

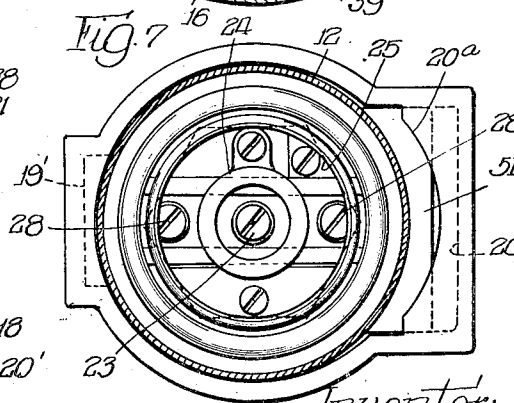
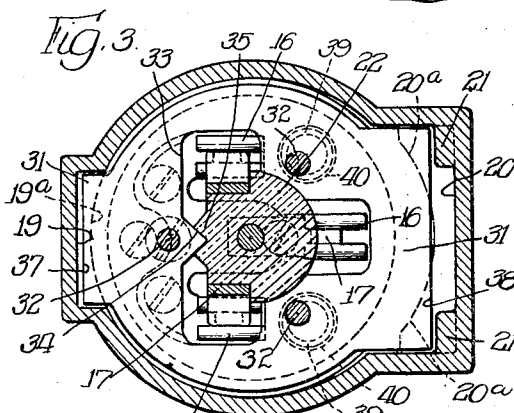
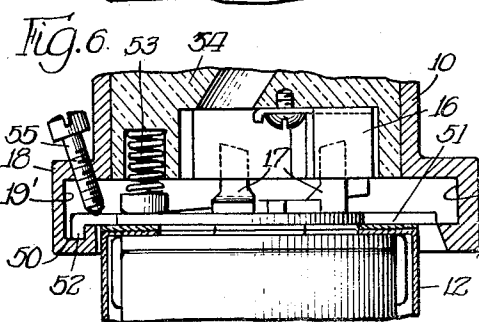
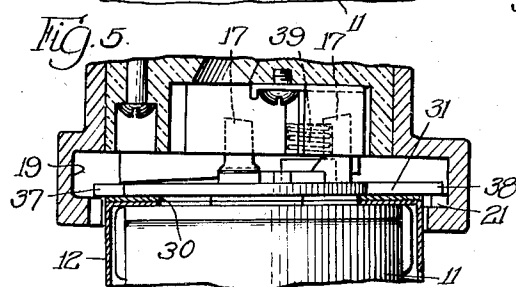
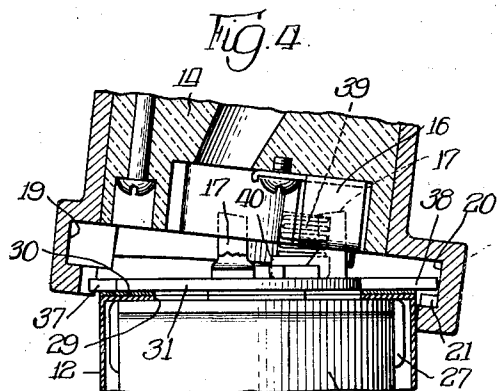
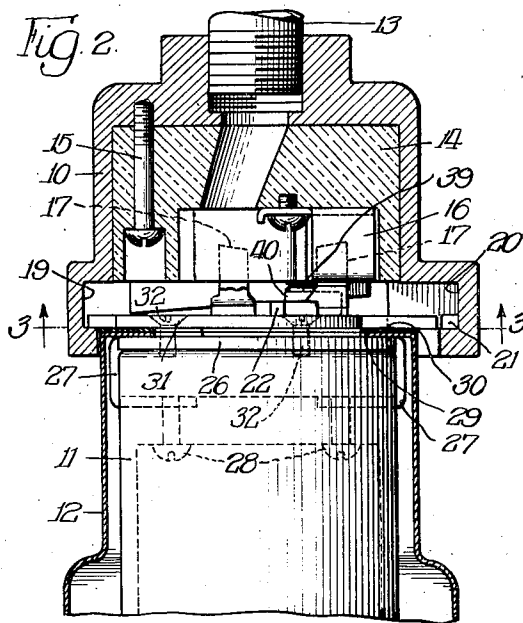
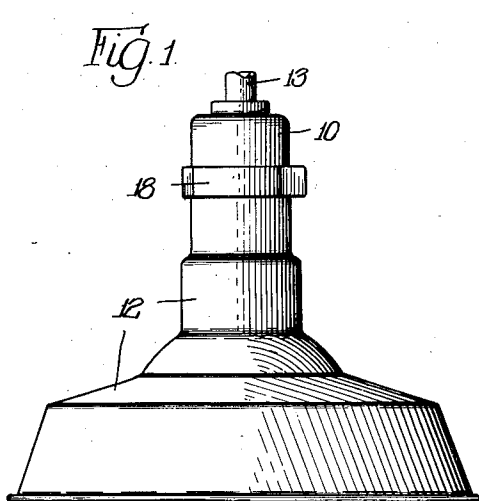
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ELECTRIC FIXTURE

