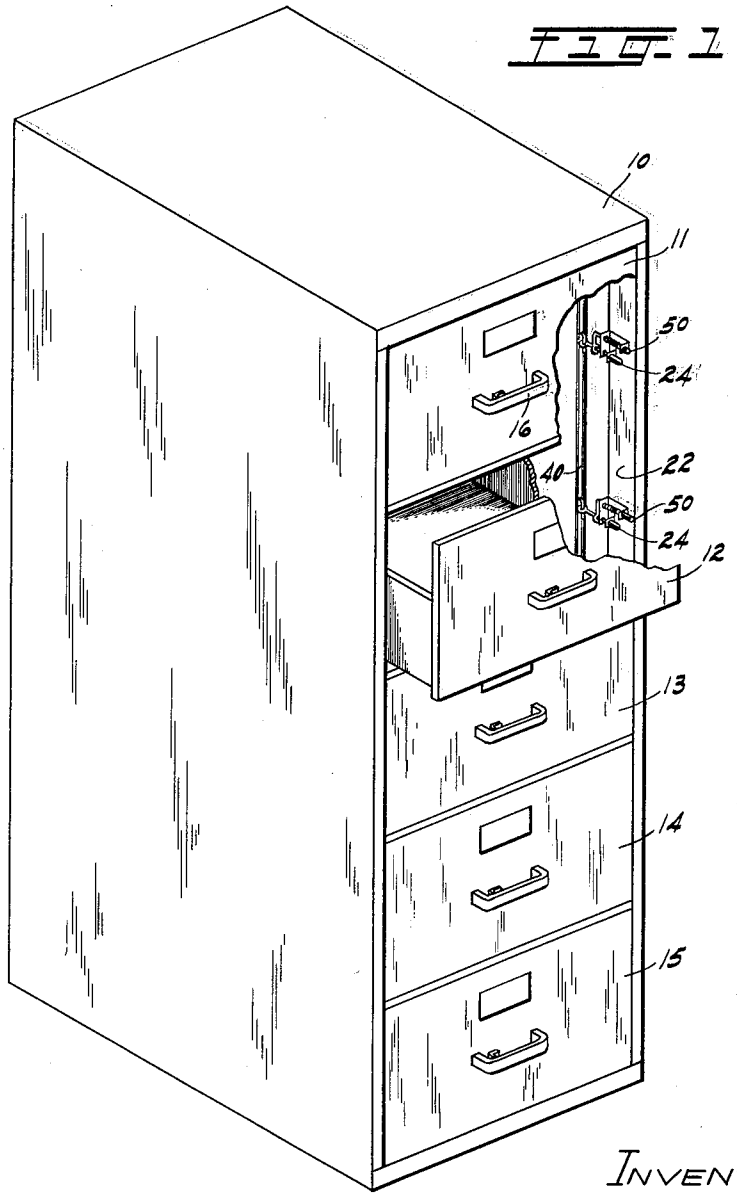
July 11, 1961 H. J. THIELKER 2,992,056

LOCKING DEVICE FOR FILE CABINETS

