Nov. 15, 1938. P. D. PHILLIPS 2,137,026

REFLECTOR COVER

Filed June 5, 1937 2 Sheets-Sheet 1

Fig. 1.

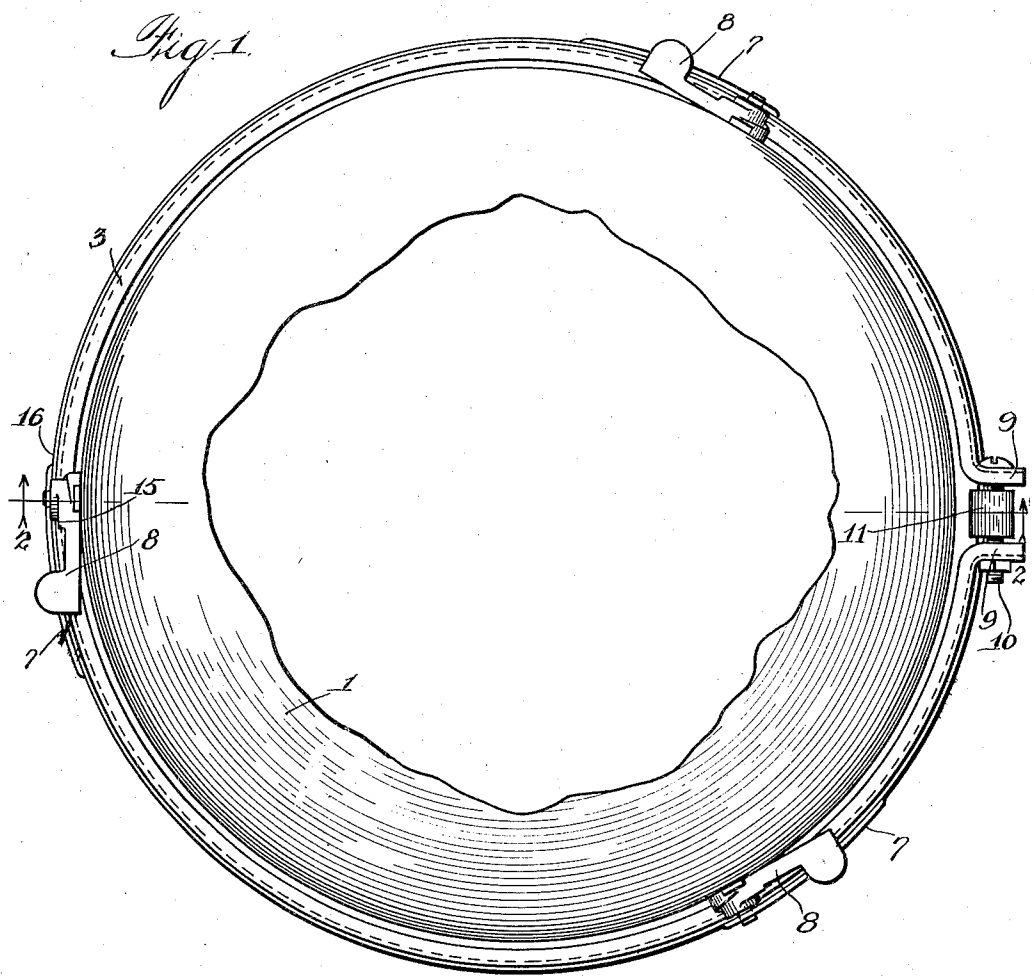
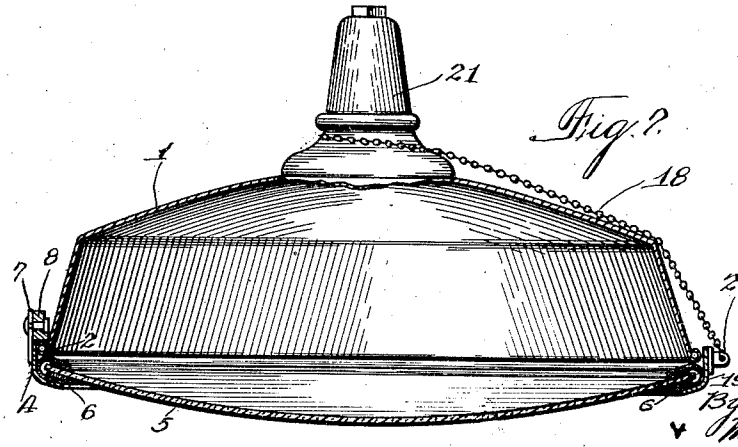