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ELECTRIC FIXTURE

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11 Claims. (Cl. 240—85)

This invention relates in general to an electric fixture and has more particular reference to a non-rotating or sliding connection type of combined electrical connector and fixture support.

5 An important object of the invention is in the provision of a combined support and electrical connector which is moved slidably instead of rotatably to make the necessary electrical connections and to secure the fixture supporting parts together.

10 A further object of the invention is in the provision of a non-rotating type of connector for an electric fixture in which the parts to be connected are first tilted slightly with respect to each other, then moved together, and then are slipped laterally with respect to each other without electrically disconnecting the parts, and are then held or locked tightly together in parallel relation.

20 A still further object of the invention is in the provision of means in connection with the parts for accurately positioning them so that they will be in proper register when moved together.

Other objects of the invention will appear, the preferred constructions being shown in the accompanying drawing in which

Fig. 1 is a side elevation of an electric fixture including a shade or reflector, embodying the principles of this invention;

30 Fig. 2 is a sectional view of the connector and support when the attachment is complete;

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

Fig. 4 is a sectional view showing the first stage of connecting the parts shown in Fig. 2;

Fig. 5 is a sectional view showing an intermediate stage of the connection of the parts;

Fig. 6 is a sectional view of a modification; and

Fig. 7 is a view from the under side of the structure shown in Fig. 6.

40 In connecting the parts of an electric fixture, either the lamp socket or the shade holder, or both, it is common practice to rotate one part with respect to the other. This is objectionable for many reasons, among which are, that it limits the type of electrical contacts, it provides a connection which may be easily disengaged or jarred loose, the parts may not properly engage, forming a poor electrical connection or a poor mechanical joint, and the electrical connections may be twisted or disengaged, resulting in a wrong connection or a short-circuit.

55 The present invention overcomes these objections by providing a sliding type of connection in which there is no twisting of the conductors,

there is no relative rotary movement between the parts, the electrical connections once made at the start of the connecting movement will continue in the same engagement throughout the connection of the parts, the fixture parts are moved relatively to each other in the same or parallel planes so that the wiping movement of the electrical contacts makes a dependable electrical joint, and when the parts are properly engaged they are resiliently or otherwise locked in engaged position from which they cannot be disengaged except by positive intentional movement of the parts for disconnection.

Referring now more particularly to the drawing, this invention is illustrated in connection with a fixture support 10 in connection with a removable lamp socket 11 and a reflector or shade 12. The support may be held in any desired position, as by means of a conduit or pipe 13 through which the electrical conductors (not shown) extend to the fixture. In the support an insulating terminal plug 14 usually made of porcelain or similar material, is secured by one or more fastening screws 15, providing a holder for a plurality of spring socket receptacles 16 each comprising a pair of spaced springs for receiving spring blades 17 slidably therebetween.

At the outer or lower edge of the support 10 is a flange 18 preferably somewhat larger than the remainder of the support, having undercut recesses 19 and 20 at opposite sides thereof. These undercut portions are preferably angular and have outer sides which are parallel, one of the portions 20 having angular ledges or shoulders 21 at the opposite outer edges for seating and positioning a fixture plate as hereafter set forth. At the upper or inner end of the lamp socket 11 is a central insulating core 22 from which the blades 17, three in this case, extend and to which they are rigidly fastened. Each blade is preferably formed with a slight offset so that it will fit accurately into and between the spring members of each receiving socket 16 and the socket extremities of these blades are connected through the end of the socket member 11 to the inside thereof, preferably to a central terminal 23, a surrounding ring terminal 24, and a threaded lamp socket ring 25. These three conductors are electrically spaced apart in a well known manner within the socket and the three terminals are provided for any multiple filament type of lamp now commonly employed in lighting fixtures, the specific construction of the socket and the terminals forming no particular part of the present application.

