

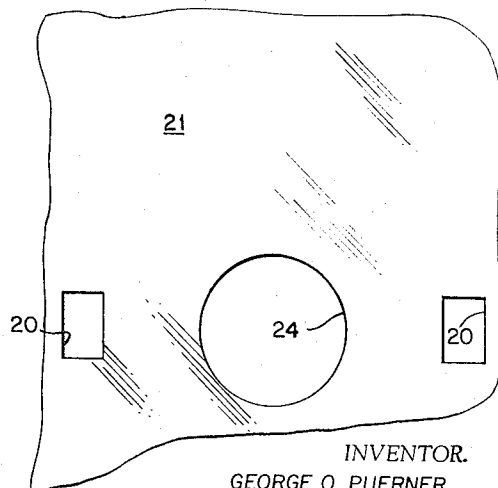
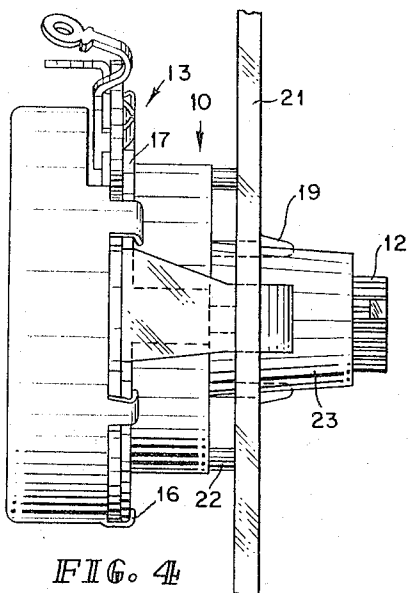
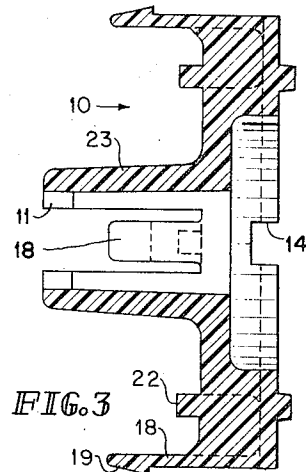
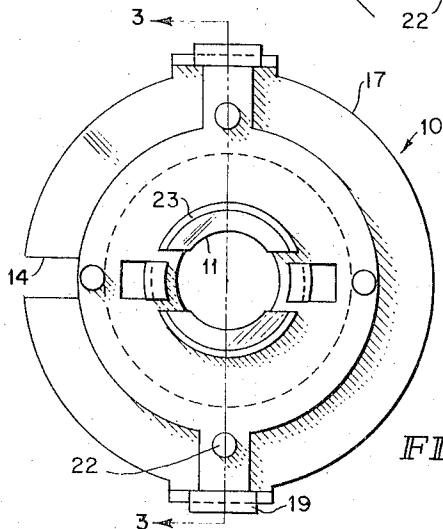
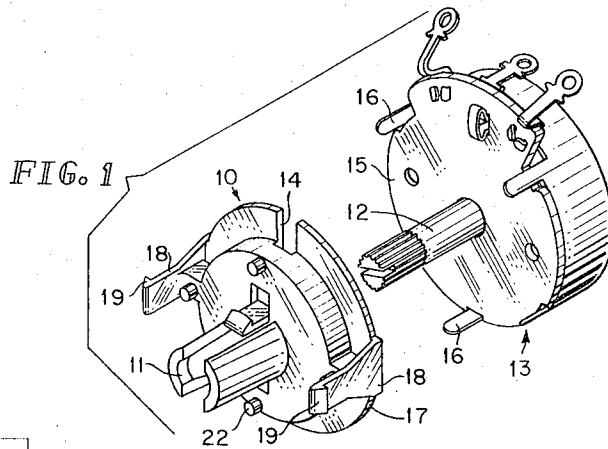
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MOUNTING MEANS FOR VARIABLE RESISTOR

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3,298,641

MOUNTING MEANS FOR VARIABLE RESISTOR
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5 Claims. (Cl. 248—27)

This invention relates to a snap-in means for insulatively mounting small control devices to a panel and more particularly to a means for increasing the breakdown voltage of a control to ground. The invention also provides a quick panel mounting means for a control.

