Dec. 15, 1959 C. H. VAN DONK 2,917,052

FILE DRAWERS

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Fig. 1.

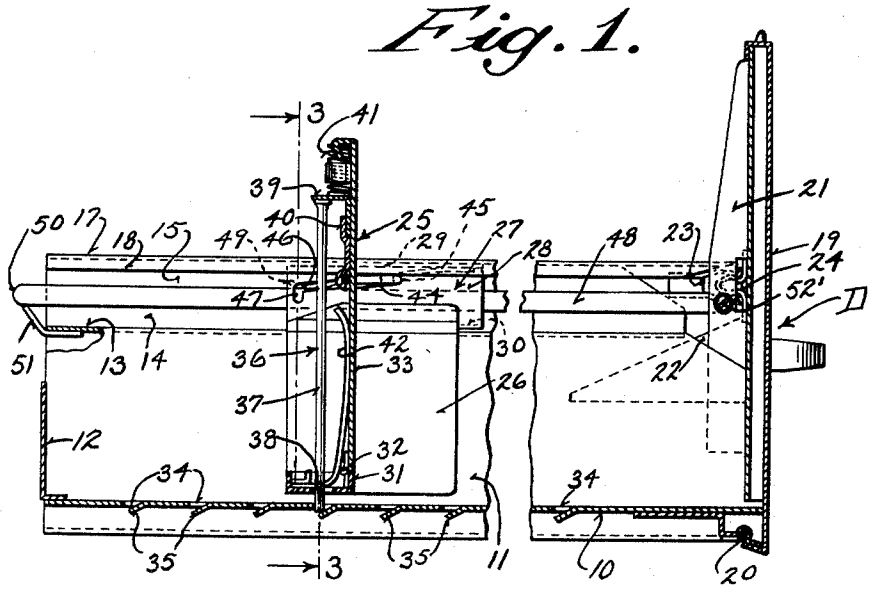
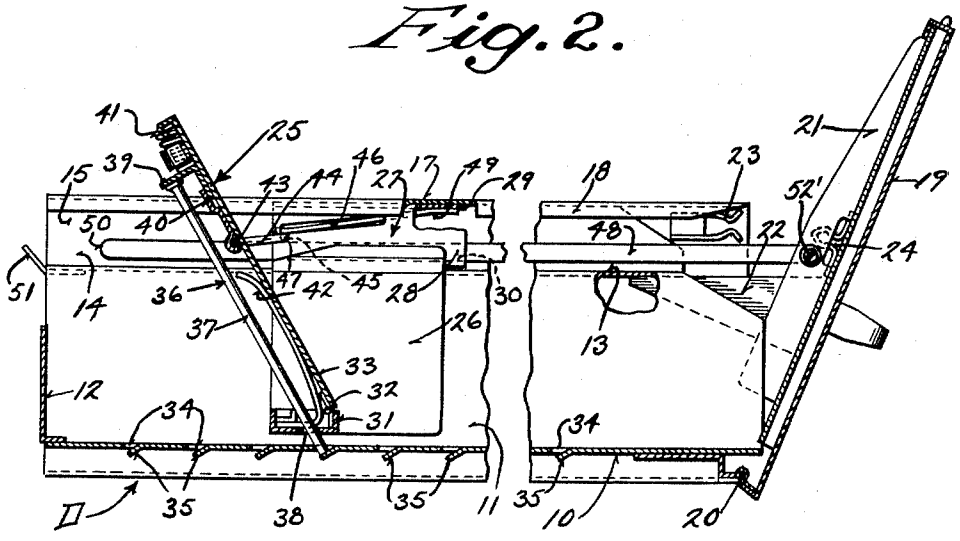


Fig. 2.



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Fig. 3.

