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H. J. FLAHERTY

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LIGHTING FIXTURE

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Fig. 1.

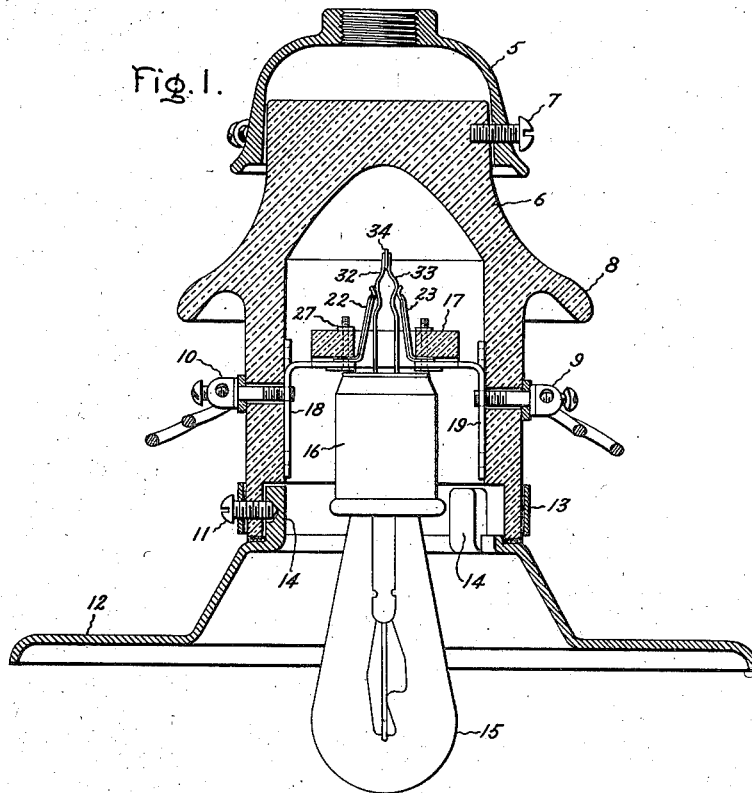
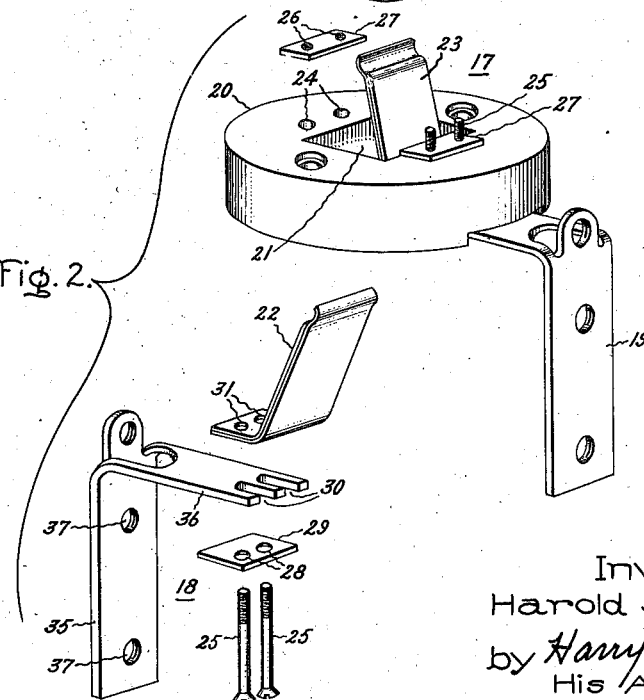


Fig. 2.



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UNITED STATES PATENT OFFICE

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LIGHTING FIXTURE

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1 Claim. (Cl. 240—25)

My invention relates to lighting fixtures and especially to highway lighting fixtures wherein the casing of the fixture is made of an insulating material, such as porcelain, and supports the lamp receptacle and the terminals therefor.

One object of my invention is to provide an improved support for the receptacle in such units.

For a better understanding of my invention, together with other and further objects thereof, reference is had to the following description, taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claim.

In the accompanying drawing, Fig. 1 illustrates a cross section of a lighting unit provided with an improved receptacle support built in accordance with my invention, and Fig. 2 is an exploded view of the receptacle and its support.

Referring to the drawing in detail, Fig. 1 illustrates a conventional lighting fixture including a cap 5 which is attached to the casing 6 of the unit. The casing 6 is a conventional cylindrical hollow casing closed at its upper end at which the cap is fastened to it in any convenient manner, such as by screws 7, for example. It is provided with a flange 8 surrounding the outer surface above the line wire terminals 9 and 10 and forming a rain shield therefor. The lower end of the casing 6 is open and the edge is perforated to accommodate screws 11 which support a reflector 12. The screws 11 are threaded into a ring 13 surrounding the outside of the casing 6 and extend through the perforations into the casing to engage the lugs 14 on the reflector 12. A lamp 15, its socket 16 and a receptacle 17 are supported within the casing 6 by the terminals 9 and 10 and brackets 18 and 19.

