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Friend

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[54] **FILING CABINET**

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[52] **U.S. Cl.** **312/221**

[51] **Int. Cl.** **E05c 7/06**

[58] **Field of Search** 312/216, 218, 220–222

[56] **References Cited**

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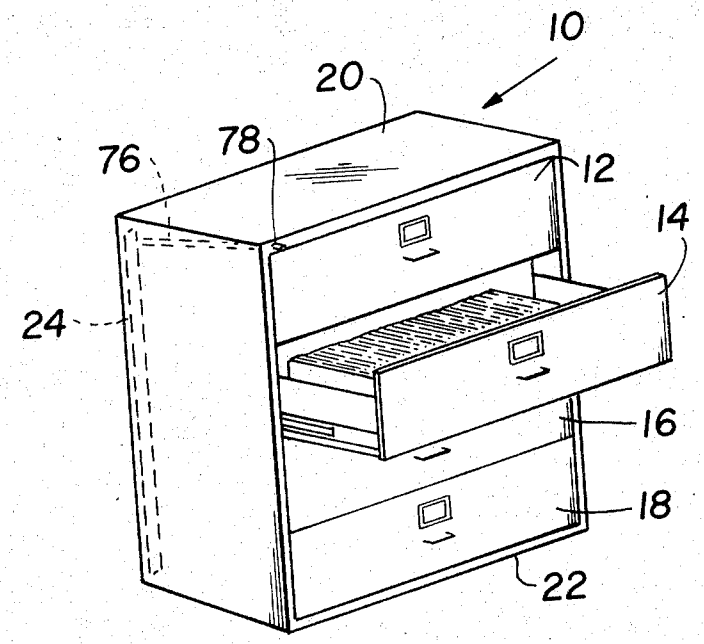
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Primary Examiner—James C. Mitchell

[57] **ABSTRACT**

A multi-drawer file cabinet of the type vulnerable to pitching or tipping forward if subjected to the weight shift occasioned by the opening of more than one drawer at a time, in which the opening of the drawers is regulated to one at a time by a pivotal lever, the pivotal traverse of which is produced initially by the opening movement of the drawer and thereafter by spring urgency. The control is thus not significantly dependent on spring urgency which is vulnerable to malfunction over prolonged periods of use.