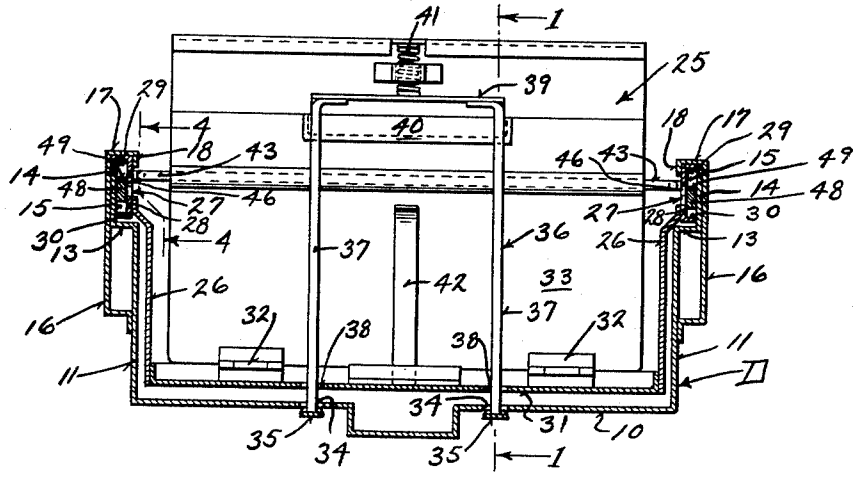


Fig. 4.

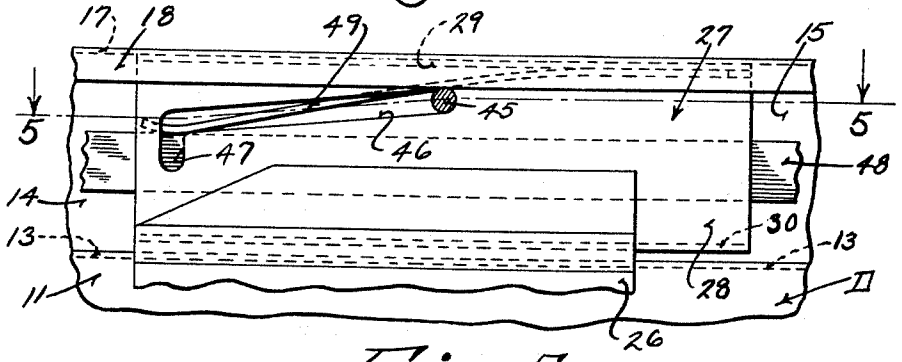
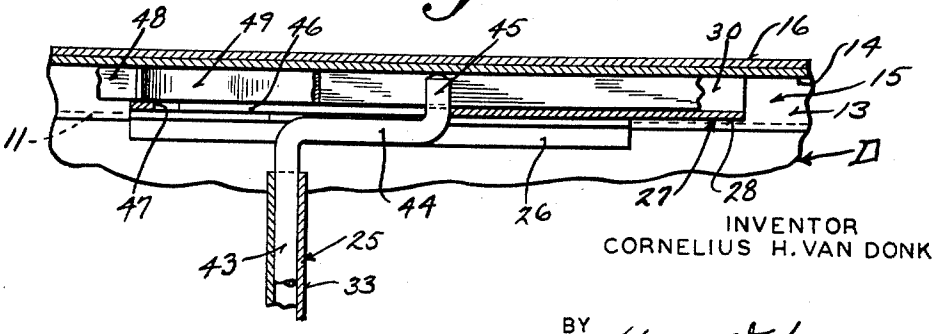


Fig. 5.



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Fig. 6.

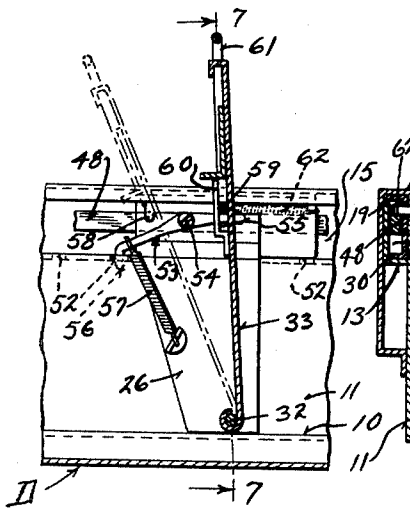


Fig. 7.

