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3,375,368

LIGHTING FIXTURE AND REFLECTOR THEREFOR

Filed Aug. 8, 1966

FIG. 1

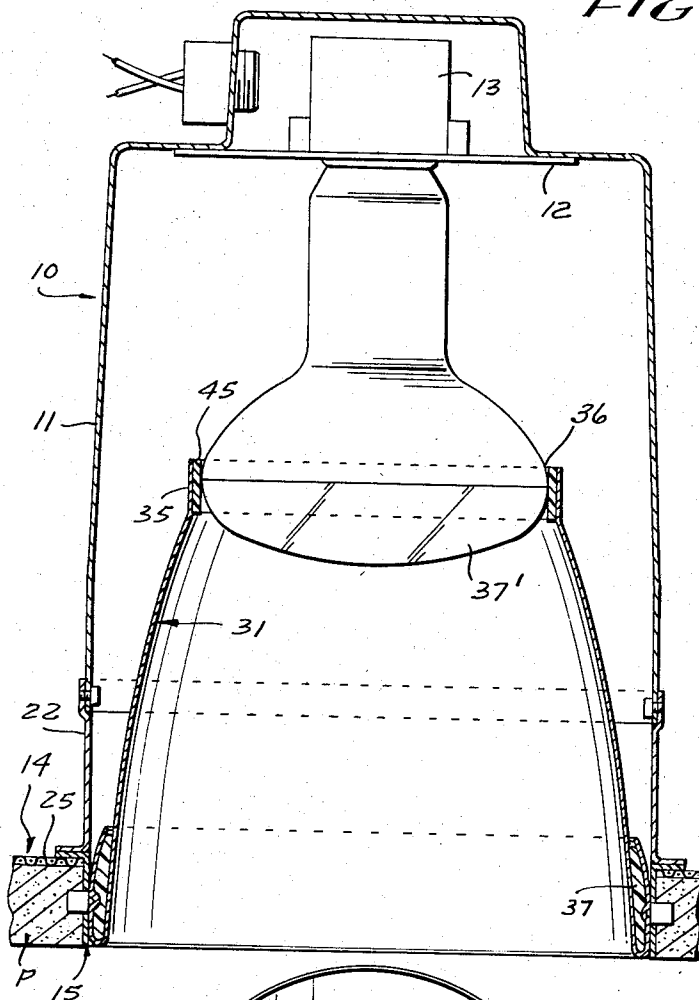


FIG. 2

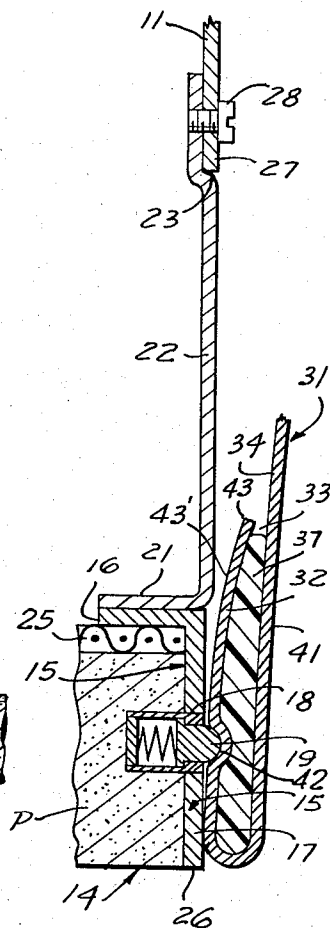
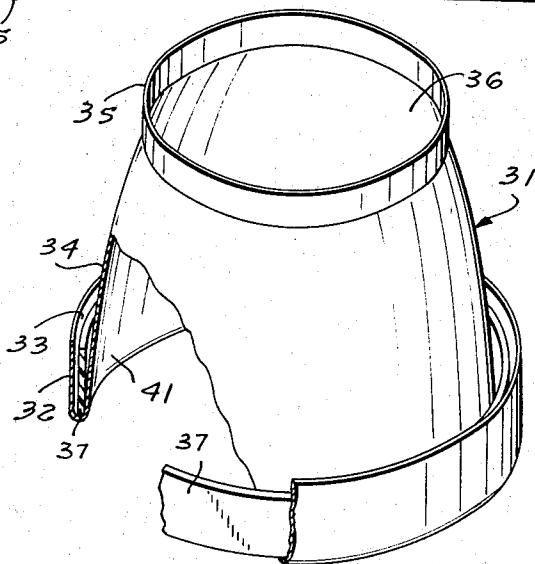