The casing 6 is preferably made of an insulating material, such as porcelain, for example, the dimensions of which cannot always be kept within the desired limits. It has been found that when manufacturing these casings in large numbers, various manufacturing errors result in casings varying considerably from the predetermined and desired dimensions. The receptacles to be mounted in the casings must, however, be mounted so as to maintain a predetermined relationship between the lamp and reflector of each unit. It is also important to obtain this final accuracy at a reasonably low cost. In order to obtain such accuracy of receptacle mounting in casings of widely varying dimensions, I have in accordance with my invention provided an improved receptacle and support therefor which may be assembled separately and then mounted

within the casing, the adjustment of the receptacle and the mounting thereof being done at substantially the same time.

Fig. 2 illustrates a receptacle and support built and assembled in accordance with my invention. The receptacle 17 comprises a disc 20 provided with a rectangular opening 21 through which contacts 22 and 23 project after being attached to the underside of the disc 20. The disc 20 is made of a suitable insulating material, such as porcelain, for example. The manner of assembling the contact 22 with the disc 20 and the supporting brackets 18 is illustrated by spacing the elements from each other in the order in which they are assembled, thereby creating what is commonly termed an "exploded view". The contact 23 and bracket 19 are illustrated in the assembled relation.

The disc 20 is provided with holes 24 near the edge of the rectangular opening 21 through which screws 25 project and engage the threads in holes 26 of a plate 27 on the upper side of the disc. On the underside of the disc 20 the screws project through holes 28 of a plate 29, through open-ended slots 30 in the end of the bracket 18 and through holes 31 in the end of the contact member 22. When the screws are drawn up into the holes 31, the contact 22 is attached to the disc and simultaneously the bracket 18 is held by friction between the plate 29 and the contact 22. A direct surface contact is thereby established between the bracket and receptacle contact which provides a minimum of resistance to current flow between the two members. The contact 22 is suitably shaped so that when its lower end is held in contact with the lower surface of disc 20, the body of the contact projects through the rectangular opening and engages at its end the similarly held contact 23. The contacts are sufficiently resilient to permit the insertion between them of the socket contacts 32 and 33 which in turn are separated by a dielectric film cut-out 34.

The brackets 18 and 19 are alike. Each is provided with a vertical arm 35 and a horizontal arm 36. The slots 30 are in the end of this horizontal arm and the vertical arm is provided with spaced holes 37. Two of these holes are located below the horizontal arm 36 and one above. When the brackets and receptacle are assembled, as above described, the brackets are spaced closely enough to each other so that the assembly may be inserted in the smallest of the casings. When the assembly is then placed inside of a casing, the terminals 9 and 10 are inserted in correspond-

ing holes in the brackets selected so as to establish the proper height of the receptacle within the casings. The terminals are then turned to draw the vertical arms of the brackets against the wall of the casing. If the casing is of the proper diameter or larger, the brackets are drawn outwardly until they engage the casing wall. During this process the screws 25 move in the slots 30, the screws having been previously tightened only enough to hold the brackets in place. If the terminals are simultaneously turned, the brackets may move outwardly an equal distance leaving the receptacle centered. If for some reason this receptacle is not properly centered, it may be so centered by simply loosening the screws 25 until the receptacle may be easily moved. The subsequent tightening of the screws locks the receptacle in place.

The use of the screws 25 for simultaneously holding the receptacle contacts and the supporting brackets results in several distinct advantages. One of these advantages is a reduction of resistance to current flow between the line terminals and the receptacle contacts. Due to the continual pressure between the contacts and brackets exerted by the screws, a substantially solid metal conducting path is established. Another advantage is a reduction in manufacturing cost. The elimination of separate screws and a necessarily separate connecting link between the supporting brackets and the contacts results not only in a saving of the cost of these parts but saves considerable time in assembling the parts.

What I claim as new and desire to secure by Letters Patent of the United States is:

In a lighting fixture, the combination of a porcelain casing having walls spaced from each other a distance which may vary from a predetermined dimension, a pair of resilient contacts and means for supporting these contacts in a predetermined spaced relation with respect to each other comprising a pair of metal brackets having vertical arms parallel to the inner walls of said casing and horizontal arms projecting towards the center of said casing, means for fastening said vertical arms to said casing comprising terminal members projecting through said walls, slots in the ends of said horizontal arms, a rigid insulating member provided with spaced holes at predetermined distances from each other, holes in the ends of said contacts arranged to register with the holes in said insulating member, a plate member above said insulating member provided with threaded holes registering with the holes in said insulating member, a second plate under each of said horizontal arms provided with holes registering with said slots and screws arranged to project through the said holes in said lower plates, said contacts, said insulating member and the slots in said horizontal arms into the threaded holes of said plate member, whereby the contacts are spaced and held in a predetermined relation with respect to said insulating member and to each other and are simultaneously clamped to said horizontal arms substantially centrally within said insulator casing.

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