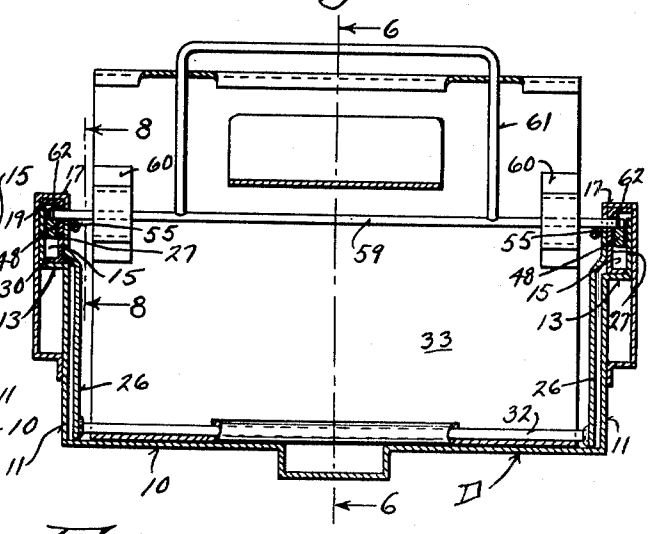


Fig. 8.

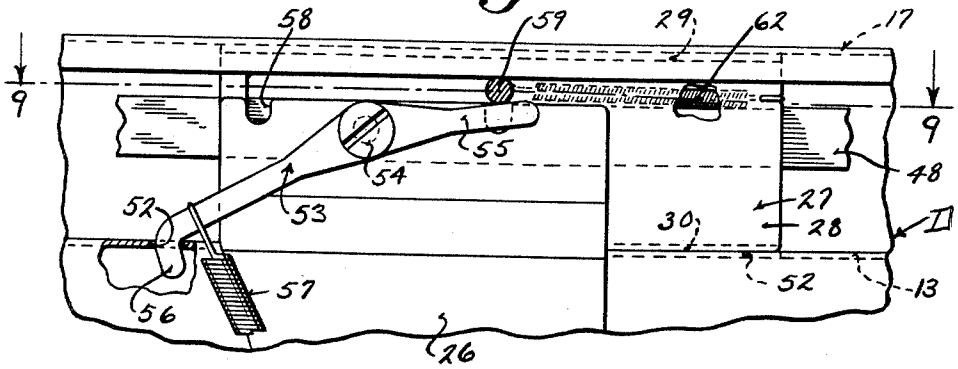
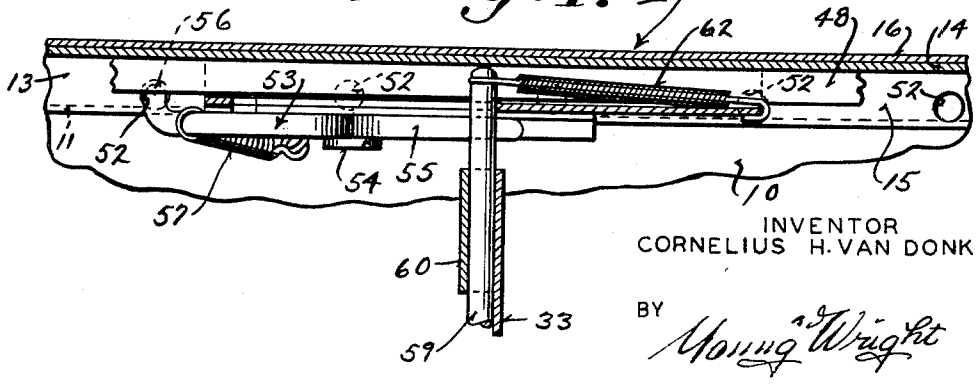


Fig. 9.



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2,917,052

FILE DRAWERS

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Application June 1, 1956, Serial No. 588,852

2 Claims. (Cl. 129—29)

This invention appertains to file cabinet drawers of the so-called V expanding type, in which the front of the drawer swings outwardly and the follower swings rearwardly to release the contents of the drawer.

One of the primary objects of my invention is to generally improve the construction of file cabinet drawers of the V expanding type, so as to provide a simple and durable form of expander, one that will be easy to operate, and one in which the front may be expanded without tilting the follower until such tilting is desired.

