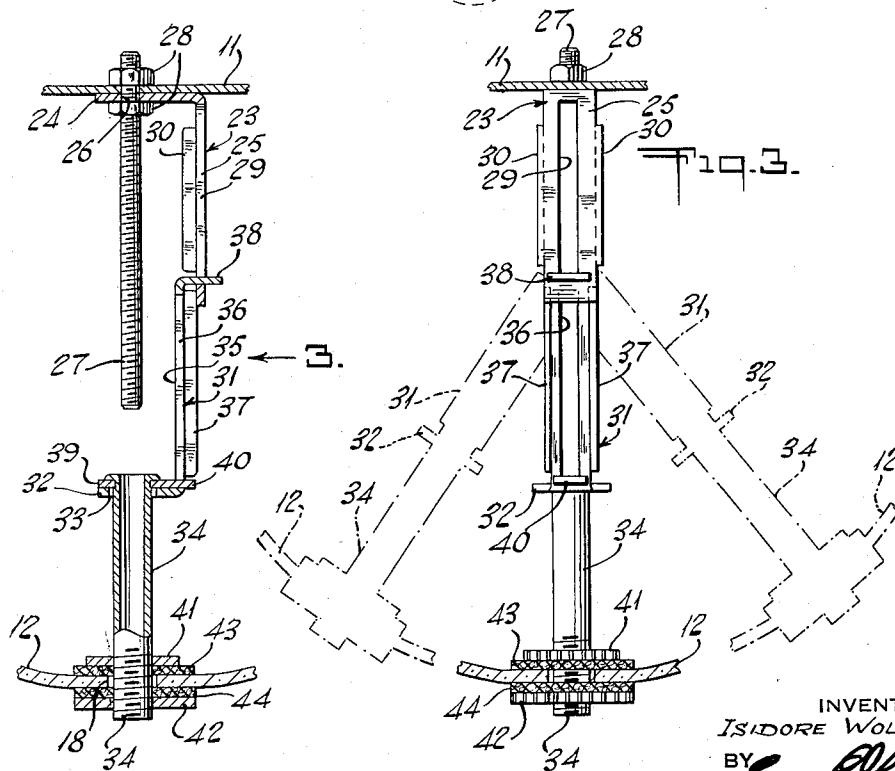
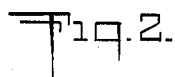


