

[54] LATERAL FILE

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Primary Examiner—James T. McCall

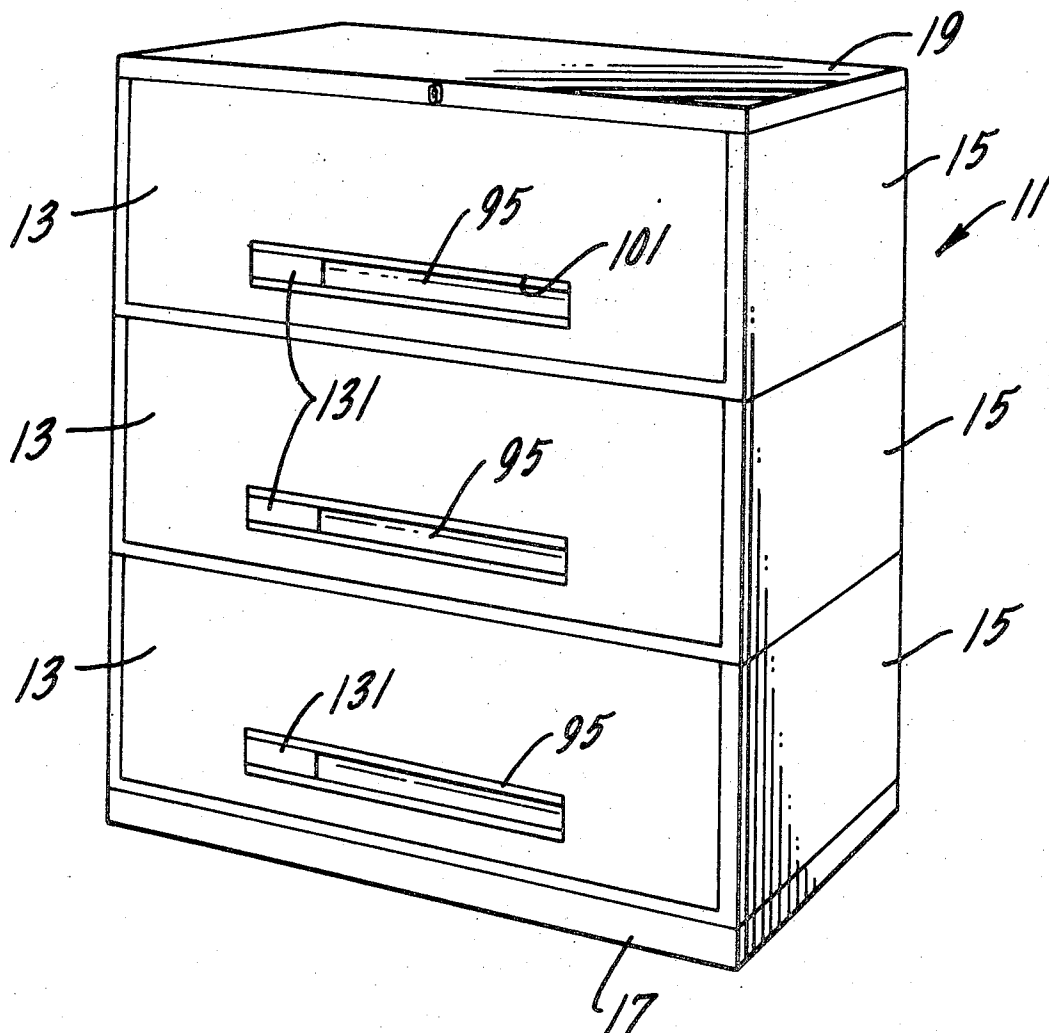
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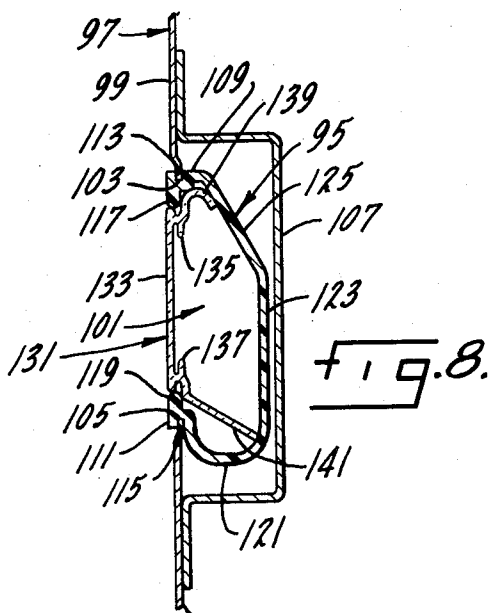