Also secured to the inner end of the socket 11 is an attachment plate 26 having opposite inwardly turned arms 27 attached through the inside of the socket by fastening screws 28. This plate is cut out at the top to insulate it from the terminal blades 17 and is bodily carried and movable with the socket and its connector blades 17.

In order to support a reflector or shade 12 the end of its reduced portion is provided with an opening 29 preferably hexagonal in shape and of such a size that the blades 17 will extend freely through it without engagement therewith. A washer or gasket 30 is then applied over the end of the shade and an attachment plate 31 is secured to the plate 26 by short fastening screws 32.

This plate 31 is also provided with a central opening 33 which is free from contact with the projecting blades 17 and one portion of the opening may be formed with an angular projection 34 which engages in a corresponding recess 35 in the core 22 to accurately position the plate with respect thereto. The other plate 26 is also preferably formed with an angular projection (not shown) similar to the projection 34 of the outer plate 31 for accurately positioning it with respect to the core 22.

When the fastening screws 32 are inserted tightly, connecting the plates 31 and 26 with the end of the shade 12 therebetween, the lamp socket 11 is positively connected to the end of the shade with the socket in proper position therein, the blades 17 and the plate 31 extending from the end of the shade or reflector ready for attachment to the support. At opposite sides of this plate 31 are angular latch portions 37 and 38 adapted to engage and register with the recesses 19 and 20 at opposite sides of the support 10, the outer edges of these portions being parallel and spaced apart less than the extreme distance of the recesses 19 and 20 an amount equal to the width of the shoulders 21.

Seated in a recess in the terminal plug 14 and projecting from the face therefrom are coil springs 39 each preferably having an attached metal cap 40 at its outer end adapted to bear against the plate 31 at opposite sides thereof when the lamp socket and the parts attached thereto are inserted in the support 10.

By reference particularly to Figs. 2, 4 and 5 it will be seen that there are three stages in the attachment of the socket in the holder; Fig. 4 showing the first position in which the angular latch portion 38 is hooked into the undercut recess 20 beyond the ledges 21 at which time the opposite angular latch portion 37 may be inserted into the opening of the fixture support adjacent the undercut recess 19. At this time the blades 17 are pressed into engagement with the corresponding spring receptacle 16 and the movement of the parts together is opposed by the springs 39.

A continued inward sliding movement of the parts about the latch portion 38 resting upon the shoulders 21 as an axis brings the latch portion 37 in line with the undercut recess 19 as shown in Fig. 5. The next movement is to slip the plate 31 laterally with respect to the support 10 so that the latch portion 38 is moved outwardly from engagement with the shoulders 21 and into alignment with the ledges or shoulders as shown in Fig. 2, the latch portions 37 and 38 at this time being engaged with the undercut recesses 19 and 20, the undercut edge of the re-

cess 19 being clearly shown as a curved line 19a in Fig. 3 and the undercut edges of the recess 20 being shown as the curved line 20a in this same figure. The parts are held tightly in this engaged and interconnected position by means of the springs 39.

To disengage the parts the interlocking movement above described is reversed; the socket and shade holder with the attached plate 31 is pressed inwardly at the side having the latch portion 38 against the pressure of the spring 39 until it is beyond the shoulders 21, whereupon the plate may be slipped laterally, thus freeing the opposite latch portion 37 so that it may be withdrawn from the fixture support, thus disconnecting the blade 17 from the socket 16.

It will be seen that the blades are less in width than the spring socket 16 so that a relative sliding movement is possible between them to the extent permitted by the shoulders 21 and the interengagement of the latch portions 37 and 38 with the undercut portions of the support. This insures a continuous sliding engagement of the blades and sockets without a relative turning or twisting movement thereof and only a wiping or sliding action between them which insures a good electrical connection.

