Sept. 17, 1968 J. E. EVANS ET AL 3,401,998

FILING CABINET SAFETY AND LOCKING DEVICE

Filed Dec. 7, 1966 3 Sheets-Sheet 1

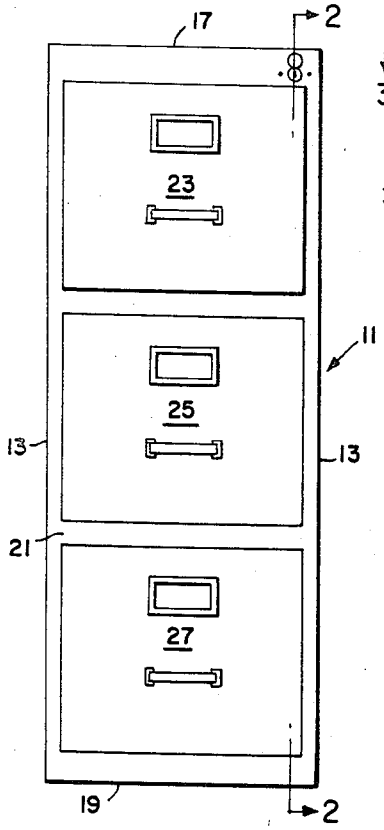


FIG. 1.

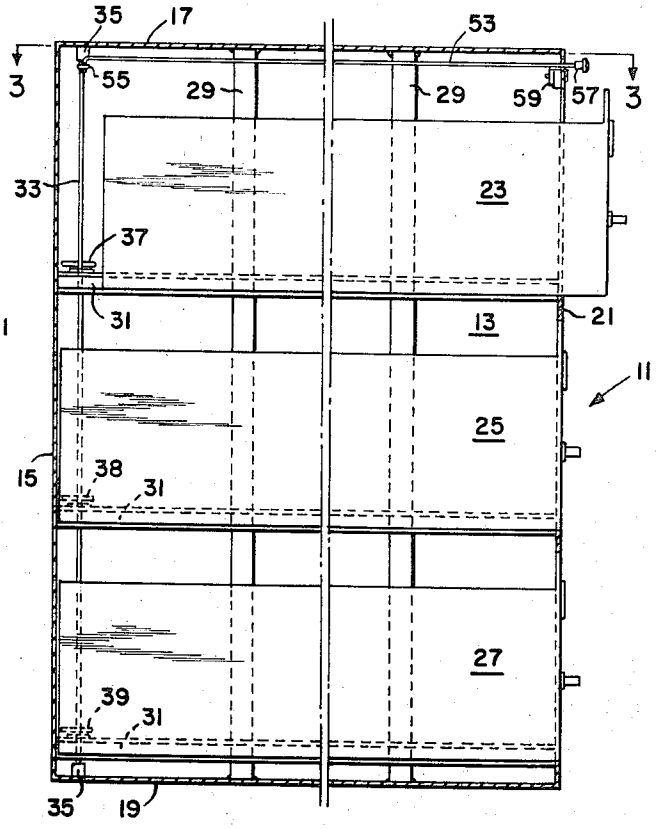


FIG. 2.

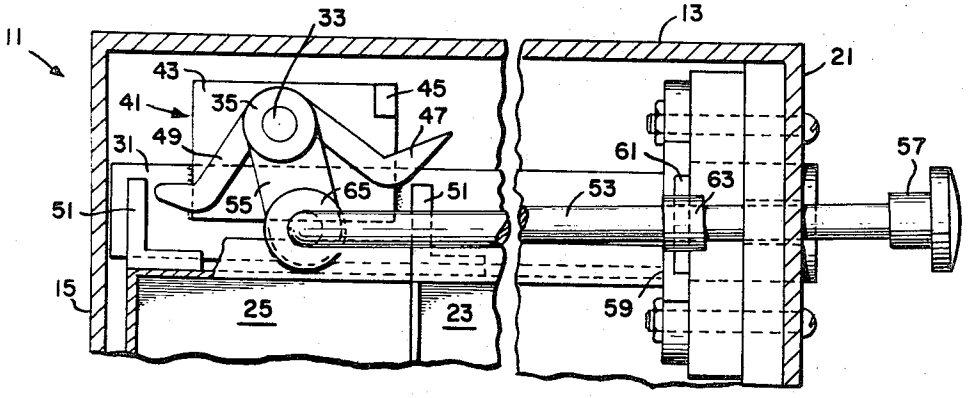


FIG. 3.