Another salient object of my invention is the provision of novel hanger brackets depending from and carried by guide members slidably mounted in channels formed in the longitudinal side walls of the drawer, with means for pivotally carrying the follower panel with the brackets, novel means being also provided for locking the panel and brackets in an adjusted position in the drawer relative to the front of the drawer and novel means for locking the panel on the brackets in a tilted, expanded position.

A further object of my invention is the provision of lock releasing bars slidably mounted in the drawer channels operated for automatically releasing the follower panel from its tilted position to its normal vertical position when the front of the drawer is closed, and for permitting manual tilting and locking of the panel when the front of the drawer is opened or tilted.

A further object of my invention is the provision of cam members at the ends of the channels engageable by the slide bars according to the movement of the bars in the channels for raising and lowering the bars to bring about the release of the panel or to permit the operation of the panel locking means so that the follower panel can be tilted.

A still further important object of my invention is to provide novel means for arranging the various parts of a V type expanding file drawer in said drawer, so that the active size of the drawer will not be diminished and whereby such parts will not interfere with matter being placed in or withdrawn from the drawer.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be more specifically described and claimed, and illustrated in the accompanying drawings, in which drawings,

Figure 1 is a longitudinal sectional view through a file cabinet drawer embodying the novel features of my invention, the view showing the front of the drawer and the follower in their raised vertical position for clamping filed matter in the drawer, the section being taken on the line 1—1 of Figure 3, looking in the direction of the arrows;

Figure 2 is a view similar to Figure 1, but showing the front of the drawer and the follower in their tilted, expanded position for releasing matter filed in the drawer;

Figure 3 is a transverse sectional view through the drawer taken on the line 3—3 of Figure 1, looking in the direction of the arrows and illustrating more particularly the rear of the follower and the means employed for locking the follower in a selected adjusted position relative to the front of the drawer;

Figure 4 is an enlarged fragmentary detail longitudinal sectional view taken on the line 4—4 of Figure 3, looking in the direction of the arrows and illustrating the means employed for normally holding the lock releasing bars in an elevated position, the view also showing a part of the means employed for locking the follower panel in a tilted position;

Figure 5 is an enlarged fragmentary horizontal sectional view through one side of the drawer taken on the line 5—5 of Figure 4, looking in the direction of the arrows, the view also showing a part of the lock releasing bars and the lock for holding the follower panel in a tilted position;

Figure 6 is a fragmentary longitudinal sectional view through the drawer similar to Figure 1, but showing a slightly modified means for locking the follower in an adjusted position and for locking the follower panel in a tilted position, the section being taken on the line 6—6 of Figure 7, looking in the direction of the arrows;

Figure 7 is a transverse sectional view through the modified form of the drawer, the section being taken on the line 7—7 of Figure 6, looking in the direction of the arrows;

Figure 8 is an enlarged fragmentary detail longitudinal sectional view taken on the line 8—8 of Figure 7, looking in the direction of the arrows, showing in detail the modified form of locking means employed for the follower and follower panel, and

Figure 9 is an enlarged fragmentary horizontal sectional view taken on the line 9—9 of Figure 8, looking in the direction of the arrows.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter D generally indicates my improved file cabinet drawer and the same is preferably fabricated from sheet metal. The drawer proper includes a bottom wall 10, upstanding side walls 11 and a rear wall 12. The upper ends of the side walls 11 are bent outwardly at right angles, as at 13, and then upwardly, as at 14, to provide longitudinally extending channel ways 15 at the upper sides of the drawer. To complete the channels and to form drawer guides, the outer faces of the side walls 11 have welded, or otherwise fastened thereto, outwardly projecting channel members 16. Particular attention is directed to the fact that the upper edges of these channels extend inwardly over the bottom walls 13 of the channels 15, and in spaced parallel relation thereto, as at 17, to define top channel walls. These top channel walls 17, are slightly spaced from the upper edges of the side walls 14 of the channels 15 for a purpose, which will later appear. Depending flanges 18 are formed on the upper walls 17 of the channels and these flanges are disposed in the same vertical plane, as the side walls 11 of the drawer. A front wall 19 is provided for the drawer and the lower edge of this front wall is connected by hinges 20 with the bottom wall 10. The inner face of the front wall 19 preferably carries inwardly directed ribs 21 which engage the outer faces of the side walls 11, when the front wall 19 is in its closed upright position. These ribs 21, in turn, carry rearwardly projecting triangular shaped legs 22, which are adapted to abut the lower walls 13 of the channels 15 when the front wall 19 is tilted (see Figure 2), so as to limit the outward and downward swinging movement of said front wall. When the front wall is in its closed vertical position, as shown in Figure 1, means is provided for detachably holding said wall against accidental swinging movement. As illustrated, the drawer body and the inner face of the front

wall 19 carry respectively mating parts 23 and 24 of resilient latches, which can be of any desired construction.

