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2 Sheets-Sheet 1

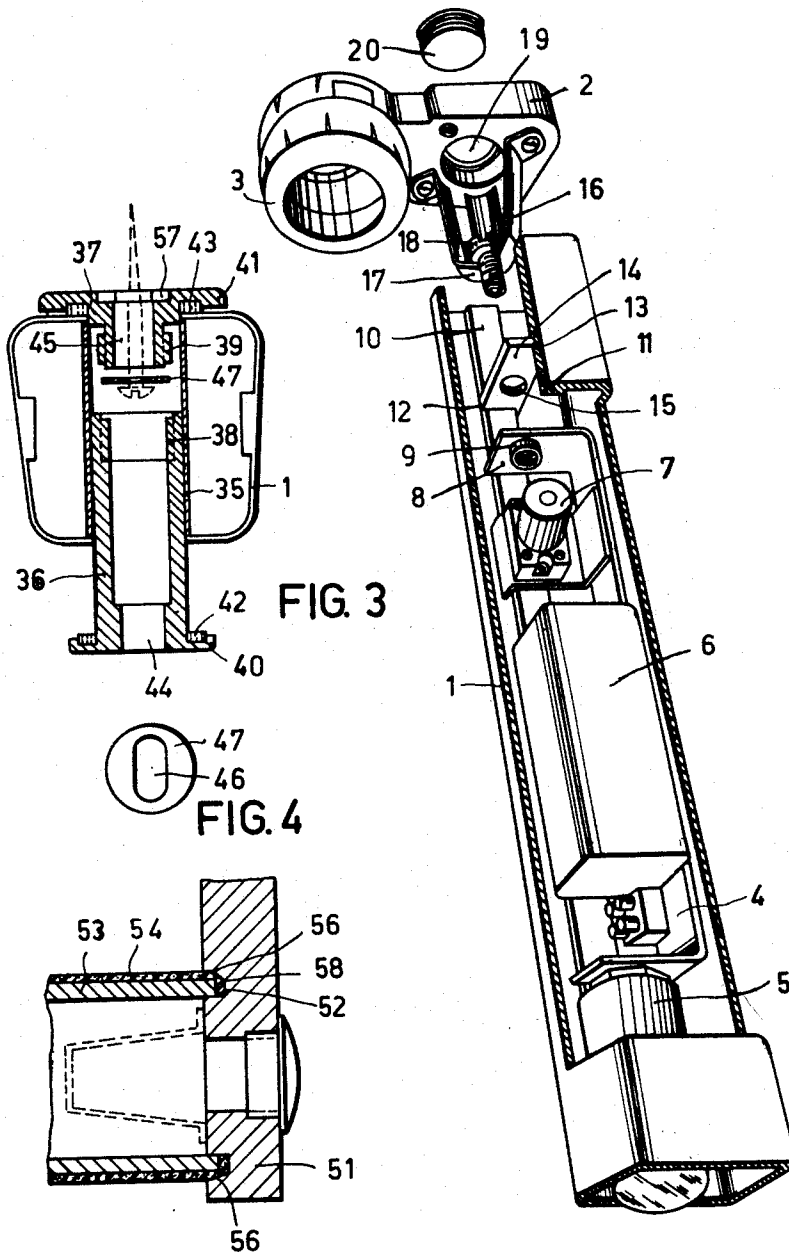


FIG. 3

FIG. 4

FIG. 5

FIG. 1

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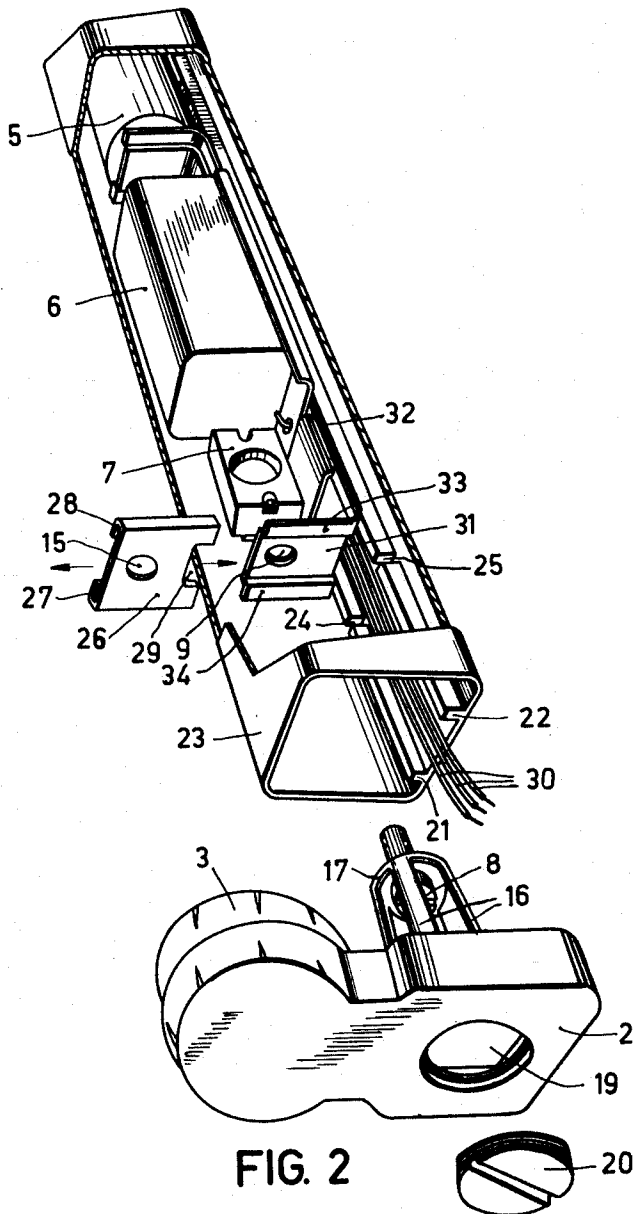


FIG. 2

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1

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LIGHTING FIXTURE PARTICULARLY SUITABLE FOR FLUORESCENT LAMPS

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Fluorescent lighting fixtures are known having a tubular support, the two ends of which are closed by lamp holder bodies, a mounting plate to be inserted within the tubular support for the series apparatus, or circuit elements for the lamp, and which plate is materially shorter than the tubular support. With such a fixture there is a problem of how to secure the mounting plate with the series apparatus in the support. Moreover, the fastening of the bodies for the lamp holders to the tubular support gives rise to certain difficulties owing to the fact that the support is frequently made in mass production, for example, by an extrusion process, so that parts to be secured in the longitudinal direction of the support cannot be fixed in a simple manner.

The present invention mitigates these disadvantages.

The lighting fixture of the kind set forth is characterized, in accordance with the present invention, in that within the interior of the tubular support, in the proximity of one end thereof, a lug is arranged transversely to the longitudinal direction of the tube. This lug, mounted in recesses of the said support, has both the body of one lamp holder and the mounting plate secured thereto.

In this way it is extremely simple to fasten the mounting plate and one lamp holder in place. The support need be provided with only a few recesses to accommodate lugs such that they are not displaceable in the longitudinal direction of the fixture.

In accordance with one aspect of the invention a second lug, arranged transversely to the longitudinal direction of the support, may also be provided in the proximity of the other end of the said support. This lug is likewise held in recesses of the tubular support and only the body of the lamp holder located near the said end of the tubular support is secured thereto.

The above measures provide the advantage that the interior of the support need not accommodate long mounting plates nor long fastening rods to hold in position a comparatively short mounting plate and the bodies of the lamp holders.

According to a further aspect of the invention that part of the mounting plate which co-operates with the lug is bent at a right angle and provided with a tapped aperture to accommodate a fastening screw, which is supported by the body of the lamp holder. The associated lug, located between the body of the lamp holder and the bent-over part of the mounting plate, is provided with an aperture through which extends the fastening screw of the lamp holder.

