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A. A. QUANDEE
TREE LIGHTING SYSTEM
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Fig. 1

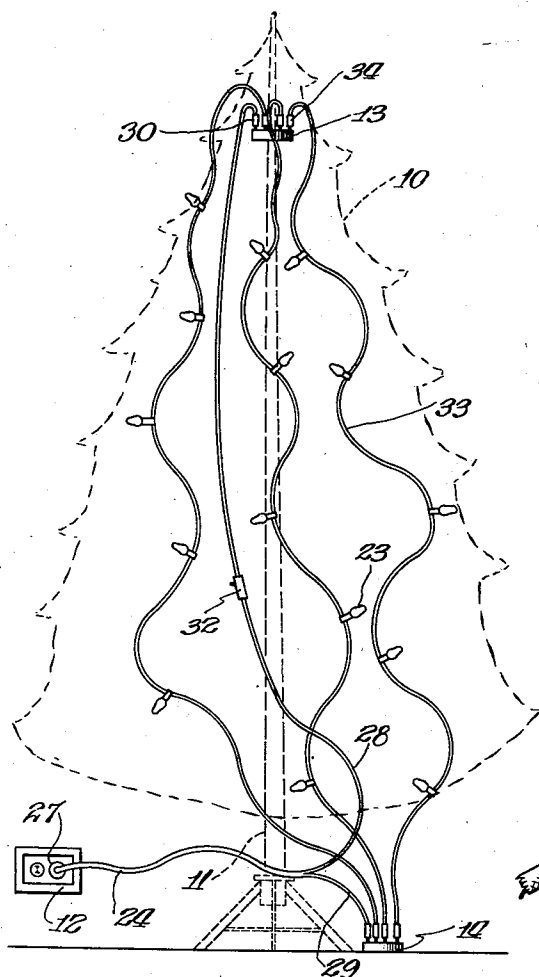


Fig. 2

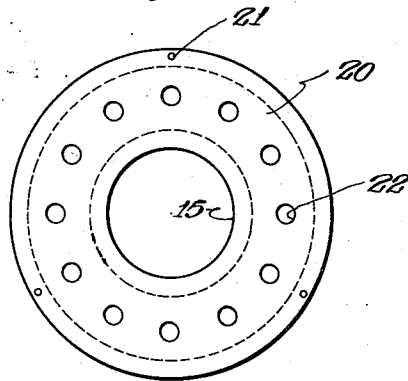


Fig. 3

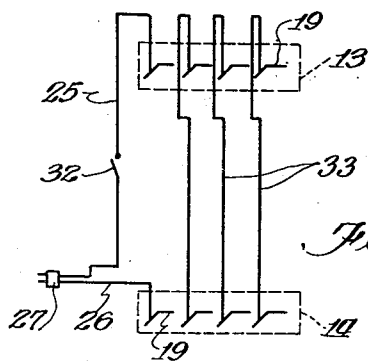
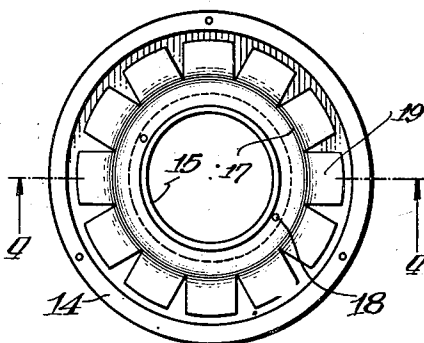


Fig. 5

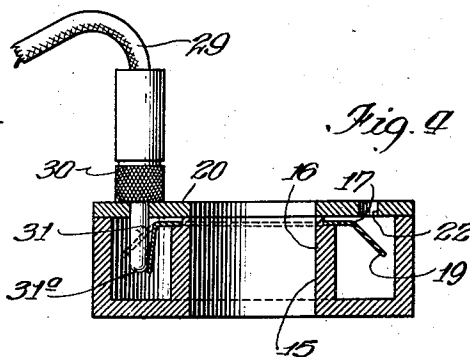


Fig. 4

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TREE LIGHTING SYSTEM

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2 Claims. (Cl. 240—10)

My invention relates to systems or outfits for lighting Christmas trees and the like, and my main object is to provide a system for this purpose which eliminates fire and injury hazards from short-circuits, entanglements or wrong connections.

A further object of the invention is to provide a system for the above purpose which is along logical electrical lines and efficient in its adaptation for tree lighting.

Another object of the invention is to design the same along lines of utmost simplicity and ease of handling.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Fig. 1 is a front elevation of the system showing its application;

Fig. 2 is a top plan view of a connector unit;

Fig. 3 is a similar view of the same unit with its cover removed;

Fig. 4 is a section on the line 4—4 of Fig. 3; and

Fig. 5 is a diagrammatic view of the electrical circuit employed in the system.

Various types of lighting outfits have been devised for the illumination of Christmas trees, some being more involved than others. In the ones that have come to my attention the matter of connections is a problem which deals with miscellaneous parts and complications, so that the installation of the system is both involved and of a nature to be unsafe. I have therefore departed from the practice of the past by designing a system which is simply constituted, easily handled and installed and has a high factor of safety.

In accordance with the foregoing, specific reference to the drawing indicates the suggestion of a Christmas tree at 10 with a trunk or mast at 11 and an electrical service outlet at 12 in the vicinity of the tree.

