Nov. 30, 1943. C. A. CAMPEN 2,335,737

RIMLESS LIGHTING FIXTURE

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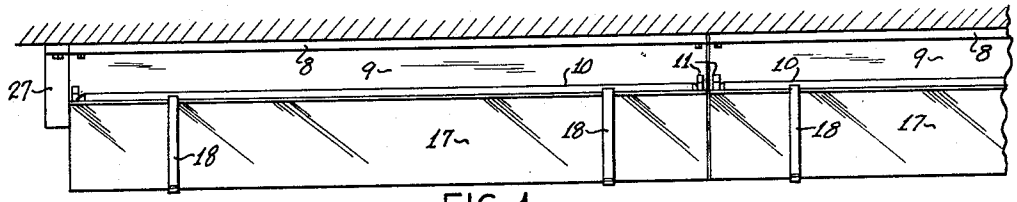


FIG. 1.

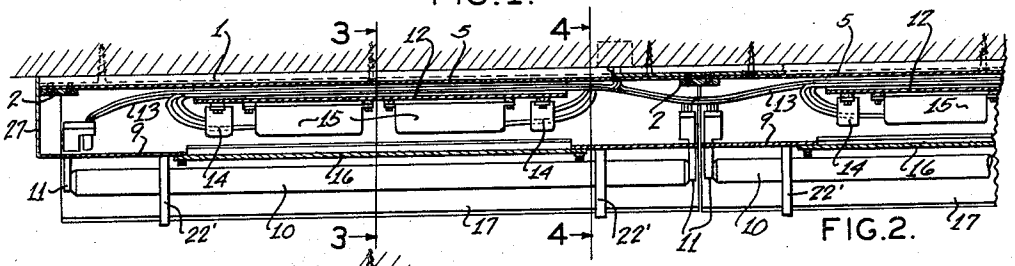


FIG. 2.

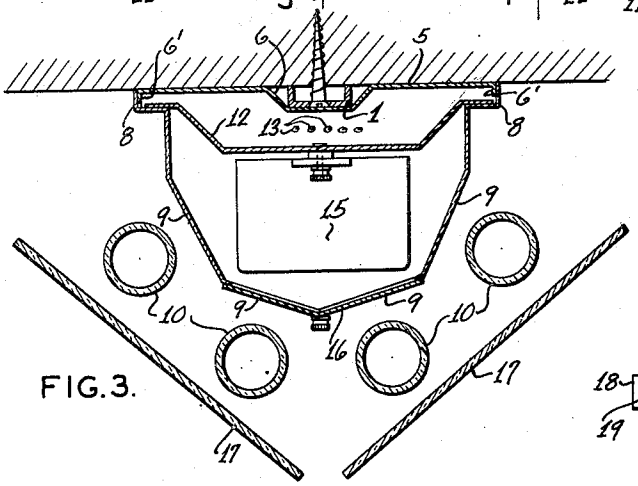


FIG. 3.

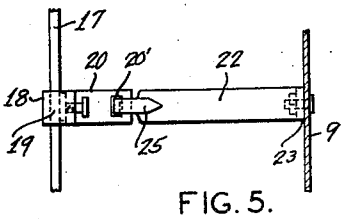


FIG. 5.

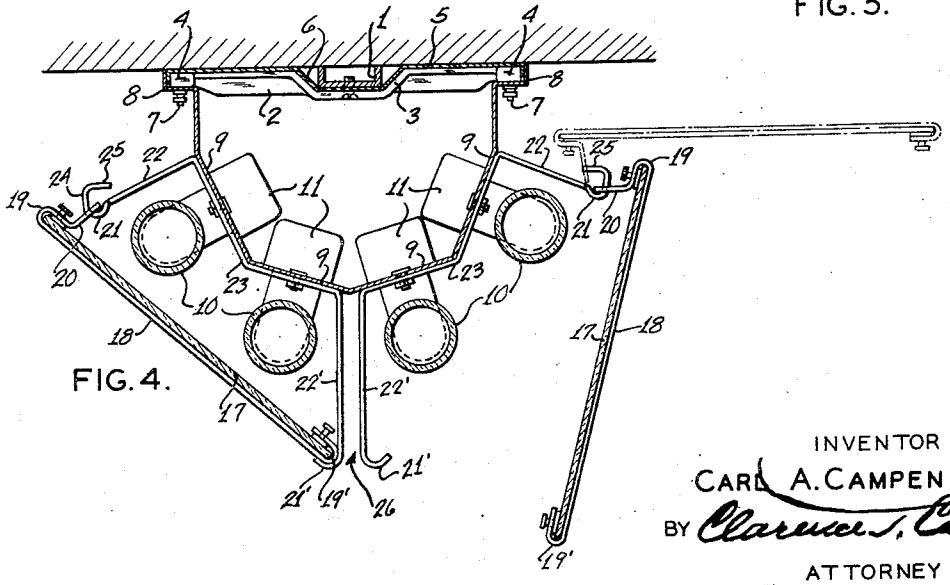


FIG. 4.