The conventional manner of fastening variable resistors and the like to radio and television receiver panels is to provide a threaded bushing thereon which is secured to the panel with a threaded nut. It is also common practice to provide metallic mounting ears or tabs on such components and these ears or tabs may be either twisted or clinched over to secure the control to a panel. It is also known to provide metal brackets with resilient fingers formed at the ends which, when pushed axially into suitably apertured panels, will spring outwardly and engage the surface of a panel, depending upon spring tension to hold the control to the panel.

Generally, these conventional mounting methods have been satisfactory for certain applications. However, the bushing and nut construction is costly and, of course, grounded to the panel. Again, bushingless controls employing twisted or clinched metallic mounting ears or tabs are less expensive than the bushing and nut construction. However, these ears or tabs are also grounded to the panel and shaft wobble is more pronounced due to lack of a journal for the operating shaft.

Metallic snap-in type mounting brackets are still less desirable in that they not only are grounded to the panel but can be dislodged from the panel by a low axial force applied to the operating shaft. It is further evident that the high voltage buildup in present television receivers makes it necessary to provide adjustable controls which are safe for the service man or the user when making other than the usual tuning adjustments.

It is another object of this invention to provide a mounting means for variable resistors and the like whereby such components are isolated electrically from metallic panels.

It is also an object of this invention to provide a mounting means for such components which integrally incorporate a shaft bearing supplementary to the short bearing which is typical in a bushingless control.

It is another object for this invention to provide a mounting means for variable resistors and the like which requires no separate mounting hardware.

It is still another object of this invention to provide a mounting means which requires no additional operations such as twisting or bending of tabs to secure such component to a mounting panel.

It is still another object of this invention to provide a mounting means for variable resistors and the like having protection against undesirable rotation in a mounting panel.

It is still a further object of the present invention to provide a variable resistor characterized by the aforementioned features.

Other objects of the present invention will be realized when the following description is taken in conjunction with the accompanying drawings which emphasize a variable resistor although I do not wish to be restricted thereto as it is contemplated that the present invention is applicable to other components such as switches, etc.

In the drawings:

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FIGURE 1 is an exploded perspective view showing the manner in which the mounting means is used in conjunction with a variable resistor.

FIGURE 2 is a front view of the mounting means.

FIGURE 3 is a sectional view taken through the vertical center of FIGURE 2.

FIGURE 4 shows a variable resistor and mounting means assembly attached to a panel.

FIGURE 5 shows a panel typically apertured to receive the mounting means.

Generally speaking, the intention of the present mounting means is to provide a simple means for snapping a control into existing mounting holes in a metal chassis. Since it is a device made of insulating material having a certain amount of flexibility, for example, nylon, it also provides the spacing necessary to insulate the electrical terminals from the chassis. The spacing and resultant dielectric strength is proportional to the breakdown voltage resistance required.

The instant mounting means consists of a molded frontispiece 10 having a central bore 11 sized to provide a journal for control shaft 12 protruding forwardly from control 13. A notch 14 is provided in the outer periphery of frontispiece 10 to permit flush assembly of frontispiece 10 to insulative base 15 of control 13. Control 13 is suitably provided with a plurality of ears 16 which are clinched over the outer periphery 17 of frontispiece 10 to secure the assembly. Frontispiece 10 is further characterized by a plurality of resilient fingers 18 formed at the free ends thereof to provide hook-like projections 19 extending outwardly to a distance exceeding that between the outer edges of the apertures 20 in mounting panel 21 shown in FIGURE 5. Projections 19, when forced through apertures 20 snap into an overlying position on the opposite side of mounting panel 21 removably securing the control assembly to mounting panel 21. A sleeve or a plurality of integral bosses 22 terminate at an arbitrary line, the position of which is determined by the panel thickness. A split journal 23 having a tapered bore coinciding with a shorter bearing bore provides a concentric path for shaft rotation. The outside diameter of journal 23 fits into a standard (Retma) hole 24 which also receives the resilient fingers 18 adjacent to the journal.