Slidably mounted with in the drawer body is the follower 25 and this follower includes depending hanger plates 26. The hanger plates 26 are also, preferably formed from sheet metal and these plates have formed thereon, or secured thereto, slide shoes 27. In the present instance, the slide shoes 27 are also formed of sheet metal and are folded, so as to snugly fit and slide in the channels 15. Each slide shoe is of a substantially C-shape in cross-section, and hence includes an outer connecting wall 28 and inwardly directed parallel upper and lower flanges 29 and 30. The upper flange 29 rides between the upper wall 17 of the channel and the upper edge of a side wall 11. The flange 18 depends from the wall 17 and engages the outer face of its slide shoe to retain such shoe within the channel. Initially, the slide shoes 27 can be slid into the channels 15 from the front ends of said channels. The brackets 26 are rigidly connected adjacent to their lower ends by a transversely extending U-shaped cross-bar 31 and connected by hinges 32 to the cross-bar is the follower panel 33. By this construction the follower panel 33 can be swung down to a lowered tilted position as shown in Figure 2, or to a raised vertical position, as shown in Figure 1.

The follower 25 as a unit, including the brackets 26, shoes 27, cross-bar 31 and panel 33, can be slid longitudinally in the drawer body toward and away from the front wall 19 to vary the active size of the drawer. Means is provided for detachably locking the follower in a selected adjusted position in said drawer body relative to the front wall 19. This means can include two longitudinal rows of latch sockets 34 formed in the bottom wall 10. These sockets are formed by striking out sections of metal from said bottom wall and these sections are bent at an acute angle to the plane of said bottom wall to define lips 35. Slidably mounted on the rear face of the follower panel 33 is a sliding latch 36, including spaced parallel latch bars 37 which slidably extend through openings 38 formed in the cross-bar 31. The upper ends of the latch bars 37 are secured to a manipulating fingerpiece 39. This piece, in turn, is of an L-shape in cross-section and is slidably mounted within a guide 40, welded or otherwise secured, to the rear face of the follower panel. An expansion coil spring 41 is confined between the upper edge of the panel 33 and the handle 39 and serves as means for normally urging the latch 36 downward with the terminals of the latch bars 37 engaging in the keeper openings 34. By lifting up on the handle 39 the latch bars 37 can be lifted out of the keeper openings or sockets 34 so that the entire follower 25 can be shifted backwards and forward.

Means is provided for latching and holding the follower panel 33 in a tilted position, and this means now will be described. It is to be noted, however, that a relatively strong leaf spring 42 is carried by the cross-bar 31, and bears against the rear face of the panel 33, so as to normally urge the panel toward its raised vertical position. It is to be also noted that when the panel is tilted that the lower ends of the rods 37 bear against the lips 35 of the keeper openings or sockets. Rockably carried by the rear face of the follower panel 33 is a U-shaped latch bar 43 and this bar includes spaced parallel side legs 44 terminating in inwardly directed feet 45. These feet extend through and are slidably mounted in bayonnet slots 46 formed in the slide shoes 27. These feet also extend into the channels 15, as is best shown in Figure 5. The bayonnet slots 46 angle downwardly and rearwardly from their forward ends and terminate in downwardly extended keeper notches 47. Thus, considering that the panel 33 is in its raised vertical position, and it is desired to tilt the same to an angle position, then the upper edge of the panel is gripped and forcibly swung downwardly on its hinges 32 against the tension of the leaf spring 42. With this movement of the panel, the latch bar 43 will be carried therewith and the feet 45 of the latch bar will slide in the slots 46 and when the feet reach the rear terminals of the slots further rearward swinging movement of the panel is prevented and the feet 45 can ride into the keeper notches 47 to hold the panel in its tilted position.

