March 17, 1931. P. M. HOTCHKIN 1,796,330

LIGHTING FIXTURE

Filed Jan. 8, 1930

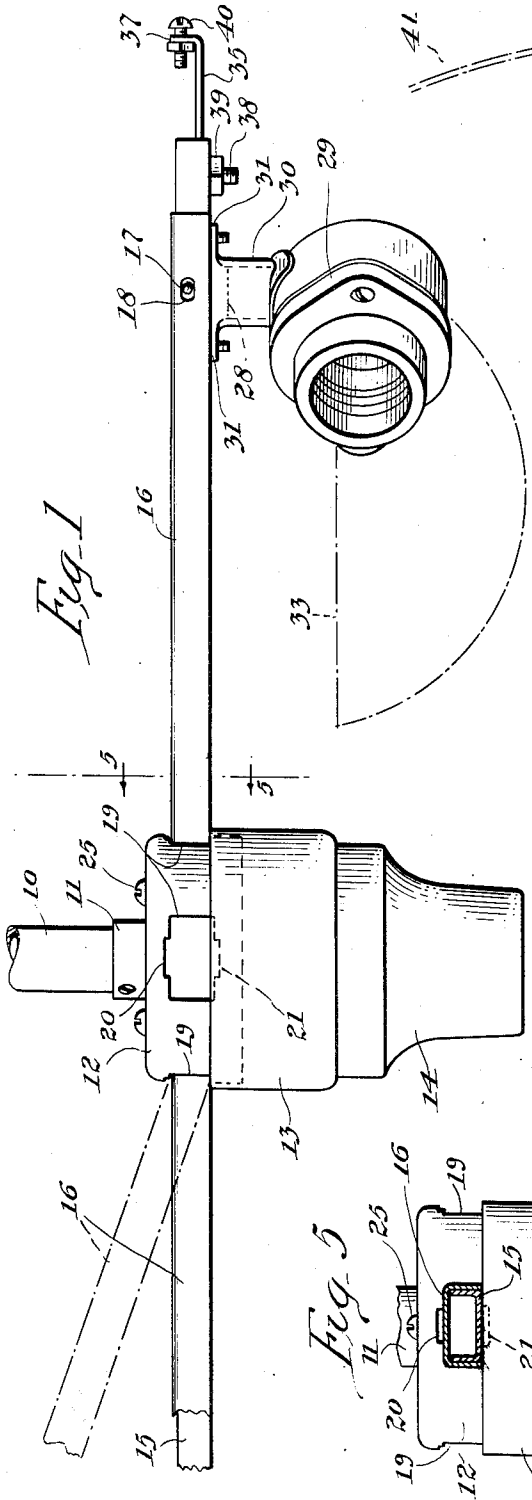


Fig. 1

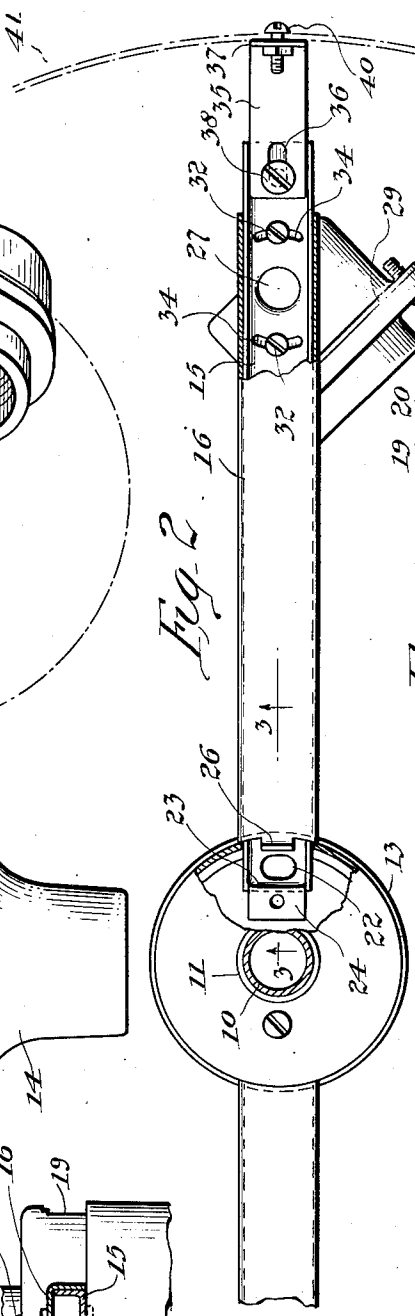


Fig. 2

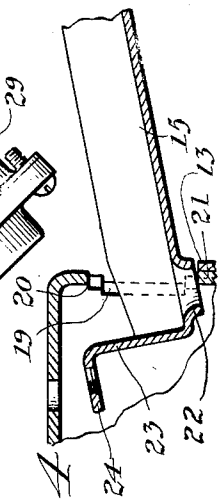


Fig. 4

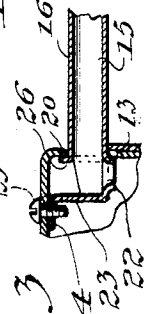


Fig. 3

Fig. 5

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UNITED STATES PATENT OFFICE

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LIGHTING FIXTURE

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My invention relates to a structure used in connection with interior illumination, and it has more particular reference to a fixture in which there is a central housing member from which radially disposed arms extend for the purpose of supporting a plurality of lights at a distance from the central member. A fixture of this character is especially adapted for use in connection with indirect illumination by reflected light, and it is the purpose of this invention to provide a central lamp for illuminating the bowl or lower shade and to provide in connection therewith radially extending arms that carry lamps and reflectors which project the light rays upwardly and outwardly from lighting fixture body. In connection with this fixture, I have provided novel and dependable means for enclosing the conductors leading from the central member to the lamps upon the outer ends of the arms.

The arms are made in such manner that they may be readily attached to or detached from the central member without unhanging the fixture body, and said arms may be readily opened while attached in the body for the purpose of inspecting or repairing the conductors or connections. The manner of mounting the arms in the central member is sturdy and dependable and, although locked in place by a small screw, the latter is not essential to maintain the arms in their respective positions as the particular manner of interengaging an arm with the central member is not dependent upon the screw.

I have numerous objects in view among which may be mentioned the provision of a fixture of the character disclosed that is novel in construction, dependable in use, sturdy in the formation and arrangement of its parts, which is readily accessible for inspection and repair, and which will not readily get out of order. Other objects will be apparent after my invention is understood from the following description, and I prefer to accomplish the objects and to practice my invention in substantially the manner hereinafter fully described and as more particularly pointed out in the claims.

In the drawings:—

Figure 1 is a view in longitudinal elevation of my invention showing one complete arm in position.

