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N. T. THOMAS  
LIGHTING FIXTURE  
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1,860,791

Fig. 1

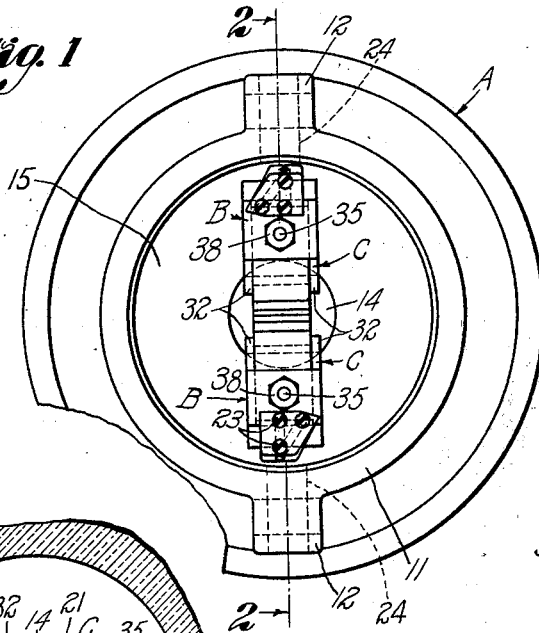


Fig. 6

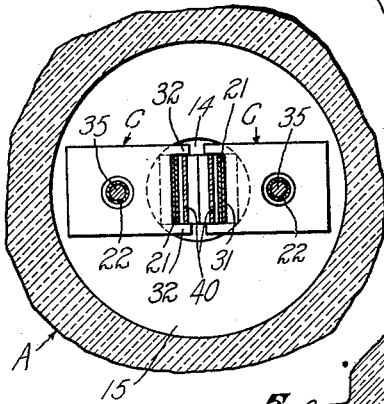


Fig. 2

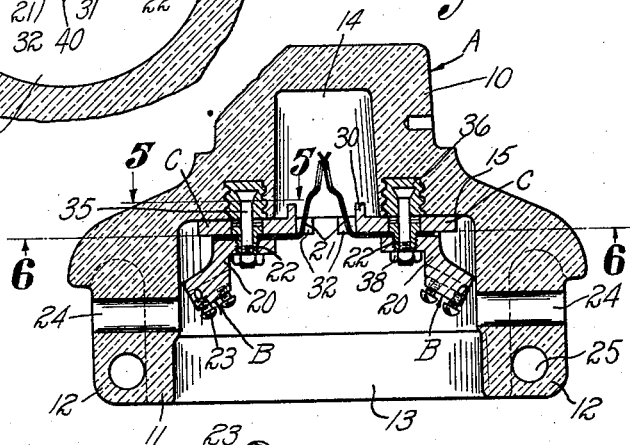


Fig. 3

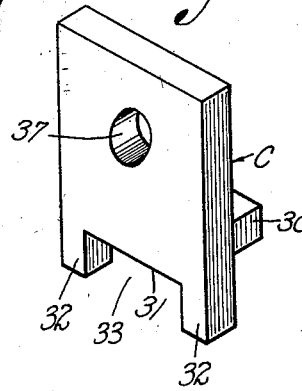


Fig. 5

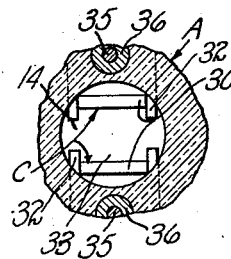
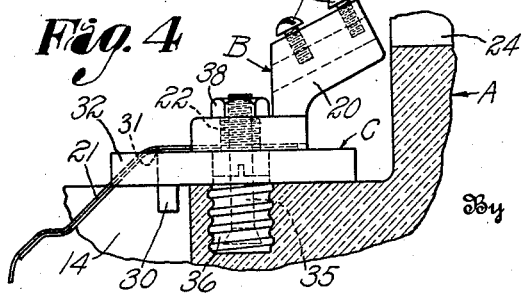


Fig. 4



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# UNITED STATES PATENT OFFICE

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## LIGHTING FIXTURE

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This invention relates to electric fixtures and has particular reference to a lighting fixture of the type having an insulator with a chamber at its lower end and a recess leading upwardly from the chamber, and a pair of terminals located within the chamber and having their spring contact fingers extending into the recess.

Lighting fixtures of this sort are particularly adapted for use in street and road lighting.

