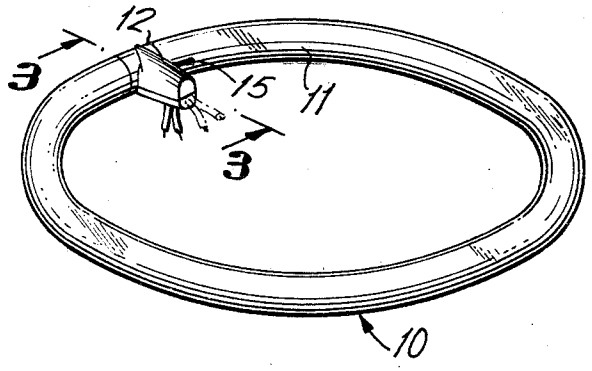
May 5, 1970 A. H. SOLTAN 3,510,826

CONNECTOR FOR A LAMP

Filed Nov. 8, 1967

FIG. 1



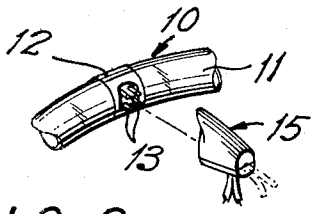


FIG. 2

FIG. 3

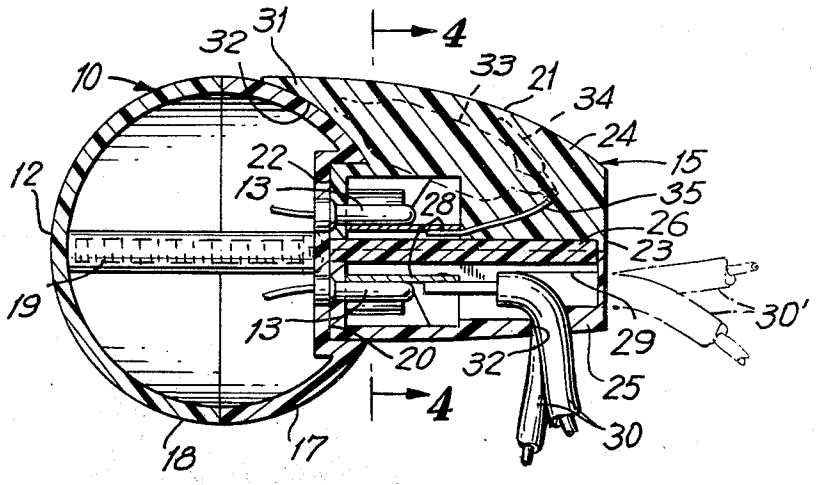


FIG. 4

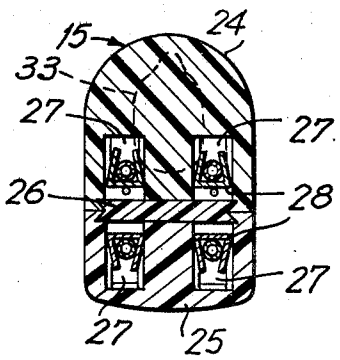


FIG. 6

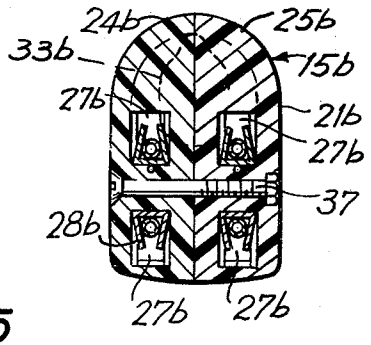
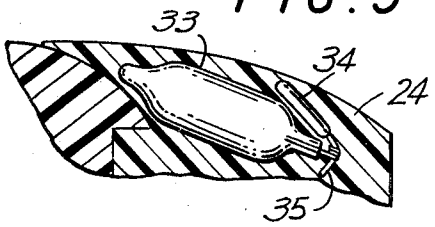


FIG. 5



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CONNECTOR FOR A LAMP

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Int. Cl. H01r 33/08
U.S. Cl. 339—50 4 Claims

ABSTRACT OF THE DISCLOSURE

This invention is essentially concerned with a connector for fluorescent lamps, wherein a body has one region configured for complementary facing relation with a lamp, having contacts in the body for engagement with terminals of the lamp with supply conductors extending from the body for connection to an electric source, and starter means encased in the body electrically connected to the contacts and supply conductors.