Fig. 2.



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Fig. 2.

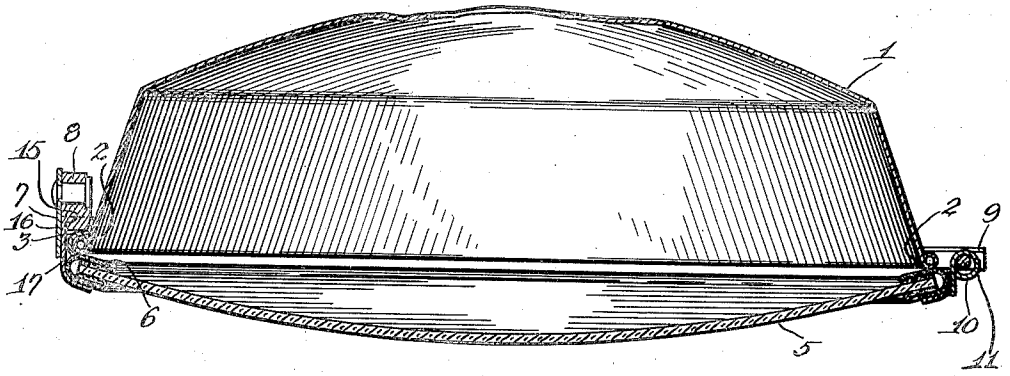


Fig. 3.

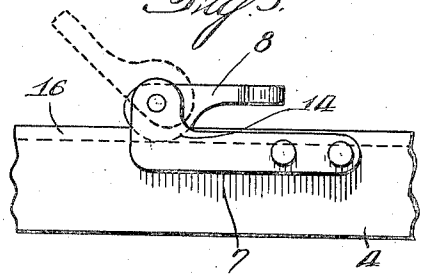


Fig. 6.

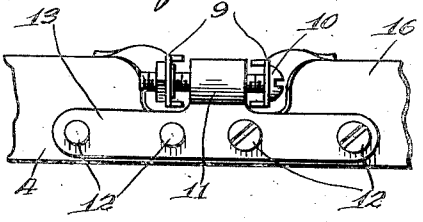


Fig. 4.

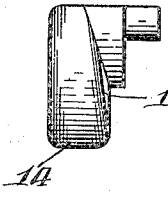


Fig. 5.



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Patented Nov. 15, 1938 2,137,026

UNITED STATES PATENT OFFICE

2,137,026

REFLECTOR COVER

Paul D. Phillips, Elmhurst, Ill., assignor to Benjamin Electric Mfg. Company, Des Plaines, Ill., a corporation of Illinois

Application June 5, 1937, Serial No. 146,527

11 Claims. (Cl. 240—103)

My invention relates to reflector covers.

One of the objects of my invention is to provide an improved mounting for the glass cover of a reflector.

A further object of my invention is to provide such a construction which will be practically dust-tight.

A further object of my invention is to provide such a construction, in which cam means are provided for effecting a dust-tight connection.

A further object of my invention is to provide an improved hinge mounting of the glass cover of the reflector.

A further object of my invention is to provide such a construction in which the glass cover, gasket, and band are assembled as a unit in such a way that jarring will not cause them to come apart, and in which the band and gasket will provide a protecting framework for protecting the glass for handling, servicing the fixture, etc.