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LIGHTING FIXTURE

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Jan. 10, 1961

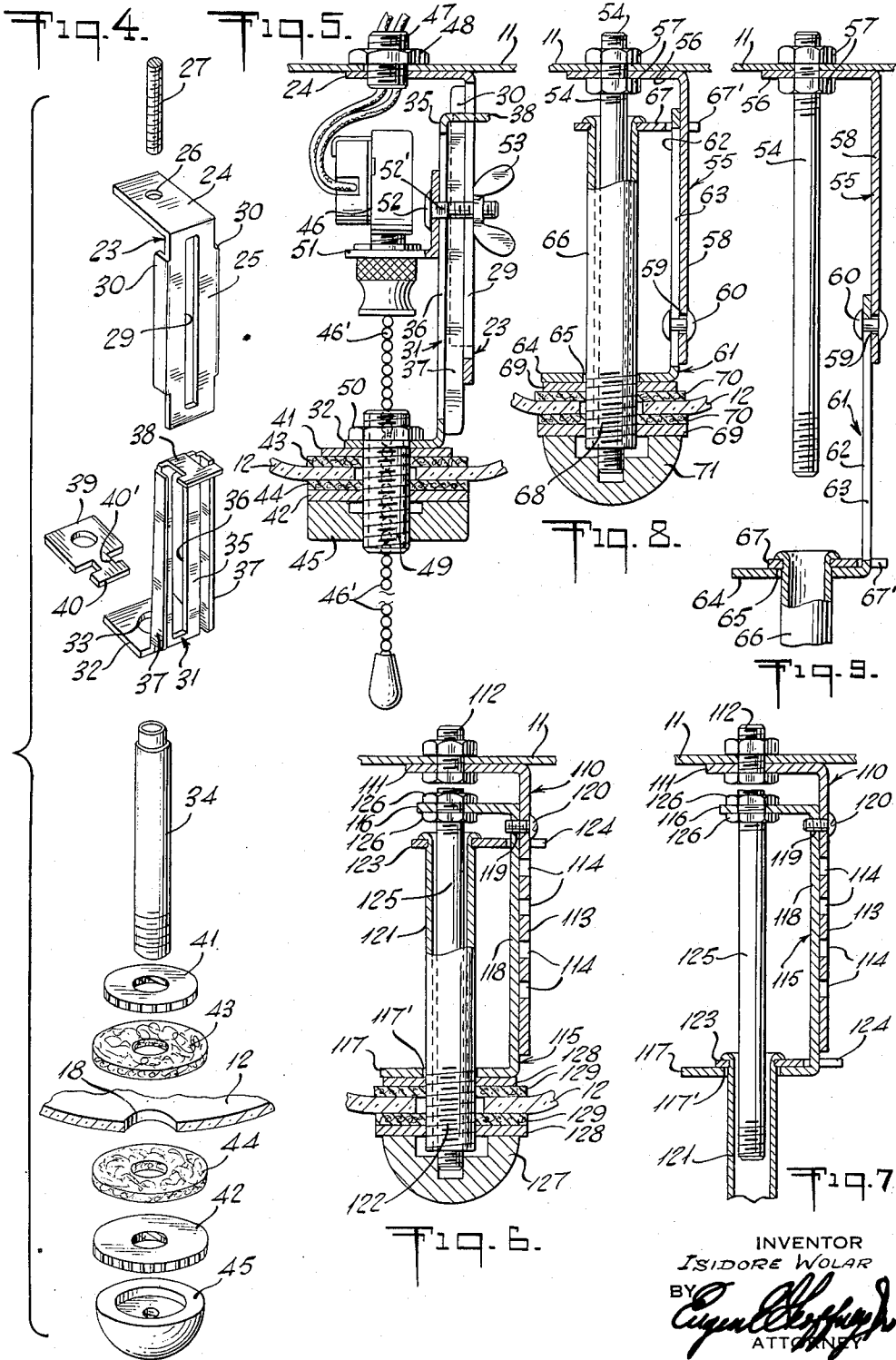
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2,967,928

