March 5, 1957 O. I. JOHNSON 2,784,306

ILLUMINATED CHRISTMAS TREE ORNAMENT

Filed June 30, 1953

Fig. 1.

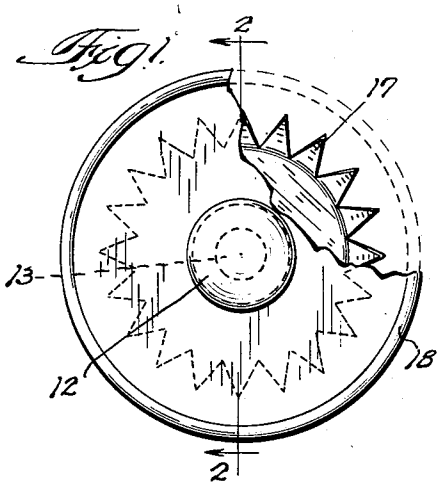


Fig. 2.

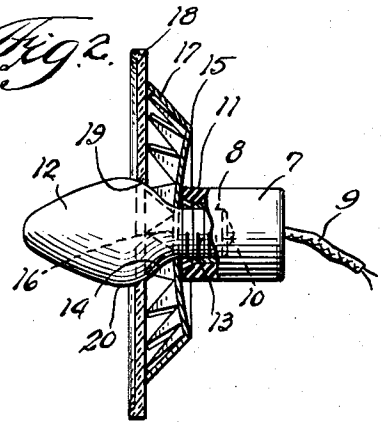


Fig. 3.

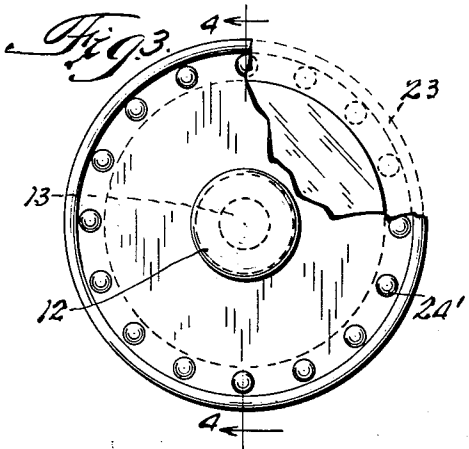


Fig. 4.

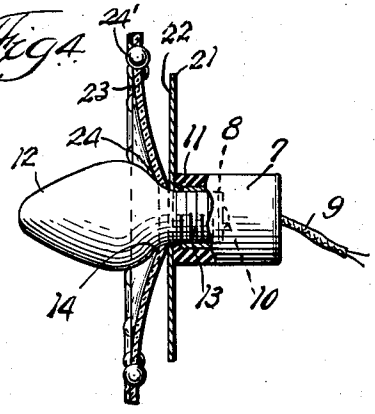


Fig. 5.

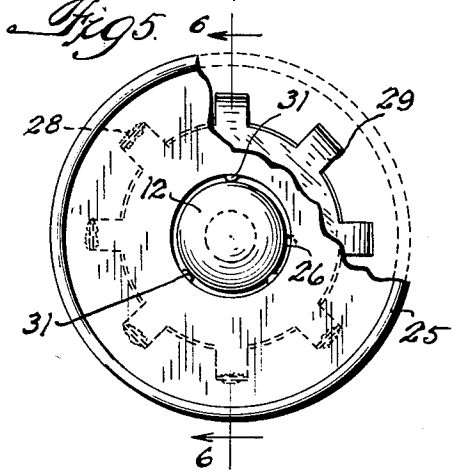
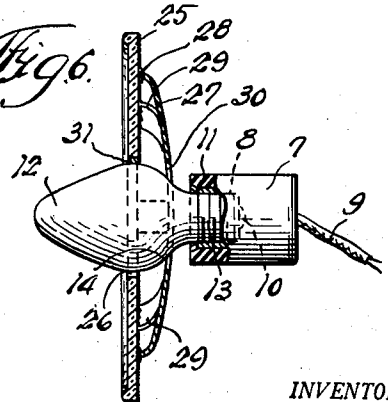


Fig. 6.



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ILLUMINATED CHRISTMAS TREE ORNAMENT

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4 Claims. (Cl. 240—10)

The present invention relates to an illuminated Christmas tree ornament.

It has long been the custom to provide Christmas trees and similar decorative devices with small electric lights, particularly colored ones. In order to enhance the ornamental effect of such lamps, many attempts have been made to provide them with reflectors and similar means whereby to cause the reflection of the light, particularly in such a way as to give the effect of varying colors. In many instances more or less opaque shields have been used over the lamps, but provided with apertures through which the light would be visible.