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FIG. 1



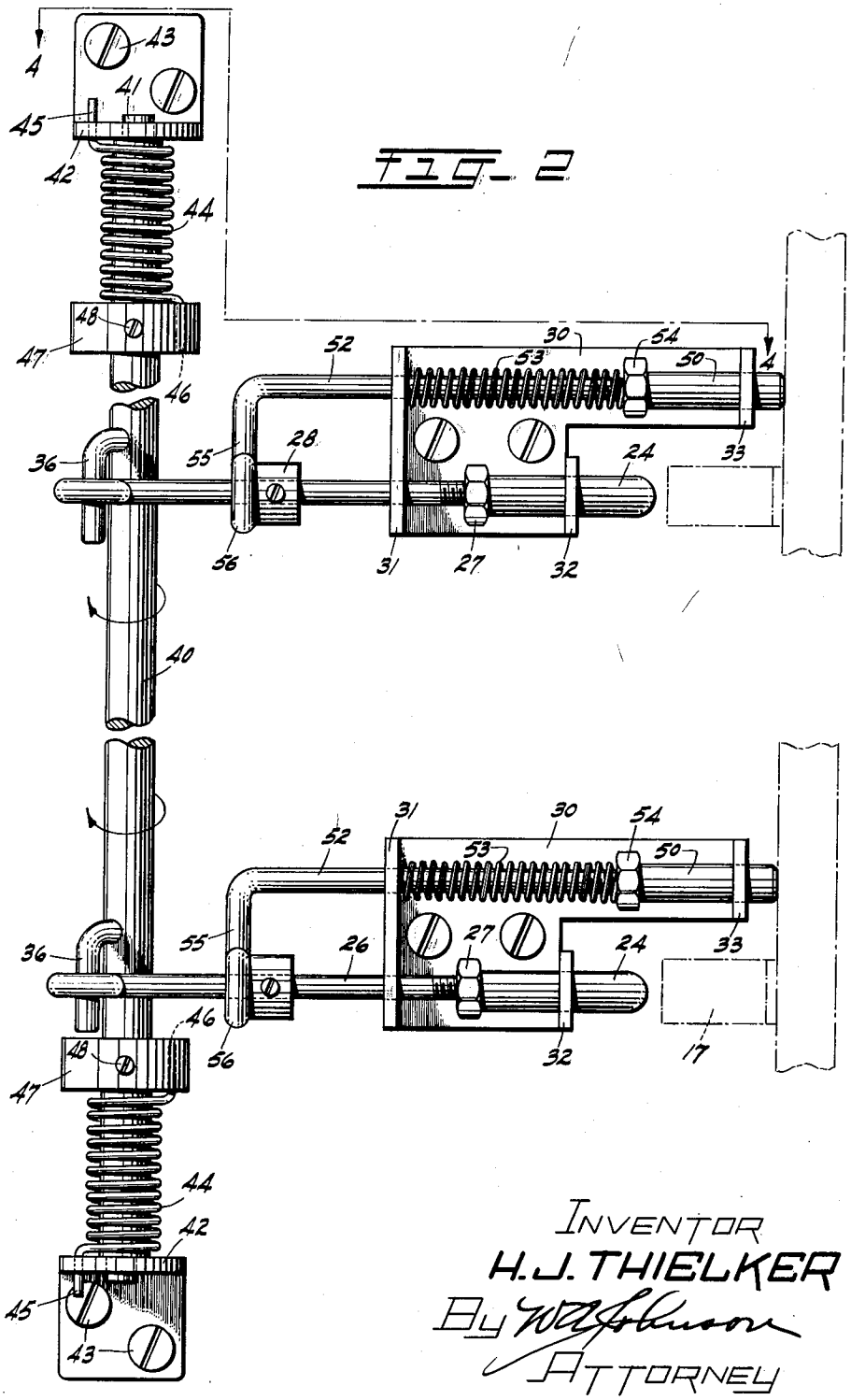
INVENTOR
H. J. THIELKER
By W. Johnson
ATTORNEY