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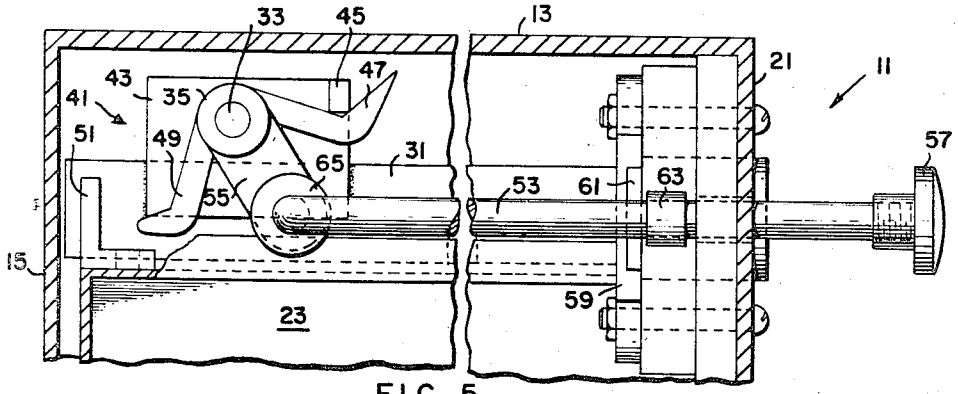


FIG. 5.

