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G. FRIEDL, JR

2,337,159

CABINET

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Fig. 2.

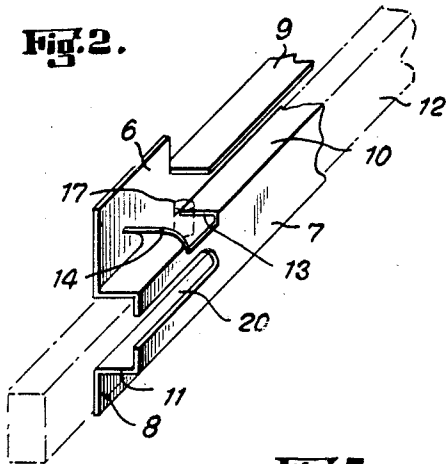


Fig. 1.

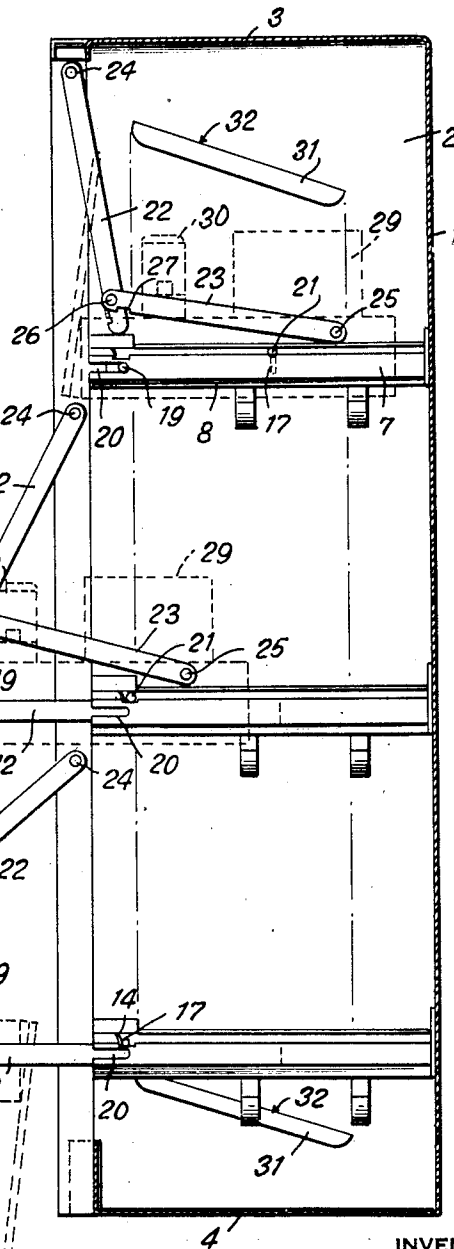


Fig. 3.

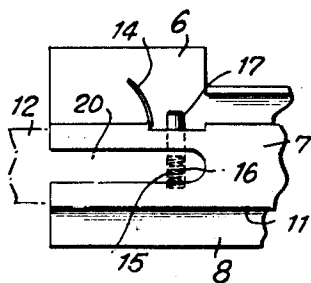
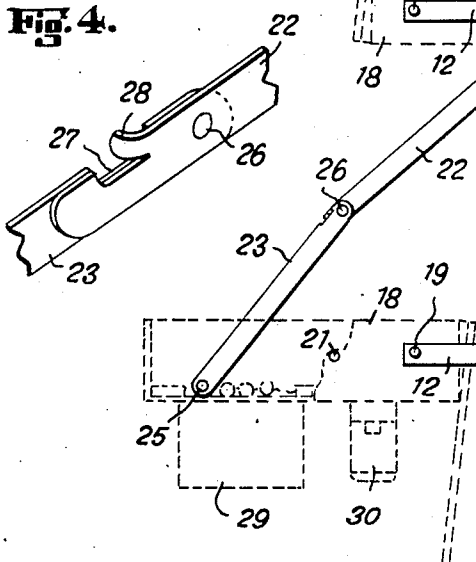


Fig. 4.



