Nov. 7, 1933. L. A. SHARP 1,934,280

FLOOR FITTING FOR UNDERFLOOR DUCT SYSTEMS

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FIG.1.

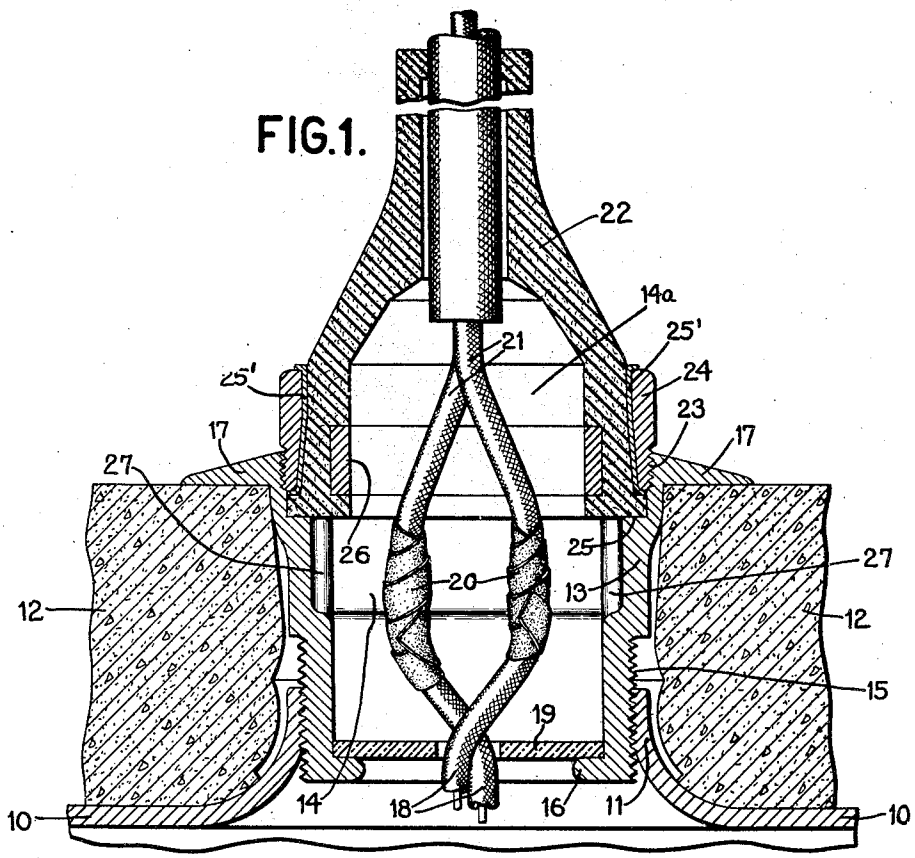
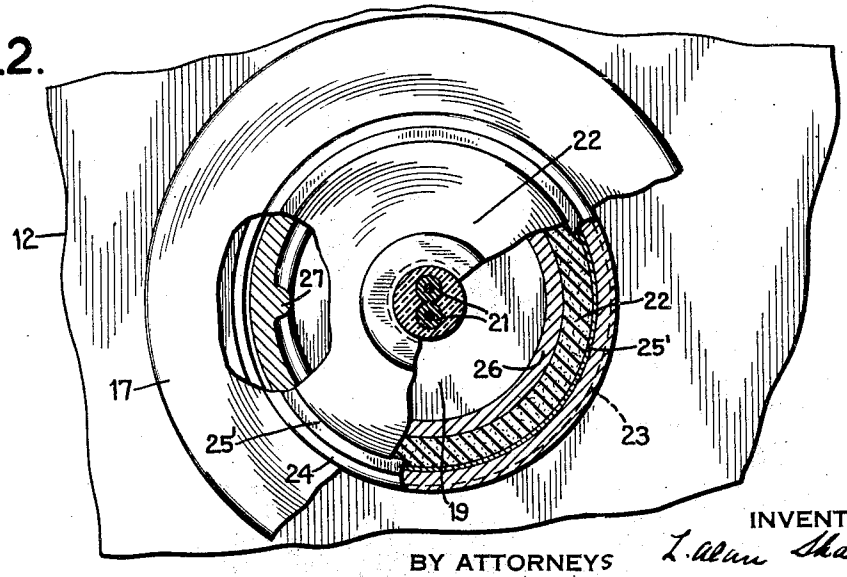


FIG.2.



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FLOOR FITTING FOR UNDERFLOOR DUCT SYSTEMS

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4 Claims. (Cl. 247—18)

This invention relates to floor fittings for underfloor duct systems of electrical distribution.

With underfloor systems it is the present practice to utilize conduits under the concrete which conduit has neck-like portions extending therefrom. These neck-like portions receive plugs which provide forms about which the concrete and the main floor slab may be molded. When service is required at any desired point in the floor, it is the practice to remove one of these plugs and replace it with a so-called outlet extension or standpipe. With such extensions or standpipes it is customary to either draw the conductor from the duct through the extension or standpipe or make the splice to the conductors in the neck portion of the duct, or to make the splices above the floor and then push them back in the relatively widened neck.

