

W. C. HINE.
ELECTRIC LAMP FIXTURE.
APPLICATION FILED DEC. 12, 1910.

999,998.

Patented Aug. 8, 1911

4 SHEETS—SHEET 1

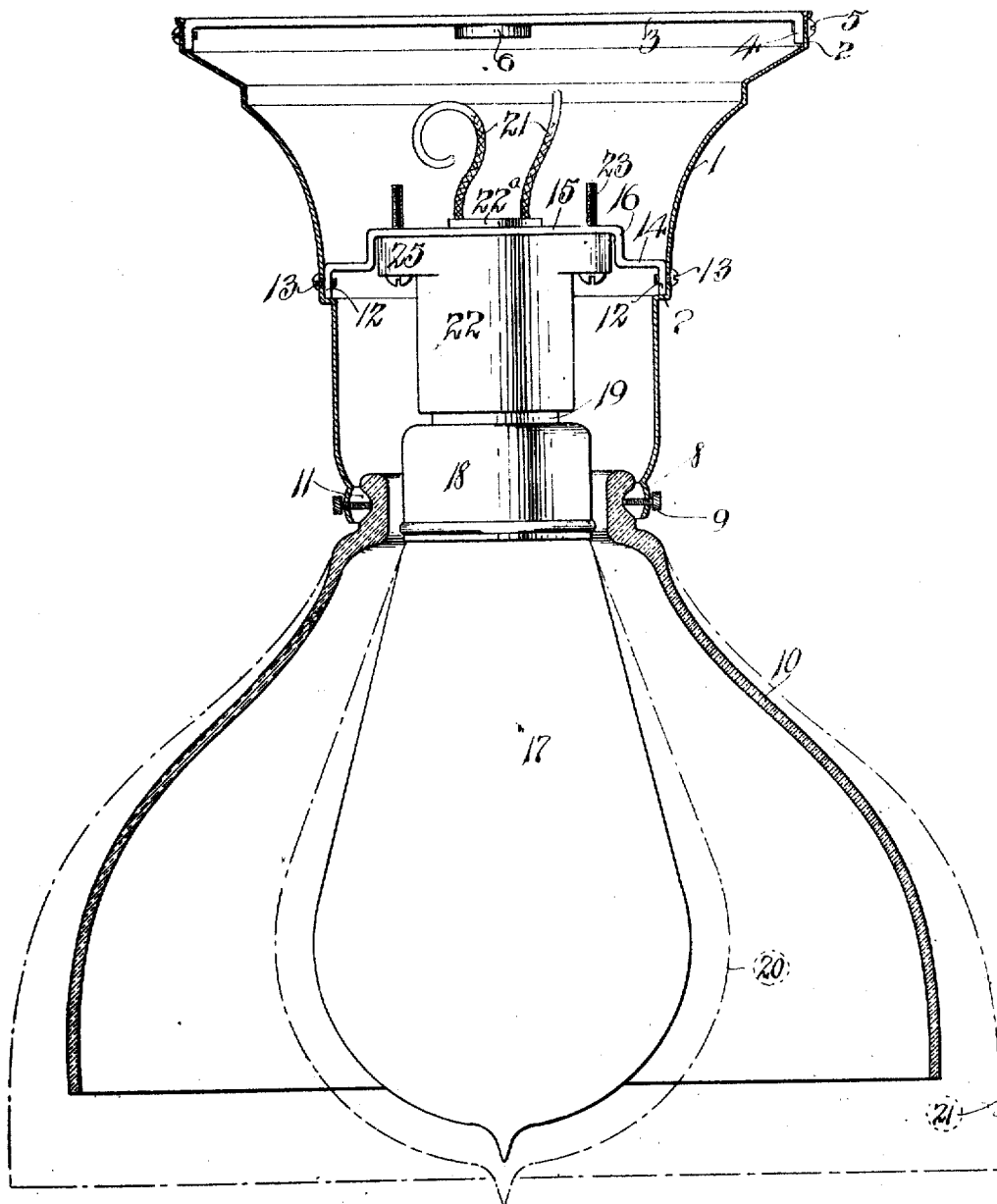


FIG. 1.

