Feb. 5, 1952 J. VAN FOWLER 2,584,173

TILTABLE PANEL ASSEMBLY

Filed Dec. 2, 1947 2 SHEETS—SHEET 1

Fig.1

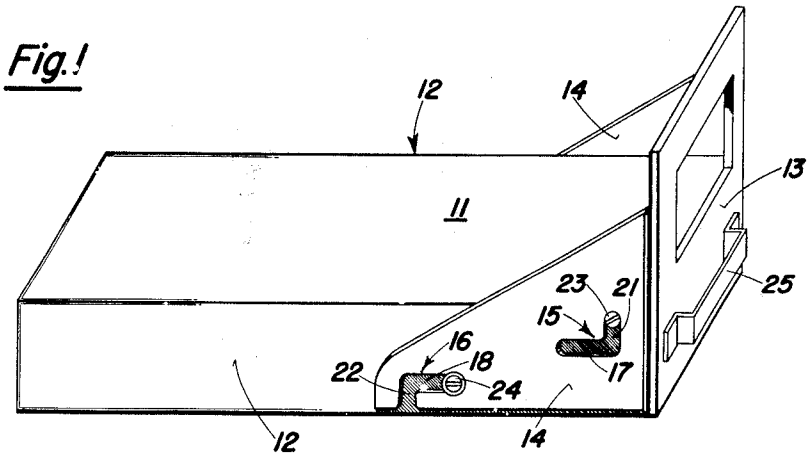


Fig.2

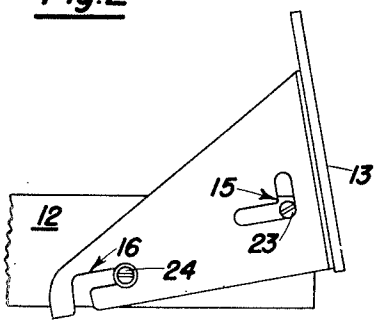


Fig.3

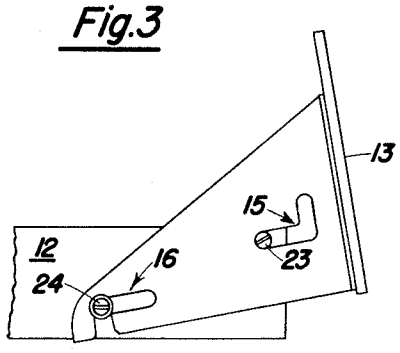


Fig.4

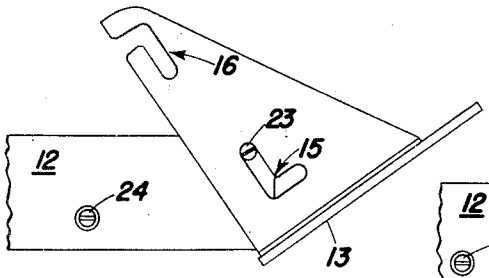
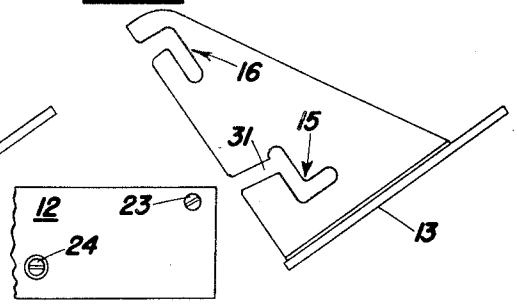


