

Feb. 13, 1934.

N. T. THOMAS

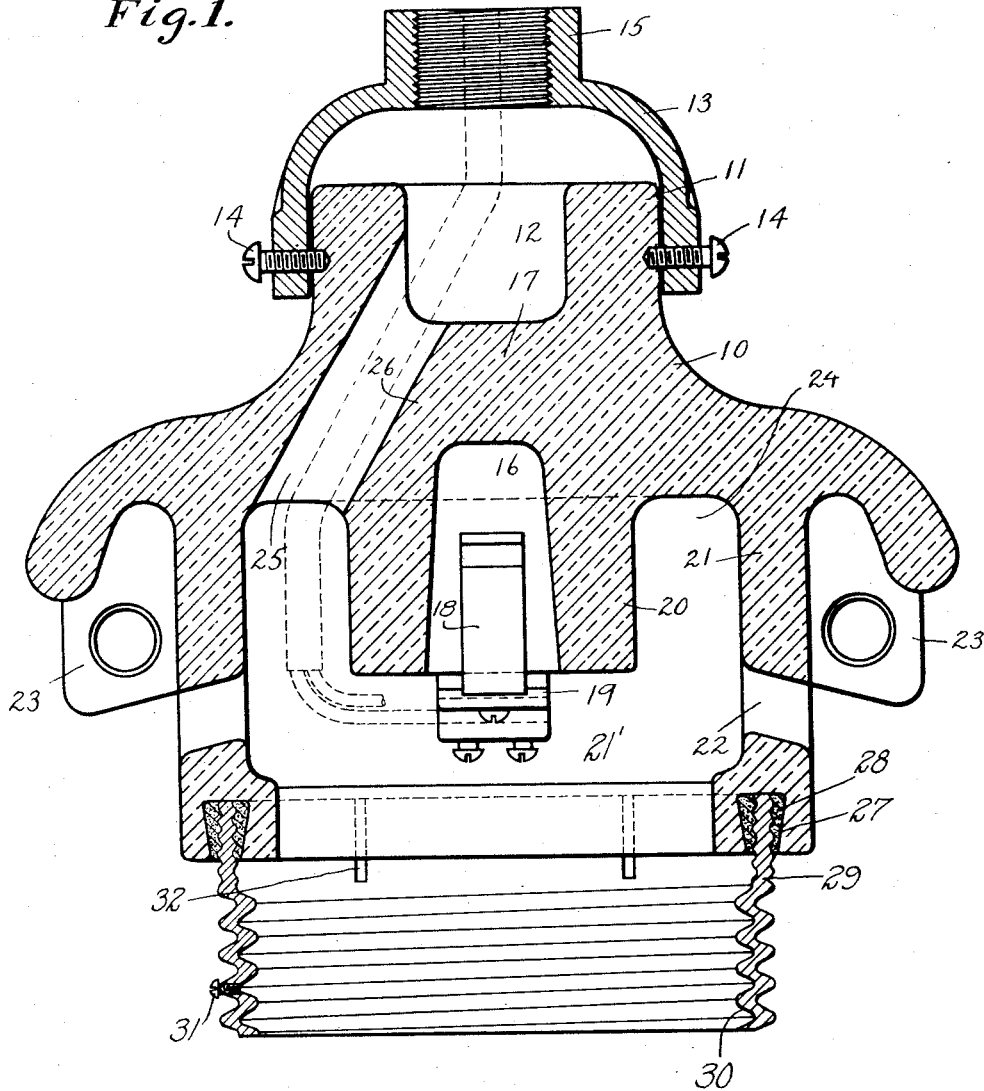
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LIGHTING FIXTURE

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Fig. 1.



Inventor  
Noah T. Thomas

By *W. Clayton Lindsey*

Attorney

Feb. 13, 1934.