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2,337,159

CABINET

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11 Claims. (Cl. 45—96)

The object of this invention is to provide a cabinet having one or more slidable drawers with means to stop the drawer at a given position when it is being pulled out, means to hold the drawer in the position in which it is stopped when it is pulled out so that the drawer will have to be slightly raised before it can be pushed inwardly or to its closed position, means to allow the drawer to be turned upside down when it is at its outward position but to prevent its being turned upside down at any other position, means to positively prevent the drawer being pushed inwardly when it is turned upside down and means to automatically render inoperative the last-mentioned means when the drawer is again reversed to its normal upright position. I have likewise provided a cabinet which is exceedingly compact and in which, when a plurality of drawers are employed, all of the drawers may be pulled outwardly and turned upside down by pulling outwardly the lowermost drawer and turning it upside down and repeating this operation for higher drawers, opening the drawers starting at the bottom and ending at the top. I find this invention especially useful in connection with cabinets on which electrical instruments are mounted on both the top and bottom of the drawer. With such a construction the operator can pull the drawer outwardly and work on the instruments mounted on the top of the drawer and by turning the drawer over, he renders readily accessible the electrical instruments mounted on the bottom thereof. I do not wish, however, to limit myself to a cabinet having drawers supporting electrical instruments only for such a cabinet might be used for many other purposes. If electrical instruments, however, such as lamps, tubes, etc. which give out heat are mounted in the cabinet, it would of course be desirable to thoroughly ventilate such a cabinet and I have provided means whereby the ventilation may be accomplished. Other objects and advantages will appear in the detailed specification and claims.

In the drawing I have shown by way of illustration the preferred embodiment of the invention, in which

Fig. 1 is a side elevational view partly in cross-section, one side wall of the cabinet being removed and showing the drawer construction within the cabinet;

Fig. 2 is a perspective view of a fragment of the channel bar fixed to the side wall of the cabinet and showing in broken lines, a portion of the rail slidable therethrough;

Fig. 3 is a side elevational view of a fragment of the structure shown in Fig. 2; and,

Fig. 4 is a fragmentary perspective view of a portion of the supporting arms for one of the drawers.

The cabinet consists of a vertical rear wall 1, side walls 2, a top wall 3 and a bottom wall 4. A removable front wall, preferably made in sections, may be used to close the front wall thereof. Since the removable front wall forms no portion of the invention, it is not shown in the drawing.

Channel bars such as shown in Fig. 2 are secured to the opposite side walls and each of them consists of upright walls 6, 7 and 8 and horizontal walls 9, 10 and 11. The walls 6 and 8 are secured to the side walls of the cabinet. The walls 9 and 10 are bent laterally from the wall 6 and the wall 11 is bent laterally from the wall 8 while the wall 7 connects the walls 10 and 11. It is obvious that such a channel bar could easily be stamped from flat stock. The horizontal walls 9 and 10 provide upper and lower trackways for a roller and the walls 7, 10 and 11 together with the side walls of the cabinet provide a trackway for the slidable bar 12. The horizontal wall 10 is cut away, as shown in Fig. 2, forming a stop 13 and a lip 14, the lip 14 being curved so as to guide the roller, which will hereinafter be mentioned, into position. The slide bar is provided with a socket 15 in which is positioned a spring 16 and a pin 17. When the slide bar is pushed inwardly, that is when the drawer is closed, the pin 17 will be depressed by means hereinafter to be explained and will slide beneath the wall 10, but when the slide bar is pulled outwardly so that the pin 17 is between the stop 13 and lip 14, spring 16 will project the pin upwardly into the position shown in Fig. 3. It, of course, will be understood that there are two slide bars for each drawer, that is one slide bar on each side wall of the cabinet, and between these slide bars is pivoted a drawer 18 on pivot pins 19. The upright wall 7 is provided with a slot 20 at its outer end so as to receive this pivot pin 19 as is shown in connection with the upper drawer in Fig. 1.