July 11, 1961 H. J. THIELKER 2,992,056

LOCKING DEVICE FOR FILE CABINETS

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FIG. 2



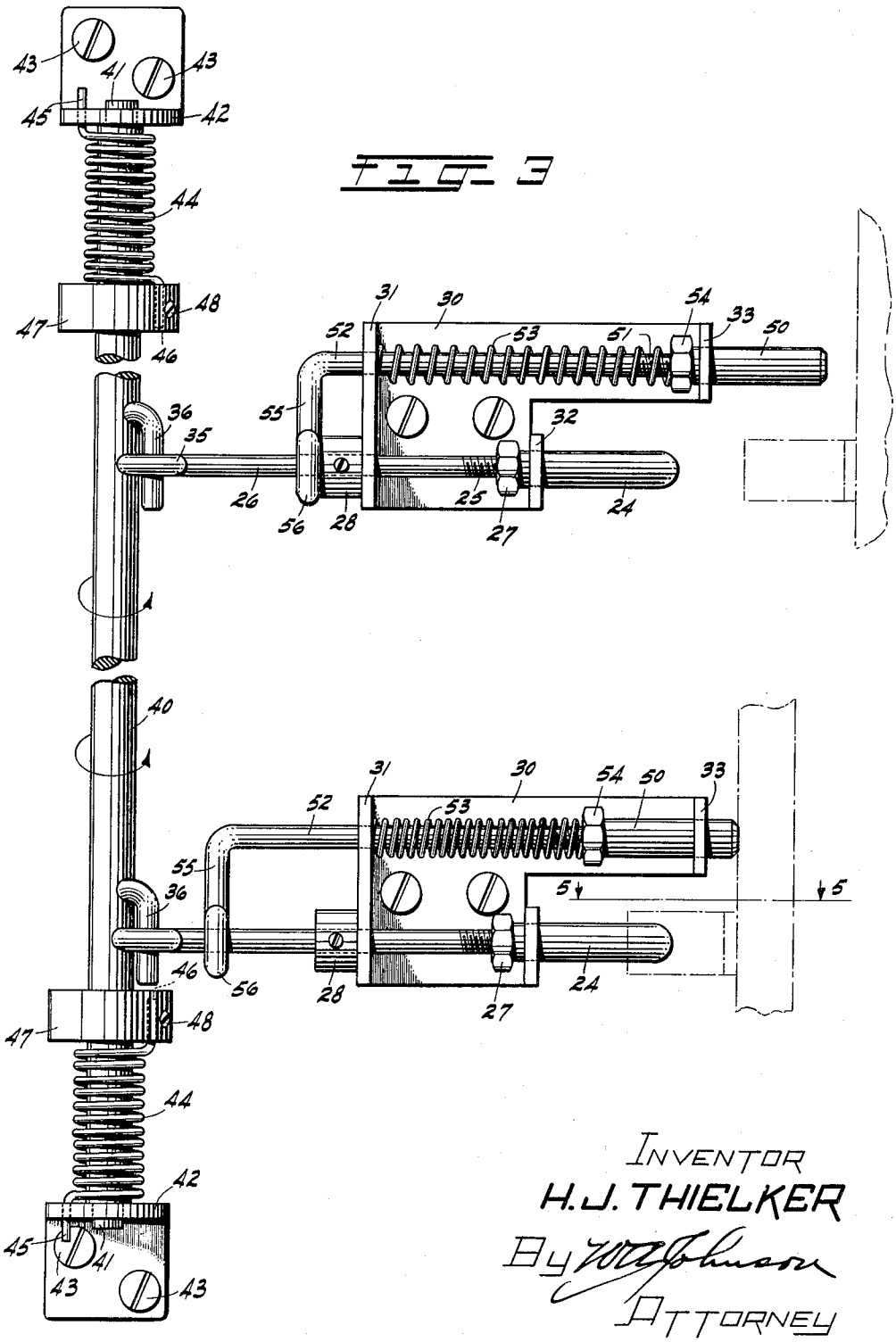
INVENTOR
H. J. THIELKER
By W. A. Johnson
ATTORNEY

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FIG. 3



INVENTOR
H. J. THIELKER
By W. C. Johnson
ATTORNEY

July 11, 1961 H. J. THIELKER 2,992,056

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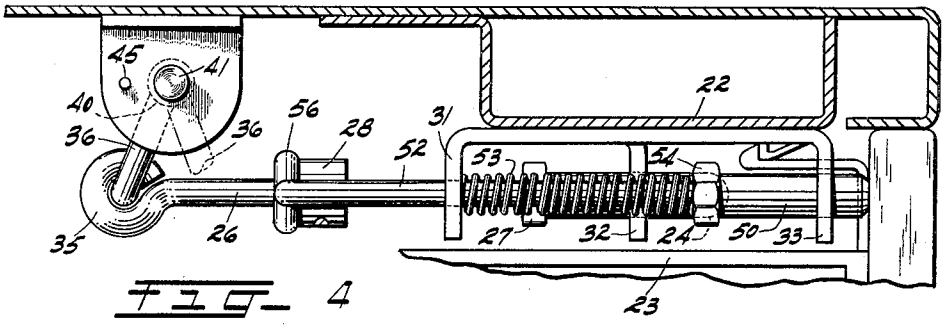


