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ELECTRIC LIGHT RECEPTACLE

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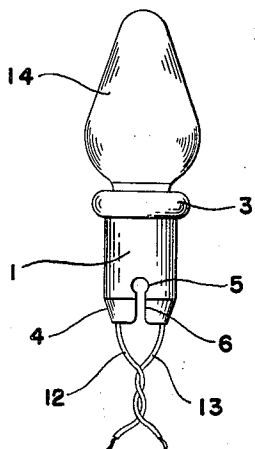


Fig. 1

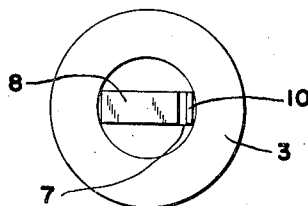


Fig. 3

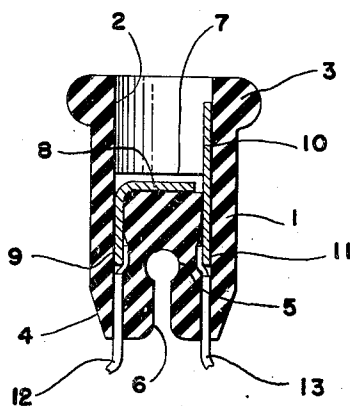


Fig. 2

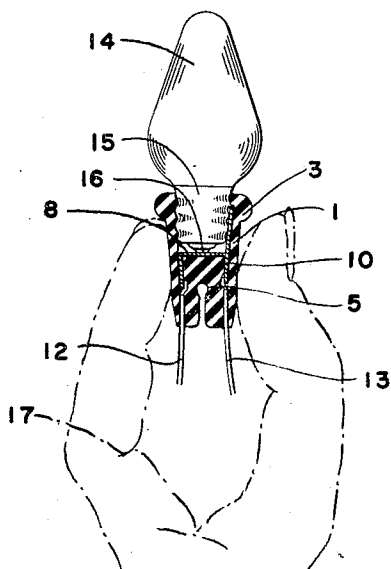


Fig. 5

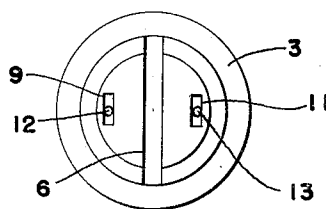


Fig. 4

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ELECTRIC LIGHT RECEPTACLE

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4 Claims. (Cl. 200—51.12)

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This invention relates to an electric light receptacle and, in particular, it relates to a means for holding and forming electrical contacts with an electric light bulb. Our invention contemplates an electric bulb receptacle such as used for ornamental purposes in connection with Christmas trees. One of the disadvantages of electric lights used for Christmas tree purposes is that the lights are connected in series and, therefore, in the event one of the light bulbs burns out the circuit is broken and all of the lights in the series are extinguished. It then becomes difficult to locate the particular light which is burned out. Usually, this is accomplished by progressively inserting a new bulb in each receptacle until the burned out bulb is located. When this occurs the circuit is properly energized and all of the lights in the series become lit.

In accordance with the practice of our invention, we have found that a certain type of light receptacle may be formed which by merely squeezing the receptacle short circuits the line in that particular receptacle, thus completing the circuit without the aid of a bulb in the socket. Therefore, when a string of lights goes out it is merely necessary to apply a gentle pressure with the thumb and forefinger against each socket, and when the socket of the burned out bulb is located the remaining lights in the circuit will be energized. This operation may be performed easily and quickly, and the burned out bulb located and replaced.

In order to accomplish the effect of our invention, the receptacle is formed of relatively soft rubber or similar rubbery plastic composition. The contacts within the receptacle are spaced apart for normal operation, but are close enough together so that manual pressure on the receptacle will cause the contacts to engage for completing the circuit.

Another advantage of our invention is that the receptacle being formed of relatively soft rubber does not require the conventional female threads to be associated with the receptacle. We have found that it is merely necessary to provide a cylindrical opening in the rubber receptacle and that a conventional threaded base light bulb may be pushed into the receptacle and held therein by means of the resiliency of the rubber composition.

A further advantage of our invention is that because of the resilient nature of the receptacle we provide, as an integral part of the receptacle, a pair of fingers or projections resiliently movable, and which function to clamp onto a branch or limb of the Christmas tree.

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Other advantages include the simplicity of the contact terminals, the reduction in the number of parts in the receptacle, and the ability to manufacture the receptacle efficiently and economically.

These and other objects and advantages will appear more fully in the following detailed description when considered in connection with the accompanying drawing in which:

Figure 1 is a side elevational view of a receptacle forming an embodiment of our invention;

Figure 2 is an enlarged elevational view, in section, of the receptacle;

Figure 3 is a top plan view thereof;

Figure 4 is a bottom view thereof; and

Figure 5 is an elevational view, in section, of the receptacle illustrating its operation by manual pressure thereagainst.

With reference to the drawing and, in particular, to Figures 1 and 2, we show an embodiment of our invention in the form of an electric light receptacle comprising, essentially, a cylindrical member 1 of resilient material having a bore 2 formed axially of the member 1 and extending substantially half-way through the length of the member 1. An enlargement 3 at the bore end of the member 1 forms a reinforcing collar at the end of the member. The opposite end of the member 1 includes a taper 4, and an aperture 5 extends transversely through the member 1. A slot 6 communicates with the aperture 5 and the end of the member 1.

