

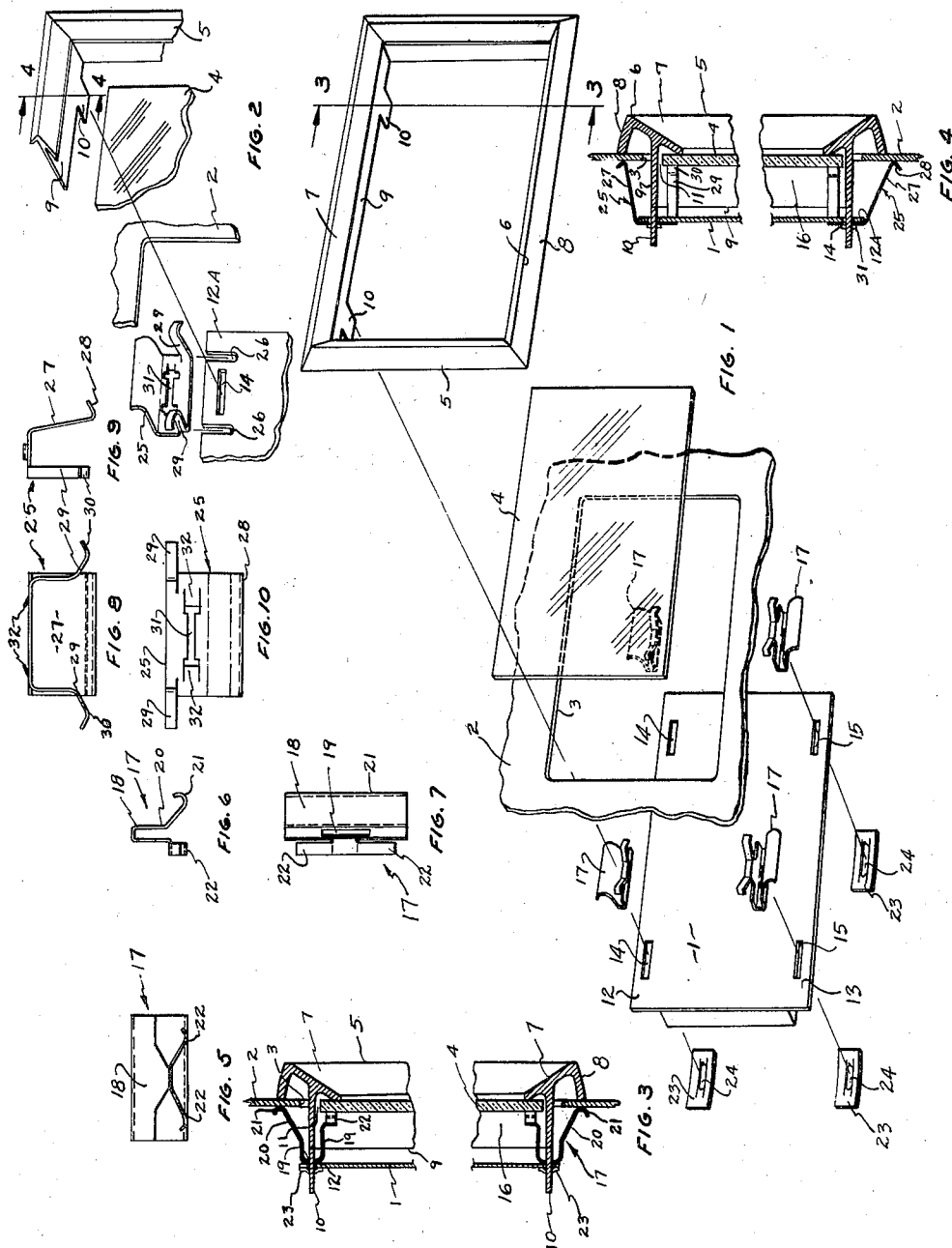
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INSTRUMENT MOUNTING PANEL AND CLIP

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INSTRUMENT MOUNTING PANEL AND CLIP

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This invention relates to supports for mounting and supporting instruments on panels.

While the invention may be applied variously, its advantages are perhaps most completely developed when it is used to mount an instrument on the back of a panel, with the instrument visible through an opening in the panel, and with a glass or like transparent cover over the opening.

Typical of the many kinds of such instrument are the clocks, timers, etc., on cook stoves.

The instrument, the panel opening, and cover, may be of various shapes, but, to make a concrete disclosure herein, these parts will be considered as rectangular.

The invention, in the embodiment thereof described in full hereinafter, comprises in general the following; the actual invention being that set forth in the appended claims.

The panel on which the instrument is mounted has a rectangular instrument opening therein.

The instrument to be mounted is in an instrument casing, having a flange spaced behind the panel opening.

