

Jan. 15, 1935.

G. W. BRADY

1,988,186

STREET LIGHT UNIT OR HEAD

Filed April 1, 1932

2 Sheets-Sheet 1

Fig. 1.

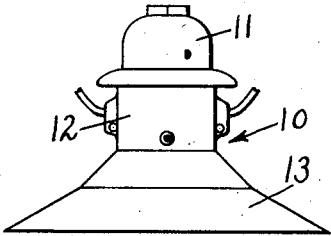


Fig. 2.

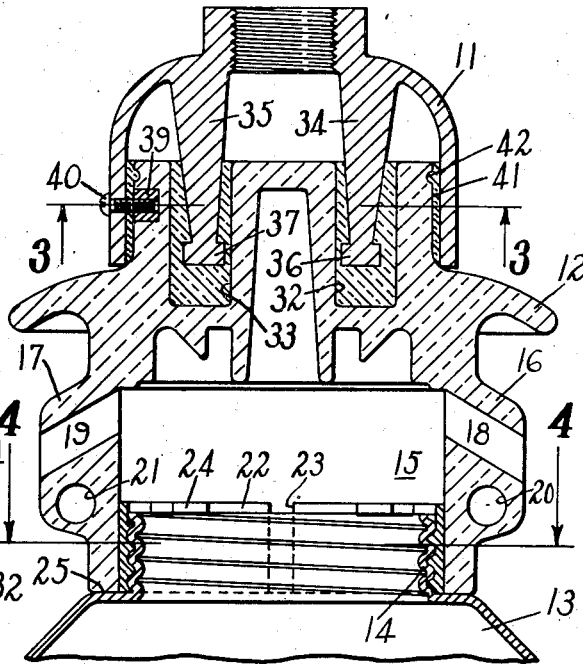


Fig. 3.

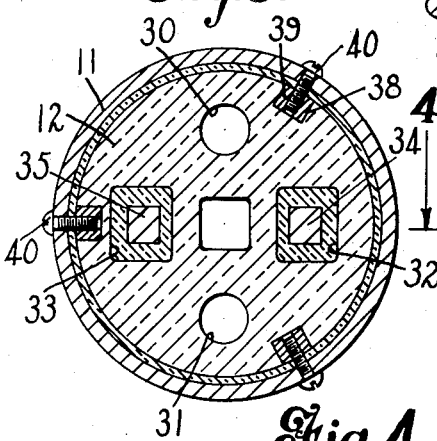


Fig. 4.

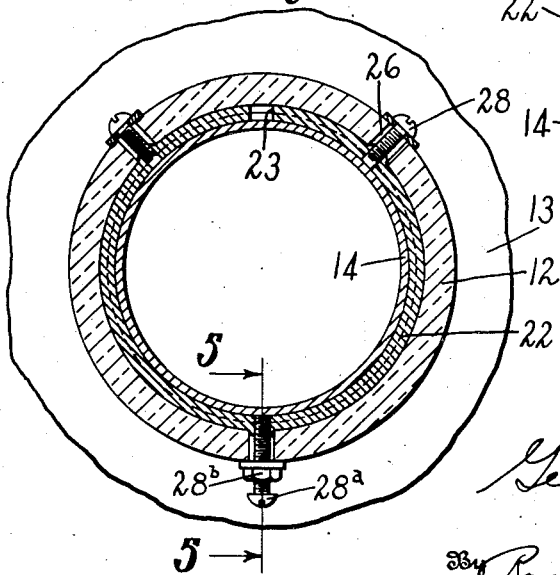
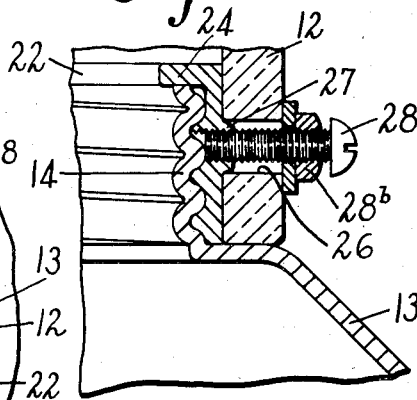


Fig. 5.



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Fig. 6.