Figure 2 is a top plan of the structure shown in Figure 1 with portions broken away for clearness.

Figure 3 is a vertical longitudinal section taken on line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a view similar to Figure 3, drawn to a larger scale and showing the manner of disassembling an arm from the central member.

Figure 5 is a transverse vertical section taken on line 5—5 of Figure 1, looking in the direction of the arrows.

The drawings are to be understood as more or less schematic for the purpose of disclosing a typical or preferred embodiment of my invention, and in said drawings similar reference characters have been employed to designate like parts wherever they appear throughout the several views.

Referring to Figure 1, the numeral 10 deignates a conduit or pipe in which electric conductors are disposed and at its lower end is inserted and screwed in the hollow stub 11 upon the top member 12 of a suitable supporting member or housing. This top member is of an inverted cylindrical cup-shape, being closed at its top with the exception of the stub portion 11 and is made of stamped sheet-metal. Coacting with the top member 12 is a bottom member 13 that is similarly made of stamped sheet-metal of cylindrical cup-shape, and it telescopes with the lower portion of the top member. These members 12 and 13, when combined, form a metal housing in which there are devices for providing a mounting for a socket member having a portion extended below the housing and surrounded by the porcelain protector member 14 so that a bulb may be inserted therein. The structure is made in such manner that when the porcelain member is secured to the enclosed parts by the screws or otherwise, the bottom member of the housing will be maintained in its proper relation to the top member.

The structure heretofore described pro-

vides the central element from which the radiating arms project and by which the latter are preferably supported. It will be understood that a number of the arms may be employed, depending upon the service required, but for the purpose of simplifying the description only one of the arms will be described. Each arm consists of two pieces 15 and 16 of channel-metal, of substantially U-shaped formation. The channel piece 15 has its open portion disposed upwardly and the channel piece 16 is inverted with its open portion downwardly, and the inside width of the piece 16 is the same as the exterior or the outside width of the piece 15 so that these two pieces, 15 and 16, may be telescoped with each other in the manner shown in section in Figure 5 of the drawing. This provides a conduit in which the conductors leading from the central element to the sockets carried by the arms may be disposed.