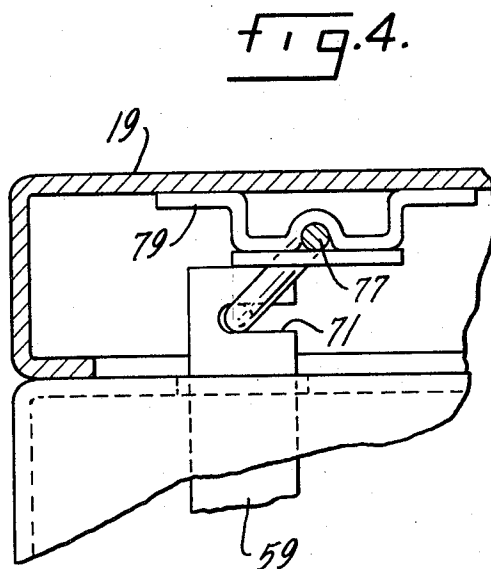
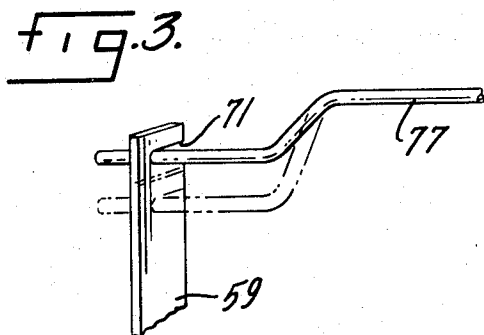
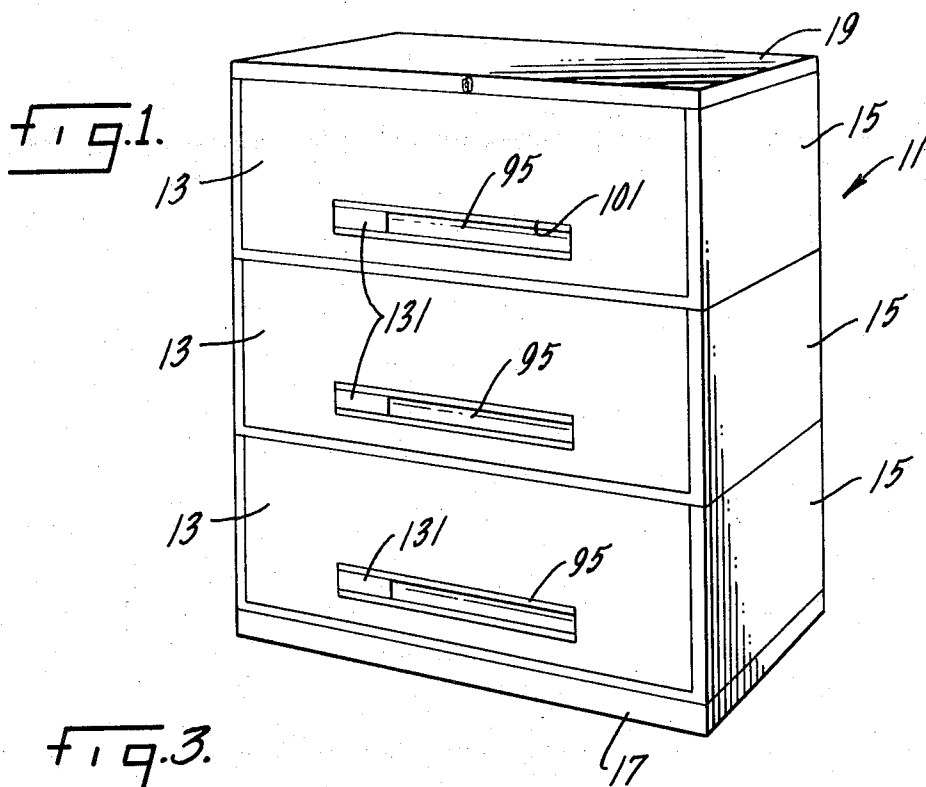
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ABSTRACT