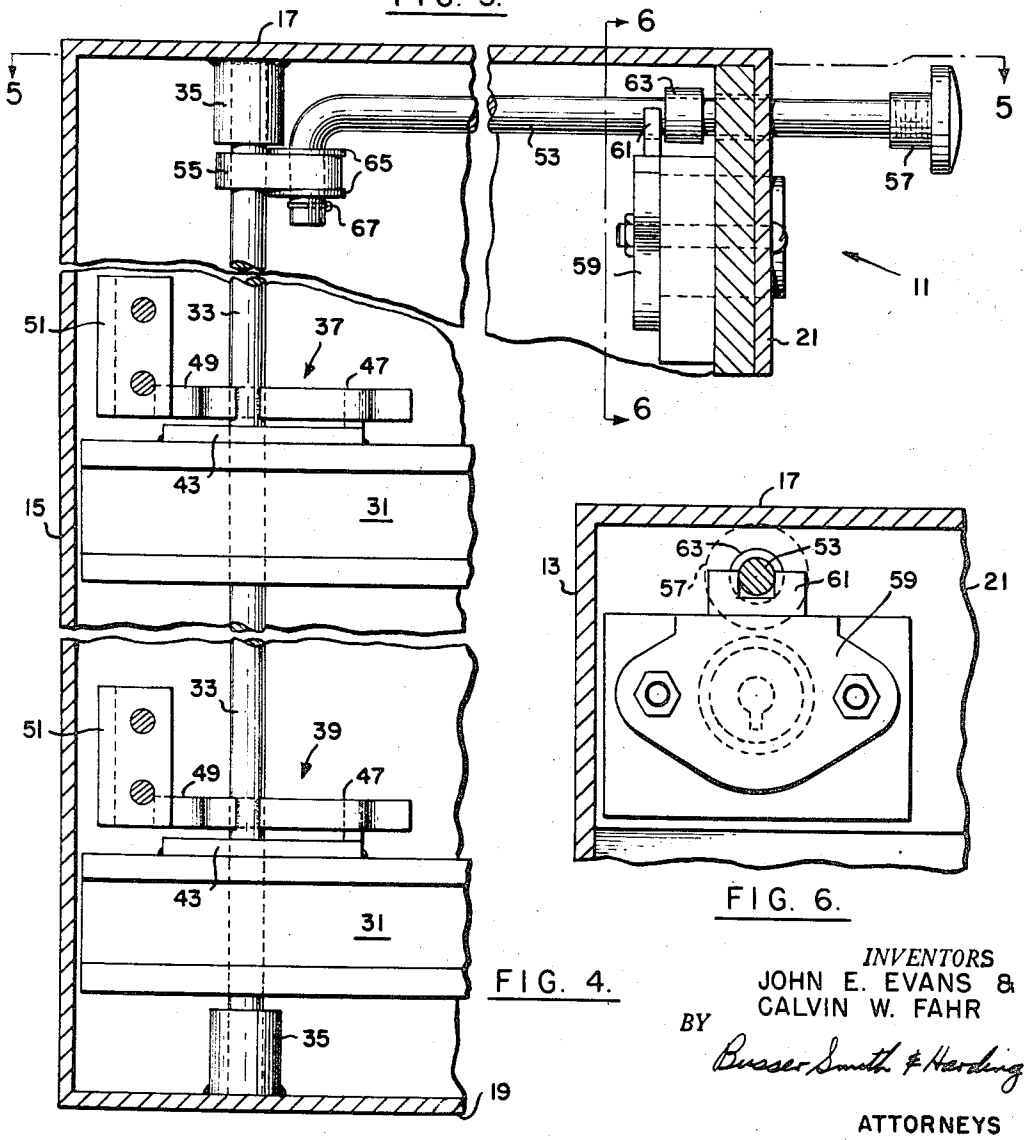


FIG. 4.

FIG. 6.

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FILING CABINET SAFETY AND LOCKING DEVICE

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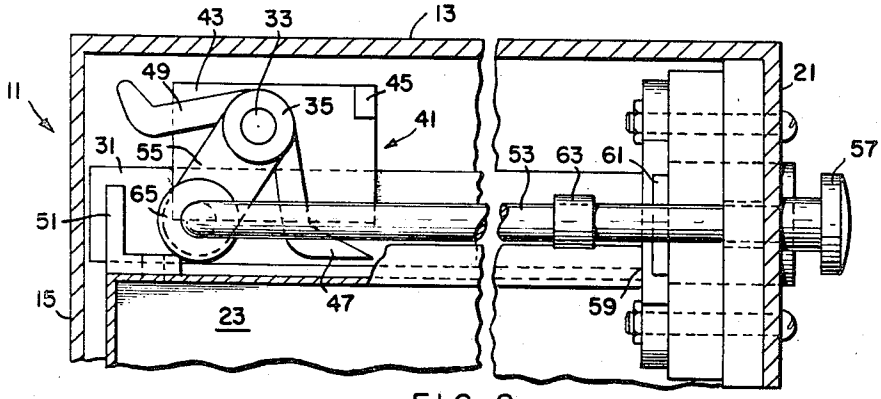


FIG. 8.