Witnesses

Harold E. Smith
Permanently set.

Inventor

William C. Hine
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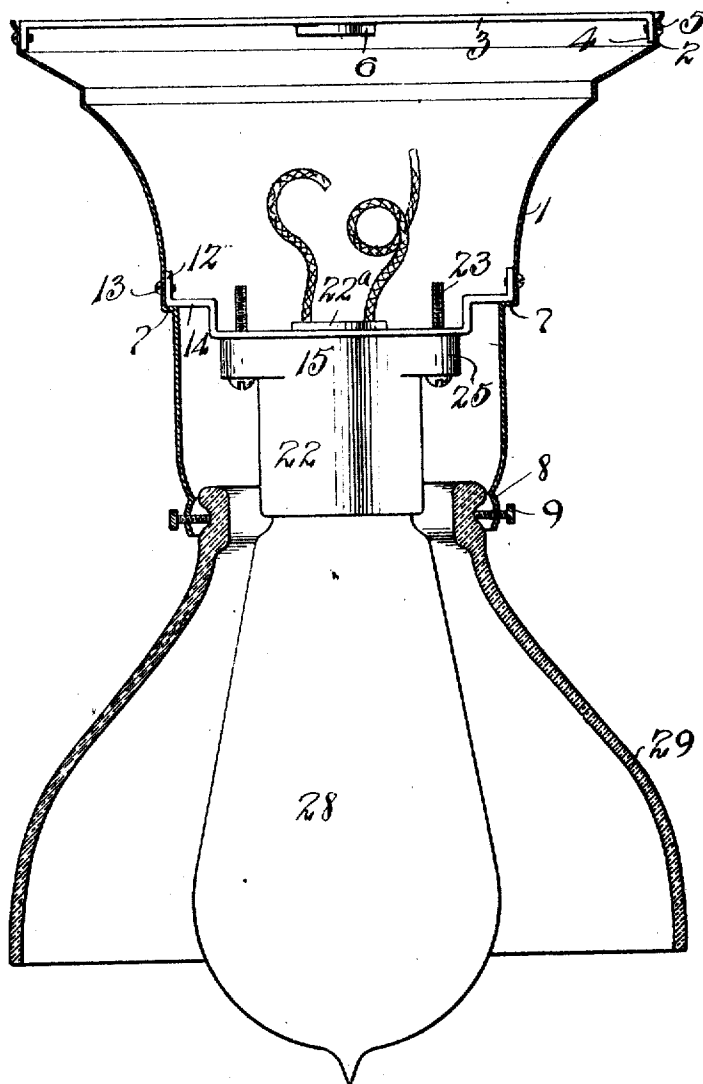


FIG. 2.

Witnesses.

Harold E. Smith
Brennan B. West.

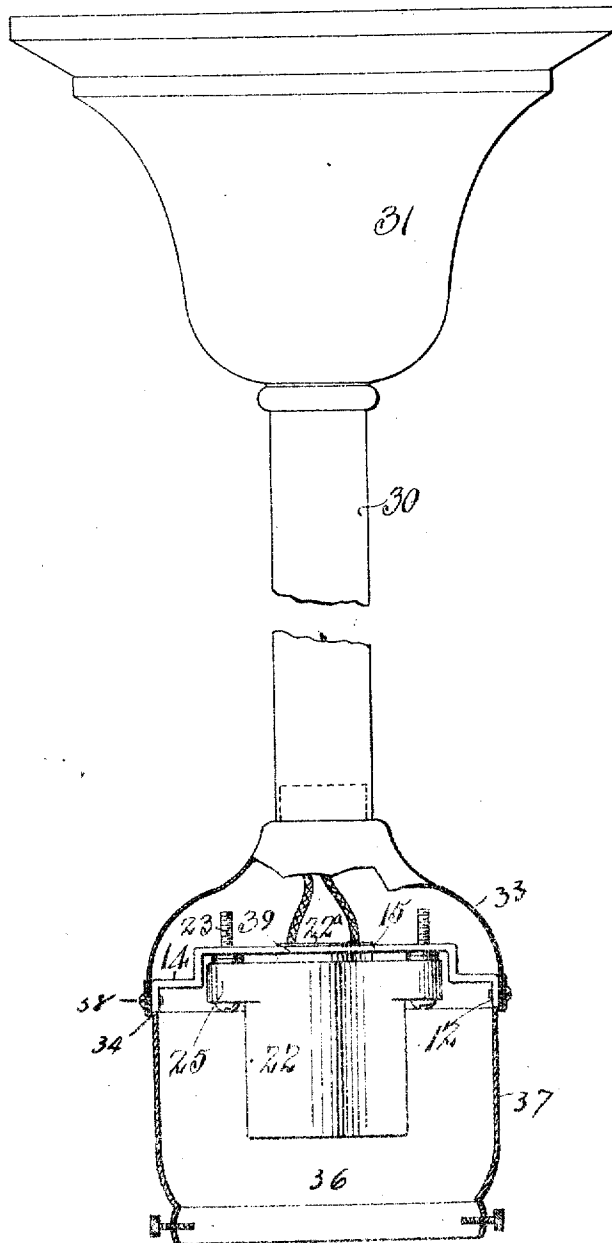
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4 SHEETS—SHEET 3.



