

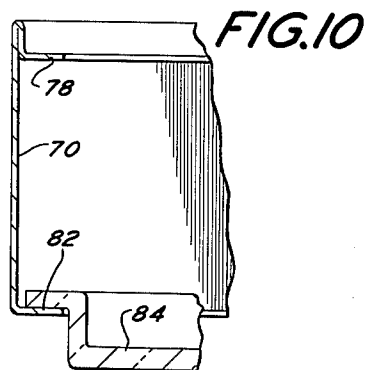
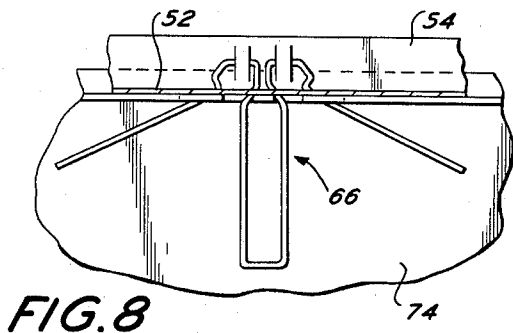
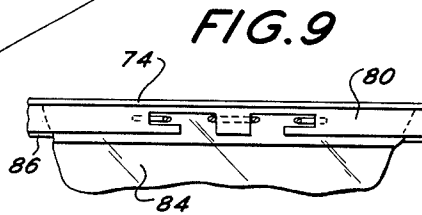
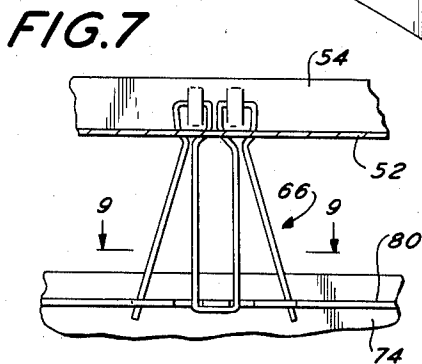
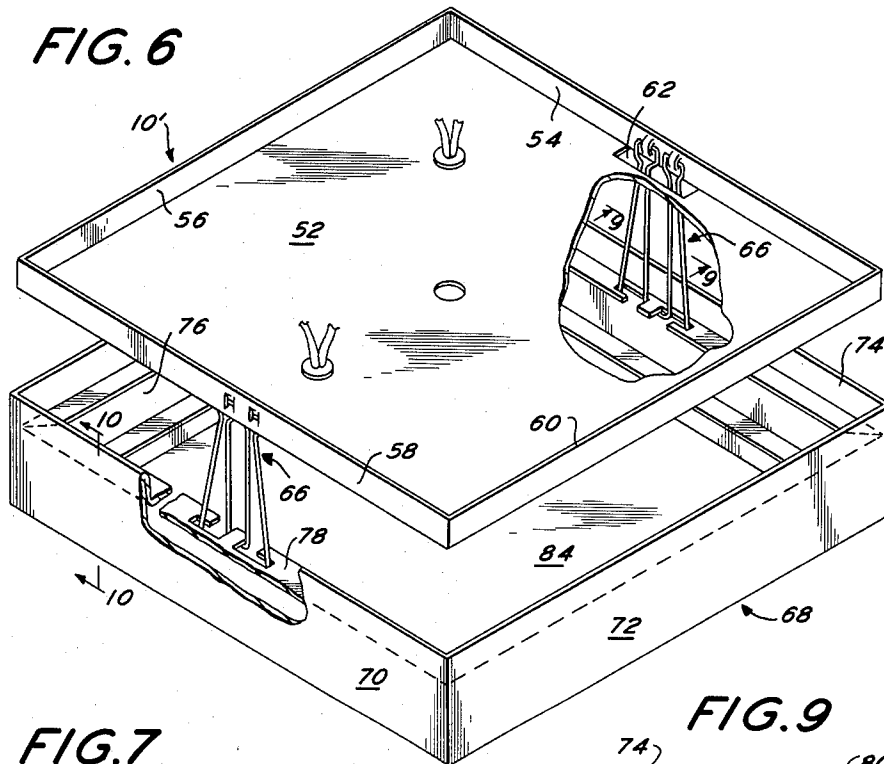
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P. J. DOCIMO ETAL
ELECTRIC LIGHT FIXTURE

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2 Sheets-Sheet 2



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ELECTRIC LIGHT FIXTURE

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This invention relates to a light fixture, and more particularly, to an electric light fixture which may be either flush mounted or recess mounted on a ceiling or other supporting structure.

