March 18, 1969 D. G. FISCHER ET AL 3,433,270

LAY-IN DUCT HAVING SIDE-BRACING AND WIRE-RETAINING MEANS

Filed Oct. 13, 1966

Fig. 1

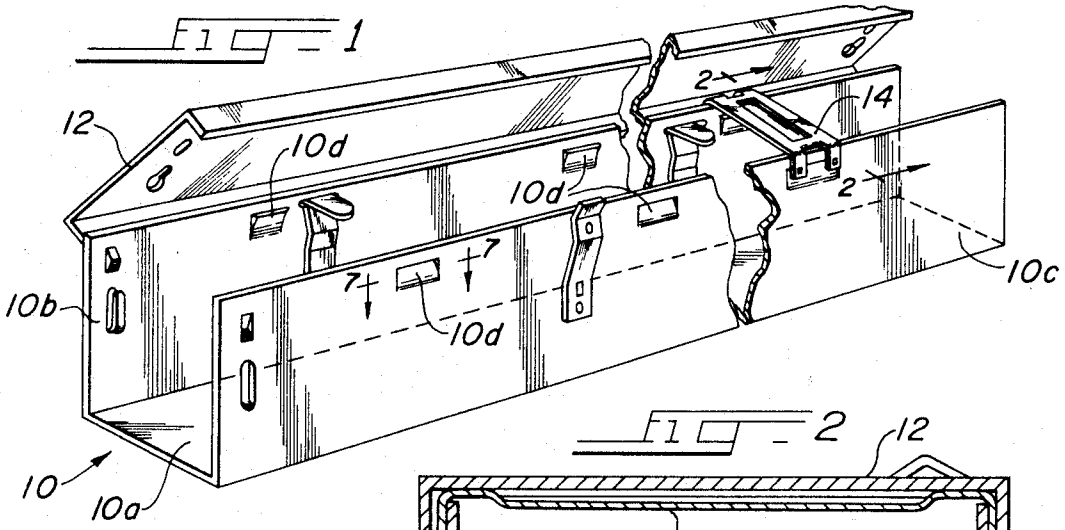


Fig. 2

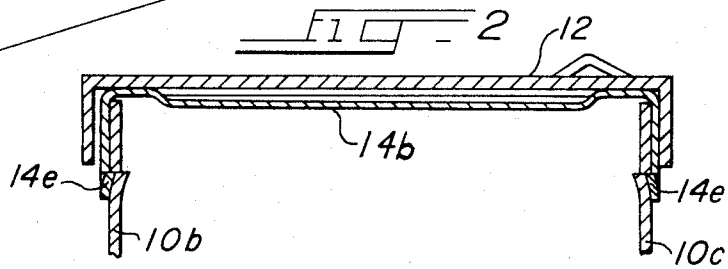


Fig. 3

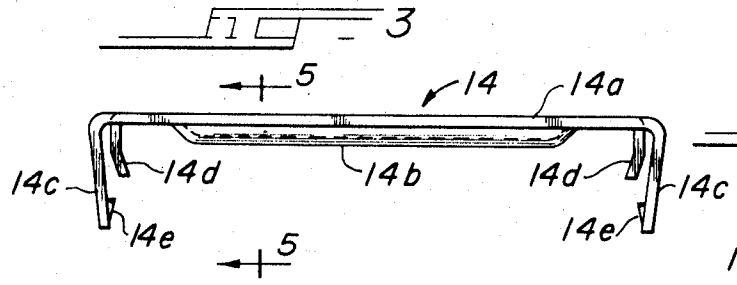


Fig. 5

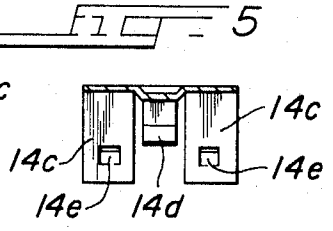


Fig. 4

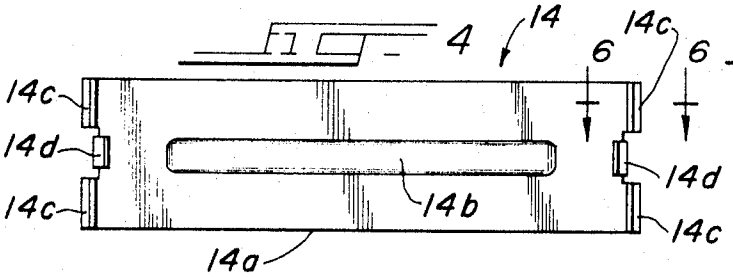


Fig. 6

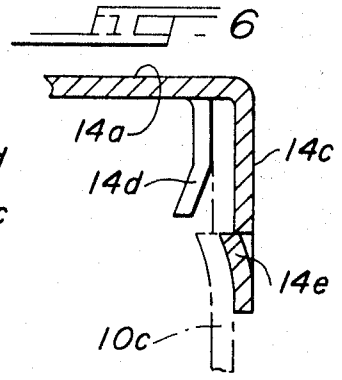
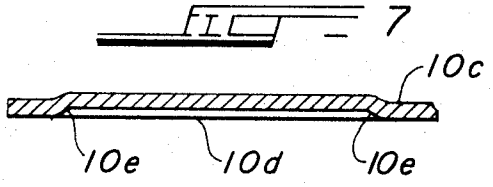


Fig. 7



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LAY-IN DUCT HAVING SIDE-BRACING AND WIRE-RETAINING MEANS

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U.S. Cl. 138—162 1 Claim
Int. Cl. E04f *17/08*; H02g *3/28*; E04b *5/48*

This invention relates generally to lay-in duct for electrical power distribution wires, and more particularly to lay-in duct having means for bracing the sides thereof and for retaining wires therein when the duct is installed in other than a horizontal upright position.

An object of the invention is to provide channel-shaped lay-in duct having means for bracing opposed side wall portions thereof and for retaining wires therein.

In the drawings:

FIG. 1 is a perspective view of a section of lay-in duct constructed in accordance with the invention, a cover thereof being shown in a partially open position;

FIG. 2 is a fragmentary sectional view taken generally along the line 2—2 of FIG. 1, but showing the cover in a closed position;

FIG. 3 is a side elevational view of a side wall bracing and wire retaining means of the lay-in duct of FIG. 1;

FIG. 4 is a bottom view if the side wall bracing and wire retaining means of FIG. 3;

