Oct. 3, 1961 D. A. DEARLE 3,003,019

SERVICE ENTRANCE HEAD FOR ELECTRICAL CONDUIT

Filed April 15, 1959

FIG. 1

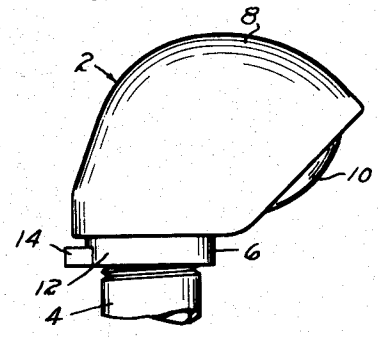


FIG. 2

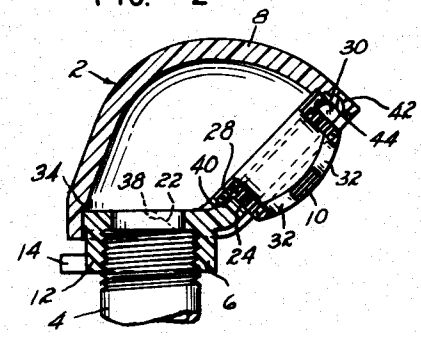


FIG. 3

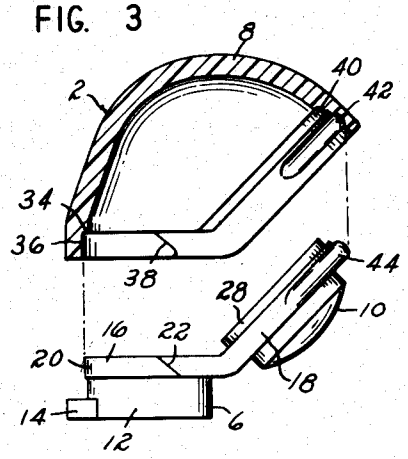


FIG. 4

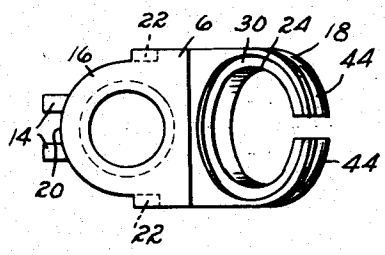
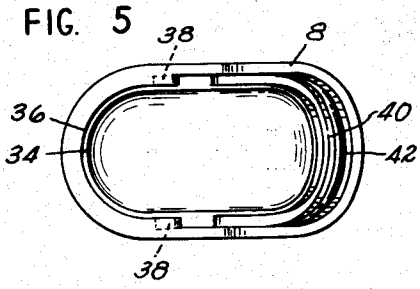


FIG. 5



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SERVICE ENTRANCE HEAD FOR ELECTRICAL CONDUIT

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This invention relates to electrical conduit fittings and more particularly to a light-weight, easily assembled entrance head for electrical conduit.

Entrance heads are extensively used at the ends of electrical conduit to support the received conductors or cables, and to protect them from abrasion. As is well known, it is also desirable that at least the apertured portion through which the cables pass be formed of non-conducting material. Since presently employed entrance heads are generally made of metal and assembled by use of several locking screws, their weight and mode of assembly often create problems in installation, especially at elevated or relatively inaccessible places. Also, corrosion may become of significance with these metallic fittings.

It is an object of this invention to provide a readily assembled entrance head for electrical conduit.

It is also an object to provide a light-weight entrance head that can be mounted without tools and which is both rugged and economical.

It is a specific object to provide an entrance head readily fabricated from resilient plastic materials and which is assembled by snap-locking the parts into engagement.

An additional object is to provide a fully insulating entrance head.

Other objects and advantages will be evident from the following detailed description and the attached drawings, wherein:

FIG. 1 is a side elevation of an entrance head assembly embodying the invention, as applied to a conduit;

FIG. 2 is a sectional view of the device in FIG. 1 with the parts assembled;

FIG. 3 is a side view of the entrance head with the parts disassembled and the cover in cross-section;

FIG. 4 is a top view of the lower member; and

FIG. 5 is a bottom view of the cover member.

Referring to the attached drawing, therein illustrated is an entrance head (designated generally as 2) constructed in accordance with this invention and applied to a conduit 4. The entrance head 2 is comprised of a yoke member 6, a substantially dome-shaped cap or cover member 8 and an insulator 10, all formed of plastic material.

The yoke member 6 has a base portion 12 which is internally threaded for attachment to the conduit 4. The lugs 14, which are integrally formed on the base, are provided primarily as a spacer for holding the conduit pipe away from the side of the building and may also be used to facilitate turning of the yoke member 6 during assembly. The base 12 is provided with a flange 16 forming a transverse platform which merges into an upwardly inclined bifurcated portion 18. The flange 16 has a semi-circular rear edge 20 which is bounded by two downwardly facing inclined shoulders 22 diametrically spaced on the base.