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RIMLESS LIGHTING FIXTURE

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5 Claims. (Cl. 240—78)

This invention relates to certain new and useful improvements in rimless lighting fixtures for ceiling and pendant attachment, the peculiarities of which will be hereinafter described and claimed.

This lighting fixture belongs to the class comprising one or more sections of reversed triangular cross-section with the lower apex downward, mounted either singly or in a connected series, forming a row of continuous lighting attached to the ceiling and centrally located or otherwise in the bays between the side cornices or beams, and adapted to spread the light uniformly from multiple rows of fluorescent lamps mounted in the fixture sections over the articles displayed in the window or room below.

This invention is characterized by having a simplified arrangement of detachable rimless glass panels disposed in upwardly diverging pairs tending to avoid shadows, cheapen construction, and facilitate inspection, renewal and cleaning.

Therefore, the main objects of my invention are to provide means, first, for rimless glass panels; second, for offset hook connections of said panels with the central lampholding fixture adapted to dispose the panels in normal inclined position opposite the lamp, and allowing the panels to hang nearly vertical in adjusted position; third, for detaching the panels from their hook supports for cleaning and replacement; fourth, for a special container compartment for auxiliaries and other accessories of lamps, and serving as reflectors for the lamps carried outside the container opposite the glass panels; fifth, for a bar support carried by an alining ceiling strip, and detachably supporting said container and adjuncts; and other features of construction hereinafter described and claimed.

In the accompanying drawing in which like reference numerals indicate corresponding parts,

Fig. 1 represents a side elevation of my fixture secured to a ceiling in section with the glass panels in normal closed position;

Fig. 2 is a longitudinal central vertical section of Fig. 1;

Fig. 3 is an enlarged cross-section on the line 3—3 of Fig. 2;

Fig. 4 is a similar view on the line 4—4 of Fig. 2, showing one panel at the right hand side hanging approximately vertically from its upper hook support, and indicating by dotted lines the method of detaching it therefrom, and normally inclined closed position of the panel at the left hand side, and

Fig. 5 is a detail plan view of a hook connection at the left hand side of Fig. 4.

Referring to the drawing, 1 designates a suitably elongated strip in the form of a channel iron or other suitable shape fastened to a ceiling to support sections of the fixture in alined position by cross or transverse bars 2 at both ends of each section, secured in adjacent pairs to the ceiling strip by screws in tapped holes in the strips at spaced intervals corresponding to the lengths of the sections, as shown in Figs. 2 and 4. Other fastening means may be used.

The cross or transverse bars 2 have horizontal and vertical flanges embracing a midway depression 3 corresponding to the strip 1, to center the respective bar 2 with its stub ends 4 in similar alined position on the strip.

A continuous plate 5 of sheet metal or other suitable material is disposed between the strips 2 and the ceiling and is thus clamped in position to serve as a guarding pan from dust and ceiling particles. A depression 6 therein coincides with the strip 1 and centers the downturned side flanges 6' that enclose the stub ends 4 (see Fig. 4), the plate 5 being thus alined with the ceiling strip. Stud bolts and nuts 7 depend from said ends 4 and support vertical and horizontal angle flanges 8 of a trough-like box forming a container having a bottom of preferably four prismoidal inclined sides 9 that serve as reflectors for fluorescent lamps 10 disposed in sections longitudinally and carried in an annular series about the container and lengthwise adjacent the reflecting surfaces 9 by suitable lampholders 11 mounted at the ends of and depending from said container (see Figs. 2 and 4).

For a part of its length, the container has a top plate 12, which is spaced below the dust pan and supported at its side margins by the angle flanges 8 of the container intermediately of the end bars 2 (Fig. 3) to shield electric wires 13 disposed in the said space from auxiliaries, such as condenser and ballast 14 and 15 detachably depending from the top plate 12 (Figs. 2 and 3).

The bottom of said container has an opening below said auxiliaries, which is normally closed by a detachable angle plate 16 for inspection and renewal of the parts in the container.

Adjacently disposed parallel to the lamps 10, is a pair of glass panels 17 diverging outwardly and upwardly to form inclined sides opposite the prismoidal bottom of each section.

The panels 17 are rimless, or without a frame, and are provided with transverse bands 18 near their ends, which are bent over inward forming

reverse bends or hooks 19, 19', to embrace the top and bottom margins respectively of a panel 17. As shown, the hooks 19, 19', are preferably equipped with manually operated screws that clamp the adjacent edges of the panel compressively, through cushioning pads of fiber, to avoid cracking the glass and to hold the bands 18 securely in their located position on the glass.