Each of the drawers is provided with a roller 21. When the drawer is in its inner position this roller is beneath the horizontal wall 9 and above the horizontal wall 10 so that these two walls serve as guide rails for the roller 21. If the operator should attempt to turn over the drawer before he has fully pulled it out, the roller 21 would engage the wall 9 and would prevent such an operation. When, however, the operator has fully pulled out the drawer as shown in the mid-

portion of Fig. 1, the roller 21 would be immediately above the pin 17 and would have dropped into the space between the stop 13 and the lip 14. It would now have fully cleared the horizontal wall 9 and the operator could turn over the drawer so that the drawer would assume the position shown in the lower portion of Fig. 1. In order to stop the drawer at substantially horizontal position when it has been turned over, I provide straps 22 and 23. The strap 22 is pivoted to the side wall of the cabinet by a pivot pin 24 and the strap 23 is pivoted to the outer portion of the drawer when it is overturned by a pivot pin 25. The two straps are pivoted together by a pin 26. The strap 23 is cut away, forming a notch 27 which receives an overturned lip 28 of the strap 22 thereby preventing the straps 22 and 23 from moving downwardly sufficiently far to form a straight line. When the drawer has been overturned, the straps 22 and 23 form an elbow as shown in connection with the lower portion of Fig. 1 so that in order to turn the drawer right side up the operator does not have to break the straps 22 and 23 but he can simply raise the outer end of the drawer and the straps fold up. When the drawer is turned upside down, the roller 21 disengages the pin 17 and the spring 16 presses the pin 17 upwardly into the position shown in Figs. 2 and 3. The operator cannot now push the drawer inwardly when it has been overturned because the pin 17 would engage the stop 13. When, however, the operator lifts upwardly on the outer end of the overturned drawer so as to move the drawer from the position shown in the lower portion of Fig. 1 to the position shown in the mid-portion thereof, the roller 21 engages and depresses the pin 17. If now the operator desires to push the drawer to its closed position, the pin 17, while depressed, moves under the wall 10 and the roller 21 is cammed out over the stop 13 and thereafter moves inwardly between the walls 9 and 10.

If electrical instruments 29 and 30 are mounted on top of the drawer when it is in its closed position and other electrical instruments are mounted within the drawer, it is obvious that the operator could pull the drawer outwardly to the position shown in the mid-portion of Fig. 1 and could work on the instruments mounted on top of the drawer. Obviously, the instruments would be so positioned that the center of gravity of the drawer would prevent it from being overturned and so that the roller 21 would press with at least a slight force on the pin 17. This would prevent the drawer being overturned unless the operator lifted the rear of the drawer with sufficient force to overcome the weight on the rear portion of the drawer as compared with the weight on the front thereof, thereby preventing the drawer from being accidentally overturned. If, however, the operator desires to turn the drawer upside down so as to work on the instruments within the drawer, he can overturn the drawer by pulling upwardly on the rear portion thereof and moving the parts to the position shown in the lower portion of Fig. 1. When he has done this, the roller 21 is removed from engagement with the pin 17 and the pin 17 is thereupon projected upwardly so that the drawer cannot be pushed inwardly.

When electrical instruments are employed which give off heat, it is desirable to ventilate the cabinet and I have, therefore, provided a plurality of louvres 31 partially cut away from the cabinet on the line 32 and which louvres are bent inwardly so as to provide ventilating spaces.

Since these louvres are partially cut away at the top and are bent inwardly, dust and soot particles falling on them would be directed away from the cabinet and would fall to the floor. If they were turned outwardly such foreign matter would be directed into the cabinet and I desire to prevent this. It will be understood that there is a series of such flaps and cut away portions extending from near the top of the cabinet to near the bottom thereof. If desired, the same arrangement could be made for the rear and front walls of the cabinet.

In mentioning the electrical instruments to be mounted on the top of the drawer and other electrical instruments mounted within the drawer, I wish it to be understood that I do not limit the use of this invention to a drawer carrying electrical instruments for obviously such drawers might be used to carry many other things.

While I have shown the invention in what I conceive to be its preferred form, I realize that many changes might be made in the specific construction thereof without departing from the spirit of the invention. I, therefore, desire to claim the same broadly except as I may limit myself in the appended claims.

Having now described my invention, I claim:

1. In a cabinet, guides fixed to said cabinet and each having a short slot, rails slidable in said guides, a drawer pivoted on said rails so that it can be turned upside down, a spring actuated means carried by each of said rails and adapted to be projected into said slots to lock the drawer when the drawer is fully opened and the spring actuated means is released and means to support the drawer in substantially horizontal position when it is turned upside down.