Witnesses.

Harold E. Smith
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FIG. 3.

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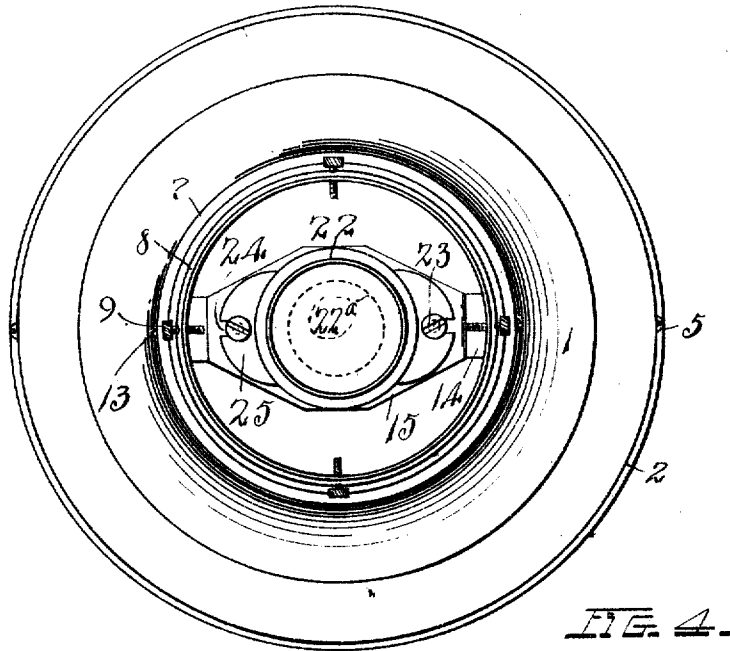


FIG. 4.

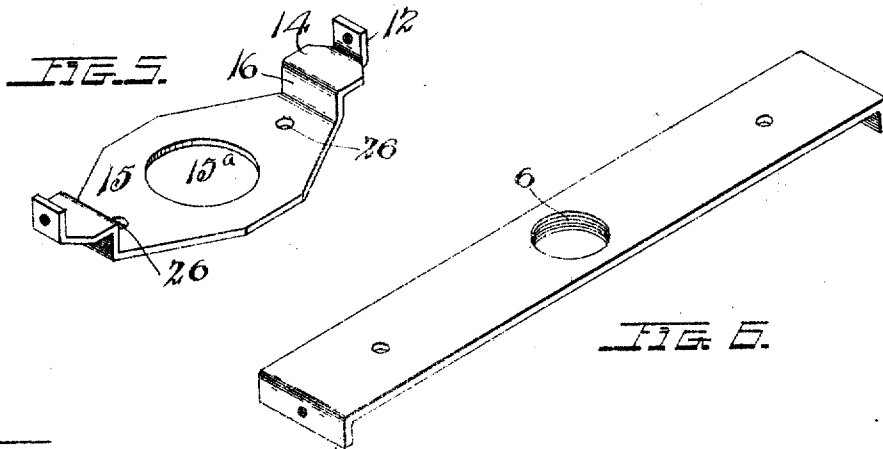


FIG. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM C. HINE, OF CONNEAUT, OHIO.