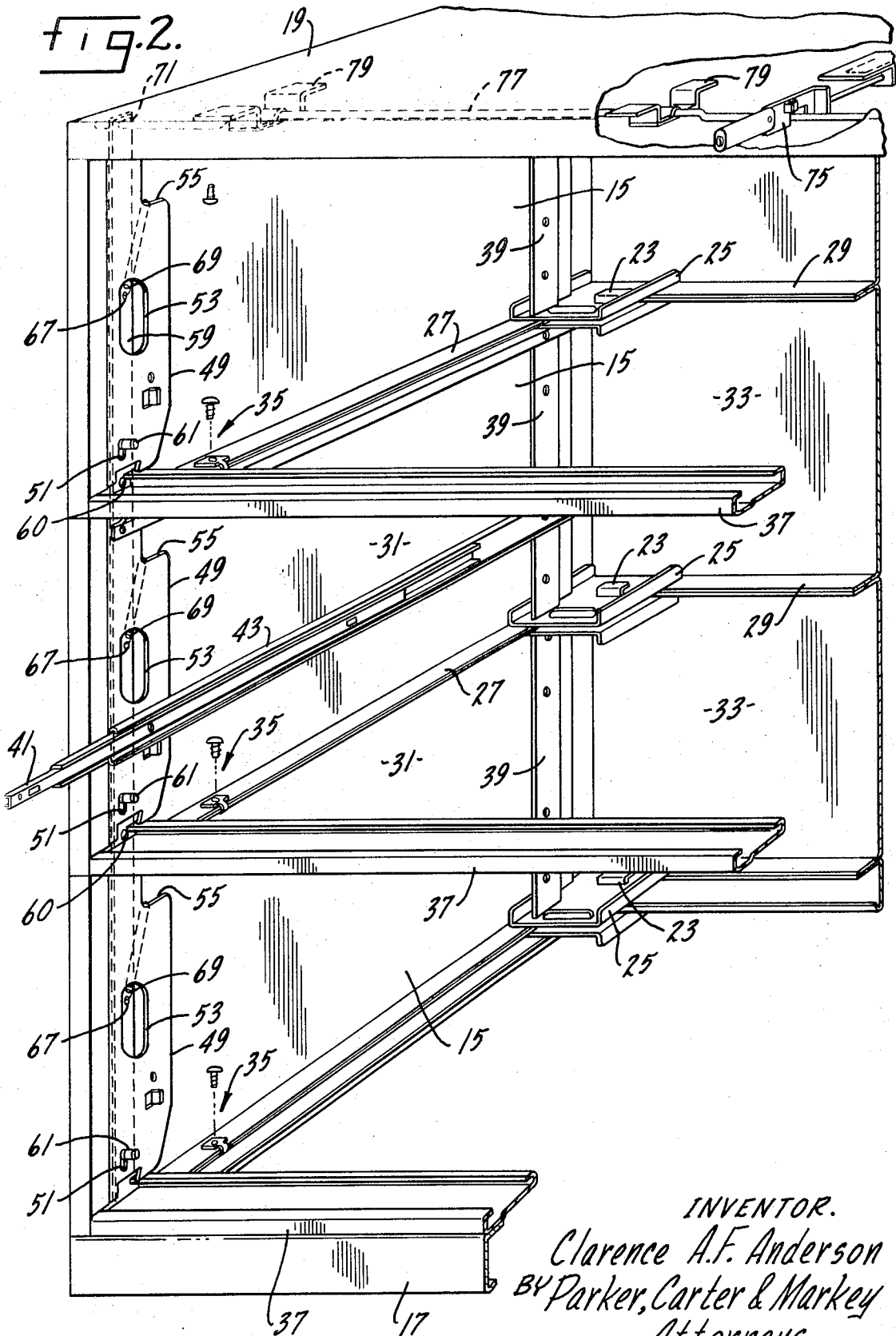
A file cabinet including a number of file shelves or drawers located one on top of the other and which are slidable in and out of the cabinet. The drawers can be arranged so that all of the drawers open on one side of the file cabinet or so that some of the drawers open on one side of the file cabinet and the remaining drawers open on the opposite side of the file cabinet. Anti-tipping mechanisms are provided to automatically prevent opening of the remaining drawers on a side of the file cabinet when one of the drawers on said side is opened. These mechanisms are connected to locks which prevents opening of any of the file drawers or shelves on one side of the cabinet upon actuation of its lock. A flush pull snap fits into the front panel of each file drawer and a label holding insert snap fits into the flush pull.

