Aug. 25, 1936. G. ARRAS 2,052,069

FIXTURE SUPPORT

Filed April 30, 1934

Fig. 1.

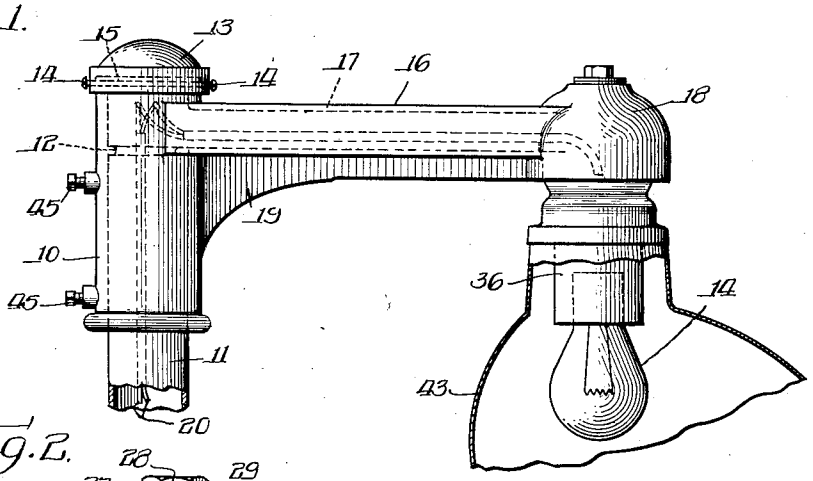


Fig. 2.

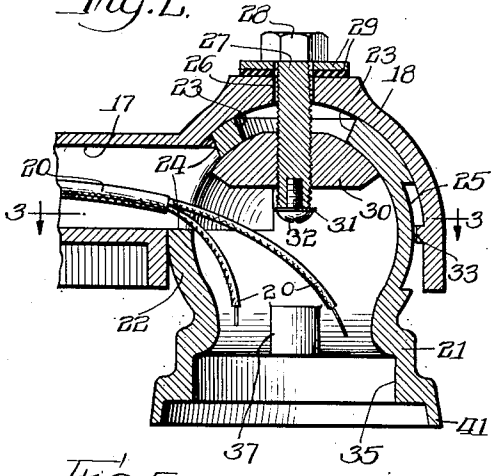


Fig. 3.

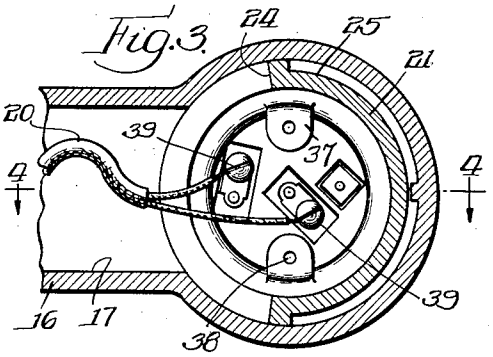


Fig. 5.

Fig. 4.

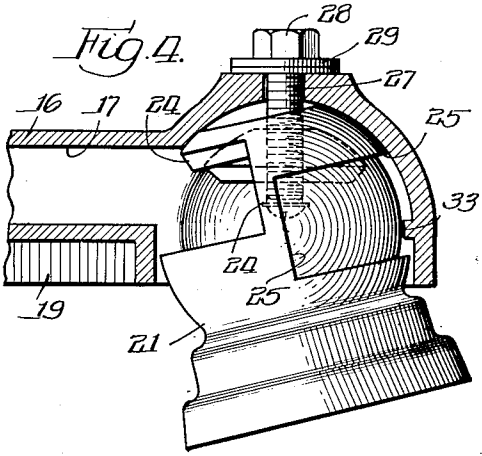
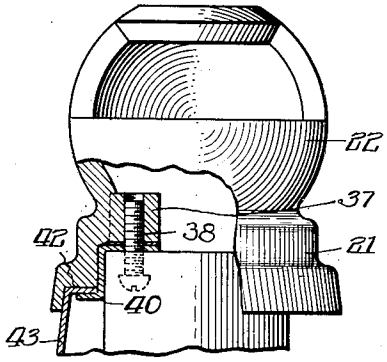


Fig. 6.



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2,052,069

FIXTURE SUPPORT

George Arras, Chicago, Ill.