Fig.5



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Fig.6

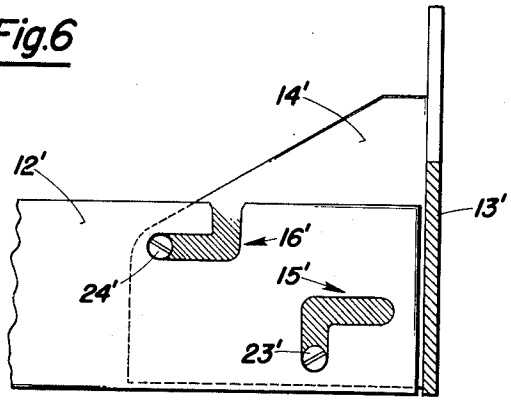


Fig.7

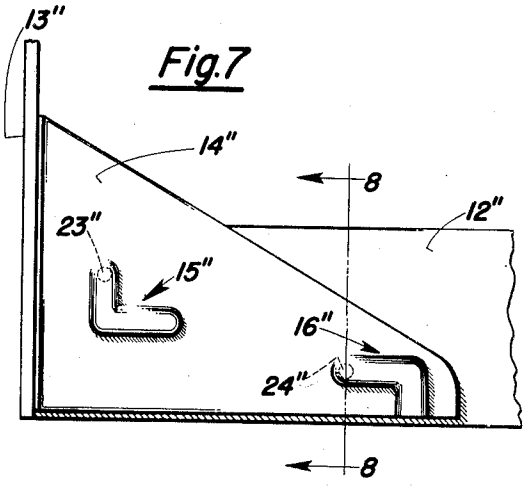


Fig.8

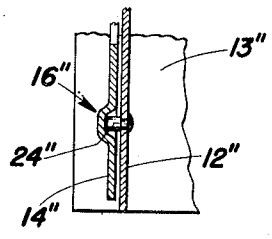
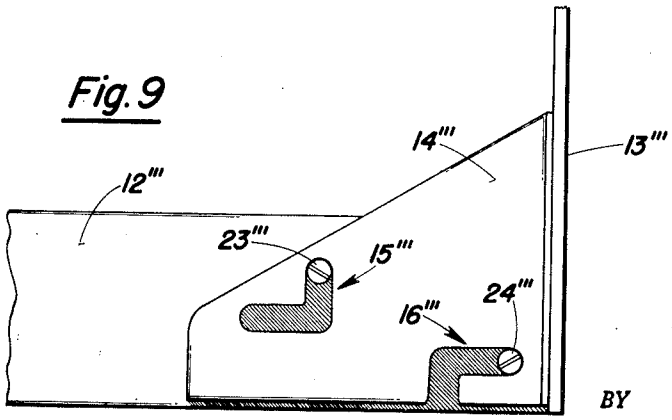


Fig.9



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TILTABLE PANEL ASSEMBLY

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Application December 2, 1947, Serial No. 789,259

3 Claims. (Cl. 312—303)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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This invention relates to a tiltable panel assembly such as may be conveniently used on the front of a drawer.

For many purposes it is desirable to have the front panel of a drawer or similar container so mounted to the drawer that it may be tilted away to more conveniently expose the contents thereof. At the same time, the panel should be so secured to the drawer that the tilting action does not take place accidentally during the ordinary reciprocatory opening and shutting of the drawer. An example of an environment in which such a panel is useful is a radio chassis comprises of a number of drawer-like bases slidable in and out of a frame. Circuit requirements generally limit the distance which the drawer may be pulled out, and in some cases this distance is so small that it is difficult to obtain sufficient access to the interior of the chassis to effect necessary repairs.

It is an object of this invention to provide means for mounting a front panel on a drawer or similar object so that it may be tilted with respect to the drawer to increase accessibility.

It is another object of this invention to so mount a drawer panel that the drawer may be slid out in conventional fashion and yet the panel may, by simple manipulation, be tilted away from the drawer to give access to the contents thereof.

In accordance with these and other objects which will become readily apparent in the ensuing description, the panel assembly of the instant invention consists of a drawer or similar container. To the front panel of the drawer are transversely secured a pair of side walls which embrace the drawer. Combined hinge and locking means are provided in the form of simple recess and pin connections between the panel side walls and the walls of the drawer. Essentially there are two such connections on each side of the drawer. The first connection is disposed closest to the panel and serves, after unlocking manipulations have been effected, as a hinge about which the panel may be tilted away from the drawer. The second connection is so designed that its recess portion communicates with the bottom edge of the wall in which it is formed, so that the corresponding pin may be separated entirely from the recess, allowing the rear portion of the side wall to be pivoted upwardly away from the drawer as the panel is tilted outwardly.

Specific embodiments of the instant invention will now be described with reference to the accompanying drawing, wherein:

Fig. 1 shows a perspective view of a first embodiment of the invention;

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Figs. 2, 3, and 4 are views of the embodiment of Fig. 1 showing the steps followed in tilting the panel;

Fig. 5 shows a modification to the assembly of Fig. 1 which permits the panel to be entirely removed from the drawer;

Fig. 6 shows a modification in which the position of the pins and slots has been reversed;

Fig. 7 shows a modification wherein the operating recess in which the connecting pin rides is formed merely by embossing one of the plates rather than by slotting the plate clear through;

Fig. 8 is a fragmentary section taken along line 8—8 in Fig. 7; and

Fig. 9 is a further modification illustrating another manner of locating the pin and recess connections.

Referring to Fig. 1, 11 designates a drawer-like object such as the base of a radio chassis. The drawer 11 has a pair of vertical side walls 12. In front of the drawer 11 is disposed a front panel 13 having secured transversely at each end thereof a pair of panel side walls 14 which embrace the drawer 11 face to face with the drawer walls 12.

In accordance with the instant invention, pin-and-recess connections are formed between each wall 12 and the panel wall 14 facing it. In the embodiment shown in Fig. 1 the recesses are formed in the panel walls 14, and they consist of slots 15 and 16 spaced at different distances from the panel 13. Each of the slots 15 and 16 is elongate in character and consists of a horizontal portion, 17 and 18, respectively, and of a vertical portion, 21 and 22, respetcively. Vertical portion 21 extends upwardly from horizontal portion 17, while vertical portion 22 extends downwardly from horizontal portion 18 and communicates with the bottom edge of the plate 14 in which it is formed. Extending outwardly from the drawer side wall 12 into the slots 15 and 16 are connecting pins 23 and 24, respectively, which serve to secure the panel assembly 13—14 to the drawer 11.