The upper clamping bend or hook 19 ends in a right angle extension forming a terminal end 20 having an opening 20' forming a loop that is engaged by a suitable hook 21 (see Figs. 4 and 5) on the offset end of an arm 22 projecting outwardly from the upper margin of a housing-forming plate 23 fastened to and upon the outer face of some of said inclined segmental sides 9 or otherwise supported.

A bottom hook 21' is turned outward and upward at the end of an arm 22' vertically depending from the lower margin of said connecting body or housing-plate 23 and engages the lower clamping bend 19' to support the bottom margin of a glass panel 17, as in Fig. 4, or otherwise support the bottom edge of a glass panel 17.

The upper hook 21 has a vertical bend 24 ending in a horizontal terminal end 25 that provides an enlarged space in the hook allowing the terminal end 20 to slide upward without disengagement when the lower clamping bend 19' is lifted out of its supporting hook 21', or the lower margin of a panel 17 is otherwise disengaged from the hook 21' to allow the panel to hang vertically, as indicated at the right in Fig. 4.

The connecting body or housing-plate 23 with its supporting hooks 21 on the ends of the offset arms 22 is in duplicate on the pairs of segmental sides 9 of the container, and the vertical arms 22' are adjacently disposed, and leave a space 26 between the lower edges of the inclined glass panels 17 which allows passage upwards past the upper margins of the panels for cooling air currents around the lamps 10 in their path.

When it is desired to remove or replace the lamps 10 for renewal, the panels 17 can be readily unhooked for access to any of the lamps mounted between them and the adjacent sides of the container. Removal of the inspection plate 16 in the bottom of the container is readily effected for renewal of any auxiliaries that require it.

The outer ends of the containers in sections terminating a continuous line lighting fixture have end walls 27 supported preferably on similar transverse bars 2 (Figs. 1 and 2). Similar end closures are provided when individual lighting sections are separately mounted on the ceiling.

While the fixture as disclosed herein has been illustrated and described as being secured directly to a ceiling, it should be understood that the fixture may be secured to the lower end of a suitable hanger, stem or bracket element for spacing the fixture a suitable distance below the ceiling, which spacing may be desirable in certain installation conditions without departing from the intended scope of this invention.

I claim:

1. A lighting-fixture comprising, in combination, an elongated channeled strip for ceiling connection, a pair of centrally recessed transverse ceiling-bars fixed to the strip, a centrally recessed plate disposed intermediate said bars and the ceiling and having flanges embracing the ends of the bars, a material-section bent and formed to provide a trough-like lamp-supporting container having angle flanges at its side margins also engaging the ends of said bars, and securing means engaging the flange-portions of said plate, the material-section, and the bars.

2. A lighting-fixture comprising a plate, upper and lower arms projecting divergingly outwardly from the plate, and a panel having connection with the upper arm for swingable movement and normally having detachable connection with the lower arm for forming with said plate a closed chamber for housing lamps supported by the plate, the panel, when detached from the lower arm, depending from the upper arm in spaced relation to the plate for opening said chamber for permitting access to housed lamps.

3. A lighting-fixture comprising a plate, upper and lower arms projecting in diverging relation outwardly from the plate, and a panel having shiftable hook-connection with the upper arm and normally having detachable hook-connection with the lower arm for forming with said plate a closed chamber for housing lamps supported by the plate, the panel, when detached from the lower arm, depending from the upper arm in free swinging spaced relation to the plate for opening said chamber for permitting access to housed lamps.

4. A lighting-fixture comprising, in combination, a material-section bent and formed to provide a trough-like container adapted for connection at its margins with a support and including intermediate its margins a plurality of prismoidal inclined faces, a pair of plates each likewise bent and formed to include angularly disposed faces, said plates being flatwise fixed to and upon the outer face of said container-section, upper and lower arms projecting outwardly from each respective plate, the lower arms of said plates being in spaced relation, panels supportingly engaged with the free ends of said arms and normally disposed in opposed angular relation one to the other and in spaced relation from said plates, and lamp tubes supported by said container-section intermediate the plates and panels.

5. A lighting-fixture comprising, in combination, an elongated material-section bent and formed to provide a trough-like container adapted for connection at its margins with a support and including intermediate its margins a plurality of prismoidal inclined faces, a pair of plates each likewise bent and formed to include angularly disposed faces, said plates being flatwise fixed to and upon the outer face of said container-section, upper and lower arms projecting in diverging relation outwardly from the margins of each respective plate, the lower arms of said plates being in spaced parallel relation, panels hookwise connected with the free ends of said arms and normally disposed in opposed angular relation one to the other and in spaced relation from said plates, and lamp-tubes supported by said container-section intermediate the plates and panels.

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