LIGHTING FIXTURE

Filed Sept. 20, 1957

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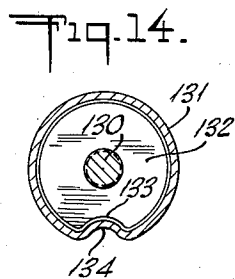
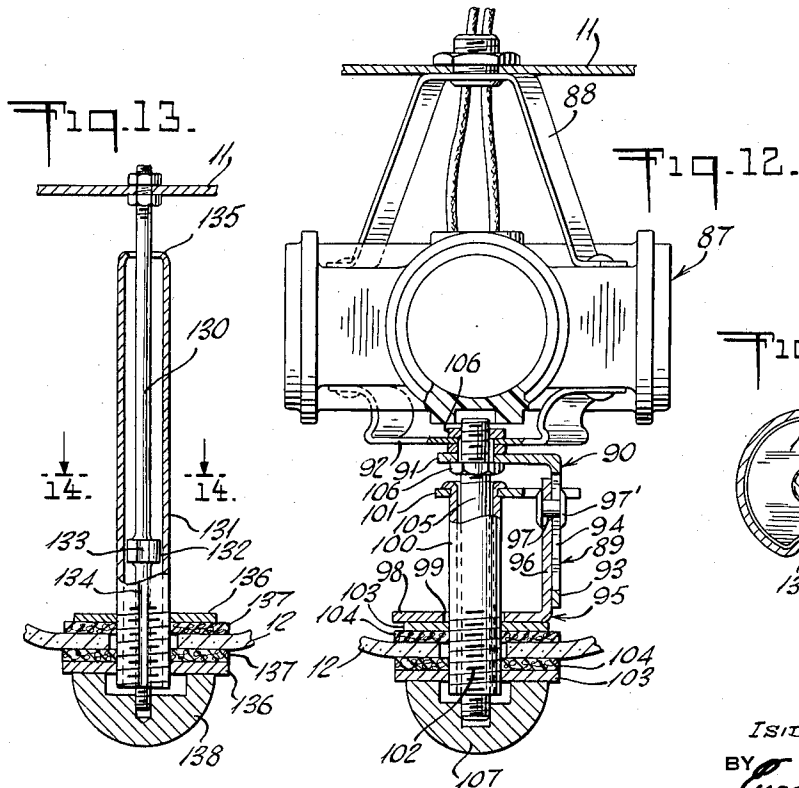
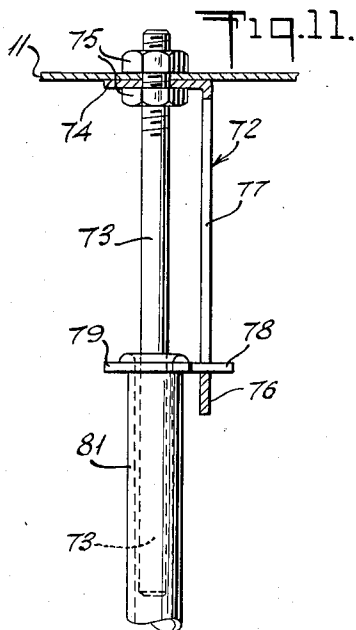
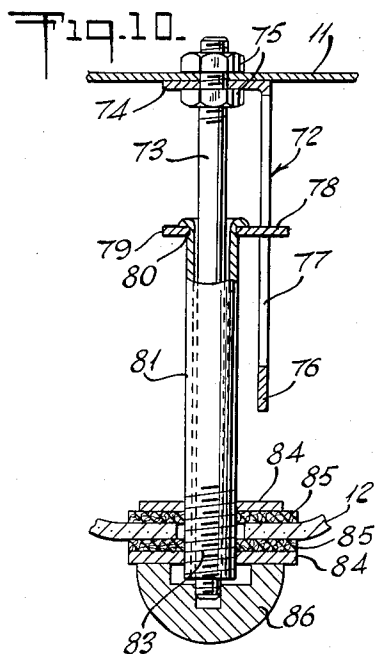
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LIGHTING FIXTURE

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3 Sheets-Sheet 3



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LIGHTING FIXTURE

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12 Claims. (Cl. 240—78)

This invention relates to lighting fixtures and more particularly to a novel and improved support for lighting fixture elements such as globes to facilitate cleaning and replacement of electric lamps.

In lighting fixtures and particularly ceiling type fixtures wherein the bulbs or lamps are enclosed or at least partially enclosed within a surrounding globe it is necessary to completely remove the globe from the fixture for cleaning and replacement of the bulbs. Since the globes are often fragile and difficult to handle, care must be exercised in their removal and replacement. Moreover, with globes having a central opening through which a rod or pipe extends for the attachment of a nut to hold the globe in place, should the nut accidentally become disengaged from the rod, there is not only the danger of breaking the globe, but also the danger of injury to persons in the vicinity.

With the novel and improved support in accordance with the present invention the globe is securely attached to the support and at the same time can be lowered and raised into position without actually being disengaged from the globe or the supporting means. In this way the danger of the globe accidentally falling is prevented and at the same time lowering the globe for cleaning and for replacement of the bulbs is greatly facilitated.

Another object of the invention resides in a novel and improved globe support for electric fixtures that is characterized by its simplicity, relatively low cost and dependability.

Another object of the invention resides in a novel and improved support for electric fixture globes that will permit the globe to be lowered and moved from side to side to facilitate cleaning and replacement of the bulbs and at the same time will automatically align and guide the globe back into its fixed position.

Still another object of the invention resides in the provision of a novel and improved combination globe and support that is adjustable for holding globes of different sizes and provides for the support of a switch operable through the center opening of the globe without placing stress on the globe itself.