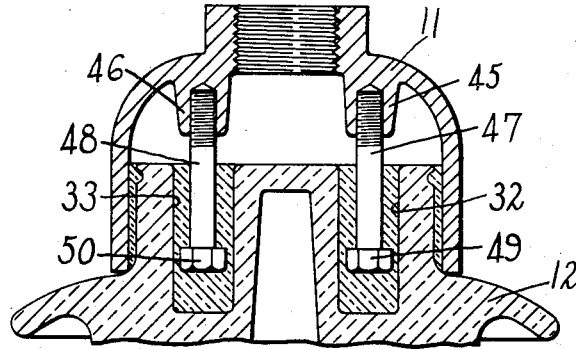
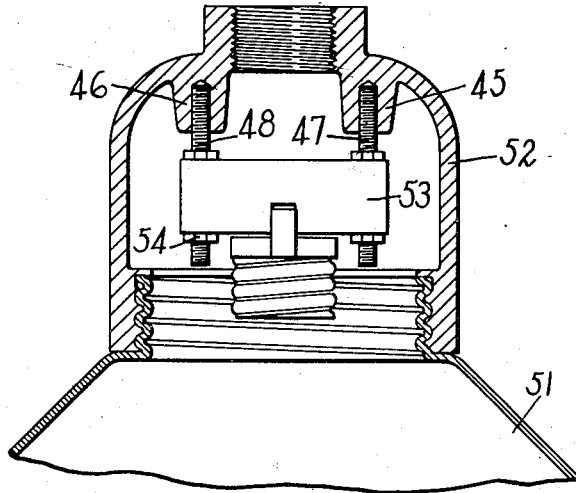


Fig. 7.



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UNITED STATES PATENT OFFICE

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STREET LIGHT UNIT OR HEAD

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Application April 1, 1932, Serial No. 602,497

11 Claims. (Cl. 240—142)

This invention relates to street light units and more particularly to a unit which ordinarily consists of a canopy, a head secured to the canopy, and a reflector secured to the lower end of the head, the bulb furnishing the light being carried by a socket secured within the head. As will be hereinafter explained, in some instances the so-called head is omitted, and the reflector and bulb socket are secured directly to the canopy, and it will be understood that my invention also relates to improvements in this type of unit.

The street light unit to which the present invention relates is, as the name implies, used in connection with street lighting and is, therefore, often used with relatively high voltages and is, of course, exposed to the weather. As a result, the parts must be strongly constructed, well insulated, and firmly secured together, so that there will be no danger of the parts of the unit becoming loose and either rattling, as a result of wind vibration, or, as may happen, becoming completely detached and dropping from place.

One object of the present invention is to provide new and improved means for securing together the various parts of a street light and unit such as described.

A further object of the invention is the provision of novel means for securing the reflector to the head of the unit.

Still another feature of the invention relates to a novel method of securing the head of the unit to the canopy so as to prevent any likelihood of separation of these parts.

Other objects of the invention reside in providing additional securing means for firmly securing the parts of the unit together so as to withstand the most severe weather conditions without becoming loosened or detached.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a side elevational view of a street light head embodying my improvements;

Fig. 2 is an enlarged sectional view of the same;

Fig. 3 is a sectional view on line 3—3 of Fig. 2;

Fig. 4 is a sectional view on line 4—4 of Fig. 2;

Fig. 5 is a fragmentary sectional view on line 5—5 of Fig. 4;

Fig. 6 is a fragmentary sectional view of a modified form of the invention; while,

Fig. 7 is a view similar to Fig. 6 showing another type of street light head.

To illustrate a preferred embodiment of my

invention, I have shown a street light head designated generally by the numeral 10, which comprises a canopy 11, a head 12, and a reflector 13. The canopy is usually made of metal and may conveniently be cast in the desired shape. The head 12 will ordinarily be made of an insulating material, such as porcelain or glass, while the reflector 13 will ordinarily be made of metal. The manufacturer of such devices is, therefore, confronted with the problem of firmly securing to the porcelain or glass head 12, the metal canopy 11 and reflector 13.

In order to secure the reflector to the head, the former is provided with an upstanding externally threaded neck portion 14 which is adapted to be received in the large recess 15 which opens through the bottom of the head. The latter may be provided with side lugs 16 and 17 which are provided with openings 18 and 19 leading into the recess 15, through which wires may be passed to carry current to the lamp socket. These lugs may also be provided with openings 20 and 21 in which the wires may be tied to relieve the connections with the lamp socket from any strain.