The instrument is covered by a rectangular glass or other transparent cover, disposed in the panel opening, and is smaller at its periphery than the panel opening, thereby providing a rectangular slot-like space around its periphery.

An escutcheon is provided, of rectangular frame formed forwardly convex in the form of an ornamental bezel, and covering, the said slot-like space, and engaging the front of the panel and the front of the glass cover.

The escutcheon has an escutcheon flange in the form of a short rectangular tube or collar extending rearwardly through said slot-like space, and continuing into a number of escutcheon tongues. The ends of the tongues extend through holes in the casing flange, and also through holes in metal attaching devices.

The attaching devices comprise spacers between the rearward casing and the forward panel and cover, and comprise parts having perforations therein that grip the tongues and secure the tongues to the casing flange, and hold the tongues rearwardly; and the spacers are thereby put under compression.

The attaching devices are made to automatically grip the tongues by the operation of projecting the tongues through the perforations.

The escutcheon collar in the slot-like space centers the escutcheon and the cover with respect to the panel opening and positions the bezel to cover the slot-like opening.

From the foregoing it will be seen that the construction of the parts and their mutual cooperation when assembled, cause the instrument casing, the glass cover and the ornamental bezel, all to be positioned and mounted on the panel, by the operation of telescoping the escutcheon tongues through the said gripping perforations.

The objects of the inventions are:

To provide an improved support or mounting for an instrument on a panel, having the features of improvement described above;

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To provide a support or mounting for an instrument on a panel the parts of which may be assembled in an improved manner to effect said mounting.

An embodiment of the invention in its preferred form is fully disclosed in the following description, taken in connection with the accompanying drawing in which:

Fig. 1 is an exploded view of the invention in one form, showing in perspective an instrument casing, a fragment of a panel, a transparent cover, an escutcheon, and a set of metal devices for assembling them together;

Fig. 2 is a view similar to Fig. 1, of a modification of the invention, showing only one of a set of modified metal devices and showing the other parts fragmentarily;

Fig. 3 is a sectional view showing the parts of the form of Fig. 1 after assembly, and the view may be referred to the plane 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 3 of the said modification referred to the plane 4—4 of Fig. 2;

Figs. 5, 6 and 7 are respectively front elevational, end elevational and top plan views of a metal clip device of the form of Fig. 1;

Figs. 8, 9 and 10 are respectively front elevational, end elevational and bottom plan views of a metal clip device of the modification of Fig. 2.

Referring to the drawing there is shown in Fig. 1, at 1 the casing of an instrument; and at 2 a fragment of a panel behind and upon which the instrument casing 1 is to be mounted, and having an opening 3 therethrough; and at 4 a pane of glass or like transparent material, to cover the instrument and to be mounted in the opening 3, and through which the instrument is to be viewed.

Only the casing 1 of the instrument is shown, it being understood that the indicating parts of the instrument will be on the front of the casing toward the observer, but have been omitted to simplify the drawing.

The openings 3 and cover 4 are shown of rectangular shape to correspond with a rectangular instrument but as will be understood they may be of other shapes for other types of instrument.

At 5 is an escutcheon, which as shown in Figs. 1 and 3 (see also Fig. 2 of a similar escutcheon to be referred to) is in the form of a picture frame rectangle; comprising a forwardly convex ornamental bezel portion 6 having rearwardly divergent legs 7 and 8, and, between the legs, a rearwardly extending flange 9.

The flange 9 preferably is continuous all the way around the rectangular escutcheon and therefore is in the form of a short rectangular tube or collar.

Extending rearwardly from the collar 9 are tongues 10. Preferably there are four tongues 10, in pairs on opposite sides of the rectangle, one pair on one side being shown in Fig. 1.

The glass cover 4 is preferably to be mounted in the panel opening 3 and coplanar therewith, and is made somewhat smaller than the opening, leaving a slot-like space 11 all around the cover, see Fig. 3.

The escutcheon is to be mounted as will be more fully described, with the divergent legs 7 and 8 respectively abutting upon the front of the panel 2 and upon the front of the glass cover 4, and with the escutcheon collar 9 extending rearwardly through the said slot-like space 11; and it will be seen that the escutcheon collar 9 will then be supported in the panel opening, for example on the lower edge of the opening, and that it will center the glass cover in the panel opening, and support it therein, for example with the lower edge of the cover on the collar, and that the bezel, by its legs 7 and 8 will cover and conceal the slot-like space 11 and the collar 9.

The instrument casing 1 has flanges 12 and 13 projecting laterally from the upper and lower sides thereof, as viewed, and they are respectively provided with pairs of perforations 14—14 and 15—15 disposed to be axially

alignable with the said pairs of escutcheon tongues 10, and through which perforations the ends of the tongues may be projected; and this is done during assembly; and these as will be referred to, the panel 2, cover 4, casing 1 and escutcheon 5 will be in the relation shown in Fig. 3 wherein as is shown there is a considerable space 16 between the rearward and the forward panel and cover.

