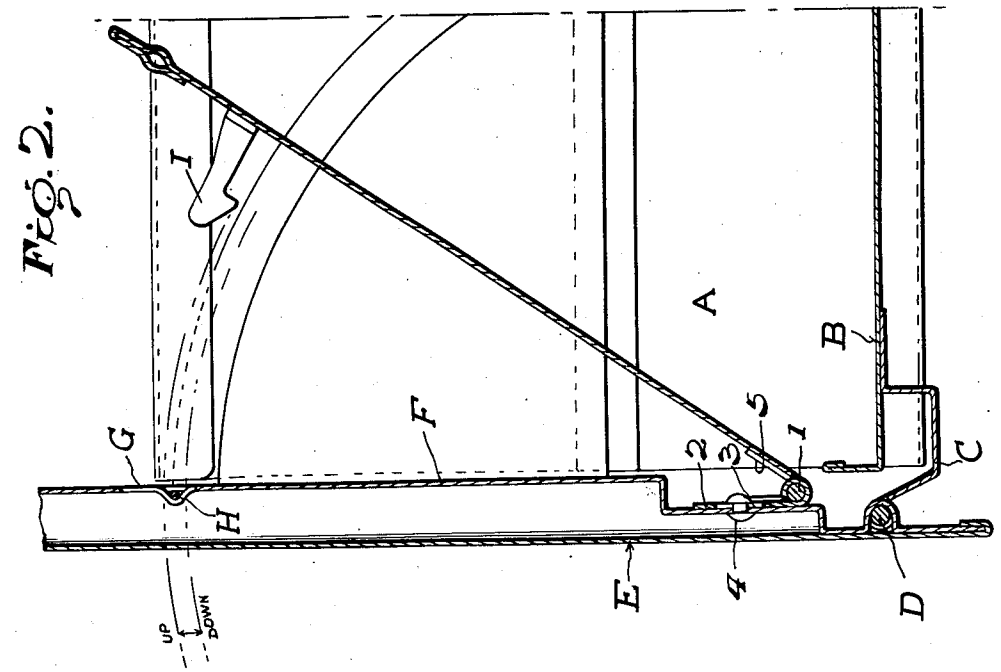
April 21, 1953 A. T. SWIMMER 2,635,609

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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Fig. 2.



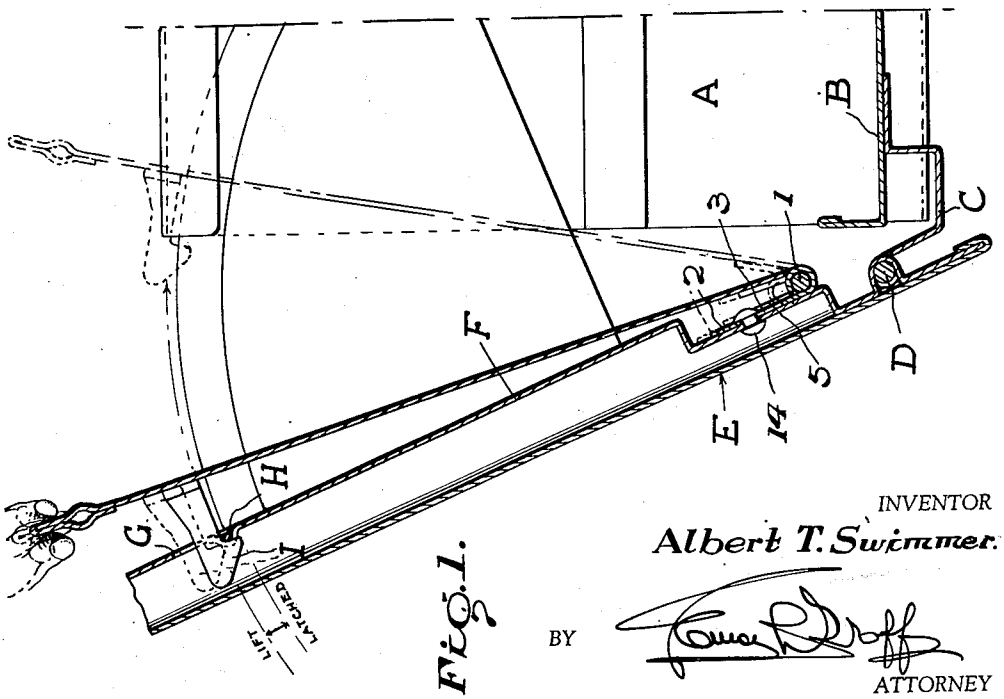


Fig. 1.