Within the recess 15 is disposed a ring 22 which, for a purpose to be hereinafter explained, is a discontinuous ring, being split axially, as shown at 23. The ring 22 is internally threaded to receive the threaded neck 14 of the reflector, and at its upper end is provided with inwardly projecting lugs 24, which may serve to limit the entrance of the reflector neck therein.

The ring 22 is designed to be positioned, as shown particularly in Figs. 2 and 5, entirely within the head, the lower portion of the ring being substantially flush with the lower edge of the wall of the head, or, if preferred, may terminate above the lower edge of the head. The shoulder 25 upon the reflector may, therefore, abut the lower edge of the head so as to make a tight joint between these parts.

The wall of the head surrounding the recess 15 is provided with a number of openings 26, three of such openings being shown in the drawings, although the number may be varied as deemed necessary, and the split ring 22 is provided with bosses 27 to enter said openings a slight distance and thus position the ring therein and prevent any movement of the ring after it has once been secured in place. Screws 28 and 28a are passed through the openings 26 in the wall of the head and are screwed into the ring 22. These screws draw the ring outwardly so that it fits tightly against the wall of the head surrounding the re-

cess 15, and the bosses 27 are drawn into the openings 26. It will, of course, be understood that the feature of employing a split ring enables this ring to be slightly compressed so that it may be inserted within the head and thereafter drawn outwardly or expanded to effect secure engagement of the bosses 27 within the openings 26. It will, therefore, be apparent that the ring, while positioned entirely within the head 12 of insulating material, will be firmly secured thereto against any possibility of loosening, so that the reflector will be firmly held in place. One of the screws, such as the screw 28a, for example, may pass through the ring 22 and engage the neck 14 of the reflector to serve as a set screw to prevent any likelihood of the reflector becoming loose. This screw may be provided with a lock nut 28b to lock it in position after it has been set up against the reflector neck.

The head 12 is provided with openings 30 and 31 which pass through its upper end into recess 15 in order to admit conducting wires in certain instances wherein the unit will be wired from the top. It is also provided in its upper surface with two relatively deep recesses or openings 32 and 33, the number of which may be, of course, varied as is deemed expedient.

The canopy 11 is, as shown in Fig. 2, generally hollow and is of inverted cup shape to extend downwardly over the upper part of the head 12. Projecting downwardly from the upper and inner surface of the canopy are two relatively long lugs 34 and 35 provided with enlarged heads 36 and 37. These lugs are designed to enter the recesses 32 and 33, which recesses may be filled with a slow drying cement which, when it sets, will firmly secure the canopy to the head. The enlarged ends 36 and 37 of the downwardly projecting lugs will be embedded in the cement and prevent any likelihood of the lugs becoming disengaged therefrom.

If desired, additional securing means may be employed between the canopy and the head to assist in securing these two parts together, although usually it will be found unnecessary to provide securing means in addition to those already described. For example, the upper portion of the head 12 within the canopy may be provided with a number of lateral recesses 38 which may be filled with lead or like material 39, and screws 40 passed through the canopy and into the lead 39 to assist in securing the parts together.

As a still further securing means, cement 41 may be inserted between the lower portion of the canopy and the overlapped portion of the head, and if this is done, the head may be provided with an exterior groove or grooves 42 to be filled with this cement and assist in holding the canopy in place.

In Fig. 6 of the drawings, I have shown a somewhat modified form of my invention wherein, instead of the elongated lugs 34 and 35 shown in Fig. 2, short lugs 45 and 46 are provided, into which machine bolts 47 and 48 may be threaded, the machine bolts having heads 49 and 50 to be embedded in the cement within the recesses 32 and 33. In some instances, it may be preferable to provide the headed bolts 47 and 48 instead of the elongated headed lugs 34 and 35. The function, however, of the parts will be substantially the same in either case.

In certain installations, and particularly in multiple lighting fixtures, the reflector is secured directly to the canopy, and the insulating head

omitted. I have shown such a unit in Fig. 7 where the reflector 51 is secured directly to the canopy 52. The canopy in this instance is substantially like that shown in Figs. 1 to 6 of the drawings, and, in particular, is like that shown in Fig. 6 in that it is provided with the lugs 45 and 46, to which are secured the machine bolts 47 and 48. In this instance, the socket 53 is secured directly to the canopy and may be provided with perforations, through which the bolts 47 and 48 may be passed, the socket being held in place by nuts 54. With this arrangement, it will be apparent that the socket 53 is adjustable upwardly and downwardly by the bolts by adjusting the nuts 54 so that the position of the light bulb with respect to the reflector 51 may be changed, and thus the spread of the light from the lamp be varied.