BACKGROUND OF THE INVENTION

As is well known to those versed in the art, the use of fluorescent lamps commonly involves one or more separate starters, mounting therefor, electric contacts and other necessities for a separate starter. The use of separate starters in conjunction with fluorescent lamps thus increases costs of both labor and materials, as well as space requirements, and also makes such structures of uncertain reliability being readily subject to malfunction by vibration, shock, corrosion, atmospheric conditions, and the like.

SUMMARY

Accordingly, it is an important object of the present invention to provide a unique and highly improved connector for fluorescent lamps which overcomes the above-mentioned difficulties wherein the connector is incorporated in the starter by a unique structure which effectively eliminates the previously required starter socket base, its attachment to a fixture, and the labor, equipment and supplies involved therein.

It is still a further object of the present invention to provide a unique connector for fluorescent lamps which enhances reliability of operation by minimizing malfunction due to vibration, corrosion and wear, reducing the number of wires necessary to effect simpler, more compact design, while minimizing hazards of fire and electric shock.

It is still a further object of the present invention to provide a connector for fluorescent lamps having the advantageous characteristics mentioned in the preceding paragraphs, which is more durable and long-lasting in use, simpler to install and manipulate, neater and more attractive in appearance, and which can be economically manufactured to effect substantial savings in cost.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawing, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a top perspective view showing an annular fluorescent lamp and connector constructed in accordance with the teachings of the present invention, the connector being associated in its normal connected position radially of the lamp.

FIG. 2 is a partial perspective view similar to FIG. 1, but showing the connector separated or withdrawn from its normal radial position with respect to the lamp.

FIG. 3 is a sectional elevational view taken generally along the line 3—3 of FIG. 1, but showing the connector in its connected condition with the lamp.

FIG. 4 is a sectional elevational view taken generally along the line 4—4 of FIG. 3.

FIG. 5 is an enlarged partial sectional view similar to FIG. 3 but showing internal construction of the connector in greater detail.

FIG. 6 is a sectional view similar to FIG. 4, but showing a slightly modified embodiment of the instant connector.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now more particularly to the drawing, and specifically to FIGS. 1–4 thereof, a fluorescent lamp is there generally designated **10**, and assumes the configuration of an annular or circular tube **11**. The tube **11** is conventionally fabricated of straight tube stock and curved or bent to bring its ends together, where they are joined by a band or fitting **12**, which may mount and cover the internal electrical elements. The band **12** may carry terminals, such as prongs **13** for electrical engagement with appropriate contacts, as will appear more fully hereinafter. As thus far described, the lamps **10** may be conventional.

A connector is generally designated **15** and movable into and out of complementary facing relation with respect to the lamp **10**, and specifically with respect to the fitting or band **12**. The connector **15** is disposed, in its connected relation with the lamp **10**, extending radially inwardly therefrom.

Considering FIGS. 3–5 in greater detail, the band **12** is shown as being formed of a pair of generally semicircular sections **17** and **18** arranged to define an annulus about the adjacent ends of tube **11** and secured together, as by a diametral fastener **19**. One section, say section **17** of band **12** is formed with a socket **20**, from the bottom wall of which project the terminal pins **13**. In practice, there way be four terminal pins **13** located in rectangular arrangement and projecting radially inwardly of the annular lamp **10**.

The connector **15** includes a somewhat elongate body **21** having one end region **22** adjacent to the lamp band **12** and extending radially inwardly therefrom to its opposite radially inner end region **23**. The connector body **21** is advantageously fabricated of a pair of complementary sections, the embodiment of FIGS. 3–5 being formed of a pair of upper and lower sections **24** and **25**, respectively, as seen in the drawings. The body sections **24** and **25** may be individually molded, say of plastic, by any suitable procedure, and are fixedly secured together in adjacent, superposed relation, as by a dovetail-type connector plate or spline **26**.

The inner end region **22** of the connector body **21** is formed with a plurality, namely four openings **27** extending inwardly through the end region **22** to the interior of the body. Specifically, the openings **27** may be four in number and arranged generally rectangularly for respective reception of terminal pins **13** when the body end region **22** is inserted into socket **20**. As viewed in the drawings, an upper pair of openings **27** is located in the upper body section **24**, and a lower pair of openings **27** is located in the lower body section **25**. In addition, electrical contacts, such as resilient leaf members **28** are each mounted in a respective opening **27** for electrical engagement with respective terminal pins **13** in the connected condition of FIG. 3.