FIG. 4

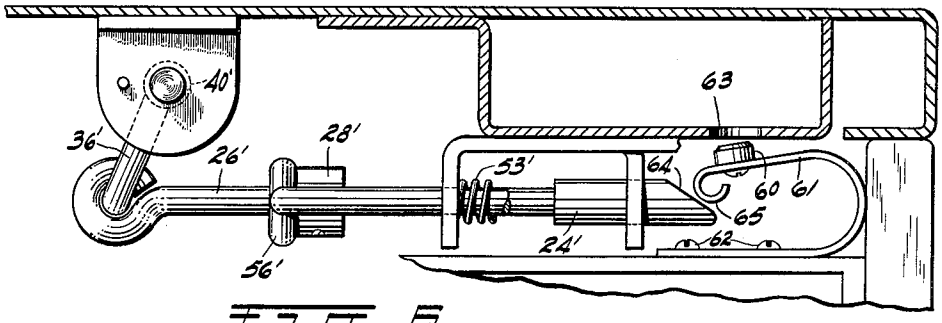


FIG. 6

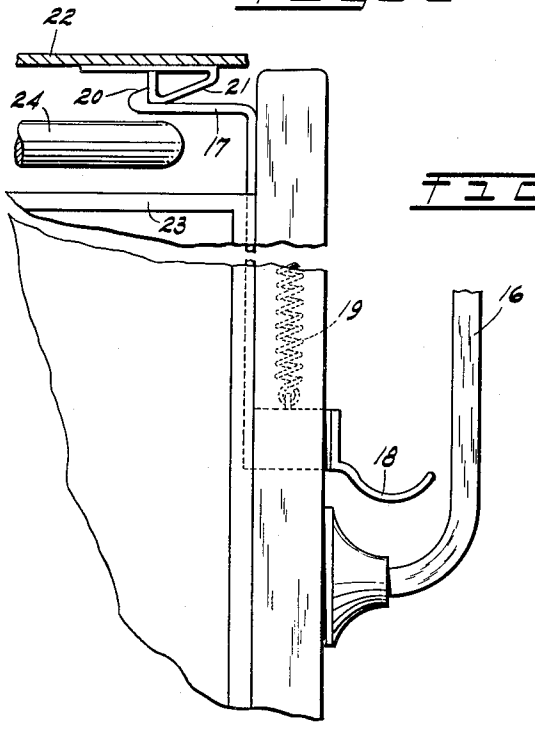


FIG. 5

INVENTOR
H. J. THIELKER
By W. C. Johnson
ATTORNEY

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2,992,056

LOCKING DEVICE FOR FILE CABINETS

Henry J. Thielker, Yonkers, N.Y., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 17, 1958, Ser. No. 709,615
1 Claim. (Cl. 312—221)

This invention relates to locking devices particularly locking devices for file cabinets.

In some file cabinets latches are provided for the drawers thereof to prevent accidental opening of the drawers. Also file cabinets in some instances are provided with locking mechanisms for locking all of the drawers against opening. When two drawers of such cabinets are open at the same time, even a two-drawer cabinet may become unstable and overturn and such instability is particularly hazardous in the case of higher cabinets having four or five drawers.

The objects of the present invention is a device which eliminates this hazard by making it impossible to have more than one drawer of a cabinet open at one time.

In accordance with the object of the invention, one embodiment thereof includes an element for each drawer, mounted in the cabinet and normally positioned away from the conventional latch for the drawer when the drawer is closed and movable to an operated position where the element will cause its latch to hold the drawer against opening. Associated with each of the elements for the drawers of the cabinet is an actuator, normally holding the elements free of the latches of their respective drawers but actuable during the opening of any one of the drawers to force the element for the other drawers into holding positions with their latches.

