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GROUND TERMINAL HOUSING FOR FLUORESCENT LIGHTING FIXTURES

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This invention relates generally to lighting fixtures and is more particularly concerned with means for enclosing wire connectors.

Good practice in the manufacture of pan-type fixtures of the electric-discharge lamp type requires that such fixtures be provided with means for preventing unnecessary exposure of wire connectors. The provision of a top pan extending over the entire area of the fixture's base stamping and coacting with the latter as a suitable enclosure for the wire connectors is mandatory in the manufacture of certain fixtures, but in the manufacture of comparatively small fixtures, it is permissible to dispense with a top pan, provided, however, that the wire connectors are in some other manner suitably enclosed and that the enclosure provided therefor is grounded to the base stamping. The provision of a top pan has proved to be rather expensive and for this reason is not entirely satisfactory. Therefore, a principal object of the present invention is to provide a wire-connector enclosure for a fixture of the aforementioned type which enclosure obviates the necessity for a top pan.

Another object of the present invention is to provide such a wire-connector enclosure which may be quickly disassembled for exposing the connector for inspection and servicing and which may be quickly reassembled thereafter, both disassembly and reassembly being effected without the use of special tools.

Still another object of the present invention is to provide such a wire-connector enclosure which is grounded to, and carried by, the fixture's base stamping through the medium of means also common to auxiliary control means on the base stamping.

And still another object of the present invention is to provide such a wire-connector enclosure which is exceedingly simple in design and construction and which is cheap to manufacture.

Other objects of the present invention will be apparent from the following description, it being understood that the present invention consists substantially in the combination, construction, location and relative arrangement of parts, as described in detail hereinafter, as shown in the accompanying drawings and as finally pointed out in the appended claims.

In the accompanying drawings:
Figure 1 is a perspective view of a lighting fixture embodying the present invention;
Figure 2 is a top plan view taken on line 2—2 of Figure 1;
Figure 3 is a sectional elevation taken on line 3—3 of Figure 2, the lamp being shown in broken lines;
Figure 4 is an enlarged detail view of the area in Figure 5 which is encircled by the broken line, the parts, however, being shown in section;
Figure 5 is a sectional elevation generally on line 5—5 of Figure 2, parts being broken away for the sake of clarity;
Figure 6 is a sectional elevation on line 6—6 of Figure 5;
Figure 7 is similar to Figure 6, but the wiring is omitted; and
Figure 8 is a wiring diagram.

The fixture constructed in accordance with the present invention essentially comprises a base member 10 and a circular fluorescent lamp 11 carried by the member 10 through the medium of a lamp holder 12 and lamp-holding clamps 13—15.

The base 10 comprises a dish-shaped member which preferably is stamped of sheet metal and which may be supported from a ceiling or the like with a flat annular portion 14 thereof disposed in spaced relation to the supporting surface. For supporting the base 10 from a ceiling, the former is provided with an opening 15 for passage of a threaded nipple (not shown).

The lamp 11 is suitably associated with means for connection thereof in electric circuit with an electric power source, including ballast coil 16, switches 17—17 and suitable wiring 18. The ballast coil 16 is secured to the flat annular portion 14 of the base member 10 through the medium of a pair of bolts 19—19 which are projected through registering openings in the portion 14 and in the base of the ballast coil 16.

The lamp 11, lamp holder 12, lamp holding clamps 13—15, ballast coil 16, switches 17—17 and the wiring 18 therefor are conventional and, consequently, a detailed description thereof is deemed to be unnecessary for a full understanding of the present invention. It should be observed, however, that the numeral 20 designates an enclosure for wire connectors, the latter being designated by the numeral 21. The enclosure 20 will now be described in detail as it is an essential part of the present invention.

