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ENCLOSED FLUORESCENT LIGHTING DEVICE

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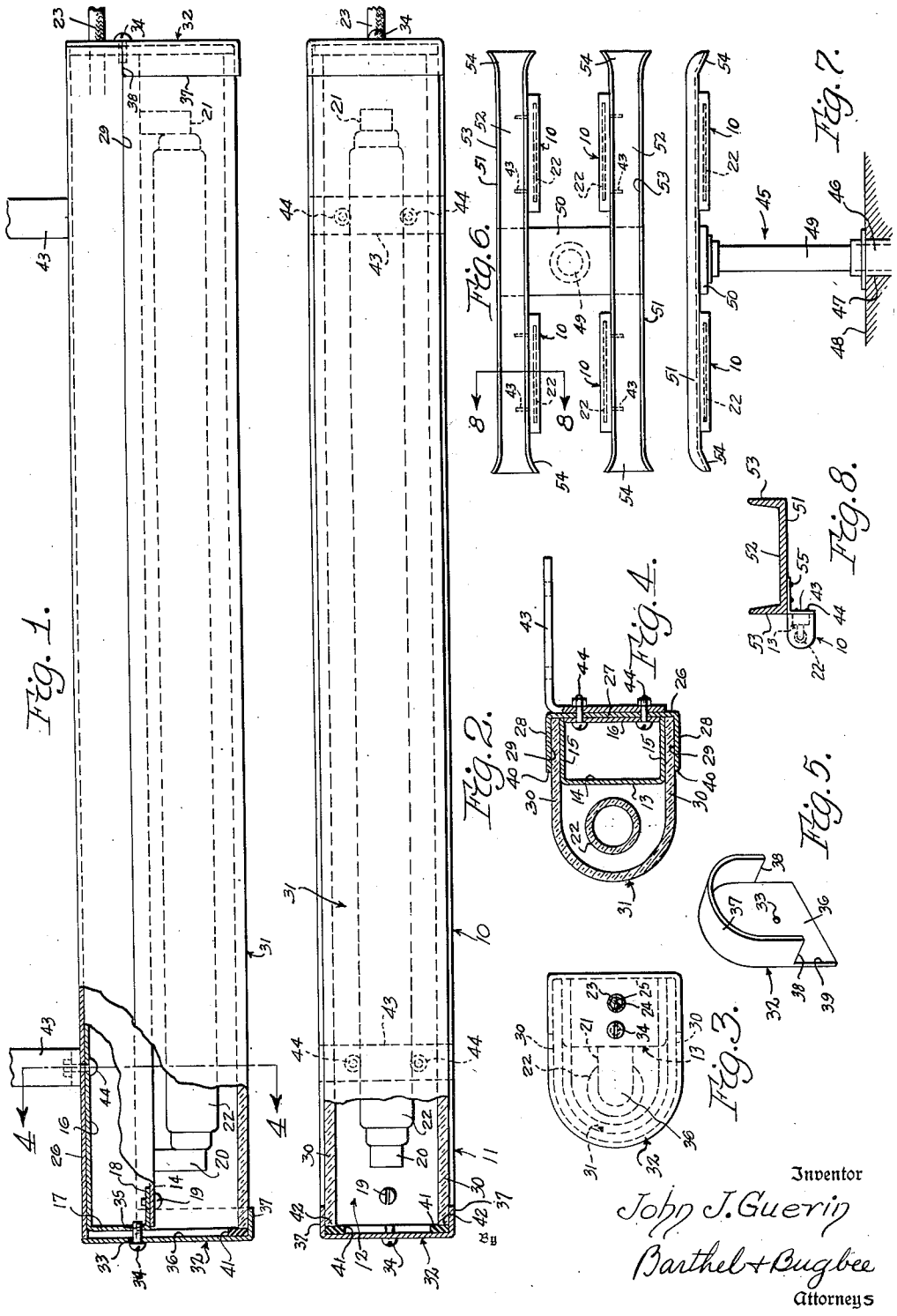


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

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ENCLOSED FLUORESCENT LIGHTING DEVICE

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2 Claims. (Cl. 240—51.11)

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This invention relates to lighting fixtures and in particular to fluorescent electric lighting fixtures and installations thereof.

One object of this invention is to provide an enclosed fluorescent lighting fixture which is protected against the weather so as to be suitable for out-of-door installations, and in particular, is so constructed as to resist the entrance of moisture.

Another object is to provide an enclosed fluorescent lighting fixture which is so constructed as to be well adapted to installation in locations subject to spattering from oil, grease or water or exposed to excessive dust, and which may be easily wiped off or washed off without short-circuiting the electrical circuit or otherwise injuring the fixture.

Another object is to provide an enclosed fluorescent electric lighting fixture which projects its light through an extremely wide angle, yet is adequately protected against the entrance of undesired liquids, solids or gases, and consequently protects the installation from the accidental ignition of inflammable gases by sparks originating in the fixture.