Four alike clip devices 17, formed from resilient metal, are provided as shown in Figs. 5, 6 and 7, two of which appear in Fig. 3.

The devices 17 each comprise a generally U-form body 18 with an elongated clip perforation 19 in the closed end of the U-form, and one leg 20 of the U-form being substantially rigid and bent over at its end to provide a rounded abutment portion 21. The other leg of the U-form has, at its end, oppositely extending resilient fingers 22.

To assemble the parts thus far described, the escutcheon collar 9 is projected through the said slot-like space 11, between the panel and the cover; the clip perforations 19 are telescoped over the escutcheon collar tongues 10 (being shaped and sized to loosely fit the same); to engage the rounded abutments 21 of the clip devices with the back side of the panel 2, and to engage the resilient fingers 22 of the clip devices with the back side of the glass cover 4. The ends of the tongues 10 are then projected through and beyond the perforations 14 and 15 in the instrument casing flanges 12 and 13.

Self locking and gripping nut devices 23—23 are then pressed onto the projecting ends of the tongues 10 rearwardly of the casing flanges 12—13.

These self locking nut devices are made from flat resilient sheet metal, and comprise each an elongated perforation 24 therein, Fig. 1 formed to telescope freely over the tongues 10 in the forward direction, and to lockingly engage with or clutch the tongue against retraction in the rearward direction. To this end the perforations 24 are elongated and of about the same size as the tongues, but the longitudinal ends of the perforations constitute the confronting ends of tongues bent out of the plane of the metal.

Such self locking nut devices, generally, are well known.

The self locking nut devices 23 are pressed upon the tongue 10 far enough to put the clip devices 17 under compression, in the said space 16, to force the rounded abutments 21 forwardly against the back of the panel 2; and to press the resilient fingers 22 forwardly against the back of the glass cover 4, and the escutcheon collar 9 is thus held rearwardly and holds the bezel legs 7—8 tightly upon the panel 2 and cover 4, to cause the escutcheon collar 9 to be mounted on the panel and to be secured to and to support the instrument casing 1.

A modification of the invention is shown in the drawing, in Fig. 2 corresponding to Fig. 1 of the first form and comprise a different form of clip devices 25, shown separately in Figs. 8, 9 and 10 and in section in Fig. 4. This clip device 25 incorporates the function of both the self locking nut device 23 and the clip device 17 of the first form.

In this form, Fig. 2, the casing flange 12A, corresponds to the casing flange 12 of the first form, by having perforations 14 therein, one of which is shown to loosely receive a tongue 10 on the escutcheon collar 9; and the flange 12A also has, near the opposite ends of the perforations 14, outwardly open slots 26—26.

The clip device 25 is in general of U-form as seen in Figs. 2 and 9, one leg 27 of which is substantially rigid and terminates in a bent over rounded abutment 28; the other leg consisting solely of two spaced apart resilient fingers 29—29 bent over at their ends into abutment portions 30.

The closed end of the U-form has an elongated perforation 31 therein, in general of the size and shape to receive an escutcheon tongue 10 when projected there-

through, but the end edges of the perforations 31 are on the confronting ends of tongues 32—32, Fig. 10 formed in the closed end of the U-form; and these perforations 32 are therefore similar to the perforations 24 in the self-locking nut devices 23 of the first form.

In making the assembly to mount the instrument casing, the clip device 25 is presented to the side of the casing flange as in Fig. 2 and then moved downwardly, as viewed, to dispose the fingers 29—29 in the slots 26—26 and to dispose the closed end of the U-form behind the casing flange 12A, with the perforation 31 thereon aligned with the perforation 14 in the casing flange, the parts in this position being shown in Fig. 4.

As will be understood, there will be four tongues 10 on the escutcheon collar 9, and four devices 25, and the tongues 10 are projected first through the perforations, such as 14 in the instrument flanges and then on through the perforations 31 in the clip devices, to put the said abutments 30 and 28 of the U-form legs of the clip devices under pressure against the backs of the panel and cover; and the edges of the perforations 31 being formed for the purpose as described, will then grip the tongues 10 and be held thereon against retraction.

As in the first form, the instrument casing and the cover are thus supported on the panel.

In both of the forms of the invention, when the parts are assembled, the clip device, 17 or 25, is a spacer put under compression in the space 16 between the rearward casing, and the forward panel; the compression being determined in amount by the extent to which the collar tongues are projected through the said gripping perforations; and the compression thus produced is maintained by the collar due to its reacting at its forward part on the panel and at its rearward part on the casing to which it is gripped.

