Aug. 4, 1931. M. J. DE MASK 1,817,879

PLUG

Filed July 24, 1929

Fig. 1.

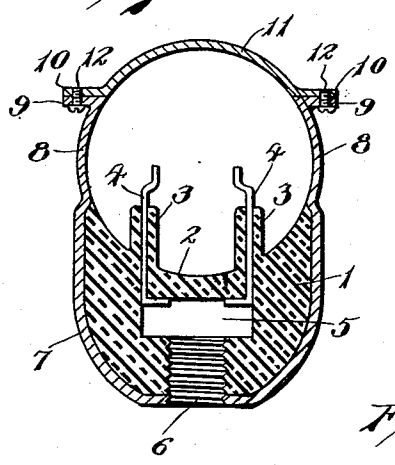


Fig. 2.

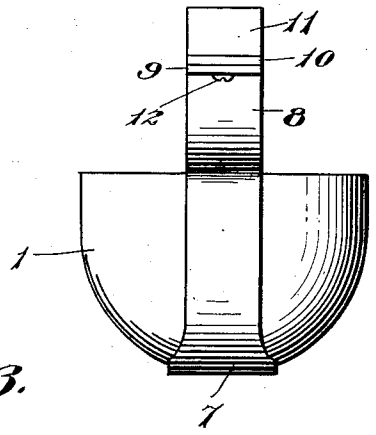


Fig. 3.

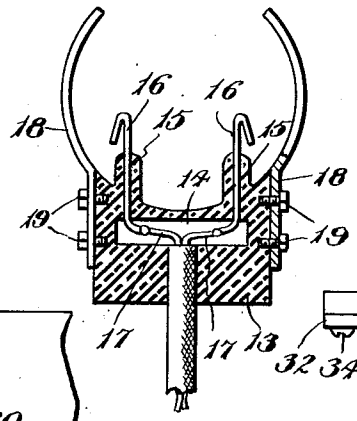


Fig. 4.

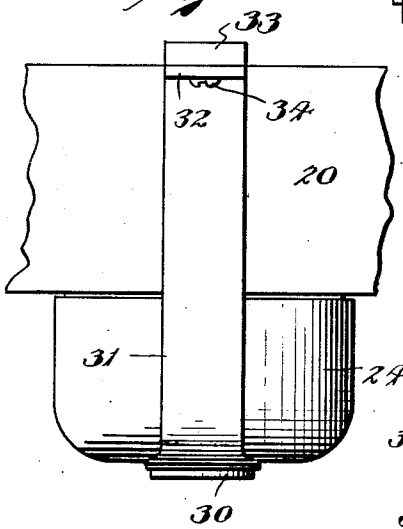


Fig. 5.

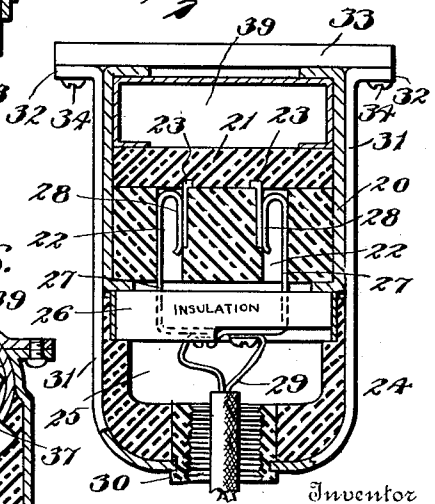
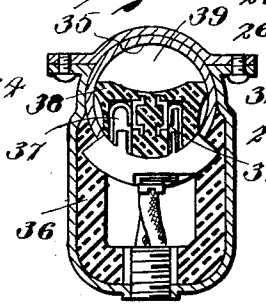


Fig. 6.



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UNITED STATES PATENT OFFICE

MARTIN J. DE MASK, OF PITTSFIELD, MASSACHUSETTS

PLUG

Application filed July 24, 1929. Serial No. 380,712.

This invention is a plug for engagement with an electric conduit and includes matter originally shown, described and claimed in an application filed by me December 8, 1927, Serial No. 238,633.

The invention seeks to provide a plug which may be readily engaged with conductor strips in a conduit and which will be provided with means to embrace the conduit for holding the plug thereon. The invention is illustrated in the accompanying drawings, and will be hereinafter first fully described and then particularly defined in the appended claims.

In the drawings:

Figure 1 is a transverse section of a plug embodying the invention,

Fig. 2 is a side elevation of the same,

Fig. 3 is a transverse section showing a somewhat different form of plug,

Fig. 4 is a side elevation of a third form of plug,

Fig. 5 is a transverse section of the plug shown in Fig. 4, and

Fig. 6 is a section showing a further variation.

The plug of the present invention is designed more particularly for use in connection with conduits which may be secured along the walls or ceilings of a room and be provided at various points in their length with openings to permit fixtures to be plugged therein so that the current may be conducted to a desired point of use. These conduits may, of course, be of any cross sectional contour and may be of any length and the invention contemplates providing plugs adapted to be engaged in and held upon conduits of circular cross section as well as conduits of an angular cross section and other forms of plug receptacles.

