Aug. 14, 1934. J. E. WILD ET AL 1,969,866

RADIO SHIELDED CABLE FASTENER

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Fig. 1.

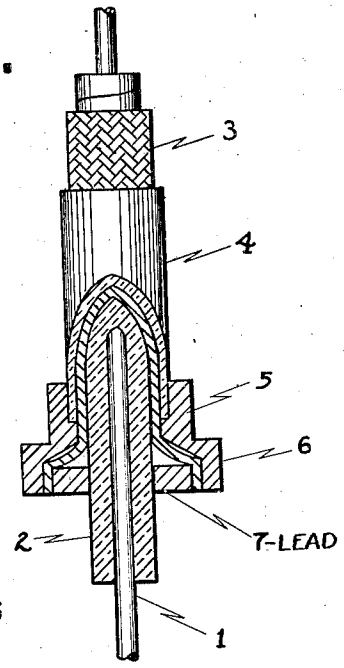
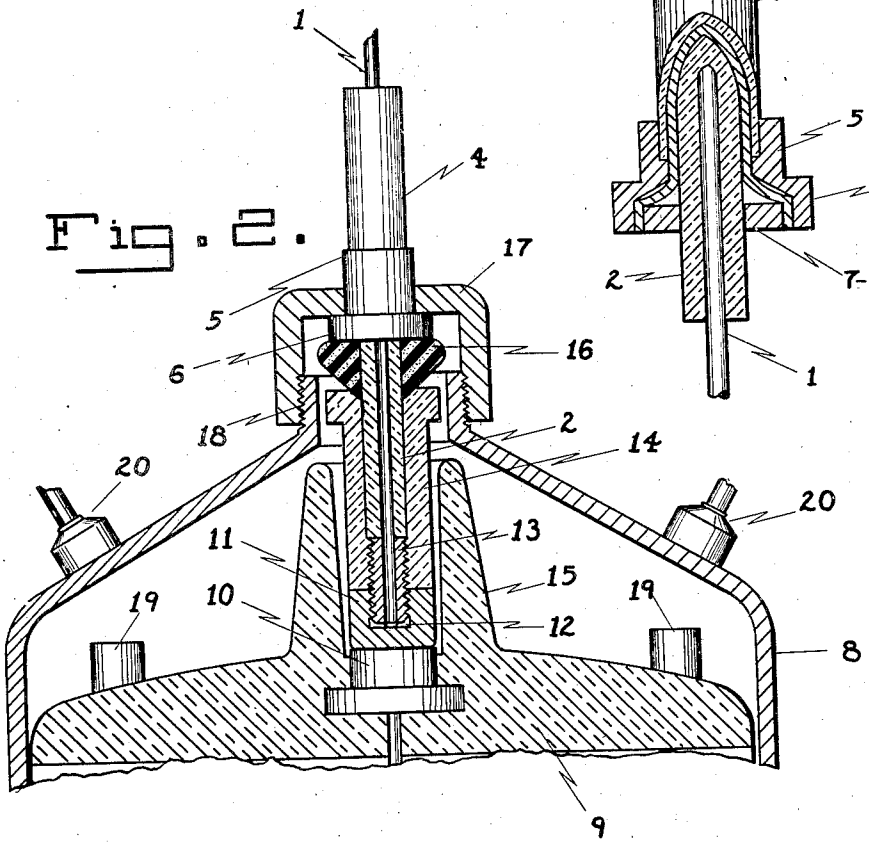


Fig. 2.



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RADIO SHIELDED CABLE FASTENER

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2 Claims. (Cl. 173—269)

Our invention relates to improvements in cable fasteners; and particularly to a fastener for a cable with a radio shield enveloping the same and intended for use in high tension circuits.

An object of the invention is to provide a cable designed to be securely attached to the high tension terminal of an ignition coil for an internal combustion engine, in such a manner that the connection to the cable is effectually maintained and the radio shield of said cable can be properly grounded.

The foregoing and other objects and advantages of the invention will be apparent from the following description, in which the preferred form of our invention is disclosed. But we, of course, reserve the right to make any changes which do not depart from the principle of the invention or exceed the scope and spirit of the appended claims.

On the drawing:

Fig. 1 is a side view partly in section of a radio shielded cable with the fastener element thereon; and

Fig. 2 shows in section the upper part of the casing of an ignition coil with such a cable secured to the high tension terminal thereof.

On the drawing the same numerals identify the same parts throughout.