A still further object of the invention resides in a novel and improved globe support for electric fixtures.

The above and other objects and advantages of the invention will become more apparent from the following description and accompanying drawings forming part of this application.

In the drawings:

Fig. 1 is a cross sectional view of an electric fixture having a globe support in accordance with the invention;

Fig. 2 is a view of the globe support shown in Fig. 1 in the extended position;

Fig. 3 is a side view of the globe support shown in Figs. 1 and 2 and taken in the direction of arrow 3 in Fig. 2;

Fig. 4 is an exploded perspective view of the globe support illustrated in Figs. 1 through 3;

Fig. 5 is a side elevational view in partial section of

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an adjustable globe support and cooperating switch mounting means;

Fig. 6 is a cross sectional view of a modified globe support in accordance with the invention that is adjustable for different sizes of globes;

Fig. 7 is a cross sectional view of the globe support of Fig. 6 in the extended position;

Fig. 8 is a cross sectional view of another embodiment of the invention;

Fig. 9 is a cross sectional view of the embodiment of the invention shown in Fig. 8 with the globe in the lowered position;

Fig. 10 is a cross sectional view of still another embodiment of a globe hanger in accordance with the invention;

Fig. 11 is a cross sectional view of the embodiment of the invention shown in Fig. 10 but with the globe in the lowered position;

Fig. 12 is still another embodiment of a globe hanger in accordance with the invention; and

Figs. 13 and 14 illustrate a still further embodiment of the invention.

While it will become apparent that the invention may be readily applied to a variety of electric fixtures having globes of glass, plastic or other material for enclosing or particularly enclosing the lighting means, for the purposes of this application the invention is illustrated as being applied to a ceiling type fixture having a globe of translucent or transparent material secured to the fixture by supporting means engaging a central opening.

With reference to the drawings and more specifically to Figs. 1 through 4 thereof, the light fixture is generally denoted by the numeral 10 and includes a relatively flat base or pan 11 and a globe 12 of glass or other material. The base 11 is secured to the ceiling 13 by means of a conventional outlet box 14 embedded in the ceiling and a transverse bracket member 15 secured to the outlet box 14 by screws 16. The bracket member 15 has a pair of threaded openings for the receipt of screws 17 that extend through cooperating openings in the base 11.

The globe 12, or so-called "drop-glass" has a central opening 18 for attachment to the fixture. The periphery of the drop-glass engages a shoulder 19 on the base which aligns the glass with the base and the central opening with the supporting member. When the glass 12 is in place it encloses lighting means such as the bulb 20 carried by socket 21.

The glass support or hanger in accordance with one embodiment of the invention is generally denoted by the numeral 22. As shown in Figs. 1 through 3 the glass can be secured in the upper position or lowered away from the base for the purpose of cleaning or replacement of the lamp or bulbs 20. More specifically the hanger 22 includes an L-shaped bracket member 23 having a horizontal leg 24 and a vertically disposed leg 25. The leg 24 includes an opening 26 therein through which an elongated threaded rod 27 extends for attachment with the bracket 23 to the base 11 of the fixture by means of cooperating nuts 28.

The downwardly extending leg 25 includes an elongated slot 29 and a pair of side flanges 30, as may be observed more clearly in Fig. 4. A second L-shaped bracket member 31 slidably engages bracket 23 and has a horizontal lower leg 32 having an opening 33 therein for slidably receiving a tube or pipe 34. The vertical leg 35 of the bracket 31 has an elongated slot 36 and a pair of side flanges 37 having a distance between the outside faces slightly narrower than the distance between the inner faces of the flanges 30 on the bracket member 33. The upper end of the leg 35 has an inwardly extending T-shaped tab 38 with the neck of the tab being slightly narrower than the width of the slot 29 in the bracket 23.

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This tab engages the slot 29 as may be observed in Figs. 1 through 3 and holds the two brackets in slidable relationship one to the other.