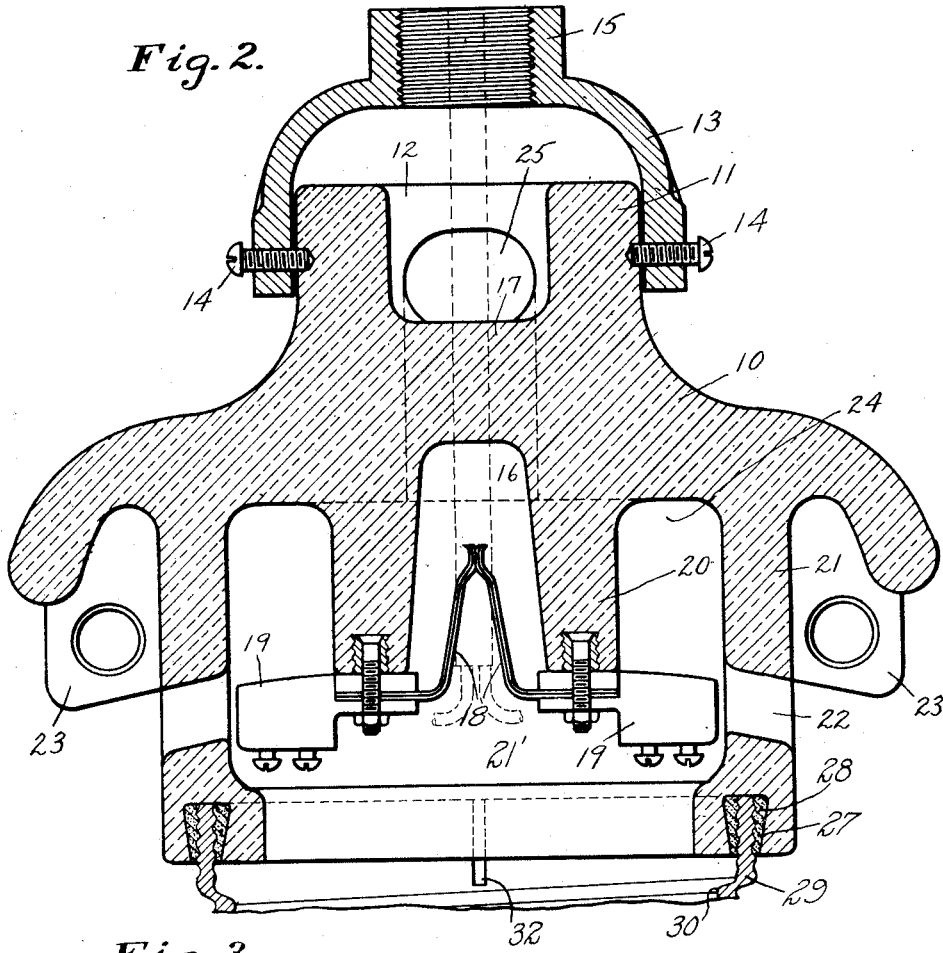
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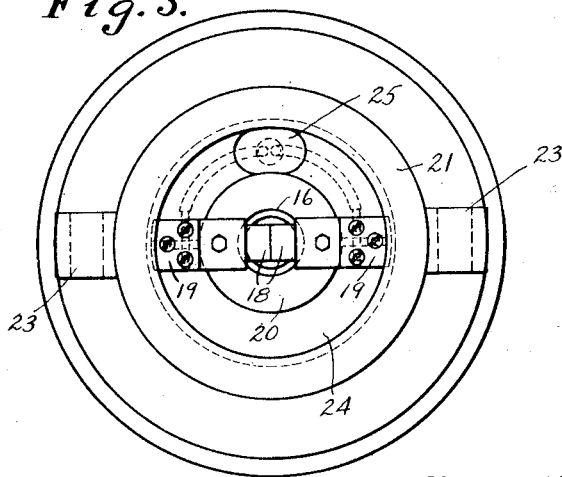
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*Fig. 3.*



Inventor  
Noah T. Thomas

By *N. Gray Lindsey*

Attorney

# UNITED STATES PATENT OFFICE

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## LIGHTING FIXTURE

Noah T. Thomas, Hartford, Conn., assignor to  
Hartford Faience Company, Hartford, Conn., a  
corporation of Connecticut

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Serial No. 583,041

4 Claims. (Cl. 240—85)

The present invention relates to electric fixtures adapted particularly for use in street and road lighting, and has reference to that type of lighting fixture provided with an insulating body having  
5 at its lower end a chamber and a recess leading upwardly from the chamber, and in which recess are located a pair of spring contact fingers.

Heretofore, in lighting fixtures of one construction, the feed wires or cables are brought down through the cap from the supporting bracket and are divided or separated in the top of the insulator and thence carried laterally in opposite directions and downwardly to the terminals. This type of insulator has been made in a number of parts,  
10 and great difficulty has been experienced in preventing what is known as the flash-over or the short circuiting between the wires as they emerge from the cable and the adjacent portion of the hanger pipe or cap, and it is one of the prime  
20 purposes of the present invention to increase this distance between the point of separation of the wires and the exposed electric conducting parts, and thus obviate the disadvantages of this flash-over or arcing.