Lighting fixtures of this sort have high tension insulators which are moulded from an insulating material in a semi-plastic or putty-like state and, in order to obtain a homogeneous insulator of uniform density and of the requisite dielectric strength, it is preferable to form, during the moulding operation, the interior chamber and the recess by rotating the die which forms those spaces. In thus forming the insulators, the interior recess at the top of the insulator is made circular in cross section. The terminals, which are adapted to receive between themselves the prongs carried by a socket member, are, for the most part, located within the chamber, and their spring fingers extend into the recess. The spring fingers are of strip construction and, owing to the fact that the recess is round, it is necessary to prevent the terminals from turning. Heretofore, there has been provided a sub-base of insulating material and having a square opening to opposite sides of which the terminals are secured. This practice of providing a sub-base of insulating material is open to many objections which it is the object of the present invention to overcome. Among these objections and disadvantages may be mentioned the cost of providing the sub-base; the danger of the sub-base cracking, it being usually made by a dry mold process; the difficulty of assembling the parts, and the trouble involved in repairing the fixture. The terminals have heretofore been secured to the sub-base and then the sub-base has been secured to the insulator or porcelain head by separate screws, all of which requires considerable time and expense. If it is desired

to renew one of the terminals, it is necessary to entirely dis-assemble the sub-base.

The aim of the present invention is to provide an improved arrangement wherein the sub-base, together with its many disadvantages, may be eliminated while, at the same time, the terminals may be very securely and cheaply anchored in place without danger of their turning or becoming cocked, one relative to the other. With my improved arrangement, a very material expense is saved, it being as much as fifteen (15) cents per head, and this saving, in the aggregate, is very great as very large numbers of fixtures of this sort are sold each year. Also, by proceeding in accordance with the present invention, the parts may be more quickly and easily assembled and repair may be effected with greater facility and in less time.

Other objects will be in part obvious and in 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 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 bottom view of the fixture;

Fig. 2 is a vertical transverse section taken centrally therethrough, this view being taken substantially on line 2—2 of Fig. 1;

Fig. 3 is one of the seat elements for the terminals;

Fig. 4 is a transverse sectional view, on an enlarged scale, of one of the terminals and shows the manner in which the terminal is connected to the insulator body;

Fig. 5 is a view taken substantially on line 5—5 of Fig. 2 and illustrates the manner in which the flanges or lips of the seat elements engage in the recess in the upper portion of the porcelain head; and

Fig. 6 is a view similar to Fig. 5 but taken on line 6—6 of Fig. 2.

Referring to the drawings in detail, A designates an insulator or head provided with a

cap or top portion 10, a depending skirt or petticoat 11, and ears or lugs 12 disposed on opposite sides of the petticoat. Within the head is a chamber 13 provided at its inner or upper end with a recess 14. The upper or inner end wall of the chamber is designated by the numeral 15. This particular type of insulator is shown by way of illustration only. As previously stated, during the forming of this insulator, it is preferable to make the recess and the chamber by a rotating die and, naturally, the recess is circular in cross section.

The letter B designates generally the terminals which are here shown as being of an approved and accepted type. Each of these terminals has a lug member 20 to which is secured contact fingers 21, in the present instance, two such contact fingers being provided on each terminal. These contact fingers are in the form of copper strips suitably secured to the upper flat face of the lug. They may be secured to the lug by means of a hollow screw 22, as shown in the drawings. The threaded stems of the screws extend through the spring strips and are screwed into openings in the lugs. These terminals are secured in place so that the free ends of the spring fingers extend into the recess 14 and are in engagement with one another while the lower ends of the spring strips are horizontally disposed, they being parallel to the end wall 15 of the chamber 13.

The lugs are provided with the usual screws 23 for connecting the ends of the lead-in wires to the terminals. The lead-in wires, which are not shown in the present instance, extend through suitable openings 24 in the skirt and openings 25 in the lugs in a manner well understood in the art.

In accordance with the present invention, there is interposed between each terminal and the inner wall 15 of the chamber a seat element C which is preferably in the form of a flat block having an upstanding lip or flange 30 at one end, this lip being of such dimensions that, when the seat element is in place, the ends of the lip engage the periphery of the recess 14, as shown most clearly in Fig. 5. The seat element extends into the recess 14 and it provides a straight edge 31 against which the spring fingers engage and about which the spring fingers are bent. The straight edge forms a chord with respect to the recess. If desired, the seat element may have, at each end of the straight edge, a lug or ear 32. These lugs or ears are spaced apart a distance slightly greater than the width of the spring fingers. These ears and the straight edge 31 form a notch 33. These ears may be omitted. Each block is suitably anchored in place as by means of a bolt 35, the head of which is anchored in the porcelain insulator. In the present instance, the inner wall 15 of the chamber is

provided with two bores, one to each side of the recess 14, and the heads of the bolts are anchored in these bores by a suitable material 36 which may be lead, for example. The walls of the bores are corrugated or roughened, as shown, so as to hold the plugs 36 in place. Each seat element has an opening 37 of such dimension as to receive the head of a respective screw 22. The bolts extend through the screws 22 and are provided with nuts 38 which engage against the lugs 20. The prongs 40 of the socket member are shown in cross section in Fig. 6.