FIG. 5 is a sectional view taken generally along the line 5—5 of FIG. 3;

FIG. 6 is an enlarged fragmentary sectional view taken generally along the line 6—6 of FIG. 4 but showing a portion of a side wall of the duct of FIG. 1 in phantom and showing a leg portion of the bracing and retaining means of FIG. 3 in a straightened position; and

FIG. 7 is an enlarged fragmentary sectional view taken generally along the line 7—7 of FIG. 1.

The present invention relates to an improvement on the lay-in duct shown and described in copending application, Ser. No. 339,246, filed Jan. 21, 1964, now Patent No. 3,312,251, issued Apr. 4, 1967, to which reference may be had for a more complete description of the basic duct.

FIG. 1 shows a channel-shaped duct **10** including a bottom wall portion **10***a* and a pair of opposed generally parallel side wall portions **10***b* and **10***c*. A cover **12** is pivotally mounted on the side wall portion **10***b*.

In accordance with the invention, a bracing and wire retaining member **14** is mounted on the side wall portions **10***b* and **10***c*, which are provided with a plurality of opposed pairs of elongated indentations **10***d* spaced longitudinally of the duct **10**. The indentations **10***d* are formed by partially shearing the side wall portions **10***b* and **10***c* inwardly so as to provide shoulders facing the bottom wall portion **10***a* but disposed on the outer surfaces of the side wall portions **10***b* and **10***c*, as shown in FIG. 2.

A plurality of bracing and wire retaining members **14** may be mounted in spaced relationship longitudinally of the duct **10**, one at each pair of the opposed indentations **10***d*.