1 Claim, 3 Drawing Figures



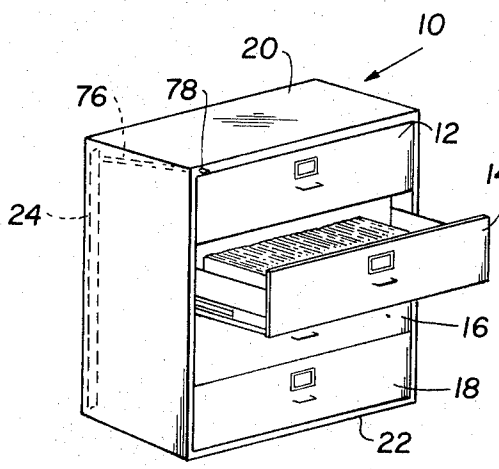


FIG. 1

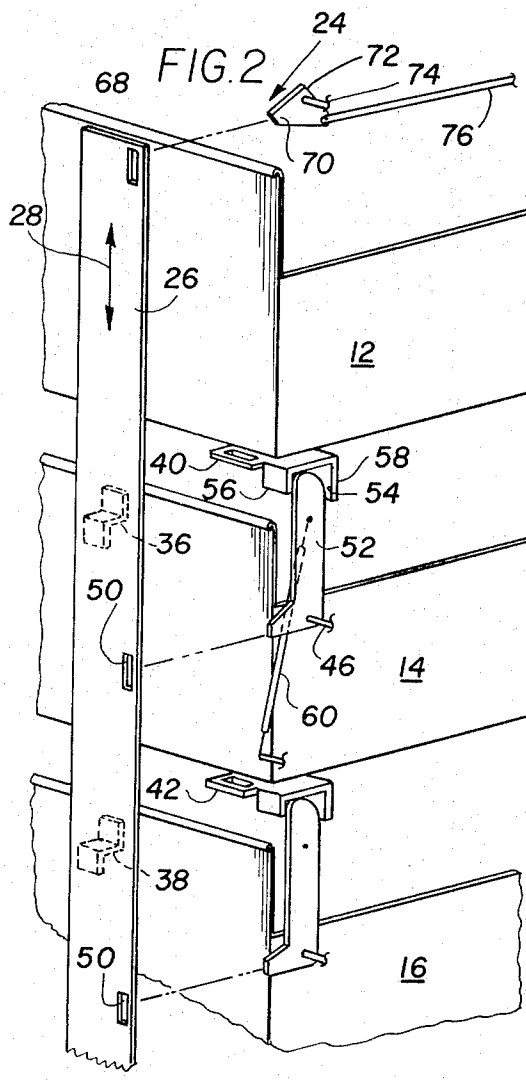


FIG. 2

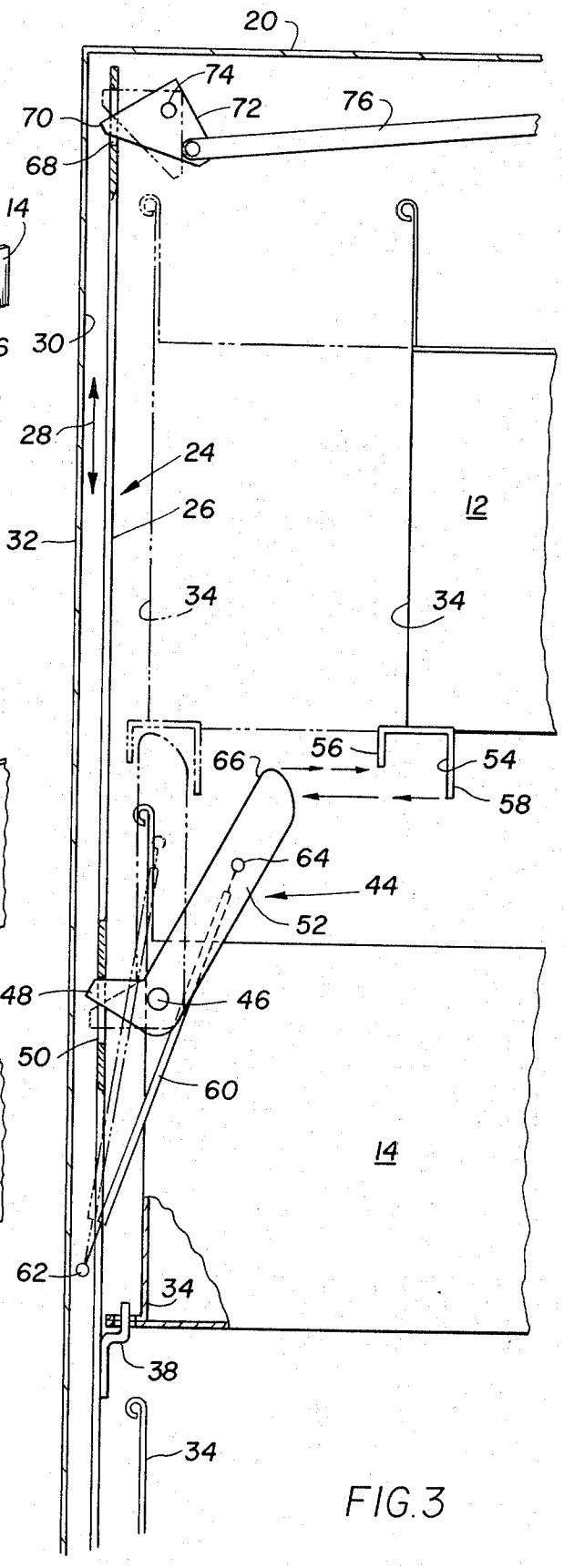


FIG. 3

FILING CABINET

The present invention relates generally to filing cabinets, and more particularly to an improved drawer-movement control for limiting the opening of only one drawer at a time, and thereby minimizing tipping of the cabinet.

