June 19, 1962 T. J. CHWAN 3,040,170

PLUG-IN FLUORESCENT LIGHT BALLAST

Filed March 10, 1959

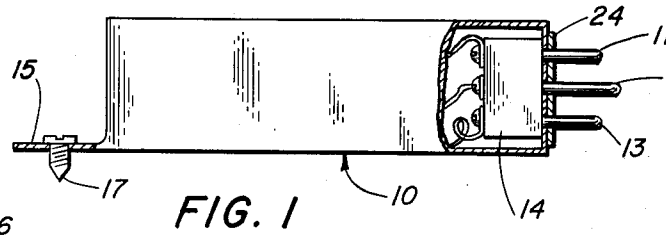

FIG. 1

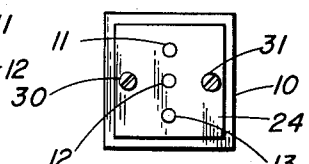

FIG. 2

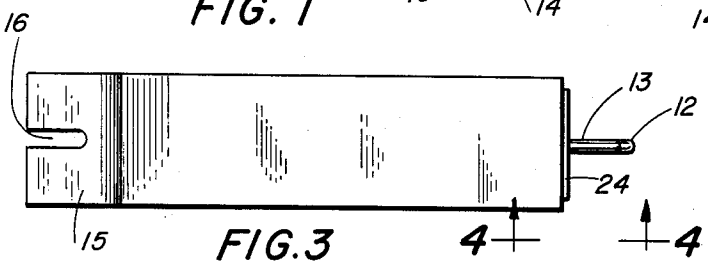

FIG. 3

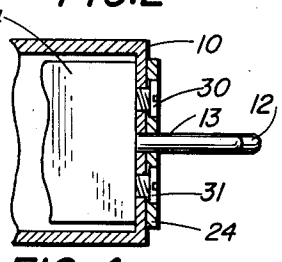

FIG. 4

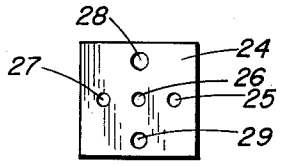

FIG. 5

FIG. 6

FIG. 7

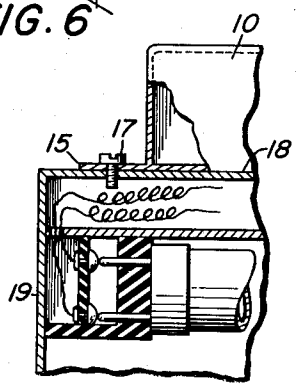

FIG. 8

Inventor

THOMAS J. CHWAN

By Victor J. Evans & Co.

Attorney

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PLUG-IN FLUORESCENT LIGHT BALLAST

Thomas J. Chwan, 105 Kossuth St., Wallington, N.J.

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1 Claim. (Cl. 240—51.11)

This invention relates to fluorescent lights, and in particular an improved ballast construction for fluorescent lights wherein, instead of taking the complete fixture apart and tracing out electric circuits when a new ballast is installed it is only necessary to plug in a ballast and secure the ballast in position with a metal screw whereby one ballast may be removed and a new ballast installed in a comparatively few seconds.

The purpose of this invention is to eliminate the necessity of taking fluorescent light tube fixtures apart to change the ballast therein.

With conventional fluorescent light fixtures the ballast is incorporated in a housing and the electrical connections from the ballast to the starter and terminals of the fluorescent tubes are independently connected so that in changing a ballast it is necessary to break the electrical connections and trace out the circuits again in installing a new ballast. With this thought in mind this invention contemplates a ballast having terminals extended therefrom and designed to be positioned on the outside of a fluorescent light fixture whereby it is only necessary to remove a metal screw and draw the terminals from sockets of the fixture to remove a ballast and in replacing the ballast it is only necessary to insert the terminals in the sockets and replace the metal screw.

The object of this invention is, therefore, to provide means for installing a ballast on a fluorescent light fixture so that the ballast may be removed and replaced without opening the fixture.

Another object of the invention is to provide an improved ballast for fluorescent light fixtures wherein electrical connections are not disturbed in changing a ballast.