Having described my invention, I desire to secure by Letters Patent the following claims:

1. In combination, an insulative mounting means and a control means having a shaft, said mounting means for mounting said control means in spaced relationship with a metal panel comprising: a molded frontispiece having a centrally located resilient insulative sleeve including a tapered bore, said shaft of said control means projecting through and frictionally engaging the outermost portion of said tapered bore so as to form a journal, said sleeve being longitudinally split to provide a clutching effect on said shaft as said shaft is rotatably displaced, said frontispiece coupled to said control means by a plurality of clinched ears, said frontispiece including a plurality of circumferential resilient insulative fingers having a hook-like configuration placed at the free ends thereof, said hook-like configurations adapted to penetrate and thereafter to interfit with apertures in said metal panel, said frontispiece including a plurality of spacer bosses for maintaining said control means in spaced relationship with said metal panel.

2. In combination, an insulative mounting means and a control means having a shaft, said mounting means for mounting said control means to a panel comprising: a molded frontispiece having resilient insulative sleeve means including a tapered bore, said shaft of said control means projecting through and engaging said tapered bore so as to form a journal, said sleeve being longitudinally

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split to provide a clutching effect on said shaft as said shaft is rotatably displaced, a plurality of means coupling said frontispiece to said control means, said frontispiece including a plurality of resilient insulative members having free ends, said free ends of said members adapted to penetrate and thereafter to interfit with apertures in said panel, said frontispiece including a plurality of spacer means for maintaining said control means in spaced relationship with said panel.

3. In combination, an insulative mounting means and a control means having a shaft, said mounting means for mounting said control means to a panel comprising: a molded frontispiece having resilient insulative sleeve means including a tapered bore, said shaft of said control means projecting through and frictionally engaging the outermost portion of said tapered bore so as to form a journal, said sleeve being longitudinally split to provide a clutching effect on said shaft as said shaft is rotatably displaced, a plurality of means connecting said frontispiece to said control means, said frontispiece including a plurality of resilient insulative members having predeterminedly shaped extremities at the free ends thereof, said extremities adapted to penetrate and thereafter to interfit with apertures in said panel, said frontispiece including a plurality of spacer means for maintaining said control means in spaced relationship with said metal panel.

4. In combination, an insulative mounting means and a control means having a shaft, said mounting means for mounting said control means to a panel comprising: a molded frontispiece having a centrally located resilient insulative sleeve means including a tapered bore, said shaft of said control means projecting through and frictionally engaging the outermost portion of said tapered bore so as to form a journal, said sleeve being longitudinally split to provide a clutching effect on said shaft as said shaft is rotatably displaced, a plurality of means connecting said frontispiece to said control means, said frontispiece including a plurality of resilient insulative members having a hook-like configuration placed at the free ends thereof, said hook-like configuration adapted to penetrate and thereafter to interfit with apertures in said panel, said frontispiece including a plurality of spacer means for

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maintaining said control means in spaced relationship with said metal panel.

5. In combination, an insulative mounting means and a control means having a shaft, said mounting means for mounting said control means in spaced relationship with a metal panel comprising: a molded frontispiece having a centrally located resilient insulative sleeve including a tapered bore, said shaft of said control means projecting through and frictionally engaging the outermost portion of said tapered bore so as to form a journal, said sleeve being longitudinally split to provide a clutching effect on said shaft as said shaft is rotatably displaced, a notch formed in the outer periphery of said frontispiece to permit flush assembly thereof to the base of said control means, a plurality of means connecting said frontispiece to said control means, said frontispiece including a plurality of circumferential resilient insulative fingers having a hook-like configuration placed at the free ends thereof, said hook-like configurations adapted to penetrate and thereafter to interfit with apertures in said metal panel, said frontispiece including a plurality of spacer bosses for maintaining said control means in spaced relationship with said metal panel.

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