The rod 34 carries on its upper end a washer like member 39 that is riveted or otherwise suitably secured thereto. The member 39 includes a T-shaped tab 40 extending from one edge thereof with the neck 40' engaging the slot 36 in the bracket member 31 and the enlarged end portion engaging the inner surface of the leg 35. The enlarged portion of the tab 40 is slightly shallower than the depth of the flange 30 so that the rod 34 together with the member 39 can slide relative to the bracket 31 and independently of the position of the bracket 31 relative to the bracket 23.

The drop glass 12 is fixedly secured to the bottom rod or pipe 34 by means of a pair of nuts 41 and 42 and felt or other resilient washers 43 and 44. The rod 27 which is used in this embodiment of the invention to secure the bracket 23 to the fixture base 11 extends downwardly through the rod 34 when the glass 12 is in the raised position as shown in Fig. 1 and receives a nut 45 which bears against nut 42 to hold the glass in the upper position. With this arrangement removal of the nut 45 from the rod 27 will release the globe 12 and permit the rod 34 and brackets 31 to move downwardly to the position shown in Fig. 2. With the globe in the lowered position the bulb or bulbs 20, as the case may be, are exposed and may be readily replaced. Moreover, it will be observed that since the tab 38 of the bracket 31 is below the ends of the flanges 30 of bracket 23, the lower bracket 31 can be moved angularly relative to the bracket 33 so that the globe 12 can be moved from side to side as indicated in dotted outline in Fig. 3 to facilitate cleaning.

This hanger 22 has a still further advantage in that it is readily adjustable for drop-glasses or globes of different depths. This is accomplished merely by adjusting the length of the threaded rod 27 relative to the base 11 of the fixture. With a shallow globe the rod would be adjusted upwardly so that no more than $\frac{1}{4}$ inch or $\frac{1}{2}$ inch of the rod will protrude from the lower end of the pipe or tube 34 as shown in Fig. 1. With deeper globes longer rods may be installed to compensate for this additional depth. It will also be observed that since the rod 34 is fixedly secured to the member 39, and since the latter is keyed to the brackets 31 and 23, the glass 12 can be easily attached to the tube 34 without the need for holding the tube with one hand and then trying to hold the globe and install the nut 44 with the other hand.

A modified embodiment of the invention is illustrated in Fig. 5 and it differs from the embodiment as shown in Figs. 1 through 4 in that means are provided for supporting a switch 46 for turning the lamps 20 "on" and "off." This form of the invention is similar to that illustrated in prior figures in that the brackets 23 and 31 of Fig. 5 are identical to those used in Fig. 4. In this case, however, the upper leg 24 of bracket 23 is secured to the fixture base 11 by means of a nipple 47 and cooperating nut 48. The lower leg 32 of the bracket 31 includes an elongated nipple 49 that is threaded into the opening in the bracket 32 and locked therein by a nut 50. The switch 46 is carried by an L-shaped member 51 with a vertical leg having a bolt 52 secured thereto and extending through the aligned slots 36 and 29, respectively for engagement with a suitable wing nut 53. The shank part 52' is preferably of square or rectangular section and engages the brackets 51 and 31 to prevent the former from turning relative to the latter.

With the foregoing arrangement the distance between the legs 24 and 32 of the brackets 33 and 31 respectively may be adjusted to accommodate the depth of the globe 12 to be supported and the switch 46 is aligned with the lower nipple 49 so that the operating chain 46' will extend through the nipple for operation of the switch externally of the fixture. This arrangement of hanger

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elements therefor affords means for compensating for different globe depths as well as means for supporting an operating switch for the control of the fixture.

The embodiment of the invention shown in Figs. 6 and 7, while serving substantially the same purpose as the structure shown in Figs. 1 to 4, includes among other features means for automatically adjusting the center rod, corresponding to the rod 27 of Fig. 1, with adjustment of the brackets for different globe depths.