Novel means is provided for automatically releasing the latch or lock rod 43 from the keeper notches 47, and for normally holding this latch or lock rod with its feet 45 in an elevated position. This means includes longitudinally extending operating bars 48 slidably mounted in the channels 15. These operating bars extend substantially the full length of the drawer and it is to be noted that these bars also slidably extend through the slide shoes 27 and are disposed below the feet 45 of the latch or lock rod 43. The operating bars 48 and the feet 45 of the latch or lock rod 43 are normally held down in a lowered position by relatively heavy leaf springs 49. The forward terminals of these leaf springs are welded, or otherwise secured, to the top walls 29 of the slide shoes 27, and the rear ends of these springs bear against the feet 45 and the bars 48. The terminals of the leaf springs 49 are curved to provide a bearing surface so that the bars 48 can readily slide relative to the springs. The rear ends of the operating bars 48 are rounded, as at 50, for a purpose, which will now appear. The bars 48 can be operated for raising and lowering movement, in various manners, but as illustrated, I have secured to the bottom walls 13 of the channels 15, at the rear ends thereof, cam lifting members 51. The cam lifting members 51 are preferably in the form of metal strips and the outer ends of the strips are bent upwardly to provide the inclined cam surfaces. Obviously, when the rounded ends 50 of the operating bars 48 move rearwardly, the same will slide up on the cam members and thus bring about the raising of the bars 48, as best shown in Figure 1. The forward ends of these operating bars can be pivotally connected to the ribs 21 of the front wall 19, by means of pivot pins or screws 52'. In operation of this form of the invention, it can be seen that when the front wall 19 is in its closed vertical position (see Figure 1), the operating bars 48 will be moved rearwardly and the same will ride up on the cam members 51 moving the lock bars to an elevated position, against tension of the leaf springs 49. This also holds the feet 45 of the latch or lock rod 43 in a raised position. Upon the opening of the drawer and the swinging of the front wall 19 forwardly to an inclined position (see Figure 2), the operating bars 48 will be moved forwardly and off of the cam members 51 and consequently, these bars will be moved to a lowered position by the leaf springs 49. The follower panel 40 can now be tilted rearwardly against the tension of its leaf spring 42 and as the feet 45 slide in their grooves 46 and reach the keeper notches 47, the springs 49 will force the feet 45 downward into said notches and hence the follower panel will be held in its tilted position. Filed matter can now be easily removed from the drawer. Upon the closing of the front wall 19, the operating bars 48 will again be moved rearwardly and when the same reach the cam members 51, these operating bars 48 will be raised, moving the feet 45 from the keeper notches 47, and at this time the leaf spring 42 will automatically return the follower panel to its vertical position. Matter filed in the drawer will now be firmly clamped between the front wall and the follower panel.

In illustrating the invention, I have shown the device used as a follower only, but obviously, several followers can be used to form dividers, if such should be desired, and in this instance the followers would take the form of so-called wobble blocks.

In Figures 6 to 9, inclusive, I have shown a modified form of my invention and as heretofore brought out, the invention is susceptible of various modifications. In

Figures 6 and 9, inclusive, I have shown a different means for holding the complete follower in a selected adjusted position in the drawer and in lieu of forming keeper openings 34 in the bottom wall 10 of the drawer, I provide keeper openings 52 in the bottom walls 13 of the channels 15. The slide shoes 27 have pivotally connected thereto latch levers 53. Pivot screws 54 can be employed for this purpose, and these screws pivotally support the latch levers intermediate the ends thereof, and the latch levers are provided with forwardly extending operating arms 55. The rear ends of the latch levers are provided with depending latch feet 56 which are adapted to extend into selected keeper openings 52. Coil springs 57 of the contractile type have their opposite ends connected respectively to the latch levers 53 adjacent to the feet 56 and to the side brackets 26 of the follower. The upper edges of the brackets 26 or the slide shoes 27 can have formed therein keeper notches 58 for a purpose, which will now be described. Extending transversely of the rear face of the panel is a latch and operating rod 59. This rod 59 is mounted for sliding movement up and down on the follower panel 33 in guide tracks 60, welded or otherwise fastened to the panel 33. This rod is provided with an upwardly extended U-shaped handle 61 which slidably extends through the upper edge of the follower panel 33. The terminals of the latch and operating rod 59 extend into the channels 15 and over the operating bars 48 and these bars also extend over and rest upon the arms 55 of the latch levers 53. Contractile coil springs 62 have their opposite ends connected respectively to the combination latch and operating rod 59 and to the slide shoes 27 and these springs function to normally pull and hold the pivoted follower panel 33 in its raised elevated position.

