This invention relates to coupling means for single conductor shielded cables, and more particularly to coupling means for co-axial cables. It is a well known fact that cables of the above mentioned type are difficult to handle, and, at times, must be cut in short lengths in order to pass through the regular paths. Therefore, an installation requiring this type of cable could be greatly simplified, and facilitated by the use of convenient and effective coupling accessories by means of which co-axial cables can be easily connected and disconnected.

One object of my invention is to provide coupling means for co-axial cables, which can be easily and quickly connected and disconnected, and are capable of providing electrical and gaseous continuity in the cable thereby rendering all electrical connections airtight, while maintaining gas communication within the cables.

Another object of my invention is to provide friction and constricive electrical contacts, and to produce such contacts for the inner and/or outer conductor of the cable.

A further object of my invention is to provide a coupling means for shielded cables, which can be easily fastened on the cable, and simultaneously forms electrical connection with the outer conductor.

It is also an object of my invention to provide a coupling means for electrical cables, in which electrical connection is effected by friction and clamping contact of contact members simultaneously.

Other objects and advantages will become apparent from the specification, taken in connection with the accompanying drawing.

In the drawing,

Fig. 1 is a sectional view of one embodiment of my invention illustrating a first connector member fastened at the end of a co-axial cable, assembled with a second connector member, the latter being partly broken away;

Fig. 2 is a sectional view of the second connector member shown in Fig. 1.

Referring to Fig. 1, the co-axial cable 1 shown therein in section, may be of the solid copper tubing type, the braided type or any other form of shielded conductor cable. 2 is the center electrode of the cable, 3' and 3'' are spacing insulating washers, 4 is a first connector member, 5 is the locking nut, and 6 an insulating washer of the first connector member. A contact member 1, to which the center electrode 2 of the cable 1 is electrically connected by soldering, for example, extends through said insulating washer 6. Once washer 6 is screwed into place, an eyelet 3 makes contact with the outer conductor 10 of the co-axial cable. The first connector member 4 has a slotted tubular extension 11 which fits into a corresponding annular recess 16 of the second connector element shown in Figs. 1 and 2. This annular recess is formed by an inner cylindrical surface of the second connector member and the outer cylindrical surface of an insulating member positioned in said second connector member. An airtight joint may be produced by means of a rubber gasket 8, once the nut 5 is screwed over the corresponding connector part.

In order to connect the first connector member 4 shown in Fig. 1 to an end of a co-axial cable, it is necessary to remove the cotton braid cover, if this is present, for about \(1/4''\) from the end, for example, thus exposing the conductor braid or solid copper tubing which forms the outer conductor of the cable. The center conductor tube is cut off at the protruding about \(1/4''\) from the extremity of the cable. Connector member 4 is now made to slide over the end of the cable 1 to which the connector is to be fastened, far enough to allow the exposed outer conductor to protrude just beyond the smaller diameter hole in connector member 4. When this has been done, eyelet 3 is put in place, and insulating washer 6 is screwed into member 4, taking care to allow the center conductor to pass through contact member 7. By screwing the insulating washer 6 into place, an end of eyelet 3 will be caused to abut outer conductor 10.

As further precaution against gas leak, the cable may be introduced into a metal tube 31, if desired, and a tight connection between the end of said metal tube and the barrel may be secured by using conventional coupling means 32, as shown.

The second connector member shown in Figs. 1 and 2 consists of a metallic barrel 12 having suitable recesses to accommodate insulating washers 13 and 13', through which center contact piece 14 extends. This contact piece has tubular recesses 32 and 32', said recess 32 receiving contact member 7 when the two connector parts are assembled, as shown in Fig. 1. Barrel 12 is also provided with an annular recess 15, which receives the slotted tubular extension 11 of the receptacle type connector part, whereby proper electrical contact between the outer conductor and barrel 12 is secured, even without tightening locking nut 5.

Once the first connector member is coupled with the second connector member and locked,
by nut 5 a solid contact will be established between the contact piece 1 and center conductor piece 14, as well as between the outer cable connector 10 and barrel 12 of the second connector member, while rubber gasket 9 will be compressed by the face of connector barrel 12, producing a tight gas seal.

It is to be noted that all insulating and spacing washers may be provided with suitable holes to allow aerial connection between the various chambers of the connector assemblies.

It is to be understood that my invention is not limited to the specific embodiments presented herein for illustration, and is susceptible of modifications within the scope of the invention as defined in the appended claims.

I claim:

1. Coupling means for electrically connecting a coaxial cable, said coupling means comprising a first connector member adapted to be fastened at the end of a coaxial cable, and a second connector member adapted to be assembled with said first connector member, said connector members being provided with means for producing a central conductor prong electrical contact, and an annular frictional contact for the outer conductor of said coaxial cable, said annular frictional contact being provided by a slotted tubular extension fitting into a registering annular recess formed by an inner cylindrical surface of said second connector member and the outer cylindrical surface of an insulating member positioned in said second connector member.

2. In a coupling means for electrically connecting a coaxial cable, a first connector element comprising a metallic barrel adapted to be fastened on the end of a coaxial cable, contact means arranged in said barrel, connected with the center conductor of a coaxial cable and electrically insulated from said barrel by an insulating washer, and a metallic member for producing electrical contact between the outer conductor of said coaxial cable and said barrel; a second connector element provided with a centrally arranged insulating member, a part of which is adapted to be inserted into said first connector element, said second connector element being adapted to be tightly connected with said first connector element by means of a threaded metallic locking nut; said barrel of the first connector element being provided with a slotted tubular extension fitting into a registering annular recess formed by an inner cylindrical surface of said second connector element and an outer cylindrical surface of said centrally arranged insulating member, said second connector element being provided with a center conductor piece led through said centrally arranged insulating member of said second connector element, said center conductor piece having a recess registering with and receiving said contact means of said first connector element.

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