

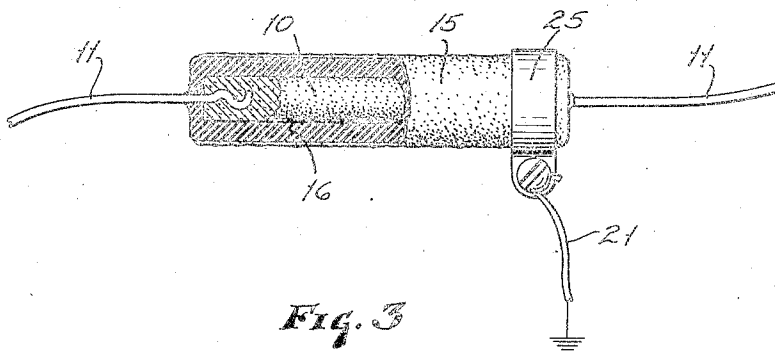
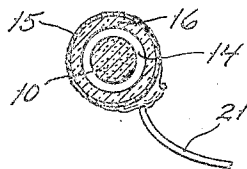
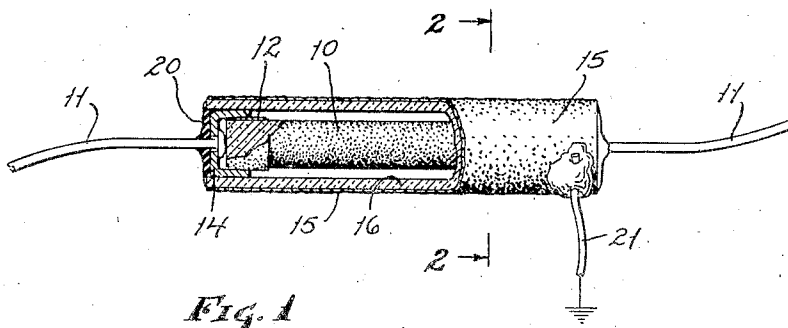
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2,361,405

RESISTOR

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2,361,405

RESISTOR

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4 Claims. (Cl. 201-83)

This invention relates to resistance elements and particularly those which are used in the electronic field, particularly in connection with radio, signal or television equipment.

An object of the invention is to provide a shield for the resistor so as to minimize interference in the operation of electronic equipment. Specifically, the invention includes as an object the provision of means for so shielding the resistor that the cost of manufacture will be reduced to a minimum, and yet the resistor will comprise a small compact structure which may be readily handled and quickly attached to the desired apparatus.

The invention is shown in connection with a round bar type of resistance element which has the customary current conducting leads projecting from the ends thereof and the shielding is accomplished by an embracing sleeve of current conducting material which is insulated from the resistance element, and which has a grounded connection thereto.

In the drawing, Fig. 1 is a side elevation, partly in section, of a resistor unit embodying my invention; Fig. 2 is a section taken on the line 2-2 in Fig. 1; and Fig. 3 is a side elevation, partly in section, of a modified form of resistor unit.

The resistance element with which the present invention is shown embodies a bar of resistance material 10, preferably round in form, from the ends of which project current conducting leads 11. In the form shown in Fig. 1, each lead is electrically connected to the body through the medium of a cup-shaped member 14 of electro-conductive material which is attached to each end of the body. Each member is positioned on the body with the open end thereof facing the other and each open end may engage a band 12 of electro-conductive material, such as copper, which may be sprayed onto each end of the resistor body. The closed end of each member 14 may be apertured to receive the lead 11, the end of which may be swaged to the member or otherwise securely attached thereto, as by soldering.

The form of shield construction shown in Fig. 1 includes a layer 15 of current conductive material which is disposed on the outer surface of an insulating casing 16 that embraces the insulating body and preferably projects slightly beyond each end thereof. Suitable insulating sealing cement 20 may then be applied to each end for effecting a moisture proof cap therefor. A grounded connection 21 may then be attached to the current conductive material 15.

The casing 16 may be made of any suitable

insulating material, such as porcelain, glass, resinous material, varnished fabric, or any material having sufficient rigidity to withstand handling and retain its tubular shape. The current conducting material 15 may be copper that is applied in the form of a spray, or it may be a metallic foil that is rigidly mounted on the outer surface of the casing.

The ground connection may be made to the layer of conductive material 15 in any convenient way, as by soldering the lead 21 directly to the layer, as shown in Fig. 1, or by utilizing a band of current conductive material 25 as shown in Fig. 3. The band may comprise either a layer of solder or a metallic sleeve which is pressed firmly onto the layer 15.

A modified form of the construction is shown in Fig. 3, wherein the current conducting leads 11 are embedded within the body of the resistance element, whereby the need for current conductive cup-shaped members 14 is obviated. Additionally, the casing may be molded around the resistance element and may be made of any insulating resinous plastic material. In such case, the ends of the plastic material cover the ends of the resistance element and thereby form an effective moisture-proof seal for the unit.

A shield embodying the present invention may be readily applied to a resistance element and easily attached to the grounded connection. The invention effectively shields the resistor and thereby avoids objectionable interference in radio reception, or in any other electrical apparatus in which it may be used.

I claim:

1. In an electrical resistance unit, an electrical resistance element, a current conducting lead electrically connected to and projecting out of the end of each element, an insulating casing enclosing the element and extending for substantially the entire length thereof, and a film of current conductive material enclosing the outer surface of the casing.

2. In an electrical resistance unit, an electrical resistance element, a casing of insulating material embracing the element, a current conducting lead projecting from each end of the element, a film of current conductive material enclosing the exterior surface of said casing, and means for sealing each end of the element and casing.

3. In an electrical resistance unit, an electrical resistance element having a current conducting lead extending from each end thereof, an insulating casing enclosing the element, a film of

current conducting material disposed on the outer surface of said casing and for substantially the full length thereof, and a band of electro-conductive material embracing the layer.

4. In an electrical resistance unit, a pair of spaced cup-shaped electro-conductive members, each having a substantially cylindrical wall portion completely closed at one end by an end portion, said cylindrical wall portions being spaced from each other along a common axis and having their open ends facing each other, an insulating

cover surrounding said wall portions and bridging the space therebetween, said insulating cover intimately engaging said wall portions to form with said electro-conductive member a substantially sealed casing, an electrical resistance element positioned within said casing and connected to said members, a terminal lead attached to each of said electro-conductive members, and a film of current conducting material enclosing the outer surface of said casing.

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