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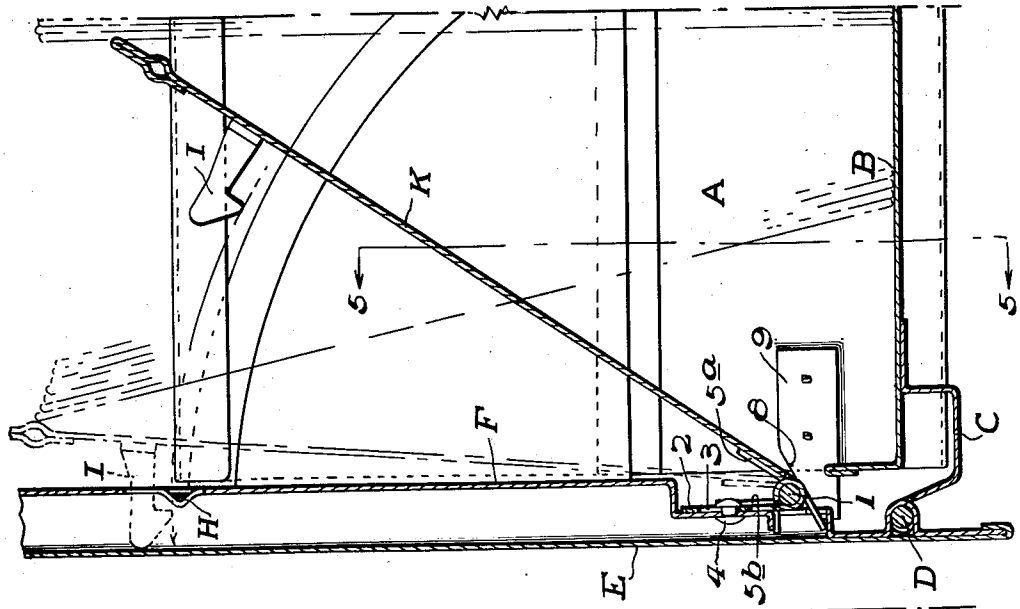
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FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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Fig. 4.



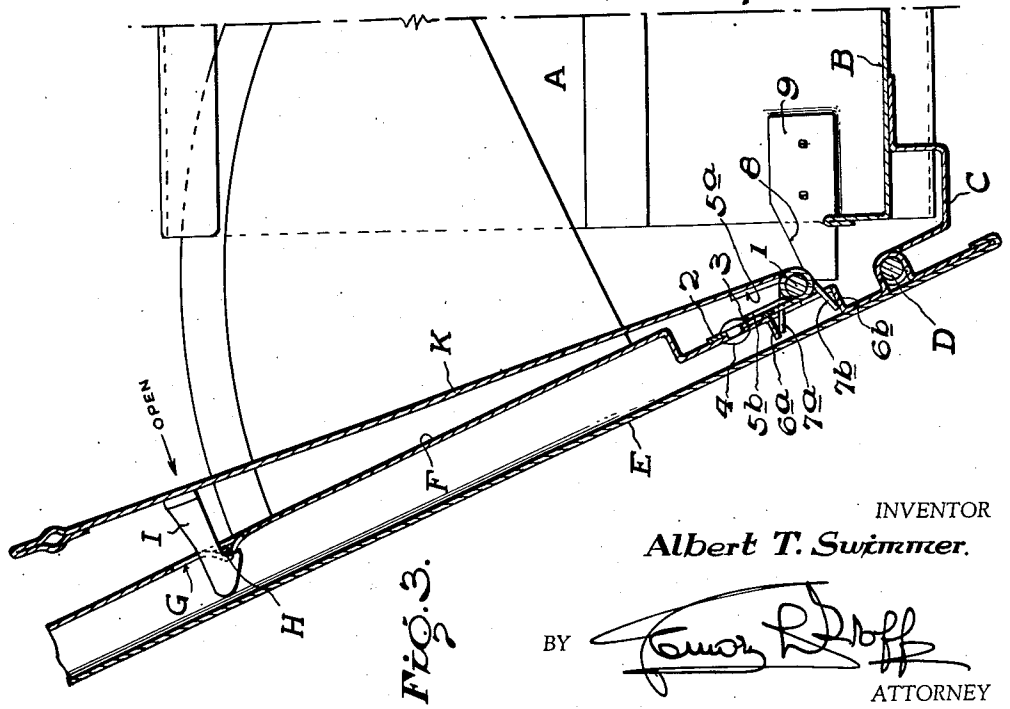


Fig. 3.