Operation

Operation of the invention thus far described will now be explained with reference to Figs. 1-4. Conventional sliding of the drawer 11 in and out by means of the handle 25, is made possible by the abutting of pin 23 against the edge of the vertical slot portion 21. This prevents relative horizontal movement between the panel 13 and the drawer 11. Accidental tilting of the panel 13 about the connecting pin 23 is prevented

by abutment of pin 24 against the edges of the horizontal slot portion 18.

Should the operator, after extending the drawer to its limit, desire further access to the drawer through outward tilting of the panel 13, he goes through the steps illustrated in Figs. 2–4. As shown in Fig. 2, panel 13 is first lifted slightly, being pivoted about pin 24 until pin 23 is in line with horizontal slot portion 17. Both pins then reside in their respective horizontal slot portions. Panel 13 is then pulled outwardly with respect to drawer 11, until the pins reside in the extreme rear portions of their respective horizontal slots as shown in Fig. 3. This brings pin 24 into line with vertical slot portion 22, so that panel 13 may be readily tilted downward and outward employing pin 23 as a pivot. Since vertical slot portion 22 communicates with the bottom edge of the panel wall 14, pin 24 is enabled to leave the slot 16 entirely, as shown in Fig. 4.

Modifications

Should it be desirable to provide complete separation of panel 13 from drawer 11, a second vertical slot portion 31 (Fig. 5) may be appended to the rear end of slot 15, also communicating with the bottom edge of the plate 14. In this way pin 23 may be slipped completely free of slot 15, thereby permitting full removal of the panel 13 from the drawer 11.

It will be understood that the positions of the slots and pins may be interchanged, with the pins 23′ and 24′ (Fig. 6) being secured to and extending inwardly from the panel walls 14′. In this case appropriate rearrangement of the slots 15′ and 16′, now formed in the side walls 14′, is necessary, as shown in Fig. 6.

It will be further understood that it is not necessary for the recess portions of the connections to extend completely through the respective walls in which they are formed. That is, they need not be formed as slots, but if desired, may be embossed into the walls as shown in Figs. 7 and 8, wherein the double priming of numerals denotes parts corresponding to those of Fig. 1, with the L-shaped recesses 15″ and 16″ taking the place of the L-shaped slots 15 and 16.

The principles of this invention may also be applied when it is desired to tilt the panel upwardly instead of downwardly. One rearrangement of slots and pins to accomplish this result is shown in Fig. 9. As mentioned hereinbefore, it will be understood that the relative mounting of pins and recesses between the facing walls may be interchanged; and it will be further understood that embossed or similarly formed recesses may be substituted for the slot type recesses shown in Fig. 9.

It will be understood that this invention may be designed and utilized in any suitable shape, size or arrangement, depending upon the objects to be accomplished, and that various modifications and changes may be made in this invention without departing from the spirit and scope thereof as set forth in the appended claims.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. A tiltable panel assembly comprising a container having a side wall, a panel disposed in front of said container, a panel wall secured to said panel transversely thereof and positioned face-to-face with said side wall, a recess in the face of one of said walls and a pin secured to the other wall extending into said recess, a second recess in the face of said one of said walls and a pin secured to the said other wall and extending into said second recess, each of said recesses being elongate and having a part disposed substantially horizontally and a part disposed substantially vertically in the normal position of said panel and panel wall, said substantially vertical parts of said two recesses being disposed at different ends of said horizontal parts and extending therefrom in opposite directions toward the upper and lower edges respectively of said wall, the vertical part of one of said recesses communicating with an edge of the wall in which it is located, to permit separation from its pin in a plane parallel to the wall upon movement including tilting of said panel and panel wall relative to said container, said pins being initially disposed in portions of said recesses nearer to one end of said panel wall to permit subsequent relative sliding movement between said pins and the recesses.

2. A tiltable panel assembly comprising a drawer, a front panel for the drawer, side walls secured transversely to said panel at each side thereof, embracing said drawer, a first elongate recess in each wall having a substantially horizontal portion and a substantially vertical portion extending downwardly from the inner end of the horizontal portion and communicating with the bottom edge of the wall, a first pin secured to each side of the drawer and riding in said recess, said first elongate recess enabling separation of said panel side walls from said first pin upon movement including tilting of said panel and side walls relative to said drawer, a second elongate recess in each wall located between said first recess and said panel, each said second recess having a horizontal portion and a vertical portion extending upwardly from the outer end of the horizontal portion, and a second pin in each side of the drawer riding in said second recess, said pins being initially located in the portions of the recesses nearest said panel to enable subsequent outward sliding movement of the panel and panel side walls relative to said drawer.

3. In a tiltable panel assembly as in claim 2, said second elongate recess in each wall having a portion extending downwardly from said horizontal portion and communicating with the bottom edge of the respective wall and enabling separation of said panel side walls from said second pin.

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