More specifically this modified hanger includes an L-shaped bracket member 110 having a horizontal leg 111 attached to the base or pan 11 of a fixture by suitable fastening means such as the bolt 112. The downwardly extending leg 113 of the bracket 110 has a plurality of spaced openings 114. A second bracket member 115 is of U-shaped configuration having horizontally disposed upper and lower legs 116 and 117, respectively, which are joined by a vertical leg 118. The upper end of the vertical leg 118 has a threaded opening 119 therein for receipt of a screw 120 extending through an opening 114 of bracket 110. In this way the bracket 118 can be adjusted relative to bracket 115 to accommodate different sized globes. The lower leg 117 of bracket 115 includes an opening 117' for slidably receiving a tubular member 121 having a threaded end portion 122. The upper end of the tubular member 121 carries generally rectangular member 123 having a pair of outwardly extending legs 124 which bridge the sides of the bracket members 110 and 115 to prevent rotation of the tubular member 121 and at the same time permit the tubular member to slide vertically relative to the bracket.

The upper leg 118 of the bracket member 115 carries a downwardly extending threaded rod 125 secured to the leg 116 by nuts 126 or other suitable fastening means. The rod 125 is axially aligned with the tube 121 and when the latter is in the uppermost position as shown in Fig. 6, the lower end of the rod extends beyond the lower end of the tube 121 for receipt of a nut 127. The globe 12 is carried by the tube 121 and secured thereto by nuts 128 and intervening felt washers 129. With this structure removal of the nut 127 will permit the globe 12 to be lowered as shown in Fig. 7.

Figs. 8 and 9 show a still further embodiment of a drop-glass hanger. In this hanger, alignment of the elements when moved inwardly of the fixture is accomplished solely by a central rod 54. More specifically, the hanger includes a first L-shaped bracket member 55 having a horizontal leg 66 secured to the fixture 11 by the threaded rod 54 and a pair of cooperating nuts 57. The downward extending leg 58 includes an opening 59 through which a rivet or bolt 60 extends. A second bracket member 61 has a vertical leg 62 which includes an elongated slot 63 engaging a shank of the rivet 60. With this arrangement the bracket 61 can move vertically with reference to the bracket 55 in much the same manner as the movement of the bracket 31 with reference to the bracket 23 as shown in Fig. 1. The lower leg 64 of the bracket 61 has a central opening 65 for slidably receiving the rod or tube 66, the latter carrying a keying member 67 at its upper end and having a lower threaded end portion 68. The keying member 67 has legs 67' bridging the brackets to prevent rotation of the tube 66 relative to the supporting brackets. The drop-glass 12 is secured to the threaded end 68 of the rod 66 and is held in place by a pair of nuts 69 and resilient washers 70. When the dropped glass 12 is in the uppermost position as shown for instance in Fig. 8, the rod 54 extends downwardly beyond the bottom end of the tube 66 for engagement of a nut 71 to hold the fixture in place. Fig. 9 shows the lowermost position of the drop-glass and tube 66 and in this position the glass can be swung from side to side about the rivet 60 as the pivot.

Figs. 10 and 11 show a still further embodiment of the invention that is characterized by its simplicity and yet permits the glass to be moved up and down without actu-

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ally disengaging or removing it from the hanger. In this embodiment of the invention a single L-shaped bracket member 72 is secured to the fixture 11 by means of a threaded rod 73 extending through the bracket leg 74 and secured in place by nuts 75. The leg 76 of the bracket 72 has an elongated slot 77 for slidably engaging an outwardly extending tab 78 that is preferably formed integrally with the bracket 79. The bracket 79 is substantially identical to the bracket 39 as shown in Fig. 4 and is fixedly secured to the tube 81 for movement therewith. The lower end of the tube 81 is threaded as indicated at 83 and holds the drop-glass 12 by means of nuts 84 and resilient washers 85. When the glass 12 is in the uppermost position the rod 73 extends beyond the lower edge of the tube 81 for attachment of the fastening nut 86.

With the arrangement of the elements as shown in Figs. 10 and 11, the glass 12 can be lowered readily to its lowermost position by removal of the nut 86 and by so doing the tube 81 and member 79 will move relative to the bracket 72. No specific adjustment is required of this hanger for glasses of different depths except for the adjustment of the rod 73 which can be readily accomplished by moving it upwardly or downwardly relative to the fixture base 11.