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FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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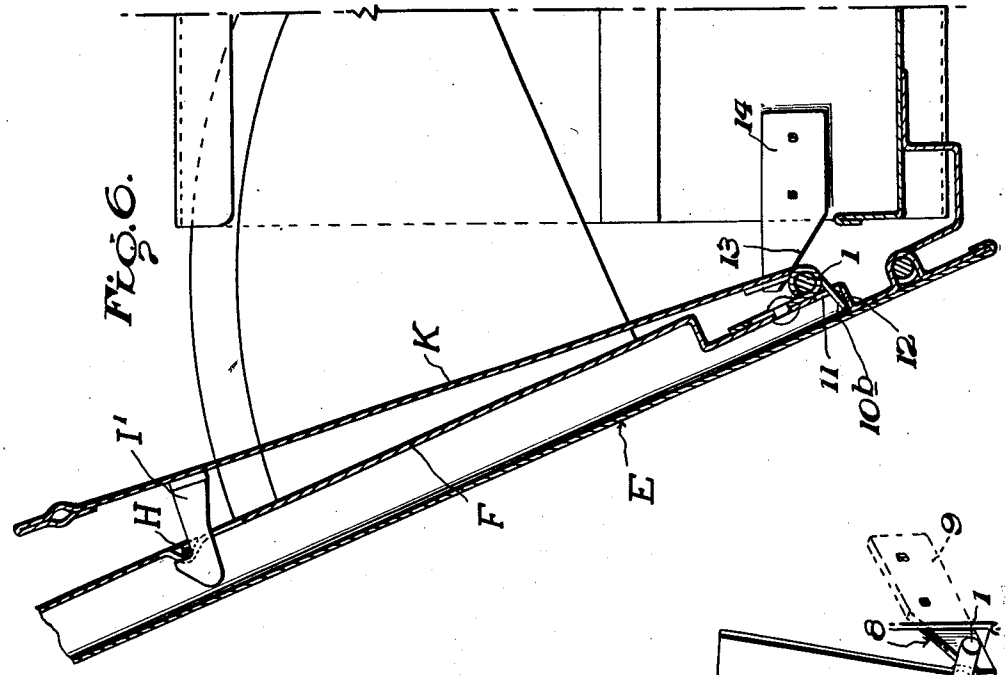


Fig. 6.

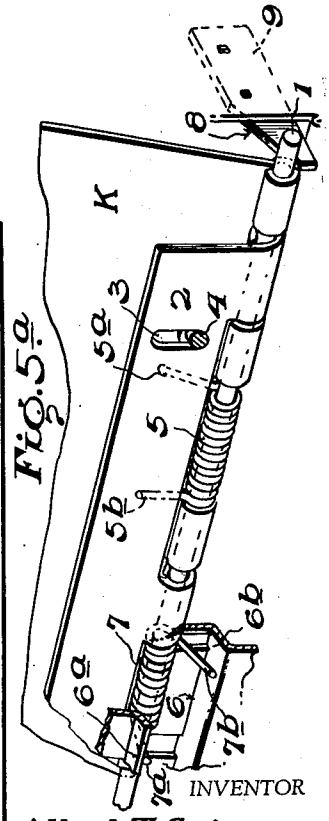


Fig. 5a.

