

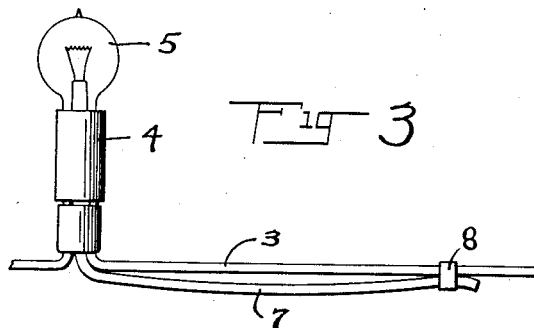
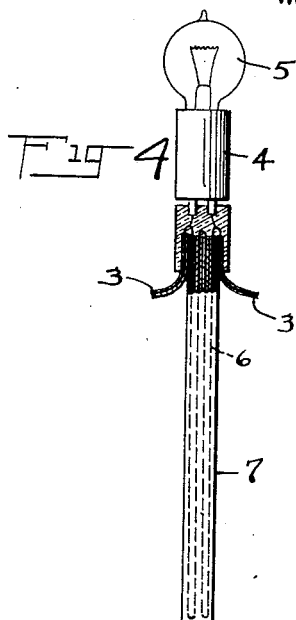
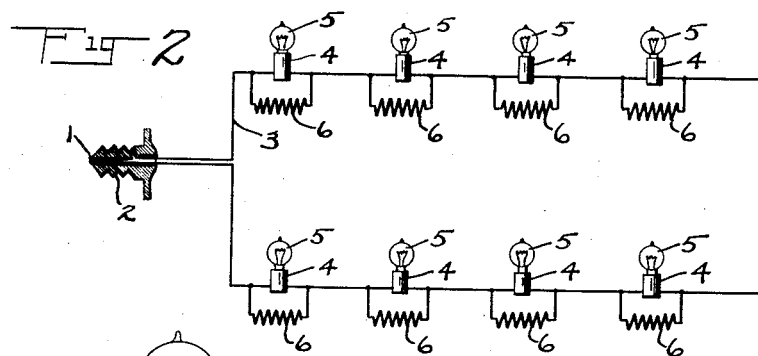
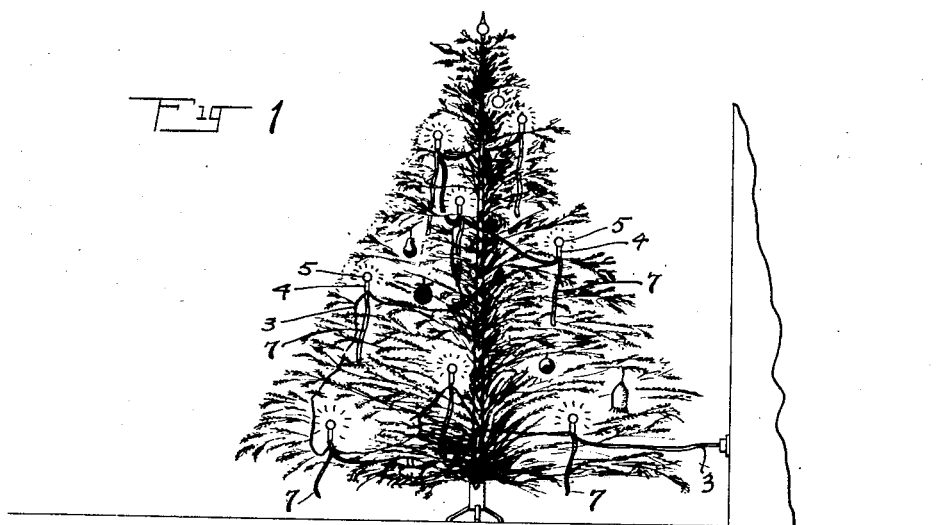
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H. D. HOLLER

CHRISTMAS TREE LIGHTING

Filed April 18, 1922



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CHRISTMAS-TREE LIGHTING.

Application filed April 18, 1922. Serial No. 555,532.

To all whom it may concern:

Be it known that I, HOMER D. HOLLER, a citizen of the United States of America, residing at Leonia, county of Bergen, and State of New Jersey, have invented new and useful Improvements in Christmas-Tree Lighting, of which the following is a specification.

This invention relates to means for lighting Christmas trees by electricity.

Heretofore it has been customary to place the lamps at various desired locations on the tree and connect eight lamps rated at fifteen volts each across the usual 110 volt circuit such as is commonly employed for general lighting and power purposes. With this arrangement, however, if one of the lamps fails the circuit through the whole eight will be broken so that they all will be extinguished. It is not readily apparent which one the disabled lamp is so that considerable trouble and time in locating the lamp so that the illumination may be re-established, are required.

It is essential to practical use in devices to which this application relates, that they should be simple requiring practically no skill on the part of the user to insure their proper operation and they must also be simple in construction so as to be capable of being sold at a low price.

The main object of the present invention is to provide lighting equipment which shall fulfill the requirements as indicated but which shall be free from the difficulty of extinguishment of the lamps when one is disabled and in which the disabled lamp may be readily located. To this end I propose to provide a unitary electric conducting loop adapted to have its terminals connected with a source of supply, said loop comprising a plurality of incandescent lamps connected in series and each lamp having permanently electrically connected in shunt with it and mounted upon the loop whereby the whole forms a single structure which can be connected and disconnected from the electric supply as readily as a single lamp, and on account of its unitary and permanent structure requires no fit together or adjustment of parts but wherein the disabling of one of the lamps will not result in the extinguishment of the others so that the entire illumination will not be destroyed upon the disabling of one of the lamps and the disabled lamp is readily lo-

cated so that a new lamp may be substituted without difficulty.

