

Oct. 22, 1963

H. L. KINNEAR ET AL
OUTDOOR LIGHTING FIXTURE

3,107,864

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3 Sheets-Sheet 1

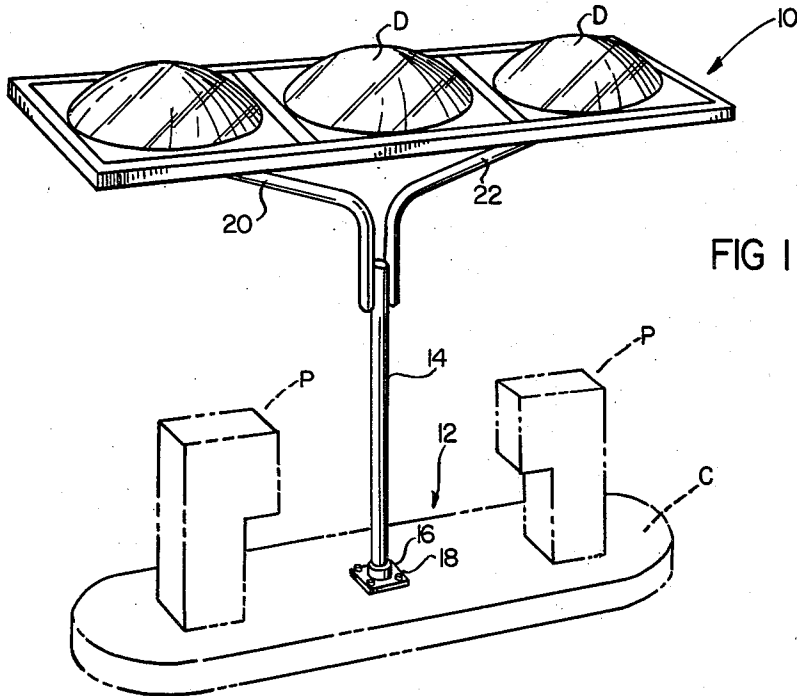


FIG 1

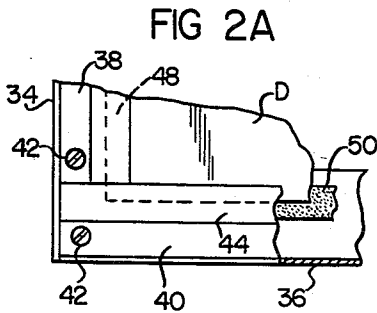


FIG 2A

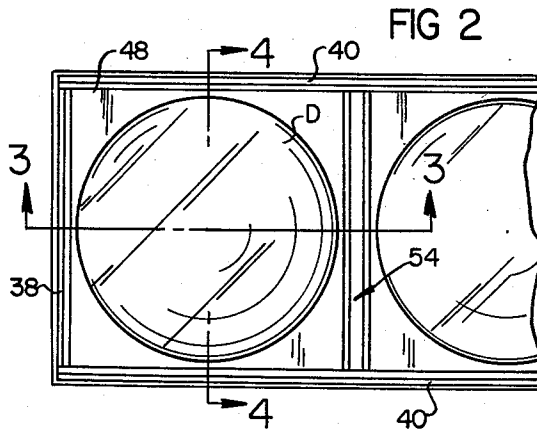


FIG 2