Application April 30, 1934, Serial No. 723,116

12 Claims. (Cl. 248—122)

This invention relates in general to a support for electrical fixtures and has more particular reference to a post arm or bracket providing a weather-proof conductor passageway capable of universal adjustment.

An important object of the invention is in the provision of a post bracket or arm which is rotatable at the upper end of a post with a projecting covered passageway for conductors and with a fixture hanger at the outer end of the arm having a limited universal joint for adjustment of an electric fixture supported thereby without danger of crimping or twisting a conductor wire extending therethrough and making continuous contact with the electric fixture.

A further object of the invention is in the provision of improved means for limiting the spherical adjustment of the fixture hanger and for clamping it tightly in any adjusted position.

A still further object of the invention is in the provision of improved means for attaching the support at the top of a post and for providing a closed junction box at the top thereof for making the electrical connections.

A still further object of the invention is in the provision of improved means for holding the hanger in the end of the arm even though the fastening means therefor has been loosened to permit its angular adjustment in the arm.

Other objects of the invention will appear hereinafter, the accompanying drawing illustrating a preferred embodiment of the invention, in which—

Fig. 1 is a side elevation of the fixture support in accordance with the invention;

Fig. 2 is a section through the outer end of the supporting arm and the hanger;

Fig. 3 is a cross section taken on the line **3—3** of Fig. 2;

Fig. 4 is a section of the arm taken on the line **4—4** of Fig. 3 showing the hanger in elevation therein;

Fig. 5 is a side elevation of the hanger clamping member; and

Fig. 6 is a side elevation of the hanger member showing the conductor opening therethrough.

A support for electrical fixtures must be capable of considerable adjustment to provide the maximum degree of swing for the lamps and reflectors held thereby, both widewise and vertically. The present invention, in addition to providing an arm which is rotatable in a complete circle at the top of a supporting post has a hanger which permits a vertical adjustment about a substantially spherical head approximately twenty degrees above and twenty degrees below a horizontal position, and permitting a horizontal swing of one hundred eighty degrees without moving the bracket arm.

Referring now more particularly to the drawing, this support comprises a tubular portion **10** adapted to fit over the top of a post **11** and having an internal shoulder **12** which limits the insertion of the post **11**. The tubular portion extends for some distance above the top of the post and a closure cap **13** is seated thereon having fastening screws **14** at the sides insertable into a retaining groove **15** adjacent the top of the tubular portion **10** to hold the cap removably in place.

Extending laterally from the tubular portion is a supporting arm **16** having an enclosed passageway **17** leading from the space above the shoulder **12** and terminating at its outer end in a hollow domed extremity **18** open at the bottom or lower side. A strengthening rib or web **19** is preferably cast integral with the arm and tubular portion at the underside of the arm which strengthens and braces these parts and adds somewhat to the appearance of the support. A wide passageway **17** is thus provided extending from the upper end of the tubular portion to the dome **18** so that electrical conductors **20** extending through the post **11** can be connected directly through the arm to the fixture or if desired the fixture may be wired through the arm and the conductors connected to those extending through the posts **11** through the junction box provided at the top of the fixture support by simply removing the cover **13**.

Mounted in the dome **18** of the support is a hanger member **21** having a substantially spherical or hollow upper portion **22** fitting somewhat loosely inside of the dome **18**. At the top of the spherical portion is an angular opening **23**, in one side and adjacent the top is an opening **24** extending approximately one hundred eighty degrees around the hanger and in the opposite outer face of the spherical portion is a recess **25** extending approximately one hundred eighty degrees around the spherical portion and above and below the center thereof.

Extending through a hole **26** in the top of the dome portion **18** and through the opening **23** at the top of the hanger is a fastening bolt **27** which has an outer head **28** and washers **29** between the head and the top of the dome portion for making a weather-tight joint therewith. This bolt is threaded into a clamping member **30** having a rounded or somewhat spherical upper surface for

conforming to the inside of the spherical portion 22 of the hanger member so that when the bolt is threaded into the clamping member 30 it will draw it up tightly against the inside of the hanger member 21 and will hold or clamp it tightly in any position in which it is placed. At the lower end of the bolt 27 is a retaining device for preventing disengagement of the clamping member 30 comprising a small washer 31 and a screw 32 threaded through the washer and into the bolt 27 so that even though the bolt is backed out of the clamping member 30 to release it from clamping engagement with the hanger 21, the bolt cannot be disengaged entirely from the clamping member without first removing the retaining screw 32. The object of this construction is to prevent the disengagement of the hanger 21 from the arm 16 when the fixture is applied thereto or is being seated or adjusted.

