Oct. 31, 1933. L. B. MANSON 1,933,511

ELECTRICAL ILLUMINATING DEVICE

Filed June 13, 1930

Fig. 1.

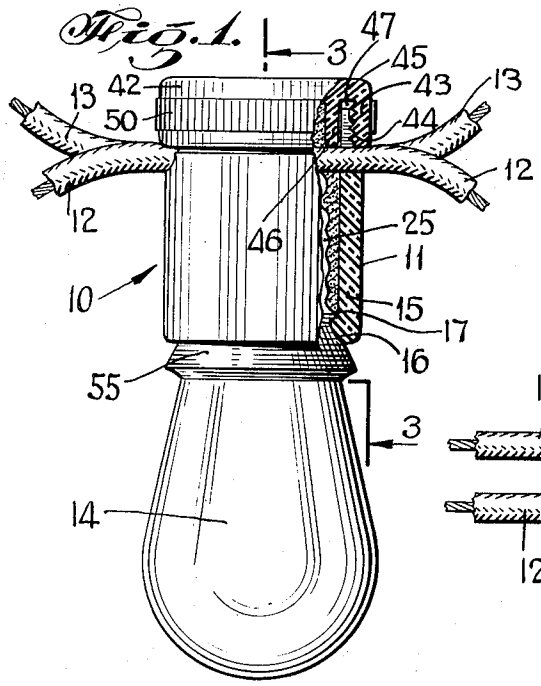


Fig. 2.

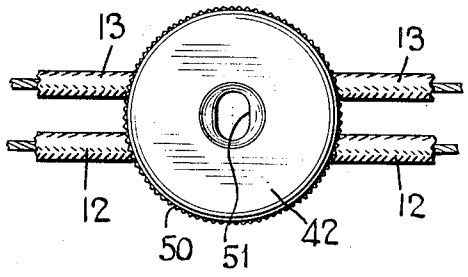


Fig. 3.

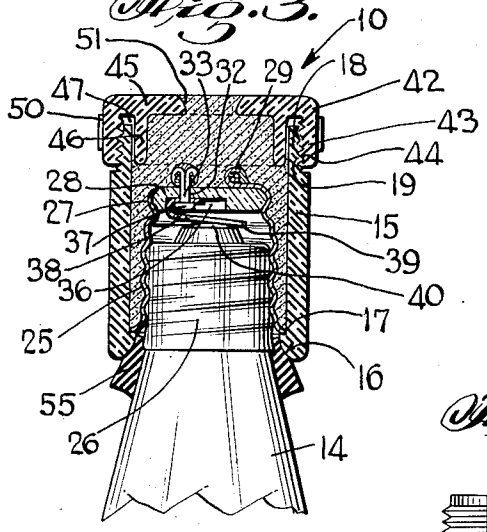


Fig. 4.

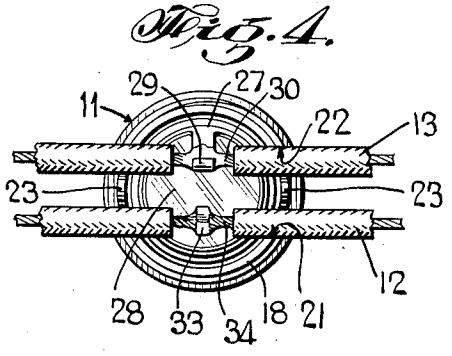
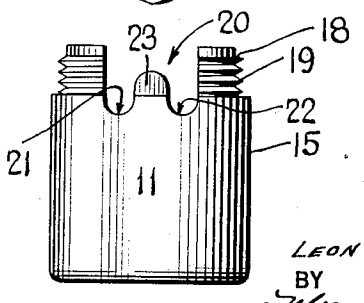


Fig. 5.



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ELECTRICAL ILLUMINATING DEVICE

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8 Claims. (Cl. 173—358)

This invention relates to electrical illuminating devices. More particularly, it is directed to the provision of receptacles such as lamp sockets and the like adapted for outdoor illumination and the like purposes.

An object of this invention is to provide a socket of the character described which is adapted to accommodate different gauge conductor wires, and having means for effectively clamping the wires whereby movement thereof within the cap is prevented, the construction of the device being such, furthermore, that the wires will extend thru said device without bending, thus obviating strains in said wires and making it easier to solder them to the current carrying portions of the device.

Another object of this invention is to provide a moisture-proof socket of the character described having a cap and means for positively preventing unscrewing of the cap after sealing the socket.

A still further object of this invention is to provide a neat, compact and rugged device of the character described, which shall be comparatively inexpensive to manufacture, comprise few and simple parts, easy to assemble, which shall be positively moisture-proof and yet decorative, practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a side elevational view of an electric lighting unit embodying the invention with parts broken away to show the interior construction;

Fig. 2 is a top plan view of the socket without the pitch inserted therein;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a top plan view of the socket with the cap thereof removed; and

Fig. 5 is a side elevational view of the socket shell.