Fig. 12 illustrates the application of one embodiment of the invention to a conventional 4-way socket structure. The socket structure is generally denoted by the numeral 87 and includes an upper U-shaped bracket member 88 for attachment of the socket to the fixture base 11. The drop-glass hanger is generally denoted by the numeral 89 and includes an L-shaped bracket member 90 having a horizontal leg 91 secured to a lower bracket member 92 carried by the socket assembly 87. The bracket member 90 has a vertical leg 93 having an elongated slot 94 therein. A second L-shaped bracket member 95 has a vertical leg 96 including an opening 97 thereon for loosely receiving a rivet 97' holding the bracket 95 to the bracket 90 for slidable movement relative thereto. The leg 98 of the bracket 95 includes an opening 99 for slidably receiving a tube 100 having a keying member 101 (corresponding to the member 67 of Fig. 8) secured to the upper end thereof. The lower end of the tube 100 has a threaded portion 102 for attachment of the drop-glass 12 by means of nuts 103 and washers 104. The bracket 90 is secured to the socket bracket 92 by means of a threaded rod 105 and cooperating nuts 106. The rod 95 extends downwardly through the tube 100 and slightly beyond the lower end thereof for the attachment of the fastening nut 107. The removal of the nut 107 will permit the glass 12 to drop downwardly in the same manner as described in connection with the previous figures to facilitate the cleaning and replacement of lamps or bulbs.

Figs. 13 and 14 show still another embodiment of the invention. In this embodiment the drop-glass 12 is secured to the fixture base or pan 11 by a pair of concentric members 130 and 131. The member 130 is in the form of a rod secured at the top to the base 11 and carrying a cylindrical member 132 fixed thereto and having a groove 133 in the surface thereof. The outer tubular member 131 has an elongated inwardly extending rib 134 engaging the groove 133 to prevent relative rotation between elements 130 and 131. Downward motion of the tube 131 is limited by the inwardly formed upper end part 135 which engages the cylindrical member 132. The glass 12 is secured to the tube 131 by nuts and washers 136 and 137 and the glass is held in its uppermost position by a nut 138 engaging the lower end of rod 130.

While only certain embodiments of the invention have been illustrated and described, it is apparent that alterations, modifications and changes may be made without departing from the true scope and spirit thereof.

What is claimed is:

1. A hanger for lighting fixtures comprising a pair of L-shaped bracket members, means coupling one leg of one member to one leg of the other member for longi-

tudinal movement one relative to the other, means on the other leg of one member for supporting the hanger, an elongated tube carried by the other leg of the other member and locked against rotary movement relative thereto and a rod carried by said hanger and in axial alignment with said tube, said rod extending through the tube for the receipt of fastening means on the end thereof when the bracket members are moved inwardly one of the other.

2. A hanger for lighting fixtures according to claim 1 wherein the coupled legs of said members include means preventing angular rotation of the brackets one relative to the other when moved into overlying relationship.

3. A hanger for lighting fixtures according to claim 1 wherein said tube is longitudinally movable relative to said bracket members.

4. An extensible globe hanger for lighting fixtures comprising a first L-shaped bracket member having means on one leg for securing the bracket to the fixture, the other leg of said bracket including an elongated slot and a pair of parallel side flanges extending inwardly of the bracket, a second L-shaped bracket member, one leg of said second member having an elongated slot and a pair of parallel side flanges, the flanges of the first bracket member being adapted to engage the flanges of the second bracket member to hold the two members against relative angular displacement when in at least a partially overlapping relationship, an inwardly extending T-shaped tab carried at the free end of said one leg of the second bracket member slidably engaging the slot in the first bracket member and securing the members one to the other, an elongated tube slidably carried in an opening in the other leg of the second bracket member, means carried by said tube and slidably engaging the elongated slot in the second bracket member to lock the tube against rotation relative to the bracket members and axially aligned with said tube, said rod extending through and beyond the outer end of said tube when said tube and bracket members are moved into overlying relationship.

