

Aug. 22, 1939.

L. C. DOANE

2,170,189

LIGHTING FIXTURE

Filed May 29, 1937

Fig. 1.

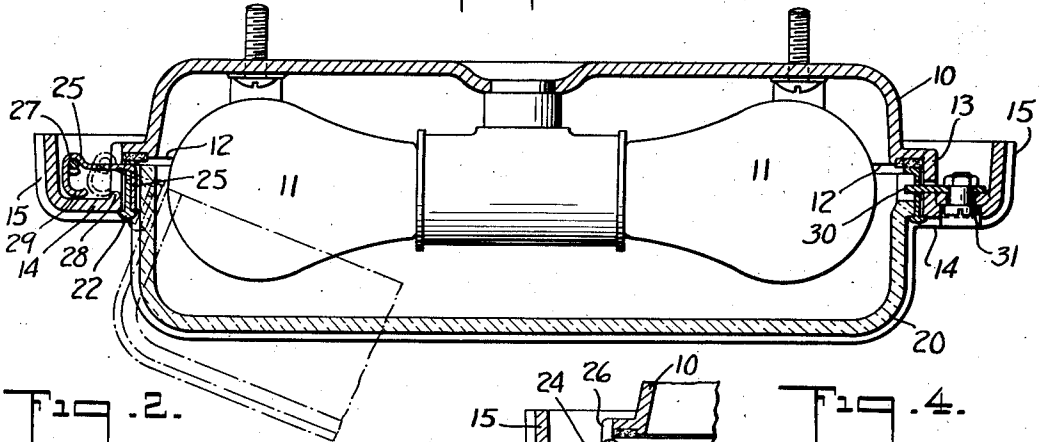


Fig. 2.

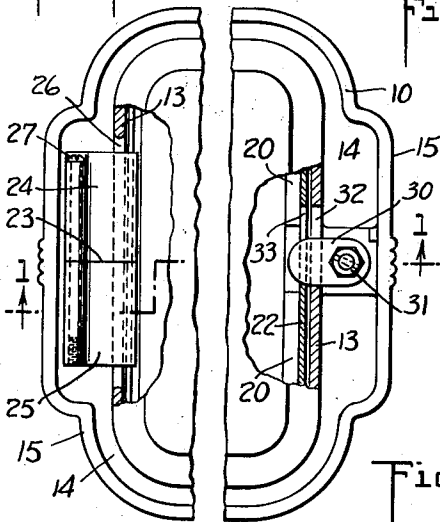


Fig. 3.

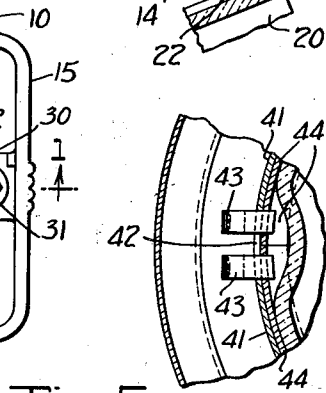


Fig. 4.

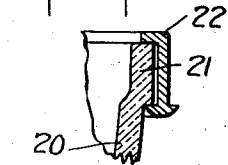


Fig. 5.

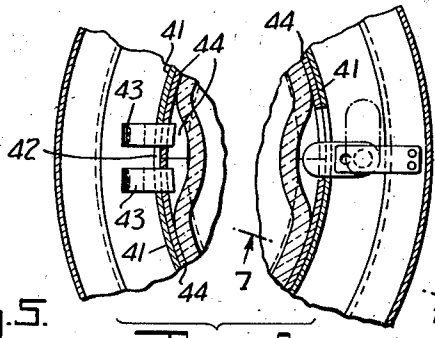


Fig. 6.

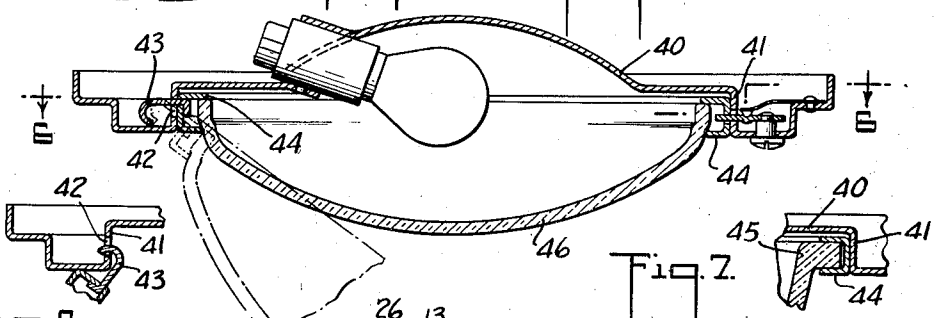


Fig. 8.

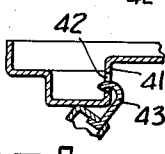


Fig. 9.

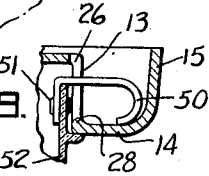


Fig. 7.

