May 20, 1958 H. PHILLIPS 2,835,788

FLUORESCENT ISLAND LIGHT FIXTURE

Filed Aug. 25, 1952 6 Sheets-Sheet 1

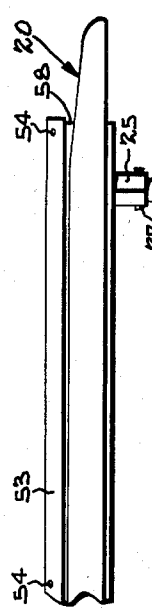


Fig. 2

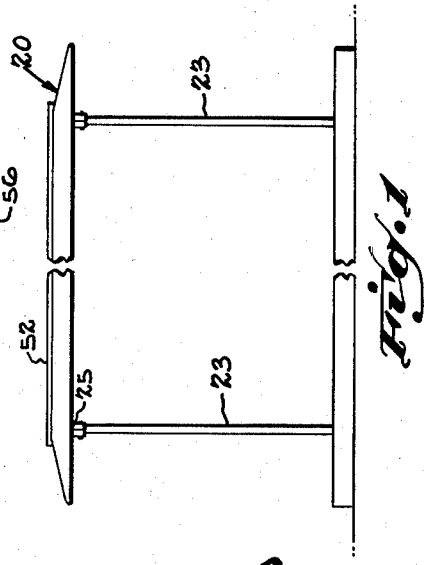
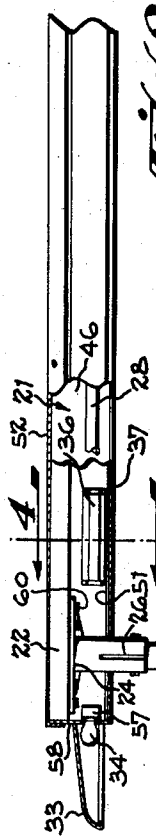


Fig. 1



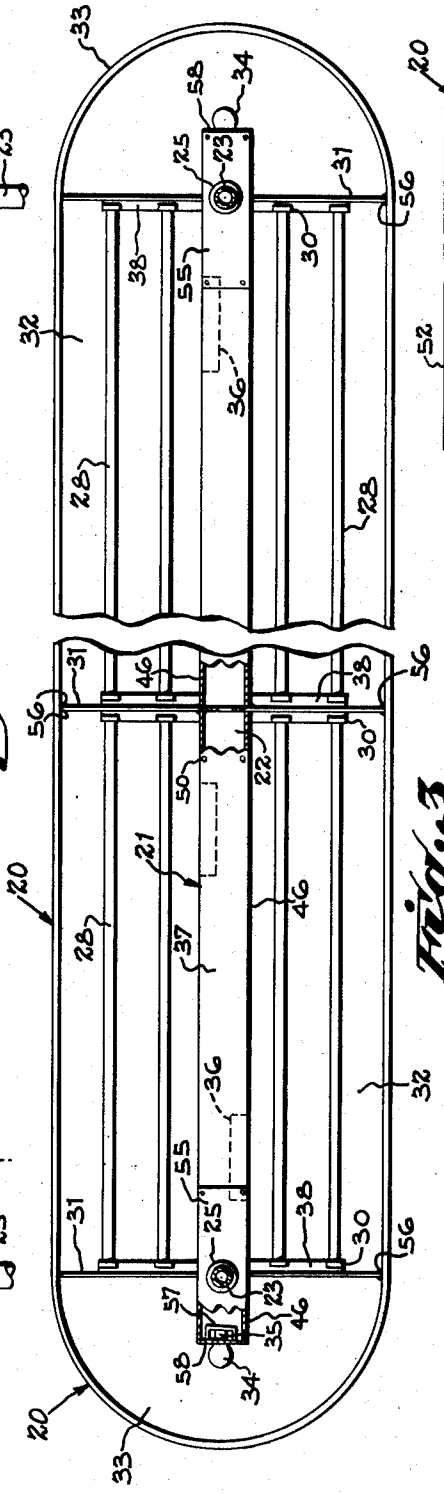


Fig. 3

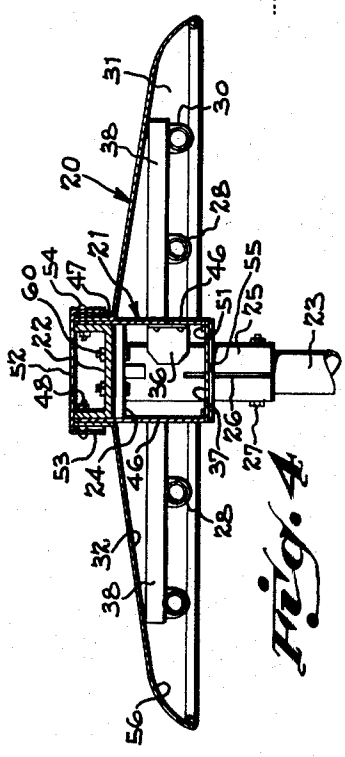


Fig. 4

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FLUORESCENT ISLAND LIGHT FIXTURE

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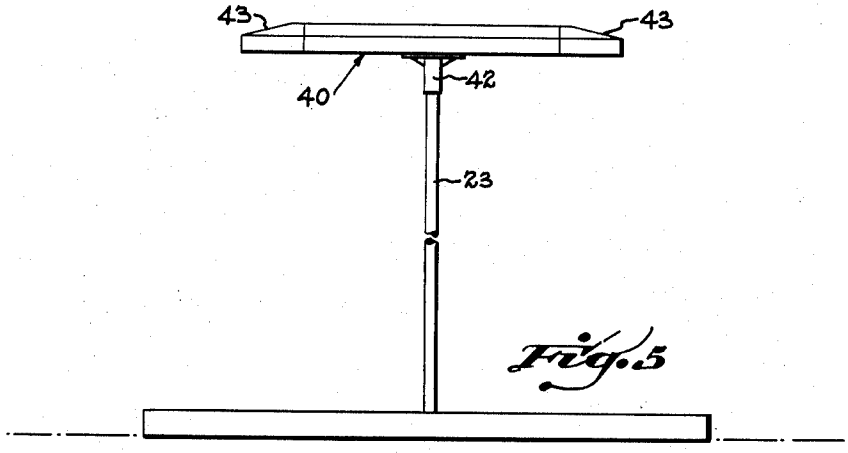