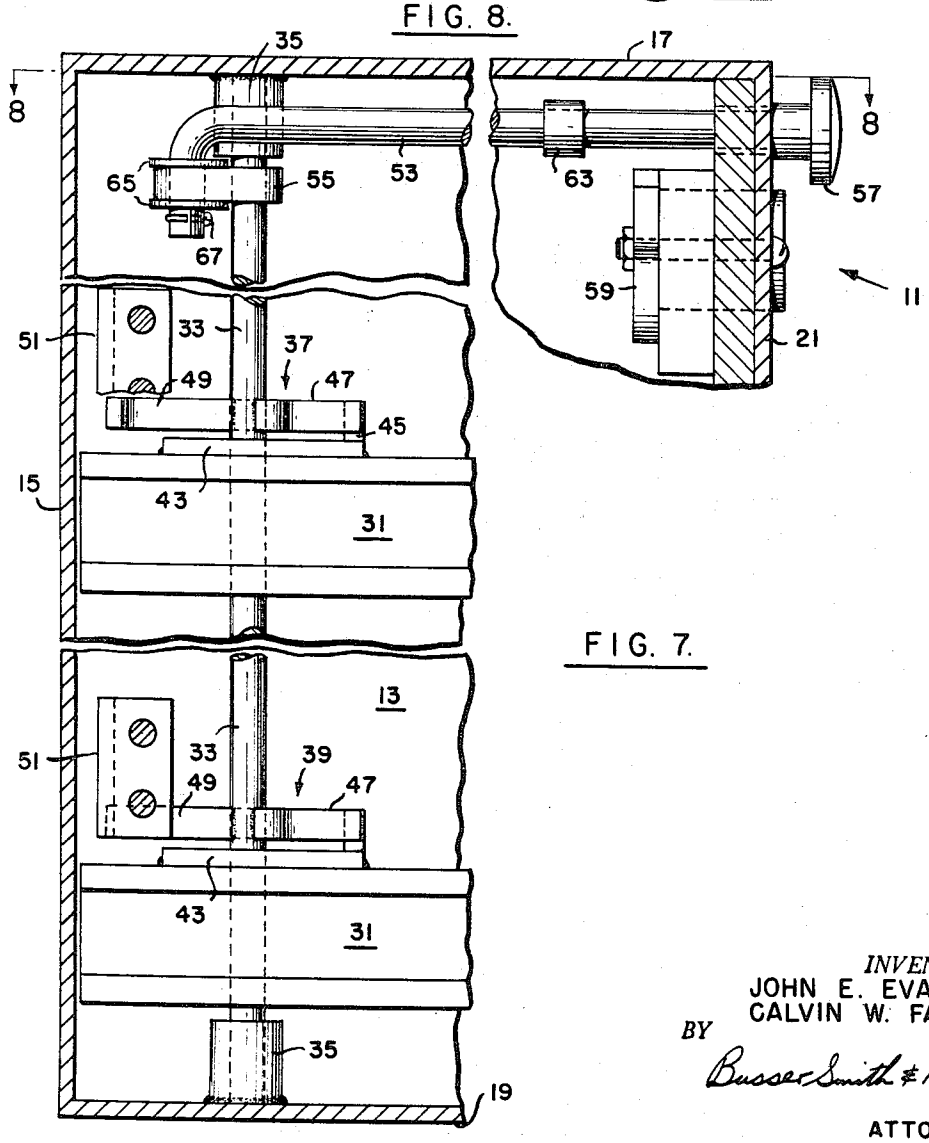


FIG. 7.

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FILING CABINET SAFETY AND LOCKING DEVICE

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Filed Dec. 7, 1966, Ser. No. 599,805
4 Claims. (Cl. 312—215)

ABSTRACT OF THE DISCLOSURE

A locking and safety device for file cabinets which prevents file cabinets from toppling over and injuring office personnel by providing that only one drawer may be opened at a time, comprising an operating rod adapted to be vertically mounted in a file cabinet, fork levers mounted on the operating rod with each fork lever being associated with a file cabinet drawer, said fork levers including a forward leg and a rear leg, the operating rod being rotatable to move the fork levers into a lock position and into an unlocked position, and an actuator member adapted to be mounted on each drawer so as to extend outwardly therefrom in order to contact the forward leg of its associated fork lever and rotate the fork lever into locked position when the drawer is being opened, and so as to contact the rear leg of its associated fork lever and to rotate the fork levers into unlocked position when the drawer is being closed. Also included is a reset and locking rod having a knob which is pulled outwardly to move the fork levers to lock position and is pushed inwardly to move the fork levers to unlocked position, a stop member for limiting the rotation of the fork levers, and the lock.

This invention relates to safety and locking devices, and more particularly concerns a safety and locking device for file cabinets which prevents file cabinets from toppling over and injuring office personnel.

When more than one drawer of a file cabinet is in open position, the file cabinet may become unstable and may tip over and injure someone.

It is an object of this invention to provide a safety and locking device which prevents such injuries by preventing a file cabinet from tilting.

It is another object to provide a safety and locking device which prevents more than one drawer of a file cabinet from being in open position at any one time.

It is another object, when one drawer is pulled to open position, to automatically provide that the remaining drawers are locked in closed position.

It is another object to automatically unlock the closed drawers upon closing the open drawer.

It is another object to provide a safety and locking device which may be positioned so as to lock all drawers in the file cabinet, and may be set to unlock all drawers.

Other objects and advantages of this invention, including its simplicity and economy, as well as the ease with which it may be adapted to existing equipment, will further become apparent hereinafter and in the drawings, in which:

FIG. 1 is a view in front elevation of a file cabinet having mounted therein a safety and locking device constructed in accordance with this invention;

FIG. 2 is a view in section taken as indicated by the lines and arrows 2—2 which appear in FIG. 1;

FIG. 3 is a view in section taken as indicated by the lines and arrows 3—3 which appear in FIG. 2;

FIG. 4 is a partial view in vertical section on an enlarged scale and shows the cabinet in locked condition with all drawers closed;

FIG. 5 is a view in section taken as indicated by the lines and arrows 5—5 which appear in FIG. 4;

FIG. 6 is a view in section taken as indicated by the lines and arrows 6—6 which appear in FIG. 4;

FIG. 7 is a view in vertical section on an enlarged scale similar to FIG. 4 but shows the safety and locking device in unlocked position; and

FIG. 8 is a view in section taken as indicated by the lines and arrows 8—8 which appear in FIG. 7.

