

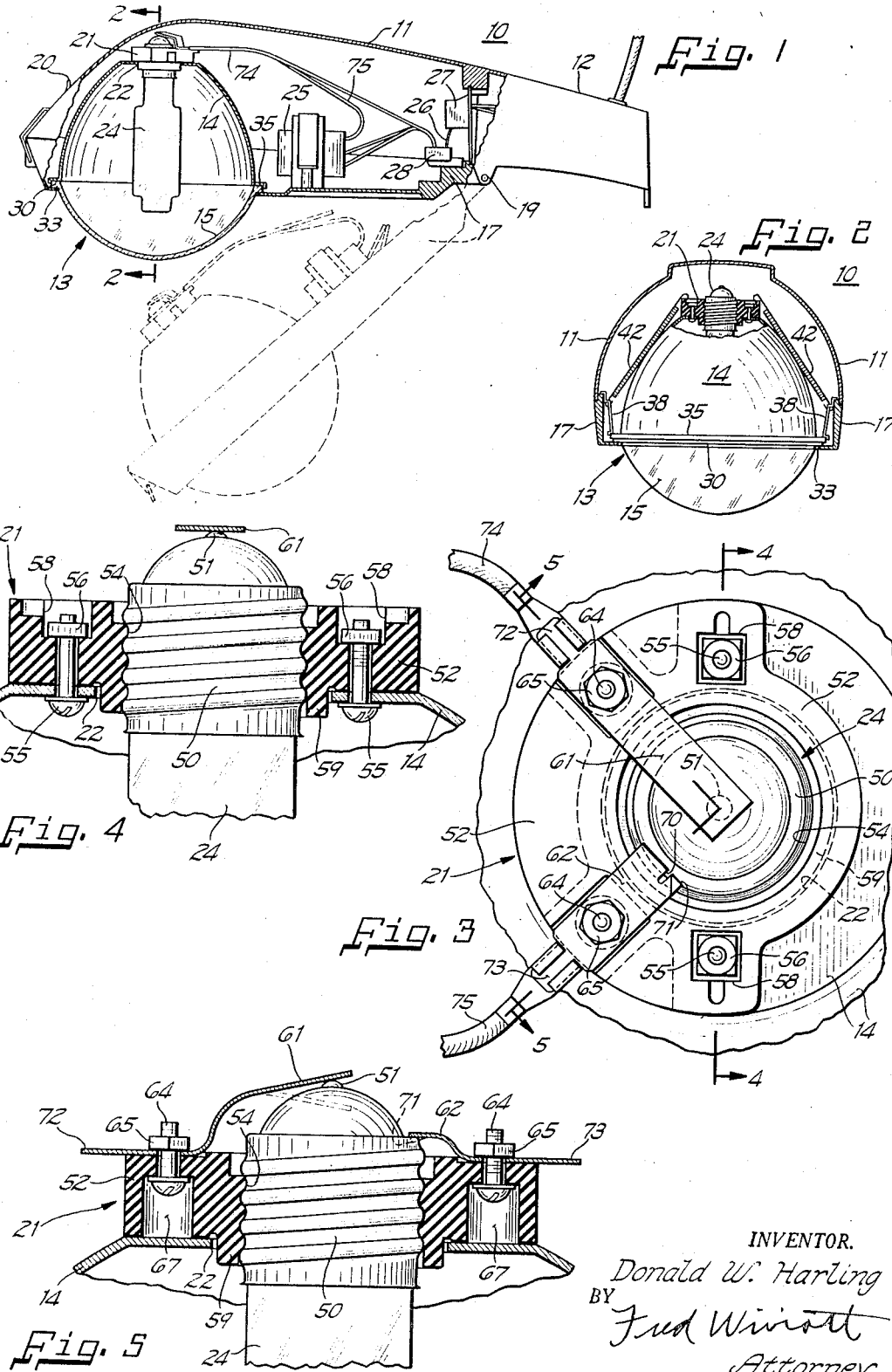
Feb. 7, 1967

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3,303,456

LAMP SOCKET

Filed Oct. 23, 1964



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LAMP SOCKET

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Filed Oct. 23, 1964, Ser. No. 405,970

7 Claims. (Cl. 339-180)

This invention relates to lamp sockets and, more particularly, to new and improved lamp sockets having particular, but not exclusive, application to outdoor lighting fixtures.

One type of luminaire employed for street or area lighting has an elongated, open-bottomed housing provided with a bottom closure member and which carries a sealed optical assembly and electrical components, such as ballasts and capacitors required for operating metallic vapor-type lamps. The optical assemblies of such luminaires generally include a refractor and a reflector which are releasably mounted on the housing or the bottom closure member so that when the bottom closure member is pivoted to an open position, the optical assembly may be removed for cleaning and relamping. In order to minimize the hazards of such relamping operations, the bottom closure member of some prior art luminaires carry disconnect contacts which open-circuit the lamp socket when the bottom closure member is pivoted to an open position.

Prior art luminaire lamp sockets were not wholly satisfactory because the lineman was not always able to readily determine if good contact had been obtained between the lamp and the lamp socket terminals after a lamp replacement had been made since the socket was usually de-energized when the luminaire was open for servicing. Certain other prior art lamp sockets were unsatisfactory because they were not able to prevent the lamp from shaking loose so that contact between the lamp and socket contacts was sometimes broken as a result of vibration caused by wind and traffic. Other lamp sockets were provided with shakeproof devices which required tools for the removal of lamps thereby greatly complicating maintenance operations.

It is an object of the invention to provide a new and improved lampholder for luminaires employed for street or area lighting.