Other objects and advantages will be apparent from the following detailed description when considered in conjunction with the accompanying drawings, wherein:

FIG. 1 is an isometric view of a cabinet embodying one species of the invention;

FIG. 2 is a fragmentary side elevational view of the device illustrating the positions of the elements when all of the drawers are closed;

FIG. 3 is a view of the mechanism shown in FIG. 2, with one of the drawers open;

FIG. 4 is a horizontal sectional view taken along the line 4—4 of FIG. 2;

FIG. 5 is a fragmentary sectional view taken substantially along the line 5—5 of FIG. 3, and

FIG. 6 is a fragmentary sectional view of another species of the invention.

Referring now to the drawings, a cabinet **10**, shown in FIG. 1, very similar in structure to a commercially known cabinet, has been selected to illustrate the invention. This cabinet is provided with drawers **11**, **12**, **13**, **14** and **15**, movable into open and closed positions by handles **16**. Each handle **16** is provided with a manually releasable latch **17**, having a hand engaging projection **18** adjacent its respective handle, normally urged in the latching direction by a conventional spring **19**, to cause its outer end **20** to enter an aperture or slot **21** in the side wall **22** of the cabinet. Each latch **17** has an offset portion therein, as shown in FIG. 5, parallel with the adjacent side **23** of its drawer, providing a space between this portion of the latch and the drawer for an element **24**.

Each element **24** has a centrally positioned threaded aperture, not shown, to receive a threaded end **25** of a connecting member **26** which is locked in any desired adjusted position in the element by a nut **27**. A collar **28** is removably fixed at a selected position on each member **26**. A bracket **30** for each element is mounted in its respective position on the adjacent side wall **22** of the cabinet, the bracket being provided with parallel portions

31, **32** and **33** which have apertures of suitable sizes therein. Aligned apertures in the projections **31** and **32** slidably support the element **24** and its member **26** in each instance. The member **26** for each element is bent circularly to form an eyelet connection **35** with a pivot arm **36**. The pivot arm **36**, in each instance, is fixed to an actuator **40**, the connections of the arms **36** with the actuator being in alignment with each other.

In the present instance, the actuator is in the form of a rocking shaft, having its ends reduced at **41** to extend through and be journaled in apertures in brackets **42**. The brackets **42** are mounted by suitable means **43**, on the side wall **22** of the cabinet. Springs **44** disposed concentric with the end portions of the actuator **40** have their outer ends **45** extending through apertures in their brackets **42** and their inner ends **46** mounted in apertures of collars **47**. The collars **47** are rotatably adjustable about the shaft or actuator **40** to create predetermined like forces in the springs **44**, after which the collars are secured against relative rotation on the shaft by set screws **48** when forced into close engagement with the shaft.

Each element **24** is provided with a plunger **50** centrally apertured for mounting, adjustably, on the threaded end **51** of a member **52**. A lock nut **54** on the threaded end of the member is actuated to lock the element in its adjusted position. The member **52** in each instance has a right angularly bent portion **55** with a circular end **56** to movably receive the member **26** back of the collar **28**. The plunger **50** in each instance is supported for sliding movement in an aperture of the projection **33** of its bracket **30**, the projection **31** of each bracket being provided with an aperture, aligned with the aperture for the plunger, for slidably supporting its respective member **52**. Each plunger **50** is normally urged forwardly to the right, FIGS. 2 and 3, by a spring **53** disposed concentric with its member **52**, and positioned between the nut **54** and the portion **31** of the bracket **30**. Each spring **53** has sufficient force embodied therein so that when its respective drawer is opened it will cause actuation of the actuator **40** against the combined forces of the springs **44** to rock the actuator from the position shown in FIG. 2, to the position shown in FIG. 3.

