Feb. 11, 1936. E. R. MORTON 2,030,460

ELECTRIC RESISTANCE DEVICE

Filed July 20, 1934

FIG. 1

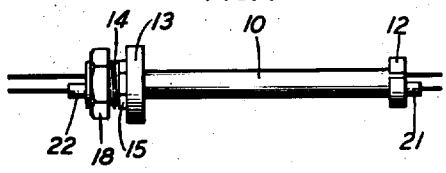


FIG. 2

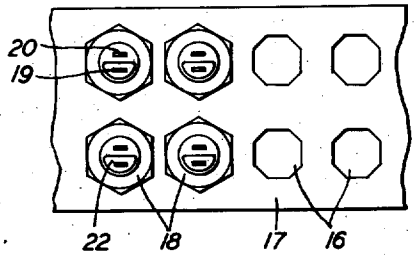


FIG. 3

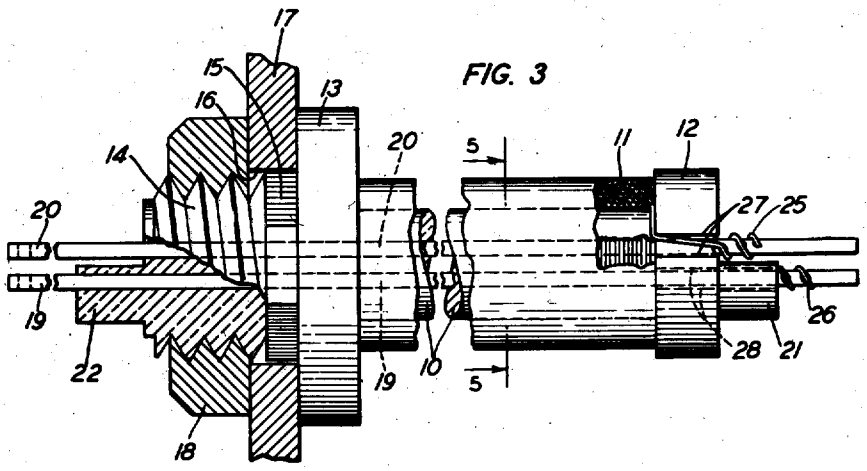


FIG. 4

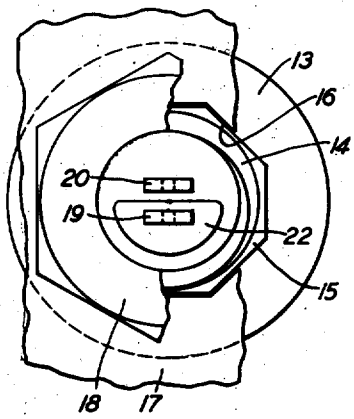


FIG. 5

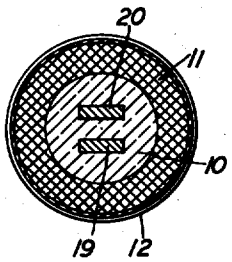
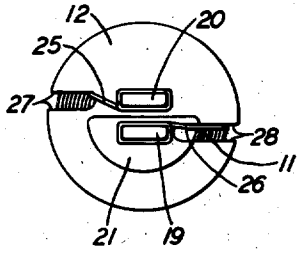


FIG. 6



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UNITED STATES PATENT OFFICE

2,030,460

ELECTRIC RESISTANCE DEVICE

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Application July 20, 1934, Serial No. 736,147

4 Claims. (Cl. 201—63)

This invention relates to electrical resistance units and its object is to improve the construction of such devices.

In this improved device, the resistance core and the spoolhead are formed integrally with a screw threaded portion used for mounting the resistance on its support and terminals are embedded in the core and extend beyond its ends for effecting the winding connections and for connecting the resistance proper to its operating circuit.

Extending the terminals beyond the ends of the resistance rather than terminating them on the spoolhead reduces the liability of shorts either to the mounting panel or to adjacently mounted resistance units and permits closer spacing of these units, while the forming of the screw threaded portion integrally with the core and spoolheads avoids the use of other additional securing media and correspondingly reduces the cost of manufacture of the resistance unit.