While I have shown some preferred embodiments of my invention, it will be understood that it is not to be limited thereto in all its details, but is capable of modification and variation within the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. In a lighting unit, a head having an outwardly facing recess, a ring disposed within said recess and secured to the head and provided with internal screw threads, a reflector having a threaded neck adapted to be engaged with the threads of the ring, and an outwardly projecting flange below the neck and said ring lying wholly within the recess in the head, whereby the reflector flange may be set up tightly against the edge of the head.

2. A light unit comprising a head and a reflector, the head having an outwardly facing recess, a split ring disposed in said recess and firmly secured to the head, a reflector secured to said ring, said head and ring having integrally formed inter-engaging portions to prevent outward movement of the ring, and means acting independently of said reflector to secure the ring to the head.

3. In a lighting unit, a head having an outwardly facing recess, a split ring disposed within said recess and secured to the head and provided with internal screw threads, a reflector having a threaded neck adapted to be engaged with the threads of the ring, said ring lying wholly within the recess in the head, whereby the reflector may be set up tightly against the edge of the head, said head and ring having integrally formed portions designed to be inter-engaged upon expansion of said ring after its insertion into the recess in the head to prevent outward movement of the ring, and means for expanding said ring to effect such engagement.

4. A light unit comprising a head and a reflector, the head having an outwardly facing recess, a split ring disposed in said recess, a reflector having a neck disposed within and secured to said ring, and said head and ring having integrally formed inter-engaging portions to prevent outward movement of the ring, and members passing through the wall of the head into said ring to expand the latter into tight engagement with the head and to firmly secure it thereto, one of said members engaging said reflector neck to secure it against removal.

5. A light unit comprising a head and a reflector, the head having an outwardly facing recess, a split ring disposed in said recess and firmly secured to the head, and a reflector secured to said ring, said head being provided

with an opening communicating with said recess and said ring being provided with a boss engaging in said opening.

5 6. A light unit comprising a head and a reflector, the head having an outwardly facing recess, a split ring disposed in said recess and firmly secured to the head, a reflector secured to said ring, and inter-engaging means on said head and ring, one of said means being in a
10 projecting position whereby the ring must be contracted when inserted into said recess, and the subsequent expansion of said ring permitting inter-engagement of said means, and means carried by the head to effect such expansion.

15 7. A street light unit comprising a head and a canopy embracing a portion of said head, the head being provided with outwardly facing recesses within that portion embraced by the canopy, said canopy being provided with inwardly projecting headed members extending
20 into said recesses and having the heads thereof embedded in cementitious material therein to secure the canopy to the head, and an additional securing means to hold the parts together comprising members passing through the canopy
25 and having their ends secured in the head.

8. A street light unit comprising a head of insulating material and a canopy above the head and embracing a portion thereof, said
30 head being provided with outwardly facing recesses and said canopy being provided with inwardly projecting headed members, said mem-

bers being adapted to enter said recesses, and their heads embedded in cementitious material therein, said headed members comprising bolts secured to the canopy and having nuts upon the lower end thereof.

9. A canopy for street lighting units comprising a cup shaped hollow body and headed members secured internally to the wall of the body and projecting toward the open end thereof, said headed members comprising bolts threaded into
10 the body of the canopy and having nuts mounted on the projecting ends thereof.

10. A street lighting unit having a canopy comprising a hollow cup shaped body, bolts secured internally to the body and projecting
15 toward the open end thereof, and a light socket adjustably secured on said bolts.

11. A light unit comprising a head and a reflector, the head having an outwardly facing recess, a split ring disposed in said recess, a
20 reflector having a neck disposed within and secured to said ring, said head and ring having integrally formed inter-engaging portions to prevent outward movement of the ring, and means engaging said head and ring to urge
25 said ring in tight engagement with the head and effect engagement of said inter-engaging means to firmly secure the ring to the head, said means also engaging said reflector to prevent detachment thereof.

30 GEORGE W. BRADY.