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2,486,931

VARIABLE RESISTANCE

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FIG. 1.

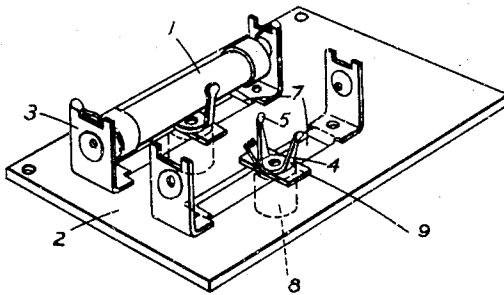
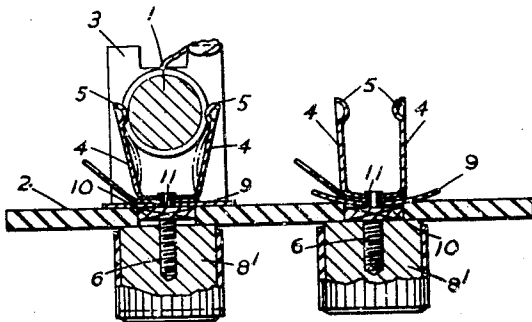


FIG. 2.



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VARIABLE RESISTANCE

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5 Claims. (Cl. 201—62)

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The present invention relates to resistors of the wire wound or composite type, and has for its object to provide a device for obtaining a variable tapping point which will maintain its adjustment while being cheap and simple to manufacture and compact in construction.

The present invention consists in a variable electric resistor or potentiometer of the wire wound or composite type having a contact slider engaging with the resistance element, wherein said slider is movable over a slot in a member adjacent to the resistance element and is provided with means which project through the slot, and are operable to bind the slider to the member in an adjusted position and simultaneously to deform the slider for the purpose of pressing it more firmly into contact with the resistance element.

The slide may be a U-shaped member of resilient material having contacts on opposed faces of the projecting limbs which are adapted to make a sliding contact with a resistance element disposed between these limbs. The bridge piece joining the two limbs, is provided with a projection constituting a handle for easily adjusting the position of the slide on the resistance element. The resistors may be mounted behind a panel with the handle projecting through a slot therein, means being provided for locking the handle to the panel. Such locking may be effected by means of a nut in threaded engagement with the projection and disposed on the side of the panel opposite to that on which the U-shaped member is disposed, so that on tightening the nut, the panel is gripped between the nut and the bridge piece. As the member is of resilient material, and as the projection is disposed intermediate the two ends of the bridge piece, the effect of tightening the nut may also be employed to bow the said part and thereby force the ends of the two limbs towards each other thereby causing the contacts to press more firmly against the resistance element.

Therefore the contacts of the slide are more firmly pressed into contact with the resistance element when the slide is locked, but loosened when adjustment is to be made.

An embodiment will be described with reference to the accompanying drawings in which

Fig. 1 is a view in perspective of a variable resistor incorporating the present invention and also shows the slider mechanism with the resistance element removed.

Fig. 2 is an enlarged sectional view of Fig. 1. In the construction illustrated, a cylindrical

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resistance element 1 is mounted on a panel 2 by means of upstanding lugs 3 riveted to the panel so as to be slightly spaced from the panel. A U-shaped member 4 of resilient stamped metal, is provided from which small projections 5 are pressed out on opposed faces at or adjacent the ends of the limbs, to form contact members engaging the resistance element. A metal screw 6 formed integral with the spacing member 10 is secured by the rivet portion 11 on the member 10 to the bridge portion of member 4. The spacing member, which has parallel sides and is slightly thinner than the thickness of the panel 2, is arranged in a slot 7 in the panel 2 and in sliding engagement with the walls thereof, the screw 6 projecting from the side of the panel remote from the resistance element 1. An insulating finger nut 8 larger than the width of the slot, is in threaded engagement with the screw 6. A small strip 9 of resilient insulating material is disposed between the member 10 and the bridge portion of the member 4 and is adapted to engage with the surface of the panel 2 for ensuring that the nut when tightened does not pull the member through the slot. To adjust the resistor, the nut 8 is loosened and the slide moved to a desired position, where it is locked in position by tightening the nut, whereupon, the contacts 5 close to grip the resistance element 1 between them in the manner previously indicated. The right hand portion of Figure 2 shows the position which the U-shaped member 4 would assume, when the nut is tightened, if the resistance element 1 were not in position. In this manner a firm contact can be ensured between the contacts and element when locked, whilst when loosened the slide may be easily moved.