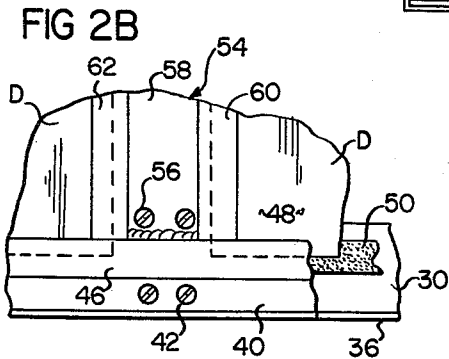


FIG 2B

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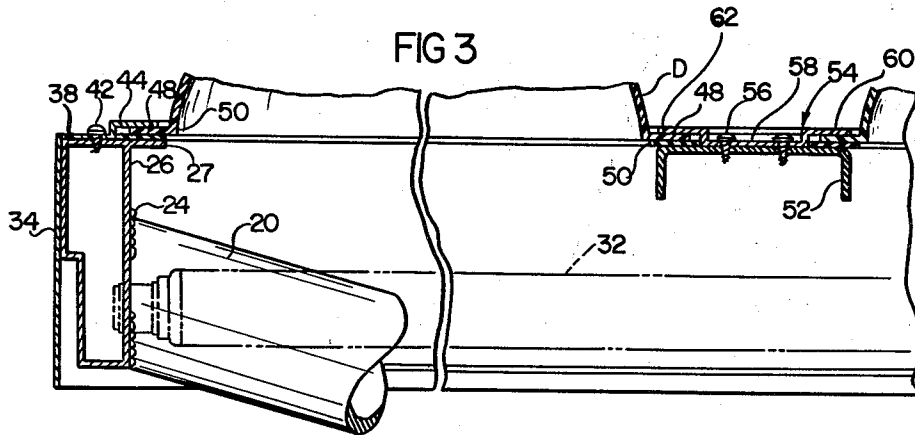
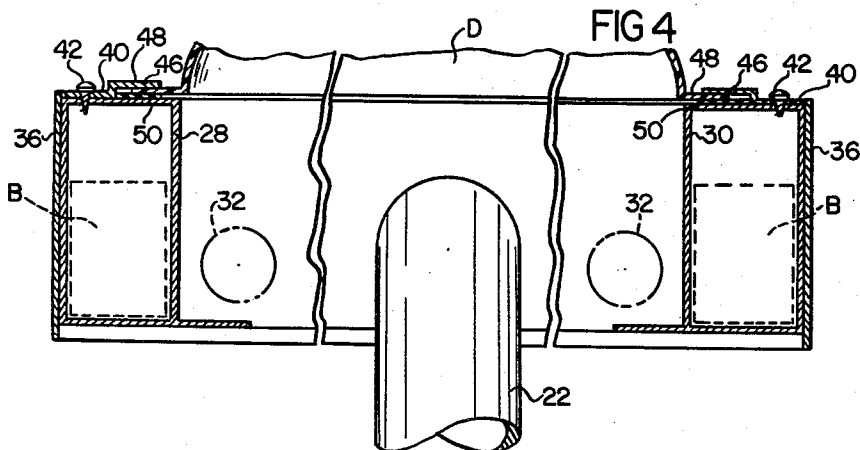
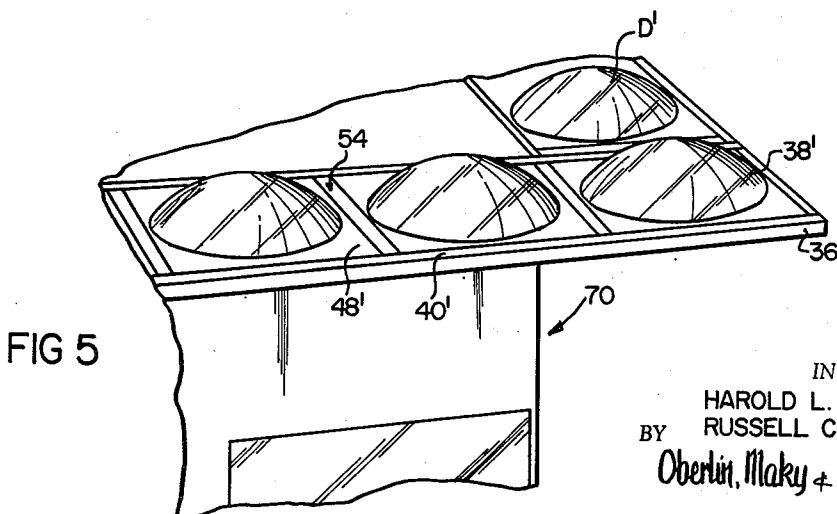
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3 Sheets-Sheet 2