Although specific terms are used in the following description for clarity, these terms are intended to refer only to the structure shown in the drawings and are not intended to define or limit the scope of the invention.

Turning now to the specific embodiment of the invention selected for illustration in the drawings, there is shown a file cabinet **11** having side walls **13**, a rear wall **15**, top wall **17**, bottom wall **19** and front wall **21** having holes therein which admit three drawers **23**, **25**, and **27**.

Side walls **13** are reinforced by vertical support members **29**, and the drawers are provided with roller mechanisms that ride in tracks **31** so that the drawers may be easily opened and closed.

The locking and safety device includes means for locking the drawers of cabinet **11** in closed position, and means for actuating the locking means in response to the opening of one drawer to lock the other drawers in closed position and in response to the closing of the drawer to unlock the drawers. This actuating means operates automatically to lock and unlock the locking means in response to the opening and closing of the drawer.

The locking means includes an operating rod **33** which is adapted to be vertically mounted in a file cabinet such as cabinet **11**. Rod **33** is rotatively mounted in bushings **35** which may be welded or otherwise secured to top wall **17** and bottom wall **19** of the cabinet.

Fork levers **37** to **39** are mounted on operating rod **33** and are connected together thereby. Fork lever **37** is associated with drawer **23**, lever **38** is associated with drawer **25**, and lever **39** is associated with drawer **27**. Operating rod **33** is rotatable to move the fork levers **37** to **39** into a lock position as shown in FIGS. 3 and 5, and an unlock position as shown in FIG. 8. FIG. 3 shows the automatic lock position which the mechanism assumes when actuated in response to the opening of one of the drawers, and FIG. 5 shows the fully locked position which the mechanism assumes when the control mechanism is operated to lock all the drawers of the cabinet.

A guide and fork lever stop member **41** is welded to tracks **31** and includes a plate **43** having a hole therein which receives and guides operating rod **33**, and a stop lug **45** mounted on the plate and extending upwardly therefrom. Lug **45** is in the path of rotation of forward leg **47** of the fork levers and limits its travel. Rear leg **49** of the fork levers may be rotated to position that locks the drawers against being opened as is hereinafter described.

The actuating means includes an actuating member **51** which is an angle made of metal and adapted to be mounted as by welding on the side of each drawer so as to extend outwardly therefrom in order to contact and move its associated fork lever into locked position when the drawer is being opened and to contact and move the fork lever into unlocked position when the drawer is being closed.

Control means are provided for moving the locking means to a cabinet-locked position with all drawers closed so that the cabinet may be locked with a key. The control means also provides for releasing the locking means from the cabinet-locked condition.

The control means includes a reset and locking rod **53**, and a pivot arm **55** which connects rod **53** to oper-

ating rod **33** of the locking means. Rod **53** has an outer end which extends out of the cabinet **11** and is capped with a knob **57**.

A lock **59** is mounted inside front wall **27** of the cabinet just beneath reset and locking rod **53**, and lock **59** includes a reciprocable catch member **61** having a recessed portion that is adapted to cradle rod **53** when lock **59** is turned to locked position by its key.

A locking-stop collar **63** is mounted on rod **53** and when the cabinet is locked the catch member **61** is raised so as to contact collar **63** if rod **53** is pushed inwardly, and thereby prevent unlocking of the locking means by preventing inward movement of rod **53**.

In operation, when the cabinet is locked with all drawers closed, the mechanism assumes the position shown in FIGS. 4 to 6. Knob **57** has been pulled outwardly so that collar **63** is positioned outwardly of raised catch member **61**, and rod **53** has moved pivot arm **55** to rotate operating rod **33** so that rear leg **49** of the fork levers is positioned in the path of actuator member **51**, with forward leg **47** of the fork levers making contact with the stop lug **45** that limits the rotation of the fork levers and also limits the outward movement of rod **53**.

