly held in the luminaire or loosely supported therein for adjustable movement either by tightening the clamping means or loosening the clamping means through operation of the fastening means 39.

Also included in the luminaire 1 is the usual light source 41 which, for example, may take the form of either an incandescent or mercury vapor lamp depending upon the application of the luminaire. Socket means 43 is connected in the head 3 of the luminaire by suitable connecting means 45 and supports the light source 41 within the luminaire. The light source 41 is preferably disposed on a vertical axis drawn through the approximate center of the luminaire 1. In the luminaire assembly the light source 41 and the optical assembly, more particularly the refractor 11, are so associated that the light emitted from the light source 41 is controlled by the refractor 11 and is transmitted thereby in a predetermined fixed light pattern.

In operation, the luminaire 1 is mounted in its normal operating position and then the horizontal alignment of the light pattern of the luminaire is set by loosening the clamping band 37 and rotating the adapter member 21, and correspondingly the optical assembly 9, to the appropriate position to produce the proper alignment of the light pattern. A luminaire incorporating my invention

has the advantage that the light pattern to be distributed by the luminaire is not dependent upon the positioning of the mounting means to which the luminaire is to be attached. As can be seen, the luminaire may be connected to any mounting means and then by the simple expedient of orienting the light source 41 and the optical assembly 9 the position of the transmitted light pattern can be controlled in a horizontal plane.

It can also be seen that the support means 19 is completely adjustable from the exterior of the luminaire to thereby make for ready adjustment of the optical assembly. More particularly, to adjust the position of the light pattern it is not necessary to disturb the luminaire as only the flexible band 37 need be loosened and the optical assembly rotated. Further, it can be seen that a minimum of parts is utilized to thereby make the support means simple, economical and more reliable.

Although I have discussed my invention in relation with a particular embodiment thereof it is with full awareness that additional modifications and embodiments will become apparent to those skilled in the art. Accordingly, it is therefore intended not to limit my invention to the particular embodiment set forth but to encompass in the appended claims all embodiments and modifications which fall within the true spirit and scope of my invention.

What I claim is:

1. A luminaire comprising, in combination, a head having an exterior circumferentially extending flange portion, an optical assembly including a refractor having a plurality of prisms arranged thereon and a reflector, a light source supported from said head and positioned within said optical assembly and relative to said prisms so that said optical assembly transmits light in a predetermined pattern, an adapter member interposed between said optical assembly and said head and having an exterior circumferentially extending flange portion, means for releasably connecting in a fixed orientation said optical assembly to said adapter member, a generally U-shaped in cross section clamping ring embracingly engaging said flange portions of both said head and said adapter, and means for selectively tightening said clamping ring on said flange portions to fixedly connect said adapter mem-

ber to said head and loosening said clamping ring to support said adapter from said head for rotation relative to said head, whereby said optical assembly is rotatably adjustable relative to said light source to vary the position of said predetermined pattern of light.

2. A luminaire comprising, a head having an exterior circumferentially extending flange portion, an optical assembly including a refractor having a plurality of prisms arranged thereon and a reflector, a light source supported from said head and positioned within said optical assembly relative to said prisms so that said optical assembly transmits light in a predetermined pattern, connecting means for releasably securing said optical assembly to said head, said connecting means including a first pair of latch means, an annular clamping ring embracingly engaging said head adjacent said flange for affixing one of said first pair of latch means at substantially each of the opposite sides of said head, a second pair of latch means mounted on substantially opposite sides of said optical assembly for releasably engaging said first latch means so that said optical assembly is mounted on said head in a fixed orientation relative to said first latch means, and means for selectively tightening said clamping ring on said housing to fixedly connect said first latch means to said head and for loosening said clamping ring so that said first latch means may be rotated relative to said head, said clamping ring being supported on said head by said flange portion when said ring is in its loosened position, whereby said optical assembly is rotatably adjustable relative to said light source to vary the position of said predetermined light pattern.

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