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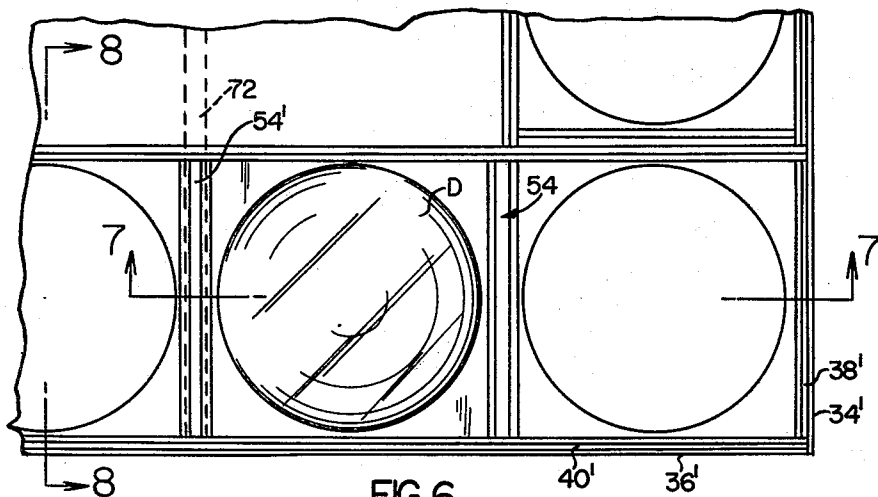
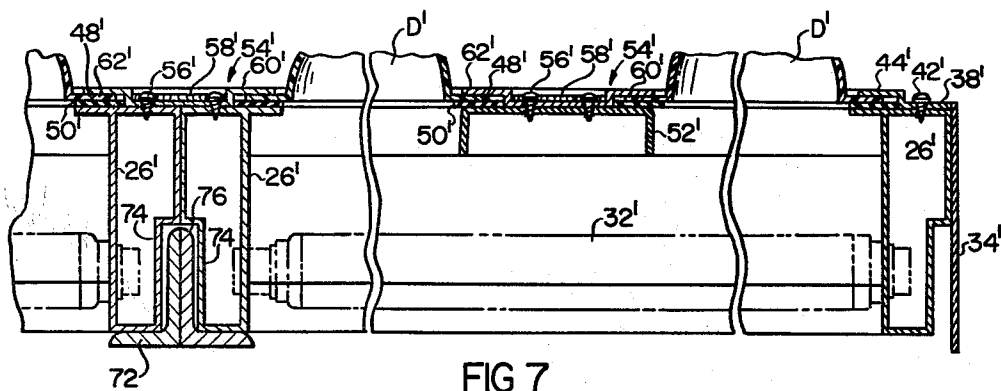
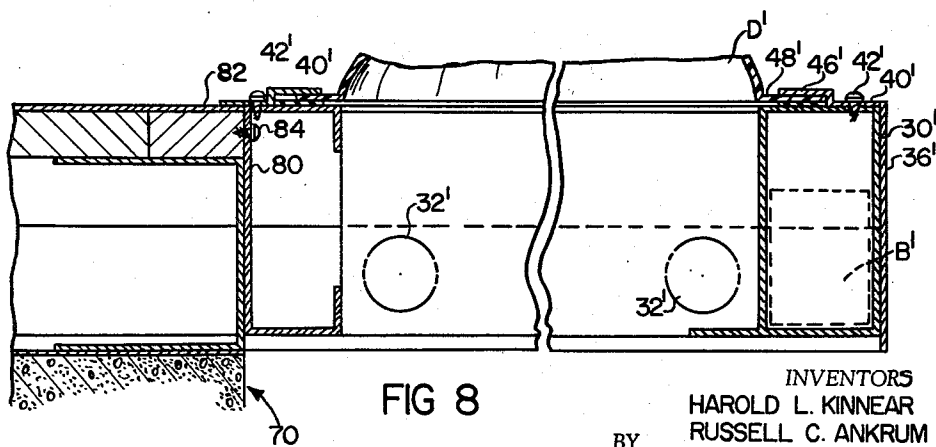
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3,107,864

OUTDOOR LIGHTING FIXTURE

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8 Claims. (Cl. 240—3)

This invention relates in general to an improved outdoor lighting fixture and more particularly to outdoor fluorescent lighting fixtures for use in and about gas stations.