If the cabinet shape is one in which its width greatly exceeds its depth, the weight shift forward which is occasioned by the opening of a drawer requires some control over drawer movement. With such cabinets, there is usually provided a device which, after any one drawer is opened, is effective in locking all the remaining closed drawers in place. These known drawer-movement controls usually employ a compressed spring to urge a member into locking relation with the closed drawers, such spring being released to achieve its function incident to the opening of any one drawer. While such a control is somewhat effective, the spring which it employs is vulnerable to failure or other malfunction because it is always under compression, and thus such control for this and other reasons is not totally satisfactory.

Advantageous use can be made of the opening movement of the drawer to urge a drawer-locking member into locking relation with the closed drawers, but heretofore this could only be effectively achieved with a physical connection of such member to each of the drawers. This, however, is objectionable as being unduely complicated and as constituting a possible source of interference or restriction with drawer movement.

Broadly, it is an object of the present invention to provide an improved drawer-movement control for a multi-drawer filing cabinet overcoming the foregoing and other shortcomings of the prior art. Specifically, it is an object to utilize the opening of any selected drawer to actuate the control, but without any physical interconnection of said control to any of the drawers.

A drawer-opening limit control for a filing cabinet which demonstrates objects and advantages of the present invention includes, as part of its drawer-locking mechanism, a pivoting lever which achieves its required locking function incident to a pivotal traverse. The initial portion of such traverse is produced by opening drawer movement when the lever is pushed by a depending lip or wall on the drawer. At this time, a spring is also loaded and when urged past a dead-center point in the lever pivotal traverse, such spring is effective in urging the lever through the terminal portion of its traverse, such that the lever is moved clear of the drawer, i.e., clear of the depending wall on such drawer, so that the drawer can continue in unimpeded fashion to complete its opening movement.

The above brief description, as well as further objects, features and advantages of the present invention, will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment in accordance with the present invention, when taken in conjunction with the accompanying drawing, wherein:

FIG. **1** is a perspective view of a filing cabinet embodying the improved drawer-movement control means of the present invention;

FIG. **2** is a partial perspective view, on an enlarged scale, illustrating the functioning of said improved drawer-movement contol means; and

FIG. **3** is a side elevational view, partially in section, further illustrating the functioning of the drawer-movement control means hereof, and in which positions of movement of the various parts are illustrated in full line and phantom line perspective.

Reference is now made to the drawings, and in particular to FIG. **1**, wherein there is shown a filing cabinet, generally designated **10**, which is of the type requiring drawer-movement supervision or control and which includes the means according to the present invention, to achieve this objective.

Specifically, the shape of the cabinet **10**, being one in which the width greatly exceeds the depth, as illustrated, makes the cabinet **10** vulnerable to pitching forward if more than one drawer is opened at a time. Thus, there must be provided in conjunction with the superposed or vertical arrangement of file drawers **12, 14, 16** and **18**, a suitable means, preferrably contained internally of the housing **20**, which cooperates with the drawers so that if any one of these drawers is opened, the remaining closed drawers are locked in their closed position. That is, as illustrated in FIG. **1**, for example, once drawer **14** is moved into its open position with respect to the housing **20**, unless the other drawers are locked or held in their closed position, particularly upper drawer **12**, the opening of any such drawer, such as upper drawer **12**, would undoubtedly result in the entire cabinet **10** pitching forward about its forward bottom edge **22** under the influence of the tipping moment induced by the shifting of the weight of the open drawers to a position forward of the bottom edge **22**. Naturally, the forward pitching or falling of cabinet **10** could cause serious injury or damage to anyone or anything in the vicinity.