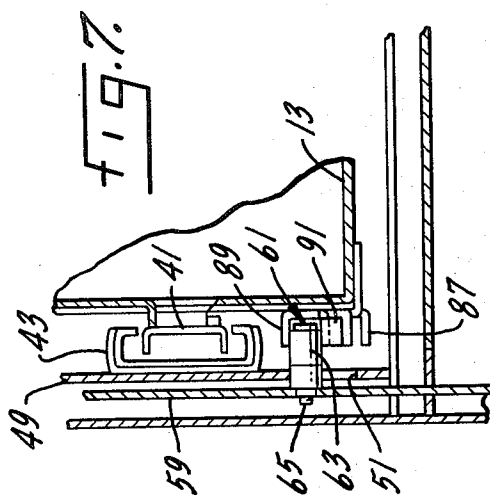
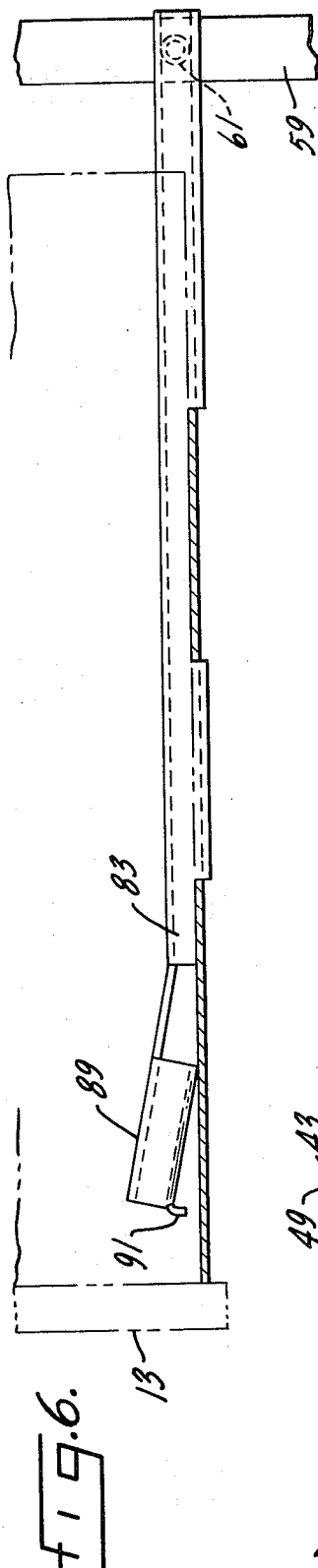
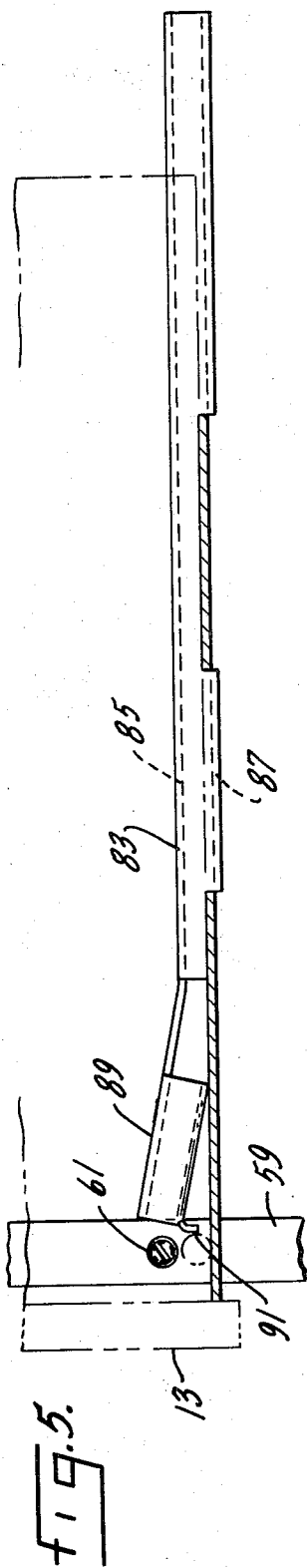
5 Claims, 9 Drawing Figures





