Oct. 29, 1940. W. R. STEWART 2,219,568

ELECTRICAL PRODUCT

Filed Aug. 24, 1938

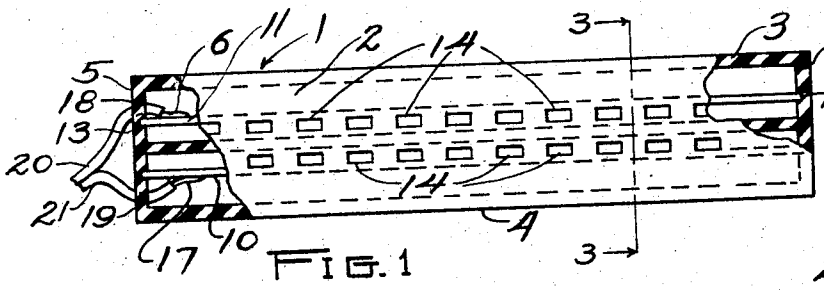


FIG. 1

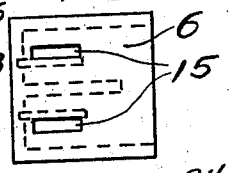


FIG. 2

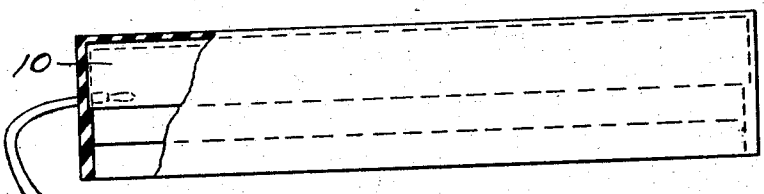


FIG. 4

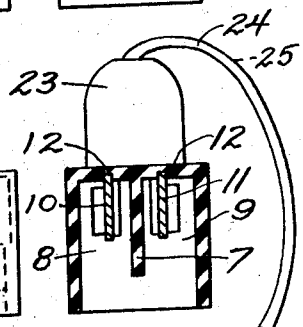
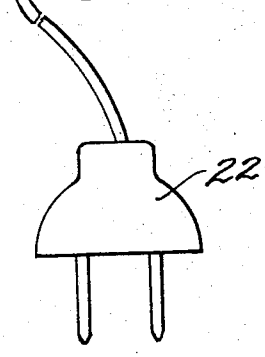


FIG. 3



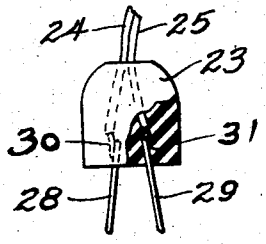
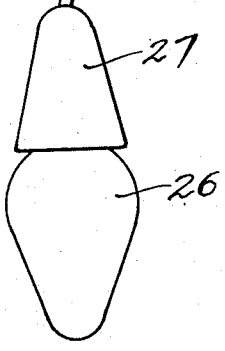


FIG. 5



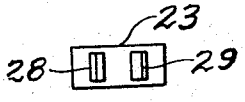


FIG. 6

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ELECTRICAL PRODUCT

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Application August 24, 1938, Serial No. 226,528

4 Claims. (Cl. 173—334)

This invention relates to an electrical system and devices for lighting all kinds of decorations, signs, Christmas trees and the like. The system includes a large number of branch circuits leading from one or more connector blocks wherein the branch circuits of the system are all in parallel with respect to one another. By this scheme of lighting, the burning out of one or more lamps of the system will have no effect upon the lighting furnished by the other lamps in the system.

The electrical system includes one or more similar connecting blocks and a plurality of single or/and plurality lamp branches extending from the various blocks. The blocks are provided with a large plurality of female plug-in units adapted to receive the male attachment plugs in which the pins thereof are toed outwardly so that when plugged in the connector block, the pins will make good electrical contact with the current distributing means within the block.

The entire system is so arranged that it is positively safe to install and operate upon all kinds and types of inflammable display equipment such as Christmas trees, decorating novelties and other beautifying apparatus.

An object of the invention is to provide a simple and versatile electrical system for lighting all kinds of decorations in a safe and economical manner.

Another object is to provide an electrical system using a great variety of electrical lamps in electrical parallel arrangement so that when one or more lamps burn out or are darkened for any reason, the remaining lamps will remain lighted.

Another object is to provide an electrical connector block, attachment plugs and lamp sockets which are constructed to avoid short circuits therein and to minimize all damage of fire and shock.

Other objects, advantages and features of my invention will appear from the accompanying drawing, the subjoined detailed description, the preamble of these specifications, and the appended claims.

Applicant has illustrated and described one of the forms of his invention in order to teach one how to make, use and vend the same, but it is to be understood that the drawing and description thereof are not to limit the invention in any sense whatsoever, except as limited by the appended claims.

Fig. 1 of the drawing shows a plan view of one of the electrical connecting blocks of an electrical system, parts thereof being broken away in order to show internal construction.