In accordance with the present invention, an improved drawer-movement control means, generally designated **24**, is embodied internally within the cabinet housing **20**, in a corner thereof as illustrated in FIG. **1**, or possibly in the center of a very wide file cabinet. The construction of the control **24** is better illustrated in FIGS. **2** and **3**, to which figures reference is now made. Control **24** includes a vertically oriented drawer-locking member **26** which may be a bar or a U-shaped channel and which is arranged in any appropriate manner for vertical movement in opposite directions **28** along an elongated clearance space or compartment **30** which is defined between the cabinet rear wall **32** and the rear walls **34** of each of the drawers, when said drawers are in their rearwardly disposed or closed positions. As may best be appreciated by comparison of FIGS. **2** and **3**, the normal or starting position for the member **26** is one which locates latching hooks, such as the hooks **36** and **38** shown in FIG. **2**, in a clearance position from and thus in unconnected relation to cooperating laterally extending latching notches, such as the notches **40** and **42**, on the drawers. In this starting or unconnected condition of the member **26**, it is of course readily possible to move any closed drawer from within the cabinet **20** into its open position relative thereto, since such opening drawer movement is not prevented by the member **26**.

However, lifting movement of the member **26** contemplates the movement of the hooks **36, 38** into their cooperating notches **40, 42**, and thus the latched engagement of the member **26** with any of the file drawers which are still in their closed positions, all as is clearly illustrated in FIG. **3**. Once such latching occurs, of

course, the latched or engaged drawers are held in their closed position.

Cooperating with the drawer-locking member **26** are pivotally mounted levers, generally designated **44,** which are preferably provided in a number which equals the number of drawers comprising the cabinet **10.** It would be possible in a three or more drawer file, however, to dispense with a lever **44** for the bottom drawer **18,** since the movement of this drawer does not contribute materially to instability or tipping of the cabinet **10.**

For simplicity's sake, only one lever **44** is illustrated in FIG. **3.** Said illustrated lever **44** is generally of an L-shape and will be understood to be pivoted at the juncture of its legs, as at **46,** on a side wall of the cabinet **20.** Lever **44,** in its proper operative position, has one leg **48** extending laterally or horizontally in intersecting relation to the vertical path **28** of the member **26.** Specifically, leg **48** extends through a cooperating notch **50** of member **26.** The upper free end of the other leg **52** of lever **44** is projected within a compartment **54** bounded between two walls **56** and **58** depending from the bottom of the drawer which cooperates with the lever **44,** in the illustrated instance the same being drawer **12.** Holding the lever **44** in its two significant positions of pivotal movement is a conventional helically wound or tension spring **60** connected at one end, as at **62,** to an interior wall of the housing **20** and at its other end, as at **64,** to the lever **44** at a point on the remote side of the pivot **46.** Thus lever **44** is under the urgency of the spring **60** in the starting position of lever **44,** as illustrated in phantom perspective in FIG. **3,** and also in its pivoted position, as illustrated in full line in FIG. **3.**

Still referring to FIG. **3,** it has already been noted that in the starting position of lever **44,** as illustrated in phantom perspective, the upper or free end of lever **44** is projected within compartment **54.** Thus, movement of drawer **12** from its closed to its open position relative to the housing **20** results in depending wall **56** engaging the lever vertical leg **52** and thus in the pivotal movement of such leg about the pivot **46.** This movement occurs, of course, for the interval during which there is engagement of the depending wall **56** with the upper portion or face **66** of lever **44.** It will be understood that such engagement between the wall **56** and face **66** exists at least until spring **60** partakes of a pivotal traverse from its starting position, as illustrated in phantom perspective, to a position where it is located directly on an imaginary line from point **62** through the pivot **46.** Once spring **60** travels beyond this line through the pivot **46,** or past a so-called dead center point of the pivotal traverse of the lever **46,** the spring **60** which has been elongated during this pivotal traverse then exerts a force or urgency on the lever **44** which results in continued clockwise rotation of the lever **44** about the pivot **46.** This terminal portion of the pivotal traverse caused by spring **60** is significant because it clears lever **44** from the path of the withdrawing lip or wall **56** and thus assures that the opening movement of the drawer **12** will not be impeded.