The resilient fingers, 22 or 29, of the clip device cushion the compression of the device on the glass cover, and protect it against fracture that might occur if both fingers were rigid; but the resilient fingers by being yieldable also permit the entire clip device to rock on the tongues projected through them, when the compression is produced as described, thereby rendering the entire clip device resiliently yieldable under said compression; and obviating the possibility of looseness in any of the parts.

Having thus described my invention, I realize that extensive departure may be made therefrom without departing from the true scope and spirit thereof.

I claim:

1. In combination, a support panel having an opening therein, a supported element behind said opening in the panel, a cover in said opening in the support panel and having marginal edges spaced from the edges of said opening, an escutcheon at the front of said support panel presenting portions which engage the front of said support panel and the front of said cover, respectively, said escutcheon having rearwardly extending portions which project back between said marginal edges of the cover and the edges of said opening in the support panel to said supported element, and clip means connecting said rearwardly extending portions of the escutcheon to said supported element and presenting forwardly projecting portions which engage the back of said cover.

2. In combination, a support panel having an opening therein, a supported element behind said opening in the panel and presenting a wall with apertures therein, a transparent pane in said opening in the support panel and having marginal edges spaced from the edges of said opening, an escutcheon at the front of said support panel extending around said opening and presenting portions which engage the front of said support panel and the front of said transparent pane, respectively, said escutcheon having portions which project rearwardly between the edges of said transparent pane and the edges of said opening in the support panel and through said apertures in the wall of the supported element, and clip means

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engaging said rearwardly projecting portions of the escutcheon in back of said wall of the supported element and presenting forwardly projecting portions which engage the back of said support panel and the back of said transparent pane, respectively.

3. The combination of claim 2, wherein the portions of said clip means which engage the support panel are substantially rigid, and the portions of said clip means which engage the transparent pane are resilient.

4. In combination, a support panel having an opening therein, an instrument casing behind said opening in the support panel and presenting a front wall which has outwardly projecting flanges, said flanges having apertures therethrough, a transparent pane in said opening in the support panel and having marginal edges spaced from the edges of said opening, an escutcheon rim at the front of said support panel extending around the edges of said opening, said escutcheon rim having rearwardly projecting outer legs which engage the front of said support panel adjacent the edges of said opening therein, said escutcheon rim having rearwardly projecting inner legs which engage the front of said transparent pane adjacent the latter's marginal edges, said escutcheon rim also having rearwardly protruding portions which extend rearwardly between the marginal edges of said transparent pane and the edges of said opening in the support panel and through said apertures in the flanges on the front wall of the instrument casing, and individual spring clip means engaging said rearwardly protruding portions of the escutcheon rim at the back of said flanges, each of said spring clip means presenting forwardly projecting portions between said front wall of the instrument panel and the backs of said support panel and said transparent pane which respectively engage the back of said support panel adjacent the edges of said opening therein and the back of said transparent pane adjacent the latter's marginal edges.

5. The combination of claim 4, wherein the portions of said clip means which engage the back of the support panel are substantially rigid, and the portions of said clip means which engage the back of the transparent pane are resilient.

6. The combination of claim 5, wherein said rearwardly protruding portions of the escutcheon rim comprise a flange which is continuous around the marginal edges of the transparent pane and which terminates at its rear end in front of said front wall of the instrument casing, and individual tongues integral with said continu-

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ous flange on the escutcheon rim which project rearwardly through the apertures in the flanges on the front wall of the instrument casing.

7. The combination of claim 4, wherein each clip means comprises a self-locking nut which is telescoped over the corresponding rearwardly protruding portion of the escutcheon rim and engages the back of the corresponding flange on the front wall of the instrument casing, and a resilient body under compression between the front of said flange on the front wall of the instrument casing and the backs of the support panel and the transparent panel, said resilient body comprising a substantially rigid leg at one side of said rearwardly protruding portion of the escutcheon rim which engages the back of the support panel, a leg at the opposite side of said rearwardly protruding portion of the escutcheon rim which terminates at its forward end in resilient fingers engaging the back of the transparent pane, and a portion which connects said legs engaged against the front of said flange on the front wall of the instrument panel and formed with an aperture through which said rearwardly protruding portion of the escutcheon rim extends.

8. The combination of claim 4, wherein each clip means is in the form of an integral body having a back wall engaged against the back of the corresponding flange on the front wall of the instrument casing, said back wall being formed to define a self-locking nut telescoped over the corresponding rearwardly protruding portion of the escutcheon rim, a substantially rigid leg which projects from said back wall at one side of said rearwardly protruding portion of the escutcheon rim forward across a marginal edge of said flange and into engagement with the back of said support panel, and resilient fingers which project forward from said back wall at the opposite side of said rearwardly protruding portion of the escutcheon rim through said flange into engagement with the back of said transparent pane.

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