The lighting fixture of one form of the invention is exemplified by use in combination with a gasoline pump "island" of known type and accordingly satisfies many of the desired functional attributes of existing island fixtures of the same general type. In general these desired functional attributes include sheltering to a certain degree the surrounding area from rain or snow, as well as the primary function of deflecting downwardly light rays to adequately light the island and surrounding area during periods of darkness. Further, with the advent of larger pump islands to handle the ever increasing flow of vehicular traffic, light fixtures of extended length are often required and thus have necessitated the provision of sturdy supporting structures for the fixtures.

These above, briefly described functional attributes of existing lighting fixtures and supports therefor are of course preferably attended by a pleasing appearance for the obvious purpose of attracting and maintaining customers.

It is a primary object of the invention to provide an improved lighting fixture that is of sturdy construction, light weight, and capable of installation in a simple manner on supporting structure associated therewith.

It is a further object of the invention to provide a lighting fixture having translucent dome members disposed at the top thereof which transmit light therethrough in sufficient amounts to provide a highly attractive, glowing effect therefrom. A closely related object is the provision of simplified means for mounting the dome members on the fixture for ready removal thereof for cleaning and like purposes.

A further object of the invention is to provide a lighting fixture of such type which is constructed for mounting on the peripheral overhang of buildings, e.g., service stations, to illuminate the surrounding area and to provide a highly attractive translucent, domed structure.

Other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawings:

FIG. 1 is a partially diagrammatic, perspective view of the lighting fixture embodying the invention, the fixture being shown as mounted on a gas pump island, shown in dotted lines;

FIG. 2 is an enlarged, fragmentary plan view of a portion of FIG. 1;

FIG. 2A is an enlarged, fragmentary view of the lower left corner of FIG. 2;

FIG. 2B is an enlarged, fragmentary view of another portion of FIG. 2;

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FIG. 3 is a vertical section taken on line 3—3 of FIG. 2;

FIG. 4 is a vertical section taken on line 4—4 of FIG. 2;

FIG. 5 is a perspective view of the lighting fixture embodying the invention shown mounted on the periphery of a building;

FIG. 6 is an enlarged, plan view of the lighting fixture structure of FIG. 5;

FIG. 7 is a vertical section taken on line 7—7 of FIG. 6; and

FIG. 8 is a vertical section taken on line 8—8 of FIG. 6.

Referring now to the drawings, wherein like reference characters are used to designate like parts, an embodiment of the lighting fixture of the invention is generally indicated at 10 and is shown mounted on a gas pump island generally indicated at 12, the latter comprising a pair of gas pumps diagrammatically illustrated at P mounted on the usual concrete platform indicated at C. It should be understood that the environmental use indicated is merely exemplary, and that the novel lighting fixture herein described could be satisfactorily employed in other environments equally as well, one such other environment being described hereinbelow.

The support for the lighting fixture comprises a metal center post or support member 14 which is mounted by any suitable securing means such as, for example, base 16 and bolts 18 to the platform C. Mounted securely to center post 14 and extending divergently upwardly therefrom are end support members 20 and 22, the upper ends of which are suitably secured preferably by welding as indicated at 24 to the fixture frame (FIG. 3).

The fixture frame for supporting the translucent, plastic domes or bubbles D is in the form of a rectangular, hollow frame which comprises transversely extending conduits 26 disposed at either end of the frame and longitudinally extending, ballast-containing housing members 28 and 30 disposed at either side of the frame. Ballasts of conventional construction and operation are indicated at B and are supported within in the housing members 28 by any suitable means to provide a current source for the fluorescent tubes which provide the light source for the fixture, as will be further explained hereinbelow. The ballasts B form no part of the instant invention and accordingly a more than general reference thereto is not required for a complete understanding of the present invention.