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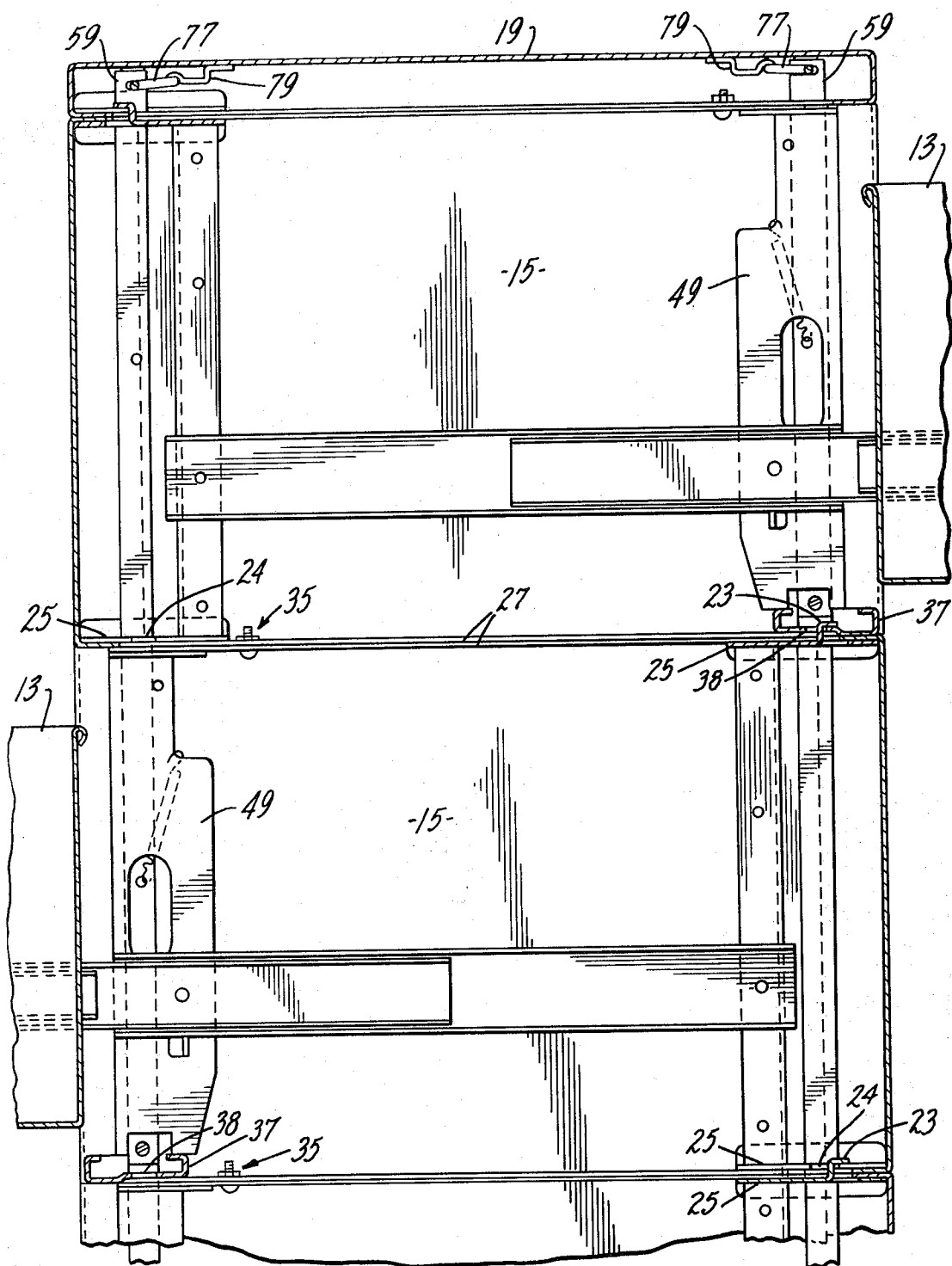