The present invention is a continuation-in-part of our copending application Serial No. 308,720 filed on September 13, 1963, and entitled Light Fixture. The disclosure in said copending application is incorporated herein by reference.

In said copending application, we disclosed a diffuser holding means for structurally interrelating the lamp carrying member and the bezel. In said copending application, the diffuser holding means included a U-shaped loop whose free ends were coiled into the form of a torsion spring which biased legs away from each other. While the diffuser holding means in our copending application performs its intended function in a satisfactory manner, we have now found that the diffuser holding means can be constructed and orientated with respect to the bezel and lamp carrying member in a manner in which a simpler, cheaper, and more reliable while at the same time providing a diffuser holding means capable of overcoming the disadvantages of the diffuser holding means proposed heretofore.

The diffuser holding means of the present invention also includes a U-shaped loop which will limit the extent to which the bezel and the lamp carrying member may be separated. However, the U-shaped loop of the diffuser holding means of the present invention terminates at its free ends in spaced traction springs having separate holder tabs. A diffuser holding means in accordance with the present invention eliminates the necessity for complicated, expensive torsion spring winding apparatus, utilizes less material, occupies less space, is simpler, may be installed on the job site by the electrician or other person installing the light fixture thereby eliminating the necessity for factory installation, etc.

It is an object of the present invention to provide a light fixture wherein the bezel and the lamp carrying member are structurally interrelated by a novel diffuser holding means.

It is another object of the present invention to provide a light fixture wherein a lamp carrying member and a bezel are structurally interrelated by means of a diffuser holding means which is simple, easy to install, and provides for reliable service during usage.

It is another object of the present invention to provide a light fixture wherein a diffuser holding means is capable of supporting the weight of a bezel and light diffusing member thereby freeing both hands of the worker for manipulation of spring biased fingers.

It is another object of the present invention to provide a light fixture which is structurally interrelated in a manner which does not require diffuser holding means to be factory installed.

It is another object of the present invention to provide a light fixture which is structurally interrelated in a manner to render the same simpler, more inexpensive, and easier to install than those proposed heretofore.

Other objects will appear hereinafter.

For the purpose of illustrating the invention, there are shown in the drawings forms which are presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

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FIGURE 1 is an exploded perspective view of a recessed light fixture in accordance with the present invention.

FIGURE 2 is a side elevation view taken along the line 2—2 in FIGURE 1.

5 FIGURE 3 is a view similar to FIGURE 2 but illustrating the components in their closed disposition.

FIGURE 4 is a view taken along the line 4—4 in FIGURE 2.

10 FIGURE 5 is a view taken along the line 5—5 in FIGURE 2.

FIGURE 6 is an exploded perspective view of another embodiment of the present invention wherein the light fixture is a flush mounted fixture.

15 FIGURE 7 is a view taken along the line 7—7 in FIGURE 6.

FIGURE 8 is a view similar to FIGURE 7 but showing the components in a closed disposition.

20 FIGURE 9 is a view taken along the line 9—9 in FIGURE 7.

FIGURE 10 is a view taken along the line 10—10 in FIGURE 6.

Referring to the drawing in detail, wherein like numerals indicate like elements, there is shown in FIGURE 1 a light fixture designated generally as 10.

25 The light fixture 10 is of a type which is adapted to be mounted within a recess or the like. Fixture 10 includes a housing or lamp carrying member 12 having a bezel 14 which is adapted to be flush with the ceiling or other supporting surface for the housing 12.

30 The bezel 14 includes angle plate members 16, 18, 20 and 22 fixedly secured thereto and spaced radially outwardly from the inner peripheral surface of the bezel 14. The bezel 14 has a centrally disposed aperture over which lies a light diffusing member 24. The periphery of member 24 is supported by the inner periphery of the bezel 14 as shown more clearly in FIGURE 5.

35 The housing 12 is provided with walls forming a rectangle which is larger than the rectangle formed by the upstanding portion of the members 16, 18, 20 and 22. Thus, the last-mentioned upstanding portions are adapted to enter into the housing 12 in the assembled disposition of the housing 12 and bezel 14. Housing 12 includes oppositely disposed side walls 26 and 28.