Another object is to provide an enclosed fluorescent lighting fixture, as set forth in the preceding objects, wherein the fluorescent lighting tube is protected by a transparent plastic shield which permits the light to shine freely in all directions, yet protects the tube from breakage in the event a tool or other solid object is dropped upon it, or a workman leans against it.

Another object is to provide an improved vehicle lubricating hoist having an improved fluorescent lighting system for illuminating the underside of the vehicle.

In the drawings:

Figure 1 is a top plan view of an improved enclosed fluorescent lighting fixture according to a preferred form of the invention, with the left-hand end broken away to disclose the internal construction;

Figure 2 is a front elevation of the enclosed fluorescent lighting fixture shown in Figure 1, with the left-hand end similarly broken away;

Figure 3 is a right-hand end elevation of the enclosed fluorescent lighting fixture shown in Figures 1 and 2;

Figure 4 is a vertical section taken along the line 4—4 in Figure 1;

Figure 5 is a perspective view of one of the end caps employed in the enclosed fluorescent lighting fixture of Figures 1 to 4 inclusive;

Figure 6 is a top plan view of a vehicle lubricating hoist having an improved fluorescent illumination system employing the enclosed fluorescent lighting fixture of Figures 1 to 5 inclusive;

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Figure 7 is a side elevation of the lubricating hoist shown in Figure 6, with the floor or ground in vertical section; and

Figure 8 is an enlarged vertical cross-section along the line 8—8 in Figure 6.

Referring to the drawings in detail, Figures 1 and 2 show an improved fluorescent enclosed lighting fixture, generally designated 10, according to a preferred form of the invention, as consisting generally of an enclosure 11 containing a fluorescent lighting fixture 12. In the various figures the enclosed lighting fixture 10 is shown as mounted to project its light sidewise so that its base is vertical and, in the installation shown in Figure 6, is mounted on brackets secured to the vehicle hoist.

The fluorescent lighting fixture 12 consists of a hollow inner angle member or inner base 13 of inverted channel cross-section with a top 14 and side walls 15 (Figure 4). The open side and ends of the channel-like base 13 are closed by a bottom closure plate 16 having upturned end portions 17 (Figure 1) and inwardly turned top end portions 18. The portions 17 serve as end closures for the hollow base 13 whereas the inwardly turned portions 18 serve as brackets upon which the top 14 rests and to which the latter is secured, as by the fasteners 19 (Figure 1).

Mounted on the hollow base 13 near the opposite ends thereof are sockets 20 and 21 facing toward one another for receiving a conventional fluorescent lighting tube 22. The hollow base 13 contains the usual accessories for fluorescent lighting fixtures (not shown), such as a ballast unit, wiring, etc., the wiring being connected as usual to the sockets 20 and 21, and supplied with electricity by an insulated cable 23 having conductors 24 and 25 therein (Figure 3).

The enclosure 11 in which the fluorescent lighting fixture 12 is mounted consists of a channel-shaped outer angle member or outer base 26 having a bottom plate 27 and side walls 28 extending in the opposite direction to the side walls 15 of the fixture base 13 and spaced laterally therefrom so as to provide longitudinal recesses 29 between the side walls 15 and 28. Inserted in these recesses 29 are the substantially parallel side walls 30 of a transparent plastic shield or window 31 of approximately U-shaped cross-section (Figure 4) having an approximately hemi-cylindrical portion interconnecting said side walls 30. The opposite ends of the enclosure 11 are closed by end plates or caps 32 (Figure 5), having holes 33

therein for the passage of screws 34 threaded into holes 35 in the end portions 17 of the closure plate 16. The caps 32 are provided with plate-like portions 36 of outline corresponding to the cross-section of the shield or window 31 and having correspondingly curved flanges 37 projecting longitudinally along the hemi-cylindrical outside surface of the shield or window 31. The flanges 37 have lower edges 38 (Figure 5) which are cut off short of the lower edge of the plate-like portion 36 so as to provide a right-angled cutaway portion 39 which extends over the upper edges 40 of the side walls 26 of the channel-shaped base 26 (Figures 1 and 4). A gasket 41 of elastic deformable material such as rubber or synthetic rubber is mounted in the space between the ends 42 of the shield or window 31 (Figures 1 and 2) and the adjacent inner surface of the plate-like portions 36 of the caps 32.

In order to mount the enclosed fluorescent lighting fixture 10, any suitable brackets may be provided, a typical installation shown in Figures 6 to 8 inclusive employing angle brackets 43 bolted as at 44 to and through the channel-shaped base 26 and closure plate 16 (Figure 4). The angle brackets 43 in turn are bolted, riveted, welded or secured by other fastening means to the support to which they are attached.

The illuminated vehicle hoist generally designated 45, shown in Figures 6 to 8 inclusive, is a highly successful installation in which the fluorescent lighting fixtures 10 have been employed. This hoist consists of the usual pneumatic or hydraulic cylinder 46 sunk into a vertical hole 47 in the ground or floor 48 and having a plunger 49 reciprocable therein. The supplying of pressure fluid to the cylinder 46, such as compressed air or hydraulic fluid, causes the plunger 49 to rise, whereas the release thereof permits the plunger 49 to descend.

