July 28, 1964 M. BODIAN 3,142,447

DIFFUSER HOLDER FOR CEILING LIGHT FIXTURES

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FIG. 1.

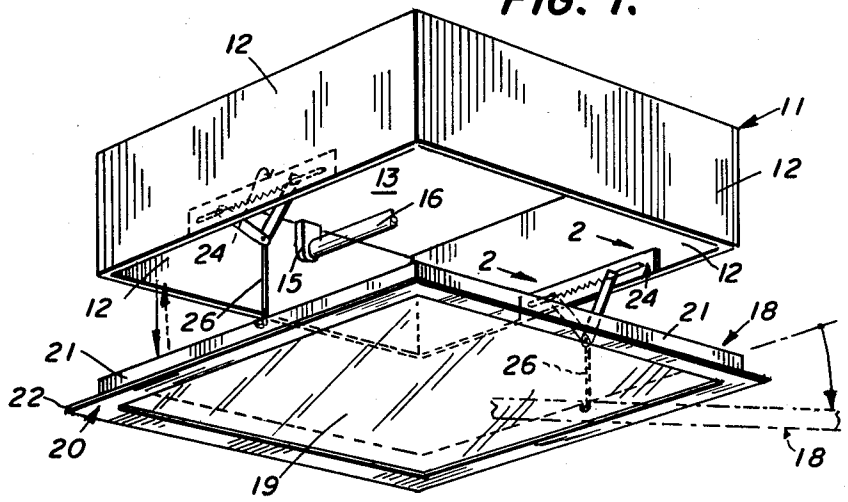


FIG. 2.

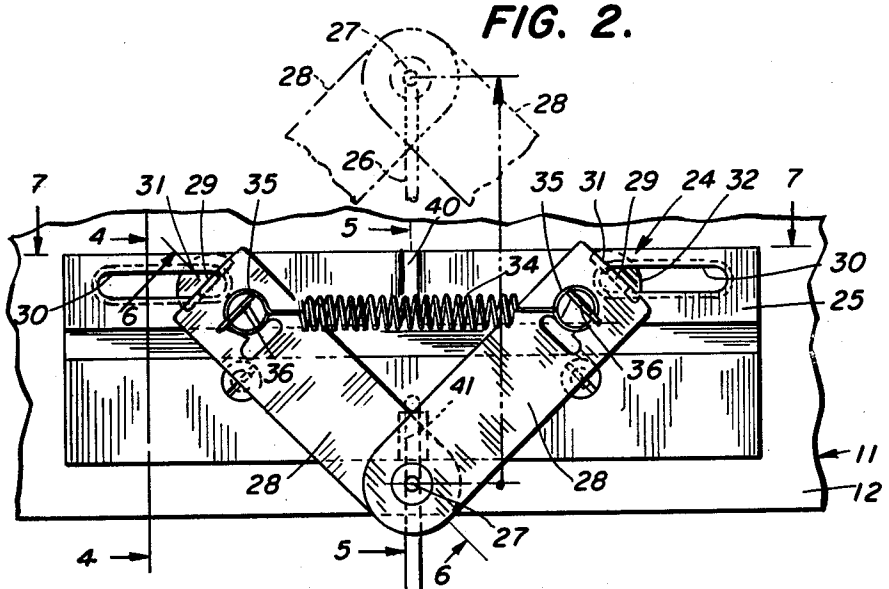
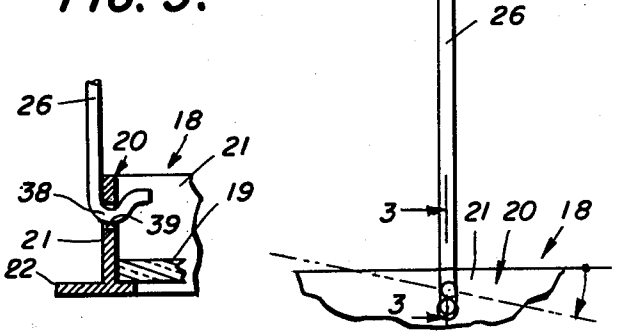


FIG. 3.



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FIG. 4.

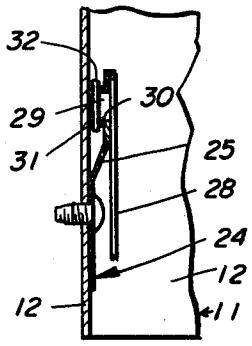


FIG. 5.