Extending inwardly from the inner side of the dome is a small projection 33 adapted to engage in the recess 25 of the hanger member and to limit the angular up and down and rotary circular movement of the hanger to the extent of the recess 25. This projection 33 is preferably opposite the passage 17 in the arm 16 so that the opening 24 through the wall of the hanger member will always have a portion thereof registering with the passageway 17 for the free passage and extent of the conductors 20 which extend to the fixture supported by the hanger 21. As the passage 17 in the arm is of material width with respect to the opening 24 in the hanger it will be seen that the rotary movement of the hanger in the dome portion 18 of the arm may be as much or slightly more than one hundred eighty degrees and the angular up and down movement may easily be twenty or twenty-five degrees above and below the horizontal position without crimping or binding the conductors 20 in any position.

In the lower end of the hanger 21 is a shouldered recess 35 in which a lamp supporting socket 36 may be received and with threaded projections 37 above it into which fastening screws 38 are inserted from the socket. The conductors 20 are connected to suitable terminals 39 at the upper ends of the socket. Extending from the fastening screws 38, and held in place by them, are clamping plates 40 which extend around the upper end of the socket and within the space enclosed by a flange or rim 41 at the lower edge of the hanger so that the upper rim 42 of a shade or reflector 43 may be seated or inserted within the flange 41 and engaged by the lower clamping edge of the plates 40 for holding the reflector in place. A lamp 44 of suitable size is inserted in the socket and may be removed for replacement without any movement of the shade or reflector.

In applying this fixture support it is first set in place at the top of a post 11, rotated to place the arm 16 in the proper direction and then locked in place on the post by means of suitable set screws 45 extending through the tubular portion and into engagement with the post. If the support is wired the conductors are extended through the passage 17 and by removing the cap 13 they may be connected to the conductors 20 extending upwardly through the post. The hanger 21 is adjusted in the proper angular and rotary position by first loosening the bolt 27 and then clamping the hanger tightly in place by means of the bolt and the clamping member 30. In any position in which it is set the conductors therein which are preferably left with a little looseness in the arm 16, will not be kinked or bound by engagement between the edges of the opening 24 and the end of the passageway 17 so that there is no danger of wearing the conductors or short-circuiting the current therethrough even though the hanger is subjected to much adjustment and resetting.

Although this construction is described in connection with a post type of fixture support it is obvious that a similar adjustable hanger may be used wherever it is applicable.

I claim:

1. A fixture support comprising a hollow arm with a spherical recess at its outer end, a hanger having a spherical portion mounted in the recess and opening at one side of the hanger to register with the passage of the arm and cooperating means at the other side of the hanger between the hanger and the support comprising a projection on one part and a rectangular recess on the corresponding face of the other part engaged by the projection for limiting the opening of the hanger to register with the passage in the arm to the full extent permitted by said rectangular recess but permitting a rotative and angular up and down adjustment of the hanger within the recess.

2. In a fixture support, a projecting hollow arm having an enlarged recess at the outer end thereof, a hanger member rotatable in the recess having an opening extending substantially half way about the hanger and the hanger movable at an angle to the arm above and below its normal horizontal position with a portion of the opening still registering with a portion of the passageway, an engaging means on the inside of the enlargement of the support and on the outside of the hanger opposite the opening for registering the opening of the member with the hollow in the arm throughout a rotary movement of substantially one hundred eighty degrees and for an angular up and down movement transverse to the said rotary member.

3. In a fixture support, a hollow arm having a spherical recess at its outer end, a hanger having a spherical portion fitting the recess and movable angularly and about an axis therein, the hanger having an opening through the wall extending substantially one hundred eighty degrees about the hanger and of a width to permit an angular adjustment of approximately forty-five degrees and still maintain a registry of a portion thereof with a portion of the passageway, and interengaging means between the outer wall of the hanger and the inner wall the spherical portion of the support for limiting the movement of the hanger so that a portion of the opening thereof will always register with a portion of the passageway in the arm.

4. In a fixture support, an arm having a passageway and a hollow dome at the end of the arm communicating with the passageway, a hanger rotatably and angularly movable in the dome, and having an opening in one wall to register with the opening of the passageway, means for limiting the movement of the hanger to register a portion of the opening thereof with a portion of the passageway, and means extending through the dome and engaging the inside of the hanger for clamping it removably in any position in which it is adjusted within the dome.

