

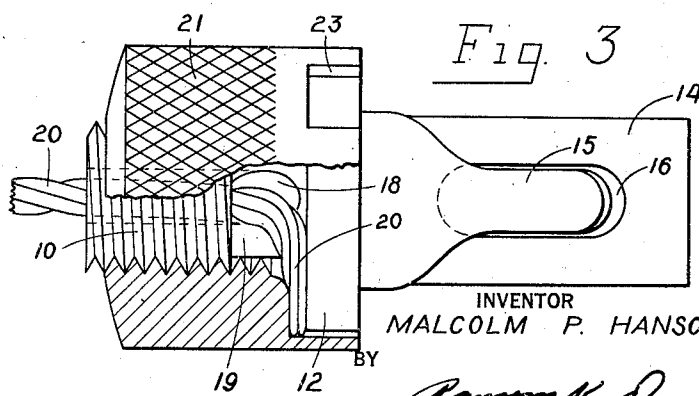
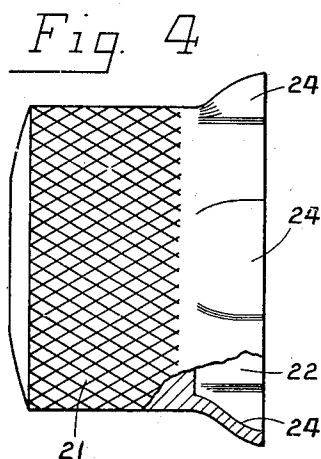
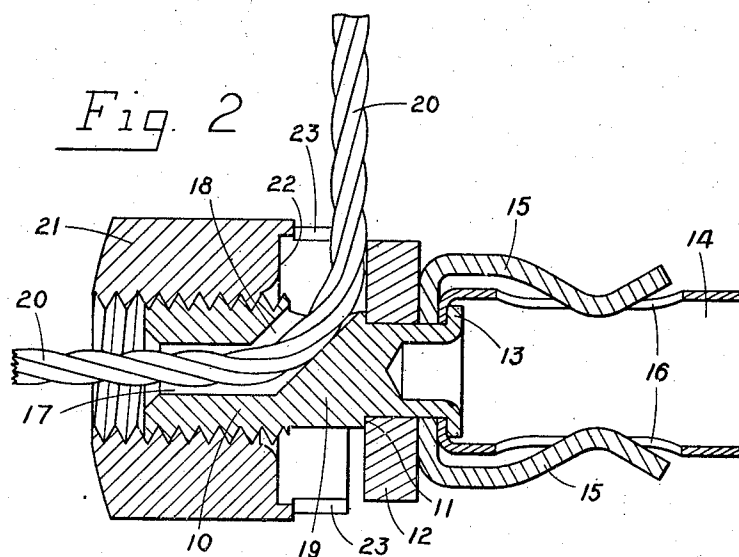
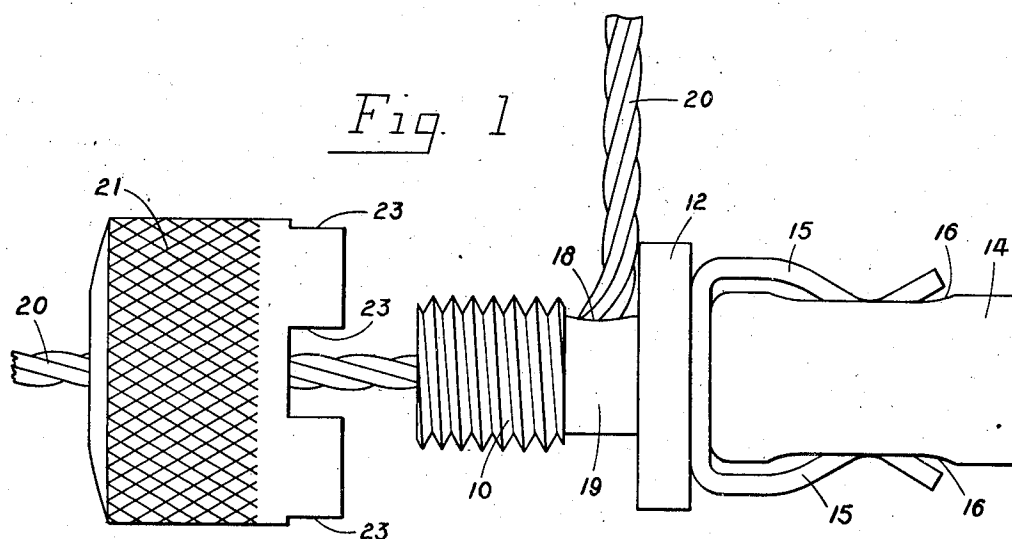
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ELECTRIC TERMINAL CONNECTION

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ELECTRIC TERMINAL CONNECTION

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3 Claims. (Cl. 173—328)

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This invention relates to electric terminal connections and it has a particular relation to disconnectible terminals for electric conductors.

One of the objects of the present invention is the provision of a terminal, of the character described, which will provide a very secure anchorage for the attached conductor and one which cannot become loose and also a terminal which may be secured to a relatively stiff stranded wire conductor with a minimum of effort. The present terminal is particularly adaptable for use in airplanes and other installations subject to continuous or prolonged vibration.