The upwardly inclined bifurcated portion 18 forms a fork defining a central opening 24 for receiving and frictionally engaging an insulator 10. The insulator 10 is generally cup-shaped and is provided with an outwardly disposed flange 28 adjacent its inner end which seats in the ledge 30 extending about the periphery of the opening 24. The outer face of the insulator 10, which is shown in the drawing as arcuate in cross section but which

could be flat or of other configuration, is provided with openings or apertures 32 for passage therethrough of the conductors (not shown).

The cap or cover member 8 has a semi-circular edge 34 which is grooved as indicated at 36 and dimensioned so that it will form a snug fit with the semi-circular rear edge 20 of the yoke member 6. The edge 34 is also provided with a pair of shoulders 38 shaped complementary to the shoulders 22 of the yoke member 6 so as to engage therewith. The remaining portion of the periphery of the cap or cover member 8 is formed with a lip 40 which is dimensioned to fit snugly about the bifurcated portion 18 of the yoke member 6 and contains groove 42 which will engage with a snap action on the beads 44 formed on the periphery of its bifurcated portion 18 of the yoke member 6.

Thus, it can be seen that the entrance head may be readily assembled without tools, by "snap-locking" the several elements into assembly. Initially, the yoke member 6 is threaded onto the conduit 4 and the conductors are passed through the openings 32 in the insulator 10, which is then pressed into the opening 24 of the yoke member 6, the flange 28 seating on the ledge 30. The cap 8 is then slid forward onto the base portion of the yoke 6 until the abutting faces of the shoulders 22 and 38 engage, and then the upper portions of cap 8 and yoke member 6 are pressed together, the resiliency of the semi-rigid members permitting deformation, to lock the beads 44 into the groove 42. Generally, a slight compression of the forks of the bifurcated portion will ensure substantially rigid frictional seating of the insulator 10 in the yoke member 6.

The several elements of the entrance head are fabricated from a plastic or resin in order to provide a semi-rigid structure which also has sufficient resiliency to enable snap-locking of the parts. Either thermosetting or thermoplastic resins may be used, although for some purposes, the temperature resistance of the thermosetting materials may be preferable. Exemplary of the plastics satisfactorily employed are the phenolic resins and the polyethylenes.

The several elements of the assembly are conveniently and economically cast or molded into their final form, or they may be molded into a semi-finished state and then machined.

As is evident from the foregoing description, the entrance head of the present invention is easily assembled, economical, and durable. Although but one embodiment has been illustrated and described, it is apparent to those skilled in the art that modifications can be made without departing from the spirit of the invention.

Having thus described the invention, I claim:

1. An entrance head for an electrical conduit comprising a plastic yoke member having a base for attachment to a conduit and an upwardly inclined bifurcated portion defining an opening, an apertured insulator seated in said opening, and a plastic cover having a peripheral edge cooperating with and enclosing said yoke member, said cover and base having inter-engaging abutting shoulders in interlocking engagement to preclude sliding movement of said cover away from said base along said bifurcated portion, and said bifurcated portion and cover having a bead and groove connection snap-locking the cover and yoke member into assembled position upon movement of said cover in a direction generally perpendicular to the plane of said bifurcated portion.

2. An entrance head for electrical conduit comprising a plastic yoke member having a threaded base for attachment to a conduit and an upwardly inclined bifurcated portion defining an opening, an insulator seated in said opening with at least one aperture in its face for passage

of a conductor therethrough, and a plastic cover having a peripheral edge cooperating with and enclosing said yoke member, said yoke member having a pair of inclined, downwardly facing shoulders and beads on the bifurcated portion, said cover having a shoulder portion with faces thereon inclined oppositely to the yoke faces for interlocking abutting engagement with said shoulders to preclude sliding movement of said cover away from said base along said bifurcated portion, and a groove cooperating with said beads for snap-locking of the bifurcated portion into the cover.

3. An entrance head for electrical conduit comprising a plastic yoke member having a threaded base for attachment to a conduit and an upwardly inclined bifurcated portion defining a cylindrical opening, said bifurcated portion being provided with a ledge about the inside of said opening, a cylindrical insulator with an outwardly disposed flange at its base seated in said opening and ledge and having at least one aperture in its face for passage of conductors therethrough, and a plastic cover having a peripheral edge cooperating with and enclosing said yoke member and dimensioned to distort said bifurcated portion in a closing direction, the yoke member having a pair of downwardly facing spaced shoulders on its base and beads about the bifurcated portion, the inner periphery of said cover having shoulders with oppositely inclined, cooperating with said shoulders of the yoke member, abutting faces for sliding engagement of the cover with said base and a groove cooperating with said beads for snap-locking engagement of the bifurcated portion in the cover.

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