A further object of my invention is to provide a hinged cover construction sufficiently rigid to afford a reliable enclosure for the fixture but having enough resiliency to compensate for tolerances or variations in the several parts making up the construction.

Further objects and advantages of the invention will be apparent from the description and claims.

In the drawings, in which an embodiment of my invention is shown,

Figure 1 is a top plan view showing the reflector and cover glass mounting means;

Fig. 2 is a section substantially on the line 2—2 of Fig. 1;

Fig. 3 is a detail view showing one of the clamping cams mounted in place;

Fig. 4 is a detail view of the clamping cam;

Fig. 5 is a detail view of the leaf spring on which the cam is mounted;

Fig. 6 is a detail view showing the hinge mounting for the cover; and

Fig. 7 is a vertical sectional view showing a different form of cover glass mounting.

Referring to the drawings in detail, the construction shown comprises a reflector 1 having an annular peripheral bead 2 on its lower edge, an annular supporting band 3 embracing and detachably secured to this bead 2, a second annular cover-holding band 4 having a hinged connection with the supporting band 3, and a glass cover 5 carried by said band 4, said band 4 being hinged to said band 3 to move from a position in which the glass extends across the opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector.

The glass cover 5 is provided with an annular gasket 6 embracing its peripheral edge to effect a dust-tight joint with respect to the reflector interior when the cover 5 is clamped in closed position.

The means for detachably securing the band 4 in position to hold the cover in closed position comprises a plurality of circumferentially spaced leaf spring members 7 secured to the upwardly extending flange of the cover-carrying band, and a plurality of cam members 8 pivotally mounted on the free ends of the leaf spring members 7.

The upper mounting band 3 is in the form of a split ring having outwardly extending ears 9 through which extends a clamping screw 10 for drawing the ears 9 of the band toward each other. This clamping screw also serves as a hinge member for supporting the lower cover-supporting band 4. This cover supporting band has a loop-like member 11 secured thereto, which loops over the clamping screw 10 to complete the hinge connection between the two bands 3 and 4. The lower cover-supporting band 4 may also be a split ring, the ends of which are secured together by means of rivets or screws 12 extending through the ends of the band and through the base portion 13 of the loop-like hinge member, as shown in Fig. 6.

As shown in Fig. 2, the supporting band 3 embraces the bead 2 on the lower edge of the reflector but does not extend inwardly underneath the bead 2 far enough to prevent the gasket 6 which embraces the edge of the cover 5 from engaging directly with the bead on the reflector. This makes a satisfactory dust-tight connection at this point directly between the gasket 6 and the bead of the reflector.

The tension in the leaf springs 7 is such as to swing the cam members 8 carried thereby outwardly away from the reflector when the cam members are swung to the dotted-line position shown in Fig. 3, so that these cam members will not interfere with the downward swinging movement of the cover 5 about the hinge 10 when the cam members are released.

As shown in Figs. 2 and 3, the peripheral edge 14 of the cam engages the upper face of the supporting band 3 so that when the cam members are swung from the dotted-line position shown in Fig. 3 to the full-line position, the cam members will draw the cover-supporting band 4 upwardly to force the gasket 6 into sealing engagement with the lower edge of the reflector 1. As shown

in Figs. 1, 2, and 4, each cam is provided with a side cam portion 15 engageable with the upper edge of the flange 16 on the cover-supporting band 4 so that when the cams 8 are swung from the dotted-line position to the full-line position shown in Fig. 3, the free ends of the springs 7 and the cams 8 carried thereby will be swung inwardly toward the reflector to insure that the edge cam portion 14 of the cam will properly engage the upper surface of the supporting band 3. In this cover-clamping movement of the cam 8, the leaf spring 7 which supports it is sprung inwardly against the spring tension.

The gasket 6 may be of any suitable material, such as felt or asbestos, and is U-shaped in cross-section to embrace the edge of the glass cover 5. The glass cover and gasket may be held in place in the lower band 4 in any suitable manner, as by striking tongues 17 inwardly from the flange 16 of the band which will overlie the upper edge of the gasket 6 and hold the gasket and glass cover securely in place. Thus, the glass cover gasket and supporting band are assembled to form a unit, the parts of which are secured together in such a way that jarring will not cause them to come apart in handling and servicing the fixture.