FIG. 3



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## 3,375,368 LIGHTING FIXTURE AND REFLECTOR THEREFOR

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### ABSTRACT OF THE DISCLOSURE

This invention relates to the art of lighting fixtures and more particularly to a bowl shaped reflector and method of forming the same, said reflector comprising a bowl-shaped structure having a mouth with a reversely bent rim extending outwardly therefrom, a band of deformable resilient material positioned between said rim and the body of said reflector, said rim having an indentation on the outer surface thereof.

As conducive to an understanding of the invention, it is noted that where an electric fixture uses a bowl shaped reflector member in association with an electric lamp which is screwed into a socket axially aligned with the reflector and supported by a housing in which the reflector is positioned, and the inner surface of the reflector is interrupted by screws, bolts or indentations to hold the reflector in position, which are visible to the occupant of the room in which the fixture is mounted, an unsightly appearance is presented which is undesirable and often renders the unit unsaleable.

It is accordingly among the objects of the invention to provide a lighting fixture of the above type in which the bowl shaped reflector may readily be mounted in position in its associated housing without need for any tools and without any discontinuance of the inner surface of the reflector.

Another object is to provide a bowl shaped reflector which may readily be fabricated at relatively low cost and which may readily be mounted in position and is devoid of any discontinuity on the reflecting surface thereof.

Another object of the invention is to provide a relatively simple method of fabricating a bowl shaped reflector which may readily be mounted in position in a supporting housing and which is devoid of any discontinuities on the reflecting surface thereof.

According to the invention these objects are accomplished by the arrangement and combination of elements hereinafter described and more particularly recited in the claims.

In the accompanying drawings in which are shown one of various possible embodiments of the several features of the invention,

FIG. 1 is a longitudinal sectional view of a lighting fixture incorporating the invention hereof,

FIG. 2 is a detail sectional view on an enlarged scale showing the mount for the reflector member, and

FIG. 3 is a perspective view partly in cross section of the reflector member partly assembled.

Referring now to the drawings, as shown in FIG. 1, the electric fixture 10 incorporating the invention is illustratively of the flush ceiling mounted type.

The fixture comprises a housing 11, the top wall 12 of which carries a conventional electric lamp socket 13. The housing 11 is positioned above the ceiling 14 of the room by means of an annular support or ring member 15 having an outwardly extending lateral flange 16 at its upper end.

As shown in FIG. 2 the vertical wall 17 of the support 15 has an opening 18 in which is secured a spring urged

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detent 19 of conventional type, the nose end of the detent normally protruding inwardly beyond the vertical wall 17 of the support 15.

Secured to flange 16 as by welding is the outwardly extending flange 21 at the lower end of each of a plurality of upstanding legs 22, said legs protruding inwardly beyond the wall 17 as shown. The upper end of each of the legs is slightly offset as at 23 to define an annular shoulder.

The support 15 with its associated legs 22 is pushed through an opening in the wire mesh 25 of the ceiling structure 14 and the mesh is then moved inwardly and secured to the flange 16 of the support 15. Thereupon, the ceiling is finished as by applying plaster which will adhere to the mesh 25 and extend flush with the lower edge 26 of the support 15.

The housing 11 is then moved through the support 15 until its lower edge 27 seats against the shoulder 23 and is then secured in position by means of screws 28.