ELECTRIC-LAMP FIXTURE.

999,998.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed December 12, 1910. Serial No. 598,871.

To all whom it may concern:

Be it known that I, WILLIAM C. HINE, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented a certain new and useful Improvement in Electric-Lamp Fixtures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 This invention relates to electric light fixtures such as are used with lamps which are now exemplified in the "Mazda" or tungsten lamps. In operating such lamps, which are now the recognized standard of efficiency for incandescent lamps, it has been considered necessary to preserve a certain relation between the shades and lamps in order to obtain the best illuminative effects; that is to say, the best distribution of light.

20 In a shade holder and lamp socket which have been largely employed for the above purpose, one position of the lamp is determined by a bead on the socket, which is engaged by a split ring and the latter by the corresponding portion of the holder, and this bead, together with the effective length of the shade holder, determines the position of the lamp with reference to the shade or reflector. In order to determine another position of lamp with reference to the shade or reflector, a holder of different length is employed. With the longer holder, lamps of the "skirt base" type are now employed, while with the short holder, lamps of the "short base" type are now employed. The result is that the customer deals with a great variety of holders and that the dealer has to carry a large stock of holders and parts.

40 It is the object of my invention to secure the efficient light distribution referred to, with the employment of but a single holder for all standard variations in length and size of shades and lamps, together with a construction which will eliminate the necessity for a special type, or in fact any type, of socket in conjunction with the holder.

A further object of the invention is to provide a construction which will abolish the expense hitherto incident to carrying and producing the stock necessary to accommodate large and small lamps and shades,

by providing a fixture which is applicable equally well to such sizes of lamps and shades, and, in brief, to reduce the problem of light distribution to a one-fixture basis.

I accomplish the foregoing objects by the construction illustrated in the drawings forming part hereof, wherein--

Figure 1 represents a vertical sectional view taken through an electric light fixture constructed in accordance with my invention, the lamp being shown in elevation, another size of lamp and shade being indicated in dotted lines; Fig. 2 represents a similar view, showing a smaller lamp and shade supported by my fixture; Fig. 3 is an elevation with parts broken away, illustrating the manner in which my invention may be applied to a "drop" or lengthened fixture; Fig. 4 is a bottom plan view of the fixture shown in Figs. 1 and 2, the lamp being omitted; Fig. 5 a perspective view of the supporting and positioning device or "saddle" forming part of the fixture; and Fig. 6 a perspective view of the cross bar at the top of the fixture shown in said figures.

Describing the various parts by reference characters, 1 denotes a fixture, the same being shown as of the "canopy" type holder adapted for application to a ceiling. This holder is of light metal, preferably spun brass, having an enlarged upper end and being of generally frusto-conical shape. At the extreme top, it is provided with an upwardly directed annular flange 2 which receives a cross bar 3, provided with down-turned flanges 4 at its opposite ends, by means of which it is secured in place, as by the screws 5 extending through the annular flange and the down-turned flanges. At its central portion, it is provided with a downwardly directed internally threaded bushing 6, by means of which the holder and the attached parts may be supported by application to the threaded end of a support carried by the ceiling. This support is frequently provided by a junction box located in the ceiling as well as by a gas pipe projecting through the ceiling. At a convenient point intermediate of the ends thereof, the holder is provided with a substantially horizontal ledge 7, for a purpose to be described, the body of the holder immediately above such

ledge being substantially cylindrical. At its lower end, the holder is provided with an annular bead 8 adapted to receive the adjusting screws 9 by which the shade or reflector 10 is supported from the holder, the shade or reflector being provided, below the top thereof, with an annular recess 11 for the reception of the inner ends of said screws.