Referring now in detail to the drawing, 10 designates a decorative or the like illuminating unit embodying the invention here shown in the form of a lamp socket or similar receptacle, 11 connected as hereinafter described in greater detail, in parallel across a pair of insulated conductors 12 and 13 and carrying an electric bulb or lamp 14.

The socket 11 comprises a cylindrical or tubular shell or housing 15 made of insulating material, such as phenol-condensate products or the like material, having at the lower end thereof, an inwardly extending curved flange 16 formed with an internal ledge or shoulder 17. At the opposite end thereof, said shell 15 is formed with a reduced or thinned portion 18 having external screw threads 19 formed thereon. The shell 15, at said latter end, is furthermore formed on diametrically opposite sides thereof, with symmetrical cut out portions 20 forming pairs of spaced notches or grooves 21 and 22 and upstanding projections 23 between said pairs of notches or grooves. The notches 21 on each side of the shell are aligned with each other for receiving one of the insulated conductors 12 therethru, as are likewise the notches 22 for receiving the other conductor 13.

Received within the insulating cylindrical housing 15 and resting on the ledge or shoulder 17 thereof is the mouth portion of a screw threaded shell receptacle 25 receiving the screw threaded base 26 of the lamp or bulb 14. At the rear thereof, the screw shell 25 is formed with an annular grooved flange 27 supporting an insulating disc 28 preferably made of porcelain or the like material. At one side thereof, the flange 27 is provided with a tongue or tab portion 29 extending over the rear of said disc 28 to a point off-set from the center thereof and adapted to be contacted with a bared portion 30 of the conductor 13 and soldered thereto. Bending or straining of the conductor wire within the socket is thus obviated. The construction furthermore permits easy assembly and electrical connection of the conductor to the screw shell 25. The porcelain disc 28 is formed with an eccentric opening 32 substantially aligned with the conductor 12 and extending thru said opening is a pin or rivet 33, the upper end of which is soldered or otherwise suitably attached to a bared portion 34 of said conductor.

It will now be understood that bending of said conductor 12 is also avoided by reason of the eccentric mounting of pin 33. The underside of the insulating disc 28 may be formed with a groove 36 receiving the head 37 of the pin or rivet 33, said head serving to attach a spring contact member 38 to said disc, and said member being formed with a bent spring finger 39 extending toward the center of the disc and adapted to contact the central contact 40 of the lamp base 26. The porcelain insulating disc for mounting the terminal

poles or connections for the conductor wires effectively prevents carbonization which otherwise often results where the members for mounting the terminal poles are made of phenolic-compounds due to electrolytic action when water seeps into the socket.

The conductor wires may first be bared to expose the portions 30 and 35 and soldered to the pin 33 and tab 29, and the shell 25 thereafter inserted into the housing 15 and seated on the shoulder 17 thereof, the conductors 12 and 13 being received within the pairs of notches 21 and 22 and retained in spaced parallel relation by the upwardly projecting wall portions 23.

Attached to the screw threaded end 19 of the housing 15 is a cap member 42. Said cap is provided with an outer cylindrical flange 43 having an internal screw threaded surface 44 adapted to coact with the screw threads 19. Said cap is furthermore formed with an end wall 45, and extending from said wall 45 is an annular flange 46 concentric with said annular wall 43 and spaced therefrom to form a groove 47 receiving the thinned portion 18 of the housing 15 therein. After the screw shell 25 with the conductors 12 and 13 attached thereto, are assembled within the housing 15, the cap member 42 may be screwed thereon for clamping said conductors to the socket. By reason of the concentric annular walls 43 and 46, the conductor wires 12 and 13 will be clamped on both sides of each of the notches 21 and 22, the pressure exerted by the inner flange being furthermore transmitted to the shell 25 for pressing the same downwardly against the shoulder or ledge 17. This construction effectively prevents movement of the conductors, and furthermore permits use of different gauge conductors, it being necessary merely to tightly screw the cap for pressing the wires downwardly against the notched portions of the housing and against the rear of the shell 25. Since the portion 18 of the shell 15 is reduced, the annular wall 43 of the cap is aligned with end portions of the housing 15 at said notches 21, 22 and serves to press portions of the conductors tightly against the notched portions 21 and 22, which act as shoulders or ledges. The conductors are thus tightly clamped to the housing and to the screw shell. For facilitating manipulation of the cap 42, the annular wall 43 thereof is formed with an external knurled portion 50.

The top wall 45 of the cap 42 is preferably formed with an oval, elliptical or other non-circular opening 51. Pitch or the like moldable insulating and sealing material which will harden upon cooling to atmospheric temperature, may be inserted thru said opening 51 and pressed or tamped into the socket to completely fill and seal the same. By the use of a non-circular opening 51, unscrewing or rotation of the cap 42 is positively prevented after the pitch hardens and seals the socket, without breaking the sealing pitch whereby the socket is maintained rigid and effectively water-proofed.

