Nov. 17, 1925. 1,561,752

F. L. G. STRAUBEL.

VERTICAL FILING DRAWER

Filed Feb. 25, 1922

Fig. 1.

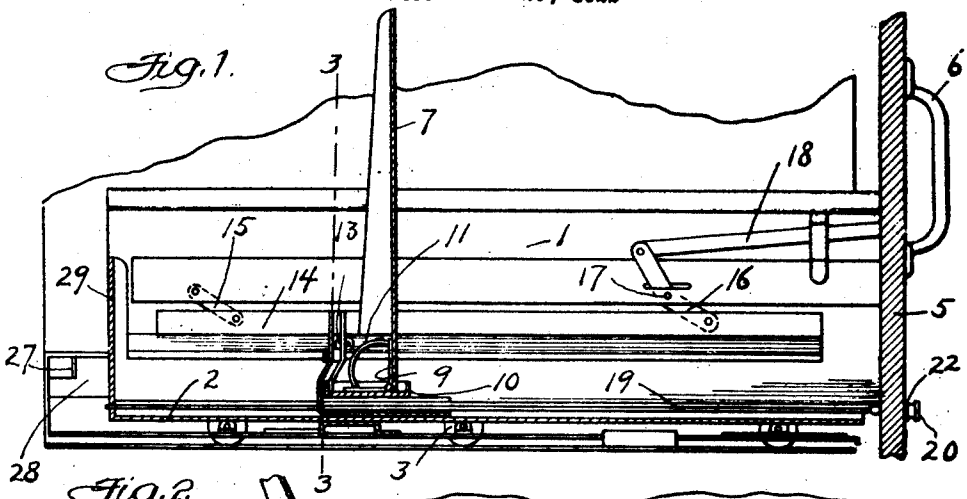
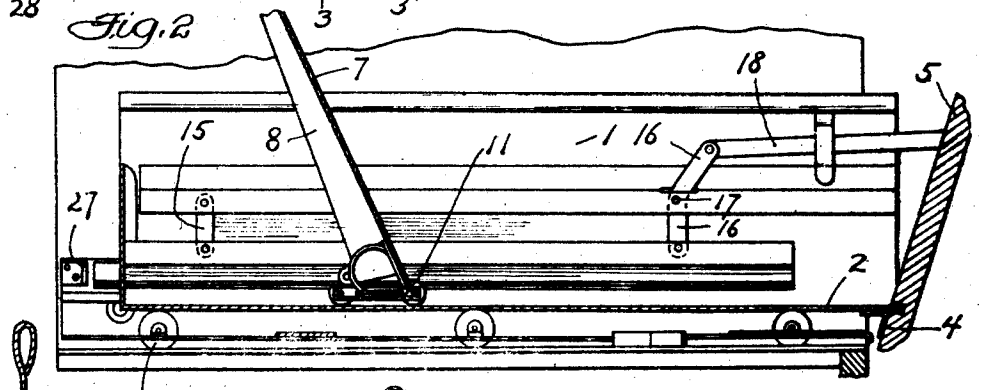


Fig. 2



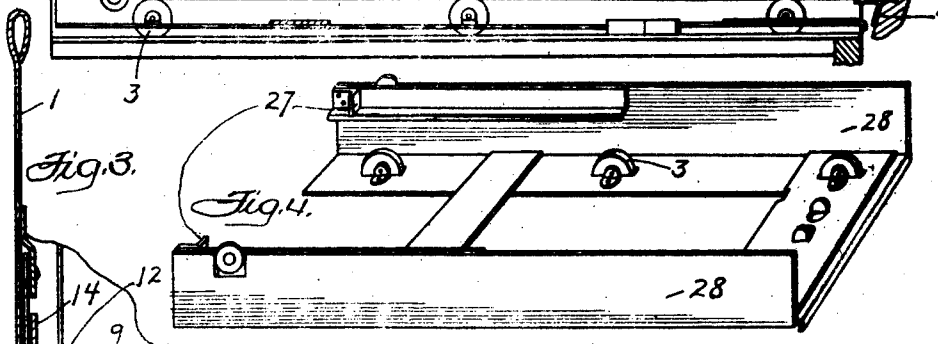
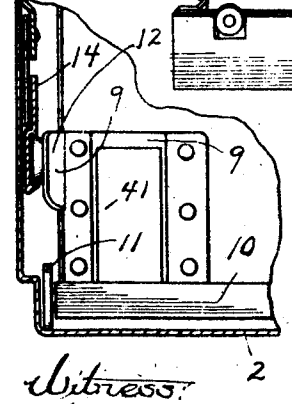


Fig. 3.

Fig. 4.