It will be observed, from the foregoing description, taken in connection with the accompanying drawings, that, when the parts are assembled, the edges 31 of the two seat elements are parallel to each other and are spaced apart the correct distance. The bolts securely anchor the terminals and the seat members against vertical movement while the engagement between the lips 30 and the perimeter of the recess 14 prevents the seat members from turning about the bolts. The engagement between the flat strips and the straight edges 31 of the seat elements effectively prevents the terminals from turning. When the seat members are provided with the ears 32, the latter further prevent turning of the terminals. These ears also hold the prongs 40 against moving edgewise and from cocking. Before the terminals are positioned in place, the spring fingers have generally the shape shown in Fig. 4. When the terminals are assembled in the head, they press against one another and thus cause each other to bend somewhat about the straight edges 31. The parts may be very readily assembled, it being merely necessary to position a seat member in place, then position the terminal member on the seat member, and apply a nut 38. Likewise, the parts may be readily taken apart and one of the terminals may be renewed or repaired without disturbing the other one. The main object of the invention, that is, economy in manufacture and assembly, is obtained to a very pronounced degree, it being apparent that each of the seat members, which may be formed of brass, can be cheaply made and there is no danger of these members cracking or breaking.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention

which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

1. An insulator body having a surface with a recess opening thereinto, a seat element having one face engaging said surface and having a portion extending into said recess and adapted to engage the wall thereof whereby the seat element is prevented from rotating, and a terminal secured against the opposite face of said seat element and having a spring contact engaging one edge of said seat element.
2. An insulator body having a surface with a recess opening thereinto, a seat element having one face opposed to said surface and having a portion extending into said recess and adapted to engage the wall thereof whereby the seat element is prevented from rotating, said seat element having an edge chordally arranged with respect to said recess and an ear at each end of said edge, and a terminal secured against the opposite face of said seat element and having a contact strip engaging and bent over said edge.
3. An insulator body having a surface with a round recess opening thereinto, a seat element comprising a block adapted to engage against said surface and having a lip extending into said recess, the opposite ends of said lip engaging the wall of the recess, and a terminal secured against said seat element and having a contact strip bent over an edge of said element and extending into said recess.
4. An insulator body having a surface with a recess opening thereinto, a seat element having a face opposed to said surface and having a portion extending into said recess and adapted to engage the wall thereof whereby the seat element is prevented from rotating, said seat element having a straight edge chordally arranged with respect to said recess, a terminal seated on said seat element and having a spring contact engaging and bent over said edge, and means for securing said terminal and seat element to said insulator body.
5. An insulator body having a surface with a round recess opening thereinto, a seat element comprising a generally flat block of metal provided with an upstanding flange at one end, said block being adapted to engage against said surface with said flange chordally arranged with respect to and having its opposite ends engaging the wall of said recess, the inner end of said block having a straight edge chordally arranged with respect to said recess, a terminal having a lug member and a spring contact strip, and means for securing said terminal and seat element in place with said strip engaging said straight edge.
6. An insulator body having a chamber with an end surface and a recess opening into said surface, a pair of seat elements opposite-

ly arranged and each having a body portion adapted to engage said surface and an upstanding lip at its inner end extending into and engaging the wall of said recess, and a terminal secured against each seat element, said terminals having opposed spring contact strips bent over the inner edges of said seat elements and extending into said recess.

7. An insulator body having a surface with a recess opening thereinto, a bolt carried by said insulator body extending from said surface, a seat member engaging said surface and having an opening through which the bolt extends, said seat member having an edge chordally arranged with respect to said recess and a lug at each end of said edge, and a terminal having a spring contact strip clamped against said seat member and bent over said straight edge and engaging between said lugs, said terminal having an opening through which said bolt extends and a nut on said bolt for clamping said terminal and seat member in place.

8. An insulator body having a surface with a recess opening thereinto, a seat element having one face engaging said surface and having a straight edge chordally arranged with respect to said recess, said seat element having an opening; a terminal having a lug, a spring contact strip, and a hollow screw securing said strip to said lug, the head of said screw being adapted to engage in said opening of said seat element, a bolt anchored to said body and extending through said hollow screw, and a nut on the end of said bolt engaging said lug.

9. An insulator body having a chamber with an end surface and a recess opening thereinto, a seat element comprising a block engaging said surface and having an upstanding lip extending into and engaging the wall of said recess, said seat element having an opening and a straight edge, the latter of which is chordally arranged with respect to said recess, a lug, a contact strip interposed between said lug and seat element, a hollow screw securing said contact strip to said lug, said contact strip engaging said straight edge, and a bolt anchored to said body and extending through said opening and hollow screw.

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