With these and other objects in view, as well as other advantages that may be incident to the use of the improvements, the invention consists in the parts and combinations thereof herein-after set forth and claimed, with the understanding that the several necessary elements constituting the same may be varied in proportion and arrangement without departing from the nature and scope of the invention, as defined in the appended claims.

In order to make the invention more clearly understood, there are shown in the accompanying drawing, means for carrying the invention into practical use, without limiting the improvements in their useful application to the particular construction, which, for the purpose of explanation, have been made the subject of illustration.

In the accompanying drawing:

Fig. 1 is an enlarged side elevational view of a terminal of the plug type embodying the invention, with the parts separated and prior to clamping the wire conductor therein;

Fig. 2 is a longitudinal sectional view through the terminal with the parts in the positions they occupy just after the conductor has been engaged by the ferrule and prior to being wrapped and clamped thereto;

Fig. 3 is a view partly in side elevation and partly in longitudinal section showing the final position of the parts with the conductor wrapped, clamped and housed thereby; and

Fig. 4 is a side elevational view of another form of clamping ferrule adapted for use with the present terminal structure.

Referring to the drawing, a conductor terminal of the plug type constructed in accordance with the invention is shown as comprising an exteriorly screw threaded nipple 10 formed with a shoulder 11 against which a collar 12 is clamped by upsetting the edges of a recessed end 13 of the nipple (Fig. 2). A cylindrical cup or socket 14 and cooperating contact members 15 are also

clamped to the nipple 10 between the collar 12 and the upset end 13, the free ends of the contact members being inwardly curved and projecting through openings 16 in the socket for frictional engagement with a cooperating terminal plug, not shown.

The nipple 10 is provided with an axial bore 17 which communicates with a bore 18 extending at an angle thereto and opening through a cylindrical neck portion 19 of the nipple adjacent to the collar 12. The uninsulated or exposed end of a wire conductor 20 extends through the axial portion 17 of the bore and thence radially outwardly through the angularly extending bore 18 and is secured in position by means of a knurled ferrule or cap 21 which is screw threaded onto the nipple 10. The forward end of the ferrule 21 is formed with a recess 22 the walls of which are notched at intervals, as indicated at 23.

When the conductor is secured to the terminal it is first threaded through the ferrule 21 and thence through the bores 17 and 18 in the nipple 10, so as to leave a short length thereof extending radially outwardly from the latter, as shown in Fig. 1. The ferrule 21 is then screwed onto the nipple until the radially extending portion of the conductor is caught within one of the notches 23 in the ferrule, as shown in Fig. 2. Continued rotation of the ferrule 21 will wrap the outwardly extending end of the conductor around the neck 19 of the nipple until it is entirely withdrawn through the notch 23 and into the recess 22 of the ferrule and clamped against the collar 12 without injury to the fingers. When this occurs the notches 23 will overlie the collar 12 and be closed thereby, the wrapped end of the cable being completely housed within recess 22 of the ferrule, as shown in Fig. 3. The extreme end of the conductor, through its resiliency, bears against the wall of the recess 22 and will catch in the notches 23 therein with a ratchet action, thus resisting any tendency for the ferrule to unscrew.

In Fig. 4 there is shown another type of ferrule in which notches 24 are formed in the wall of the recess 22 by extruding portions thereof. The action of this form of ferrule is the same as that hereinabove described in connection with Figs. 1 to 3.

It will be understood that the above description and accompanying drawing comprehend only the general and preferred embodiment of the invention and that various changes in construction, proportion and arrangement of the parts may be made within the scope of the appended claims

without sacrificing any of the advantages of the invention.

The invention described herein may be manufactured and/or used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

I claim:

1. A terminal connection for electrical conductors comprising a nipple having contact means for detachable connection with another terminal and formed with a shoulder and with a bore extending therethrough opening at its forward end through the side of the nipple adjacent to said shoulder; and a cup-shaped ferrule screw threaded onto said nipple and having a notch formed in the forward edge of the wall thereof adapted to engage the end of an electric conductor extending through said bore and radially out of the forward end thereof, and to wrap the same about said nipple when said ferrule is screwed onto said nipple, said ferrule being adapted to clamp the wrapped portion of said conductor against said shoulder and said shoulder being adapted to enter said ferrule and close the notch therein.

2. A terminal connection for electrical conductors comprising a nipple having contact means for detachable connection with another terminal and formed with a shoulder and with a bore extending therethrough opening at its forward end through the side of the nipple adjacent to

said shoulder; and a ferrule screw threaded onto said nipple and having a recess formed in the forward end thereof and a notch in the edge of the forward wall of said recess, said notch being adapted to engage the end of an electric conductor extending through said bore and radially out of the forward end thereof, and to wrap the same about said nipple when said ferrule is screwed onto said nipple, said ferrule being adapted to clamp the wrapped portion of said conductor within said recess and against said shoulder and said shoulder being adapted to enter said recess and close the notch therein.

3. A terminal connection for electrical conductors comprising a nipple having contact means for detachable connection with another terminal and formed with a shoulder and with a bore extending therethrough opening at its forward end through the side of the nipple adjacent to said shoulder; and a ferrule screw threaded onto said nipple and having a recess formed in the forward end thereof, the forward edge of the wall of said recess having an outwardly bent portion forming an abutment adapted to engage the end of an electric conductor extending through said bore and radially out of the forward end thereof and to wrap the same about said nipple when said ferrule is screwed onto said nipple, said ferrule being adapted to clamp the wrapped portion of said conductor within said recess and against said shoulder.

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