FIG. 9.

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LATERAL FILE

SUMMARY OF THE INVENTION

This invention is concerned with an anti-tipping safety mechanism for a file cabinet and more particularly with a mechanism which prevents opening of the remaining drawers on one side of a file cabinet when one drawer on said side is open.

An object of this invention is a safety mechanism which prevents opening of the remaining drawers on one side of a file cabinet when one drawer on said side is open and also functions with the locking mechanism to lock all of the drawers on said side of the file cabinet.

Another object is a safety mechanism which can be installed in file cabinets with varying numbers of drawers stacked one on top of the other.

Another object is a safety mechanism which can be installed in file cabinets having drawers which open from opposite sides.

Another object is a flush drawer pull which can be snapped into position.

Another object is a card carrying insert for a flush drawer pull.

Other objects will be found in the following specification, claims and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated more or less diagrammatically in the following drawings wherein:

FIG. 1 is a perspective view of one form of a file cabinet embodying the novel features of this invention;

FIG. 2 is an enlarged partial perspective view of a file cabinet of FIG. 1 with drawers and other parts removed for clarity of illustration;

FIG. 3 is an enlarged partial perspective view of one end of a locking crank and a locking bar of this invention showing the unlocked positions of the members in solid lines and the locked positions in phantom lines.

FIG. 4 is an enlarged partial cross-sectional view of a locking crank and a locking bar of this invention;

FIG. 5 is a partial cross-sectional view showing the safety mechanism of this invention with a drawer in its closed position;

FIG. 6 is a cross-sectional view showing the safety mechanism of this invention with a drawer in its open position;

FIG. 7 is an enlarged partial cross-sectional view of the safety mechanism of this invention;

FIG. 8 is a cross-sectional view of the drawer pull and card carrying insert of this invention; and

FIG. 9 is a partial vertical sectional view taken through a modified form of file cabinet embodying the novel features of this invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A file cabinet 11 embodying the novel features of this invention is shown in FIG. 1. In the embodiment shown, the file cabinet is of the lateral type and has three roll out shelves 13 which open in the same direction. The file cabinet is of modular design and is formed of individual housing sections 15 each of which includes a roll out shelf 13. The roll out shelf will be referred to in this description as a drawer since the particular file cabinets illustrated have roll out shelves with drawer style fronts or doors. This invention is also adaptable to file cabinets having roll out shelves with

swing up doors and roll out shelves without doors. Since the file cabinet is of modular design, any reasonable number of housing sections 15 may be added, one on top of the other to form a cabinet of the particular size desired. The drawers may be arranged to open in the same direction, as shown in the file cabinet of FIG. 1, or may be arranged to open in opposite directions, as shown in the file cabinet of FIG. 9.

Each file cabinet 11 includes a base 17, a top 19 and at least one and preferably two or more housing sections 15. The base, top and housing sections are connected to one another by means of clips 23 which fit through clip receiving slots 24 (FIG. 9) in the gussets 25 located at the rear of the sections. The clips 23 are each in the shape of an inverted L and are formed integrally with the gussets positioned at the top of the housing sections. The gussets are attached to turned-in flanges 27 and 29 formed on the side and end walls 31 and 33 of the housing sections. Spring clips and screws 35 are provided near the front of the housing sections to attach to the side flanges 27. Each housing section also has a front cross beam 37. Clip receiving slots 38 are formed in the cross beams 37. The slots 24 and 38 are located equal distances respectively from the front and rear faces of the housing sections. Vertical columns 39 extend between the gussets of the housing sections at the rear of the cabinet to support the upper housing sections. Drawer support slides 41 of the telescoping type are mounted in guide rails 43 attached to the sides of the housing sections.

An irregularly shaped support plate 49 is mounted on each side of each housing section 15 at the front of the cabinet. Each plate is provided with an elongated vertically extending slot 51. An access hole 53 is formed in each plate. A notch 55 is formed near the upper end of each plate.

Lock bars 59 are positioned behind the plates 49 and extend from the top 19 of the file cabinet to the bottom of the lowest housing section 15 on each side of the file cabinet. The lock bars may be one piece or may be made in a plurality of individual pieces connected to one another by fasteners 60 to form a continuous bar. Each lock bar 59 is equipped with a number of detents 61, that is, a detent is provided for each housing section 15. In this embodiment, the detent includes a bearing 63 which is attached to the lock bar by means of a stud 65. The bearing may be of any suitable type such as an "Oilite" bearing or the like. The detents are attached to the lock bars in positions near the bottom of each housing section 15. The cylindrical portion of each stud 65 passes through the elongated vertically extending slot 51 in the plate 49 so as to position the bearing 63 inwardly of the plate 49. Small apertures 67 are also provided in the lock bars to permit connection of tension springs 69 between the lock bars and the notches 55 of the plates 49. The upper portion of each lock bar 59 is equipped with a rearwardly opening slot 71.

As an optional feature, the file cabinet 11 may be equipped with a locking mechanism utilizing a lock 75 of the signal plunger type. A lock crank 77 extends between the signal plunger lock and the lock bars 59. The lock crank is fastened to the top 19 of the cabinet by means of spaced support bearings 79. Each end of the lock crank engages a slot 71 in a lock bar.

Each drawer 13 is equipped on each side with a lock guide 83 which is in the form of a side opening channel having an upper flange 85 and a lower flange 87. The

front portion 89 of each guide is inclined in an upward direction. A stop 91 is located at the front of each guide and extends downwardly from the end of the lower flange 87.