Such reflectors, however, by reason of the fact that they directly reflect the full luminosity of the lamp, give too dazzling an effect, and prove to be annoying because of the many brilliant points which shine directly into the eyes of the beholder.

It is one of the objects of the present invention to provide a Christmas tree ornament in which these overly brilliant reflections are avoided by the expedient of using a diffuser, either transparent, translucent, and either colorless or colored, slightly ahead of the reflector so as not only to soften the effect, but also greatly to enhance the visual appearance of the ornament.

A further object of the present invention is to provide an improved type of Christmas tree ornament in which part of the light bulb which furnishes the primary source of illumination extends beyond the diffuser and is hence directly visible, while a portion of the lamp is behind the diffuser but still sufficiently far in front of the reflector so that the light emitted by that portion of the bulb will be reflected against the rear of the diffuser.

Other objects of the present invention will become apparent from a study of the accompanying drawing and the further description hereinbelow.

In the drawings:

Fig. 1 is a front elevation, partially sectionalized, showing one form of the present invention;

Fig. 2 is a vertical section through Fig. 1 along the line 2—2 thereon;

Fig. 3 is a front view, also partially in section, and Fig. 4 is a cross section along the line 4—4 of Fig. 3, showing still another species of the invention;

Figs. 5 and 6, respectively, are a front view, partially sectionalized, and a cross section of still another form of the invention.

Broadly speaking the same generic idea underlies the various forms illustrated.

The main principle is the combination of a lamp socket 7 with a diffuser and a reflector. The socket may be made of suitable non-conducting material such as a phenolic resin plastic or the like, and contains molded within it the usual type of screw socket 8, the periphery of which is connected at one side to a suitable source of electric current (not shown) by means of the wire 9, while the central button 10 is connected through a corresponding wire (not shown) to the other side of the source of current. This construction is entirely ordinary and well known.

It should be remarked, however, that the socket has a forwardly extending peripheral portion 11 which extends beyond the metallic contacting parts 8 and 10.

A suitable lamp, for instance a miniature lamp 12, which is provided as usual with a lamp base 13, is screwed into the socket in the entirely usual manner.

By reason of the fact that the rearward portion 14 of the lamp 12 is of reduced circumference, and has only a slightly larger diameter than the base 13, the lamp when screwed into the socket will not present any electrically conducting portion beyond the socket itself. This therefore makes it possible to employ, for instance as shown in Figs. 1 and 2, a metallic light reflector 15 which has a central aperture 16 which surrounds the rear portion of the lamp, and through which the lamp extends. This reflector is provided with a number of obliquely forwardly extending teeth-like points 17. In contact with said points 17 is the diffuser 18 which may be made of any suitable, preferably incombustible, translucent or transparent plastic material, and which may be tinted any desired color. This diffuser 18 has a central aperture 19 of a size slightly smaller than the area 20 of maximum circumference of the lamp bulb 12.

In assembling this particular form of the invention the diffuser 18 is first slipped over the lamp bulb from the rear thereof, whereafter the reflector 15 is also slipped over the rear, in such a manner that the reflector points 17 will contact the rear surface of the diffuser 18 leaving the socket 13 extending beyond the reflector 15, whereafter the base 13 is screwed into the socket 7 until it is firmly in place. This will therefore wedge the reflector 15 on one side against the insulated portion 11 of the socket and the points 17 against the back of the diffuser 18 thus keeping the entire assembly in place. As a result, the light emitted by the forward portion of the lamp 12 will be directly visible, while the light given off by the rearward portion of the lamp will be reflected both from the main surface of the reflector 15, but also from the inside of the points 17, thus giving a sort of illuminated star-shaped effect.

Now, therefore, if the lamp be a yellow frosted lamp, and the diffuser be red or rose color, the effect will be that of a central yellow light with a mottled orange and red light coming through the diffuser. The diffuser being red, and having yellow light reflected through it, will give local areas which present an orange appearance. Obviously any desired color combination may be employed and the invention is therefore in no way limited by the particular colors used.

In the form shown in Figs. 3 and 4, the reflector 21 is a disc shaped material having at least one light-reflective surface 22 which is directed forwardly, that is to say, toward the apex or point of the lamp. A concave diffuser 23 having a central aperture 24 and which may be provided with ornamental buttons 24', which are preferably of a different color or at least a different degree of light permeability than the body of the diffuser 23, surrounds the rearward portion of the lamp at a point just above where the lamp is secured to its base 13, so that the diffuser 23 will touch the reflector 22 only at a circle around the periphery of the narrowest rearward portion of the lamp. When the lamp is therefore screwed into the socket it will hold both the diffuser 23 as well as the reflector 21 in place, leaving, however, the reflective surface 22 spaced from the rear of the diffuser 23. The method of assembly is in this case just the same as has been described in connection with Figs. 1 and 2.