The reflector member 31 which is substantially bowl shaped as shown, may be formed in any suitable manner such as by spinning, pressing, hydro-forming or the like, and as shown in FIG. 3, has a reversely bent upstanding annular rim 3 which is slightly spaced as at 33 from the outer surface 34 of the reflector 31. The end of the reflector remote from the rim 32 has an upstanding annular rim 35 defining an opening 36 through which the electric bulb 37 may be inserted in the manner hereinafter to be described.

A resilient deformable member 37 such as a band or ring of rubber, neoprene or the like is positioned in the space 33, the width of the band 37 being slightly less than the height of the reversely bent rim 32.

A rigid core member (not shown) is inserted into the mouth of the reflector 31 so as to fit relatively snugly against the inner wall surface 41 thereof. At this time an indentation such as an annular groove 42 is formed in the reversely bent rim 32 as by a suitable rolling tool and the upper edge 43 of the rim 32 is also inwardly bent to confine the resilient band 37 and also to form a cam surface 43' for the purpose hereinafter to be described.

By reason of the internal resilient band 37, the formation of the groove 42 will not in any way deform the wall surface 41 opposed to the rim 32 in which the groove 42 is formed so that the inner surface of wall 41 will be smooth and uninterrupted.

The reflector thus formed may then have the inner surface thereof coated with a reflecting material such as silver or aluminum which is then highly polished as by buffing. To complete the reflector, a resilient deformable band 45 is secured to the inner surface of the upper rim 35.

To mount the reflector it is merely necessary to move it inwardly through the support member 15. When the cam surface 43' of rim 32 abuts against the spring urged detents 19, it will cam the latter inwardly and with further inward movement of the reflector the detents will snap into the annular groove 42 securely yet releasably to retain the reflector in position. Thereupon, a conventional electric bulb 37 may be moved through the reflector and screwed into the socket 13, the resilient band 45 preventing jarring of the bulb.

With the method above described, a reflector may be fabricated at relatively low cost with assurance that there will be no undesirable discontinuities on the internal reflecting surface thereof and which reflector may readily be mounted in a suitable housing and as readily removed therefrom, or without the use of any tools or complex fastening means.

As many changes could be made in the above method and article, and many apparently widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter

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contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. As an article of manufacture, a bowl shaped reflector having a mouth with a reversely bent rim extending outwardly therefrom, a band of deformable resilient material positioned between said rim and the body of said reflector, said rim having an indentation on the outer surface thereof.

2. The article set forth in claim 1 in which said indentation is an annular groove.

3. The combination set forth in claim 1 in which the free edge of said reversely bent rim is inwardly bent to confine the resilient band and defining a camming surface.

4. The combination set forth in claim 1 in which said reflector has an opening at the end thereof remote from the mouth, said opening being defined by an upstanding annular rim and a band of resilient material is secured to the inner surface of said rim.

5. A lighting fixture of the flush ceiling type comprising an annular supporting member of rigid material positioned in an opening in said ceiling, said supporting member having a vertical wall, a plurality of spring urged detents mounted on said vertical wall, each of said detents comprising a plunger extending inwardly of said wall, a housing secured to said support member and extending upwardly therefrom, said housing having a top wall, a

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lamp socket mounted on said top wall, a bowl shaped reflector positioned in said housing and said support member, said bowl shaped reflector having an outwardly extending reversely bent rim at its mouth, a band of resilient material positioned between said rim and the body of said reflector, said rim having an annular groove designed to accommodate said detents releasably to retain said reflector in position, said reflector having an opening at the end thereof remote from the mouth to accommodate a lamp bulb to be screwed in said socket.

6. The combination set forth in claim 5 in which said opening has an upstanding annular rim, a resilient band is secured to the inner surface of said rim against which the lamp reacts.

7. The combination set forth in claim 5 in which the mouth of said reflector is substantially flush with the lower edge of said annular supporting member when the reflector is secured therein.

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