Feb. 17, 1931. G. R. METCALF, JR 1,793,113

CONNECTER

Filed Aug. 6, 1928

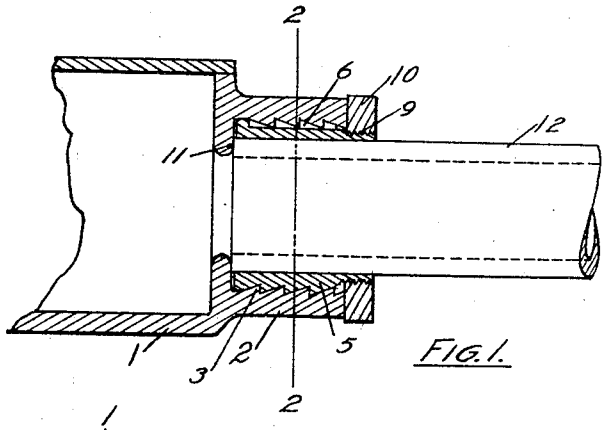


FIG. 1.

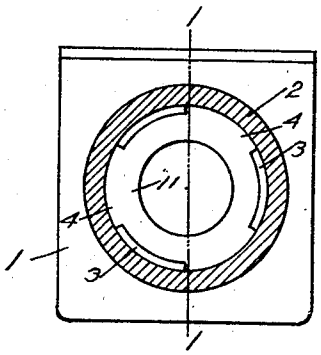


FIG. 2.

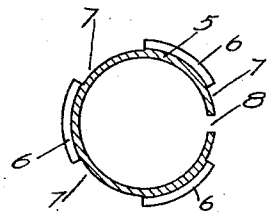


FIG. 3.

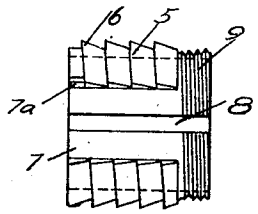


FIG 4.

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UNITED STATES PATENT OFFICE

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CONNECTER

Application filed August 6, 1928. Serial No. 297,802.

This invention is designed to improve connecters, particularly the certainty with which the connecters engage material to be connected and the ease with which the connecter may be assembled. The invention is particularly advantageous in connection with connecters involved in conduit fittings and as illustrated is exemplified as a conduit box. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a central section on the line 1—1 in Fig. 2.

Fig. 2 a section of the conduit body on the line 2—2 in Fig. 1.

Fig. 3 a section on the contracting tube on the line 2—2 in Fig. 1.

Fig. 4 a side elevation of a contractible tube.

1 marks a conduit box having a sleeve extension 2. Annular ribs 3 are arranged in the extension, these ribs being inclined on their inner faces. The ribs are interrupted at 4, the ribs preferably having three interruptions.

A contracting tube 5 is arranged within the sleeve 2. It is provided with annular ribs 6, these ribs having inclined faces, the incline facing outwardly and being adapted to be opposed to the inclined faces of the ribs 3. The ribs 6 are interrupted at 7, the interruptions 7 and 4 being such that the ribs 6 will pass through the interruptions 4 as the sleeves are moved telescopically in moving the sleeves axially relatively to each other. The ribs are adapted to be brought into engagement after they are positioned axially by a rotative movement of the tube in the sleeve. At the end of each row of ribs there is a projection 7*a* which, when the ribs 6 are brought into register with the ribs 3 stop the rotative movement.

The tube is provided with an axially extending slot 8 which renders the tube contractible. The tube is also provided with screw threads 9 at its outer end on which is arranged a nut 10. After the tube is brought by rotation into register with the ribs 3 the tube is contracted by forcing it endwise through the action of the nut 10. This is accomplished through the wedging action of the inclined faces of the ribs 6 against the inclined faces of the ribs 3. A guard shoulder 11 is arranged at the inner end of the sleeve 2 and covers the end of an inserted conduit 12.

With this structure an assembling of the parts can be quickly accomplished. The mechanism is exceedingly simple and effective. As strain is put upon the conduit tending to separate the conduit from the fitting the tube is drawn against the inclined surfaces.

The ribs as shown are helical but it is only necessary that they should be annularly extending as distinguished from longitudinally extending ribs.