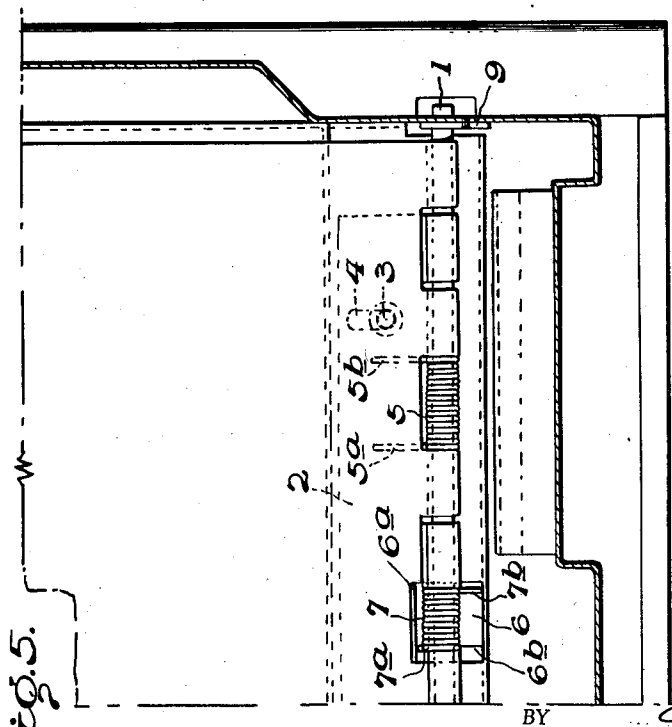


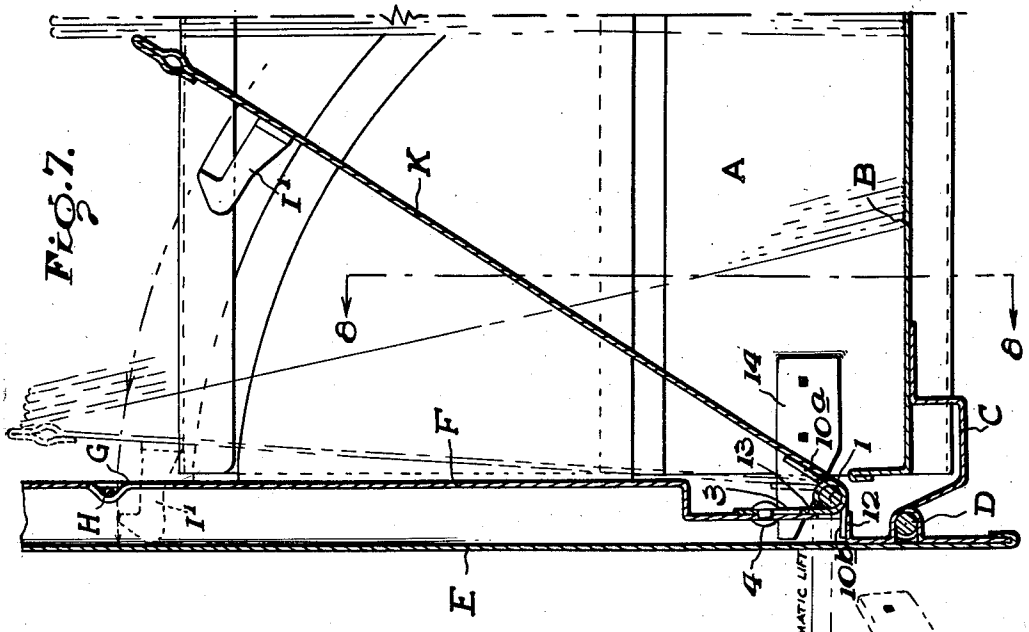
Fig. 5.

