

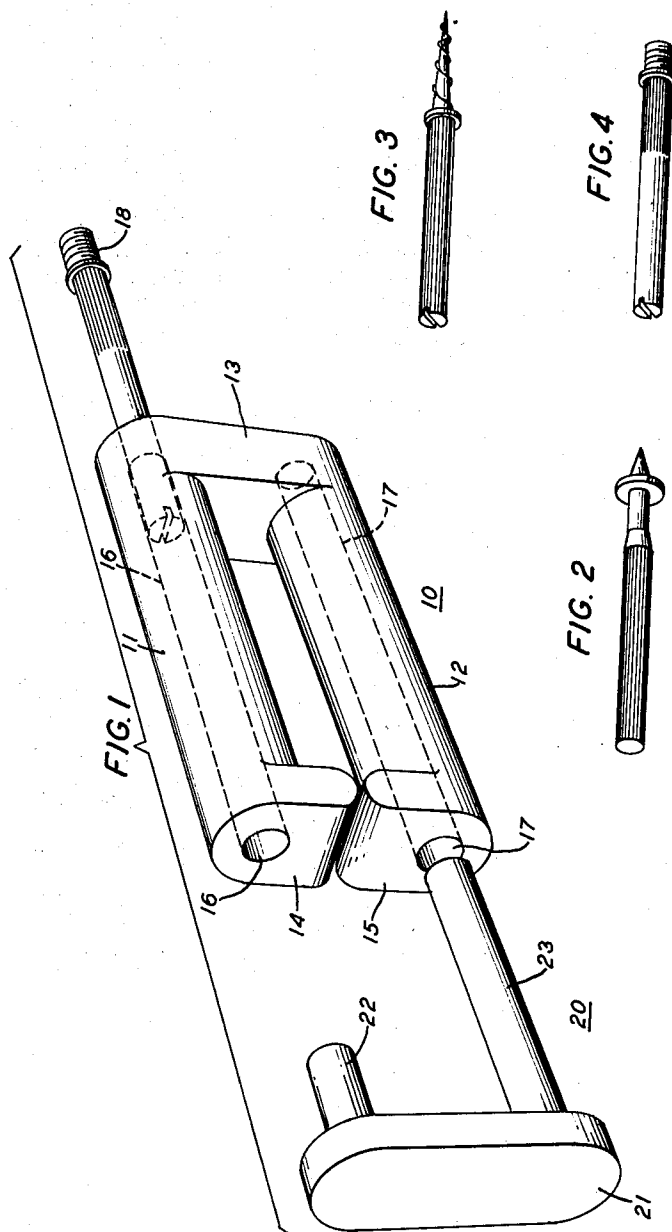
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WIRE SUPPORT

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WIRE SUPPORT

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4 Claims. (Cl. 174-165)

The invention herein disclosed and claimed relates to wire supporting devices and, more particularly, to those for holding many wires. An example of the kind of support contemplated is the so-called "fanning ring" which holds a bundle of wires at a point where individual wires or wire pairs are fanned out in various directions. Such supports are used on switchboards, apparatus racks, etc.

An object of this invention is to facilitate the placing, the dressing, and the supporting of electrical conductors in switchboard and like installations.

Another and more specific object is to improve upon existing means for supporting and distributing a multiplicity of grouped wires.

A feature of the invention resides in a wire support or fanning ring of insulating material and adaptable for mounting on the various kinds of surface materials encountered in wiring; for example, steel, wood, concrete, and others.

An exemplary embodiment of the invention comprises a "ring" of moderately rigid but flexible plastic material having a metallic adjunct for securing the ring to walls, racks, switchboards, and the like which are made of various materials. This adjunct comprises a stud-like member of strong metal, such as steel, forced into a suitable orifice in the ring and having an extending portion suited for securing to the material of the surface on which the wire is supported; for example, a masonry nail portion shaped and hardened for driving into concrete, a machine screw for going into a tapped hole in a metal frame; a wood screw or some other fastener to meet the condition encountered.

The securing means will ordinarily be attached to the wall, rack, etc. first and then the support ring mounted thereon by pressing the orifice over the exposed portion of the stud-like member. In given cases, when it is required, two studs in separate orifices may be used to give a firmer support.