Another object of the invention is to provide a lampholder wherein visual observation can be made of the engagement between the lamp and the lampholder terminals.

A further object of the invention is to provide a lampholder with lamplocking means which does not require tools or other appliances for release when relamping is required.

Yet another object of the invention is to provide an economical lampholder wherein relamping is greatly facilitated.

These and other objects and advantages of the instant invention will become more apparent from the detailed description thereof taken with the accompanying drawings wherein:

FIG. 1 is a side elevational view, partly in section, of a luminaire employing the lamp socket according to the instant invention;

FIG. 2 is a view taken along lines 2-2 of FIG. 1;

FIG. 3 is a top plan view of the lampholder according to the instant invention;

FIG. 4 is a view taken along lines 4-4 of FIG. 3; and

FIG. 5 is a view taken along lines 5-5 of FIG. 3.

Referring now to the drawings in greater detail, FIG. 1 shows an outdoor type luminaire 10 provided with an elongate open-bottomed housing 11 having a portion 12 integrally formed on one side and which encloses means

(not shown) for attaching the luminaire to a pole or other vertically extending structure (not shown).

The luminaire 10 also includes an optical assembly 13 disposed in the other end of housing 11 and comprising a generally inverted, ovate reflector 14 for reflecting light rays in a generally downward direction, as viewed in FIG. 1, and a cooperating refractor 15 for further modifying the downwardly directed light rays into the desired light pattern. The optical assembly 13 is mounted on a bottom closure member 17 which is supported at one end beneath the housing portion 12 by a hinge assembly 19 to permit movement in a counterclockwise direction as shown by phantom lines in FIG. 1, so that the optical assembly and other electrical components may be exposed for servicing. A quick release latch assembly 20 is provided at the opposite side of the closure member 17, so that the latter may be latched in its closed position shown by full lines in FIG. 1, whereby the optical assembly 13 is in its operative position.

A lamp socket 21, according to the instant invention, is mounted on the reflector 14 and extends through an opening 22 on the upper end thereof for supporting a lamp 24 within the optical assembly 13.

In order to de-energize the electrical components of the luminaire 10, such as the lamp 24 and the ballast 25, when the bottom closure portion 17 is open, connection to these components is made through disconnect contacts 26 having a fixed portion carried by a first terminal block 27 mounted on the housing 11 and a movable portion carried by a second terminal block 28 mounted on the bottom closure member 17. Thus, when the bottom closure member 17 is opened, the contacts 26 disengage to open circuit the various electrical components so that there is no risk of exposure to electrically live parts when the luminaire is being serviced.

As seen in FIGS. 1 and 2, the refractor 15 is an inverted, bowl-shaped member having an outwardly extending flange 30 formed circumferentially around its outer peripheral edge for engaging the margin of a circular opening 33 formed in the bottom closure member 17. The lower peripheral end of the reflector 14 is co-extensive with the flange 30 and the refractor 15 and has an outwardly extending flange 35 for cooperative engagement therewith.

The flange 30 of the refractor 15 is resiliently held in engagement with the margin of the opening 33 in the bottom closure member 17 by a pair of elongate flat springs 38 which are mounted on the opposite sides of the bottom closure member 17, as seen in FIG. 2. The reflector 14 is resiliently held in engagement with the refractor 15 by a pair of elongate coil springs 42 which are anchored at their lower ends to the flat springs 38 and at their upper ends to the lampholder 21 affixed to the upper end of the reflector 14. It can thus be seen that when the bottom closure member 17 is unlatched and pivoted to its open position, as shown by phantom lines in FIG. 1, both the reflector and refractor remain mounted thereon and pivot downwardly therewith.

Removal of the reflector 14 and the lamp socket 21 from the bottom closure member 17 is accomplished by unhooking the upper ends of the elongate coil springs 42 from the socket 21. The refractor 15 is removed by pushing outwardly on the lower ends of the springs 38 as viewed in FIG. 2.

For a more detailed description of the luminaire 10, reference is made to copending application Serial No. 400,143, filed September 29, 1964, now Patent No. 3,283,139 and assigned to the assignee of the instant invention.

While the lamp illustrated in FIG. 1 is of the mercury vapor type, it will be understood that any conventional lamp having a metallic threaded base 50 and a center

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4. The lampholding means set forth in claim 2 wherein said bore extends through said insulating base to expose for view the base of said lamp.

5. The lampholding means set forth in claim 4 wherein the width of said insulating base is substantially less than the height of said threaded lamp base whereby the end of said lamp base extends outwardly through said insulating base to engage said spring contact members.

6. The lampholding means set forth in claim 3 wherein said bore extends through said insulating base and the width of said insulating base is substantially less than the height of said threaded lamp base whereby the end of said lamp base extends outwardly through said insulating base to engage said spring contact members.

7. Lampholding means for use with a lamp having a threaded conductive base and a central contact mounted on said base and insulated from the conductive portion thereof, said lampholding means including an insulating base having an internally threaded bore extending there-through for receiving said threaded lamp base through one end, the width of said insulating base being substantially less than the height of said threaded lamp base whereby the end of said lamp base extends outwardly through said insulating base, first and second spring contact members affixed in spaced relation to the base of said

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lampholding means adjacent the other end of said bore and extending generally inwardly toward the axis thereof, one of said spring contact members being relatively elongate and engaging the central contact when the lamp base is screwed into said threaded bore, said second spring contact being relatively shorter than said first spring contact and having its inner edge disposed adjacent the periphery of said bore and being engageable with the end of the conductive lamp base, a corner of said second spring contact being bent toward said lamp base to provide a sharp edge in high pressure engagement with said lamp base to prevent said lamp from loosening in said lampholding means upon vibration.

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