For the purpose of the present invention, I have provided two connector units of identical construction, these being indicated at 13 and 14. One of these units is shown on an enlarged scale in Figs. 2 to 4 and is in the nature of a shallow circular box having an internal vertical opening 15 defined by a wall 16. The latter is somewhat shorter than the outer wall of the box and receives a circular plate 17 by means of nails 18 or other suitable fastening means. The plate is of spring metal and has a marginal series of deflected blades 19.

The box 13 is of rubber, composition or other insulating material, and receives a similarly-shaped cover 20, the latter being secured by nails 21 or other suitable fastening means and also being made of insulating material. The cover is formed with a series of perforations 22 over the respective blades 19.

The wiring for the light bulbs 23 primarily employs a standard cord 24 containing conductors 25 and 26 and having a conventional plug 27 at one of its ends for application to the current receptacle 12 in the manner indicated in Fig. 1. The cord 24 is divided into branches 28 and 29 for the continuation of the conductors 25 and 26, one branch being led upwardly along the side of the tree 10 and the other downwardly to a point near the floor. Each of the branches 28 and 29 ends with a plug 30 whose stem 31 has a rounded end 31a and is of a diameter to be slidable through one of the perforations 22 in the box cover 20.

The box or unit 13 is impaled on the upper end of the trunk or mast 11 or on a convenient tree branch in that region, while the unit 14 is placed on the floor. The upper plug 30 is inserted through a convenient perforation 22 of the unit 13, while the lower plug is similarly applied to the unit 14. In each case, the insertion of the plug causes its stem 31 to bear down upon and frictionally engage the corresponding blade 19, as clearly shown in the left-hand portion of Fig. 4. This action both secures the plug firmly to the plate 17 and forms an electrical contact with the same. At a point handy to reach the cord branch 28 has interposed in it a small switch 32.

In some Christmas tree lighting installations the cord for a string of light bulbs is formed with the same in series, a sufficient number of bulbs being used to properly apportion the supply current for each string of bulbs. I employ the same principle, each string of bulbs being defined by a cord 33. The cords 33 have terminal plugs 34 of a design identical with the plug 30 previously described, and the application of each cord 33 to the units 13 and 14 is by inserting the terminal plugs thereof into selected perforations 22 of the correspondingly located units, as shown in Fig. 1.

With the arrangement constituted as described, the electrical circuit indicated in Fig. 5 is established. Thus, the cord 24 may be considered as the main one, and its branches 28 and 29 as feeders to charge the plates 17 of the units 13 and 14 as opposite poles in the circuit. Thus, the application of each bulb cord 33 to bridge

the plates completes the circuit for the particular string of bulbs, and a sufficient number of perforations 22 are had for as many bulb cords 33 as are apt to be used for the lighting of the average Christmas tree. Thus, the outfit for the entire tree can be installed in a few minutes.

It will be evident from the above description that I have provided a tree lighting system which is planned along simple, logical and safe lines. Thus, it is self-evident that the main cord 24 is applicable to the current outlet, and that its branches 28 and 29 lead to the correspondingly located units 13 and 14 due to the great difference in the lengths of such branches. Also, the location of the switch 32 handily in the main feed makes it simple to disconnect the current while the balance of the outfit is put in place, so that the wall plug 12 need not be removed for this purpose. Thus, with the switch 32 open the units 13 and 14 as well as any bulb cords 33 applicable thereto are entirely devoid of electrical energy and are perfectly safe to be handled, changed around or otherwise adjusted. Further, the arrangement of the perforations 22 makes it self-evident that when the feed plugs 30 have once been applied the application of the bulb cord plugs 32 follows in succession or parallelism to the extent of the number of bulb cords desired to be used. There is thus no tendency to twist, cross or otherwise complicate the layout of the bulb cords, as these are separate from each other in order of rotation. For this reason only brief instructions are necessary with each outfit to enable any person to install the system. At the same time, the latter is inconspicuous, since the conductor cords run between the tree branches and leaves, and the connector units 13 and 14 are on account of their comparatively small size and out-of-the-way locations practically concealed from view. Finally, it will be apparent that the units and parts employed in the system are simple and of a nature to be manufactured at very small cost by conventional production methods.

While I have described the invention along specific lines, various minor changes and refinements may be made without departing from the principle of the invention, and I desire to consider all such changes and refinements as coming within the scope and spirit of the appended claims.

I claim:

1. A tree lighting system comprising a pair of boxes placeable at spaced points along the tree, an electrical contact plate in each box, a series of receptacles for each box and affording access to the contact plate, companion leads of a current supply connecting with the contact plates by way of correspondingly-located receptacles, and strings of series-connected light bulbs bridging the contact plates by way of other correspondingly-located receptacles, the boxes being ring-shaped for facility to mount them on tree branches, the plates being similarly shaped, and the receptacles being in circular series to distribute access to the plates.

2. A tree lighting system comprising a pair of boxes placeable at spaced points along the tree, an electrical contact plate in each box, a series of receptacles for each box and affording access to the contact plate, companion leads of a current supply connecting with the contact plates by way of correspondingly-located receptacles, and strings of series-connected light bulbs bridging the contact plates by way of other correspondingly-located receptacles, the boxes being ring-shaped for facility to mount them on tree branches, the plates being similarly shaped, the receptacles being in circular series to distribute access to the plates, the leads and light bulb strings terminating with plugs in the regions of the contact plates, and spring blades extended marginally of the contact plates at points opposite the plugs, said blades being engageable and tensionable by the plugs.

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