DECORATIVE ELECTRICAL LIGHTING SYSTEM

Robert S. Holbrook.
239 E. South Temple,
Salt Lake City, Utah

Filed Jan. 26, 1960, Ser. No. 4,758

2 Claims.
(11) Application May 10, 1959

This invention relates to decorative electrical lighting systems for use with Christmas trees, for example, and, more particularly, to a new and improved decorative electrical lighting system of the type described in which a plurality of light strings may be physically secured and electrically connected to a novel mounting ring such that the light strings may be supported by and advantageously depend from upper region of the associated Christmas tree.

Accordingly, an object of the present invention is to provide a decorative electrical lighting system of use with Christmas trees, which system will exhibit a single input circuit, a plurality of output circuits or “lighting strings,” and a mounting ring conveniently mountable to the top stem of the Christmas tree and self-containing means for receiving and distributing electrical current from the input circuit of the system to the several output circuits thereof.

It is an additional object of the present invention to provide a decorative electrical lighting system of the type described wherein the mounting ring thereof is of novel construction, by virtue of which the cost of manufacture thereof and of the system is materially reduced. An additional object of the present invention is to provide a decorative electrical lighting system wherein the mounting ring thereof includes electrical distributive means which is self-contained within the ring and sealed from the exterior thereof.

According to the present invention a decorative electrical lighting system utilizes a pair of input electrical conductors having a conventional electrical plug, a plurality of “light strings” including one or more light sockets which, if more than one, are connected in parallel to the electrical distributive juncture of the mounting ring, and a novel ring providing both electrical connection of the input circuit with the several output circuits (and also physical connection therefor) in such a manner as to isolate all electrical junctures of the system from regions external to the body of the mounting ring proper. In practice, the mounting ring includes a cylindrical mounting tube upon which spaced, ring-configured conductive plates are mounted. Preferably, the lowermost plate is provided with apertures for admitting conductors to be connected to the uppermost plate of the combination. Additionally, both plates include sufficient apertures for receiving the necessary electrical leads to put the several output circuits in parallel with the input circuit of the system. Preferably, soldering is employed to solder the several electrical leads to the output circuit and also the two conductors of the input circuit to the two, ring-like plates of the mounting ring and at the several apertures thereof.

The term “light string” comprehends not only “strings” with several sockets and associated lights but also the situation where but a single light is used as in the case of a tree wreath, hereinafter to be described; in the case of a plurality of single light strings as in a tree wreath, for example, “strings” are additionally referred to as “socket connections” for the several individual sockets.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantageous thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings in which:

FIGURE 1 is an enlarged, perspective view of the mounting ring of the present invention, minus its conventionally employed plastic casing which will usually be integral with the rest of the mounting ring structure.

FIGURE 2 is a sectional view, of reduced size when compared to FIGURE 1, of the mounting ring of the present invention when the casing is included.

FIGURE 3 is a side elevation of a star wreath utilizing the present invention.

FIGURE 3A is a reduced plan of the device shown in FIGURE 3.

FIGURE 4 is an elevation of the decorative electrical system of the present invention wherein the system exhibits both a star wreath and also separate strings of lights.

FIGURE 5 is a view of a decorative electrical system incorporating the present invention wherein strings of lights (i.e., minus the star wreath) are employed.

In FIGURE 1 the basic structure of the mounting ring 10, minus its non-conductive casing as shown to include a mounting tube 11, a spacer tube 12 disposed coaxially thereover, conductive plates 13 and 14 which abut the spacer tube 12 at opposite ends thereof, and a pair of retainer rings 15 which frictionally engage mounting tube 11 and which operate to retain conductive plates 13 and 14 in desired disposition preparatory to introducing the structure in FIGURE 1 into a mold, for example, for receiving its casing. It is seen in FIGURE 1 that the mounting ring 11 exhibits a central aperture A which is adapted to receive the top stem of a Christmas tree T as shown at A’ in FIGURE 2.

The conductive plates 13 and 14 will generally take the form of rings or apertured discs (hereinafter to be referred to as “plate rings”) and are provided with a plurality of apertures B and C, respectively. The purpose for apertures B is to receive electrical leads 16 so that the latter may be soldered thereat as shown. Also, electrical conductor 17 (which with electrical conductor 18 secured to input plug 19) is also secured to one of the apertures B in plate ring 13.