10 Within the body of the holder 1 there is mounted a device by which lamps of various sizes are supported and properly positioned with reference to the shades. This supporting and positioning device comprises a 15 metallic plate having ends by which it may be attached to the holder and a body portion offset from the ends in the direction of the axis of the holder, such offset portion serving to support and position the lamps. The device is conveniently formed in the manner 20 shown in the drawings, wherein a metallic plate is shown as provided with end flanges 12 adapted to be secured to the wall of the holder 1 above the ledge 7 by means of screws 13, the ends of the flanges preferably 25 resting upon said ledge and said flanges extending along and in substantial contact with the cylindrical wall of the holder above such ledge. At a suitable distance above the 30 ends of the ledges, the middle of the plate extends inwardly, or toward the center of the holder, as shown at 14. At its central portion, the plate is offset axially with respect to the portions 14, such offset portion 35 being indicated at 15 and extending across the axis of the holder at substantially right angles thereto, being connected to the portions 14 by axially extending portions 16.

40 In Fig. 1, the holder is shown as supporting a relatively large shade 10 and a relatively large lamp 17, the lamp being of about the dimensions of a 60 watt tungsten or "Mazda" lamp, or similar lamp, and the shade being of the standard size ordinarily 45 employed with such lamp. This lamp, as is customary with lamps of this capacity, is provided with a skirt base 18, from which projects the ordinary threaded base 19. In the same figure there are represented in 50 dotted lines the globe 20 of a lamp of still greater capacity, (say 100 watts) and a shade 21 corresponding to such globe. In order to support either of these high power lamps in proper position with respect to 55 their shades, the supporting and positioning device is applied to the holder in the manner shown in Fig. 1. In this figure, the offset portion 15 of this device is projected upwardly. To such upwardly projecting 60 portion there is secured a porcelain receptacle 22, said receptacle being supported by means of screws 23 extending through slots 24 in lateral lugs 25, carried by the receptacle and through threaded apertures 26 in the said device. The receptacle 22 is pro-

vided with the usual outlet wires 27, which may lead to any convenient switch (not shown).

In Fig. 2, there is shown identically the same fixture as in Fig. 1, the casing 1 and 70 the other numbered parts being identical with the fixture parts correspondingly numbered in the former figure. The lamp 28 and the shade 29 are smaller than the lamp and shade shown in the preceding figure, the 75 shade illustrated being such as used in connection with 25 and 40 watt tungsten or "Mazda" lamps or similar lamps. Lamps of this size are not provided with the skirt base shown in the preceding figure, but with 80 a short base which is threaded into the receptacle 22. In order to bring these lamps into proper relation to the shade, the supporting and positioning device is merely reversed, the offset portion 15 being directed 85 downwardly instead of upwardly in the fixture 1. When so reversed, the flanges 12 are directed upwardly and the surfaces of the inwardly extending portions 14 preferably abut and rest upon the ledge 7, the 90 screws 13 being applied to retain the supporting and positioning device in place.

With the present standard of shades and lamps, the low capacity or small lamps, 95 such as shown in Fig. 2, must be supported at a point from about three quarters to seven-eighths of an inch closer to the top of the shade than is the case with the lamps of higher efficiency, owing to the difference 100 in construction of the lamps, such as the absence of the skirt base 18 in the smaller lamps. The apertures in the flanges 12 will be located midway of the outer length of said flanges so that the ends of the flanges 105 will abut against the ledge 7 when the supporting device is used with large lamps in the position shown in Fig. 1, while the surfaces of the portions 14 which are opposite the ends of said flanges will abut against said ledges when said device is reversed or 110 applied in the position shown in Fig. 2. The vertical distance between the centers of the apertures in the flanges 12 and the central portion 15 of the device will be half the difference between the distances at which 115 the upper ends of the large and small lamps are supported above their respective shades. In operating with the smaller or lower efficiency lamps, the receptacle 22 is applied to the under surface of the downwardly projecting central portion 15 of the supporting and positioning device. 120