What I claim as new is:—

1. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a member having an interrupted rib with an opposingly inclined face, said member and tube being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of said member and tube; and means forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

2. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a member having an interrupted rib with an opposingly inclined face, said member and tube being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of said member and tube; and a nut forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

3. In a connecter, the combination of a slotted tube having an annularly extending

interrupted rib with an inclined face; a member having an interrupted rib with an opposingly inclined face, said member and tube being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of said member and tube; and a nut on the tube forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

4. In a connecter, the combination of a slotted tube having a plurality of annularly extending interrupted ribs with inclined faces; a member having a plurality of interrupted ribs with opposingly inclined faces, said member and tube being telescopically movable relatively to each other, the ribs of one being movable through the interruption of the ribs of the other and into opposing position by relative rotation of the tube and member; and means forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

5. In a connecter, the combination of a slotted tube having a plurality of annularly extending interrupted ribs with inclined faces; a member having a plurality of interrupted ribs with opposingly inclined faces, said member and tube being telescopically movable relatively to each other, the ribs of one being movable through the interruption of the ribs of the other and into opposing position by relative rotation of the tube and member; and a nut forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

6. In a connecter, the combination of a slotted tube having a plurality of annularly extending interrupted ribs with inclined faces; a member having a plurality of interrupted ribs with opposingly inclined faces, said member and tube being telescopically movable through the interruption of the ribs of the other and into opposing position by relative rotation of the tube and member; and a nut on the tube forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

7. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a sleeve in which the tube is arranged, said sleeve having an interrupted rib with an opposingly inclined face, said tube and sleeve being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of the tube and sleeve; and means forcing the sleeve axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

8. In a connecter, the combination of a slotted tube having a plurality of annularly extending interrupted ribs with inclined faces; a sleeve having a plurality of interrupted ribs with opposingly inclined faces, said tube and sleeve being telescopically movable relatively to each other, the ribs of one being movable through the interruption of the ribs of the other and into opposing position by relative rotative movement of the tube and sleeve; and means forcing the sleeve axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs.

9. A conduit fitting comprising a body having a sleeve thereon with an annularly extending interrupted rib with an inclined face arranged within the sleeve; a slotted tube arranged within the sleeve, said tube having an annularly extending interrupted rib, said tube being adapted to be inserted in the sleeve by endwise movement, the rib of the tube passing through the interruption of the rib of the sleeve, the rib of the tube being adapted to be brought into opposing position by a relative rotative movement of the tube and sleeve, and means for forcing the tube axially to contract the same through the wedging action of the inclined faces of the ribs.

10. A conduit fitting comprising a body having a sleeve thereon with an annularly extending interrupted rib with an inclined face arranged within the sleeve; a slotted tube arranged within the sleeve, said tube having an annularly extending interrupted rib, said tube being adapted to be inserted in the sleeve by endwise movement, the rib of the tube passing through the interruption of the rib of the sleeve, the rib of the tube being adapted to be brought into opposing position by a relative rotative movement of the tube and sleeve; and means forcing the tube axially to contract the same through the wedging action of the inclined faces of the ribs comprising a nut acting on the end of the sleeve.

11. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a member having an interrupted rib with an opposingly inclined face, said member and tube being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of said member and tube; means forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs; and a stop limiting the rotative movement of the tube and member.

12. In a connecter, the combination of a

slotted tube having an annularly extending interrupted rib with an inclined face; a member having an interrupted rib with an opposingly inclined face, said member and tube being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of said member and tube; a nut forcing the member axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs; and a stop limiting the rotative movement of the tube and member.

13. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a sleeve in which the tube is arranged, said sleeve having an interrupted rib with an opposingly inclined face, said tube and sleeve being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of the tube and sleeve; a nut on the tube for forcing the tube axially relatively to the sleeve contracting the tube through the wedging action of the ribs; and a stop limiting the rotative movement of the tube and sleeve.

14. In a connecter, the combination of a slotted tube having an annularly extending interrupted rib with an inclined face; a sleeve in which the tube is arranged, said sleeve having an interrupted rib with an opposingly inclined face, said tube and sleeve being telescopically movable relatively to each other, the rib of one being movable through the interruption of the rib of the other and into opposing position by relative rotative movement of the tube and sleeve; means forcing the sleeve axially relatively to the tube to force the walls of the tube radially through the wedging action of the inclined faces of the ribs; and a stop limiting the rotative movement of the tube and sleeve.

In testimony whereof I have hereunto set my hand.

GEORGE R. METCALF, JR.