The conduits 26 form raceways which serve the usual purpose of supporting and enclosing electrical wires (not shown) for transmitting current from the ballasts B to a plurality of longitudinally extending, transversely spaced fluorescent tubes 32. The latter are mounted in the usual manner in openings in the inner walls of the conduits 26, the ends of the fluorescent tubes 32 extending, as shown, into the raceway sufficiently to provide sockets for electrical connection thereto. The electrical wiring is preferably carried in support members 20 and 22, and center post 14 to ground level. The conduits 26 are provided with inwardly directed flanges 27 for a purpose to be more fully explained hereinbelow.

The transversely extending conduits 26 are connected at the ends thereof by any suitable means, e.g., welding, to the longitudinally extending housing members 28 thus to provide a rigid, rectangular shaped frame supported at either end by support members 20 and 22.

Facing members 34 and 36 are attached in any suitable manner to the outwardly disposed walls of the conduits 26 and housing member 28, respectively and extend downwardly below these respective members to direct moisture downwardly therefrom. The facing members

34 and 36 are preferably provided with a suitable attractive outer coating for decor purposes.

Bubble retaining rails 33 and 40 are mounted on the upper surface of the conduits 26 and housing members 28 and 30, respectively, by means of metal screws 42, the rails extending completely around the frame at the upper periphery thereof. The flanges 38 and 40 are provided with laterally inwardly extending, upwardly offset flanges 44 and 46, respectively, which form with the conduits 26, and more specifically, the flanges 27 thereof, and housing members 28 a groove which extends completely around the frame.

The plastic domes or bubbles D are provided with base flanges 48 which extend outwardly at the bottom of the bubbles and terminate to form a rectangular shaped periphery adapted to be seated in the groove underlying the bubble retaining flanges 44 and 46 whereby the bubbles D are firmly held in place. Gasket means 50 are additionally disposed in the grooves underlying the bubble retaining flanges and extending continuously therein to provide complete sealing at the periphery of the bubbles to prevent ingress of water and the like into the interior of the fixture and contact with the components disposed therein. It will of course be apparent that all of the bubble retaining rails are loosened through screw means 42 and that one or more rails are temporarily removed from position to allow positioning of the flanges 48 and the gasket means 50 in the groove underlying the flanges. Subsequent replacement of the thus removed rails and tightening of screws 42 provides the desired sealing of the bubbles.

Referring to FIGS. 2B and 3, longitudinally spaced, transversely extending channel members 52, only one of which is shown in these figures, are interposed between housing members 28 and secured thereto preferably by welding. The channel members thus rigidify the central portion of the fixture frame, in addition to supporting suitable structure for mounting the bubble flanges 48, to be hereinafter described. The channel members 52 are in the form shown of inverted U shape thus to provide a relatively extensive, flat upper surface.

Similarly transversely extending bubble retaining members generally indicated at 54 are disposed above the flat, upper surface of channel 52 and secured thereto by means of screws 56 which extend through a central, downwardly offset rib portion 58 of member 54 which contacts the upper surface of the channel. The member 54 is additionally provided with laterally extending flanges 60 and 62 which overlie the top surface of channel 52 and are spaced therefrom to provide a pair of transversely extending grooves on either side of the central rib 58. These grooves are for a similar purpose as the grooves underlying the flanges 38 and 40 above described. Thus the bubble flanges 48 and gaskets 50 are disposed in the grooves in the above-described manner and subsequent tightening of screws 56 provide a sealed condition preventing ingress of water and the like into the interior of the fixture.

Referring now to the plastic bubbles or domes D, there being three such bubbles shown in the FIG. 1 form, the same are formed from a pigmented acrylic and are, as above mentioned, translucent. The plastic employed and the design of the bubbles are such that a relatively small amount of light from the fluorescent tubes 32 is transmitted through the plastic thus to provide a glowing effect on the bubbles or domes. The majority of light is reflected downward, as in previous fixtures of this general type, for functional use, namely, for lighting the area therebelow.