Flush door pulls 95 are provided for the drawers 13 that are equipped with doors 97. The doors have sheet metal front panels 99 in which are cut generally rectangular openings 101 having top edges 103 and bottom edges 105. A cover 107 is attached to the inside of the panel 99 to form an enclosure on the inside of the opening 101.

The flush door pull 95 may be formed of an elongated piece of plastic such as a high impact styrene. It is formed with a cross-section of generally "C" shape having an upper edge 109 and a lower edge 111. A longitudinally extending slot 113 is formed opening outwardly in the upper edge and a slot 115 is formed opening outwardly in the lower edge. A downwardly projecting ridge 117 is formed on the upper edge and an upwardly projecting ridge 119 is formed on the lower edge. The door pull 95 also includes a curved bottom section 121 located below the lower edge 111, a generally straight back wall section 123 and a sloped upper back wall section 125. The door pull may be snapped into the rectangular opening 101 of the panel 99 with the top edge 103 of the opening received in the upper slot 113 of the door pull and the lower edge 105 of the opening received in the lower slot 115.

A card holding insert 131 is designed to be snapped into the flush door pull 95. This insert is made from a resilient plastic such as a clear butyrate and is formed as an elongated piece of generally irregular cross-section having a generally flat face 133. Inwardly projecting ridges 135 and 137 are formed at the top and bottom of the insert and are spaced rearwardly of the face 133 to receive and support a card (not shown). An arcuate portion 139 is formed integrally with the insert at the top thereof and an integral straight, flat portion 141 is formed to extend obliquely from the bottom of the insert.

A modified form of file cabinet is shown in FIG. 9. In this modified form, the housing sections 15 are arranged so that the drawers 13 of different sections open in opposite directions. The drawer 13 of the top housing section 15 opens to the right and the drawer 13 of the housing section 15 next below opens to the left, as viewed in FIG. 9. The arrangement of drawers may be varied in any suitable manner. For example, alternate drawers may open in opposite directions in the manner shown in FIG. 9 or top drawers may open in one direction and the lower drawers may open in the opposite direction. To connect housing sections so that their drawers open in opposite directions an upper housing section 15 is placed on a lower housing section with the clip receiving slots 38 in the front cross beam 37 of the upper housing section receiving the clips 23 of the lower housing section 15. Spring clips and screws 35 are inserted through the flanges 27 near the opposite ends of the housing sections to assist in connecting the sections together. Thus, the clips 23 can be inserted either in the clip receiving slots 34 in the gussets 25 or in the clip receiving slots 38 in the cross beam 27 depending on the orientation of the top and bottom housing sections when they are connected. The spring clips and screws 35 will be connected at the opposite ends of the housing sections. No matter what arrangement is used, the anti-tipping mechanism of this invention

may be readily applied. If more than one drawer opens on any one side of the file cabinet, a pair of lock bars 59 are provided for that side of the cabinet. The lock bars will extend at least between the drawers that open on the same side of the cabinet. If a lock is provided, then the lock bars must extend to the top 19 of the cabinet to engage a lock crank 77. Separate locks and lock cranks are provided for each side of the file cabinet on which drawers open.

The use, operation and function of this invention are as follows:

The safety mechanism of this invention permits the opening of only one of the file drawers 13 on any one side of a file cabinet at one time in order to prevent tipping over of the file cabinet. Tipping is possible if more than one heavily loaded drawer were opening on any one side of the cabinet at one time. This safety mechanism is particularly desirable in file cabinets of the lateral type in which the drawer may be slid completely outwardly of the file cabinet. The draer safety mechanism of this invention also may be easily connected to additional housing sections 15 which may be placed one on top of the other in a modular file of the type shown.

When a drawer 13 is in its closed position, as shown in FIG. 5, the upwardly inclined front portions 89 of the lock guides 83 are aligned with their corresponding detents 61 of the lock bars 59. As the drawer 13 is moved outwardly of the housing section 15, the bearings 63 of the detents 61 are engaged by the upper flanges 85 of the lock guides 83. The detents 61 and lock bars 59 are moved downwardly as the drawer is moved to its outward open position. When the drawer 13 is partially opened, the detents 61 have moved to their lower positions, as shown in FIG. 6 of the drawings. In their lower positions, the detents 61 associated with the unopened drawers on the same side of the file cabinet are positioned in front of the stops 91 of the lock guides of their respective drawers thereby preventing opening of the remaining closed drawers on the same side of the file cabinet.