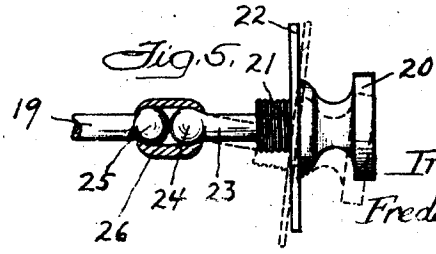


Fig. 5.

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UNITED STATES PATENT OFFICE.

FREDERICK L. G. STRAUBEL, OF GREEN BAY, WISCONSIN.

VERTICAL FILING DRAWER.

Application filed February 25, 1922. Serial No. 539,083.

To all whom it may concern:

Be it known that I, FREDERICK L. G. STRAUBEL, a citizen of the United States, residing at Green Bay, in the county of Brown, and State of Wisconsin, have invented certain new and useful Improvements in a Vertical Filing Drawer; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to vertical filing drawers and in some of its general aspects aims to provide novel features of construction particularly adapted for use in connection with a tilting front and tilting follower arrangement and with a single-piece drawer front construction. In my previous Patent No. 1,013,234, issued to me on January 2, 1912 on a vertical filing drawer, I have shown a drawer including a normally vertical front and a normally vertical follower both arranged so that they may be tilted to increase the space between their upper edges, thereby facilitating the insertion and removal of papers or the like between them and also permitting a ready inspection of any of the contents of the file without removing them from the drawer. I have also shown connections interposed between the tilting front and the tilting follower for causing a tilting or untilting movement of the drawer front to effect a corresponding movement of the follower, and have shown these connections as arranged to permit a convenient adjustment of the follower according to the volume of the contents of the drawer.

The construction thus disclosed was illustrated and described as particularly suited for a wooden drawer and one in which the drawer front was made of two superposed portions connected by a hinge, the lower portion being fast with respect to the bottom of the drawer while the upper portion was hinged at its lower edge to permit the tilting of the upper or main portion of the drawer front. This hinging necessarily involves a slight gap at the joint between the two portions comprising the front and also involves the projecting of hinge portions, all of which detract from the appearance of the drawer and of the filing cabinet as a whole. The two-piece front construction also involves considerably more expense than the manufacture of a single piece front.

Moreover, the hinging of a drawer front portion adjacent to the bottom of its lower edge as shown in my above mentioned patent gives a lifting motion to the lower portion of this upper front section along its inner surface, thereby tending to raise adjacent contents of the file and also affording a gap during the tilting of the front into which some of the file contents may be crowded so as to damage these when the tilted front portion is returned to its normal vertical position.

To reduce the cost and to avoid this lifting and damaging of file contents, it is desirable to employ a single-piece front and to hinge this above its bottom, but if this is done, the forward tilting of the upper edge of the front will involve a corresponding rearward tilting of the lower edge, thereby causing this lower edge to strike either against the cabinet itself or the extension slide carrying the drawer, in case such a slide is interposed between the drawer proper and the cabinet.

In one of its aspects, my invention aims to provide a drawer construction which will overcome all of these objections by employing a substantially single piece front, by hinging this front above its lower edge, and by providing means for compelling the tilted front to be returned to its normal vertical position before the drawer can entirely be closed. Where the drawer is supported by an intermediary carriage or socalled extension slide, I aim to provide such compulsory untilting means partly upon the slide and aim to arrange the tiltable front so that its lower portion extends below the drawer proper and in front of the extension slide.

In a further aspect, my invention aims to provide a novel guide rod construction adapted for use with tilting drawer fronts and one which will permit the knob of such a guide rod to be fastened to a tiltable portion of the drawer front. Still further and also more detailed objects will appear from the following specification and from the accompanying drawings, in which

Fig. 1 is a central, vertical and longitudinal section through a vertical filing drawer embodying my invention and through adjacent portions of the extension slide carrying

the same end of the cabinet in which the drawer is used, showing the drawer in an almost closed position.

Fig. 2 is a similar section taken closer to the disclosed side of the drawer and showing the drawer front and follower in their tilted positions.

Fig. 3 is an enlarged vertical section taken along the line 3—3 of Fig. 1.

Fig. 4 is a perspective view of the extension slide which supports the drawer of Figs. 1 and 2.

Fig. 5 is an enlarged view of the forward end of the guide rod and of the knob associated therewith, together with a section of the coupling connecting these two portions.

