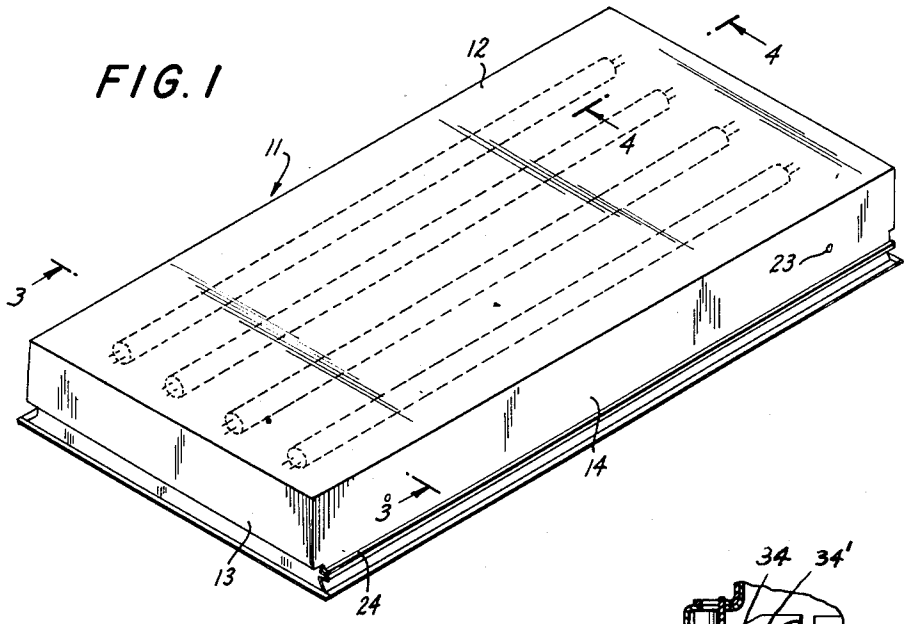
July 14, 1964 L. WOLOSKI 3,140,833

CEILING FIXTURE

Filed Aug. 11, 1961 2 Sheets-Sheet 1

FIG. 1



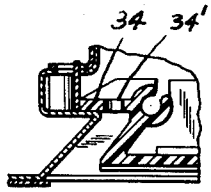
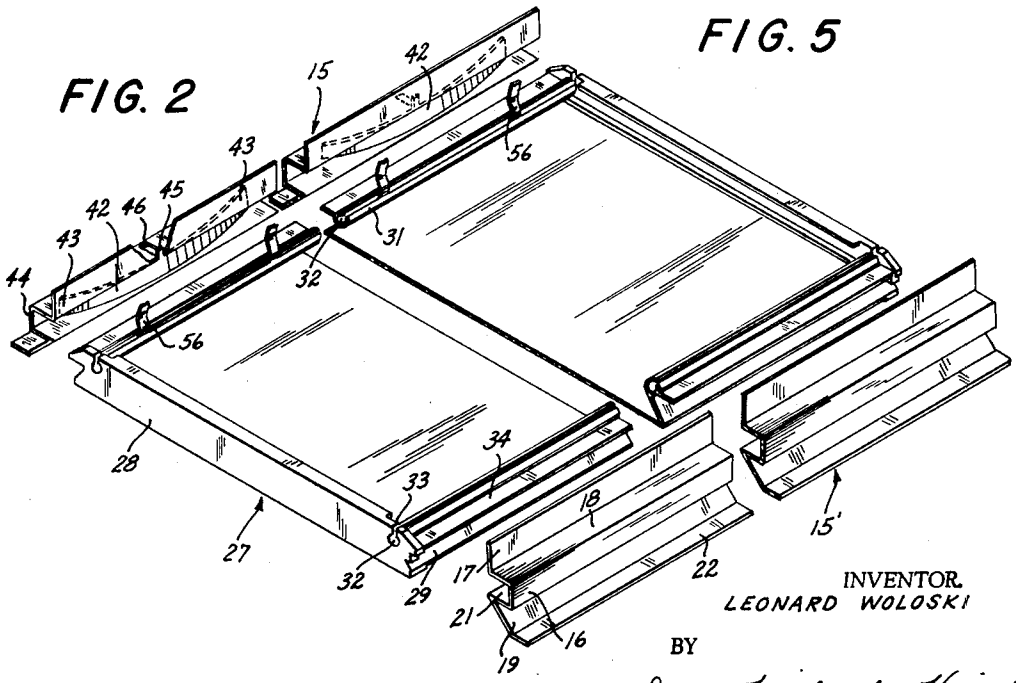