Fig. 5

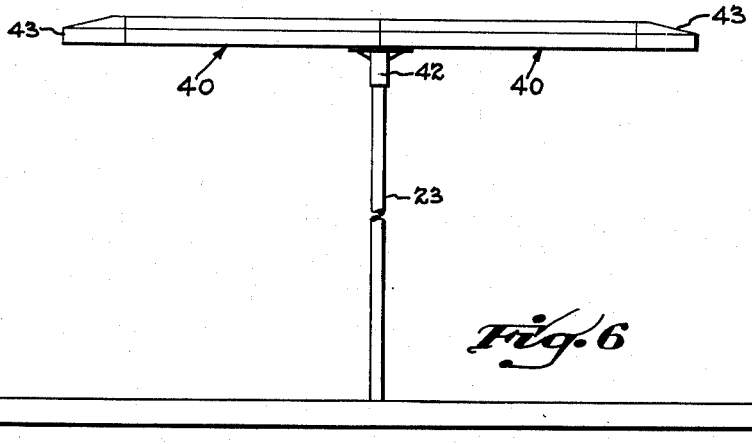


Fig. 6

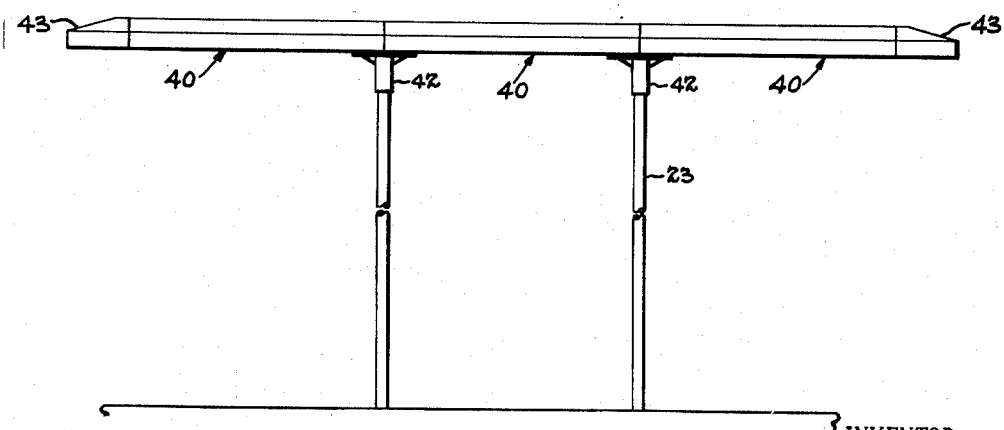


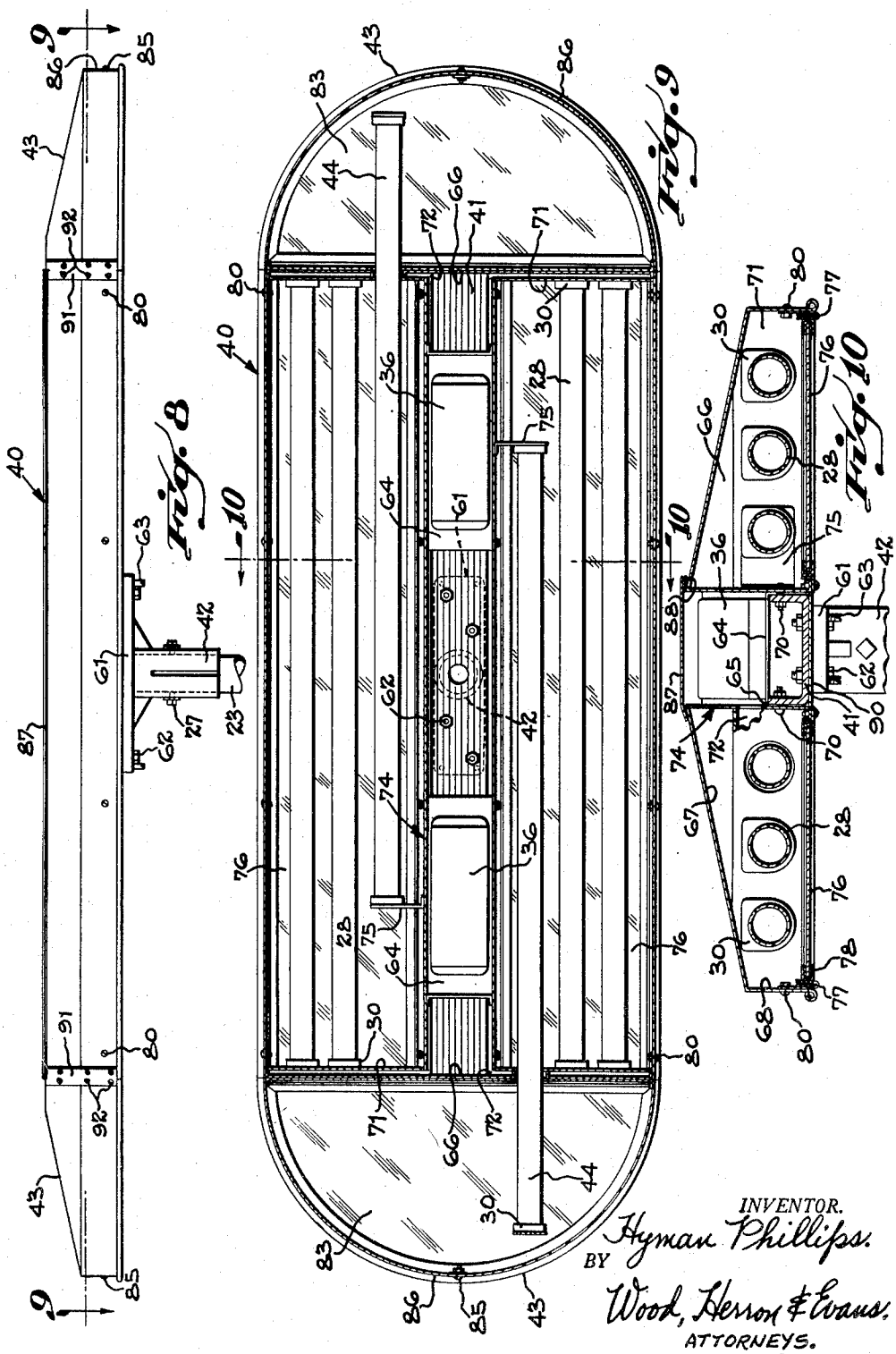
Fig. 7

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FLUORESCENT ISLAND LIGHT FIXTURE

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FLUORESCENT ISLAND LIGHT FIXTURE

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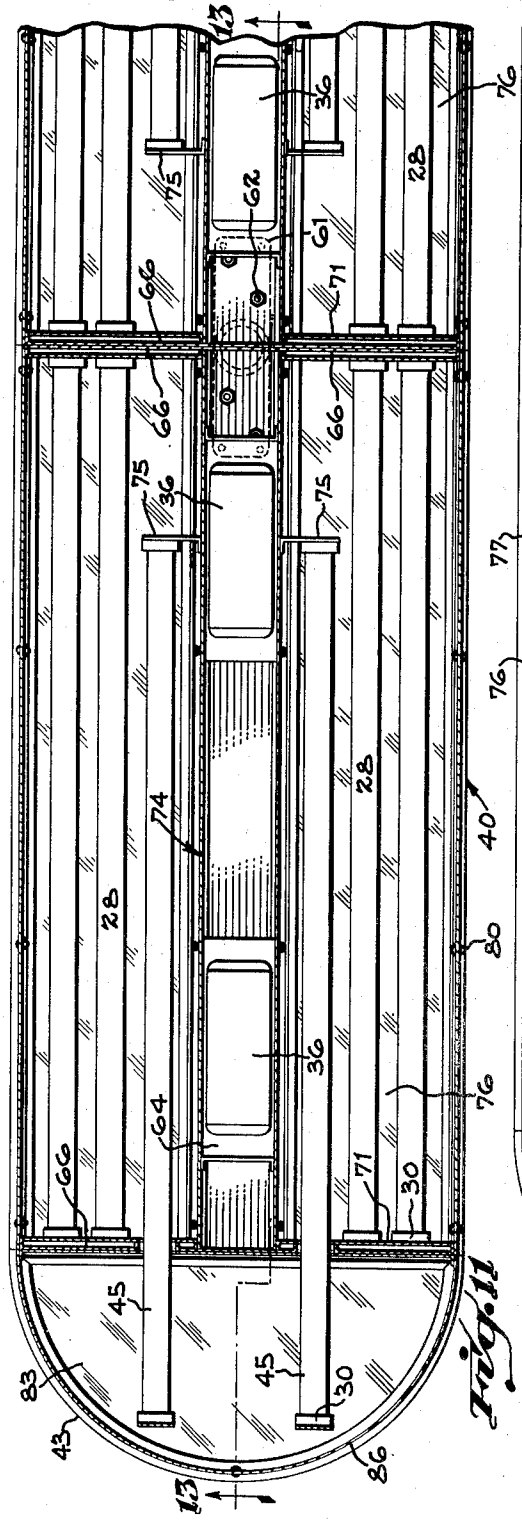


Fig. 11

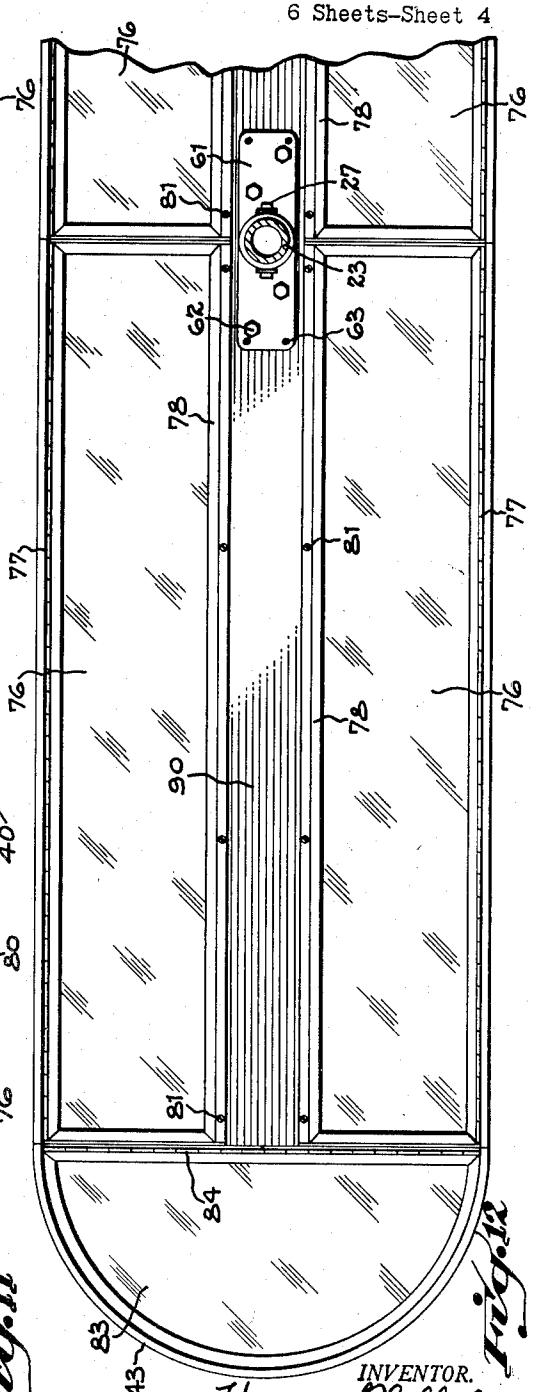


Fig. 12

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FLUORESCENT ISLAND LIGHT FIXTURE