Also, in one form of prior fixture of this sort, the insulator has been made of one piece and has an axial opening leading from the top of the insulator body down into the chamber in the lower end of the body, and the terminals are  
30 located on suitable brackets with the contact fingers in line with and immediately below the opening. This arrangement is open to numerous objections, including the relatively short distance between the upper ends of the terminal  
35 supporting brackets and the canopy or cap leading to the likelihood of flash-over. Also, with that arrangement, the contact fingers are not protected against moisture and dirt from above.

An object of the present invention is to provide  
40 an insulator body for a lighting fixture which is in one piece and consequently of reduced height as compared with those heretofore constructed; which has a cable receiving passage from top to bottom therein to increase the distance between  
45 exposed parts within the cap of the fixture and the point of separation of the wires at the end of the cable so as to increase the flash-over distance; which provides for a more economical construction; provides an insulator which may  
50 be made in one piece and which consequently has greater mechanical strength and greater dielectric properties; and provides a construction of insulator which is lighter in weight. Also, in my construction, the contacts of the terminals and  
55 the plug are located in a recess which is closed at the top and, therefore, those elements are protected from dirt, water and other foreign matter.

The invention also aims to provide an improved connection between the lower end of the insulator  
60 body and the shade supporting ring, and to pro-

vide such a connection which may be made a permanent part of the fixture and capable of being economically constructed and easily mounted in place.

Other objects will be in part obvious and, in  
65 part, pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth and  
70 the scope of the application of which will be indicated in the appended claims.

In the accompanying drawings, wherein is shown one embodiment which the present invention may take:

Figure 1 is a vertical section taken centrally through the insulator and its cap embodying the features of this invention;

Fig. 2 is a similar view taken axially at right angles to the showing in Fig. 1; and

Fig. 3 is a bottom plan view of the insulator.

Referring now to the drawings, the insulator comprises a body portion 10 of suitable dielectric material having an upstanding neck 11 at its upper end in which is formed a central depression or recess 12. The neck 11 is adapted to support a cap or canopy 13 of any suitable construction and which may be secured to the neck by screws 14 or the like.

The upper central portion of the cap 13 has an internally threaded boss or connecting piece 15 adapted to be screwed upon the lower end of a bracket pipe in the usual manner for supporting the lighting fixture.

The lower end of the insulator body 10 has a depending cylindrical skirt 21 forming a chamber 21'. Leading upwardly from this chamber and disposed axially of the insulator is a recess 16 which is separated from the depression or recess 12 by a relatively thick wall 17 comprising the intermediate portion of the insulator body.  
100 The recess 16 is adapted to house a pair of spring contacts 18 which are secured to the lower end of the insulator body 10 by the usual clamping devices 19, as shown.

The recess 16 may be defined at its lower end portion by an annular wall 20 of substantial thickness and which is integral with the body portion of the insulator 10. The annular spaced skirt 21 surrounds the wall 20 and may be of greater length than that of the wall 20. The skirt 21 is provided with lateral openings 22 for the reception of the ends of wires or the like which may be introduced to the clamping devices 19 from the exterior of the insulator 10 where  
110 the latter is employed in lighting fixtures of that type wherein external wiring is employed. Apertured lugs 23 are provided at the exterior of the insulator 10 in the usual manner for accommodating the external wires.

The wall 20 and the skirt 21 provide therebetween an annular space 24 which, at one side of the insulator, preferably at right angles axially to the clamping devices 19, is in communication with the recess or depression 12 in the top of the insulator body 10 by a lateral diagonally extending passage or opening 25. The opening 25 leads from the lower portion of the recess 12 at one side thereof and extends downwardly into the top of the annular passage 24, leaving a wall 26 of substantial thickness between the recess 16 and the passage 25 so as to insure the proper spacing and insulation between the contacts 18 and the cable or feed wire passing through the opening 25. The cable, as shown in dotted lines in Fig. 1, passes downwardly through the cap 13, the recess 12, and through the passage 25 into the annular space 24 or into the chamber 21', if the space 24 is omitted. Here the wires of the cable are separated and are carried in opposite directions to their respective terminal clamps 19. By utilizing this construction, the wires of the cable, at their point of divergence or separation, are carried a substantial distance beyond the cap 13 and the adjacent bracket arm which supports the fixture. There is little or no danger, therefore, of a flash-over between the wires of the cable where they emerge from the outer covering and the electric conducting portions of the fixture.