Under normal operation with the panel in its raised substantially vertical position, the entire follower can be slid backwards and forwards in the drawer to a selected operating position by pressing down on the handle 61. This will force the rod 59 down against the arms 55 of the latch levers and raise the feet 56 from out of the keeper openings 52. Thus, the follower can be slid back and forth and when the same reaches the desired position the handle 61 is released and tne feet 56 will then snap into the desired keeper openings 52. Normally, the operating bars 48 are in a raised position and when the same are in this position, the upper edges of the bars are above the keeper notches 58. When it is desired to tilt the follower panel 33 rearwardly, the upper edge of the panel is grasped and the panel is positioned rearwardly against tension of the coil springs 62 and the rod 59 will be carried with the panel. With the front of the drawer open, the bars 48 will be in their lowered position with the upper edges thereof below the bottoms of the keeper notches 58 and hence the terminals of the rod 59 will ride into said notches 58 and hold the panel in its tilted position. When the front of the drawer is again closed, the bars 48 will be raised carrying the terminals of the rod 59 out of the notches 58 and the spring 62 will return the panel to its raised position. During the swinging of the panel 33 to its tilted position, the operator can press downward on the handle 61 so as to move the terminals of the rod 59 into the notches 58.

Various changes in details can be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. A drawer comprising a body having side walls and a hinged front wall movable to a raised vertical position and to an open inclined position, means limiting the outward swinging movement of the front wall, means detachably holding the front wall in a raised vertical position, said side walls having outwardly projecting longitudinally extending channelways, a follower slidably mounted in said body including shoes slidable in said channelways, depending bracket plates carried by the shoes and a hinged panel carried by the bracket plates and movable to a rearward tilted position and to a raised vertical position, spring means normally urging the panel to its raised vertical position, longitudinally extending operating bars slidably mounted in said channelways and pivotally connected to the front wall, cam members carried by the body and disposed at the rear ends of said channelways, said bars engaging said cams and movable to a raised position thereby when the front wall is in its closed vertical position and movable off of said cams to a lowered position when the front wall is tilted, a latch member carried by said panel and extending into the said shoes and disposed above said bars, and said shoes having keeper notches for receiving the latch member when the panel is tilted and when the front wall is in its open tilted position with the bars lowered, said latch means being movable out of said keeper notches by said bars when the front wall is in its vertical position with the bars raised by said cams, and spring means normally urging the bars and the latch member to a lowered position.

2. A drawer comprising a body including a bottom wall and upstanding side walls, a front wall hingedly mounted on the bottom wall for swinging movement to a vertical closed position and to an inclined forwardly tilted position, said side walls having outwardly projecting longitudinally extending channelways, a follower slidably mounted in said body including shoes slidable in the channelways, depending bracket plates carried by the shoes and extending into the body, and a panel hingedly carried by the bracket plates movable to a raised vertical position and to a rearwardly inclined tilted position, means for latching the panel in a tilted position, and means for releasing the latching means for the panel when the front wall is in a closed position, said panel latching means including a U-shaped latch rod pivotally connected to the rear face of the panel having laterally projecting feet slidably mounted in the channelways, and said shoes having keeper notches for receiving the feet when the panel is in its tilted position, said latch releasing means including operating bars slidably mounted in said channelways and through said shoes below the feet, means hingedly connecting the bars to the front wall for moving said bars back and forth in the channelways during the opening and closing of said front wall, and cam members disposed at the rear ends of said channelways and in the path of the bars during the rearward movement of the bars, whereby the bars will ride up on said cam members upon the closing of the front wall to lift said latch feet out of said keeper notches.

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