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2,170,189

LIGHTING FIXTURE

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Application May 29, 1937, Serial No. 145,428

10 Claims. (Cl. 240—7.35)

The present invention relates to lighting fixtures and is more particularly directed toward hinge mechanism for lighting fixtures of the ceiling type.

The present invention contemplates lighting fixtures having a recess in the lower face adapted to receive a shade supporting band and apertured to receive hinge elements carried by the band. This band may be a continuous band or a split band, and a single hinge supporting element carried by the continuous band or two hinge forming elements carried at the ends of the split, these elements being adjacent and passing through the aperture.

According to the present invention the hinge element or elements are hook shaped, the hook facing downwardly and inwardly, and the frame or support is provided with an upwardly extending element below the aperture which engages the hook shaped elements, so that the shade supporting band and shade are secured against accidental separation of the parts when the shade is opened and hangs downwardly.

The present invention is also directed toward lighting fixtures having an improved form of catch mechanism for securing the shade in closed position, and toward lighting fixtures having peripheral finishing walls adapted to conceal the hinge and catch mechanisms.

The accompanying drawing shows, for purposes of illustrating the present invention, several embodiments in which the invention may take form, it being understood that the drawing is illustrative of the invention rather than limiting the same.

In this drawing:

Figure 1 is a vertical sectional view through one form of lighting fixture adapted for employing cast supporting parts, the section being taken on line 1—1 of Figure 2;

Figure 2 is a top plan view of the same with parts broken away;

Figure 3 is a fragmentary sectional view similar to Figure 1, showing the hinge completely open;

Figure 4 is a fragmentary sectional view through an extruded member adapted for forming the shade supporting band and showing the flange of the shade received therein;

Figure 5 is a vertical sectional view through a modified form of construction, particularly adapted for utilizing sheet metal parts;

Figure 6 is a fragmentary horizontal sectional view taken on the line 6—6 of Figure 5;

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 6;

Figure 8 is a fragmentary view taken on the same plane as Figure 5, but showing the hook shaped member swung far enough to permit its removal; and

Figure 9 is a fragmentary view of a modified form of construction.

In Figure 1 a supporting frame is indicated generally by the reference character 10. This frame may be recessed to enter into a ceiling, or may be flat and may either be rectangular, round or any other configuration depending upon the type of fixture in which it is used. For convenience in illustration the lamp bulbs 11 are shown as being supported from this frame 10. The frame has a flat gasket-receiving face 12 adapted to engage the band or ring carried about the lamp shade.

Outside this flat face 12 is a downwardly extending wall forming member 13 which provides a recess of annular or other shape. The frame extends outwardly from the bottom of the recess forming wall 13 and upwardly, as indicated at 14 and 15, to provide an external finish for the fixture. The parts 13, 14 and 15 provide a peripheral channel, while the part 15 forms a ceiling engaging element.

The shade is indicated at 20 and it may have any desired shape, but is here for convenience shown as being generally rectangular and provided with a closed bottom and a peripheral flange 21 (Figure 4). This flange is received in a band 22, here shown in the form of a channel shaped piece of extruded metal. The band is split, as indicated at 23 (Figure 2), and the ends of the band are provided with hook shaped members 24 and 25. These hook shaped members pass through an opening 26 in the side wall 13 of the recess in the main supporting frame. In the form shown in Figure 2 a screw 27 passes through the hook shaped members to clamp the band on the flange of the glass.

The aperture 26 does not extend all the way to the bottom of the channel formed by the elements 13, 14 and 15, and hence an upwardly extending element 28 is provided to intercept the sliding movement of the bottom of the hook shaped member or members 24 and 25.

When the shade and band are swung a little to the left of the position shown in Figure 3, the hook shaped members may be passed through the opening 26 and the point 29 of the hook shaped members will drop in behind the elevation 28. The shade may then hang freely and

the interengagement of the hook shaped member and elevation 28 will prevent accidental separation. As the shade is swung up to the closed position the hook shaped member may move outwardly from the dot-and-dash line position of Figure 1 to the full line position of Figure 1 and the bottom of the hook shaped member will rest on the bottom of the channel, thereby assuring that the band will be at the proper elevation relative to the frame. As these hook shaped members may be slightly resilient they form springs to hold the band tightly against the gasket.

In the form of construction shown in Figures 1 and 2 the fixture is provided with a catch mechanism opposite the hinge. This comprises a plate member 30 secured to a bolt 31 extending down through the frame as shown, and provided with a slot to receive a screw driver, whereby the plate may be swung about. The plate is adapted to pass through a slot 32 in the wall 13 and enter a slot 33 in the shade separating band 22, the flange of the shade being cut away to accommodate it.

In the construction shown in Figures 6 and 8 the shade support is in the form of a sheet metal stamping 40 having recess forming wall 41 apertured at 42 to receive the hook shaped members 43 carried on the ends of a split sheet metal band 44. This band is shown as being secured about the flange 45 of a shade 46. The construction shown in these figures functions substantially the same as that shown in Figures 1 to 4, inclusive, except that the width of the aperture 42 is such that it acts on the sides of the hook shaped members 43 to prevent their spreading, and hence the band is held tightly about the shade by the engagement of these hook shaped members with the side walls of the aperture.