5. A hanger for lighting fixtures according to claim 4 wherein said threaded rod is carried by the first said bracket member.

6. A hanger for lighting fixtures comprising a first L-shaped bracket member, means on one leg of said member for attaching it to a support with the other leg extending downwardly, a second L-shaped bracket member having an elongated slot in one leg thereof, fastening means extending through said slot and secured to the lower end of the other leg of the first bracket member to hold the bracket members in slidable relationship, a tubular member having a threaded lower end portion slidably carried by the other leg of the second bracket member, means on the upper end of said tubular member for locking it against rotation relative to the bracket members and a threaded rod fixed relative to the other leg of the first bracket member and extending downwardly in axial alignment with said tubular member.

7. A hanger for lighting fixtures comprising an L-shaped bracket member having one leg fixed to a support and the other leg extending downwardly therefrom, said other leg including a plurality of spaced openings therein, a U-shaped bracket member having upper and lower legs and a connecting base member, with the base member having an elongated slot therein and an opening disposed between one end of the slot and the upper leg, means extending through an opening in the other leg of the first bracket member to secure the two in position one relative to the other, a tubular member slidably carried by the lower leg of said U-shaped member and carrying means at the upper end thereof for engaging said elongated slot and a threaded rod carried by the upper leg of the U-shaped member and extending downwardly in axial alignment with said tube.

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8. A hanger for lighting fixtures comprising an L-shaped bracket member having means on one leg thereof for securing it to a support, the other leg of said bracket member having an elongated slot therein, a threaded rod extending downwardly from said one leg and in substantially parallel relationship to the other leg, a tubular member slidably engaging said rod and means carried by said tubular member and engaging said slot to slidably secure the tube to said other leg and in engagement with said rod.

9. In a lighting fixture, a socket cluster secured to a support and means carried on the under side of said cluster and extending downwardly therefrom for supporting a cooperating fixture element, said means being operable to support said element for movement toward and away from said cluster and to fixedly secure said element in a predetermined position relative to said cluster, the last said means including a pair of L-shaped bracket members with one leg of each member coupled one to the other in slidable relationship, means on the other leg of one member securing it to the underside of said cluster, a threaded rod extending downwardly from said other leg of said one bracket member, a tube carried by the other leg of the other bracket member in slidable relationship thereof and in alignment with said rod and means carried by said tube to lock it against rotation relative to the bracket members, said fixture element being carried at the lower end of said tube, said rod extending through said tube when the element is in a raised position to the receipt of fastening means to hold the element in said raised position.

10. A hanger for lighting fixtures comprising a pair of elongated members, means for securing one member to the other member for slidable movement of said member one relative to the other, means on one of said members for securing it to a support, tubular means carried by the other of said members for securing the other of said members to a fixture element, switch supporting means fixedly positioned relative to said one member and a pull chain switch carried by said switch supporting means with the chain of said switch extending through said tubular member.

11. A hanger for lighting fixtures comprising a pair

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of bracket members each having at least two angularly disposed leg portions, means coupling one leg of one member to one leg of the other member for longitudinal movement of the members one relative to the other, means on the other leg of one member for supporting the hanger, a threaded tubular member carried by the other leg of said other member to engage and support a lighting fixture element and a rod carried by said means on said other leg of said one member of said hanger and in axial alignment with said tubular member, said rod extending through the tubular member and receiving fastening means on the end thereof when the bracket members are moved inwardly one of the other.

12. In a lighting fixture having means enclosing the lighting source, means for holding the light source and light source enclosing means comprising electric socket means for holding at least one light source, a bracket carried by the last said means for securing it to a supporting element, at least two elongated members slidably connected one to the other, means carried by one of said members securing said one member to said socket, tubular means carried by the other of said members and extending through said enclosing means and securing the latter to said other member, said slidable members guiding said enclosing means into and out of an enclosing position, and means carried by the socket and extending through said tubular means, and means on the last said means releasably securing said slidable members one to the other to hold said enclosing means in said enclosing position.

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