2. In a cabinet, guides fixed to said cabinet and having a cutaway portion forming front and rear stops, rails slidable in said guides, a drawer pivoted to said rails so that the drawer can be turned upside down, means carried by the drawer and adapted to engage said stops to hold the drawer in its outer position and means carried by the rails and adapted to be projected into the cutaway portion so as to engage said stops and prevent the drawer being moved longitudinally when the drawer is turned upside down.

3. In a cabinet, a slidable drawer, slidable rails on which the drawer is pivoted so that said drawer may be turned upside down, and means to prevent material longitudinal movement of the drawer when it is turned upside down, said means including a spring actuated pin carried by one of said rails and which is rendered inoperative when the drawer is right side up, but which is released and rendered inoperative when the drawer is turned upside down and a fixed stop lying in the path of movement of the pin when the pin is in operative position.

4. In a cabinet, a drawer to which articles are attached on both the top and the bottom thereof, slidable rails on which the drawer is pivotally mounted so that when the drawer is partly pulled outwardly from the cabinet, the articles on top thereof are readily accessible and when turned over on its pivot the articles on the bottom thereof are rendered readily accessible, and means holding the guide rails in their outward position when the drawer has been turned upside down, said means including a spring actuated pin carried by one of said rails and which is rendered inoperative when the drawer is right side up, but which is released and rendered operative

when the drawer is turned upside down and a fixed stop lying in the path of movement of the pin when the pin is in operative position.

5. In a cabinet, a drawer to which articles are attached on both the top and the bottom thereof, slidable rails on which the drawer is pivotally mounted so that when the drawer is partly pulled outwardly from the cabinet, the articles on top thereof are readily accessible and when turned over on its pivot the articles on the bottom thereof are rendered readily accessible, and means holding the guide rails in their outer position when the drawer is in either its upright position or its upside down position, the means to hold the guide rails in their outer position when the drawer is in its upside down position including a spring actuated pin carried by one of said rails and which is rendered operative when the drawer is turned upside down and a fixed stop lying in the path of movement of the pin when the pin is in operative position.

6. In a cabinet, a slidable drawer, slidable guide rails on which the drawer is pivotally mounted so that the drawer may be turned upside down and straps pivoted together and to the cabinet and drawer respectively so as to support the drawer when it is turned upside down.

7. In a cabinet, a slidable drawer, slidable guide rails on which the drawer is pivotally mounted so that the drawer may be turned upside down, straps pivoted together and to the cabinet and drawer respectively so as to support the drawer when it is turned upside down, and means to prevent the pivot point of the straps from moving as far downwardly as the line connecting the supporting points of said straps on the cabinet and drawer when the drawer is fully turned over.

8. In a cabinet, a drawer, slidable rails on which the drawer is pivoted so that the drawer may be turned upside down, guides for said rails provided with a notch, means carried by the drawer adapted to engage in said notch when the drawer is moved longitudinally towards open position and adapted to hold the drawer against

longitudinal movement until the means is lifted out of the notch, and means to engage in the notch to hold the drawer against longitudinal movement if the drawer is turned upside down.

9. In a cabinet, a drawer, slidable rails on which the drawer is pivoted so that the drawer may be turned upside down, guides for said rails provided with a notch, means carried by the drawer adapted to engage in said notch when the drawer is moved longitudinally towards open position and adapted to hold the drawer against longitudinal movement until the means is lifted out of the notch, and a spring pressed plunger adapted to engage in the notch to hold the drawer against longitudinal movement when the drawer is turned upside down.

10. In a cabinet, a drawer, slidable rails on which the drawer is pivoted so that the drawer may be turned upside down, guides for said rails provided with a notch, means carried by the drawer adapted to engage in said notch when the drawer is moved longitudinally towards open position and adapted to hold the drawer against longitudinal movement until the means is lifted out of the notch, and a spring pressed plunger adapted to engage in the notch to hold the drawer against longitudinal movement when the drawer is turned upside down, said means carried by the drawer depressing said plunger when the drawer is again turned right side up.

11. In a cabinet, a drawer, slidable rails on which the drawer is pivoted so that it can be turned upside down, guides for said rails, means carried by the drawer and cooperating with a part of the guides to hold the rails against material longitudinal movement when the drawer has been moved to its outer position, a spring pressed plunger mounted in one of the rails to hold the rails in their outer position when the drawer is turned upside down, said means carried by the drawer depressing said plunger when the drawer is again turned right side up.

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