In Fig. 3 there is shown a modification of the holder or fixture, which is especially adapted for use with a "drop" fixture. In 125 this view, 30 denotes a depending tube, 31 the canopy secured thereto and covering the ceiling joint, and 33 the upper section of the holder or fixture by which the shade is supported and which contains and supports 130

the supporting and positioning device. The section 33 is substantially closed at the top and the supporting and positioning device and the receptacle 22 will be applied to the ledge 34 carried by the lower section 36 of the holder. Such being the case, the lower section of the holder casing is contracted in diameter, as shown at 37, in comparison with the diameter of the adjacent upper section. The flanges 12 will extend along the cylindrical lower end of the upper section, with their ends resting on top of the ledge 34 (when the supporting device is in the position shown in Fig. 3). The device will be secured in place by screws 38 extending through the telescoping ends of the upper and lower sections and through the apertures in the flanges 12. In Fig. 3, the parts are shown in the position which they will occupy in connection with a large lamp, namely, with the central portion of the device projected upwardly. When desired to use this fixture in combination with the smaller size lamp, such as shown in Fig. 2, the aforesaid device will be reversed in an obvious manner.

As previously stated, the constructions shown herein are designed for use with shades and lamps as they are now standardized. In order to accommodate and adapt my construction for future possible changes that may be made in shade dimensions, I provide means whereby the desired distribution of light may be obtained, notwithstanding such changes. As will appear more particularly from Figs. 1, 2, 3 and 5, the receptacle is provided with a neck 22^a which projects through and fits more or less closely an aperture 15^a provided in the offset portion 15 of the saddle, or supporting device. This neck 22^a is of such length as to accommodate one or more washers 39 between the upper surface of the receptacle and the adjacent surface of the projection 15. Should it be desirable to vary the position of the lamp with reference to the shade, in addition to the adjustment provided by the reversibility of the supporting and positioning device, such variations may be accomplished by applying to the neck 22^a one or more washers or substituting for a washer already thereon another washer varying in thickness therefrom.

In applying the supporting and positioning device to a fixture as shown in Figs. 1 and 2, the receptacle will preferably be fastened to the upwardly or downwardly projecting portion 15, as occasion may require, and the said device and receptacle may be inserted through the bottom of the fixture, by giving the said device a quarter turn with respect to the position shown in the drawings, before inserting it into the fixture. It may then be righted within the fixture casing and seated on the ledge 7, being se-

cured in place by the screws 13. If the cross bar 3 is not in place, the device may be inserted even more conveniently into the enlarged upper end of the casing. With the style of fixture shown in Fig. 3, the device may be inserted through the open bottom, in the manner described above, but it will be more convenient to separate the upper and lower sections and apply the device directly to the ledge.

When the supporting and positioning device is in place, it is adapted to rest upon the ledge or shoulder 7 or 34. This holds the device from rocking and thereby getting the lamp out of such relation to the shade as will interfere with the highest illuminative efficiency. This is equally true whether the device be in the position shown in Fig. 1 or in the reversed position shown in Fig. 2.

A great advantage of my construction resides in the fact that the supporting and positioning device is interchangeable with the two types of fixtures shown herein, the distance from the ledge of each fixture to its shade-supporting portion being the same for both types of fixture. It is also equally applicable to fixtures for shades of varying holder dimensions.

Having thus described my invention, what I claim is:

1. The combination of a fixture for supporting a lamp and shade, said fixture having adjacent to one end thereof means by which the shade may be supported and having intermediate of its ends a ledge, and a supporting and positioning device for a lamp reversibly supported adjacent to said ledge and having a portion offset longitudinally or axially with respect to the casing.

2. The combination, with a fixture having means for supporting a lamp shade, of a device extending across the central portion of said fixture and having a portion offset with respect to the ends thereof in the direction of the axis of said fixture, and means for reversibly supporting said ends in said fixture.

3. The combination, with a fixture having means for supporting a lamp shade, of a device extending across the central portion of said fixture and having a portion offset with respect to the ends thereof in the direction of the axis of said fixture, said ends being adapted to extend along the opposed walls of the fixture, and means for securing said ends to said walls.

4. The combination, with a fixture having means for supporting a lamp shade, of a positioning device adapted to extend across said fixture and having its central portion offset in the direction of the axis of said fixture, and means reversibly supporting said device in said fixture.