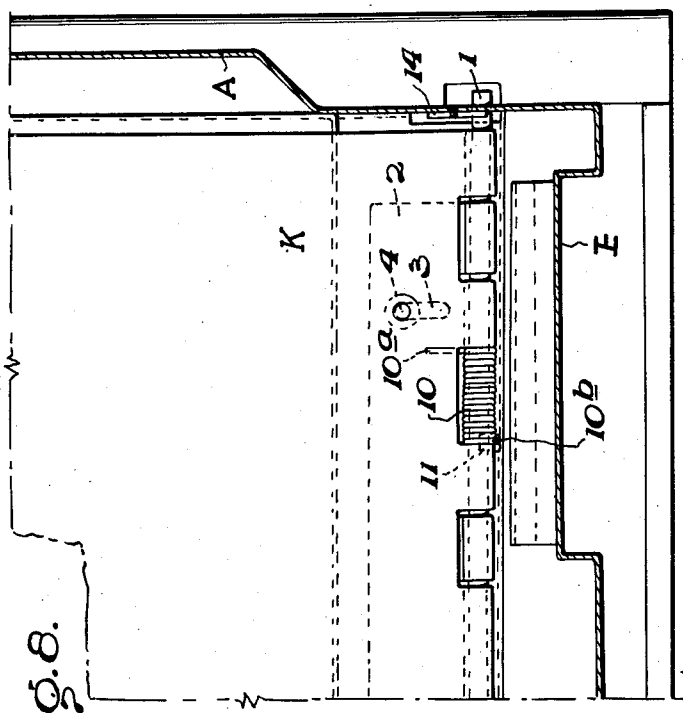
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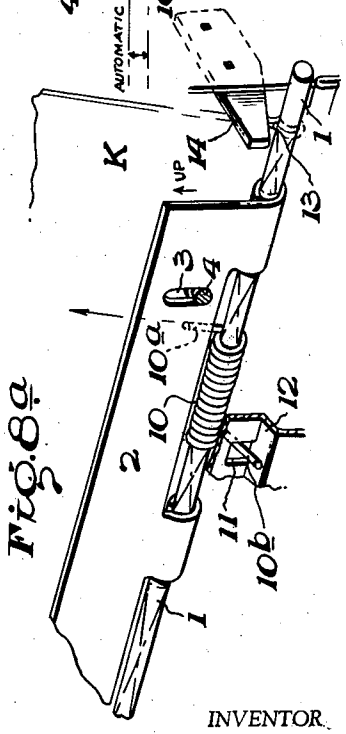
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FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

Filed March 12, 1951 4 Sheets-Sheet 4







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Patented Apr. 21, 1953 2,635,609

UNITED STATES PATENT OFFICE

2,635,609

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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Application March 12, 1951, Serial No. 215,172

4 Claims. (Cl. 129—26)

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This invention relates to front compressor leaf control means for tilting front drawers for filing cabinets and the like and more particularly is an improvement on the Straubel Patent No. 2,090,647 issued August 24, 1937.

The patent above set forth states the desirability of providing means for controlling the compressor plate adjacent a tilting front drawer head in a manner that, when the tilting front is open the compressor plate may be manually latched to the tilting front to free the drawer contents. Upon moving the tilting front to a vertical closed position, the latch means holding the compressor plate and tilting front interlocked becomes automatically disengaged or released so that the plate will be spring urged inwardly to compress the drawer contents adjacent the drawer head. In the patent the tilting front and compressor plate are mounted to turn on separate spaced relatively fixed axes and the automatic release of the latch and keeper elements on the plate and front is due to their different arcs of movement caused by the eccentricity of the fixed axes.

One of the objects of the present invention is to provide a new construction and arrangement for releasing or disengaging the plate from the tilting front either by hand or automatically. In that connection, a distinctive feature of all forms of the invention resides in making the front compressor plate vertically shiftable with respect to the tilting front and since the keeper and latch are respectively carried by said front and plate, the relative movement of these members will effect release of the latch means. That is to say, the invention contemplates slidably and shiftably mounting the front follower or compressor plate so that the same can be moved upwardly, according to some forms of the invention to effect release of the latch means, or moved downwardly in accordance with another form of the invention to accomplish the same unlatching result. This shifting of the plate to effect unlatching may be accomplished either manually before the tilting front is closed or automatically as the tilting front moves to closed position.

Another object is to provide a construction wherein the follower or compressor plate is spring urged to latching position when the tilting front is open and which spring means is controlled automatically when the tilting front is closed to effect latching. In the patent aforesaid, the front plate is spring biased to move inwardly toward the drawer contents and, according to the present invention, that feature is maintained,

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but according to some forms thereof the same spring which rotates the plate inwardly may also be utilized to shift the plate. In other forms separate springs may be employed to rotate and shift the plate.

A further object of the invention is to provide a simple and practical construction which lends itself to acceptable manufacturing practices, thereby not only facilitating manufacture, but at the same time assuring adequate and positive operation in use.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a vertical longitudinal sectional view of a tilting drawer front wherein the compressor plate may be shifted relative thereto by hand, the tilting front being shown in open position;

Figure 2 is a view similar to Figure 1 with the tilting front closed;

Figure 3 is a vertical sectional view of a tilting front in open position with the compressor plate latched to the tilting front;

Figure 4 is a view similar to Figure 1 showing the tilting front closed and the plate released from the front automatically by the mere act of closing the front;

Figure 5 is a detail sectional view taken on the line 5—5 of Figure 4;