FIG. 5

FIG. 2



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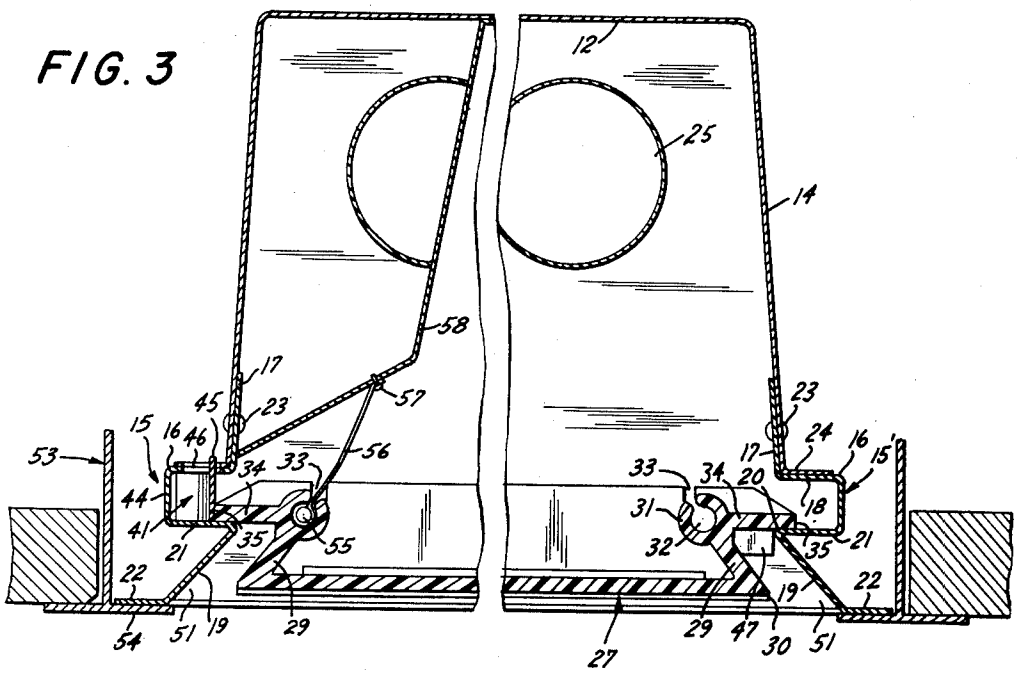
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ATTORNEYS