In the form shown in Figs. 5 and 6, the diffuser and

reflector are made into a unitary device. Thus the diffuser 25 which may have any desired ornamental form such as is illustrated, has a central aperture 26 which is preferably of the same internal diameter as the external largest diameter of the bulb 12, so that the diffuser could be pushed on to the lamp after it has been screwed by means of its base 13 into the socket 7.

The reflector 27 is of concave shape being attached at various points or entirely along its periphery 28 to the rearward side of the diffuser 25, the main portion of the reflector, however, being spaced from said diffuser as shown.

Instead of being attached to the diffuser 25 along its entire periphery, a number of forwardly extending prongs 29 may be either secured to the diffuser or may merely contact the same, provided only that a sufficient number of them be adhesively or otherwise secured to the back of the diffuser 25, to maintain the reflective surface of the reflector 27 spaced from the diffuser.

There is also a suitable aperture 30 in the reflector portion, which preferably is of the same size as the aperture 26 in the diffuser 25. In order to be sure that good sustaining contact between the diffuser and the lamp is secured, there may be a number, for instance, three, of resilient protuberances 31 arranged on the interior periphery of the aperture 26 so that slight variations in lamp circumference may be compensated for. However, it is within contemplation of the invention to make the aperture in the reflector 27 smaller, in which case, of course, the assembly must be pushed onto the lamp from the base portion before screwing the lamp base 13 into the socket 7. However, if the aperture 30 in the reflector is at least the same size as the aperture 26 in the diffuser 25, then the assembly can be pushed on to the lamp from the tip end of it. The visual effect, however, is the same in all three modifications.

It will at once become evident that various combinations and variations of the assembly may be made provided only that they meet with the general and principal idea, namely of having a reflector behind a diffuser with its reflective surface spaced therefrom and with a lamp extending through the diffuser so as to be directly visible from in front, while the light from that portion of the lamp which lies behind the diffuser will be reflected against the back of the diffuser for the purpose of producing the aforementioned ornamental effect.

The reflector may be made of any suitable light-reflective material such as aluminum or other bright metal, which may be either left in its natural color or may be coated with a transparent colored lacquer such as yellow, green, blue, gold, red or the like, depending upon the effect desired. It is possible also to make the reflector of suitably lacquered and enameled cardboard, or it might even be made of a plastic material of such a nature that there will be no danger of combustion from the heat of the lamp.

Materials which suggest themselves for the making of the present device both as to reflector and particularly as to the diffuser are those transparent and relatively infusible plastics such as polystyrene, cellulose acetate, ethyl cellulose, urea-formaldehyde resins, melamine-formaldehyde resins, and in general thermosetting plastics, or at least non-thermosetting plastics of a melting point resistant to the expected heat of the Christmas tree lights commonly in use.

While the bulbs have been illustrated as being of the frosted type it will be evident that they could be of clear glass without varying the nature of the present invention.

Applicant claims:

1. An illuminated Christmas tree ornament comprising the combination of an electric light bulb having a frontal portion of reduced diameter, a central portion of maximum diameter, a rear portion of reduced diameter and a lamp-base at said rear portion, an electric socket into which said base projects in electrically conducting relationship, a light-reflector positioned between said socket and rear portion, and a light diffuser in front of said reflector, said diffuser having an aperture slightly smaller than the central portion of the light bulb and engaged by the bulb to press the light-reflector against the socket but to remain substantially out of contact with the main reflective surfaces of said reflector.

2. The device as claimed in claim 1 in which the light-reflector is provided with forwardly projecting prongs which bear against the rear surface of the diffuser.

3. An illuminated Christmas tree ornament comprising the combination of an electric light bulb having a frontal portion of reduced diameter, a central portion of maximum diameter, a rear portion of reduced diameter and a lamp base at said rear portion, an electric light socket into which said base extends in electrically conducting relationship, a light reflector positioned between said socket and rear portion and having a central aperture through which said reduced portion of the lamp extends, thus holding the reflector in place, and a light diffuser in front of said reflector and having a central apertured portion on contact with the central portion of the reflector and the portion of the light bulb rearwardly of its maximum diameter, said diffuser curving forwardly away from the reflector so as to be substantially out of contact with the reflecting surfaces thereof.

4. An attachment for electric lights as used on Christmas trees and the like comprising a light-reflector and a translucent light-diffuser, both provided with central apertures large enough to accommodate the base and rearward portion of a light bulb, said diffuser being spaced from said reflector as to the light reflecting surfaces of the latter, but held in position by being located between the rear portion of the bulb and the socket into which it is inserted when in use.

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