It is advantageous also to bend a lug to form reverse flanges on two opposite sides so that in the rims thus obtained accommodates the slot bent-over part of the mounting plate. Also, the plate may be correspondingly deformed to provide a tight joint between the lug and mounting plate.

The lug provided in the lighting fixture fitting serving only for fastening the lamp holder is provided with a tapped aperture to accommodate a fastening screw for the adjacent body of the lamp holder.

In accordance with a further aspect of the invention the body of the lamp holder is provided with a strap, of which the bow is provided with a bore through which

2

extends the screw used for fastening the said body to the lug extends. In order that this fastening screw should be accessible, the body of the lamp holder may be provided with an aperture which can be closed and which extends coaxially to the said fastening screw.

In an advantageous embodiment of the fixture according to the invention the recesses of the tubular support provided to accommodate the lugs are constituted by local voids in ribs integral with the support and located in the interior of the said support.

In the fixture according to the invention, since the bodies of the lamp holders are mounted at the ends of the tubular support, this fixture can be rendered watertight in a simple manner. To this end, according to a further aspect of the invention, each of the bodies of the lamp holders is provided with a groove within which fits the ends of the tubular support and in which a stuffing ring is also arranged.

Owing to its specific structure, the fixture according to the invention is particularly suitable to be provided, in a simple manner, with means by which it can be equipped with suspension members, while the water-tightness of the fixture is not adversely affected. According to this aspect of the invention the tubular support is provided at one or more places, which are displaced in the longitudinal direction of the support relative to the mounting plate thereof, with a pair of opposite apertures, which accommodate a sleeve structure. The interior of the sleeve structure is closed in a liquid-tight manner from the interior of the tubular support; this sleeve structure comprises the means for fastening the fixture to suspension gear.

The invention will be described more fully with reference to the drawing.

FIG. 1 is a perspective cut-away view of a part of one embodiment of the fixture according to the invention, parts of the tubular body having been omitted for the sake of clarity, and only one body of a lamp holder is shown detached from the fixture.

FIG. 2 shows, in a similar manner, a further embodiment of the fixture according to the invention.

FIG. 3 is a sectional view of the tubular support, and the means to fasten the fixture to a suspension tube or to a ceiling.

FIG. 4 is a plan view of an adjusting plate used in the structure shown in FIG. 3.

FIG. 5 is a longitudinal sectional view of a water-tight connection of a body of a lamp holder to a tubular support.

In the embodiment shown in FIG. 1 the fixture comprises a hollow body member or tubular support 1, which is closed at both ends by a body 2 of a lamp holder 3. Viewed in the direction of length, FIG. 1 shows only part of the tubular support 1 and only one body of a lamp holder. In the interior of the support 1 is arranged a mounting plate 4 with the series or lamp circuit apparatus 5, 6 and 7, for driving the fluorescent lamp to be attached to the fixture. The end 8 of the mounting plate 4 is bent at right angles and has an aperture 9, provided with screwthread.

Opposite sides of the tubular support 1 are provided with ribs 10 and 11, which have slots or recesses 12 and 13 in the proximity of the ends of the tubular support. In each pair of these slots can be arranged a lug 14, which has an aperture 15.

The body 2 of the lamp holder is secured to a strap 16. The bow 17 of this strap is provided with an aperture through which a screw 18 projects. Coaxial with this screw, an aperture 19 is provided in the body 2 of the lamp holder; this aperture can be closed with the aid of a screw lid 20.

At the other end of the tubular support 1 (not shown in FIG. 1) the local lug itself may be provided with a tapped aperture.

For a good understanding of the invention it should be noted that the mounting plate 4 is materially shorter than the tubular support 1. The mounting plate 4 may have, for example, a length of 20 cms., whereas the tubular support 1 may have a length of, for example, 1 m. or 1.50 ms., or be five times as long. The present invention has for its object to provide, without using long rods, a possibility of fastening the said, comparatively short mounting plate 4 in the comparatively long tubular support in a reliable and simple manner.