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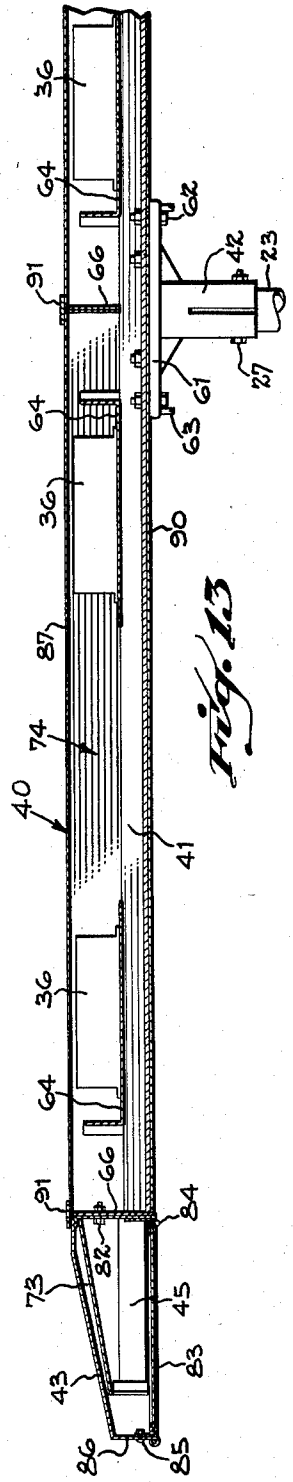


Fig. 13

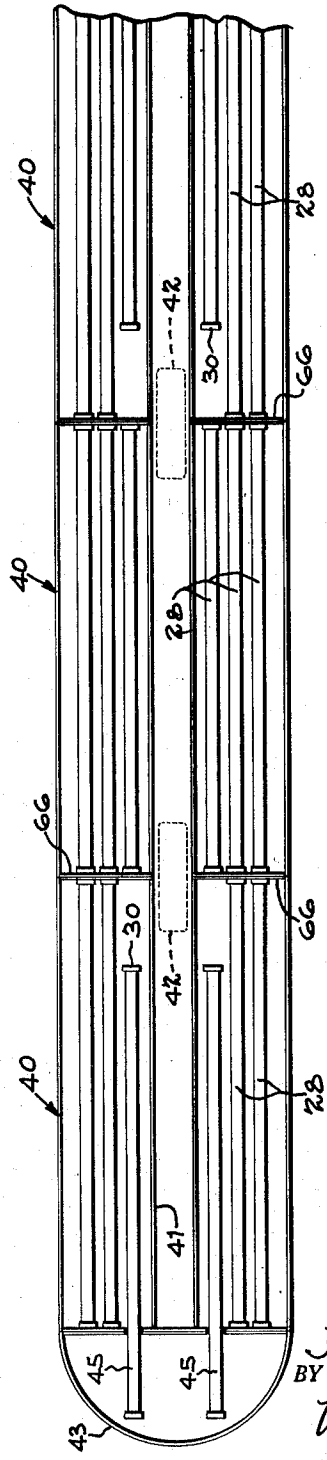


Fig. 14

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FLUORESCENT ISLAND LIGHT FIXTURE

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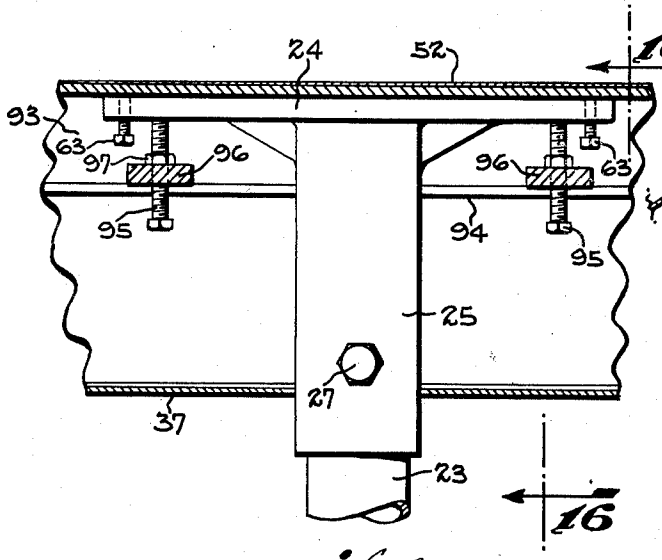


Fig. 15

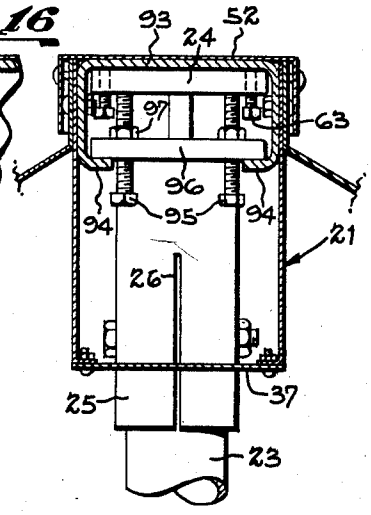


Fig. 16

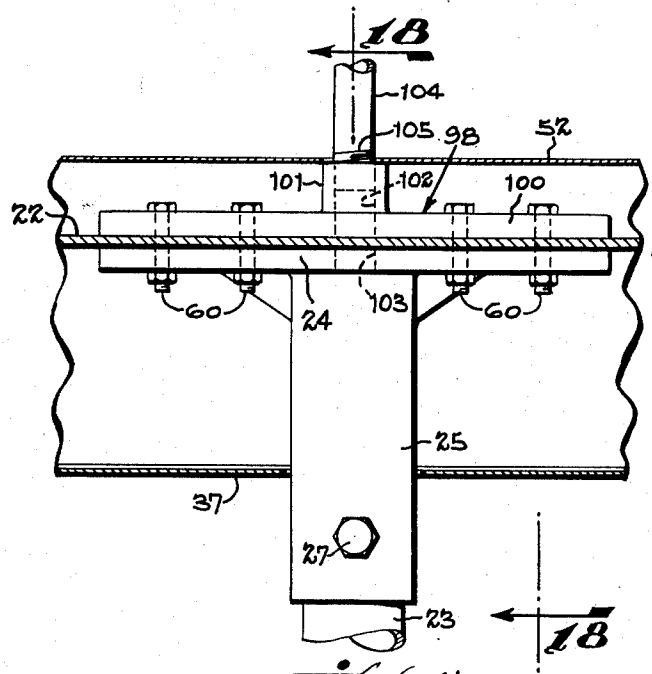


Fig. 17

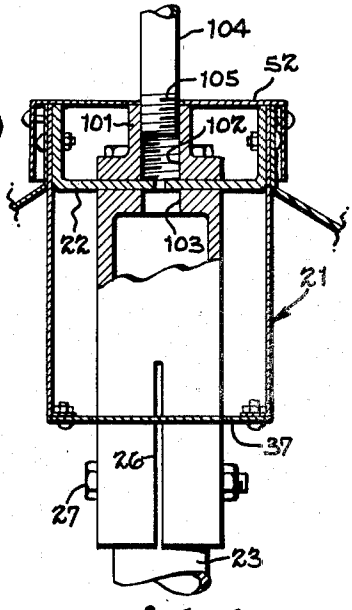


Fig. 18

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United States Patent Office 2,835,788
Patented May 20, 1958

2,835,788

FLUORESCENT ISLAND LIGHT FIXTURE

Hyman Phillips, Cincinnati, Ohio, assignor to Oscar Phillips Company, Cincinnati, Ohio, a corporation of Ohio

Application August 25, 1952, Serial No. 306,152

17 Claims. (Cl. 240—3)

This invention relates to outdoor fluorescent lighting fixtures for use in and about gas stations and similar out of door areas which require strong overhead illumination at night.

The present fixture is known in the trade as an "island light" and is so designated because it is usually installed in a horizontal position above the pump islands of service stations. In general the fixture consists of a relatively long narrow body or shield, formed of sheet metal and corresponding generally in shape to the elongated pump island. The shield is mounted upon vertical posts at an elevation usually eight or ten feet above the island in a horizontal plane so that the light rays are cast downwardly upon the island and surrounding area. A number of parallel, fluorescent lighting tubes extend in groups longitudinally within and beneath the shield for its full length. Thus the shield provides a support and water protective hood for the tubes and electric components and also serves as a reflector to deflect the light rays downwardly upon and about the island and its pumps.

Being mounted out of doors in an elevated position, the fixture is exposed to wind storms and other factors tending to damage it; therefore the fixture must possess considerable strength and must be mounted upon its posts in a reliable, secure manner. Modern service stations are provided with pump islands of far greater length than formerly, and for the sake of appearance and efficient lighting, the island light should extend continuously for the full length of the island. To meet this need, the present fixture is furnished in a standard length of approximately sixteen feet; however even greater lengths are provided, as explained later, to meet individual requirements.