A rubber annular washer 55 preferably tapered to conform to the slope of the bulb 14 and adjacent the base 26 thereof, may be interposed between the lamp and the curved internal rim or flange 16 for the housing so that upon screwing the bulb 14 to the socket, said washer will be compressed to prevent water from seeping into the socket through the mouth thereof.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Leters Patent:

1. A lamp socket of the character described comprising a tubular insulating housing having a longitudinal through opening, said housing being formed with an internal shoulder adjacent one end thereof, a lamp base receiving shell within said housing insertable into said housing through the opposite end thereof and having a mouth portion engaging said shoulder, and an insulating disc at the rear end of said shell, conductor wires attached to terminals on said shell and overlying said insulating disc and extending from said housing transversely thereof, and a cap member screwed to the other end of said housing having means for pressing against said wires for forcing said shell toward said first end of said housing and against said shoulder.

2. A lamp socket comprising a tubular insulating shell having a longitudinal through opening, and provided with an internal shoulder adjacent one end thereof, a lamp base receiving shell insertable into said housing through the opposite end thereof, and having a mouth portion mounted on said shoulder, an insulating disc at the rear end of said shell, a pair of conductor wires attached to the current carrying portions of said shell and extending from said housing, the other end of said housing being formed with an outer screw threaded portion, and a cap having a pair of concentric annular walls receiving said last named end of said housing therebetween, the outer one of said walls having threads engaging said threaded portion of said housing, and the inner one of said walls having an edge contacting the conductor wires for pressing against the rear end of said shell to force said shell toward said first end of said housing and against said shoulder.

3. A lamp socket comprising a tubular insulating housing having a longitudinal through opening, the rear end portion of said housing being formed with notches and external screw threads, a lamp base receiving shell within said housing, said shell having an insulating disc at the rear end thereof, a pair of insulated conductor wires connected to the current carrying portions of said shell and overlying said disc, said conductor wires extending from said housing through said notches, and a cap for the rear end of said housing having an end wall, and a pair of concentric annular walls extending from said end wall and forming an annular groove therebetween receiving said rear end portion of said housing, the outer annular wall having internal screw threads engaging the threads of said end portion of said housing, said annular walls having annular end edges contacting portions of said conductor wires on the outside and inside of said tubular housing.

4. In an electric fitting, in combination, an insulating cylindrical member having an externally screw threaded end portion, formed with notches, a screw shell within said member, conductor wires attached to the current carrying portions of said shell and extending through said notches and a

cap member having an outer annular wall formed with internal screw threads cooperating with said end portion and a flange concentric with said wall and disposed on the inner side of said end portion, said wall and flange having circular end edges contacting said wires on the outside and inside of said end portion.

5. A socket comprising a tubular insulating housing having an internal shoulder at one end thereof and a screw threaded portion at the other end thereof, said latter end having two pairs of aligned symmetrical notches therein, a receptacle within said housing comprising a screw shell having a mouth portion seated on said shoulder and an insulating disc at the rear thereof, a pair of conductors extending into said housing electrically connected to said receptacle, each conductor being received in a pair of said aligned notches, and a cap for said other end of said housing having means for pressing portions of said conductors against said housing and other portions of said conductors against said shell for retaining the same seated on said shoulder during assembly of the socket.

6. A socket comprising a tubular insulating housing having an internal shoulder at one end thereof and with a screw threaded portion at the other end thereof, said latter end having two pairs of aligned symmetrical notches therein, a receptacle within said housing comprising a screw shell having a mouth portion seated on said shoulder and an insulating disc at the rear thereof, a pair of conductors extending into said housing and electrically connected to said receptacle, each conductor being received in a pair of said aligned notches, and a cap for said other end of said housing having means for pressing portions of the said conductors against said housing and other portions of said conductors against said shell for retaining the same seated on said shoulder during assembly of the socket, said cap having a non-circular opening, and sealing substance within said socket filling the space between the receptacle and housing and filling said opening.

7. A socket of the character described comprising a cylindrical insulating housing having a screw threaded end portion and an internal shoulder portion, a screw threaded shell within said housing contacting said shoulder portion, and a cap for said end of said housing having a pair of concentric annular walls receiving said end portion therebetween, one of said walls having threads engaging said screw threaded portion of said housing, said cap being formed with a non-circular opening, and sealing material between said shell and housing and within said opening.

8. An electric fitting comprising, in combination, a tubular insulating housing open at both ends thereof, said housing being formed with an internal shoulder portion and with end shoulder portions, a lamp base receiving screw shell within said housing resting upon said internal shoulder portion, a pair of parallel insulated conductors connected to the current carrying portions of said shell and extending through said housing and adapted to rest upon said end shoulder portions, and an end cap for said housing having means for pressing said shell against said internal shoulder and additional means for pressing said conductors against said end shoulder portions.

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