Owing to the respective exterior and interior dimensions of the channels 15 and 16 they will frictionally engage with each other and under normal conditions this friction will be sufficient to prevent a separation of the channels while in use. In order to insure against accidental displacement or separation the side walls of the channel 15 are provided with small embossments 17 that interengage in recesses or slots 18 in the adjacent side walls of the channel 16 in the manner shown in Figure 1 of the drawings.

I have devised a novel manner of mounting or connecting an end of the arm to the central support so that it will remain in position in the event its retaining screw is loosened or removed. The side wall of the top member 12 of the support is provided with an aperture that is of a cross-shape as seen in Figure 1 to receive the adjacent end of the arm. This aperture is made by cutting a wide horizontal slot 19 in the wall and intermediate its ends the slot is widened by cutting off-sets 20 and 21 in its upper and lower edges, the purpose of which will be later explained.

The end of the arm is formed to interlock with the slot, and because of its cross-sectional dimensions the channel 15 will fit the slot 19 when its end is inserted therein. Channel 16 is shorter than channel 15 and does not enter the supporting housing, so that the portion of channel 15 that is inside said support is not covered by the coacting channel. In order to lead the conductors into the arm within the confines of the housing or support a rimmed opening 22 is made in the bottom or web of channel 15, and the dimensions of this rim are less than those of the offset 21 thus permitting the passage of the rim through the aperture.

At or beyond the inner edge of the rim the side walls of channel 15 are removed by cutting away and the remaining portion of the transverse web of the channel is bent upwardly into an inverted L-shaped flange 23 that extends above the plane of the top of the arm a distance sufficient to permit its lateral flange or foot 24 to rest against the inner surface of top member 12 of the support or housing. The engaging or contacting portions of the foot and top member are bored and threaded to receive a lock screw 25 that is screwed therein to hold these parts together. Thus the arm is maintained in proper position because the lower surface of channel 15 fulcrums upon the lower edge of slot 19 and the foot engages the housing wall.

The end of the inverted channel 16 adjacent the supporting housing abuts the outer surface of the latter because of the fact that its end edge is made arc or segmental shaped to fit thereagainst and this end edge of the channel 16 has an upwardly extended lip 26. When it is desired to disassemble the parts, the channel 16 that provides the cover for the hollow arm may be released from the embossment 17 and raised upwardly at its outer end as shown in dotted lines at the left in Figure 1 using its lipped end as a fulcrum until its free end has been raised far enough to permit the lip 26 to pass out through the offset 20 of the slot 19. This will expose the conductors to ready access should it be necessary to examine or repair them. In the event it is desired to remove channel 15 this is done by removing screw 25 and then tilting said channel far enough to permit the rim 22 to clear the lower offset 21 as shown in Figure 4.

As a further precaution against accidental removal of channel 15 the upper edge of the bottom part 13 of the housing may extend up over the lower offset 21 of the slot 19 and it is maintained in position by the porcelain member 14 so that the edge of the part 13 will practically engage the channel. Prior to removing the channel 15 the screws that attach the porcelain member to the interior of the housing are loosened permitting the latter to drop a slight distance and thus lower the top edge of the member 13 of the housing below the offset 21, after which the rim 22 will pass through the off-set.

At the outer end of the arm the channel 15 has an opening 27 that is formed by the stamping out a stub 28 from the web of the channel. This opening permits the conductors to pass out of the hollow arm to a socket element 29 that is supported by the arm. The socket has a tube 30 secured to it that rotatively coacts with the stub 28 in the manner shown in Figure 1 and has a pair of diametrically arranged ears 31 that contact the web of the channel 15 and are bored and threaded to receive the screws 32 inserted from the inside of the arm and have their heads engaged with the web of channel 15 as shown in Figure 2. The socket 29 is adapted to receive a lamp and also supports a reflector 33 of the inverted

type so as to reflect the light rays from the lamp in an upward and outward direction from the fixture.

The axis of the socket is oblique to the axis of the arm as will be seen in Figures 1 and 2, and it may be desired to change this angle at different times to alter the disposition of the lamp with respect to the arm. To do this the tube 30 may be rotated upon the stub 28, such rotation being limited by arcuate slots 34 that are made in web of the channel and through which the shanks of the screws 32 operate. It will be understood that after the socket has been placed in its proper position of angularity the screws are tightened in order to clamp the ears 31 of the tube against the web of the channel.

The portion of the channel 15 that extends beyond the channel 16 carries an adjustable bracket in the form of a metal strip 35 having a longitudinally elongated slot 36 at one end and a lateral flange 37 at its opposite end. A bolt 38 passes through the slot 36 and an aperture in the web of the channel and is locked in position by a nut 39 which permits the adjustment of the bracket longitudinally with respect to the arm. The upstanding flange 37 is apertured to receive a bolt and nut 40.