Other and ancillary objects of the invention will appear hereinafter.

In the accompanying drawing which illustrates the invention:

Fig. 1 is an elevation of a Christmas tree showing in diagram the illuminating means applied thereto;

Fig. 2 is a diagram showing the electrical connections of the lamps, &c., of a loop;

Fig. 3 is a view on an enlarged scale of a fragment of the lighting loop showing the manner in which each of the lamps and its resistance is mounted upon and connected in the loop; and

Fig. 4 is an elevation (partly in section and on the same scale as Fig. 3) showing the manner of connecting the resistance across a lamp.

Referring to the drawings the loop comprises the usual screw attaching plug having the center contact 1 and the screw sleeve contact 2, adapted to cooperate with the usual lamp socket. The lighting loop consists of the conductor 3 in which are connected in series the lamp receptacles or sockets 4, and into these sockets are screwed the lamps 5 in the usual way. In this case, eight 15 volt lamps for connection with a 110 volt circuit as before referred to have been chosen for purposes of illustration. Secured to the loop formed by the conductors 3 and the receptacles 4 are the resistances 6, one terminal connected across the terminals of each socket or receptacle and being carried thereby forming a part of the loop. The ends of the wire 3 are connected respectively with the contacts 1 and 2 of the attachment plug. It has been found that good results are obtained if each of the resistances 6 is made of a resistance equal to that of the lamp with which it is in shunt and of approximately twice the current carrying capacity.

The resistance wire 6 is reflexed in long loops and covered by a woven cotton sleeve or stocking 7 as shown most clearly in Fig. 4, which serves to insulate and protect the wire, and this depending portion may then be laid along the conductor 3 and secured thereto by tape 8 as shown in Fig. 3 or allowed to depend as in Fig. 1.

It will be seen that the entire equipment is unitary requiring no putting together or adjustment of parts when taking it down or

putting it up, and that if a lamp is disabled its shunting resistance 6 will carry the current so that the other lamps will not become extinguished thereby continuing the illumination except for the disabled lamp, and the disabled lamp will be the only one extinguished so that it is readily located. It is true that the discontinuance of one of the lamps will slightly increase the resistance of the circuit so that the remaining lamps will be slightly dimmed, but not to any objectionable extent, and with the proportions of the resistance as above stated, all of the lamps except one may be extinguished and that will continue to burn with considerable brilliancy.

It will be seen that to attach the apparatus it is merely necessary to screw the plug into an ordinary lamp receptacle and hang the loop upon the tree so that the simplicity of use is reduced to a minimum. Also because of the use of standard lamps for special construction and of permanent connections without moving parts, the cost of manufacture is reduced to a minimum, both of which requirements, as was observed above, must be met if the device is to be of practical success. It is true that because of the permanent connections of the resistances in shunt to the lamps the loop will normally consume (with the values of the resistances mentioned) substantially twice as much current as it would without them but this is of no practical consequence because devices of this character are not in use for any considerable length of time and do not consume such a large amount of current in any event that the loss in this regard may be neglected in devices of this character, this invention providing the essential requirements of apparatus of the character under consideration at the sacrifice of conditions of electrical efficiency which are of no moment in the uses in question, although the contrary conditions of operation would be dictated by general electrical practice.

While the invention has been illustrated in what is considered its best application it may have other embodiments without departing from its spirit and is not, therefore, limited to the structures shown in the drawings.

What I claim is:

1. In a Christmas tree lighting means the combination with a loop having a plurality of lamps and conductors connecting said lamps in series, of resistances each permanently connected across the terminals of a lamp upon the outside thereof and mounted

on said loop, and means for connecting the terminals of said loop with a source of electric supply, the whole forming a unitary structure permanently assembled and electrically connected.

2. In a Christmas tree lighting means, the combination with a loop having a plurality of lamps and conductors connecting said lamps in series, of resistances each permanently connected across the terminals of a lamp upon the outside thereof and mounted upon the loop, and a screw attaching plug comprising a central contact and a sleeve contact, the terminals of said loop being connected with said central contact and sleeve contact respectively, the whole forming a unitary structure permanently assembled and electrically connected.

3. In a Christmas tree lighting means, the combination with a loop having a plurality of lamp receptacles and conductors connecting the receptacles in series, of resistances each permanently connected across the terminals of one of said receptacles and mounted on said loop and means for connecting the terminals of said loop with a source of electric supply, the whole forming a unitary structure permanently assembled and electrically connected.

4. In a Christmas tree lighting means, the combination with a loop having a plurality of lamp receptacles and conductors connecting the receptacles in series, of resistances each permanently connected across the terminals of one of said receptacles and mounted on said loop and a screw connecting plug comprising a central contact and a sleeve contact, the terminals of said loop being connected respectively with said central contact and sleeve contact, the whole forming a unitary structure permanently connected and electrically assembled.

5. In a Christmas tree lighting means the combination with a loop having a plurality of lamps, and conductors connecting said lamps in series, of resistances each permanently connected across the terminals of a lamp upon the outside thereof and mounted upon said loop, said resistances being substantially constant under conditions of both illumination and extinguishment of the lamps, and means for connecting the terminals of said loop with a source of electric supply, the whole forming a unitary structure permanently assembled and electrically connected.

In testimony whereof I have signed this specification this 7th day of April, 1922.

HOMER D. HOLLER.