When the fixture is assembled, the series apparatus 5, 6 and 7 are first secured to the mounting plate 4. Then this mounting plate is introduced into the tubular support, after which the lug 14 is arranged in the associated slots 12 and 13 and the body 2 of the lamp holder 3 is positioned against the end of tubular support 1. Thus, the strap 16 and the screw 18 are located in the interior of the said support. With the aid of a screw driver, inserted through the aperture 19 in the body 2 of the lamp holder, the screw 18 can be fastened, via the bore 15 in the lug 14, in the tapped aperture 9. Consequently, the screw 18 has two functions: it fastens the mounting plate 4 in the support 1 and, in addition, the body of the lamp holder to the tubular support. After the aperture 19 has been closed with the aid of the screw lid 20 or else after the current supply wires have been inserted through the aperture 19, which is to this end provided with a stuffing box, and after the body (not shown) of the other lamp holder has been fastened to the other end of the tubular support, the fixture is ready for shipment or use. It will be obvious that the mounting plate 4 of the fixture according to the invention is secured only to one of the bodies of the lamp holders.

In the embodiment shown in FIG. 2 the ribs 21 and 22 are not provided on the side walls of the tubular support 23, but only on the bottom wall thereof. The lug 26, arranged in the slots 24 and 25, is bent over in a U-shaped manner at its upright sides to form reverse flanges 27, 28 and is also provided with a recess 29, through which the current supply wires 30 can be introduced.

When this fixture is assembled, the lug 26 is slipped onto the bent-over end 31 of the mounting plate 32. To this end the said plate has rim parts 33 and 34. Then the mounting plate 32 is introduced into the tubular support to an extent such that the lug 26 can be placed in the slots 24 and 25. Otherwise the structure is substantially identical to that shown in FIG. 1.

As shown in FIG. 3, the tubular support 1 is provided, in order to fasten the fixture to a ceiling or a wall, with a pair of opposite apertures at one or more places. Between each pair of these apertures a sleeve 35 is arranged so that the head surfaces of this sleeve coincide with the interior surfaces of the tubular support. In each of these sleeves are arranged two sockets 36 and 37. The lowermost socket 36 is provided on the inner side with screwthread 38, whereas the topmost socket 37 has corresponding screwthread 39 on the outer side. The free ends 40 and 41 of these sockets, together with stuffing rings 42 and 43, cover the apertures of the tubular support. FIG. 3 shows the situation in which the sockets 36 and 37 have not yet been jointed by screwing. In this way the interior of the tubular support has a channel which is hermetically closed with respect to the interior of the support. The screw for fastening the fixture to the ceiling is introduced through the aperture 44 into the said channel and bears with its head surface on the lower side of the cylindrical part of the socket 37. In order to have a certain amount of play in the longitudinal direction in this method of fastening it is advisable to render the aperture 45 in the socket 37 somewhat larger than the outer diameter of the screw shaft. If desired, an adjusting plate 47 may be used between the bottom side of the socket 37 and the sup-

porting surface of the screw head; as is shown in FIG. 4, this plate has an elongated opening 46. This construction may be used very successfully, since the tubular support, apart from the mounting plate, does not comprise parts, which would render it difficult to provide a bore and the associated stuffing means. The current supply wires, if any, can be readily introduced through the intermediate spaces between the sleeve 35 and the upright walls of the support.

FIG. 5 shows how the bodies of the lamp holders can be secured in a liquid-tight manner to the tubular support. In the body 51 a groove 52 is provided in which a stuffing ring 58 is arranged. The width of the said groove is chosen so that it accommodates not only the tubular support 53 but also a layer 54 of synthetic substance applied thereto by shrinking. The outer edge 56 of the groove 52 has a slightly conical shape. Thus when the body of the lamp holder is tightened, both the tubular support 53 and the synthetic layer 54 are urged tightly against the stuffing ring 58.