Referring more particularly to Figs. 1 and 2, the reference numeral 1 indicates a body of insulating material having one edge portion formed concave, as at 2, to fit against a conduit of circular cross section, said edge being provided with projections 3 of proper shape to fit in slots or grooves formed in the side of the conduit to guide the contact elements into engagement with the conductor bars in the conduit and also insure thorough insulation. Embedded in and extending through the said lugs or projections 3 are conductor strips 4 which terminate in spring fingers or prongs adapted to engage the conductor strips in the conduit, these spring fingers in Fig. 1 being bent inwardly toward each other so as to engage the outer sides of conductor strips which are secured upon the outer sides of a core in the conduit. The strips 4 have their ends remote from the fingers disposed within a chamber 5 formed within the body of the plug and adapted to permit the strips to be secured to conductor wires which will extend out through an opening 6 to a point of use. The opening 6 is preferably threaded, as shown, so that it may receive a bushing or be engaged by a threaded protecting ferrule or other device on the conducting cable, and extending across the outer side of the body is a band 7 of some firm material which has its end portions extending beyond the concave side 2 of the body, forming side elements 8 which are adapted to fit close against the sides of the conduit to retain the body thereon. The side elements 8 terminate in outstanding lugs 9 mating with the ends 10 of a cap strip 11 which passes over the conduit, fastening screws 12 being inserted through the lugs 9 and the ends 10 to secure the parts together. With this construction, the plug is disposed against the conduit at openings therein so that the spring fingers 4 will ride onto and bear against conductor strips within the conduit and the side elements 8 will embrace the conduit so as to hold the plug thereto. When the cap strip 12 is fastened in place, the plug will be securely held and cannot be accidentally displaced.

In Fig. 3, the body 13 of the plug is slightly different in outline from the plug previously described but has a chamber 14 and also has projections 15 through which the conductor strips 16 may extend, the inner ends of the conductor strips being connected to wires 17 which extend out to a point of use. In this form of the invention, the inner free ends of the conductor strips 16 form outwardly turned spring fingers adapted to bear

against conductor strips disposed on the outer walls of grooves or channels in the core of the conduit. The band 7 of Figs. 1 and 2 is not employed but side elements 18 are secured to the opposite sides of the body by cap screws 19, and these side elements project beyond the concave side of the body to form spring fingers which will embrace the conduit and hold the plug thereto.

In Figs. 4 and 5, the invention is illustrated as arranged to accommodate a conduit 20 of rectangular cross section. The conduit contains a core 21 of insulating material having longitudinal channels or grooves 22 presented to the open side of the conduit and at the inner sides of each of said channels is a conductor strip 23 extending the full length of the conduit. The plug comprises a body 24 which is adapted to fit close against one side of the conduit and is open at said side to define a chamber 25. Across the outer side of said chamber is a bar or block 26 of insulation through which extend the conductor strips 27 which are properly located to enter the channels 22 of the core and have their free ends doubled inwardly upon themselves, as shown at 28, so as to resiliently engage the conductor strips 23 in the conduit. The outlet wires 29 are secured to the inner ends of the strips 27 against the lower side of the insulating block 26 and extend out through a bushing 30 which is fitted in the side of the body. Carried by said bushing and extending up over opposite sides of the body are side elements 31 which extend across the sides of the conduit and have their ends 32 outturned, as clearly shown. A cross strip 33 extends over the conduit and its ends are secured to the outturned ends 32 by screws 34 in an obvious manner. It will be seen at once that the plug may be very easily engaged with the conductor strips in the conduit and when the side elements are fastened it will be positively held against accidental or premature displacement.

In Fig. 6, the conduit 35 is of circular cross section and the plug 36 conforms thereto. The channels 37 in the core 38 are of unequal width and the projections on the plug are likewise of unequal width so that the plug can be inserted in only one position. In the forms shown in Figs. 5 and 6, a way 39 is provided at one side of the core to accommodate extra line conductors or feed wires.

The plug of the present invention is simple, inexpensive and efficient.

Having thus described the invention, I claim:

1. A plug comprising a body of insulation conforming at one side to the outline of a plug receiving conduit and having contact prongs projecting from said side, side elements secured upon the body at opposite sides thereof and projecting therefrom to embrace a conduit, and a cross element adapted to pass over the conduit and be secured to the ends of said side elements whereby to retain the plug on the conduit.

2. A plug comprising a body of insulation having spaced projections at one side to pass through openings in the side of a conductor containing conduit, conductor strips embedded in said body and passing through and beyond the projections thereon and having their free ends formed into resilient fingers to ride over the wall of the openings in the conduit and onto conductor bars embedded therein, and side elements secured to the body at opposite sides thereof and projecting beyond the same to clasp the conduit and hold the body thereon.

In testimony whereof I affix my signature.

MARTIN J. DE MASK. [L. S.]