It will thus be seen that there has been provided a lighting fixture which is simply and rigidly constructed, and highly decorative to provide an attractive glowing effect from the domes or bubbles as well as serving to light the area below. Although three such bubbles have been illustrated in the FIG. 1 form, it will be apparent

that a varying number can be provided, if desired. Also, it will be apparent that relatively long lighting fixtures could be provided with additional or sturdier support in the central area thereof, in the form of transversely extending members similar to conduits 26.

FIGS. 5-8 show another environmental use of the novel lighting fixture of the invention. In these figures, elements identical to those described above for the FIGS. 1-4 embodiment have been designated by the same reference numeral with an attached prime. Referring to FIG. 5, a fixture embodying the invention is shown suspended in cantilever fashion from a building generally indicated at 70 to form a peripheral overhang therefor. As in the above-described embodiment, bubbles or domes D' transmit sufficient light to provide a glowing effect while at the same time reflecting a majority of the light downwardly for normal usage.

Referring to FIG. 7, outlooker 72, which is rigidly connected to the building 70 in any suitable manner, extends outwardly therefrom and serves as the primary support means for the cantilevered lighting fixture. Although only one such outlooker is illustrated it will be understood that a plurality of such outlookers are provided, the same being longitudinally spaced adequately to support the lighting fixture. Transversely extending conduits 26' forming raceways as above described are rigidly secured to the outlooker 72 in any suitable manner and are provided with inwardly offset portions 74 adjacent the bottoms thereof to receive the vertically extending leg 76 of the outlooker whereby the adjacently disposed conduits 26' form a continuous, flat top surface which serves, in a manner similar to channel 52, to securely mount a transversely extending bubble retaining member 54'. The latter is provided with flanges 60' and 62' as above described to form with the top surface of the conduits 26' a transversely extending groove for sealingly mounting the peripheral flanges 48' of the bubbles D'. The endmost conduit 26' is provided with a facing member 34' disposed outwardly thereof and secured thereto as above described.

Referring to FIG. 8, the lighting fixture further comprises a longitudinally extending support member 30', similar to support member 30 described above, and support members 80 which are disposed in abutting relation with the upper corner 82 of the building 70 and are secured thereto by any suitable means such as, for example, fastener means 84. The support member 30' encloses and supports ballast B' as above described, the ballast providing a current source for fluorescent tubes 32' which extend between spaced conduits 26'. As described above, bubble retaining rails 40' are provided for sealingly securing the flanges 48' of the bubbles D' and facing member 36' is additionally provided and mounted on the outwardly disposed support member 30' for the above stated purpose.

Depending upon the longitudinal extent of the lighting fixture, one or a plurality of longitudinally extending members 80 and 30' may be provided. Openings are provided in the support members 80 and 30' to accommodate the transversely extending outlookers, the support members being preferably secured thereto to provide a rigid supporting structure. In the manner above described the conduits 26' are connected to the support members 80 and 30' to provide a rigid frame for supporting the bubbles D'. Similarly transversely extending channel members 52 are disposed between and connected to members 30' and 80 as above described.

It will thus be seen that the objects of the invention have been accomplished. An outdoor lighting fixture has been provided which is attractive in appearance as well as being simply and rigidly constructed. The plastic domes serve to transmit light therethrough as well as reflect light downwardly therefrom whereby the lighting fixture as disclosed in the illustrative embodiments can be satisfactorily used in many environments, in addition to those indicated.

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Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims or the equivalent of such be employed.

We therefore particularly point out and distinctly claim as our invention:

1. In an outdoor lighting fixture of the type described, an elongated fixture frame, means for supporting said fixture frame, said fixture frame comprising longitudinally extending frame members and transversely extending conduits secured to said frame members, fluorescent tube means mounted on said frame, retaining means secured to the upper surfaces of said frame members and said conduits, said retaining means being provided with inwardly directed, upwardly offset flanges, said flanges forming with said upper surfaces of said frame members and said conduits grooves therebetween, and generally hemispherical translucent light transmitting and reflecting means having laterally extending peripheral flange mounted in said grooves, said translucent light transmitting and reflecting means serving to transmit a portion of the light emanating from said fluorescent tube means therethrough to achieve a glowing effect thereon, the remainder of said light being reflected downwardly thereby for functional use.