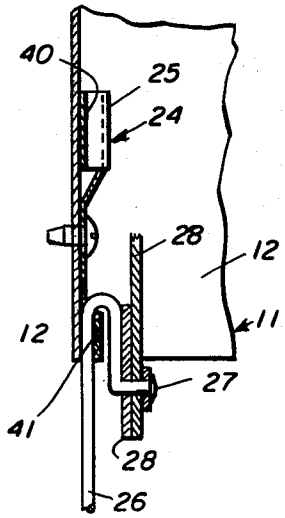


FIG. 6.

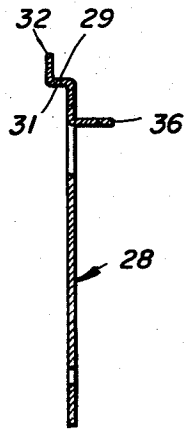


FIG. 8.

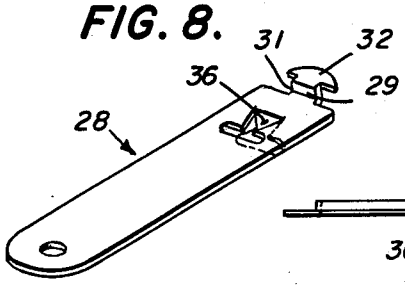


FIG. 7.

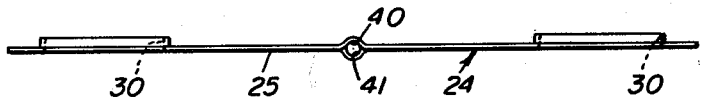
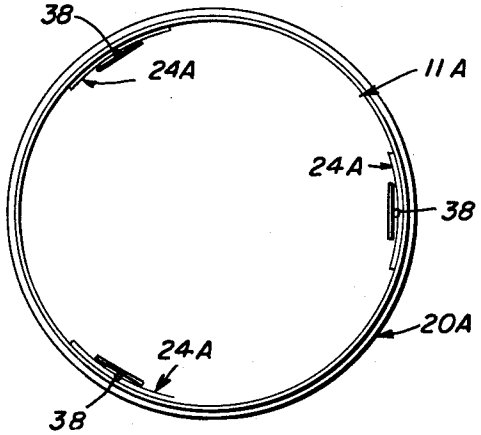


FIG. 9.



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DIFFUSER HOLDER FOR CEILING LIGHT FIXTURES

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Filed July 6, 1962, Ser. No. 208,065
3 Claims. (Cl. 240—147)

This invention relates to bracket means for displaceably holding a framed light diffuser on a ceiling light fixture.

The principal object of the invention is to provide bracket means for tightly holding a framed light diffuser against the lower rim of a ceiling lighting fixture housing and alternatively for holding said diffuser in a downwardly disposed position to provide access to the interior of the housing for the servicing thereof. A further object is to provide for tilting of said framed diffuser in its down position to give wider access space between the diffuser frame and the lower rim of the fixture housing. These and other objects are attained by my invention, which will be understood from the following description, reference being made to the accompanying drawings showing typical embodiments of the invention, in which

FIG. 1 is a perspective view of a ceiling mounted fixture showing the diffuser frame in downwardly disposed position;

FIG. 2 is an enlarged fragmentary elevational view from the position 2—2 of FIG. 1, showing the bracket means;

FIG. 3 is a fragmentary cross-sectional view taken on the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary sectional view taken on the line 4—4 of FIG. 2;

FIG. 5 is a fragmentary cross-sectional view taken on the line 5—5 of FIG. 2;

FIG. 6 is a fragmentary sectional view taken on the line 6—6 of FIG. 2;

FIG. 7 is a fragmentary top elevational view taken from the position 7—7 of FIG. 2;

FIG. 8 is a perspective view of one of the toggle bars; and

FIG. 9 is a plan view showing the adaptation of the bracket means to a cylindrical fixture housing and circular diffuser.

Referring particularly to FIG. 1, the lamp housing member **11** consists of vertically disposed rectangular side walls **12** and a top closure **13** forming a box which may be mounted in conventional manner to the ceiling structure or above the ceiling surface as a recessed fixture. The mounting of the lamps whether incandescent or fluorescent tubes within the box structure follows the conventional manner, being represented here by the fluorescent tube sockets **15** holding the tubes **16**.

The light diffusing member **18** consists of a light diffuser element **19** which may be of patterned diffusion glass plate or of molded synthetic plastic egg crate design. The light diffuser element **18** is mounted in a light diffuser frame **20** which consists, in the embodiment of FIG. 1, of side members **21** which are vertically disposed and arranged in a rectangle adapted to telescope inside the side walls **12** of the housing member. The side members **21** of the diffuser frame are provided with outwardly extending flanges **22** which may press against the ceiling surface when the installation is recessed into the ceiling. The light diffusing member **18** is attached to the housing member **11** by a pair of brackets **24** which are attached to the inside of the side walls **12** on opposite sides of the housing member **11**.