In the embodiment of the drawings, my invention is shown as used in connection with a drawer having a main sheet metal portion comprising a pair of sides 1 connected by a bottom 2, which bottom rests upon the wheels 3 of an extension slide. Pivoted to the drawer, desirably by hinges 4 secured to the bottom 2 adjacent to the front of the latter is a tiltable drawer front 5 which (in the case of a wooden cabinet) is desirably also made of wood and which carries a handle 6 whereby the drawer may be slid in and out and whereby the front may be tilted about its said hinged connection to the bottom of the drawer when desired. Slidably mounted within the drawer is a follower or compresser including a follower wing or compresser member 7 which is desirably stiffened by edge flanges 8 projecting rearwardly of this following wing. The wing 7 is connected by hinges 9 to a follower base 10, which base is desirably supported at each end by a pair of wheels 11 riding upon the bottom of the drawer, and which base is slidable.

The base 10 of the follower and wing 7 of the latter are also operatively connected by springs 41 arranged for continuously tending to swing the follower forwardly about its said hinge connection, each such spring desirably being interlocked at its ends respectively with the plates comprising one hinge 9. One of these hinge plates, namely the one which is normally in a vertical position has at its upper end a lateral wing 12 affording a bearing for a roller 13 which has its axis transverse of the drawer and which travels in a grooved oscillating bar 14 extending longitudinally of the drawer adjacent to a side 1 of the latter. This oscillating bar is supported by a pivoted link 15 and a lever arm 16 parallel thereto, the said link and lever being arranged for affording a parallel movement so that the bar 14 may be moved both downwardly and rearwardly of the drawer while continuously maintaining the axis of the said groove portion horizontal. To move the bar for this purpose, I extend the arm 16 beyond its pivot 17 as shown in Figs. 1 and 2 and connect the upper end of the lever as thus provided by a link 18 with the drawer front 5. Thus arranged, it will be obvious from Figs. 1 and 3 that when the front 5 is swung about its hinged connection to the bottom of the drawer after the manner shown in Fig. 3, the connecting link 18 and the lever 16 will cooperate with the rear link 15 in moving the grooved oscillating bar 14 both downwardly and rearwardly of the drawer. Owing to the housing of the roller 13 by the groove in this oscillating bar, the downward movement of the latter presses this roller downwardly, thereby tilting the upper plate of the adjacent hinge 9 rearwardly against the pressure of the spring 11 and hence tilting the follower rearwardly. Likewise, the untilting of the drawer front by returning it to its vertical position causes the same connections to raise the oscillating bar, thereby also raising the roller 13 and permitting the spring 11 to return the follower wing 7 to its normal vertical position.

To lock the usual downwardly tabbed guides in position I provide a guide rod 19 extending longitudinally of the drawer below the follower wing and terminating at its forward end in a knob 20 exposed in front of the drawer. With a two-piece drawer front construction such as that disclosed in my above mentioned patent this guide rod can extend through the lower or stationary portion of the front, so that the tilting of the drawer will not tend to move or bend the rod. With a single-piece tiltable drawer front, this is not feasible, and I therefore interpose means between the guide rod 19 and the rod knob 20 for preventing the tilting and untilting of the drawer from appreciably affecting the position of the guide rod. For this purpose, Fig. 5 shows the knob 20 as having a threaded portion 21 whereby it is detachably threaded into a plate 22 secured to the drawer front, and as having a stem 23 extending inwardly beyond the threaded portion 21 and equipped at its free end with a knob 24 presenting a convexed end adjacent to that of a corresponding knob 25 on the forward end of the guide rod 19. Then I connect these two knobs by a sleeve 26 substantially housing the same and having its ends contracted to overhang the oppositely directed portions of the two knobs. Thus arranged, it will be seen from the dotted lines in Fig. 5 that my arrangement affords substantially a ball-and-socket type of swiveling connection between the knob and the rod proper, thereby permitting the stem portion which carries the knob to be tilted at a considerable angle while following the tilting of the drawer front without appreciably affecting the position of the guide rod. Furthermore, I preferably dis-

pose this guide rod approximately in alinement with the pivot of the hinges 4 which connect the front to the drawer proper, as shown in Fig. 1, thereby reducing the effect on the guide rod to a minimum while readily permitting the latter to be removed at any time by unscrewing the knob in the usual manner.