What is claimed is:

1. A lighting fixture for fluorescent lamps comprising a seamless hollow body member, lamp holder means closing the ends of said body member, means integral with said body member defining a transverse recess within said body member, lug means supported within said recess by the said means integral with the body member, said lug means having an aperture, a mounting plate within said body member having circuit elements for said lamp and means passing through said aperture joining said lug means to secure both said mounting plate and at least one said lamp holder to said body member, a second lug arranged transversely to the longitudinal axis of said body member at the other end thereof, said lug supported in a recess, said recess being defined by means integral with said body member and means to secure the body of a second lamp holder means to said second lug.

2. A lighting fixture for fluorescent lamps comprising a seamless hollow body member, lamp holder means closing the ends of said body member, means integral with said body member defining a transverse recess within said body member, lug means supported with said recess by the said means integral with the body member, said lug means having an aperture, a mounting plate within said body member having circuit elements for said lamp and means passing through said aperture joining said lug means to secure both said mounting plate and at least one said lamp holder means to said body member, the portion of said mounting plate joined with said lug having a right angled bend, a tapped aperture in said right angled bend, a screw means extending through said apertured lug and received in said tapped aperture securing both said mounting plate and said lamp holder means to said lug located between the lamp holder means and the right angled bend of the mounting plate.

3. A lighting fixture as claimed in claim 2, wherein the lug is bent over to form reverse flanges defining opposed slots on two opposite sides thereof, the edges of the bentover part of the mounting plate fitted within the slot formed by said flanges and body of the lug.

4. A lighting fixture as claimed in claim 1, wherein said lamp holders means comprises a strap affixed to a lamp holded body, said strap including a bow provided with a bore receiving a screw fastening said lamp holder body to the lug.

5. A lighting fixture as claimed in claim 1, wherein the means defining said recesses of the body member receiving said lugs comprise interior rib means integral with said body member, local slot opening in said rib means adjacent the ends of said body member.

6. A lighting fixture as claimed in claim 5, wherein a groove is provided in the bodies of the lamp holders for receiving the ends of the body member, a stuffing ring in said grooves against which said body member

5

abuts for forming a liquid tight seal between said body member and said lamp holders.

7. A lighting fixture as claimed in claim 6, wherein the body member is provided with at least one pair of apertures spaced relative to the mounting plate within said member, sleeve means in said apertures and means to seal the interior of said sleeve means in a liquid-tight manner.

8. A lighting fixture for fluorescent lamps comprising a seamless hollow body member, lamp holder means closing the ends of said body member, means integral with said body member defining a transverse recess within said body member, lug means having an aperture and supported in said recess by said means defining the recess, a mounting plate within said body member having circuit elements for said lamp and means joining said lug means to secure both the mounting plate and at least one said lamp holder to said body member.

9. A fluorescent lamp fixture comprising a tubular body member, discrete lamp holder means having a portion overlying the ends of said body member and a depending portion adapted to hold a lamp, and means providing a sealed connection between said lamp holders and tubular body member, means securing the lamp holder means to said body member, a mounting plate having circuit elements secured thereon enclosed within said body member, and means securing said mounting plate within said body member.

10. A fluorescent lamp fixture comprising a tubular body member, discrete lamp holder means at the ends of said body member, and means to provide a sealed connection between said lamp holder means and said

6

body member, a mounting plate having circuit elements secured thereon enclosed within said body member, means securing said lamp holder means and mounting plate to the interior of said body member, and means for fastening said fixture to a suspension device including at least one aperture through said body member, a sleeve means, and means forming a seal between said aperture and said sleeve means whereby the interior of said body member is hermetically sealed from ambient conditions.

11. A lighting fixture for a fluorescent lamp comprising a tubular body member, lamp holder means at each end of said body member, said lamp holder means having a first portion for capping off each end of said body member and a second portion depending from said first portion for supporting said lamp in spaced parallel relation with said body member, a mounting plate having circuit elements for said lamp mounted thereon enclosed within said body member, and a single means within said body member for removably securing both said mounting plate and a lamp holder with said body member.

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