It would be a simple matter to support the long fixture by using a row of mounting posts lineally of the fixture and thus provide a secure and rigid mounting. However, this is undesirable because the posts constitute obstructions between the pumps and also are unsightly. For this reason it is necessary to have the entire fixture spanned across a single pair of posts which are mounted at opposite ends of the island, leaving the island proper free of posts.

One of the primary objects of the invention therefore has been to provide an island type lighting fixture of extensive length formed of flexible, light weight sheet metal and having an internal stiffening beam extending through the central axis of the fixture, adapting the fixture to be spanned across a pair of vertical mounting columns or posts without intermediate support. According to this arrangement, the opposite ends of the beam, which is channel shaped, rest directly upon the tops of the posts, and the sheet metal fixture body is attached to and supported by the stiffening beam for its full length. This provides a relatively light weight structure having sufficient longitudinal stiffness to resist wind pressure or any other external force applied either in the horizontal or vertical plane, which is likely to bend

or spring the unsupported body or tear the entire fixture from its posts.

A further object has been to provide a fixture body of welded sheet metal construction having a longitudinal wiring trough or recess extending axially through the center of the fixture to receive and embrace the stiffening channel, the trough also providing a passageway or receptacle for the wiring, ballasts and other necessary electric components.

The fluorescent tubes are mounted in parallel groups along opposite sides of the trough beneath the shield. Another important feature of the invention is an arrangement of transverse wire housings which extend outwardly at right angles to the trough on opposite sides. The housings have their inner ends in communication with the trough and the electric wires extend from the trough outwardly through the housing to the tube sockets which are mounted directly upon them. This arrangement protects the electrical system from the weather and makes the fixture practical for out-of-door use.

A further object has been to provide a lighting fixture of sectional construction which may be assembled in multiple sections upon the beam to provide a lighting fixture of selective length having sufficient axial rigidity to span a pair of posts, as explained above. This arrangement has the advantage of providing assembled fixtures of selective length, and moreover, allows the channel to be mounted upon the posts in advance of the housings so that the fixture sections can be elevated and mounted individually upon it for convenience in handling.

In some instances it is desirable to mount one or two of the sectional fixtures upon a single post with the beam supporting the fixture in cantilever fashion with respect to the post. It is therefore another object to provide an improved mounting bracket which includes adjusting screws which are effective to adjust the fixture to a level horizontal position with respect to the post in the event the post is not truly perpendicular.

A further object has been to provide a mounting bracket which is adjustable longitudinally with respect to the channel to allow the fixture to be mounted upon existing posts which may be located upon irregular centers. The brackets are shifted longitudinally with respect to the channel so as to coincide with the centers of the posts and are then clamped firmly in adjusted position.

From the foregoing, it will be understood that both the full length and the sectional fixtures embody an integral channel which runs for the full length of the fixture and by its reinforcing effect permits the long fixtures, whether sectional or otherwise, to span a single pair of posts without intermediate support. The trough construction and lateral wiring housings completely enclose the ballasts and wiring which extends to the sockets of the fluorescent tubes and is common to both the full length and the sectional fixtures.

Various other features and advantages of the invention will be more fully apparent from the following detailed description taken in conjunction with the drawings.

In the drawings:

Figure 1 is a general side elevation illustrating the full length fixture as installed upon a pump island.

Figure 2 is an enlarged fragmentary side elevation, partially in section, further detailing the structure.

Figure 3 is a bottom view of the fixture as projected from Figure 2, showing the general arrangement of parts.

Figure 4 is a cross sectional view of the fixture taken on line 4—4, Figure 2.

Figure 5 is a diagrammatic side elevation of a sectional

light fixture installed upon a mounting post as a single unit.

Figure 6 is a view similar to Figure 5, showing the installation of two of the sectional units as an assembly upon a single post.

Figure 7 is a view similar to Figure 5, illustrating the installation of three of the sectional units upon a pair of posts as one example of multiple unit assembly.

Figure 8 is an enlarged side elevation of one of the sectional units of the type shown in Figure 5.

Figure 9 is a sectional view taken on line 9—9, Figure 8, detailing the interior construction of the fixture and showing the mode of staggering the tubes to illuminate the rounded ends of the fixture.

Figure 10 is a sectional view taken on line 10—10, Figure 9, further detailing the construction of the fixture.

Figure 11 is a sectional view similar to Figure 9 detailing the assembly and arrangement of two of the sectional units to provide a multiple unit fixture of the type shown in Figures 6 and 7.

Figure 12 is a bottom view of the structure shown in Figure 11, illustrating the arrangement of the support channel, mounting bracket and transparent doors.

Figure 13 is a sectional view taken on line 13—13, Figure 11, further detailing the multiple unit.

Figure 14 is a diagrammatic bottom view of the three unit multiple fixture of the type shown in Figure 9, illustrating generally the arrangement of the fluorescent tubes to provide illumination at the rounded ends of the fixture.

Figure 15 is an enlarged fragmentary sectional view showing a longitudinally adjustable mounting bracket as a modification of the fixed bracket shown in Figures 2 and 13.

Figure 16 is a sectional view taken on line 16—16, Figure 15, further detailing the modified mounting bracket.

Figure 17 is a sectional view similar to Figure 15, illustrating another modification in the mounting bracket which permits it to support a cluster of spot lights above the fixture.

Figure 18 is a sectional view taken on line 18—18, Figure 17.

Full length fixture

As explained above, the island light of the present invention is relatively long and narrow in shape, corresponding generally to the contour of the pump island. The fixture is mounted in a horizontal position at a considerable elevation above the ground or pump island which it illuminates, for example at a height of eight to ten feet above the level of the island. In the form of the invention illustrated in Figures 1 to 3, the fixture is furnished as a one-piece unit approximately sixteen feet in length adapted to be mounted upon a pair of spaced posts which are set in concrete to provide a sturdy support. In a second embodiment of the invention, as explained later, the fixture is of sectional construction adapting it to be assembled from multiple sections to provide composite fixtures of selective length according to individual requirements.

Both the one-piece and sectional fixture embody the principle of supporting the weight load of the fixture upon a full length, coextensive channel which provides a stiff internal beam supported directly upon the tops of the mounting posts. The beam thus bridges the spaced posts and takes the weight load of the fixture along its full length whether the fixture is constructed in one-piece or in multiple sections. The fixture, whether one-piece or sectional, is fabricated from sheet metal and lacks longitudinal stiffness; therefore it derives its support and rigidity from the channel which spans the posts. Since the island lights are intended primarily for outside use, it is the function of the channel not only to stiffen the sheet metal fixture but also to resist external forces such as high winds which would otherwise cause damage.

Referring to Figures 2 and 3 which illustrate the one-

piece structure, the fixture comprises a sheet metal housing or body, indicated generally at **20**, which includes an internal sheet metal wiring trough **21** extending axially of its center line. The trough is adapted to receive the channel or beam **22** which extends for the full length of the housing and is secured in the trough by means of screws, as later described in detail. The trough also houses the ballasts, wiring and other electrical components as explained later.

The channel and fixture as a unit is mounted upon the upper ends of the vertical posts **23** by means of the mounting brackets **24** which are bolted directly to the channel near its opposite ends. The mounting brackets include vertical sleeves or sockets **25** which slip telescopically over the upper ends of the vertical posts. In order to provide a snug fit, the sleeves preferably are split longitudinally as at **26** and a through bolt **27** extends through the sleeve and post so as to draw the split sections firmly into frictional engagement with the post.

A modified mounting bracket which includes means for adjusting the fixture in the horizontal plane is described later. A second modified mounting bracket, which is also described later, provides longitudinal adjustment of the bracket with respect to the channel in order to allow the brackets to be adjusted longitudinally to fit the spacing of existing posts.

As shown in Figures 2 and 3 the fixture housing includes a series of fluorescent tubes, indicated at **28**, which are mounted in parallelism with one another within and beneath the housing along opposite sides of the wiring trough. By reason of the extensive length of the housing, three groups of tubes are provided longitudinally of the housing. Each group has its opposite ends mounted in sockets **30** of conventional structure which are attached to transverse separators **31** within the housing.

In order to provide a maximum lighting efficiency, the under surface of the fixture housing, as indicated at **32**, is finished in white enamel or the like to deflect downwardly the light rays which emanate upwardly from the tubes. It will also be noted in Figure 4 that the housing is inclined downwardly on opposite sides for its full length to provide water drainage and to deflect the light rays angularly from one side of the fixture diagonally to the opposite side in order to increase the area of illumination beneath the fixture.

In the present example, the opposite ends of the housing are provided with semi-circular shields **33** and the illumination in this area is provided by the electric bulbs **34**. The bulbs are mounted in sockets **35** which are secured beneath the shields, as explained later.