The bottom edge of the skirt 21 is provided with an annular recess 27 adapted to receive therein cement 28 or other suitable anchoring material. It will be noted that the annular groove or channel 27 is of dove-tail cross section with the reduced end lowermost. A shade holding ring 29 is provided at its upper edge with internal and external serrations or threads adapted to engage in the body of cement. The ring is thus securely anchored in place. The ring is provided with an internal thread 30 into which is adapted to be screwed the upper cylindrical end of a shade, the latter not being shown as it may be of any suitable construction. The threads 30 may be formed by rolling the same in the walls of the ring, or they may be cast in the ring, as desired. The set screw 31 may be employed for holding the shade against rotary movement with respect to the supporting ring. If desired, the upper edge of the supporting ring may be split as indicated at 32 in order to make the upper end more or less expansible and contractible in order that it may be more readily accommodated to inaccuracies in the formation of the insulator. It will be noted that, with this arrangement, the ring may be very cheaply made and is very easily, quickly and securely anchored in place. Also, since it is supported from the very lowest end of the insulator, danger of static flash-over from the terminals to the ring is further guarded against.

It will be seen that, in accordance with the present invention, there is provided a one-piece insulator body which may be more economically manufactured and which has greater mechanical strength and better dielectric properties than insulators as heretofore constructed for a corresponding purpose and duty. The body is made relatively shorter and is of lighter weight. Although the insulator is smaller than insulators heretofore made, nevertheless the arrangement is such that the distance of flash-over between the divergence of separation of the wires of the cable and the metallic parts of the cap is increased. The contact fingers are housed in a

recess which is closed at its top so that dirt, water or the like cannot fall and collect on these fingers.

In use, the feed cable is merely passed downwardly through the cap 13 and through the diagonal passage or opening 25, and this latter passage may be of ample size to freely receive the cable therethrough without danger of destroying the insulated character of the structure. Access may be easily had to the free ends of the wire after they emerge from the cable through the bottom of the insulator body 10.

I claim as my invention:

1. In a lighting fixture, an insulator body having a depending annular skirt provided with an annular groove in its lower end, a ring fitting at its upper end in said groove, and a body of cement in the groove for anchoring said ring to the insulator body, said ring having an internal thread for receiving the threaded member of a shade, said ring also having a plurality of longitudinally extending slots each of which begins in the upper edge of the ring and extends downwardly to a point below the horizontal plane containing the lower edge of the walls of said groove.
2. In combination, a cap having an axially extending screw threaded opening adapted to receive the threaded end of a bracket pipe, an insulator body attached at its upper end to said cap and having a chamber at its lower end, and an upwardly extending recess axially disposed for the lower end of the body and opening into said chamber, said recess being adapted to accommodate terminal fingers, said insulator body also having a cable passage extending from said chamber upwardly between the upwardly extending recess and the outer wall of the body and through the top of the insulator body, said passage having the opposite ends in communication with said chamber and with the opening in the cap, respectively.
3. In combination, a cap having an axially extending screw threaded opening adapted to receive the threaded end of a bracket pipe, an insulator body attached at its upper end to said cap and having an upwardly opening recess in vertical alignment with the opening in said cap, said insulator body having a chamber at its lower end and an upwardly extending recess opening into said chamber, terminal fingers disposed in said last mentioned recess, said insulator body also having a cable passage communicating with said chamber and said first mentioned recess, and a cable comprising a plurality of feed wires extending downwardly through the bracket pipe and the opening in said cap and passing through the first mentioned recess in the insulator body and through said passage to said chamber, said cable having its several feed wires separated at a point within said chamber and having the respective feed wires connected to their respective fingers.
4. An insulator body having an upper end adapted for attachment to a supporting bracket cap, said body having a chamber in its lower end and a contact finger receiving recess opening from the chamber, said insulator body also having a cable passage spaced from the recess and opening at one end through the upper end of the body and at its other end opening into the chamber, said cable passage being continuous and uninterrupted between the upper end of the body and the chamber therein and being spaced at all points throughout its length from the outer surface portion of the body.