A further object of the invention is to provide an improved fluorescent light fixture in which the ballast is readily removable and replaceable in which the improved fixture is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a ballast for fluorescent light tube fixtures having a flange for a metal screw extended from one end and having terminals positioned to be received by a socket of a light fixture extended from the opposite end.

Other features and advantages of the invention will appear from the following description taken in connection with the drawing, wherein:

FIGURE 1 is a side elevational view of an improved ballast for a fluorescent light fixture, one end of the housing of the ballast being broken away to show the contact block in the end of the ballast.

FIGURE 2 is an end elevational view of the ballast shown in FIGURE 1.

FIGURE 3 is a plan view of the ballast shown in FIGURE 1.

FIGURE 4 is a longitudinal section through the end of the ballast shown in FIGURE 1 from which the terminals extend with the parts shown on an enlarged scale and showing the mounting of the terminals and a face plate on the end of the ballast housing.

FIGURE 5 is a front elevational view showing the plate on the end of the housing.

FIGURE 6 is a view showing a fluorescent light fixture with ballasts removably mounted at the ends of a fixture housing and with a pipe stem extended from one end of the housing and a wire in pipe for supplying current to

the fixture extended from the opposite end of the housing.

FIGURE 7 is a side elevational view, similar to that shown in FIGURE 1, with parts broken away and illustrating a modification wherein the terminals extend vertically from the under side of the ballast instead of horizontally from one end thereof.

FIGURE 8 is a sectional view on the line 8—8 of FIGURE 6 illustrating the means for mounting the fluorescent tube or tubes.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved ballast for fluorescent light fixtures of this invention includes a housing **10** having terminals **11, 12** and **13** extended from a terminal base or block **14** in one end of the housing and a flange **15** having a slot **16** for a metal screw **17** therein extended from the opposite end.

In the design illustrated in FIGURE 6 the ballast **10** is positioned upon an upper plate **18** of a housing **19** with the terminals **11, 12,** and **13** extended through openings in an end wall **20** of a casing **21** extended upwardly from the plate **18** and the ballast is secured in position by the metal screw **17** which extends through the slot **16** in the flange **15**. Similar ballast is provided at the opposite end of the fixture and the ballast at the opposite end is mounted in a similar manner. The housing **19** is of a conventional structure having sockets **8** mounted at opposite ends thereof to receive a fluorescent tube **9**.

The casing **21** is provided with a tubular stem **22** at one end and also with a tube **23** at the opposite end, the tube **23** being positioned to receive electric wires extended from the fixture to a source of current supply.

The fixture shown in FIGURES 1, 2, and 4 is provided with an end plate **24** having openings **25, 26,** and **27** for the terminals **11, 12,** and **13,** respectively and also openings **28** and **29** for screws **30** and **31** by which the plate is secured to the end of the ballast housing.

In the design illustrated in FIGURE 7 a ballast **32,** similar to the ballast **10** is provided with a flange **33** at one end, similar to the flange **15** of the ballast **10** and, in this design terminals **34, 35,** and **36** extend from a block in the ballast through a face plate **37,** similar to the plate **24.**

It will be understood that the terminals may extend from either end of the ballast or may extend from the top, bottom or either side. The ballast may also be used upon electric light fixtures for two, four, six, or any number of fluorescent light tubes and as many ballasts as may be desired may be used.

The ballasts are illustrated as being provided with three terminals, however, it will be understood that as many terminals as may be desired may be used.

It will be understood that modifications, within the scope of the appended claim, may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a fluorescent light fixture, the combination which comprises a fixture assembly including a housing having means for mounting a fluorescent tube therein and having contact terminal receiving sockets therein and a ballast having a plurality of contact elements extended therefrom, said ballast being positioned on said fixture housing so that the contact elements thereof are receivable in the contact terminal receiving sockets in said fixture housing, said ballast including an elongated rectangular shaped hollow ballast housing having a flange extended from one end thereof, said flange having a slot therein for receiving a metal screw that is extended through said slot into the fixture housing, the flange being positioned to retain

the ballast housing in position on the fixture housing, an insulated mounting block from which the contact elements of said ballast extend positioned in the ballast housing and a plate mounted at the end of the ballast housing opposite to the end thereof having the flange thereon and said plate engaging the fixture housing so that fastening means extended through the plate and fixture housing will engage the mounting block and retain the mounting block and ballast housing in fixed relation to the fixture housing.

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