To drop the cover 5 to gain access to the lamp or interior of the reflector, the several cam levers 8 are thrown to their open position, the dotted-line position shown in Fig. 3, whereupon the spring tension in the cam-supporting leaf springs 7 will move the cams away from the reflector to enable the cover-carrying band to drop downwardly about the pivot screw 10 as an axis.

To replace the cover in position, with respect to the reflector, the cover-carrying band 4 is swung upwardly about the pivot screw 10 as an axis, the leaf springs 7 carrying the cam members 8 yielding, if necessary, to permit them to move past the upper supporting band 3. The cam levers 8 are then operated to bring them to the position shown in full lines in Fig. 3, which will cause the leaf springs 7 carrying the cam members to be sprung inwardly against the spring tension and will draw the lower cover-supporting band 4 upwardly to clamp the cover gasket 6 snugly against the lower edge of the reflector.

Referring to Fig. 3, the L-shaped leaf spring 7 not only is capable of radial movement in and out with respect to the reflector axis to allow the cam to swing out of the way for attaching and detaching the glass cover but is also capable of a slight vertical yielding edgewise to prevent too great pressure being exerted by the cam 8 against the somewhat easily crushed glass cover.

It will be noted that the upper edge of the lower band 4 acts as a confining rim or wall to compel the cam to bear against the upper face of the upper supporting band 3, locking the cam against outward movement.

The construction shown in Fig. 7 is similar to that just described in so far as the band 4 carrying the cover glass 5 and the spring tongues 7 carrying the cam members 8 are concerned. In this form, however the cam members 8 engage directly the bead 2 on the lower edge of the reflector 1 and the band 4 carrying the cover 5 is supported by a chain 18 when the cam members 8 are released from engagement with the reflector. This chain may be secured to the cover supporting band by means of a clip 19 secured to the supporting band and a bracket 20 secured to this clip 19 to which bracket the lower end of the chain 18 is connected. The upper end of the chain may be secured in any suitable manner as by extending around the hood 21 of the reflector. In this form, when the cams are released, the band 4 and cover 5 can be dropped down and will be supported by the chain 18.

Further modifications will be apparent to those skilled in the art and it is desired, therefore, that the invention be limited only by the prior art and the scope of the appended claims.

Having thus decsribed my invention, what I claim and desire to secure by Letters Patent is:

1. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector and means carried by said second annular band for detachably securing said second band in position to hold the cover in closed position, comprising a plurality of circumferentially spaced leaf spring members secured to said second band having their free ends radially movable, and a plurality of cam members mounted on the radially movable portions of said leaf spring members, respectively.

2. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reband for detachably securing said second band flector, and means carried by said second annular in position to hold the cover in closed position, comprising a plurality of circumferentially spaced leaf spring members secured to said second band having their free ends radially movable, and a plurality of cam members mounted on the radially movable portions of said leaf spring members respectively, each cam member having means for holding the leaf spring against radial movement when the cam is in securing position.

3. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector, and means carried by said second annular band for detachably securing said second band in position to hold the cover in closed position, comprising a plurality of circumferentially spaced leaf spring members secured to said second band having their free ends radially movable, and a plurality of cam members mounted on the radially movable portions of said leaf spring members, respectively, each cam member having means engaging said second band for

holding the leaf spring against radial movement when the cam is in securing position.

4. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector, and means carried by said second annular band for detachably securing said second band in position to hold the cover in closed position comprising a plurality of circumferentially spaced cam members, each pivoted on an axis extending substantially radially with respect to said second annular band.

5. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector, and means carried by said second annular band for detachably securing said second band in position to hold the cover in closed position, comprising a plurality of circumferentially spaced leaf spring members secured to said second band having their free ends radially movable, and a plurality of cam members mounted on the radially movable portions of said leaf spring members, respectively, to swing about axes extending substantially radially with respect to said second band.

