

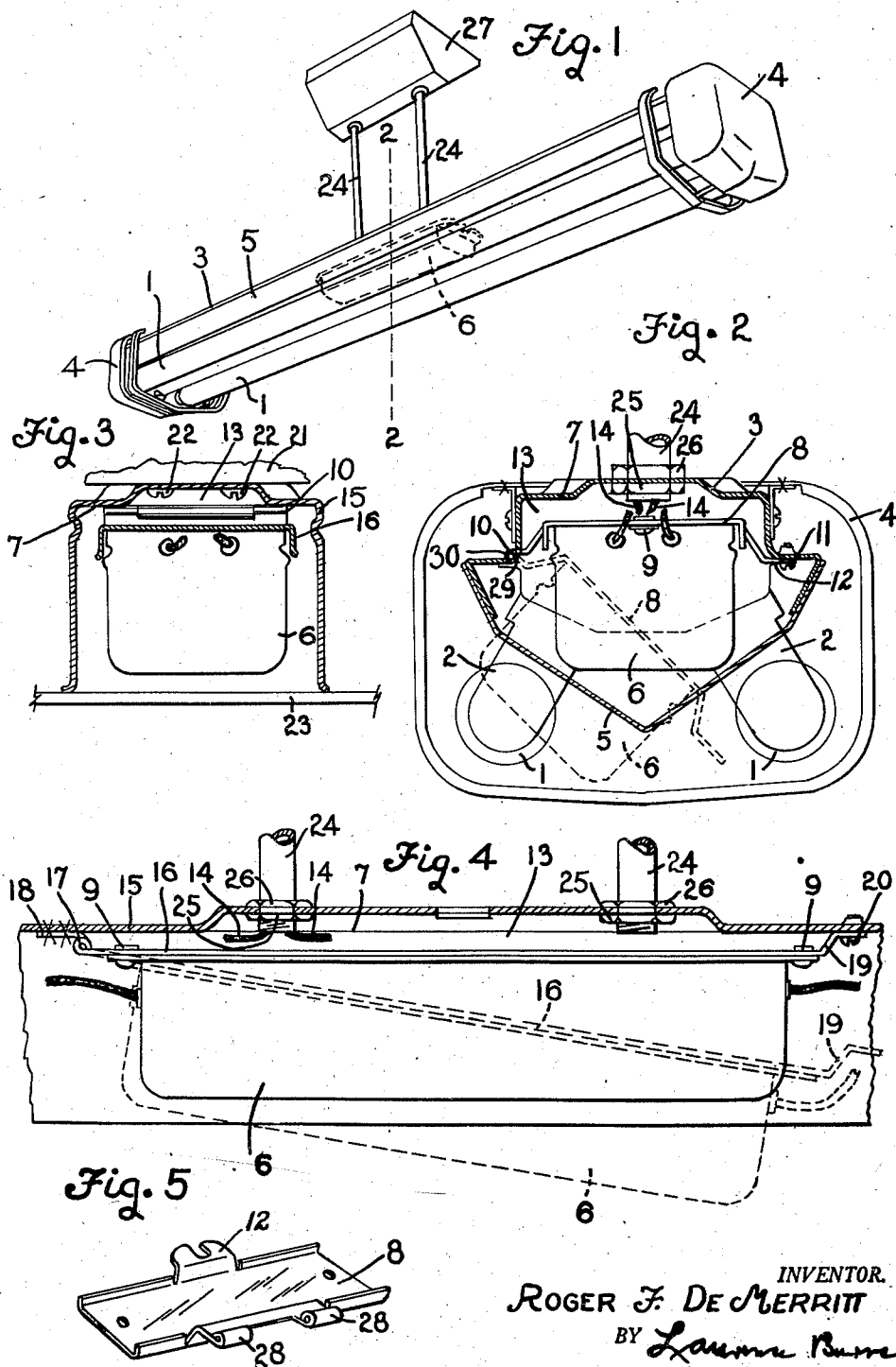
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PIXTURE FOR GASEOUS DISCHARGE LAMPS

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FIXTURE FOR GASEOUS DISCHARGE LAMPS

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1 Claim. (Cl. 240—51.11)

1

This invention relates to electric lighting fixtures and particularly to fixtures for gaseous discharge type lamps and has for its general object to render the fixture universal with respect to its method of installation.