40 Each of the walls 26 and 28 are structurally interrelated with the bezel 14 by means of a diffuser holding means 36. Since each of the diffuser holding means 36 is identical, only one such means and its structural interrelationship with a side wall of housing 12 and bezel 14 will be described in detail. Corresponding elements on the other diffuser holding means are provided with corresponding 45 primed numerals.

50 A bracket member 30 having an inwardly extending flange portion is secured to the side wall 28 in any convenient manner. The inwardly extending portion is provided with spaced notches 32 and 34. The diffuser holding means 36 includes a U-shaped loop 41. The free ends of the U-shaped loop 41 are formed into traction springs 44 and 46. A spring leg 40 is integral with one side of the traction spring 44. A spring leg 42 is integral with one side of the traction spring 46.

60 When the bezel and housing 12 are spaced from one another as illustrated in FIGURE 2, it will be noted that the length of the U-shaped loop 41 is slightly less than the length of the spring legs 40 and 42. The bracket member 30 is provided with a lug 43 between the notches 32 and 34. The bight of the U-shaped loop 41 overlies the lug 43 in the open disposition of the housing 12 and bezel 14.

65 A pair of spaced tabs 47 and 48 are struck from the upstanding portion of member 20. Each of the traction springs 44 and 46 extends through one of the tabs 47 and 48, as shown more clearly in FIGURES 2

and 3. As shown more clearly in FIGURE 5, the traction springs 44 and 46 lie in the same plane juxtaposed to and engaging the upstanding portion of member 20. As will be obvious from FIGURES 2 and 3, the width of tabs 47 and 48 is less than the horizontal length of the loop of traction springs 44 and 46.

When assembling bezel 14 to the housing 12, the worker will first couple a diffuser holding means 36 to opposite sides of the bezel 14. Such coupling may be effected by threading spring leg 40 through tab 47 and spring leg 42 through tab 48. Since the diffuser holding means is preferably made from spring wire, a deformed spring holder means damaged during transit or storage may be discarded. Hence, the entire bezel and/or lamp carrying member need not be discarded when the diffuser holding means has been damaged.

Thereafter, the worker will support the bezel 14 with one hand and couple each of the diffuser holding means 36 to the housing 14 by placing the bight of the U-shaped loop 41 over the juxtaposed lug 43. When this has been accomplished, the housing 12 will support the weight of the bezel 14 and the light diffusing member 24. Thus, the worker's hands will now be free to compress the legs 40 and 42 until they snap into the notches 32 and 34, respectively. In this manner, the disadvantage of the worker having to manipulate the spring biased legs while at the same time supporting the weight of the bezel has been eliminated.

When it is desired to have access to the interior of the housing 12 for maintenance of replacing a burned out bulb, one need only pull down on the bezel 14 thereby causing the legs 40 and 42 to move towards each other until the bight of U-shaped loop 41 contacts the lug 43. At this point, the components of the present invention assume the disposition illustrated in FIGURE 2. Such movement of the bezel 14 with respect to the housing 12 is accomplished with less resistance due to the fact that the legs 40 and 42 as well as the U-shaped loop 41 lie in the same plane. Thus, see FIGURE 7 of U.S. Patent 2,701,299 and FIGURE 5 of our copending above-mentioned application wherein the legs are in different planes thereby exerting a twisting effect causing a binding action which must be overcome when causing relative movement between the housing and the bezel. The assembled disposition of the housing 12 and bezel 14 is accomplished by merely pushing upwardly on the bezel 14 until the components assume the disposition illustrated in FIGURE 3.

In FIGURES 6-10, there is illustrated another embodiment of the present invention wherein the light fixture is a surface mounted fixture designated generally as 10'. The fixture 10' includes a tray or lamp carrying member 52 structurally interrelated with a bezel designated generally as 68 by diffuser holding means 66. Diffuser holding means 66 is identical with diffuser holding means 36 and, therefore, need not be described in detail.

The tray or lamp carrying member 52 may be a flat sheet of metal or the like having upstanding peripheral flanges 54, 56, 58 and 60. Tray 52 is provided with an aperture 62 adjacent flanges 54 and 58. A portion of each diffuser holding means 66 extends through the aperture 62 so that the traction springs may be coupled to a flange of the lamp carrying member 52 by struck-out tabs as described above.