5. A fixture support comprising a hollow arm with an enlarged circular portion at the outer end, a hanger having a ball head fitting loosely within the circular portion and having an opening in the wall to register with the passageway

of the arm, means to limit the angular and rotary movement of the hanger in the enlarged portion of the arm, and a clamp comprising a member on the inside of the hanger and a fastening member accessible from the outside of the enlarged portion and extending through the wall thereof into engagement with the clamping member.

6. In a fixture support, an arm having a passageway therethrough and an enlarged hollow portion communicating with the arm, a hollow hanger member with a spherical head portion fitting within the enlargement of the arm, an opening through the top wall of the hanger and another opening through the side wall of the hanger adapted to register with the passageway in the arm, a clamping member on the inside of the hanger conforming to the interior wall thereof, and a fastening bolt extending through the wall of the enlarged portion of the support and through the top wall of the hanger member and threaded into the clamping member for holding the hanger in any adjusted position as permitted by the engagement of the bolt with the edges of the top opening of the hanger so that the side wall opening will always have a portion thereof registering with the passageway of the arm.

7. In a fixture support, a hollow supporting arm, a hollow hanger member adjustable therein, a clamp for the hanger comprising a member extending inside of the hanger, a bolt extending through the wall of the support and threaded through the clamping member, and means secured in the end of the bolt and beyond the threads thereof but extending beyond the periphery thereof for preventing unthreading disengagement of the bolt from the clamping member when the latter is loosened to permit adjustment of the hanger in the arm.

8. A fixture support having a downwardly opening recessed portion, a hollow hanger rotatable and angularly adjustable therein, an opening in the top of the hanger, a supporting and clamping member within the hanger larger than the top opening therein, a fastening bolt extending through the top of the support through the opening in the hanger and through the clamping member, and means comprising a headed screw threaded into the lower end of the bolt and a washer confined between the screw head and the end of the bolt and extending free of the bolt threads beyond the periphery thereof and adapted to engage the under side of the clamping member to prevent the withdrawal of the bolt from the clamping member whereby the parts are held in relative position against dislodgment when the fastening bolt is loosened for adjustment of the hanger in the support.

9. A post type of fixture support comprising a hollow tubular portion to fit the upper end of a post, a laterally extending arm with a hollow passageway communicating with the tubular portion, and an enlargement at the outer end of the arm, a hanger both rotatable and angularly adjustable in the arm, means for limiting both directions of movement of the hanger in the enlargement, a lamp support carried by the hanger having conductors extending therefrom through an opening in the wall of the hanger, and a portion of the opening being always kept in register with the passageway in the arm by said limiting means and forming an unobstructed passage for said conductors to the upper end of the tubular portion and a removable cap for the top of the tubular portion whereby access may be had for making connections between conductors extending through the arm and conductors extending through a post to which the support is connected.

10. A structure in accordance with claim 9 in which the upper end of the tubular portion is provided with an internal projection to limit the insertion of a post therein and preventing the closure of the passage through the arm extending from the tubular portion thereby protecting the conductors and insuring access to them from the upper end of the tubular portion.

11. The combination with a hollow arm having an end enlargement communicating therewith, a hollow fixture hanger both rotatable and angularly movable transversely to the rotatable movement in the enlargement having an opening in one wall to register with the passage of the arm, a lamp support carried by the hanger having conductors extending therefrom through the opening in the hanger and into the passageway of the arm, and means interengaging between the hanger and the inside of the enlargement comprising a surface recess having both length and width for correspondingly limiting the movement of the hanger with respect thereto so that in any rotary and transverse angular adjusted position of the hanger a communicating passage for the conductors is afforded between the opening in the wall of the hanger and the passageway of the arm.

12. A fixture support comprising a hollow arm with an end enlargement communicating therewith, a hollow hanger rotatable and angularly movable in the enlargement with an opening in the wall thereof to communicate with the passage in the arm, means to limit the movement of the hanger in the enlargement to cause a registry at all times between a portion of the opening and a portion of the passageway, a lamp support carried by the hanger having conductors extending through the interior of the hanger and through the opening of the wall thereof into the passageway of the arm, a reflector for a lamp, and clamping means supported between the lamp support and the hanger and having projecting ends to engage within the upper portion of the reflector for holding it in place against the hanger.

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