A further object of the invention is to provide a fixture having bulky auxiliary equipment and in which such equipment may readily be temporarily swung into a position to facilitate installation operations.

A further object of the invention is to provide for efficient and symmetrical disposition of the auxiliary elements thereof upon or within the fixture chassis.

A further object of the invention is to provide means for facilitating wiring operations in fixtures having relatively heavy and bulky auxiliary equipment.

Other objects and features will more fully appear from the following description taken in connection with the accompanying drawings and will be particularly pointed out in the claim.

In the drawings,

Figure 1 is a perspective view of a fixture embodying the invention;

Figure 2 is a cross section on line 2—2, Figure 1;

Figure 3 is a cross sectional view illustrating a different embodiment of the invention;

Figure 4 is a longitudinal sectional view taken on line 4—4, Figure 3; and

Figure 5 is a perspective view of a supporting plate for the ballast unit for a fixture such as shown in Figures 1 and 2.

In the commercial production of gaseous discharge lamp fixtures, it is necessary to provide facilities for installation of the fixture in a variety of ways to fulfill a number of lighting requirements. For example, a particular requirement may employ pendant mounting while another may best be fulfilled by flush mounting the fixture. The present invention permits the construction of a fixture which may readily be adapted to installation by pendant means or by direct flush contact with its supporting surface.

In gaseous discharge lamp fixtures a ballast unit must be employed to control and limit the flow of current in the lamp. Such units are relatively heavy and bulky, consequently their correct placement becomes a matter of considerable difficulty. The best possible position for the ballast is at the mid-portion of the chassis because in this position the weight is symmetrically distributed and the greatest weight concentration is situated at the custom-

2

ary point of support namely, at or near the mid-portion of the fixture.

Before the present invention, manufacturers were in some instances forced to place the ballast units unsymmetrically with respect to the mid-portion of the fixture which was very unsatisfactory practice. The reason for such practice was because the ballast units were permanently secured in the fixture chassis and had to be located in a position which would not interfere with installation operations executed at the mid-portion of the chassis.

To overcome this unsatisfactory condition in some cases the same type of fixture was adapted to universal installation by making some with proper installation fittings for one type of installation and some with proper fittings for another type of installation. As a result manufacturers have been forced to produce fixtures of the same or similar types having different attaching means depending upon the type of mounting required. This condition multiplied unnecessarily the variety of fixtures which had to be kept in stock.

The present invention overcomes this and other difficulties in the manufacture and installation of fixtures for gaseous discharge lamps.

To provide a better understanding of the invention particular embodiments thereof will be described herein. The invention is, however, adaptable to practically any type of gaseous discharge fixture. In Figure 1 a fixture is illustrated in which a pair of fluorescent lamps 1 provide the illumination. The lamps are supported by suitable sockets 2 shown in Figure 2, mounted upon a chassis 3. Desirably end caps 4 are provided to add to the decorative appearance of the fixture. A reflector 5 secured to the chassis acts also as a cover therefor.

In the operation of lamps of this type a ballast unit 6 is provided which acts to control the flow of current in the well-known manner. One such ballast is shown situated at the mid-point of the chassis. The relatively great weight and bulk of the ballast unit makes it desirable to locate the ballast to properly distribute the weight. Such symmetrical placement is desirable for other reasons. For example, in some fixtures the chassis is substantially channel-shaped having its largest dimensions at its mid-point and moreover, in most instances, the chassis is supported at its mid-portion and with the weight of the ballast also concentrated at its mid-portion a highly efficient and balanced installation results. In some fixtures employing

four or more lamps it is necessary to employ two ballast units. In this case it is also desirable to locate the ballasts at the mid-portion of the chassis.

To provide a fixture which is symmetrical in appearance it follows that its supporting means and the lead-in channels for the current supply wires also be situated at the mid-portion of the chassis. Such being the case the ballast unit or units interfered with wiring and installation operations. Before the present invention the ballast units were substantially permanently secured in the chassis, and when installation, removal, or wiring operations were required the ballast had to be removed by a laborious and time consuming operation.