Due to the compact construction of the resistors, several may be similarly positioned in close proximity thus obtaining a compact adjustable resistor panel. The resistor may be used as a variable resistance or, by making an electrical connection with the sliding contacts, as a potentiometer.

It will be understood that various modifications may be made without departing from the spirit of the invention. For example the locking means may be a cam and lever device, whilst the U-shaped member may be formed partly of conducting and partly of insulating material. This member may also be formed of several parts instead of one as described.

Furthermore, if desired only the bridge piece joining the two limbs need be of readily resilient

material whilst the limbs may be of more rigid construction.

We claim:

1. A variable electric resistor comprising a resistance element of elongated form, a member having a slot therein, means for supporting said resistance element so that it extends opposite to and in alignment with said slot, a U-shaped contact having its limbs embracing the resistance element and having a resilient bridge piece extending across said slot, a member connected to the bridge piece and passing through said slot and provided with means at the side of the slot remote from the bridge piece for urging the bridge piece into a flexed position across the slot.
2. A variable electric resistor comprising a resistance element of elongated form, a member having a slot therein, means for supporting said resistance element so that it extends opposite to and in alignment with said slot, a U-shaped contact having its limbs embracing the resistance element and having a resilient bridge piece extending across said slot, a screw member projecting from the bridge piece and slidable within the slot, and means for tightening the screw member for locking the contact in an adjusted position and drawing the bridge piece towards the slot to deform the bridge piece and urge the limbs of the contact into firm engagement with the resistance element.
3. A variable electric resistor comprising a resistance element of elongated form, a member having a slot therein, means for supporting said resistance element so that it extends opposite to and in alignment with said slot, a U-shaped contact having its limbs embracing the resistance element and having a resilient bridge piece extending across said slot, a guide block disposed and movable within said slot and secured to the bridge piece, said guide block being thinner than the material in which the slot is formed, a screw projecting from the side of said guide block remote from the bridge piece, and a nut on said screw whereby, upon tightening of the nut, the contact is locked in an adjusted position and the bridge piece is flexed towards the slot to urge the limbs of the contact into firm engagement with the resistance element.
4. A variable electric resistor comprising a re-

sistance element of elongated form, a member having a slot therein, means for supporting said resistance element so that it extends opposite to and in alignment with said slot, a U-shaped contact having its limbs embracing the resistance element and having a resilient bridge piece extending across said slot, a strip of resilient material positioned between the bridge piece and the slotted member and spanning the slot, a member projecting from said bridge piece and through the slot, and means for urging the bridge piece towards the slot to lock the contact in an adjusted position and to deform the bridge piece and the strip and thereby urge the limbs of the contact into firm engagement with the resistance element.

5. A variable electric resistor comprising a resistance element of elongated form, a member having a slot therein, means for supporting said resistance element so that it extends opposite to and in alignment with said slot, a U-shaped contact having its limbs embracing the resistance element and having a resilient bridge piece extending across said slot, a guide block disposed and movable within said slot and secured to the bridge piece, said guide block being thinner than the material in which the slot is formed, a strip of resilient material positioned between the bridge piece and the guide block and spanning the slot, a screw projecting from the side of said guide block remote from the bridge piece, and a nut on said screw, whereby, upon tightening of the nut, the contact is locked in an adjusted position and the guide block is drawn through the slot to deform the bridge piece and the strip and thereby urge the limbs of the contact into firm engagement with the resistance element.

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