Figure 5*a* is a detail perspective view of the sliding leaf and the compressor plate in unlatched position as shown in Figures 4 and 5 and better illustrating the use of separate springs to urge the plate inwardly and also lowering the same, except that it will be understood that the plate is unlatched due to riding up on its cam;

Figure 6 is a detail vertical sectional view taken longitudinally of the drawer illustrating a modification of the invention wherein the latch element on the plate and the cam means on the drawer are reversed to that shown in Figures 3 and 4;

Figure 7 is a view similar to Figure 6 with the tilting front closed;

Figure 8 is a detail sectional view taken on the line 8—8 of Figure 7;

Figure 8*a* is a detail perspective view of the sliding leaf which carries the plate, and better

illustrating how a single spring may be used to perform the dual function of urging the plate inwardly and also lifting the same.

For the sake of simplification, similar reference characters designate corresponding parts throughout the several figures of the drawings, and where the parts are different in the several modifications, different characters will be used.

As previously indicated, one of the distinctive features of the invention is to provide a front compressor plate which is slidably or shiftably mounted on the inner face of the tilting front, thereby to have relative movement initiated manually or automatically with respect to the tilting front to effect disengagement of the latch means when the tilting front is closed.

By reference to Figures 1 and 2 of the drawings wherein the shifting is wholly manual, it will be noted that the drawer A has its bottom wall B provided with a bracket C carrying a hinge pintle D for rockably or tiltably supporting the drawer front or drawer head E. The tilting front E is provided with an inner wall F provided with a slot G having a keeper element H in the form of a wire crossing the slot and adapted to cooperate with a latch element I having a down turned hook portion for engagement with the keeper element H. The latch element I is carried by the front compressor plate K whose lower end is formed to receive an elongated hinge pin 1, the said hinge pin being carried by a sliding leaf 2 having a slot 3 which slidably receives a stud 4 on the inside wall F of the tilting front. The leaf 2 is preferably horizontally elongated but does not extend entirely across the inner face F of the tilting front, and as many slots 3 and studs 4 may be provided as required in order to guide the movement of the compressor plate K in its movement relative to the tilting front. The compressor K is spring urged inwardly toward the drawer contents by one or more springs 5 which are coiled about the hinge pintle 1 and have opposite straight ends thereof bearing against the inner face of the leaf and the outer face of the plate K.

According to this form of the invention, the plate K is intended to be manually pulled upward as shown by dotted lines in Figure 1, in order to release the latch element I from the keeper element H just before the tilting front E is closed. When the plate K is unlatched and the tilting front is closed as in Figure 2, the spring 5 will still urge the plate K inwardly to compress the drawer contents. On the other hand, when the tilting front is fully opened the operator may then take hold of the top edge of the plate K and pull or slide it upwardly so as to place the latch I in a position to engage the keeper H when the plate K is moved toward the inner face F of the opened front.

Referring to Figures 3, 4 and 5, these figures show a modification of the invention where the only manual operation is to bring the compressor plate toward the tilting front when it is opened to effect latching of the plate to the front.

With the same reference letters for the parts which are common to these figures and Figures 1 and 2, it will be observed more specially from Figures 5 and 5a that the plate K is urged inwardly by spring 5, one end 5^a of which bears against the outer face of plate K while the other end 5^b bears against the inner face of leaf 2. Also, the inner wall F of the tilting front is provided with an opening 6 bounded at its top by a forwardly projecting flange 6^a and at its bottom by a shoulder 6^b formed in the wall for receiving the ends of a front plate control spring 7, as will presently appear. This spring, separate from 5, is intended normally to urge the plate K in a downward position to maintain the down-turned portion of latch I engaged with the keeper H so that when the tilting front is open, as in Figure 3, the operator may cause the latching means to engage simply by moving the compressor plate toward the tilting front. As will be seen from the figures referred to, the spring 7 is coiled about the hinge pintle 1 and due to the upper end or leg 7^a which engages the flange 6^a and the lower end or leg 7^b which engages the flange 6^b at the bottom of the opening 6 being of equal strength they will keep the center line of pintle 1 at a neutral position between 6^a and 6^b which at the same time is the lowest position of leaf 2 allowed by stud 4 thus tending to lower the plate K relative to the inclined surface 8 of cam 9 and the tilting front to maintain the latch means in engagement when the tilting front is open.