The channel construction, in addition to forming the rigid skeleton of the fixture, also provides a mounting space for the ballasts **36** and wiring leading to the fluorescent tubes. Since the ballasts may require attention after prolonged service, a bottom cover plate **37** is removably secured to the trough **21** to permit access to the ballasts from below.

The electrical energy for the fixture preferably is conducted by means of underground conduits which extend upwardly through the mounting posts, which are tubular, to the ballasts, fluorescent tubes and electrical lamps. A switch (not shown) is also provided, the switch being located at some convenient point either on one of the posts or at some convenient location remote from the fixture. The electrical connections and components of the fixture are conventional and for this reason have not been disclosed in the specification and drawings.

The housing, separators, wiring trough and end shields are all welded together to form a one-piece sheet metal housing. This structure, as a unit, is secured to the channel by screws, as explained in detail later.

The wiring extends from the wiring trough by way of transverse sheet metal conduits **38** which are generally U-shaped in cross section. The open side of each conduit is placed against the surface of the separator

and secured to it so that a weatherproof enclosure is formed. The inner ends of the conduits communicate with openings formed in the sides of the wiring trough and the tube sockets are mounted on the outer portion of the separators. The wires pass from the ballasts in the trough and extend through the conduits to the tube sockets by way of openings in the conduits at the sockets. In this manner the wiring is completely enclosed and protected from the weather and other hazards.

Sectional fixture

As noted above, the full length channel is common to both the one-piece and sectional fixture in order to provide the necessary stiffness and resistance to windstorms and other external forces. As best shown in Figures 5 to 7, the sectional fixture is intended to provide flexibility in terms of length and for this purpose is made up of self-contained units, indicated generally at **40**, which may be installed upon the channel either singly or in multiples, depending upon the length requirements of each particular installation. By way of example but not limitation, the fixture may be fabricated in units, each four feet long, so that a continuous fixture of the desired length can be assembled at the point of installation. Thus in Figures 5 to 7 the fixtures are respectively four, eight and twelve feet in length; however, it will be understood that the overall length is not limited to three units, as illustrated in Figure 7.

The units are secured together in end-to-end relationship by utilizing the full length channel **41** and securing the individual units rigidly to the channel. In this manner the channel provides a beam which is effective to unify the several units so that the composite assembly is rigid and self-sustaining. In order to suit the particular requirements of a given installation, it is only necessary to furnish a channel length suitable to sustain the required number of units and to assemble the units upon the channel.

If the fixture is to be mounted upon a single post, as shown in Figures 5 and 8, the mounting bracket **42** is secured to the channel **41** at a point intermediate its length. In many installations such as service stations, it is desirable to mount the fixture upon existing posts, moreover, when the fixture consists of three or more sections it is preferable to support it upon a pair of posts, as shown in Figure 7. In this event the brackets **42** are located according to the spacing of the posts, the channel **41** is drilled accordingly and the brackets are then attached to the beam before installing the fixture. It is preferable, in the event that new posts are installed, to locate them at equidistant points, and in this case the mounting brackets are correspondingly located.

As explained in detail later, each housing unit is self-contained and includes the ballasts or transformers, and all other necessary electrical components and wiring. In the erection of a single unit, the channel, with the mounting bracket secured upon it, is first installed upon the top of the post and fastened. Thereafter the fixture, which includes a wiring trough adapted to embrace the channel, is placed in position upon the channel, then secured permanently in place by means of screws. The separable relationship of the channel and fixture simplifies the installation procedure since the channel can be conveniently mounted independently of the fixture, and in addition, the weight of the parts taken separately greatly facilitates handling. It is found that the average station owner or operator with one or two assistants is quite capable of erecting the fixtures without the aid of skilled craftsmen.

In order to provide a more finished appearance, the sheet metal housing is provided with rounded end shields **43** similar to the one-piece structure. The rounded shields are removable so that they may be installed upon the outer ends of multiple units, as shown in Figures 6 and 7. In this case the intermediate units are joined end-to-end and the shields are, of course, secured only upon the outer ends of the assembled fixture.

As best shown in Figures 9 and 14, the fluorescent tubes are staggered longitudinally in order to provide illumination in the rounded end shields and thus improve the appearance as well as the efficiency of the fixture. In the single unit, shown in Figure 9, the two innermost fluorescent tubes are staggered longitudinally with respect to one another, providing extended ends **44** projecting outwardly through the end walls of the housing into the rounded shield **43**. In the structure shown in Figure 14, which represents a multiple unit assembly, the two innermost fluorescent tubes project outwardly in the same direction beyond the end wall of the housing into the rounded end shield, as indicated at **45—45**.

Upon installing the multiple units, as outlined above, the channel is first mounted upon the upper end of the post or posts and the fixture units thereafter are installed upon the channel and fastened to it. The advantage of the separable construction is more clearly evident in the multiple unit since it would be difficult to handle as a complete assembly because of the amount of weight. In other words, since the units may be placed individually upon the channel, then fastened together and to the channel, it is a simple matter to build up a fixture to its required length.

Although each unit is electrically self-contained, it is preferable to interconnect all of them so that the entire fixture may be regulated by a single switch. For this purpose the end walls of each housing are provided with knock-out holes of conventional design which may be struck open to allow the passage of the wiring from one housing to the next. Since the electrical wiring is of a conventional nature and forms no part of the present invention, a disclosure of it has been omitted from the drawings and description. It will be understood that the supply lines may pass by means of underground conduits upwardly through tubular posts to the electrical components, as explained above. Also it is to be understood that the units include transverse wire conduits extending from the wiring trough to enclose and protect the wires leading to the sockets, as explained earlier.

Details of full length fixtures

From the foregoing, it will be observed that the full length fixture is essentially the same as the multiple unit fixture except with respect to certain details in structure, principally the relationship of the channel in the wiring trough and the location of the ballasts and electrical wiring. Although the mounting bracket is the same in both cases, the elevated position of the channel changes the location of the mounting bracket and conceals the flange and screws of the bracket.

As best shown in Figure 3 the sheet metal body or housing **20** is of one-piece welded construction including the end shields **33** previously described. The wiring trough **21**, which encloses the channel, is formed from a pair of sheet metal side walls **46** welded to the vertical flanges **47** which extend upwardly as an integral part of the housing. Channel **22** is secured within the trough by a series of screws **48** which pass through the side walls of the trough and into engagement with the channel.

The ballasts **36** are mounted within the trough beneath the channel and are also secured in position by screws passing through the side walls of the trough. As explained previously, the lower end of the trough is enclosed by the cover plate **37** which is secured by screws **50** engaged in the flanges **51** which extend along the lower edges of the trough. A top cover plate **52** extends along the open top of the trough and includes side flanges **53** which overlie the outer surface of the trough. The top cover plate is secured in position by screws **54** passing through the side walls of the trough.

It will be noted in Figure 4 that the sleeve or socket

25 of the mounting bracket extends upwardly into the trough and projects downwardly below the bottom cover plate 37. In order to permit the cover plate to be removed, it is made in sections and includes two short sections 55 which surround the protruding end of each sleeve 25. These sections are slipped upon the mounting posts before the fixture is installed and are secured in position surrounding the sleeve after the fixture is in place. This permits the main section 37 of the bottom cover plate to be removed for access to the ballasts and electrical components if necessary.

It will be observed that this fixture is best installed as a complete unit upon the posts since the ballasts will not permit the housing to be slipped over the channel as in the sectional construction. For this reason the fixture preferably is furnished assembled with the holes drilled for the mounting bracket. The unit is intended primarily to be mounted upon posts which are erected at specified centers to receive the sockets, as distinguished from installation upon existing posts, as outlined above with respect to the sectional fixture.

The transverse sheet metal separators or partitions 31, which extend transversely of the housing at spaced intervals, are welded to the housing and to the side walls of the trough, as indicated at 56. In this manner the partitions reinforce the sheet metal housing transversely and also provide a mounting for the transverse wiring conduits 38 leading to the sockets of the fluorescent tubes as explained earlier. The sockets 35 of the electrical bulbs 34 at the opposite ends of the fixture are mounted upon U-shaped brackets 57 which are secured to the end walls 58 of the trough, as best shown in Figure 3.

When the full length fixture is erected, the mounting brackets are attached to the channel by means of screws 60 which pass through the prelocated holes formed in the channel. For this purpose, the lower cover plate 37 must first be removed from the fixture and the small cover plates 55 which surround the bracket sleeves are also removed and slipped upon the posts.

When the fixture is in position, the holes are drilled through the sleeves and posts at right angles to the split sections of sleeves and the through bolts 27 are passed through each sleeve and post and drawn tight to clamp the fixture rigidly. It will be understood that the mounting bracket and channel includes holes for passage of the supply conduits upwardly through the post into the wiring trough where suitable electrical connections are established. The electrical connections of the fixture are located below the channel and after the supply lines are connected, the bottom cover plates 37 and 55 are placed upon the trough and secured by screws.