The ring has a slot in one end through which the insulated wire may be forced laterally. The slot is more narrow than the wire insulation diameter so that the wires will be retained. The flexibility of the ring material is sufficient to allow enough deflection to permit wire insertion. A suitable material is a cellulose acetate butyrate plastic, such as Tenite.

If this ring is used to support so many wires that it may tend to open a bit, allowing wires to fall out, a reinforcing keeper may be used. This may be of U-shape comprising a cross member and legs insertable into holes on either side of the ring slot so that the cross member bridges the slot.

Other and further objects and features of this invention will appear more fully and clearly from the following description of an exemplary embodiment taken in connection with the appended drawings, in which:

FIG. 1 is a partially exploded view showing the relation of the ring, the mounting stud, and the keeper; and FIGS. 2, 3, and 4 show various forms of mounting studs.

As shown in FIG. 1, the ring 10 comprises two side members or rods 11 and 12, a continuous or solid cross member, or end piece 13, and an interrupted or split cross or end member comprising the spaced elements 14 and 15. The side rods are advantageously cylindrical and have through bores 16 and 17 either for receiving

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a mounting stud 18. The outer end of the stud shown in this figure has machine screw type threads. Such a stud is also shown in FIG. 4.

The end members 14 and 15 are rounded or relieved at their juxtaposed faces and are slightly spaced from each other. As previously indicated, the space is less than the diameter of the smallest insulated wire to be held in this support. Although the ring has been described as made up of parts 11, 12, 13, 14, and 15, it is advantageously molded in one piece.

The keeper 20 has a bridge portion 21 conforming to the shape of the adjacent ring end and two pins or legs 22 and 23 for fitting into the bores 16 and 17. The pin 23, which ordinarily goes into the bore 17 not occupied by the stud 18, is longer than the other and may serve as a retainer for the keeper until it is put into use by inserting the other pin 22 into the bore 16.

The ring may be placed on the stud at any desired angle through a full 360 degrees in a plane perpendicular to the stud axis. A portion of the stud may be fluted, as by knurling, so as to aid in retaining the ring on the stud. In this case, the stud is made of the same diameter as the bore and the fluting is slightly raised by the knurling operation so that a tight fit will be assured. Other means and methods may be used for obtaining a good fit of these parts.

As may be seen by inspection of FIGS. 2, 3, and 4, the studs are all shown as fluted but differ in construction to suit the mount to which they are to be affixed.

The stud of FIG. 2 is intended to be driven, as with a hammer, into masonry. The stud of FIG. 3 is finished like a wood screw and is slotted for driving with a screwdriver. The machine screw type of stud shown in FIGS. 1 and 4 also has a slot at one end but the threads are for mating with a tapped hole in metal.

What is claimed is:

1. A wire supporting structure of elastic insulation for encompassing a plurality of wires and comprising laterally spaced cylindrical side members joined at one end of each by an end piece of rectangular cross section, and having at their opposite ends facing cantilevers of rectangular cross section with their juxtaposed faces rounded and spaced from each other a distance slightly less than the diameter of each wire to be supported, a longitudinal bore in each side member and extending through the end members and the cantilevers, a U-shaped keeper comprising a cross bar of rectangular section having parallel right angular projections fitting into the bores in the cantilevers and the side members.

2. A support for a plurality of insulated wires comprising spaced parallel side rods, an end piece interconnecting adjacent ends of the side rods, two juxtaposed end members projecting respectively from the other ends of the rods with their adjacent faces in close proximity, the space between these members being less than the diameter of the insulated wire to be supported, said rods, end pieces, and end members bounding a space sufficient to include a plurality of wires, a bore in at least one side rod, mounting means in this bore, and a keeper comprising a bar having projections fitted respectively to the end members to prevent them from spreading apart under the pressure of many wires within the support.

3. A support as in claim 2 in which the projections are pins fitting bores in the end members and adjacent portions of the side rods.

4. A multiple insulating wire support of rectangular configuration comprising spaced parallel side rods, a solid cross member connecting adjacent ends of the rods and a divided cross member including two facing elements projecting respectively from the other ends of the rods, the adjacent faces of the elements being closer together than the diameter of an insulated wire to be supported,

the space bounded by the rods and the cross members being sufficient to accommodate a plurality of wires, each rod having an axial bore, mounting means secured within at least one bore, and a keeper comprising a U-shaped member having legs fitting into the rod bores at the divided cross member end.

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