Opening through the other end **23** of body **21**, in the lower body section **25**, is a passageway **29**; and an additional passageway **32** may open from the passageway **29** through the underside of the section **25**. Supply conductors **30** may each be connected to a respective lower contact **28**, and extend from the connector **15**, as through opening **32**, for connection to a source of electrical supply. Alternatively, the conductors **30** may extend through the passageway **29**, as shown in phantom.

The body section **24** extends laterally or upwardly from the generally longitudinally extending contacts **28** and conductors **30**, and is further provided with an extension **31** which projects beyond the end region **22**, on one side thereof and is arcuately configured, as at **32** for conforming engagement with an adjacent portion of band **12**. This assures proper interengagement between terminal pins **13** and contacts **28**, when the connector **15** is in its complementary facing relation with respect to the lamp **10**, as seen in FIG. 3.

Carried in the body section **24** and its extending portion **31** is starter means **33** and **34**, which may include a glow switch and capacitor, respectively. The glow switch **33** and capacitor **34** of the starter means are appropriately electrically connected to contacts **28**, as by conductors **35**, and may advantageously be encapsulated or embedded in the body section **24**, as by suitable plastic composition, or the like. FIG. 5 illustrates, in greater detail, the embedding or encapsulating of the starter means **33** and **34** in the body section **24**.

In this condition, it will be appreciated that the unitary connector **15** is quickly, easily and simply connected to and disconnected from the lamp bulb **10**, the starter **33**, **34** being completely protected within the connector body **21** without requiring separate connection to the circuit.

In the embodiment shown in FIG. 6, a connector is generally designated **15***b* and may include a body **21***b* of similar outline configuration to the body **21**. The body **21***b* is also sectional, being subdivided into a pair of complementary, hollow half sections **24***b* and **25***b* meeting along a longitudinal centerline of the connector. Thus, the body sections **24***b* and **25***b* may be substantially identical, but of opposite hand. The body sections **24***b* and **25***b* are provided with openings **27***b* substantially identical to the openings **27** and containing contacts **28***b*, which may be the same as contacts **28**. However, the body sections **24***b* and **25***b* may be advantageously secured together by a transverse fastener **37**, say suitable threaded-fastener means which may be detachable for access to the interior of the body **21***b*.

Carried in an upper interior region of the sectional body **21***b* may be starter means **33***b* similar to the starter means **33** of the previously described embodiment, but accessible upon separation of the body sections. Of course, the body sections **24***b* and **25***b* may be permanently secured together by any suitable means, if desired. Also, the interiorly hollow sections **24***b* and **25**b, which combine to spacedly receive the starter means **33***b*, may be

suitably filled to embed the starter means in one or both of the body sections.

From the foregoing, it is believed demonstrated that a connector for a fluorescent lamp is provided which fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A connector for an annular fluorescent lamp having electric terminals, said connector comprising a body having complementary sections, and having one region configured for complementary facing relation with said lamp, contacts carried by said body for engagement with said terminals when said body is in said complementary facing relation, supply conductors extending from said body for connection to a source of electric supply, and starter means encased within one of said complementary sections of the body and electrically connected to said supply conductors and contacts.

2. A connector according to claim **1**, said body having openings in said one region for receiving said terminals, and said contacts being located in said openings for engagement with said terminals.

3. A connector according to claim **1**, said body comprising fastener means securing said sections together.

4. A connector for an annular fluorescent lamp having electrical terminals, said connector comprising a body being of an elongate configuration and having one region configured for complementary facing relation with said lamp, contacts carried by said body for engagement with said terminals when said body is in said complementary facing relation, supply conductors extending from said body for connection to a source of electric supply, and starter means encased in said body and electrically connected to said supply conductors and contacts, said body having said one region at one end thereof and said supply conductors extending therefrom adjacent an other end, said contacts being located at said one end of the body and communicating with the exterior thereof for engagement of said terminal, said starter means being located on one side of said contacts and supply conductors.

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KENNETH DOWNEY, Primary Examiner

U.S. Cl. X.R.

315—72; 339—192