It will be noted in Figure 4 that the sockets 30 of the tubes are attached to the lower wall of the wiring conduits 38. This arrangement places the socket against the wall of the separator and decreases to a minimum the interruption between the adjoining ends of the tubes at the separators. The sockets are secured by screws (not shown) and the conduits include openings (not shown) which communicate with the sockets so that the wires pass from the wiring conduits directly into the sockets.

Details of sectional fixtures

It will be understood that the following description of the single unit of the sectional fixture, illustrated in Figures 8 and 9, also applies to the multiple unit fixture except for a rearrangement of the tubes and end shields, as explained later.

Referring to Figure 10, it will be noted that the channel 41 is located flush with the bottom of the wiring trough so that the flanges 61 of the mounting bracket are exposed. This permits the holes for the attachment screws 62 to be located conveniently at installation and also allows the channel to be erected before the housing section 40 is placed upon it. In the single post mounting as illustrated, the mounting bracket is provided with adjustment or leveling screws 63 in addition to the attachment screws 62. The adjustment screws are threaded through the flange 61 and pass into engagement against the bottom of the channel.

After the channel is mounted upon its post and with the attachment screws loosened, the four adjustment screws can be regulated to level the channel both longitudinally and transversely with respect to the mounting bracket. This can be done either before or after the housing is mounted upon the channel. The adjustment feature is of particular advantage in mounting the fixture upon an existing post which may vary somewhat from a truly perpendicular position. It will also be observed that the split sleeve and through bolt arrangement is of particular advantage in the single post mounting since the fixture is subjected to twisting forces due to high winds and other factors.

In the present construction, the ballasts 36 are mounted in the wiring trough above the channel, there being provided a series of plates 64, one for each ballast. These plates extend across the wiring trough and have their opposite edges welded to the trough walls as at 65.

The housing section is of welded construction having end walls 66 which have their edges welded to the top 67 and side 68 of the housing. This provides a rigid boxlike unit which may be slipped directly upon the channel with the weight load of the unit imposed by the plates 64 directly upon the upper edges of the channel. Upon being thus positioned, the housing is attached permanently to the channel by means of screws 70 passing through the sides of the trough into the channel, as shown in Figure 10.

As described above, the sockets 30 for the fluorescent tubes are mounted upon channel shaped wiring conduits 71 which are seated upon the end walls and thus provide passageways extending transversely from the longitudinal wiring trough in which the ballasts are mounted. Openings 72 are provided to allow the passage of the wires from the longitudinal wiring trough into the wiring conduits.

As shown in Figure 13, a longitudinal wiring conduit 73 extends outwardly from the end of the wiring trough 74. This conduit supports the sockets of the staggered tubes extending into the rounded end shield 43 and also encloses the wires which extend from the wiring trough to the sockets.

In order to allow the selective staggered relationship of the end tube sections 44 and 45, as shown in Figures 9 and 11, the end walls of the housings may be provided with knockout holes. These are struck out as needed, depending upon the number of tubes which are to project into the rounded end shields. Also as shown in Figure 9, brackets 75, which are secured to the external sides of the wiring trough provide supports for the sockets which mount the inner ends of the staggered tubes.

In the present disclosure, the housings are provided with glass doors 76 which are hingedly mounted as at 77 along the outer edges of the shield, as shown in Figures 10 and 12. The glass doors are mounted in channel shaped frames 78, the hinges having one leaf secured to the frame and having the opposite leaf secured to the housing by means of screws 80, as shown in Figure 10. The free edge of the door frame is secured by screws 81 to the lower edge of the wiring trough. Access can be had to the fluorescent tubes by removing the screws, thus allowing the glass doors to be swung downwardly upon their hinges.

The rounded end shields are removably attached to the end wall 66 of the housing preferably by means of screws 82, as shown in Figure 13. A glass door 83 is also provided for the end shields, the door being hinged as at 84 and being locked in closed position by one or more screws 85 passing through the vertical wall 86 of the shield.

A top cover plate 87 is hingedly mounted as at 88

at the top of the housing and extends across the wiring trough to provide access to the ballast and associated wiring. The free end of the top cover overlies the upper surface of the housing to provide for the drainage of water. A bottom cover plate **90**, as shown in Figure 10, may be applied to the channel to conceal the bottom of the channel.

In the multiple fixture unit, the housings are identical to that above described. In this case the end walls **66** are placed in abutment, as shown in Figures 13 and 14, and the housings are secured to the channel by means of the screws **70**, as above described. In the two section fixture, shown in Figure 6, the mounting bracket **42** is attached to the center of the channel in the same manner as above described and the channel may be adjustable to a level position by means of screws **63**. In the event that three or more housing sections are utilized, a pair of posts is utilized and the posts may be located at the juncture of the sections, as shown in Figure 7, or they may be located near the ends of the housing, as shown in Figure 1, depending upon individual requirements.

It will be understood that the end shields are mounted in the same manner on the multiple units as described above and in the case of the multiple unit, two of the fluorescent tubes at each end are extended into the shield as shown in Figure 11. If desired, the joints between the housing sections and end shields may be concealed by placing a parting strip **91** over the joint, as shown in Figure 8. The parting strips preferably are secured in position by metal screws **92** which pass through the strip and thread into the housing.

It will be observed that the multiple unit provides greater flexibility in terms of length and also greater flexibility with respect to the type or location of the mounting posts since the channel is removable and can readily be fitted to the posts whether new or existing. It will also be noted that this arrangement provides greater convenience in handling and mounting the fixture since the channel can be first installed and the housing section applied later.

Modified mounting bracket

The mounting barcket shown in Figures 15 and 16 is adapted to provide longitudinal adjustment of the bracket with respect to the channel of the fixture. The adjustable structure is intended primarily for use in installing the fixture upon existing posts which may be located at irregular spacing. The arrangement is shown as applied to the full length fixture in which the channel is located in the wiring trough above the ballasts. However, it will be apparent from the following description that substantially the same structure can be incorporated in the sectional fixture by a simple rearrangement of parts.

Referring to Figure 16, it will be noted that the channel **93** is slightly modified in cross section, being generally of **C**-shape to provide the inturned flanges **94** at the open lower side of the channel. The mounting bracket **24** is identical to the brackets described earlier, except that it resides within the channel and is slidably related to it rather than being secured in fixed position by bolts. The arrangement is such that the bracket can be adjusted longitudinally of the channel, then clamped rigidly in adjusted position by means of the locking screws **95**.

The locking screws pass in threaded engagement through the opposite ends of the locking bars **96** which are disposed at opposite ends of the elongated flange **24** as shown in Figure 15. It will be noted in Figure 16 that the opposite ends of each locking bar rest upon the inturned flanges **94** of the channel, while the upper ends of the screws are engaged against the lower surface of the flange **24** of the bracket. When the screws are tightened, therefore, the bracket flange and locking bars are forced apart, and, since the two members are confined within the **C**-shaped channel, a rigid clamping action is established which is effective to lock the channel securely to the mounting brackets. Lock nuts **97** are threaded on each of the locking screws and serve to lock the screws securely after they are tightened.

If the slidable mounting bracket is applied to a single post fixture of the type shown in Figure 5, it is desirable to provide the leveling screws **63** in order that the channel may be adjusted with respect to the mounting bracket. In this case, the adjustment screws are regulated with the clamping screws loose, and after the channel and fixture are leveled, the clamping screws are drawn tight, thus bringing the leveling screws into pressure engagement against the surface of the channel.

The modified mounting bracket shown in Figures 17 and 18 is intended to provide means for mounting spotlights in an elevated position above the island light. Clusters of spotlights are used in many instances to illuminate areas beyond the scope of the island lights and are preferably interconnected with the electrical system of the island light so that both fixtures can be controlled from a single switch.

Although the bracket is disclosed in relation to the full length fixture, it is also intended to be applied to the multiple type without substantial change in design. As shown in Figure 17, the fixture is substantially the same as described previously and is fastened to the bottom of the channel by means of the screws **60**. In the present instance, however, a spotlight bracket **98**, having a flange **100** corresponding to the bracket flange **24**, is installed upon the inside of the channel so that the channel **22** is confined between the two brackets. The spotlight bracket includes a boss **101** having a bore **102** matching a second bore **103** formed in the mounting bracket for the passage of electrical wires leading to the spotlights. The web of the channel is also drilled to allow the wires to pass through it. The spotlights, which are not shown, are mounted upon the upper end of the pipe **104** which is threaded as at **105** into the boss as shown in Figure 18. The bracket thus provides a rigid base for supporting the vertical pipe and spotlight cluster.

The fixtures are used with and without spotlights depending upon individual requirements, and it is therefore, highly desirable to furnish a structure which can be used interchangeably with or without them. For this purpose, the top cover **52** is furnished with knockout openings which may be left intact if spotlights are not used. In this event, the flange of the bracket is simply bolted directly to the channel as explained earlier. If spotlights are required, then the internal mounting bracket is furnished and it is a simple matter to strike out the knockout openings and thread the vertical pipe into the boss **101**. If the spotlight bracket is used on the sectional fixture, the top cover **52** is provided with similar knockout openings to accommodate the vertical pipe.