The enclosure 20 comprises a pair of stamped sheet metal sections 22—22 that are identical and that are secured together by yieldable means through the medium of which they are carried by the base member 10. Each section 22 is semicircular in transverse cross section, is provided with parallel walls 23—24 at opposite ends thereof and with a pair of coplanar flanges 25—26 extending in opposite directions outwardly from the opposed sides thereof. In the side of each section 22 there is formed an elongated depression 27 which affords a straight transversely extending channel positioned about midway between the walls 23—24. Intermediate the ends of each flange 25—26 there is provided a U-shaped notch 28 which opens on the outer edge of the flange. Proximate each end of the flange 26 there is provided a depression 29, and proximate each end of the flange 25 there is provided a projection 30 presenting in a direction opposite to that of the depression 29. Projecting outwardly from the wall 23 in longitudinal continuation of section 22 is a neck 31 which is semicircular in transverse cross section.

When the pair of sections 22—22 are assembled, the flange 25 of each is positioned in abutting relation to the flange 26 of the other, the projections 30—30 of the former being received by the depressions 29—29 of the latter and the U-shaped notches 28—28 being disposed thereby to register with one another. In this assembled condition of the sections 22—22, the walls 24—24 are disposed in coplanar relation with the proximate edges thereof abutting one another to thereby form an effective closure member, and the walls 23—23 are similarly disposed relative to one another except that the semi-circular necks 31—31 thereof together form a circular opening on the line of abutment of the sections 22—22.

The yieldable means provided for securing the sections 22—22 together is in the form of a spring member 32 having a U-shaped section 33 and an attaching section 34. The former includes a pair of opposed parallel legs 35—36 joined together by a portion 37, the leg 35 being...
provided with a free end portion bent at as 38 and the leg 36 being integral with the attaching section 34, which extends in a direction parallel to the portion 37 and which is provided with a free end portion in the form of an eye 39. The U-shaped section 33 is disposed in engagement relation to the section 22—22, and, when thus disposed, the legs 35—36, which are biased toward one another, respectively nest in the depressions 27—27 formed in the side of the sections 22—22, while the portion 37 engages the registering notches 28—28. The size of the enclosure is such that it may be fitted inside the base member or stamper 10, and it is supported in the desired position by the spring member 32, which is secured in place by a bolt 19.projected through the eye 39, the latter being disposed between the base of the ballast coil 16 and the flat annular part 14 of the base stamper 10.

Assuming that the fixture has been wired, and that the wire connectors 21 are still exposed, the latter may be suitably enclosed by placing them between the assembled sections 22—22. The wires spliced by the connectors, of course, will extend through the opening formed by the necks 31—31. The assembled sections 22—22 are next forced between the legs 35—36 of the spring member 32 and positioned so that these legs nest in the depressions 27—27. Then the sections 22—22 are moved axially of the legs until the portion 37 which connects the legs 35—36, engages the notches 28. The force exerted by the biased legs 35—36 urges the sections 22—22 toward one another and secures them in place. However, should these sections slip downward out of place, the movement is limited by engagement of the bent portion 38 of the legs 35—36 with the proximate section 22.

To disassemble the enclosure for inspection or servicing of the wire connectors 21 contained thereby, the pressure exerted on the sections 22—22 by the legs 35—36 is relieved by finger pressure, whereinupon the sections 22—22 of the enclosure may be readily separated for exposing the connectors 21. It will be observed that this disassembly and reassembly may be effected without the use of any special tools.

The enclosure sections 22—22 are intimately engaged through the abutment of flanges 25—26, and these flanges are each ground through the medium of spring member 32. The U-shaped section 10, the spring member 32 being secured in place by a bolt 19 which is common also to the ballast coil 16. Since the enclosure is thus grounded, and since the wire connectors 21 are not unnecessarily exposed when housed between the sections 22—22, it should be apparent that the present invention obviates the necessity for a top pan.

It should also be obvious that the wire connector enclosure of the present invention is exceedingly simple in design and construction and that it is cheap to manufacture, as evidenced by the fact that the enclosure sections are identical and that they may be made from a single stamping of sheet material.

It will be understood that the present invention is susceptible to various changes, modifications and applications which may be made from time to time without departing from the principles thereof and that it is intended to claim the invention broadly, as well as specifically, as indicated in the appended claims.

