UNITED STATES PATENT OFFICE

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ELECTRICAL PREFORMED FLOOR DUCT

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1 Claim. (Cl. 174—95)

This invention relates to electrical wiring devices and particularly it relates to a pre-formed floor duct of a type such that it is useful on an exposed floor area or for concealment beneath rugs or other floor coverings.

In our prior Patent No. 2,391,409, patented December 25, 1945, several forms of floor ducts are illustrated that are intended and adapted for the same uses as the ducts of the present invention, and the present invention constitutes an improvement upon the various forms of floor ducts shown in our aforesaid prior patent. The primary object of the present invention is to enable floor ducts of the aforesaid character to be formed in a continuous manufacturing process, and more specifically it is the object of the present invention to enable such ducts to be formed by processes of extrusion from a material such as relatively hard rubber. Further and related objects are to simplify the installation and mounting of floor ducts of the aforesaid character, and particularly it is an object of this invention to afford means on the lower face of such ducts to prevent creeping or undesired movement of the duct relative to the floor surface upon which it is mounted.

Another important object of the present invention is to simplify the extension of wires from the mounting passage of such a duct, and to enable a lateral or upwardly extending riser to be associated with such a duct in a manner which affords a support as well as the housing for wires that are extended laterally from the main duct.

Other and further objects of the present invention will be apparent from the following description and claim and are illustrated in the accompanying drawings which, by way of illustration, show preferred embodiments and the principle thereof and which we now consider to be the best mode in which we have contemplated applying that principle. Other embodiments of the invention embodying the same or equivalent principle may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claim.

In the drawings:

Fig. 1 is a perspective view illustrating a duct embodying the invention and having a riser conduit associated therewith;

Fig. 2 is a transverse sectional view taken substantially along a line 2—2 of Fig. 1;

Fig. 3 is a transverse sectional view taken substantially along the line 3—3 of Fig. 1 and showing the manner in which the riser conduit is associated with the duct;

Fig. 4 is a fragmentary bottom plan view of the duct; and

Fig. 5 is a view similar to Fig. 2 and illustrating an alternative embodiment of the invention.

For purposes of disclosure the invention is herein illustrated in Figs. 1 to 4 of the drawings as embodied in floor conduit 10 that is a longitudinal passage 11 extended therethrough so as to be adapted to receive one or more wires 12 that are to be extended across a floor. The duct 11 is formed from a plastic material such as relatively hard rubber that may be formed by processes of extrusion, and the duct 10 has a rounded or arcuate upper surface 10U so that the duct is relatively thick along its longitudinal center line and tapers downwardly to relatively thin side edges 10E which meet a generally flat bottom surface 10B.

The passage 11 that is to receive the wires 12 is formed along the longitudinal center line of the duct 10, or in the relatively thick portion of the extruded body of the duct, and in the form of the invention illustrated in Figs. 1 to 4 of the drawings, the lower side of the passage 11 has a slot 13 formed therein that extends longitudinally of the duct along a longitudinal axis thereof and affords an opening through which a length of wire 12 may be inserted laterally into the passage 11. Thus the wires 12 may be readily and easily mounted in position within the passage 11, and this is particularly useful in an instance where a duct is to be utilized to receive wires that carry relatively low voltage, such for example as telephone wires.

When a duct is mounted in position on a floor, either in an exposed position or beneath a rug or similar floor covering there is a tendency for such a duct to be displaced, particularly in a lateral direction, and under and in accordance with the present invention means are afforded on the lower or bottom face 10B of the duct to reduce such tendency toward lateral shifting movement. Such means are under the present invention of such a character that they may be formed as an incident to the extrusion operation in which the main body of the conduit is formed, as will be evident in Figs. 1, 3 and 4 of the drawings, and such means take the form of a plurality of relatively small longitudinal ridges 15 that are extended along lower surface 10B of the duct.

When the duct of the present invention is utilized, particularly in a home or residence, it is often desirable, at one end of the duct, to extend the wires upwardly from the duct, and in Figs. 1 and 3 of the drawings, means have been...
illustrated whereby this may be readily and easily accomplished. Thus a riser fitting is afforded that comprises a tubular member 18 formed preferably from relatively hard rubber, and at one end this tubular member has a mounting base 20 that is secured to or integral with the tubular member 18 and which extends laterally therefrom as will be evident in Fig. 1 of the drawings. The member 20 tapers gradually toward opposite edges thereof so that these edges are relatively thin as indicated at 20E, Fig. 3, and thus when the fitting is put in place on the top of the rounded surface 10U of the duct, the fitting affords a neat continuation of the normal upper surface of the duct. In thus mounting the fitting in place on the duct 10, a vertical bore or opening 21 is formed downwardly through the upper surface of the duct and into the passage 11, as will be evident in Fig. 3 of the drawings, and the fitting is then put in place with the tubular member 18 in alignment with the opening 21. The fitting is then secured in place by suitable rubber cement or other adhesive which fastens the base member 20 in position on the rounded upper surface of the duct 10. In those instances where the wires that are to extend through the passage of the duct are to carry a relatively high voltage, it may be desirable to have such wires fully enclosed throughout the length of the duct, and in Fig. 5 of the drawings an embodiment of the invention is illustrated wherein provision is made for such full enclosure of the wires. Thus in Fig. 5 of the drawings, a duct 10A is illustrated that is formed in the same manner as the duct 10, and in the duct 10A a longitudinal passage 11A is afforded which has its bottom wall 24 continuous across the bottom of the passage 11A. Thus when wires are disposed within the passage 11A, they are fully enclosed.

From the foregoing description it would be apparent that the present invention enables floor ducts to be manufactured and installed in a simple and inexpensive manner, and such ducts, being of a one-piece construction, are extremely rugged in use. The form of the duct of course enables the duct to be installed upon the floor where there is considerable traffic, and wheeled vehicles may be run across the duct without damage to the duct or to the wires that are enclosed therein.

Thus, while we have illustrated and described preferred embodiments of our invention, it is to be understood that these are capable of variation and modification and we therefore do not wish to be limited to the precise details set forth, but desire to avail ourselves of such changes and alterations as fall within the purview of the following claim.

We claim:

1. In a duct for electrical conductors, an elongated member of uniform cross section throughout its length and formed from a rubber-like material, said member having a transversely rounded upper surface and a generally flat bottom surface so as to afford a relatively thick central portion and relatively thin longitudinal edges, said member having a continuous passage formed longitudinally through said member in the relatively thick central portion thereof, said member having an opening formed through said upper surface and into said passage, a riser fitting having a tubular member formed from a rubber-like material and having a thin base member formed from a rubber-like material, said base member being adhesively secured to said rounded surface with said tubular member aligned with said opening.

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