Each member **14** includes an elongated generally rectangular main body portion **14***a* strengthened by the formation of a rib **14***b* thereon. Each member **14** also includes four outer leg portions **14***c* and two inner leg portions **14***d* extending generally at right angles to the body portion **14***a*, two of the leg portions **14***c* and one of the leg portions **14***d* being disposed adjacent each of the opposite ends of the body portion **14***a*. The two leg portions **14***c* at each end of the body portion **14***a* are spaced on opposite sides of the leg portion **14***d* laterally of the body portion **14***a*. Longitudinally of the body portion **14***a*, the leg portions **14***c* at opposite ends of the body portion **14***a* are spaced farther apart than the leg portions **14***d*. The leg portions **14***c* are longer than the leg portions **14***d*, and each leg portion **14***c* is provided with an inwardly projecting portion **14***e* partially sheared from the remainder of the leg portion to provide a shoulder facing the body portion **14***a*.

As shown in FIG. 7, each elongated indentation **10***d* is provided adjacent opposite ends with a pair of camming surfaces **10***e*.

When a bracing and wire retaining member **14** is installed on a duct **10**, it must be anchored securely in place, and yet it must be readily removable if the "lay-in" feature of the duct, by which wires may be laid in the duct transversely rather than fished through the duct longitudinally, is not to be destroyed.

The unstressed condition of one of the members **14** is shown best in FIG. 3, wherein the leg portions **14***c* are inclined slightly toward each other. The members **14** may be installed by pushing them into place on the side wall portions **10***b* and **10***c* at the locations of the indentations **10***d*, the free end portions of the leg portions **14***d* also being inclined toward each other for easier entry of the side wall portion **10***b* or **10***c* between the leg portions **14***c* and **14***d*. When a member **14** is installed in place, the side wall portion **10***b* is between the leg portions **14***c* or **14***d* adjacent one end of the member **14**, and as shown in FIG. 6, the side wall portion **10***c* is between the leg portions **14***c* and **14***d* adjacent the other end of the member **14**. The free end portions of the side wall portions **10***b* and **10***c* are thus braced against movement both toward and away from each other, and wires (not shown) in the duct **10** may be retained therein by the members **14** in situations in which the duct **10** is installed in other than a horizontal upright position. Further, the members **14** are held securely in place by the disposition of pairs of the inwardly projecting portions **14***e* respectively in the indentations **10***d*. However, when it is desired to remove a member **14** from the duct **10**, the member **14** may first be pushed longitudinally of the duct **10** in either direction, whereby one of the camming surfaces **10***e* of each indentation **10***d* moves the respective pair of inwardly projecting portions **14***e* outwardly to a position in which they merely engage the outer surface of the respective side wall portion **10***b* or **10***c* next to the respective groove **10***d*. The member **14** may then be pulled off the duct **10** in a direction perpendicular to the bottom wall portion **10***a*.

We claim:

1. A lay-in duct for receiving electrical wires, said lay-in duct comprising an elongated channel-shaped duct having a bottom wall and a pair of opposed generally parallel side walls, and an elongated side-bracing and wire-retaining member extending transversely of said duct and disposed opposite said bottom wall adjacent free end portions of said side walls, each of said side walls being provided on an outer surface thereof with an indentation opposite an indentation on an outer surface of the other of said side walls, each of a pair of opposite end portions of said member being provided with an outer leg portion engaging an outer surface of a respective one of said side walls and an inner leg portion engaging an inner surface of the respective one of said side walls, each of said outer leg portions being provided with an inwardly projecting portion received in a respective one of said indentations, each of said side walls being provided on an outer sur-

face thereof with a shoulder defining an edge of the indentation therein and facing toward said bottom wall, each of said inwardly projecting portions of said outer leg portions being provided with a shoulder facing the shoulder of the respective side wall, and each of said side walls being provided on an outer surface thereof with a camming surface forming an end of the indentation therein in a direction longitudinally of said duct, whereby said member may be removed from said duct by first moving the member longitudinally of said duct to force said inwardly projecting portions respectively out of said indentations by means of said camming surfaces and then pulling said member off said duct in a direction generally perpendicular to said bottom wall.

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U.S. Cl. X.R.

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