The bezel is provided with side walls 70, 72, 74 and 76. As shown more clearly in FIGURE 10, each of the side walls is provided at its upper edge with a turned-over portion which terminates in an inwardly directed flange. Thus, side wall 70 is provided at its upper edge with a portion turned back on itself and an inwardly extending flange 78. Side wall 74 is similarly provided with a flange 80. The flanges 78 and 80 are provided with notches which cooperate with the legs of the diffuser holding means 66 in the same manner as notches 32

and 34 cooperate with the legs of the diffuser holding means 36. Also, said flanges are provided with a lug between the notches for cooperation with the bight of the U-shaped loop in the same manner as described above.

Each of the side walls of the bezel 68 are provided at their lower edge with an in-turned flange. Thus, wall 70 is provided with a flange 82 as shown more clearly in FIGURE 10. The flanges at the lower edge of each of the walls of the bezel 68 provide a supporting surface for a light diffusing member 84. In view of the illustration of flange 82 in FIGURE 10 and flange 86 in FIGURE 9, it is not deemed necessary to illustrate the corresponding flanges on side walls 72 and 76.

The bezel 68 may be formed from an elongated member having a length corresponding to the combined lengths of the walls 70, 72, 74 and 76, and constructed as set forth in our above-identified copending application.

The fixture 10' is utilized in the same manner as described above with respect to fixture 10 and has the same advantages. It will be appreciated by those skilled in the art that the housing 12 and tray 52 are the lamp carrying members.

It is not deemed necessary for the purposes of the present invention to illustrate the wiring and sockets on the lamp carrying members. With a recessed fixture such as that illustrated in FIGURES 1-5, the housing 12 is generally provided with an enlarged aperture in one side wall to facilitate the passage of wiring and the like to the sockets supported therein. As illustrated in FIGURE 6, the tray or lamp carrying member 52 is provided with a central aperture to facilitate coupling of the sockets thereto.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

It is claimed:

1. In a light fixture comprising a lamp carrying member, a light diffusing member, means for supporting and limiting the extent of displacement of said members, said means including at least one diffuser holding means concealed from view in the operative position of said members, said diffuser holding means including a pair of resiliently biased legs, each leg being coupled to one end of a U-shaped loop by a traction spring, means coupling each traction spring to one of said members, lug means on the other member, and said U-shaped loop contacting said lug means and limiting the displacement of said light diffusing member with respect to said lamp carrying member.

2. In a light fixture in accordance with claim 1 wherein said legs and U-shaped loop lie in the same plane.

3. In a light fixture in accordance with claim 1 wherein said traction springs are coupled to said lamp carrying member by said coupling means, aperture means on said light diffusing member on opposite sides of said lug for receiving one of said legs.

4. In a light fixture in accordance with claim 1 wherein said traction springs are coupled to a bezel support for said light diffusing member by said coupling means, and aperture means on said lamp carrying member on opposite sides of said lug for receiving one of said legs.

5. In a light fixture comprising a lamp carrying member, a light diffusing member depending therefrom, a lug on one of said members, means to limit the extent of displacement of said members, said means including a U-shaped loop for cooperation with said lug, said lug extending into said loop in all positions of said members, a spring biased leg coupled to a free end of said U-shaped loop, said legs and said loop lying in substantially the same plane with the loop being disposed between said legs, and means coupling spaced portions of said limiting means to the other of said members.

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6. A lighting fixture comprising a lamp carrying member, a bezel member, a first diffuser holding means interconnecting one side of said members, a second diffuser holding means interconnecting an opposite side of said members, each diffuser holding means including a U-shaped loop for cooperation with a lug on one of said members, each lug extending into one of said loops in all positions of said members, each diffuser holding means having a pair of spring biased legs, each leg being coupled to one end of its respective U-shaped loop by a spring, the legs, springs and U-shaped loop of each diffuser holding means lying in the same plane, and separate holders securing each spring to one of said members, and the free ends of said legs being disposed at their maximum separation from each other when said lugs are at their maximum distance from the bight of their respective loops.

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7. A fixture in accordance with claim 6 wherein said one member is said lamp carrying member.

8. A fixture in accordance with claim 6 wherein said one member is said bezel member.

9. A fixture in accordance with claim 6 wherein each holder is a struck-out portion of said one member.

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