Having described my invention, I claim:

1. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported on a pair of spaced, generally vertical mounting posts, said fixture comprising a body formed of sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the body including a series of vertical separator walls extending transversely of the body and spaced from one another longitudinally of the body, said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally of the opening, said side walls providing a trough adapted to enclose the electrical components and wiring of the fixture, respective wire conduits secured upon said separator walls and extending transversely from the side

walls of the trough outwardly in opposite directions, said side walls including openings providing communication from the interior of said trough to said wire conduits, a series of fluorescent tube sockets mounted upon said wire conduits whereby the electrical wiring is adapted to extend from the said trough through said wire conduits to said sockets, said sockets adapting a series of fluorescent tubes to be mounted longitudinally between said spaced separator walls and within said housing, an elongated stiffening beam mounted in said trough substantially coextensive with the body, and a plurality of fastening elements passing through said side walls into said stiffening beam at opposite sides, whereby the longitudinal stiffness of the beam is imparted to the trough and body, said vertical mounting posts being adapted to engage the opposite ends of said beam and thereby support the fixture in spanned relationship across said posts without intermediate support.

2. A fluorescent lighting fixture adapted to be mounted in a horizontal position supported upon at least one generally vertical mounting post, said fixture comprising a body formed of relatively flexible sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the body providing a shield which is transversely inclined in opposite directions downwardly from its central longitudinal axis, the said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical sheet metal side walls joined to said body along the side edges of said opening and extending longitudinally for the full length of the opening, an elongated stiffening channel member coextensive with the body adapted to stiffen the body longitudinally, said channel member being disposed between the said side walls and in contact therewith, and a series of fastening elements extending through the side walls into the channel member along opposite sides of the channel member, said fastening elements being adapted to impart the longitudinal stiffness of the channel member to the said sheet metal walls and body, and mounting means on said channel member adapted to engage the top of said post to support the fixture.

3. A fluorescent lighting fixture adapted to be mounted in a horizontal position supported upon at least one generally vertical mounting post, said fixture comprising a body formed of relatively flexible light gage sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the body providing a shield which is transversely inclined in opposite directions downwardly from its central longitudinal axis, a series of vertical walls extending transversely across the body and spaced from one another longitudinally of the body, said walls corresponding generally in contour to the transverse outline of the body, and having their edges joined to the body to stiffen the same transversely, the said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally for the full length of the opening, an elongated structural steel beam coextensive with the body adapted to stiffen the body longitudinally, said beam being disposed between the said side walls, and a series of fastening elements extending through the side walls into the beam along opposite sides thereof, said fastening elements being adapted to impart the longitudinal stiffness of the beam to the sheet metal side walls and body, and mounting means on said beam adapted to engage the top of said post to support the fixture.

4. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced, generally vertical mounting posts, said fixture comprising a body formed of relatively flexible sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical sheet metal side walls joined to said body along the side edges of said opening and extending longitudinally for the full length of the opening, an elongated stiffening channel member coextensive with the body adapted to stiffen the body longitudinally, said channel member being disposed between the said side walls and in contact therewith, a series of fastening elements extending through the side walls into the channel member along opposite sides of the channel member, said fastening elements being adapted to impart the longitudinal stiffness of the channel member to the body, and a pair of mounting brackets secured to the opposite ends of the channel member, said mounting brackets each comprising a flange attached to the lower surface of said channel member in a horizontal plane, said flange having an integral sleeve extending downwardly therefrom upon a vertical axis and adapted to engage telescopically the upper portions of said mounting posts, said sleeves being slotted longitudinally to provide a pair of diametrically opposed clamping sections, and clamping means extending through said sleeves substantially at right angles to the plane of said slots, whereby said sleeves are adapted to be frictionally clamped upon said posts to attach the opposite ends of the channel rigidly to the posts adapting the fixture to span the posts without intermediate supporting means.

5. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced, generally vertical mounting posts, said fixture comprising a body formed of relatively flexible sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the body providing a shield which is transversely inclined in opposite directions downwardly from its central longitudinal axis, the said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally of the opening, said side walls extending vertically from the horizontal plane defined by the lower edge of the body and rising upwardly to a plane above the top of the body, an elongated channel coextensive with the body adapted to stiffen the body longitudinally, said channel having a web extending in a horizontal plane across said spaced side walls and having side flanges extending upwardly from said web to the upper edges of the side walls and in contact therewith, said web being spaced above the lower edges of the spaced side walls to provide a wiring trough below the web adapted to enclose the wiring and electrical components of the fixture, and a series of fastening elements extending through the side walls into the side flanges of the channel, said fastening elements being disposed along the full length of the channel and being adapted to impart the longitudinal stiffness of the channel to the body, said vertical mounting posts being adapted to engage the opposite ends of a channel whereby the fixture is adapted to span said posts without intermediate supporting means.

6. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported on a pair of spaced, generally vertical mounting posts, said fixture comprising a fixture body formed of sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, the body including a series of vertical separator walls extending transversely across the body and spaced from one another longitudinally of the body, said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally of the open-

ing, said side walls providing a trough adapted to enclose the electrical components and wiring of the fixture, respective wire conduits secured upon said separator walls and extending transversely from the side walls of the trough outwardly in opposite directions, said wire conduits being formed of sheet metal and being channel shaped, the open side of the conduits being seated against said separator walls to provide an enclosed wire passageway, said side walls including openings providing communication from the interior of said trough to the inner ends of said wire conduits, a series of fluorescent tube sockets mounted upon said wire conduits whereby the electrical wiring is adapted to extend from the said trough through said wire conduits to said sockets, said sockets adapting a series of fluorescent tubes to be mounted longitudinally between said spaced separator walls and within said housing, an elongated stiffening beam mounted in said trough substantially coextensive with the body, and a plurality of fastening elements passing through said side walls into said stiffening beam at opposite sides, whereby the longitudinal stiffness of the beam is imparted to the trough and body, said vertical mounting posts being adapted to engage the opposite ends of said beam and thereby support the fixture in spanned relationship across said posts without intermediate support.

7. A fluorescent lighting fixture adapted to be assembled in multiple units to provide elongated fixtures of selective length, said lighting fixture comprising an elongated channel providing a stiffening beam extending for the full length of the sectional fixture, a plurality of fixture sections mounted in end-to-end relationship upon said channel, each of said fixture sections comprising a boxlike sheet metal structure having a generally horizontal top and a pair of side and end walls, the top of each of said sections having a relatively narrow opening extending longitudinally along the central axis thereof, a pair of vertical trough walls spaced from one another and secured to each of said sections along the side edges of said opening and extending longitudinally of the opening, a series of plates disposed in a horizontal plane transversely of said spaced trough walls at an elevation above the lower edges of said trough walls, said fixture sections being mounted upon said channel with the said trough walls embracing the opposite sides of said channel and with the weight load of said fixture sections imposed by said transverse plates upon said channel, and a series of attaching means passing through the said trough walls and into engagement with said channel, whereby the channel is effective to rigidly support said fixture sections, said channel providing a beam to support the fixture in the horizontal plane with the weight load of the fixture imposed upon the channel.

8. A composite fluorescent lighting fixture made up of a plurality of sections end to end, adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced generally vertical mounting posts and with the fixture spanning the posts in an elevated plane, said sections each comprising a body having an oblong configuration in the horizontal plane, the bodies having an extensive length and being formed of relatively flexible sheet metal, a plurality of fluorescent tubes extending axially within each body in parallelism with one another along opposite sides of the body, a structural beam extending axially of the fixture along the center thereof, the beam being disposed between said parallel fluorescent tubes and in the horizontal plane of the tubes, and a series of fastening elements connecting the bodies to said beam, said series of fastening elements extending substantially for the full length of the bodies, said fastening elements being effective to join the bodies to the beam, whereby the beam imparts longitudinal stiffness to the fixture, the mounting posts being adapted to engage the opposite ends of said beam whereby the beam is effective to impose the weight load of the fixture directly upon the posts without intermediate supporting means.

9. A fluorescent lighting fixture adapted to be mounted in a horizontal position upon a single, generally vertical mounting post, said fixture comprising a body formed of sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally of the opening, an elongated channel member coextensive with the body adapted to stiffen the body longitudinally, said channel member being disposed between said side walls, a series of fastening elements extending through the side walls into the channel member along opposite sides and adapted to impart the longitudinal stiffness of the channel member to said walls and body, a mounting bracket disposed substantially at the longitudinal center of said channel member, said mounting bracket comprising a flange attached to the lower surface of said channel member, a sleeve extending downwardly from said flange in a vertical axis and adapted to engage telescopically the upper portion of said mounting post, and means for clamping said sleeve upon the post, whereby the oblong lighting fixture is supported in horizontal cantilever fashion upon the post.