At the base or bottom of the bore 2 is a groove 7 adapted to receive a contact member 8. This contact member 8 is formed of a strip of metal bent in L-shape. One leg of the contact member 8 rests in the groove 7, and the other leg of the contact member slips into an aperture 9 extending from the base of the bore 2 to the opposite end of the member 1. This aperture 9 is located between the slot 6 and the outer surface of the cylindrical member 1.

At the opposite side of the member 1 and located along one side of the bore 2 is a second contact member 10. This member is retained in place by being supported in an aperture 11 extending from the bottom of the bore 2 to the end of the member 1. The apertures 9 and 11 also form passage ways for electric wires 12 and 13, respectively, the ends of the wires being soldered to the contact members.

The cylindrical member 1 may be formed of rubber composition, either natural or synthetic, or it may be formed of other plastic material of a rubbery-like nature. The essential require-

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ment of the receptacle is that it must be sufficiently resilient so that the material may be readily displaced by manual pressure between the thumb and finger. Preferably, this composition should be in the order of 55 durometer. However, good results can be obtained by maintaining the material composition within the limits of 40 to 65 durometers.

The contact member 8 is spaced apart from the contact member 10 a distance sufficient so that an engagement of the two contact members may be made by manual pressure on the outer surface of the receptacle 1. About $\frac{1}{8}$ inch is satisfactory as a space between the contact members. This space may be decreased about $\frac{1}{16}$ inch or increased to $\frac{1}{4}$ inch depending on the resilience of the material composition of the receptacle.

In Figure 5 the receptacle is shown with the light bulb 14 in place. This light bulb is of conventional type which includes a base in the form of male threads. The bore 2 formed in the member 1 is of such size that the base 15 of the bulb may be slipped in place in the bore in a manner so that the surrounding wall of the receptacle is of sufficient resilience to form indentations in the wall complementary with a portion of the thread base so as to hold same firmly in place. One side of the base 15 is supported by and forms a contact with the contact member 10. The side directly opposed to the contact member 10 is gripped securely by the resilient wall of the receptacle. The contact member 8 at the bottom of the bore 2 engages secondary contact member 16 of the light bulb. By this arrangement a circuit is made with the light bulb and the bulb is securely held in place. Furthermore, the bulb may be quickly inserted by this arrangement and it may be quickly removed. This is an advantage over conventional screw sockets of this type wherein the base frequently becomes "frozen" with the socket.

In the use of a receptacle of this type the socket may be applied to a branch or limb of the Christmas tree by merely opening the slot 6 by forcing it against such branch or limb. The resiliency of the material of the socket is sufficient to grip the branch or limb and maintain the socket in the desired fixed position relative to the Christmas tree. After the proper given number of sockets are assembled on the tree and bulbs are inserted in the socket, a defective bulb may be easily located by merely squeezing the socket, as indicated in Figure 5, by the hand 17. When the socket is squeezed sufficient to make a contact between the contact members 8 and 10, the particular bulb in that receptacle is cut out by a short circuit of the contact members. This completes the circuit with the remaining bulbs which will light up, thus indicating the location of the defective bulb and making replacement a relatively easy task.

As thus shown and described, it is believed apparent that we have provided a novel socket having a plurality of useful functions associated in a combination resulting directly from the character of the material constituting the main body portion of the receptacle. While we have shown a preferred embodiment of our invention it is to be understood that it is susceptible of those modifications which appear obviously within the spirit of the invention and as appearing in the scope of the appended claims.

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Having thus described our invention, what we claim and desire to protect by Letters Patent is:

1. A receptacle for an electric light bulb comprising, a body member formed of a resilient rubbery composition having a bore extending in one end thereof, a metallic member forming an electrical contact positioned at the base of said bore, a second metallic member forming a second electrical contact positioned in said bore longitudinally along the wall thereof, said electrical contacts being spaced apart a distance such that manual pressure against the sides of the resilient receptacle causes engagement of the contacts, and a wire connected to each of said contacts.

2. A receptacle for an electric light bulb comprising, a body member formed of a resilient rubbery composition having a bore extending in one end thereof, a metallic member forming an electrical contact positioned at the base of said bore, a second metallic member forming a second electrical contact positioned in said bore longitudinally along the wall thereof, said electrical contacts being spaced apart a distance not greater than $\frac{1}{8}$ inch, and a wire connected to each of said contacts.

3. A receptacle for an electric light bulb comprising, a body member formed of a resilient rubbery composition having a bore extending in one end thereof, said body member being formed of a rubbery composition having resilience in the order of from 40 to 65 durometer, a metallic member forming an electrical contact positioned at the base of said bore, a second metallic member forming a second electrical contact positioned in said bore longitudinally along the wall thereof, said electrical contacts being spaced apart a distance not greater than $\frac{1}{8}$ inch, and a wire connected to each of said contacts.

4. A receptacle for an electric light bulb comprising, a body member formed of a resilient rubbery composition having a bore extending in one end thereof, said body member having a groove in the base of said bore and having an aperture extending from the groove in the base of the bore to the opposite end of said body member, a metallic member forming an electrical contact positioned in said groove and extending in tight fit in said aperture, said body member having an opening extending from the base of said bore to the opposite end of said body member, a second metallic member forming a second electrical contact positioned in said opening in tight fit therewith and extending longitudinally along the wall of said bore, said electrical contacts being spaced apart a distance such that manual pressure against the sides of the resilient receptacle causes engagement of the contacts, and a wire connected to each of said contacts.

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