As a result of the total clockwise pivotal traverse of the lever **44,** due as just noted in part to the engagement of the laterally moving depending wall **56** with the lever face **66** and also to the urgency of the spring **60,** the other lever leg **48** is urged through corresponding pivotal movement. Thus, leg **48** which extends through the notch **50** is urged into engagement with the upper wall which bounds the notch **50** and, following such engagement, results in lifting movement **28** in the member **26.** As already noted, lifting movement **28** in the member **26** results in the latching hooks **36, 38** projecting through the latching notches **40, 24** and thus the holding closed by the member **26** of any of the drawers which are still in their closed position. In this manner, only one drawer at a time is permitted to be opened by the drawer-locking member **26** thereof.

To reset member **26** in its starting or unconnected condition, it is necessary only to move the open drawer back into its closed position. The movement of such drawer, assuming it to be illustrated drawer **12** of FIG. **3,** results in depending wall **58** engaging the upper end of lever **44** and causing the counterclockwise pivotal traverse of the lever. This, in turn, results in corresponding pivotal movement in the other lever leg **48** and thus in descending movement in member **36** which results in disengagement or unlatching of the cooperating hooks and notches. Following this unlatching, any drawer can thereafter be opened, and the opening thereof will result in the remaining closed drawers being held closed until the opened drawer is returned to its closed position.

Member **26** is also advantageously used as a security drawer locking device, and thus independently of the drawer-movement control or supervision function just described. As a drawer locking device for security purposes, member **26** includes an upper notch **68** which accommodates therethrough a projecting portion **70** of an operative member **72** pivotally mounted to a cabinet side wall, as at **74.** The opposite end of member **72** is connected to an actuating rod **76** which, at its other end, is connected to a conventional lock **78** (see FIG. **1**) of the type having a push-in and pull-out movement. Thus, when lock **78** is pushed in, this results in clockwise pivotal movement in the member **72** about the pivot **74** and thus in member **26** being urged through lifting movement by portion **70** engaged with it. Naturally, as already explained, lifting movement in member **26** results in the file cabinet drawers which are in their closed position, in this instance being all of the drawers **12, 14, 16** and **18,** being held in said closed position and thus inaccessible except as to authorized personnel who can open the lock **78.** Upon the opening of the lock **78,** and thus an appropriate directional movement thereof which results in withdrawing movement in the rod **76,** member **72** will be urged through corresponding counterclockwise pivotal movement about the pivot **74,** thereby resulting in descending movement in the member **26.** This, in turn, will result in release of the drawers by the member **26.**

A latitude of modification, change and substitution is intended in the foregoing disclosure, and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

What is claimed is:

1. A filing cabinet including an outer housing, a superposed arrangement of at least two file drawers within said housing each having depending wall means thereon, each drawer being operatively arranged for lateral movement between closed and open positions relative to said housing, and drawer-movement control

means comprising a vertically oriented drawer-locking member disposed within said housing adjacent said drawers operatively arranged for veritcal movement from a normal position unconnected to any of said drawers into an elevated position in latched engagement with each drawer in said closed position, pivotally mounted levers within said housing, each said pivotally mounted lever being L-shaped and having a horizontal leg in intersecting lifting relation with said drawer-locking member and a vertical leg extending into adjacent position with a cooperating closed drawer so as to be contacted by said depending wall means thereon such that opening movement of any one said drawer results in said pivoting movement of said cooperating lever and the further movement of said drawer-locking member into latching engagement with said other closed drawers, and an elongated spring for each said pivoting lever operatively arranged to hold said lever in said pivoted positions of movement thereof, whereby only one drawer of said superposed arrangement can be opened at a time.

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