In the modification shown by Figs. 6 and 7 a similar sliding connection is made between the blades 17 and sockets 16, the shoulders 21 are omitted from the undercut recess 20' and a further latching undercut 50 is provided in the undercut recess 19' at the other side of the support. A plate 51 is formed with a bent extremity 52 to engage in the latching undercut 50 where it is held yieldingly in place by a spring 53 projecting from the plug 54. The attachment of this structure is similar to that described and shown in Figs. 2, 4 and 5, one side of the plate 51 being first inserted in the undercut recess 20', the other side being pressed inwardly against the spring 53 until the bent locking extremity 52 is free for movement into the recess 19' by a relative movement of the plate 51 and the support 10 so that the locking extremity may be engaged in the latching undercut 50.

If desired a positive locking screw 55 or other similar fastening device may be inserted through the flange 18 into engagement with, or into the path of the plate 51 so that the bent locking extremity 52 cannot be disengaged from the locking undercut 50. A similar locking screw might be provided to engage the latch portion 38 of the plate 31.

This construction will not be accidentally disengaged, the screw 55 must be positively withdrawn, and then the plate and support may be disengaged by a reverse movement as in the other form of the invention.

Various changes may be made in the number and shape of the conductors, the sockets, supports and other parts connected without departing from the spirit and scope of the invention which consists in the sliding and non-rotating type of connectors and attachments which are slidably connected, resiliently held, and may be tightly locked in position.

I claim:

1. A lighting fixture comprising a non-rotatable electrical connection having separable parts with spring plates and conductor blades insertable slidably together and cooperating fastening means comprising a holder with undercut recesses attached to one part, and an attachment plate secured to the other part and movable first

into the holder to engage the conductor plates and blades and then slidably with respect to the holder for engagement with the recesses, maintaining the connector plates and blades in slidable, parallel relation.

2. In a fixture of the class described, a non-rotatable connection comprising separable parts having sockets and blades thereon for slidable movement together, one of the parts having undercut recesses at opposite sides and the other part having an attachment plate insertable within one recess and then slidable into the other recess while maintaining the blades and sockets together in slidable non-rotating engagement.

3. A connector in accordance with claim 2 in which the recess into which the plate is first inserted is formed with shoulders engaged by the plate until it is moved into the other recess and then lying parallel with the plate, and resilient means for holding the plate in the undercut recesses and parallel with the said shoulders.

4. In a lighting fixture, a support having a rim with opposite undercut recesses, a shade and socket support having an attached plate with projections to engage in the recesses, the plate being of a size to extend into one of the recesses until the opposite side is moved inwardly through the rim to engage with the other recesses, and the first said recess having shouldered portions at its outer edge to maintain the plate in engagement with both recesses when it is moved into engagement with the other recess.

5. A non-rotatable lighting fixture in accordance with claim 4 in which the supports are provided with cooperating electrical sockets and blades for slidable connection when moved together, and for maintaining the slidable connection when the said plate is moved into interengaging connection with the opposite recesses.

6. In a lighting fixture, a support having a rim with opposite undercut recesses, a shade and lamp socket support having a plate with opposite portions to engage in the recesses and movable later-

ally in the first said support without rotation, means in one of the recesses for limiting the movement of the plate, and spring pressure means engaging the plate and holding it yielding in position against said means for preventing disengagement of the plate from the support.

7. In a lighting fixture, a support having a rim with opposite undercut recesses, a shade and lamp socket support with a plate having opposite projections to engage the undercut portions of both recesses at the same time, one recess being of sufficient depth to receive one end of the plate and move the other end inwardly of the rim to register with the other recess, the plate being then movable edgewise to engage both undercut portions.

8. In a lighting fixture, a support having an end opening with opposite undercut recesses, a shade and lamp support having a plate with opposite projections slidable in opposite directions to interengage in the recesses and movable into the opening by first engaging one recess rocking the other side of the plate into the recess about the engaged recess as an axis and then moving the plate edgewise to engage both recesses, and locking means carried by the first support to engage the plate for holding it in engagement with both recesses.

9. In a lighting fixture, a support having an opening with opposite recesses, a shade and lamp socket support having a plate movable into the opening and engageable with both recesses, one end of the plate having a bent extremity and one recess having a receiving portion for engaging the said extremity.

10. In a lighting fixture according to claim 9, a spring carried by the first support and engaging the plate to press the bent extremity yielding in engagement with the said receiving portion.

11. In a lighting fixture according to claim 9, a locking device carried by the first support movable to engage the plate for holding it against movement in the said receiving portion.

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