The fragmentary showing of Figure 9 illustrates a frame which may be made the same as that of Figure 1, and the same reference characters are applied. Here the hook shaped member 50 is secured by rivets 51 to a shade 52 made of moulded plastic material.

Where the hinge features of the present invention are embodied in fixtures having continuous bands instead of split bands, it is apparent that a single hook shaped member may be used instead of two hook shaped members at the ends of the band, also that a single hook shaped member will suffice where the ends of the split band are held together by means other than the hook shaped member. Where the invention is applied to fixtures having annular shade supporting bands, these may be threaded to co-operate with threaded shades instead of channel shaped to co-operate with flanged shades.

It is obvious that the invention may be embodied in many forms and constructions within the scope of the claims and I wish it to be understood that the particular forms shown are but a few of the many forms. Various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A lighting fixture having a substantially horizontal fixed frame provided with a recessed lower face in the side wall of which is an aperture, a shade having a peripheral edge, a band fitted about said edge and receivable in the recessed face, and hinge connections between the band and frame comprising a downwardly opening hooked member carried by the band disposed in a vertical plane and extending through the aperture in the side wall of the recess, the frame having an element under the end of the hooked

member which supports the hooked member and band when the shade is in closed position and having an upwardly extending hook engaging element which prevents sliding the hooked member out of the aperture when the shade and band hang down.

2. A lighting fixture having a substantially horizontal fixed frame provided with a recessed lower face in the side wall of which is an aperture, a shade having a peripheral edge, a band fitted about said edge and receivable in the recessed face, and hinge connections between the band and frame comprising a downwardly opening hooked member carried by the band disposed in a vertical plane and extending through the aperture in the side wall of the recess, the frame having an element under the end of the hooked member which supports the hooked member and band when the shade is in closed position and having an upwardly extending hook engaging element which prevents sliding the hooked member out of the aperture when the shade and band hang down, and an upwardly extending outer wall opposite the aperture and spaced from the recess wall to accommodate the hooked members.

3. A lighting fixture such as claimed in claim 2, wherein the outer wall extends about the periphery of the frame and having a band support opposite the hinge and concealed behind the peripheral wall.

4. In a lighting fixture, in combination, a shade having a peripheral edge, a split band adapted when open to receive said edge and when closed to embrace said edge, a normally horizontal frame having a downwardly opening recess to receive the band and enclosed edge of the shade, and an aperture in the side wall of the recess, the band having hinge forming members extending through the aperture, the ends of the hinge forming members being hook shaped and the frame below said aperture having an upwardly extending element to intercept said hook shaped ends and prevent separation of the band from the frame when the shade hangs down and is supported thereby, the width of the aperture being such as to prevent spreading of the ends of the band.

5. In a lighting fixture, a support having a recessed face whose side wall is apertured, a shade, a split band engaging the periphery of the shade, outwardly extending members carried at the ends of the split band and extending through the aperture, and a cross piece connecting the ends of the outwardly extending members to prevent separation of the ends of the split band and release of the shade, the ends of the members extending forwardly and engaging with the opposed portion of the support to hold the band against the recessed face when the shade is in closed position.

6. In a lighting fixture, a channel shaped shade carrying band having an aperture in its side wall, a support recessed to receive the band and having an aperture opposite the band aperture, a catch pivoted on the support and swingable into and out of the two apertures, and a catch operator extending down through the support.

7. A lighting fixture such as claimed in claim 4, wherein the hinge forming members extend inwardly through the material of the band and have bent inner ends secured to the band, and the shade is recessed to accommodate said inner ends.

8. In a lighting fixture, a shade having a peripheral rim, a split band of channel cross sec-

tion about the rim, outwardly extending members at the ends of the band and a supporting frame having a face to receive the rim, and a laterally opening aperture to receive the out-
5 wardly extending members, the members being shaped to engage behind the frame wall and prevent separation of the band from the frame except when the plane of the band is within
10 predetermined angular relation with the plane of the frame.

9. A ceiling lighting fixture having a supporting frame provided with a channel shaped peripheral portion, the outside wall of the channel being a finishing element adapted to engage the ceiling and the inside wall of the channel defining an opening for a shade, said inside wall
15 having an aperture whose bottom edge is spaced above the bottom of the channel, whereby an upwardly extending element is provided, a shade receivable in the shade opening, and a downwardly opening hook shaped shade supporting
20 member whose end rests on the bottom of the channel when the shade is in closed position and

whose shank extends out through the aperture above said element, said member being adapted to receive the upwardly extending element when the shade hangs down, its weight being supported
5 by engagement of the end of the hook shaped member with the bottom of the channel.

10. A lighting fixture having a substantially horizontal fixed frame provided with a recessed lower face in the side wall of which is an aperture, a shade supporting band receivable within
10 the recess and having a member extending through the aperture in the side wall of the recess, the end of the member having a downwardly opening hook below the level of the member and spaced from the band, the frame having
15 an upwardly extending hook engaging element which prevents sliding the hook out of the aperture when the shade hangs down, and a platform extending outwardly from the hook engaging element to support the hook and along
20 which it slides in opening and closing the shade.

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