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CEILING FIXTURE

Filed Aug. 11, 1961 2 Sheets-Sheet 2

FIG. 3



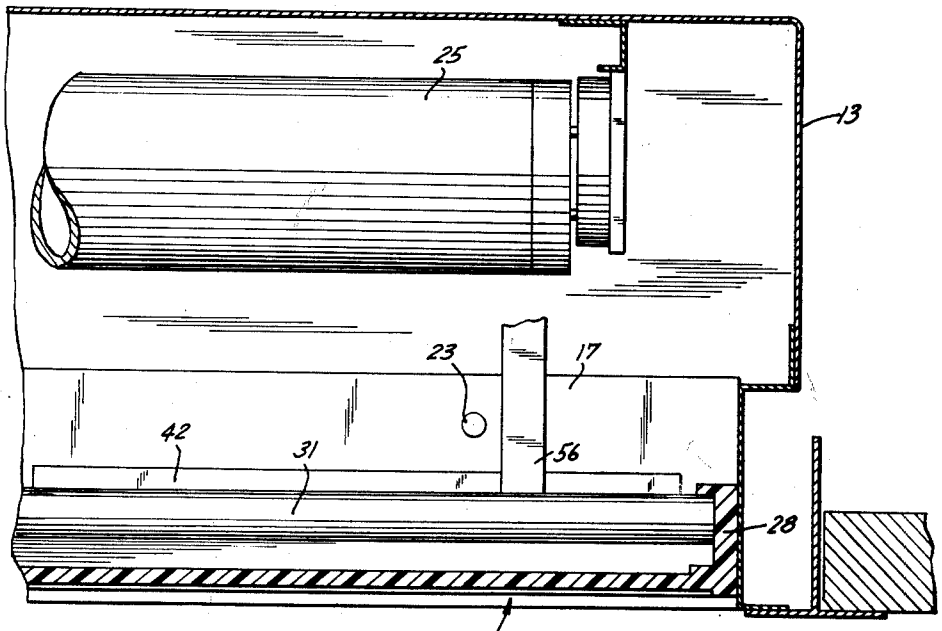


FIG. 4

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CEILING FIXTURE

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This invention relates to the art of ceiling fixtures and more particularly to a lighting fixture and the translucent diffuser panel thereof and mount therefor.

Where conventional diffuser panels of translucent material which are positioned beneath sources of light, require a hinged frame for mounting, the resultant structure may be costly, cumbersome and heavy and in addition the frame of such panel may cause light discontinuity with resultant detraction from the decorative effect provided by a continuous illuminated area.

It is accordingly among the objects of the invention to provide a ceiling lighting fixture that includes a diffuser panel that may readily be fabricated from relatively inexpensive material at low cost, which may readily be installed without the need of frames, requiring but a pair of spaced rails for mounting and which, when mounted, will dependably remain in position without likelihood of accidental dislodgment due to a vertical movement with respect to the support rails, yet may readily be removed therefrom when necessary, with a simple manipulation and without the use of tools of any sort and which will provide a luminous region that completely conceals such mounting rails to avoid any light discontinuity.

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 is shown one of various possible embodiments of the several features of the invention,

FIG. 1 is a perspective view of the ceiling fixture,

FIG. 2 is an exploded perspective view of the diffuser panel and support brackets of the lighting fixture with parts broken away and partly in cross section,

FIG. 3 is a sectional view taken along line 3—3 of FIG. 1,

FIG. 4 is a sectional view taken along line 4—4 of FIG. 1, and

FIG. 5 is a detail sectional view showing another embodiment of the invention.

Referring now to the drawings, the lighting fixture comprises an elongated housing **11** having a top wall **12** with depending end and side walls **13** and **14**.

Secured to the lower edges of each of the side walls **14** and extending the length thereof are support brackets **15, 15'**. As shown in FIGS. 2 and 3, each support bracket has an elongated substantially U-shaped channel portion **16** which has an elongated flange **17** upstanding from the inner edge of its upper surface **18** and an elongated outwardly inclined flange **19** depending from the inner edge **20** of its lower supporting surface **21**. A lip **22** illustratively extends the length of each of said flanges **21** in a plane substantially parallel to the plane of the lower supporting surface **21**.

As is clearly shown in FIG. 3, each of the flanges **17** is positioned on the inside of the associated wall **14** and is secured thereto as by riveting at **23**, said walls each having a lateral flange **24** resting on the top surface **18**.

The housing has mounted therein a plurality of fluorescent lamps **25** which extend between end walls **13**. As the mount for such lamps and the mechanism to control the latter is well known and per se forms no part of the invention, it will not be further described.