The cable comprises a conductor or wire 1 covered by insulation 2 and enveloping the insulation 2 is a sleeve of conducting material which may be formed of woven metallic strips 3. Over the radio shield is a tubular sleeve or cover of cloth 4. Adjacent one end of this conductor is a ferrule 5 having a flange 6. The ferrule envelops the adjacent end of the cloth covering 4 and this ferrule is counterbored within the flange 6 so that the adjacent extremity of the tubular radio shield 3 can be expanded. Within the flanged end of the ferrule 5 is forced a lead washer 7 which snugly encircles the insulation 2 and clamps the adjacent expanded end of the shield 3 between it and the inside surface of the flange 6. The radio shield is thus securely fastened to the ferrule and electrically connected thereto. The lead washer 7 can easily be forced into the flanged end of the ferrule and caused to grip the adjacent end of the shield 3 between it and the ferrule without any risk of damaging the shield; and it will always hold the end of the shield in firm engagement with the ferrule so as to maintain the electrical connection of the shield therewith.

The upper part of the casing of the coil is shown at 8 and the coil therein, which is not illustrated, will carry at the upper end thereof insulation 9 in which is embedded a terminal 10 connected to the high tension end of the secondary of the coil. The terminal 10 will make contact with a cup-shaped element 11 which has a threaded opening 12 therein; and in this opening is screwed one end of a tubular member 13. Engaging the other end of the hollow member 13 is a hollow insulating sleeve 14 which may be of hard rubber. The insulation 9 has a neck or boss 15 which surrounds the element 11, member 13 and sleeve 14 and at the bottom of which the terminal 10 is exposed. The sleeve 14 has a bore therethrough from one end to the other, the bore being threaded at one end to engage the member 13 and counterbored at the opposite end to provide a seat for a conical washer 16 which may be soft rubber to form a cushion upon which the flanged ferrule 5 may rest. The conductor 1 is connected to the coil in the casing 8 by inserting the extremity thereof covered with insulation 2 beyond the flange 6 into the washer 16 and forcing said extremity into the bore of the sleeve 14 so that the end of the conductor 1 will enter the bore through the contact member 13. Thus the conductor 1 will be electrically connected to the terminal 10. A sleeve nut 17 having an opening for the ferrule 5 screws upon a threaded neck 18 at the top of the casing and clamps the flange 6 of the ferrule 5 against the washer 16 which acts as a packing or gasket between the ferrule and the sleeve 14. The points where the terminals of the primary or low tension windings of the coil of the casing 8 are located are indicated at 19 and connection therewith may be made through bushings indicated on the casing 8 at 20.

The utility of this method of fastening the cable to an ignition coil will now be apparent. The cap nut 17 and the washer 16 grip the flange 6 of the ferrule 5 securely between them and the high tension cable is thus held in place and its connection with the high tension terminal 10 of the coil is maintained under all conditions in practice. The cable cannot be shaken loose and the connection between the cable and the terminal 10 is proof against leakage of moisture or the entrance of dust and dirt and other foreign substances which might cause corrosion and faulty connection. At the same time the lead washer 7 maintains electrical connection between the ferrule and the shield 3 and through the cap nut 17 the shield 3 is connected to the casing 8 and therefrom to ground. The element 7 is tightly seated in the ferrule 5 but on account of the softness of the lead in this washer there is no risk

of damage to the radio shield when this washer is forced in place to grip the shield between the washer and the inside of the flange 6.

The insulation 2, shield 3 and cloth cover 4 extend along the conductor 1 away from the casing 8 to the other extremity of the cable, although only a short length of these parts is shown in Figs. 1 and 2. The shield 3 terminates at the ferrule 5 but the conductor 1 and insulation 2 extend beyond the flange 6 as far as necessary to enter the sleeve 14 and member 13, as illustrated in Fig. 2, to make connection with the terminal 10 through the conductor element 11.

Having described the invention, what is claimed is:

1. A cable connector comprising a conducting element, a hollow member secured thereto, a sleeve also secured to said member, a cushion upon said sleeve, a cable comprising a conductor with an insulating covering having its extremity in said sleeve and engaging said member, a ferrule on said cable compressing said cushion between said ferrule and said sleeve and means engaging the ferrule to hold the latter securely against said cushion.

2. The combination of a cable for an attachment to a high tension terminal, said cable comprising a conductor covered with insulation, a radio shield enveloping said insulation, a ferrule surrounding the cable and receiving one end of the shield, a lead washer in one end of the shield in the ferrule and securing the shield and ferrule together, an element and a hollow conducting member having screw threaded engagement therewith, a sleeve attached to said conducting member, a perforated cushioning washer at one end of the sleeve, the cable having its extremity inserted through said washer into said sleeve to make contact with said member, and means comprising a cap nut surrounding the cable and holding the ferrule against said cushioning washer.

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