When it is desired to close the tilting front, the drawer is moved inwardly and the hinge pintle 1 will engage the upwardly inclined surface 8 of a cam 9 on a side wall of the drawer and lift the plate K as shown in Figure 4 against the force of the spring 7 to effect automatically the disengagement of H and I. Thereupon, spring 5 throws the plate K inwardly to the full line position shown. It will, of course, be understood, that a cam 9 is provided at each side of the drawer on the inner faces of the drawer wall and that said cams engage the pintle to effect its sliding movement together with the leaf 2 in order to automatically lift the compressor plate K to unlatching position.

In Figures 6, 7 and 8, the latch I' of the compressor means has its hook portion turned upwardly to engage the keeper wire H from below for the reason that in this form the shiftable or slidable compressor plate K is normally spring urged upwardly and the inclined surface of the cam means is reversed with respect to the form shown in Figures 3, 4 and 5.

Referring to Figures 6, 7, 8 and 8a, it will be seen that the pintle 1 of the plate K which is slidably mounted by leaf 2 on the inner face F of the tilting front, as in the other forms of the invention, is provided with a single spring 10 coiled thereabout and having its opposite ends so arranged as to permit the dual function of rotating the plate K inwardly and also raising or elevating the plate K, thus doing away with a separate spring for effecting automatic sliding movement of the plate K relative to the tilting front. That is to say, the spring 10 has its end 10^a bearing on the inner face of plate K to rock it forward and its end 10^b passing through opening 11 of the inner wall F of the tilting front E to rest on the shoulder 12 of the said wall F thereby tending to lift or elevate the plate K. As will be seen from Figures 6, 7, 8 and 8a, the ends of the pintle 1 are intended to engage with the downwardly inclined face 13 of a cam 14, one of which is preferably arranged on each side of the drawer.

According to the construction shown in Figures 6, 7 and 8, and referring first to Figure 6, it will be seen that when the tilting front E is open and the pintle 1 is at the top of face 13 of cam 14 the compressor plate K is automatically elevated by the end 10^b of spring 10 so as to be in position to enable the latch I' to engage the keeper element H when the tilting front is

open. When it is desired to close the tilting front as shown in Figure 7, the hinge pintle 1 will engage the downwardly inclined surfaces 13 of the cams 14 and lower the compressor plate K to automatically disengage the latch I' from the keeper H and permit it to snap to drawer contents engaging position due to force exerted by end 10a of spring 10.

From the foregoing, it will be seen that the present invention primarily includes a front follower or compressor plate unit including the plate K slidably or shiftably carried by the leaf 2 guided on the inner face of the tilting front F. In its broadest aspect the compressor plate K may be shifted manually up or down to push the latch means into engagement or disengagement. According to other forms of the invention, the compressor plate is spring urged either up or down and cooperates with appropriate cam means for moving the plate automatically in a direction to effect automatic disengagement of the latch means.

I claim:

1. In a filing drawer having a bottom member and a front wall, said front wall being hinged to said member about a horizontal axis, a bracket mounted on the wall, means for slidably moving said bracket substantially parallel to the wall between two points in a plane perpendicular to said axis, a compressor plate hinged to said bracket about an axis parallel to the first mentioned axis, resilient means urging said compressor plate to revolve about its hinge axis in a direction away from the wall, and cooperative latch means between said plate and wall, said latch means being engageable when said bracket is in one position and disengageable when it is in another position relative to said points.

2. In a filing drawer having a bottom member and a front wall, said front wall being hinged to said member about a horizontal axis, a bracket mounted on the wall above the said axis, means for slidably moving said bracket substantially parallel to the wall between two points in a plane perpendicular to said axis, resilient means urging said bracket toward one of said points, a compressor plate hinged to said bracket about an axis parallel to the first mentioned axis, resilient means urging said compressor plate to revolve about its hinge axis in a direction away from the wall, and cooperative latch means between said plate and wall, said latch means being engageable when said bracket is in one position and disengageable when it is in another position relative to said points.

3. In a filing drawer as defined by claim 2, means for moving the bracket against the action of the first mentioned resilient means when the front wall is revolved about its hinge axis.

4. In a filing drawer as defined by claim 2, a cam connected to the bottom member for engaging said bracket and moving it against the action of the first mentioned resilient means when the front wall is revolved about its hinge axis.

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