In the drawing,

Fig. 1 is a plan view of the resistance core without the winding;

Fig. 2 is a view of the supporting plate showing a number of resistances in position thereon;

Fig. 3 is an enlarged view of the completed resistance showing the core and winding with portions cut away;

Fig. 4 is an enlarged rear end view showing a portion of the supporting plate and the securing nut with portions cut away;

Fig. 5 is an enlarged sectional view taken on line 5—5 of Fig. 3; and

Fig. 6 is an enlarged front end view.

As shown in the drawing, the resistance devices of this invention consist of a mounting of molded insulating material of unit structure in which the core portion 10 is formed integrally with spoolhead portions 12 and 13 and a fastening portion 14. Conductors 19 and 20 are embedded in the core 10 and protrude from the front spoolhead 12 for connection with the ends 25 and 26 of the resistance wire 11 wound on the core portion 10 shown in Figs. 4 and 5. The wire ends 25 and 26 are located in diametrically opposite slots 27 and 28 in the spoolhead 12 and the conductor 19 protrudes through an insulating extension 21 provided to increase the creepage path between the terminals 19 and 20 at that point, the extension 21 being formed integrally with the spoolhead 12.

Similarly the terminals 19 and 20 protrude from the extremity of the fastening portion 14 for connecting the resistance unit to its operating circuit. This fastening end is also provided with an insulating portion 22 for increasing the creepage path between the terminals 19 and 20 at this point.

The fastening portion 14 is preferably screw threaded and is provided adjacent the spoolhead 13 with an octagonal portion 15 for engagement with a similarly shaped hole 16 in a mounting plate 17 and serves to prevent the rotating movement of the resistance unit thus formed upon the tightening of nut screw 18 on screw threaded portion 14.

As above stated, extending the terminals beyond the extreme ends of the mounting rather than terminating them on the spoolheads reduces the danger of shorts while the forming of the screw threaded portion integrally with the core and spoolheads avoids the use of other securing media and correspondingly reduces the cost of manufacture of the unit.

The core unit structure may be formed of ceramic or thermoplastic material and other minor changes may be made without departing from the spirit of the invention and the scope of the appended claims.

What is claimed is:

1. In a resistance device, a core of insulating material having spoolhead portions, a polygon portion and a screw threaded fastening portion integrally formed therewith, the polygon portion and the screw threaded portion extending from the opposite side of one of said spoolhead portions with respect to the core.

2. In a resistance device, a core of insulating material having spoolhead portions, a polygon portion and a fastening portion integrally formed therewith on the opposite side of one of said spoolhead portions with respect to said core and conducting members embedded in the central portion of said core and protruding from both ends thereof, the spoolhead portion adjacent the polygon portion serving as a base for mounting the device on its support.

3. In a resistance device, a core of insulating material having spoolhead portions, a polygon portion and a screw threaded fastening portion formed integrally therewith and extending from the opposite side of one of said portions, a plurality of terminals embedded lengthwise in said core and having their ends protruding from said core and said fastening portion, resistance wires wound on said core and slots in one of said spoolheads parallelly disposed with respect to the direction of said terminals for leading the ends of said wire toward the protruding ends of said

terminal for connection therewith, the spoolhead portion adjacent the polygon portion serving as a base for mounting the device on its support.

4. In a resistance unit, a core of molded insulating material having spoolhead portions and a screw threaded fastening portion formed integrally therewith, insulating lugs, one of said lugs extending from said fastening portion and the other from one of said spoolhead portions, a plurality of terminals embedded lengthwise in said core, one of said terminals having its ends protruding from one of said spoolheads and said fastening portion and the other terminals from said lug portions, resistance wires wound on said core and slots in one of said spoolheads for leading the ends of said wire toward the protruding ends of said terminals for connection therewith, said lug portions increasing the creepage path between said terminals.

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