To obviate this difficulty the ballast in the present invention is provided with means for hinging it to the chassis so that it can readily swing downward to provide access to the attaching wall 7 of the chassis. To accomplish this result a ballast supporting plate 8 is provided to which the ballast is permanently attached by rivets 9 or other securing means. As shown in Figure 2, the plate 8 is hinged to the chassis 3 along one edge as at 10. The opposite edge of the plate 8 is secured to the chassis by means which functions to clamp it in position under pressure and also permits it to be readily loosened and detached. Such means may be a screw 11 extending through an extension 12 of the plate and having screw threaded, or other positive engagement with the chassis. Desirably the plate 8 is spaced a short distance away from the attaching wall to present a chamber 13 therebetween within which wires 14 and other elements of the fixture are readily received.

In the form of the invention shown in Figure 2, the chassis 3 is generally channel-shaped and relatively shallow permitting the ballast to swing downward as shown in dotted lines after the reflector has been removed. Certain other types of chassis are relatively narrow and deep in cross section such as the chassis 15 shown in Figure 3. In this type of chassis the ballast is hinged at its end portion and swings downward as shown in dotted lines in Figure 4. In this construction a ballast supporting plate 16 is formed at one end to present one member of a two-part hinge 17. Desirably the other hinge member 18 is rigidly secured to the top wall of the chassis such as by welding. A projection 19 extends from the opposite end of the plate 16 through which a fastening screw 20 projects and extends into threaded apertures in the chassis to secure the ballast in its normal position shown in full lines.

It is to be understood that the term hinging used in connecting with the swinging downward of the ballast should be construed in its broadest sense. In place of the type of hinges shown, other means may be employed. For example, interlocking lugs projecting from the chassis and ballast may be provided which will function to permit the ballast to swing into the dotted positions shown, but which may be disengaged by manipulating them in a specified way, there being no hinge pin to lock them together.

The fixture shown in Figure 3 is flush mounted to its support 21 by means of screws 22 passing through the attaching wall of the chassis. The fixture is provided with a reflector 23 which

serves to close the open bottom of the chassis. Sockets and lamps are provided and assembled thereon in the well-known manner.

To mount the fixture shown in Figures 1 and 2 in the manner shown, the lamps 1 and reflector 5 are removed and the ballast 6 is swung downward by unfastening the screw 11 or other securing means. The pendant stems 24 are then thrust through knock-out openings in the attaching wall of the chassis and nuts 25 are threaded onto the ends of the stems to clamp the chassis thereto. Desirably shoulder nuts 26 are also provided upon the stems above and against which the chassis is clamped by the nuts 25. By swinging the ballast down this operation and also the proper threading of the wires 14 may be readily accomplished. The usual ceiling canopy 27 supports the stems 24 to complete the fixture. Likewise by swinging the ballast downward the attaching screws 22 may be driven into the support 21 in the fixture shown in Figure 3. Upon completion of the installation the ballast is swung up and secured, after which reflector and lamps are assembled to the fixture.

In Figure 2 the hinge 10 is constructed by forming pivot ears 28 upon the plate 8 which projects through apertures 29 in the chassis and embrace an interengaging ear 30 formed in the metal of the chassis. A hinge pin is passed through the ears 28 and 30 to complete the hinge construction. Any type of hinge however, may be employed or any device which will act to hold the ballast to the chassis and permit it to swing downward.

What I claim is:

A fixture for gaseous discharge lamps comprising, a main chassis, a ballast unit to control the flow of current to the lamps, means for supporting the ballast with its base spaced a short distance from and substantially parallel to the top wall of said chassis, said supporting means including a ballast supporting plate of a size not greatly exceeding the base of said ballast, means to secure the ballast to the plate, hinge means for pivotally securing said plate along one of its edges to said chassis top wall, a positive securing means engaging said plate and acting normally to secure the ballast in operating position but releasable to permit the ballast to swing down to facilitate installing and wiring operations, a reflector covering said chassis and enclosing the ballast and its pivotal plate; said reflector being removably attached to the chassis to permit the ballast and its plate to swing down upon removal of the reflector from the chassis and lampholders for supporting the lamps in correct position with respect to said reflector.

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