Adapted to be supported by the brackets **15, 15'** is a diffuser member which comprises a rigid rectangular

panel **27** of translucent plastic such as acrylic or styrene. Each of the ends of the panel has an upstanding wall **28** preferably formed integral therewith and substantially perpendicular thereto. Each of the two opposed side edges of the panel **27** has a strip **29** rising therefrom and formed integral therewith, said strips being inclined inwardly as shown in FIG. 3.

The upper edge of each of the strips **29** has a thickened portion **31** with an elongated recess **32**, illustratively substantially circular in cross section, extending the length thereof and with an elongated opening **33** leading into said recess. Extending laterally outward from each of said thickened portions **31** and extending substantially the length thereof is a substantially rectangular lip **34** which lies in a plane parallel to the plane of the panel **27**, the outer edge **35** of each lip extending outwardly beyond the associated edge **30** of the panel **27**.

As shown in FIG. 3, the width of the diffuser member taken transversely across the lips **34** thereof is such that said lips may be supported on the lower supporting surface **21** of said channel portions **16**. Means are provided releasably to retain the panel in position substantially centered between the brackets **15, 15'**.

To this end resilient means **41** are positioned in the channel **16** of bracket **15** and designed to react against the outer edge **35** of the associated lip **34** to urge the panel laterally toward the other bracket **15'**.

More specifically the resilient means comprises a plurality of bowed leaf springs **42**, the ends **43** of which react against the rear wall **44** of the channel **16**. The central portion of each leaf spring has a finger **45** rising from its upper edge which extends through aligned slots **46** in the flange **24** and surface **18** to guide the leaf spring.

The central bowed portion of each leaf spring thus reacts against the edge **35** of the associated lip **34** and the lateral movement of the panel is limited by stop members **47** illustratively secured to the outer surface of the inclined strip **29** adjacent the bracket **15'**, the stop abutting against the inner edge **20** of the lower supporting surface **21** of said bracket **15'**.

In this position, the side strips **29** will be substantially equally spaced from flanges **19** as at **51** and the portions of lips **34** extending over the upper ends of the spaces **51** will be exposed to the rays of light from the lamps **25**.

The depth of the channel portions **16** and the compressibility of the leaf springs **42** is such that the panel **27** may be moved laterally to compress the leaf springs sufficiently so that the edge **35** of lip **34** adjacent bracket **15'** may be moved inwardly clear of the supporting surface **21** thereof for removal of said panel in the manner hereinafter described.

The fixture above described is designed to be mounted in a rectangular opening in a ceiling for example, which, as shown in FIGS. 3 and 4 has substantially T-shaped mounting rails **53** along the side edges thereof, each of said rails having an inwardly extending flange **54** on which rests the support lips **22** of the brackets **15, 15**.

The lips **22** are secured to the flanges **54** in any suitable manner so that the lighting fixture will be dependably retained in position.

To remove the panel **27** to permit cleaning of the inside surface thereof and to provide access to the interior of the housing for replacement of the lamps **25**, it is merely necessary to exert pressure against the panel to urge it laterally toward bracket **15**. As a result of the compression of the bowed leaf springs **42**, the panel will move toward bracket **15** and the edge of lip **34** adjacent bracket **15'** will be moved clear of the edge **20** supporting surface **21** so that the panel may then be dropped for removal.

As the person removing the panel would have to stand on a ladder, for example, to reach the same and would

have to use both hands to clean the inside surface of the panel or to relamp the lighting fixture, in order to avoid the need for a cumbersome holder for the panel at the top of the ladder, or for the person removing the panel to climb down the ladder to deposit the panel on the floor or for an additional person to hold the panel after it is removed, means are provided to suspend the panel from the fixture when the panel is dropped for removal.

To this end a plurality of flexible tapes **56** are desirably provided, each having a bead **55** at one end substantially circular in cross section which is inserted into the circular recess **32** adjacent bracket **15**. The other end of the tapes are secured as at **57**.

Thus, when the panel is removed and dropped, as above described, it will be supported at one edge by the tapes **56**.