To release the locking mechanism, lock **59** is opened with a key to lower the catch **61** so that locking-stop collar **63** may be moved rearwardly. Knob **57** is pushed to the position shown in FIGS. 7 and 8 and the rearward motion of rod **53** moves pivot arm **55** to rotate operating rod **33** and the fork levers to the position shown in FIGS. 7 and 8. Now the automatic locking mechanism is in unlock position and is ready to be operated by the opening of one of the drawers. Rear leg **49** is outside the path of movement of actuator member **51**, and forward leg **47** is directly in that path. Referring to FIG. 3, as top drawer **23** is opened, its actuator member **51** contacts the knee of forward leg **47** and pushes it out of the way, thereby rotating operating rod **33** and moving rear leg **49** of fork levers **37–39** into the locking position shown in FIG. 3 with rear leg **49** directly in the path of actuator members **51** of drawers **25** and **27**.

As long as drawer **23** is in open position, drawers **25** and **27** are prevented from being opened by means of rear leg **49** which would contact and stop actuator members **51** if they were moved forward by pulling drawers **25** and **27**.

The closing of top drawer **23** resets the automatic locking mechanism as actuator member **51** of drawer **23** during the closing strikes the knee of rear leg **49** to push it out of the return path of actuator member **51**. This moves the knee of forward leg **47** into the path of actuator member **51** so that the opening of any drawer causes and actuator member **51** to contact the knee of forward leg **47** to move it out of the path of travel and thereby moves the rear leg **49** into the path of travel of the actuator members of the other drawers.

The inner end of rod **53** curves downwardly and is seated in a hole in one end of pivot arm **55**. The pair of retaining washers **65** and a cotter pin **67** assist in connecting the two elements together.

The locking and safety device of the invention prevents filing cabinets from tilting over by prohibiting the opening of more than one drawer at a time and thereby prevents injury to office personnel. It also makes it unnecessary to fasten cabinets to the floor or walls of an office.

The drawers of the cabinet may be opened in any sequence, except that only one drawer may be opened at one time.

If it is desired to remove the drawers from the filing cabinet, the operation is as follows. The first drawer is removed, and the opening of that drawer moves the locking mechanism to the position shown in FIG. 3. Then knob **57** is pushed inwardly to release the locking mechanism so that the fork levers assume the position shown in FIG. 8. Then the next drawer is removed, and the procedure is repeated.

The locking and safety device of the invention may be made of any suitable material such as steel, and may be attached to the file cabinet by bolting, spot welding, brazing, or any other suitable means.

It is to be understood that the form of the invention herewith shown and described is to be taken as a presently preferred embodiment. Various changes may be made in the shape, size and arrangement of parts. For example, equivalent elements may be substituted for those illustrated and described herein, parts may be reversed, and certain features of the invention may be utilized independently of the use of other features, all without departing from the spirit or scope of the invention as defined in the subjoined claims.

What is claimed is:

1. A locking and safety device for a file cabinet having a plurality of drawers, comprising an operating rod adapted to be vertically mounted in a file cabinet, a number of fork levers mounted on the operating rod with each fork lever being associated with a file cabinet drawer, said fork levers including two outwardly extending and drawer engaging members comprising a forward leg and a rear leg, said operating rod being rotatable to move the fork levers into a lock position and into an unlock position, and an actuator member adapted to be mounted on each drawer so as to extend outwardly therefrom in order to contact the forward leg of its associated fork lever and rotate the fork levers into locked position when the drawer is being opened, and so as to contact the rear leg of its associated fork lever and rotate the fork levers into unlocked position when the drawer is being closed.

2. The device of claim **1**, including a reset and locking rod, and a pivot arm connecting the reset and operating rod to the operating rod, the reset and locking rod having a knob on its outer end which is adapted to extend out of the cabinet, whereby the knob is pulled outwardly to move the fork levers to lock position and lock all the drawers in closed position and is pushed inwardly to move the fork levers to unlock position so as to permit opening one of the drawers.

3. The device of claim **2**, including a stop member positioned in the path of rotation of the fork levers to limit their travel.

4. The device of claim **2**, including a lock with a reciprocable catch member mounted adjacent said reset and locking rod, and a locking-stop collar mounted on the reset and locking rod and adapted to be contacted by said catch member when it is extended into lock position, thereby to prevent pushing the rod inwardly to move the locking means into unlock position.

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