To prevent the lower portion of the tilted drawer front from striking either the extension slide or the portion of the cabinet front which is normally below the drawer front in case the front is not returned to its normal vertical position before the drawer is closed, I provide a pair of steps 27 respectively secured to the opposite sides 28 of the extension slide or drawer-support after the manner shown in Fig. 4 and each disposed in horizontal alinement with one of the oscillating bars 14, and I make each of these oscillating bars of such a length that its rear end will project through the back 29 of the drawer when the oscillating bar is moved downwardly and rearwardly when the drawer front is tilted. Then if the user attempts to close the drawer without first untilting its front, the projecting rear end of each oscillating bar 14 will engage the adjacent stop 27 before the lower portion of the drawer front can engage either the extension slide or the adjacent portion of the cabinet. Consequently, if the drawer is slid back slowly or gently, these stops will halt the drawer substantially in the position of Fig. 2, thereby compelling the user to untilt the front before he can entirely close the drawer. Since the handle 6 is disposed considerably above the hinges 4 which connect the front to the base of the drawer, the thrust on this handle will also tend to untilt the front, so that in practice both this thrust and the momentum of the moving drawer will automatically cause the front to tilt back to its normal position as soon as the stops 27 engage the rear ends of the oscillating bars 14. In practice, this stop provision therefore acts as an automatic arrangement for tilting the drawer front back to its normal position so as to keep the bottom of the drawer front from impinging against either the extension slide or the cabinet.

However, while I have illustrated and described my invention in a form embodying various highly desirable features of construction and arrangement, I do not wish to be limited to the particular form thus disclosed nor to the use of all of the features as thus recited in combination with each other, since various additions, omissions, or other modifications might be made without departing either from the spirit of my invention or from the appended claims.

I claim as my invention:—

1. In a filing cabinet, a drawer having a tiltable front, jointed mechanism connected to the said front and including a member moved rearwardly of the drawer when the front is tilted out of its normal position, and means disposed for engaging the said member to prevent a closing of the drawer while the front is thus tilted.

2. In a filing cabinet, a drawer having a tiltable front, jointed mechanism connected to the said front and including a member moved rearwardly of the drawer when the front is tilted out of its normal position, and means disposed for engaging the said member to prevent a closing of the drawer while the front is thus tilted, the said means being arranged for effecting the returning of the tilted front to its normal position upon a continuing of the closing movement of the drawer.

3. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a tilting or untilting movement of the front to impart corresponding movement to the follower, and means associated with the said connections for preventing a closing of the drawer while the front is tilted out of its normal position.

4. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a movement of the front to or from a tilted position to impart corresponding movement to the follower, the said connections including a member moved rearwardly of the drawer when the front is tilted out of its normal position, and means disposed for engaging the said member for preventing a closing of the drawer while the front is thus tilted.

5. A drawer having a tiltable front, a tiltable follower, connections between the front and the follower to cause a movement of the front to or from a tilted position to impart corresponding movement to the follower, the said connections including a member moved rearwardly of the drawer when the front is tilted out of its normal position, and means disposed for engaging the said member for preventing a complete closing of the drawer while the front is thus tilted, the said means being arranged for effecting the returning of the tilted front to its normal position upon a continuing of the closing movement of the drawer.

6. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a movement of the front to or from a tilted position to impart corresponding movement to the follower, an extension slide supporting the drawer and moving in the same direction therewith when the drawer is opened or closed, and cooperating stop formations on the said connections and the extension slide for preventing a complete closing of the drawer while the front thereof is tilted

out of its normal position and for preventing the forward end of the slide from engaging the drawer front.

7. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a tilting or untilting movement of the front to impart corresponding movement to the follower, an extension slide supporting the drawer and moving in the same direction therewith when the drawer is opened or closed, and cooperating stop formations on the said connections and the extension slide for halting the drawer prior to a complete closing thereof if the front is still tilted and for causing a continued closure-tending thrust on the drawer to tilt the front back to its normal position and for preventing the forward end of the slide from engaging the drawer front.

8. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a tilting or untilting movement of the front to impart corresponding movement to the follower, the said connections including an oscillating member moved rearwardly through the back of the drawer when the front is tilted out of its normal position, and an extension slide supporting the drawer and moving in the same direction therewith when the drawer is opened and closed, the extension slide having a stop portion extending parallel to the back of the drawer behind the latter and disposed in the path of the said oscillating member and engageable by the latter to prevent a complete closing of the drawer while the front is tilted out of its normal position and to prevent the forward end of the slide from engaging the drawer front.

9. A drawer having a tiltable front, a tiltable follower, connections between the front and follower to cause a tilting or untilting movement of the front to impart corresponding movement to the follower, the said connections including a pair of members pivotally connected respectively on opposite sides of the drawer and both moved rearwardly of the drawer when the front is tilted out of its normal position, and an extension slide supporting the drawer and moving in the same direction therewith and having side portions disposed laterally of the drawer, the said side portions having a pair of stops disposed respectively in the path of the said members and adapted to engage the rear ends of the said members respectively to prevent a complete closing movement of the drawer while its front is tilted out of its normal position and to prevent the forward end of the slide from engaging the drawer front.

Signed at Green Bay, Wisconsin, February 20, 1922.

FREDERICK L. G. STRAUBEL.