Mounted on top of the plunger 49 is a cross member 50 of approximately the width of a vehicle, such as a passenger automobile. Secured to the cross member 50 in parallel relationship are vehicle tracks 51 of upwardly facing channel cross-section. The vehicle tracks 51 have base or web portions 52 and side walls or flanges 53 which are flared outward at their opposite ends, as at 54, in order to facilitate guiding the vehicle wheels onto the tracks 51. In order to successfully illuminate the underside of the vehicle, to reveal details of the chassis and guide the workmen working thereon, enclosed fluorescent fixtures 10, according to the present invention, are mounted longitudinally along the inner flanges 53 of the track 51 and secured thereto by having their angle brackets 43 bolted thereto as at 55 (Figure 8). The fluorescent lighting fixtures 10 are connected by wiring (not shown) to an external source of current so that they may be conveniently energized. By this means the bottom portion of the vehicle is brightly illuminated and the illumination kept bright by the ease of cleaning the enclosure 10. If oil falls on the transparent plastic shield or window 31, it is merely necessary to wipe it off with cotton waste or rags. If a tool falls upon any of the fixtures 10, or a workman leans against them, or rain or snow falls upon them (if they are mounted in an outside location) no damage is done, because the enclosure 11 is moisture resisting. Ordinarily, however, it is not necessary that the enclosure 11 be made steamtight or gastight because it is not ordinarily mounted under conditions or in a location requiring such extreme precautions for safety or dependability.

What I claim is:

1. A weatherproof, explosion-proof and liquid-tight fluorescent lighting comprising an elongated transparent shield of approximately U-shaped cross-section having spaced approximately parallel side walls and an approximately semi-cylindrical portion interconnecting said side walls and arching over the space therebetween, an elongated base structure including inner and outer elongated angle members having laterally-spaced elongated side flanges extending along the opposite longitudinal edges of said angle members, the inner member side flanges extending in the opposite direction to the outer side flanges, the spaces between said side flanges being substantially equal to the thickness of said shield side walls and said shield side walls fitting snugly into said spaces in liquid-tight relationship therewith, said inner angle member having an elongated plate-like top portion extending between its side flanges, a fluorescent lighting fixture mounted on said top portion within said shield, cap-like end members secured to said base structure in snugly fitting engagement with the ends of said shield in liquid-tight relationship therewith, said end members having arcuate flanges extending around the peripheral end portions of said shield, said inner angle member having an elongated bottom opening between its side flanges, and an elongated bottom member mounted in spaced relationship to said top portion adjacent the outer edges of said inner angle member side flanges and closing said bottom opening, said bottom member having end portions bent relatively thereto toward and into engagement with the ends of said top portion in closing relationship with the ends of said bottom opening of said inner angle member.

2. A weatherproof, explosion-proof and liquid-tight fluorescent lighting unit comprising an elongated transparent shield of approximately U-shaped cross-section having spaced approximately parallel side walls and an approximately semi-cylindrical portion interconnecting said side walls and arching over the space therebetween, an elongated base structure including inner and outer elongated angle members having laterally-spaced elongated side flanges extending along the opposite longitudinal edges of said angle members, the inner member side flanges extending in the opposite direction to the outer side flanges, the spaces between said side flanges being substantially equal to the thickness of said shield side walls and said shield side walls fitting snugly into said spaces in liquid-tight relationship therewith, said inner angle member having an elongated plate-like top portion extending between its side flanges, a fluorescent lighting fixture mounted on said top portion within said shield, cap-like end members secured to said base structure in snugly fitting engagement with the ends of said shield in liquid-tight relationship therewith, said end members having arcuate flanges extending around the peripheral end portions of said shield, said inner angle member having an elongated bottom opening between its side flanges, and an elongated bottom member mounted in spaced relationship to said top portion adjacent the outer edges of said inner angle member side flanges and closing said bottom opening, said bottom member having end portions bent relatively thereto toward and into engagement with the ends of

said top portion in closing relationship with the ends of said bottom opening of said inner angle member, said bottom member end portions having top attachment portions bent inwardly relatively to said bottom member end portions and secured to said top portion.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,034,077	Carlstedt	July 30, 1912
1,997,687	Hoegger	Apr. 16, 1935
2,098,419	Handley	Nov. 9, 1937
2,223,470	Van Alpen et al.	Dec. 3, 1940
2,239,343	Rumbaugh	Apr. 22, 1941
2,269,182	Claspy	Jan. 6, 1942
2,323,002	Baker	June 29, 1943
2,334,005	Hoeveler	Nov. 9, 1943
2,391,325	Maurette	Dec. 18, 1945
2,400,223	Cole et al.	May 16, 1946
2,407,629	Courtenay	Sept. 17, 1946
2,421,967	Schepmoes	June 10, 1947
2,434,781	Kurtzon	Jan. 20, 1948