When the open drawer 13 is returned to its closed position, its detents 61 and the other detents on the lock bars 59 are returned to their original upward positions by means of the tension springs 69. Thus, as the drawer closes, the detents 61 are moved away from the stops 91 permitting opening of any one of the other drawers on the same side of the file cabinet.

In addition to functioning as part of the safety mechanism, the lock bars 59 also cooperates with the lock crank 77 and the lock 75 to prevent opening of any of the drawers on the same side of the file cabinet upon actuation of the lock. When its lock is actuated, the lock crank is rotated about its bearings 79 and the ends of the lock crank which engage the slots 71 of the lock bars are moved downwardly to force the lock bars and all the detents 61 into their lowered positions in front of the stops 91 on the drawer lock guides 83.

In the modification of FIG. 9, the opening of any drawer on one side of the cabinet will automatically lock the remaining drawers on that side of the cabinet, but will not affect the operation of the drawers on the other side of the cabinet. The independent operation of drawers on the opposite sides of the file cabinet occurs because of the provision of independent sets of locking bars on each side of the file cabinet.

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The flush door pull 95 may be inserted into rectangular openings 101 cut in the front panels 99 of the doors 97 of the file cabinet drawers. The pull is snapped into the rectangular openings 101 so that the longitudinally extending slots 113 and 115 of the door pull receive the top edge 103 and bottom edge 105 of the door opening. The card holding insert 131 may then be snapped into the flush door pull 95. When the card holding insert is forced into the door pull, the arcuate portion 139 and the obliquely extending portion 141 of the insert lock behind the downwardly and upwardly projecting ridges 117 and 119 of the door pull. With the card holding insert thus positioned, it may be slid to one side or the other of the flush door pull.

Whereas, the preferred forms of the invention have been described and shown, it should be understood that there are modifications, alterations and changes which may be made without departing from the teachings of the invention. Therefore, the scope of the invention should be only limited by the claims attached hereto.

I claim:

1. A sectional file cabinet including:
 - a plurality of housing sections each adapted to stack one on top of the other,
 - each of said housing sections having an opening in one side thereof and a shelf adapted to slide through said opening into and out of said housing section, and
 - means to attach said housing sections to one another so that openings of adjacent housing sections can be positioned on the same or opposite sides of the cabinet,
 - said means including sets of clips and clip receiving slots with one of said sets located on the top level and the other of said sets located on the bottom level of each housing section with each section having its sets of clips and clip receiving slots on similar levels.
2. A flush door pull and card holding insert for a file drawer of the type having a generally rectangular opening formed in the sheet metal front panel thereof,
 - said flush door pull being formed of an elongated piece of plastic of generally uniform thickness and having a somewhat "C" shaped transverse cross-section with upper and lower edge surfaces and aligned outwardly facing, longitudinally extending

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grooves formed in said upper and lower edge surfaces with said grooves adapted to receive the edges of said rectangular opening of said file drawer panel when said door pull is inserted through said opening with the bight portion of the "C" located inwardly of said front panel, a lower portion of said flush door pull being located inwardly and below said lower edge surface to form a grasping portion, upwardly and downwardly projecting ridges formed on said door pull adjacent the front panel of said drawer, a card holding insert for said door pull, said insert being formed of an elongated resilient piece of plastic having an irregular cross-section and a generally flat face, ribs positioned rearwardly of said face at the top and bottom thereof to hold a card against the rear of said face, and resilient means formed at the top and bottom of said insert to contact said upwardly and downwardly projecting ribs of said door pull to hold said insert in said door pull with said face flush with the front of said door pull.

3. The sectional file cabinet of claim 1 further characterized in that each of said housing sections has clip receiving slots at the bottom with such slots located both adjacent said opening and at the opposite end therefrom and clips at the top near the end opposite to said opening with said clips and clip receiving slots being positioned so that the clips of a lower housing section will be received either in the slot adjacent the opening or in the slots at the opposite end of an upper housing section when the two sections are assembled depending on the orientation of the sections relative to each other.

4. The sectional file cabinet of claim 3 further characterized in that threaded connectors are used to hold the top and bottom housing sections together at the ends opposite from the clip and slot engaging ends.

5. The sectional file cabinet of claim 1 further characterized in that means are provided for shelves opening on both sides of said cabinet to lock the remaining shelves capable of opening on said side when one of said shelves on that side is opened.

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