5. The combination of a fixture having adjacent to one end thereof supporting

means for a shade and having intermediate of its ends a ledge, a positioning device comprising a central body portion and end flanges, said flanges being provided with apertures substantially half way of the length thereof and said fixture being provided with apertures located substantially the same distance from the ledge as each of the first-mentioned apertures is distant from the end of its flange, and securing means extending through the apertures in the fixture and the apertures in the flanges.

6. The combination with a fixture having adjacent to one end thereof means whereby a shade may be secured thereto and having its upper and lower portions of different diameters, with a ledge connecting such portions, and a positioning device having portions adapted to bear against said ledge and having a central body portion offset from such former portions in the direction of the axis of said fixture.

7. The combination, with a two-part hollow fixture comprising an upper member and a lower member telescopically connected, the lower member being provided with a substantially horizontal ledge adapted to receive the lower end of the upper member, and a lamp supporting device extending across the bore of the fixture and having end flanges secured to the overlapping walls of the fixture sections adjacent to said ledge.

8. The combination of a fixture having means adjacent one end for supporting a lamp shade, and a supporting and positioning device reversibly mounted within said fixture, said device comprising flanged ends provided, intermediate of their ends, each with an aperture, inwardly projecting portions extending from said flanges, and a central portion offset from the intermediate portions in the direction of the axis of the fixture, and means extending through the fixture wall and through the apertures in the flanges for reversibly securing said device in position within the fixture.

9. The combination of a fixture having shade supporting means adjacent to one end thereof, a supporting and positioning device carried by said fixture and extending transversely across the central portion of the same, said fixture having a central portion offset in the direction of the axis of said fixture, a lamp supporting member connected to the offset portion of said device, and means for supporting the said device from said fixture.

10. The combination of a fixture having adjacent to one end thereof means whereby a shade may be secured thereto, a device extending transversely across the central portion of said fixture and having its central portion offset in the direction of the

axis of said fixture, a lamp support secured to the central portion of said device, and means whereby the position of said support with reference to such central portion may be varied.

11. The combination of a hollow fixture having adjacent to one end thereof means whereby a shade may be secured thereto, a device extending transversely across the central portion of said fixture, a lamp support secured to the central portion of said device, and means whereby the position of said support with reference to such central portion may be varied in the direction of the axis of the fixture.

12. The combination of a fixture having adjacent to one end thereof means for supporting a lamp, a device extending transversely across the central portion of said fixture and having its central portion offset in the direction of the axis of said fixture, said central portion having an aperture there-through, a lamp supporting member having a neck adapted to be inserted through said aperture, a washer on said neck and spacing the body of the support from the central portion of said device, and means for securing said support to such portion of said device.

13. The combination of a hollow fixture having adjacent to one end thereof means for supporting a lamp shade, a plate extending across said fixture and having a central aperture, a lamp support having a neck adapted to be inserted into said aperture, a washer on said neck between the body of the support and the plate, and means securing the support to the plate.

14. The combination of a hollow fixture having adjacent one end means for supporting a lamp shade, a device extending across the central portion of said fixture, means for positioning said device in said fixture, a receptacle carried by said device and within said fixture, and means whereby the position of said receptacle with reference to said device may be varied.

15. The combination, with a hollow fixture having adjacent to one end thereof means whereby a lamp shade may be supported, of a lamp receptacle, and means, located within the hollow body of the fixture, against which the receptacle may be abutted and supported in a plurality of positions varying longitudinally with respect to the fixture.

16. The combination, with a hollow fixture having adjacent one end thereof means whereby a shade may be supported, of a lamp support, and means, located within the hollow fixture and projecting inwardly into the hollow interior of said fixture from the side wall thereof, against which the lamp support is adapted to abut and be supported

in at least two positions varying longitudinally with respect to said fixture.

17. The combination, with a hollow fixture having adjacent one end thereof means
5 for supporting a lamp shade, of a supporting device within said fixture, a lamp-carrying member, means for abutting said member against and securing it to said supporting device, and means whereby the relative

positions of said member and said device 10 may be varied.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

WILLIAM C. HINE.

Witnesses:

J. B. HULL,

BRENNAN B. WEST.