Correspondingly, the remaining leads 20 of pairs 21 of the several light strings 22 are secured to the plate ring 14 at corresponding apertures C, again by means of soldered connections.

It will be noted that there are many more, in fact, twice as many apertures C in plate ring 14 than there are apertures B in the plate ring 13. This is in order that the additional apertures C may accommodate electrical leads 20 and also electrical leads 16, the latter passing through the selected apertures C to their mounting positions on plate ring 13. Accordingly, a very compact, mounting ring construction may be obtained.

Once securing has been completed as illustrated in FIGURE 1, the assembly is introduced into a mold, and material such as rubber or suitable thermoplastic, for example, is introduced therein so as to provide a non-conductive casing 23, the latter sealing the plate rings 13 and 14 and all of the associated electrical connections from the exterior. Thus, we have a self-contained, sealed unit accommodating the several light strings 22 containing lights L.

The light strings 22 are designated such even though they might each contain, conceivably, but one light socket S. This is illustrated in FIGURES 3 and 3A wherein a star wreath is shown in elevation view. In this connection, the light strings 22 shall be designated as socket connections 22; these directly connecting to the terminals of the socket and leading into the body or interior of mounting ring 10.

FIGURE 4 illustrates that the light strings 22 in FIG-
3
URE 1 may in fact consist of a pair of electrical leads 21
having a plurality of light sockets S, which plurality may
include an individual star lights S' and conventional lights
I, the former being disposed adjacent the mounting ring
10.

FIGURE 5 is similar to FIGURE 4 with the exception
that the light stars S' and their associated sockets are
removed from the several light strings 22.

While particular embodiments of the present invention
have been shown and described, it will be obvious to
those skilled in the art that changes and modifications may
be made without departing from this invention in its
broader aspects, and, therefore, the aim in the appended
claims is to cover all such changes and modifications as
fall within the true spirit and scope of this invention.

I claim:

1. A decorative electrical lighting system including, in
combination, a plurality of light strings each having at
least one light socket and a pair of electrical leads
connected to said socket; a mounting ring including a mount-
ing tube adapted for placement over the top stem of a
Christmas tree, a pair of conductive plates mounted upon
said mounting tube and disposed in fixed, mutually spaced
relationship, one of each pair of said electrical leads being
connected to one of said plates, and the remaining leads
of each of said pairs being connected to the remaining
plate; a first input conductor electrically coupled to one of
said plates of said mounting ring; a second input con-
ductor electrically coupled to the remaining plate of said
mounting ring; and an electrical plug connected to said
first and second input conductors and adapted for cou-
pling to a source of electrical energy, said mounting ring
including a spacer tube disposed over and about said

mounting tube and between said plates, spacing the latter,
and wherein said mounting ring also includes a pair of
retainer rings mounted upon and frictionally engaging
said mounting tube, each retainer ring retaining its re-
spective plate against said spacer tube during fabrication
of said mounting ring, and a non-conductive casing dis-
posed over said plates, mounting tube, rings, and the elec-
trical connections thereof, said casing defining the outer
contour of said mounting ring.

2. A system according to claim 1 wherein each of said
plates comprise rings, each of said plate rings having a
plurality of apertures, the electrical leads connected to the
lowermost one of said plate rings being secured thereto
at selected apertures thereof, and the electrical leads con-
ected to the remaining plate ring passing first through
said lowermost one of said plate rings, through selected
ones of the remaining apertures of said lowermost one of
said plate rings, and then being secured to selected ones
of the apertures of said remaining plate ring.

References Cited in the file of this patent

UNITED STATES PATENTS

1,750,923  Courtneymar. 18, 1930
1,905,300  Propp Apr. 26, 1933
2,047,045  Veenboer July 7, 1936
2,197,040  Graf Apr. 16, 1940
2,242,597  Quandeemay 20, 1941
2,453,695  Belling Nov. 16, 1948
2,969,456  Raymaley Jan. 24, 1961

FOREIGN PATENTS

1,200,852  France Dec. 24, 1959