10. A fluorescent lighting fixture adapted to be mounted in a horizontal position upon a single, generally vertical mounting post, said fixture comprising a body formed of sheet metal, said body being of relatively narrow oblong configuration in the horizontal plane and having a substantial lineal extent, said body having a relatively narrow opening extending longitudinally along its central axis, a pair of spaced vertical side walls joined to said body along the side edges of said opening and extending longitudinally of the opening, an elongated channel member coextensive with the body adapted to stiffen the body longitudinally, said channel member being disposed between said side walls, a series of fastening elements extending through the side walls into the channel member along opposite sides of the channel member and adapted to impart the longitudinal stiffness of the channel member to said walls and body, a mounting bracket disposed substantially at the longitudinal center of said channel member, said mounting bracket comprising an elongated flange seated against the lower surface of said channel member, a sleeve extending downwardly from said flange in a vertical axis and adapted to engage telescopically the upper portion of said mounting post, means for clamping said sleeve upon the post, a plurality of leveling screws extending through said bracket into engagement with the lower surface of the channel, said leveling screws being effective to adjust said channel and body in the horizontal plane with respect to the mounting bracket, and attachment screws passing through said bracket and channel adapted to secure the channel in adjusted position to the bracket.

11. A sectional fluorescent lighting fixture adapted to be assembled in multiple units to provide an elongated fixture of selective length, said lighting fixture comprising an elongated channel providing a stiffening beam extending substantially for the full length of the sectional fixture, a plurality of fixture sections mounted in end-to-end relationship upon said channel, each of said fixture sections comprising a boxlike sheet metal structure having a generally horizontal top and a pair of side and end walls, the top of each of said sections having a relatively narrow opening extending longitudinally along the central axis thereof, a pair of vertical trough walls spaced from one another and secured to each of said sections along the side edges of said opening and extending longitudinally of the opening, said trough walls embracing

the opposite sides of the channel, means for attaching said fixture sections collectively upon said channel, a pair of end shields, and means for securing the end shields upon the opposite longitudinal ends of said assembled fixture, said shields being generally of semi-circular contour in the horizontal plane, a plurality of fluorescent tubes extending longitudinally within said fixture sections in parallelism with one another along opposite sides of said trough walls, the outer ends of the tubes which are disposed in the end fixture sections being extended outwardly through the end walls of said sections into said end shields to illuminate said end shields.

12. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced, generally vertical mounting posts, said fixture comprising a body having a relatively narrow, oblong configuration in the horizontal plane, the body having substantial lineal extent and being formed of sheet metal, an elongated stiffening beam substantially coextensive with the body, means attaching the beam longitudinally to the body whereby the beam is effective to stiffen the body longitudinally, said beam being generally C-shaped in cross section having a horizontally disposed web and having a pair of side flanges extending downwardly from said web, the lower edges of said flanges being turned inwardly toward one another to provide a pair of spaced lips delineating an open, downwardly facing slot, a pair of longitudinally adjustable mounting brackets disposed within said stiffening member, each of said brackets comprising an elongated load bearing plate adapted to engage the web of the stiffening beam internally thereof, the load bearing plate including a downwardly projected socket adapted to telescopically seat upon the top of a mounting post, a pair of locking members disposed beneath the opposite ends of said load bearing plate, said locking members having their opposite ends engaged upon the upper surface of said lips, and clamping means adapted to force apart the load bearing plate and locking members and thereby provide a clamping force reacting against the web and lips of the stiffening beam which is effective to lock the mounting bracket in longitudinally adjusted position.

13. A fluorescent lighting fixture adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced, generally vertical mounting posts, said fixture comprising a body having a relatively narrow, oblong configuration in the horizontal plane, the body having substantial lineal extent and being formed of sheet metal, an elongated stiffening beam substantially coextensive with the body, means attaching the beam longitudinally to the body whereby the beam is effective to stiffen the body longitudinally, said beam being generally C-shaped in cross section having a horizontally disposed web and having a pair of side flanges extending downwardly from said web, the lower edges of said flanges being turned inwardly toward one another to provide a pair of spaced lips delineating an open, downwardly facing slot, a pair of longitudinally adjustable mounting brackets disposed within said stiffening member, each of said brackets comprising an elongated load bearing plate adapted to engage the web of the stiffening beam internally thereof, the load bearing plate including a downwardly projected socket adapted to telescopically seat upon the top of a mounting post, a pair of locking bars disposed beneath the opposite ends of said load bearing plate, said locking bars having their opposite ends engaged upon the upper surface of said lips, and a plurality of clamping screws threaded through said locking bars and having their upper ends engaged against the lower surface of said load bearing plate, whereby said clamping screws are adapted to force apart the load bearing plate and locking bars and thereby provide a clamping force reacting against the web and lips of the stiffening beam which is effective to lock the mounting bracket in longitudinally adjusted position.

14. A sectional island light fixture comprising a plurality of fixture sections, each of said fixture sections comprising a rectangular sheet metal structure having a generally horizontal top and a pair of side and end walls, said fixture sections disposed in end-to-end relationship with the end walls of adjacent sections residing in facial engagement with one another, means securing said end walls to one another, each of said sections having a trough extending longitudinally along the central axis thereof, said trough having an open lower face, said trough delineated by a pair of vertical trough walls spaced from one another having upper edges secured to said top, fixture support means extending transversely of said trough walls at an elevation above the open lower face of the trough, said support means having opposite ends secured to said trough walls, an elongated structural steel member residing in said trough and extending for the full length of the light fixture, the structural steel member having side flanges contacting said trough walls, said support elements resting upon the upper surface of the structural steel member and supporting the fixture sections thereon, and a series of attaching means passing through the vertical trough walls into engagement with said structural steel member, the structural steel member thereby providing a stiffening beam extending substantially for the full length of the sectional light fixture.

15. A sectional island light fixture comprising a plurality of fixture sections, each of said fixture sections comprising a rectangular sheet metal structure having a generally horizontal top and a pair of side and end walls, said fixture sections disposed in end-to-end relationship with the end walls of adjacent sections residing in facial engagement with one another, means securing said end walls to one another, each of said sections having a trough extending longitudinally along the central axis thereof, said trough having an open lower face, said trough delineated by a pair of vertical trough walls spaced from one another and having upper edges secured to said top, fixture support means extending transversely of said trough walls at an elevation above the open lower face of the trough and having opposite ends secured to said trough walls, an elongated channel residing in said trough and extending substantially for the full length of the light fixture, the channel having side flanges contacting said trough walls, said support means resting upon the channel and supporting the fixture sections upon said channel, a series of attaching means passing through the trough walls into engagement with said channel, a plurality of mounting brackets attached to the lower surface of the channel, and a plurality of vertical mounting posts, said brackets being attached to the upper ends of said posts, said channel thereby providing a beam spanning said posts and supporting said fixture sections rigidly thereon.

16. A sectional island light fixture comprising a plurality of fixture sections, each of said fixture sections comprising a rectangular sheet metal structure having a generally horizontal top and a pair of side and end walls, said fixture sections disposed in end-to-end relationship with the end walls of adjacent sections residing in facial engagement with one another, means securing said end walls to one another, each of said sections having a trough extending longitudinally along the central axis thereof, said troughs being coaxial and extending substantially for the full length of the light fixture and having an open lower face, said trough delineated by a pair of vertical trough walls spaced from one another having upper edges secured to said top, the opposite ends of said trough walls being secured to said end walls, said end walls having openings delineated by the trough walls, a series of fixture support plates disposed in a horizontal plane transversely of said trough walls at an elevation above the open lower face of the trough, said plates having opposite ends secured to said trough walls, an elon-

gated channel residing in said trough and extending substantially for the full length of the light fixture, the channel having its open side facing upwardly and having side flanges contacting said trough walls, said fixture support plates resting upon the upper edges of said flanges and supporting the fixture sections upon said channel, a series of attaching means passing through the vertical trough walls into engagement with said channel, a plurality of mounting brackets attached to the lower surface of the channel, each of said brackets including a vertical socket, and a plurality of vertical mounting posts, said sockets being telescopically fitted upon the end portions of said posts, said channel thereby providing a beam spanning said posts and supporting said fixture sections rigidly thereon.

17. A composite fluorescent lighting fixture made up of a plurality of sections end to end, adapted to be mounted in a horizontal position with its opposite ends supported upon a pair of spaced generally vertical mounting posts and with the fixture spanning the posts in an elevated plane, said sections each comprising a body having an oblong configuration in the horizontal plane, the bodies having an extensive length and being formed of relatively flexible sheet metal, a plurality of fluorescent tubes extending axially within each body in parallelism with one another along opposite sides of the body, a structural beam extending axially of the fixture along the center thereof, the beam being disposed between said parallel fluorescent tubes, and a series of fastening elements connecting the bodies to said beam, said series of fastening elements extending substantially for the full length of the bodies, said fastening elements being effective to join the bodies to the beam, whereby the beam imparts longitudinal stiffness to the fixture, the mounting posts being adapted to engage the opposite ends of said beam whereby the beam is effective to impose the weight load of the fixture directly upon the posts without intermediate supporting means.

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