6. The combination with a reflector having an annular peripheral bead, of an annular band embracing and detachably secured to said bead, a second annular band having a hinged connection with said first band, a glass cover carried by said second band, said second annular band being hinged to said first band to move from a position in which the glass extends across an opening in the reflector and closes the reflector opening to a position in which access can be had through said opening to the interior of the reflector, and means carried by said second annular band for detachably securing said second band in position to hold the cover in closed position, comprising a plurality of circumferentially spaced cam members mounted on said second band to swing about axes extending substantially radially with respect to said second band, each cam member having a portion engaging said first band to draw the second band toward the first band.

7. A lighting fixture comprising a concave reflector having a circular light-emitting opening, an annular shoulder adjacent said light-emitting opening, a glass cover extending across said opening, means for securing said cover in position with respect to the reflector comprising an annular band in which said glass cover is mounted, and means carried by said band for securing it in position with respect to said shoulder comprising a plurality of circumferentially spaced leaf spring members secured to said band and extending substantially circumferentially with respect to said band and having their free ends radially movable and a plurality of cam members mounted on the radially movable portions of said leaf spring members and engaging said annular shoulder for drawing the cover into position.

8. A lighting fixture comprising a concave reflector having a circular light-emitting opening, an annular shoulder adjacent said light-emitting opening, a glass cover extending across said opening, means for securing said cover in position with respect to the reflector comprising an annular band in which said glass cover is mounted, and means carried by said band for securing it in position with respect to said shoulder comprising a plurality of circumferentially spaced leaf spring members secured to said band and extending substantially circumferentially with respect to said band and having their free ends radially movable and a plurality of cam members mounted on the radially movable portions of said leaf spring members and engaging said annular shoulder for drawing the cover into position, each cam member having means for holding the leaf spring against radial movement when the cam is in securing position.

9. A lighting fixture comprising a concave reflector having a circular light-emitting opening, an annular shoulder adjacent said light-emitting opening, a glass cover extending across said opening, means for securing said cover in position with respect to the reflector comprising an annular band for securing it in position with respect to said shoulder comprising a plurality of circumferentially spaced leaf spring members secured to said band and extending substantially circumferentially with respect to said band and having their free ends radially movable and a plurality of cam members mounted on the radially movable portions of said leaf spring members and engaging said annular shoulder for drawing the cover into position, each cam member being pivoted on an axis extending substantially radially with respect to said annular band.

10. A lighting fixture comprising a concave reflector having a circular light-emitting opening, an annular shoulder adjacent said light-emitting opening, a glass cover extending across said opening, means for securing said cover in position with respect to the reflector comprising an annular band for securing it in position with respect to said shoulder comprising a plurality of circumferentially spaced cam members, each pivoted on an axis extending substantially radially with respect to said annular band and capable of firmly engaging said shoulder.

11. A lighting fixture comprising a concave reflector having a circular light emitting opening, an annular shoulder adjacent said light-emitting opening, a glass cover extending across said opening, means for securing said cover in position with respect to the reflector comprising an annular band for securing it in position with respect to said shoulder comprising a cam member pivoted on an axis extending substantially radially with respect to said annular band and capable of firmly engaging said shoulder, said annular band being further engaged with said reflector by a pivotal means whereby the annular band is movable on said means from a position in which the glass cover extends across the opening in said reflector and closes the opening to a position in which access can be had through said opening to the interior of the reflector.

PAUL D. PHILLIPS.

CERTIFICATE OF CORRECTION.

Patent No. 2,137,026. November 15, 1938.

PAUL D. PHILLIPS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 10, for "decsribed" read described; line 43, claim 2, strike out the words "band for detachably securing said second band" and insert the same after "annular" in line 44, same claim; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 31st day of January, A. D. 1939.

Henry Van Arsdale

(Seal) Acting Commissioner of Patents.