Considering now the function of this species of locking device which is to prevent opening of any of the drawers of the cabinet after any selected one of the drawers is opened. Attention is first directed to FIG. 2, where all of the drawers of the cabinet are closed and each drawer has forced its plunger **50** inwardly against its spring **53**, compressing the springs **53** and moving the portion **56** of their members **52** to the left to free the actuator **40** to be rocked by its springs **44** in the direction indicated by the arrow, so that the arms **36** will move their respective members **26** and elements **24** to the left free of their respective latches **17**. When in the normal position, with all of the drawers of the cabinets closed, any drawer may be opened through the aid of its handle **16** by forcing a latch **17** in a direction to move the end **20** of the latch out of the aperture **21**. The moment the selected drawer is opened as illustrated in FIG. 3, the plunger **50** for this drawer is free to be moved outwardly by its spring **53**, causing the portion **56** of its member **52** to engage its respective collar **28** and force its member **26** and element **24** outwardly, until the collar **28** engages the portion **31** of the bracket **30**. This action of the freed plunger **50** of the opened drawer permits its spring **53**, through the connection of the member **26** at **35** with its respective arm **36** of the actuator **40**, to rock the actuator in the direction of the arrows in FIG. 3 against the forces of the springs **44**, causing all of the elements of the other drawers to move back of their respective latches **17**, as shown in the lower portion of FIG. 3 and in FIG. 5, to prevent actuation of these latches and to thereby lock the

remaining drawers against opening. In this manner it is impossible to open any drawer of the cabinet while one of the drawers is open. Any other drawer may be opened after the first drawer is closed. When the first drawer is closed and the freed plunger **50**, illustrated in FIG. 3, is moved to its position shown in FIG. 2, to compress its spring **53** and to move the portion **56** of its member **52** to the left, the joined forces of the springs **44** will rock the actuator in the direction of the arrows in FIG. 2 to free all of the elements **24** from their latches. At this time any of the drawers may be opened, but regardless of the drawer selected for movement into open position, the freeing of the plunger of the selected drawer will permit its spring **53** to rock the actuator **40** from the position shown in FIG. 2, to that shown in FIG. 3, thereby moving the elements **24** of the closed drawers back of their latches to lock them against opening.

Another species of the invention is shown in FIG. 6. This species is similar in every detail to the first mentioned species, including particularly the actuator indicated at **40'** with arms **36'** connected to members **26'** of elements **24'** and associated with plungers, not shown, backed by springs **53'** for engagement at **56'** with collars **28'** on the members **26'**.

In this species of the invention, each drawer is provided with a latch **60**, carried by a resilient member **61**, mounted on its respective drawer at **62**. The latch **60** is normally held away from an aperture **63** in the wall of the cabinet but through actuation of the element **24'** to move a tapered end **64** thereof against a rounded end **65** of the resilient member **61**, the latch **60** will be moved into the aperture **63**. In this species of the invention, the latch **60** of each drawer when closed will be free of its aperture **63**, for movement of the drawer into open position. However, the moment any one of the drawers of the cabinet is opened, the spring **53'** will be free to force its associated element **24'** to the right to rock the actuator **40'** to move all of the other elements **24'** to the right to force their latches **60** into their apertures **63** to lock their drawers against opening.

It is to be understood that the above described arrangements are simply illustrative of the application of the principles of the invention. Numerous other arrangements may be readily devised by those skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof.

What is claimed is:

A locking device for a file cabinet including a plurality of drawers slidable into open and closed positions and having latches disposed at internal portions of the drawers, automatically actuable into closed positions when the drawers are closed to secure their respective drawers closed and manually actuable into open positions externally of the drawers, the locking device comprising an element for each latch mounted in the cabinet for movement between a normal position away from its respective latch and an operated position where the element will hold its latch against manual actuation into open positions to hold the drawer against opening, an actuator normally effective to move all the elements into their normal positions when the drawers are closed, a movably supported plunger for each drawer, and force applying means for each plunger causing it to engage its drawer, each plunger being freed for movement by its forcing means upon opening of its drawer and movable by its drawer against its forcing means to its normal position, means operatively connecting each plunger to the actuator, the force applying means for each plunger causing operative movement thereof when its drawer is open to cause the actuator to move the elements for the other drawers into their operated positions.

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