2. In an outdoor lighting fixture of the type described, an elongated fixture frame, means for supporting said fixture frame, said fixture frame comprising longitudinally extending frame members adapted to enclose ballast means and transversely extending conduits secured to said frame members, said conduits forming raceways for housing electrical wiring, fluorescent tube means mounted on said conduits and extending therebetween, retaining means secured to the upper surfaces of said frame members and said conduits, said retaining means being provided with inwardly directed, upwardly offset flanges, said flanges forming with said upper surfaces of said frame members and said conduits grooves therebetween, and a plurality of plastic dome shaped members mounted in said grooves, said dome shaped members serving to transmit a portion of the light emanating from said fluorescent tube means therethrough to achieve a glowing effect thereon, the remainder of said light being reflected downwardly thereby for functional use.

3. A lighting fixture comprising an elongated fixture frame, means for supporting said fixture frame, said fixture frame comprising longitudinally extending frame members, transversely extending conduits secured to said frame members and at least one transversely extending channel member extending between said frame members, fluorescent tube means mounted on said frame, retaining means secured to the upper surfaces of said frame members, said conduits and said channel member, said retaining means being provided with inwardly directed, upwardly offset flanges forming with said upper surfaces of said frame members, said conduits and said channel member grooves therebetween, and a plurality of plastic, dome shaped members having peripheral flanges mounted in said grooves, said dome shaped members serving to transmit a portion of the light emanating from said fluorescent tube means therethrough to achieve a glowing effect thereon, the remainder of said light being reflected downwardly thereby for functional use.

4. The combination of claim 3 wherein said means for supporting said fixture frame comprises a center post and diverging support members secured at their inner ends to said center post and at their outer ends to said conduits.

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5. The combination of claim 3 wherein said supporting means includes transversely extending outlookers secured to said frame members.

6. A lighting fixture adapted to be cantilevered from a vertical wall, an elongated fixture frame, means for supporting said fixture frame, said supporting means comprising outlooker means secured to said wall and extending outwardly therefrom transverse to said fixture frame, said fixture frame comprising a plurality of longitudinally extending, ballast-enclosing frame members and a plurality of transversely extending conduits secured to said frame members, said longitudinally extending frame members being fixedly mounted on said outlooker means, a plurality of fluorescent tube means mounted on said frame, retaining means secured to the upper surfaces of said frame members and said conduits, said retaining means being provided with inwardly directed, upwardly offset flanges, said flanges forming with said upper surfaces of said frame members and said conduits grooves therebetween, and translucent light transmitting and reflecting means mounted in said grooves, said translucent light transmitting and reflecting means serving to transmit a portion of the light emanating from said fluorescent tube means therethrough to achieve a glowing effect thereon, the remainder of said light being reflected downwardly thereby for functional use.

7. The combination of claim 6 wherein certain of said conduits are secured to said outlooker means and wherein said fluorescent tube means extend between and are mounted on said conduits.

8. A lighting fixture adapted to be cantilevered from a vertical wall, an elongated fixture frame, means for supporting said fixture frame, said supporting means comprising outlooker means secured to said wall and extending outwardly therefrom transverse to said fixture frame, said fixture frame comprising longitudinally extending frame members, transversely extending conduits secured to said frame members and at least one transversely extending channel member extending between said frame members, said longitudinally extending frame members being fixedly mounted on said outlooker means, a plurality of fluorescent tube means mounted on said frame, retaining means secured to the upper surfaces of said frame members, said conduits, and said channel member, said retaining means being provided with inwardly directed, upwardly offset flanges, said flanges forming with the upper surfaces of said frame members, said conduits and said channel member grooves therebetween, and a plurality of dome shaped translucent light transmitting and reflecting members mounted in said grooves, said translucent light transmitting and reflecting members serving to transmit a portion of the light emanating from said fluorescent tube means therethrough to achieve a glowing effect thereof, the remainder of said light being reflected downwardly thereby for functional use.

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