What is claimed is new and useful is:

1. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, means including a splice between a pair of wires, said splice being disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure for the spliced portions of said wires, said enclosure comprising a plurality of intimately associated sections that are quickly separable for exposing said splice for inspection and servicing and that are carried by said base member.

2. In a fluorescent lighting fixture of the character defined in claim 1 wherein the enclosure comprises a pair of sections disposed in abutting engagement with one another and complementally formed to conjointly provide an opening in the wall thereof at the line of abutment.

3. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, said means including a splice between a pair of wires, said splice being disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure for the spliced portions of said wires, said enclosure comprising a plurality of intimately associated enclosure sections, and yieldable means acting on said enclosure sections to secure them together, said enclosure sections being carried by said base member and being quickly separable for exposing said splice for inspection and servicing when the pressure exerted on said enclosure sections by said yieldable means is relieved.

4. In a fluorescent lighting fixture of the character defined in claim 3 wherein there are a pair of complementary enclosure sections disposed in intimate engagement with one another, and wherein the yieldable means comprises a spring member having a pair of opposed elements which respectively act on said enclosure sections to secure them together.

5. In a fluorescent lighting fixture of the character defined in claim 3 wherein there are a pair of complementary enclosure sections positioned in abutting relation to one another, and wherein the yieldable means comprises a spring member having a U-shaped section disposed in intimate engagement with said enclosure, the legs of said spring member being biased toward one another for respectively acting on said enclosure sections to secure them together.

6. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, means including a splice between a pair of wires, said splice being disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure for the spliced portions of said wires, said enclosure comprising a plurality of intimately associated sections that are quickly separable for exposing said splice for inspection and servicing and that are secured to said base member by means serving to ground said enclosure sections to said base member.

7. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, said means including a splice between a pair of wires and auxiliary control means, said splice and control means being disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure for the spliced portions of said wires, said enclosure comprising a plurality of intimately associated sections that are quickly separable for exposing said splice for inspection and servicing, and means securing said enclosure sections to said base member and serving to ground the former to the latter.

8. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member.
member, means adapted to connect said lamp in electric circuit with an electric power source, said means including a splice between a pair of wires and auxiliary control means, said splice and control means being disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure for the spliced portions of said wires, said enclosure comprising a pair of complementary sections disposed in intimate engagement with one another, and means securing said enclosure sections to said base member and serving to ground the former to the latter, said securing means comprising a spring member having a U-shaped section disposed in embracing relation to said enclosure, the legs of said spring member being biased toward one another for acting on said enclosure sections to secure them together, said enclosure sections being quickly separable for exposing the splice for inspection and servicing when the pressure exerted on said enclosure sections by said legs is relieved, and comprising a fastening element common to said control means.

9. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, said means including a splice between a pair of wires and auxiliary control means disposed between said supporting surface and a portion of said base member disposed in lower spaced relation to said supporting surface, and an enclosure comprising a pair of complementary sections positioned in abutting relation to one another, and means securing said enclosure sections to said base member and serving to ground the former to the latter, said securing means comprising a spring member having a U-shaped section disposed in embracing relation to said enclosure, the legs of said spring member being biased toward one another for acting on said enclosure sections to secure them together, said enclosure sections being quickly separable for exposing the splice for inspection and servicing when the pressure exerted on said enclosure sections by said legs is relieved, and comprising a fastening element common to said control means.

10. A fluorescent lighting fixture comprising a base member adapted to depend from a horizontally extending supporting surface, a fluorescent lamp carried by said base member, means adapted to connect said lamp in electric circuit with an electric power source, said means including a splice between a pair of wires, said splice being disposed between said supporting surface and a portion of said base member spaced from said supporting surface, and an enclosure for the spliced portions of said wires, said enclosures comprising a plurality of intimately associated complementary identical sections that are quickly separable for exposing said splice for inspection and servicing and that are carried by said base member, each of said enclosure sections being formed of a single stamping of sheet material.

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