The purpose of this bracket is to provide means whereby the arms of the fixture of this character may be secured to the metallic ring or annular chandelier member or body 41 when such a structure is used and in this event it is frequently desirable to dispense with the pipe 10 as a support or hanger and lead the conductors directly into the supporting housing through the stub 11. This is because of the fact that the annular chandelier body or ring is usually supported by chains or rods from the ceiling or other part of the room. The slotted portion of the bracket permits the arm to be lengthened or shortened in order to be connected to rings or annular structures of the chandelier body of different dimensions, and the upstanding flange of the bracket and its bolt and nut provide means for attaching the bracket and arm to the body 41 as suggested in Figure 2.

From the foregoing it will be seen that I have provided a fixture for indirect illumination that is capable of adjustment; may be readily opened for inspection or repair; is capable of use in different types of chandelier fixtures or bodies; and which may have the number of its arms increased or decreased according to the wishes of the user. The structure which I have disclosed is also capable of various embodiments, and I desire it understood that all such changes are contemplated as coming within the principles I have devised. The detailed description and drawings herein given are for the purpose of clearness of understanding only, and no unnecessary limitations are to be understood therefrom, but the appended claims are to be construed as broadly as permissible in view of the prior art.

What I claim is:—

1. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member having a recess into which the adjacent end of the arm is inserted, and said arm having an extension on its inserted end that is engaged with and secured to said housing, said arm also having a lateral portion upon its inserted end that engages the housing to prevent longitudinal movement of said arm.

2. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member being hollow and having an aperture in a side wall to receive the adjacent end of the arm, and said arm having its adjacent end fulcrumed upon the lower edge of said aperture and having an extension that engages and is secured to an adjacent portion of the housing, said arm also having a lateral portion upon its inserted end that engages the housing to prevent longitudinal movement of said arm.

3. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member being of cylindrical shape and provided with an aperture in its side wall to receive the adjacent end of the arm, and said arm having its adjacent end fulcrumed on an edge of said aperture and provided with an extension that engages the top wall of the housing whereby to maintain the arm in a plane at an angle to the axis of the housing, said arm also having a lateral portion upon its inserted end that engages the housing to prevent longitudinal movement of said arm.

4. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member having a recess into which the adjacent end of the arm is inserted, and said arm consisting of a two-part separable structure one of said parts being channel shape and having an extension upon its portion within the housing that engages a contiguous portion thereof and the other part of the arm forming a cover for the first part and having a lateral portion that is inserted in the housing recess to prevent longitudinal movement of said second part of the arm.

5. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member being hollow and having an aperture in a wall to receive the adjacent end of the arm, and said arm consisting of a two-part separable structure one of said parts being channel shape and fulcrumed upon the lower edge of said aperture and having an extension upon its portion within the housing that engages a contiguous portion thereof, and the other

part of the arm forming a cover for the first part and provided with a lip that enters the aperture and engages the housing above said aperture to permit hinging movement of the cover part to remove the same.

6. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member being of cylindrical shape with an aperture in its side wall to receive the adjacent end of the arm, and said arm consisting of a two-part separable structure one of said parts being channel shape and fulcrumed on the lower edge of said aperture, and having a foot that engages the top wall of the housing member to maintain the arm in a plane at an angle to the axis of the housing, and the other part of the arm forming a removable cover for the channel part and provided with an upstanding lip that is inserted under the upper edge of the aperture to permit hinging movement of the cover part to remove the same and prevent longitudinal movement thereof.

7. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member having a recess into which the adjacent end of the arm is inserted, and said arm consisting of a two-part separable structure one of said parts being channel shape and having an extension upon its portion within the housing that engages a contiguous portion thereof and the other part of the arm forming a cover for the first part and having a lateral portion that is inserted in the housing recess to prevent longitudinal movement of said second part of the arm, a socket element carried by the outer end of said arm, and means connecting the socket element to the arm to permit rotatable adjustment of the former with respect to the latter.

8. A device of the kind disclosed comprising a supporting member, and a hollow arm extending therefrom, said member having a recess into which the adjacent end of the arm is inserted, and said arm provided with two lateral extensions upon its inserted end portion, one of said extensions being secured to said housing and the other extension providing a stop against longitudinal movement of the arm.

Signed at Chicago, in the county of Cook and State of Illinois, this 30th day of December, 1929.

PAUL M. HOTCHKIN.