An over-throw toggle joint means is employed to position the elevation of the hinging link **26** which is attached

to the center pivot **27** of the toggle joint, the toggle joint itself consisting of a pair of toggle bars **28** pivoted together at the center pivot **27** and having the free ends **29** engaging in a pair of slots **30** disposed horizontally in the bracket base **24**. The free ends **29** of the toggle bars are provided with tabs **31** arranged at right angles to the long axes of the toggle bar **28** so that the tabs engage respectively the two slots **30** in the bracket base **25**, being retained in the slots by the right angled integral heads **32**. A tension coil spring **34** is attached to the free ends of the toggle bars **28**, which are provided with struck-out tongues **36** to receive the attachment loops **35** of the spring **34**. The hinging link **26** consists of a stiff bar which is pivotally attached to the center pivot **27**. The other end of the link **26** is formed into a hook **38** which engages holes **39** provided in the side members **21** of the light diffuser frame **20**. A guide slot **40** is provided in the bracket base **25** to direct the vertical sliding movement of the link **26**, there also being provided an oppositely directed holding slot **41** in the lower edge of the bracket base so that in cooperation with the adjoining side wall **12** of the lamp housing member fixes the perpendicular position of the link member **26**.

When the toggle joint means is in the lower position as shown particularly in FIGS. 1 and 2, the hinging link **26** holds the diffuser frame **20** in downwardly displaced position and the hooks **38** on opposite sides of the frame permit the frame to be tilted relative to the lower margin of the housing member thereby providing greater access space for serving the lamps inside the housing. The light diffuser member **18** may be entirely removed by releasing the hooks **38** from the holes **39**. Where more than two opposed bracket means are provided, all of the hooks may be released except the two in opposing positions, thereby allowing the tilting of the diffuser member **18** while the lamps or electrical connections are being serviced.

When the toggle joint is in the up position as shown particularly in the broken lines on FIG. 2, the links **26** draw the diffuser frame upwardly until the flanges **22** abut the lower margin of the side walls **12** of the lamp houisng member **11**.

In FIG. 9 is shown an alternative arrangement or adaptation applied to a cylindrical light fixture in which adaptation three (or optionally even more) brackets **24A** may be attached to the inside of the lamp housing **11A** where the parts of the toggle mechanism function in exactly the same manner as above described. Where three brackets are used as shown in FIG. 9, the hook **38** of one of the brackets may be released from the diffuser frame **20A**, thereby allowing the frame to be tilted while still securely holding it to the lamp housing.

The objectives stated in the beginning have been attained.

I claim:

1. In a ceiling light fixture, a lamp housing member; a light diffusing member displaceably attached thereto; and means to limit the extent of displacement of said light diffusing member from said housing member for servicing, said means comprising at least two bracket means mounted on one of said members and having a hinging link attached to said other member, each of said bracket means consisting of a bracket base having a pair of slots slidingly engaging the outer ends of a pair of rigid toggle bars, pivot means connecting the inner ends of said toggle bars and said hinging link, and tension spring means connecting the outer ends of said toggle bars, whereby the said two members may be displaced apart or brought into close juxtaposition by the down or up overthrow position of said toggle bars.

2. In a ceiling light fixture, a lamp housing member; a light diffusing member displaceably attached thereto;

means to limit the extent of displacement of said light diffusing member from said housing member for servicing, said means comprising at least two bracket means mounted on said housing member and having a hinging link attached to said light diffusing member, each of said bracket means consisting of a bracket base having a pair of slots slidingly engaging the outer ends of a pair of rigid toggle bars, pivot means connecting the inner ends of said toggle bars and said hinging link, and tension spring means connecting the outer ends of said toggle bars, whereby the said two members may be displaced apart or brought into close juxtaposition by the down or up overthrow position of said toggle bars.

3. In a ceiling light fixture, a lamp housing member having vertically disposed side walls; a light diffusing member including a frame displaceably juxtaposed on the lower rim of said housing member; means to limit the extent of displacement of said light diffusing member

from said housing member for servicing, said means comprising at least two bracket means mounted on said housing member, each having a suspended hinging link with a hook at its free end releasably engaging corresponding holes in the said light diffuser frame, each of said bracket means consisting of a bracket base having a pair of slots slidingly engaging the outer ends of a pair of rigid toggle bars, pivot means connecting the inner ends of said toggle bars and said hinging link, and tension spring means connecting the outer ends of said toggle bars, whereby the said two members may be displaced apart or brought into close juxtaposition by the down or up overthrow position of said toggle bars.

References Cited in the file of this patent

UNITED STATES PATENTS

2,300,504	Hedges	Nov. 3, 1942
2,869,908	Ford	Jan. 20, 1959