Fig. 2 shows an end elevational view of Fig. 1.

Fig. 3 shows a transverse sectional view taken substantially along the lines 3—3 of Fig. 1, but showing a branch line having a single lamp connected therewith.

Fig. 4 shows a side elevation of the connector block with a part broken away.

Fig. 5 shows a side elevation of one of the attachment plugs, part thereof being broken away.

Fig. 6 shows a bottom view of the attachment plug of Fig. 5.

The numeral 1 represents the casing for the connector block having a top wall 2, side walls 3 and 4, and end walls 5 and 6. Integral with the casing is a longitudinal wall 7 dividing the casing into compartments 8 and 9. The casing may be made of any good insulating material such as "Bakelite," hard rubber and the like.

The compartments 8 and 9 are provided with bus bars 10 and 11 which are securely held to the casing by having their top edges snugly fitted into grooves 12 of the top wall of the casing and their ends embedded in grooves 13 along the end walls of the casing. The grooves are pre-formed in the casing and adapted to have the bus bars cemented therein; the bus bars may, however, be molded in the casing when the same is manufactured.

The top wall of the casing is provided with a plurality of of perforations 14 arranged as shown and in a manner that one wall of each perforation is formed by either the bus bar 10 or the bar 11 so that when the pins of the attachment plug are placed therein, the pins can make contact with their respective bus bars. Since it is preferred to make the attachment plugs somewhat smaller than the standard size attachment plug commonly used for similar purposes, the perforations 14 are spaced closer than in usual practice. These perforations for purposes of identification may be called midget plug-in openings.

The end walls 6 of the casing are provided with perforations 15 for receiving a standard size attachment plug. One side wall of each perforation consist of a part of either the bus bar 10 or bar 11 so that the pins of the attachment plug when placed therein will make good contact with their respective bus bars. One end of the bus bar 10 has soldered thereto an electrical feed wire 17 and an end of the bar 11 has soldered thereto the feed wire 16; both of which are insulated in the usual manner and pass through holes 18 and 19 respectively in the end wall 5 of

the casing. The wires 16 and 17 have insulated coverings 20 and 21 respectively, both of which protect their respective wires to the usual and well known attachment plug as indicated at 22 in Fig. 4. By this arrangement, the attachment plug 22 may be attached to the usual wall receptacle of a building to supply electrical current to the bus bars 10 and 11 in the usual and well known manner, or plugged into the perforations 15 of another connector block where it is desired to employ a plurality of such blocks.

The miniature attachment plugs to be used for connection with the bus bars and to pass through the perforations 14 of the connector block, are of the type indicated by the numeral 23. These plugs have insulated copper wires 24 and 25 leading therefrom to supply current to a lamp 26 which makes frictional engagement with the socket 27. The attachment plug 23 is preferably made of resilient material such as elastic rubber and the like, and is provided with the usual current carrying pins 28 and 29 which are molded into the rubber at an angle as shown so that the pins will always be urged into the spread apart position clearly shown in Fig. 5. When the pins are placed in the perforations 14, they will be urged into good contact with the bus bars of the connector block because of the elastic quality of the plug. The pins 28 and 29 are connected to the wires 24 and 25 respectively as by soldering and as indicated by the numerals 30 and 31.

Having thus described my invention, what is claimed as new and desired to be secured by Letters Patent is:

I claim:

1. In an electrical connector block and the like, said block having top, side and end walls, a partition within the block for dividing it into a plurality of elongated chambers, a bus bar in each chamber, a plurality of plug-in openings in one of said walls alined in juxtaposed relation with and between the bus bars, other plug-in openings in one of said walls in juxtaposed relation with the bus bars and positioned on the opposite sides of the bus bars than said first mentioned openings.

2. The elements recited in claim 1 wherein the block is formed of plastic material, said bus bars having all but one of their edges embedded in said material.

3. In an electrical connector block, a hollow casing having top, side and end walls to form a compartment, a partition running longitudinal of the compartment and forming two chambers, a bus-bar in each chamber moulded in slots in said top and end walls, a plurality of plug-in openings through the top wall and so positioned that portions of the bus-bars form wall sections for said openings, including plug-in openings in the end walls spaced farther apart than the first recited plug-in openings so as to accommodate a standard size attachment plug, said farther apart openings being alined with the opposite side of the bus-bars than said other openings.

4. An elongated electrical connector having top, side and end walls to form a hollow block, spaced apart bus bars having top and end edges thereof embedded in the top and end walls of the block, spaced apart openings to receive pins of attachment plugs of miniature size, said openings passing through the top wall of the block and between the bus bars, other openings in the end walls of the block for receiving pins of attachment plugs of larger size, said other openings being spaced farther apart than the spacing of the bus bars, so that the pins of the miniature plugs can make contact with the opposing faces of the bus bars, and the pins of the larger plugs can make contact with the outer faces of the bus bars.

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