To mount the panel, the lip **34** thereof is positioned on supporting surface **21** of bracket **15** and with the panel in substantially horizontal position it is moved laterally toward bracket **15** to compress the bowed leaf springs **42** until the other lip **34** may be moved onto the supporting suface **21** of bracket **15'**. The panel is then released and the leaf springs will then move the panel laterally until the stops **47** abut against the edge **20** of bracket **15'** at which time the panel will be properly positioned.

With the panel so positioned, by reason of the rays of light passing through the lips **34** into the spaces **51** there will be a glow of light at the lower end of said space that will substantially conceal the flange **54** of the support rail **53** so that there will be no discontinuity between the luminous area and the cealing.

The construction above described may be used in a combined air diffuser and lighting fixture. To this end, it is merely necessary to provide a plurality of openings in the lips **34** as shown in FIG. 5 and provide a source of air which, when forced into the housing **11** will flow through such openings.

As many changes could be made in the above constructions 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 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. A lighting fixture comprising a housing having a pair of side walls, a support bracket at the lower edge of each of said side walls, each of said brackets having a channel portion open at one side thereof and opposed to each other, each of said channel portions having a lower supporting surface, the inner edge of each of said supporting surfaces having a downwardly and outwardly extending flange, resilient means in at least one of said channel portions and normally stressed to exert an inwardly directed force toward the other channel portion, a substantially rectangular translucent light diffusing panel, said panel having a side member rising from each of two opposed edges thereof, said side members being inclined toward each other, the upper edge of each of said side members having a support lip which extends outwardly beyond the associated edge of said panel, the outer extremities of said lips resting on an associated lower supporting surface, said resilient means reacting against one of said outer extremities on one of said brackets to urge the panel laterally toward the other bracket, and means to limit the lateral movement of said panel, whereby the panel will be substantially centered on said supporting surfaces between said brackets, with the inclined side members and their associated inclined flanges extending substantially parallel to each other to define a space therebetween whereby the light passing through said lips will illuminate said space, said resilient means being compressible to permit lateral movement of said panel away from said other bracket so that the extremity of the associated lip may be moved clear of the lower supporting surface thereof.

2. An installation of the character described, comprising a pair of parallel supports, a lighting fixture comprising a housing having a pair of side walls, a support bracket at the lower edge of each of said side walls, each of said brackets having an elongated channel portion open at one side thereof and opposed to each other, each of said channel portions having a lower supporting surface, the inner edge of each of said supporting surfaces having a downwardly and outwardly inclined flange, the parallel supports being spaced by a distance slightly less than the transverse spacing between the lower edges of said flanges, said lower edges being removably seated respectively on an associated one of said pair of parallel supports, resilient means in one of said channel portions and normally stressed to exert a force toward the other channel portion, a substantially rectangular translucent light diffuser panel, said panel having an elongated strip along each of two opposed edges thereof, and integral therewith, said strips rising from each of said edges and being inclined toward each other, the upper edge of each of said strips having a lip integral therewith and extending the length thereof, said lips extending laterally outward and lying in a plane substantially parallel to the plane of said panel, the outer edge of said lips extending beyond the associated edge of said panel and resting on an associated lower supporting surface of said channel portion, said resilient means reacting against the outer edge of one of said lips to urge the panel laterally toward the other channel portion, means to limit the lateral movement of said panel, whereby the panel will be substantially centered on said supporting surfaces, said resilient means being compressible to permit lateral movement of said panel away from said other channel portion, so that the outer edge of the lip associated with the other channel portion may be moved clear of the lower supporting surface thereof, said inclined strips when said panel is mounted being spaced from the inclined flanges of said bracket, whereby the light passing through said lips will effectively conceal the bracket and the pair of parallel supports.

3. The combination set forth in claim 2 in which said resilient means comprises a bowed leaf spring in said channel portion, the ends of said spring reacting against the rear wall of said channel portion, the central portion of said spring reacting against the outer edge of the associated lip.

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