The present invention is directed to the provision of a fitting which can be inserted in a neck of an underfloor duct after the plug has been removed, which fitting includes a part comprising a chamber which will accommodate splices between conductors used within the duct and other conductors which extend through the fitting to a desk or to other furniture where service is required.

The improvement also comprises a cord protector which cooperates with the aforementioned part to complete the splicing chamber.

Further and other objects of the present invention will be hereinafter set forth in the accompanying specification and claims and shown in the drawing which by way of illustration shows what I now consider to be a preferred embodiment of the invention.

In the drawing:

Figure 1 is a vertical sectional view showing a fragment of a conduit with the fitting applied thereto and shows the splices disposed in the chamber within the fitting;

Fig. 2 is a top plan view of the part shown in Fig. 1, certain parts being broken away and in section to show the interior construction.

In more detail in the drawing, 10 is the usual metallic conduit provided with the outlet neck 11 which neck receives the plug which is afterwards removed and replaced by the fitting which will hereafter be described. 12 is the embedding concrete. The fitting comprises a part generally designated 13 and with an interior hollow portion 14 and provided with threads 15 to interengage the threads on the interior of the conduit neck 11. Part 13 at its lower end is provided with an inwardly extending flange portion 16 for a purpose to be hereafter explained. Part 13 likewise is provided adjacent its top with a floor flange part 17 adapted to extend over the top of the concrete floor as shown. 18 designates the conductors which come from within the duct 10. These conductors as shown are passed through an opening in a fibre plate 19 which fibre plate is supported upon the flange 16 heretofore referred to.

It will be understood that with relatively large conductors the fibre plate 19 can be completely removed if desired or the aperture in the fibre plate 19 can be enlarged by a knife or other implement to accommodate the conductors of any desired size which pass through it. 20 designates the splices which are disposed within the chamber 14. 21 designates the conductors which extend to the remote service point. The closure of chamber 14 at the top is provided by a relatively flexible element generally designated 22 and preferably made of a yielding material such as soft rubber. Conductors 21 extend through an opening in an upper neck portion of the element 22 slightly gripping it as shown. Element 22 is hollowed out interiorly to provide an extension 14a of the splicing chamber cavity 14. In order to secure the element 22 to the part 13, the following construction is provided.

First the interior of the flange 17 is threaded as shown at 23. These threads are adapted to receive a knurled collar 24 which collar when being threaded into 23 is adapted to clamp part 22 down upon a shoulder 25 of part 13. In order to facilitate this clamping and to prevent the ring element 24 from tending to turn element 22 I preferably provide an intermediate sheet metal member 25' which is beaded over the bottom and top of the ring 24 as shown. Element 25' is further arranged to turn loosely with respect to the interior of the ring 24. In clamping a piece of soft material such as yielding rubber difficulty would be experienced unless provision was made for preventing inward distortion of the rubber during the clamping operation. To prevent such distortion element 22 is preferably provided adjacent its lower and clamping end with a reinforcing metallic ring 26, which ring is embedded in the rubber as shown.

To facilitate screwing the shell 13 into the threaded neck 11, ribs 27 are provided to receive a suitable inside spanner wrench.

The element or part 22 may be termed a flexible sheath. Such element when the assemblage is complete, serves several purposes. Its hollow interior serves as an extension of the splicing

chamber provided by the hollowed out interior of the cup-shaped element 13. The top of the sheath which is made of rubber and is accordingly resilient is adapted to bend and yield when strain is put upon the wires 21, thus avoiding sharp bending and consequent damage to the wires at the point where they emerge from the sheath. The sheath being resilient furthermore serves as its own gasket and provides a water tight closure for the top open end of the splicing chamber when the sheath is clamped down by the ring or collar element 24.

What I claim is:

1. A flexible sheath for the dual purpose of protecting wires and providing a closure for a splicing chamber fitting, said sheath being adapted to be clamped to the fitting by a collar-like clamping member around the base of the sheath, and a slip ring between the sheath and said clamping collar for the purpose described.

2. A splicing chamber fitting assemblage adapted for use in place of a plug in an underfloor conduit system, said assemblage including a cup-shaped shell-like member having a hollow interior portion affording the lower part of an open splicing chamber, said shell-like member being exteriorly threaded adjacent its lower end to engage an outlet neck, said shell-like member having an annular outwardly extending floor engaging flange at its top adapted to extend over the top of a floor, said floor flange portion being also interiorly threaded to receive a clamping ring, said shell-like member being also itself provided with an inwardly extending integral flange to receive a flexible sheath, and a flexible sheath of resilient material having an extensive hollow portion which forms an extension of the splicing chamber which is in part formed by the cup-shaped shell, said sheath having an outwardly extending shouldered portion adjacent its lower periphery for cooperation with the flange of the shell and with clamping means and a clamping ring engaging the threads of the floor flange portion for clamping the sheath-like member down upon the shouldered portion of the shell.

3. The invention set forth in claim 2 wherein the resilient sheath is provided with a slip ring element to provide for free slipping of the clamping ring with respect to the flexible sheath.

4. The invention set forth in claim 2 wherein the resilient sheath adjacent its bottom where clamping is effected is provided with a reinforcing ring which is disposed in an inner annular recess in the said sheath.

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