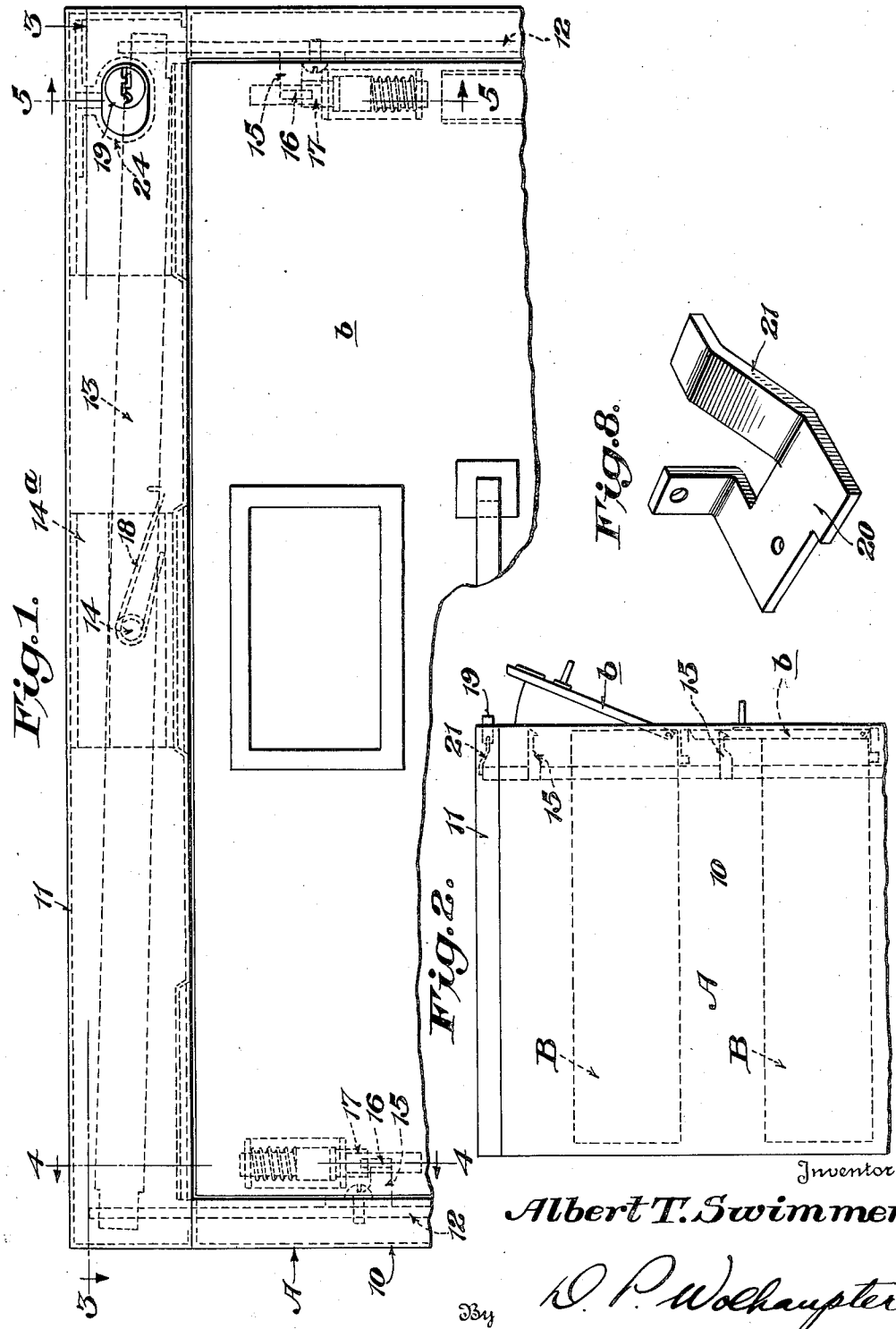
Aug. 31, 1937. A. T. SWIMMER 2,091,382

LOCKING MEANS FOR DROP FRONT CABINETS

Filed April 14, 1936 3 Sheets-Sheet 1



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LOCKING MEANS FOR DROP FRONT CABINETS

Filed April 14, 1936 3 Sheets-Sheet 2

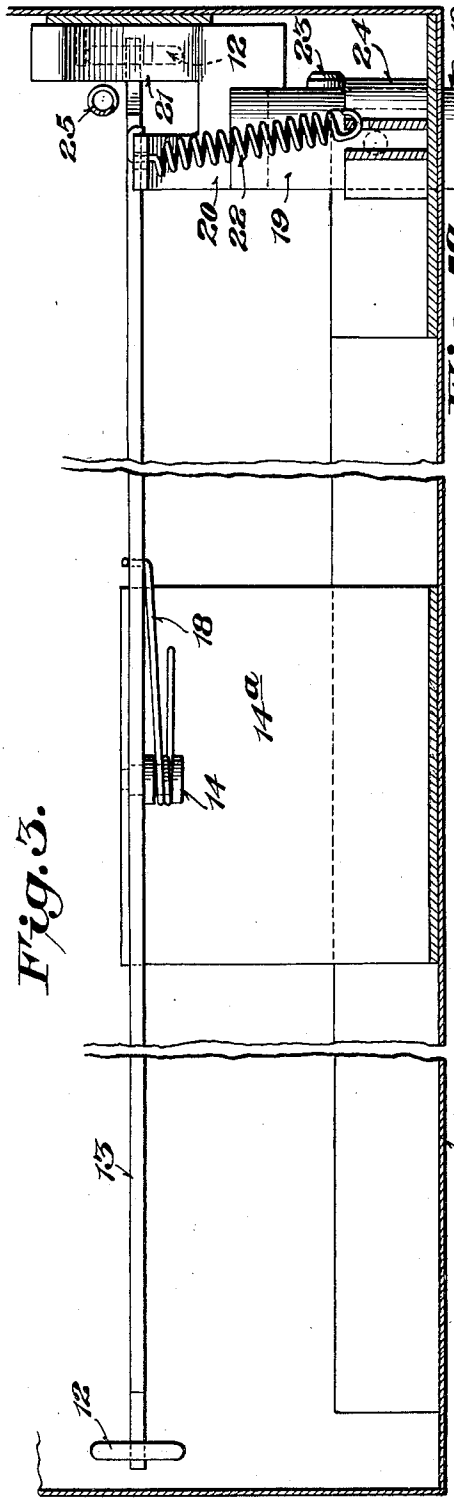


Fig. 5.

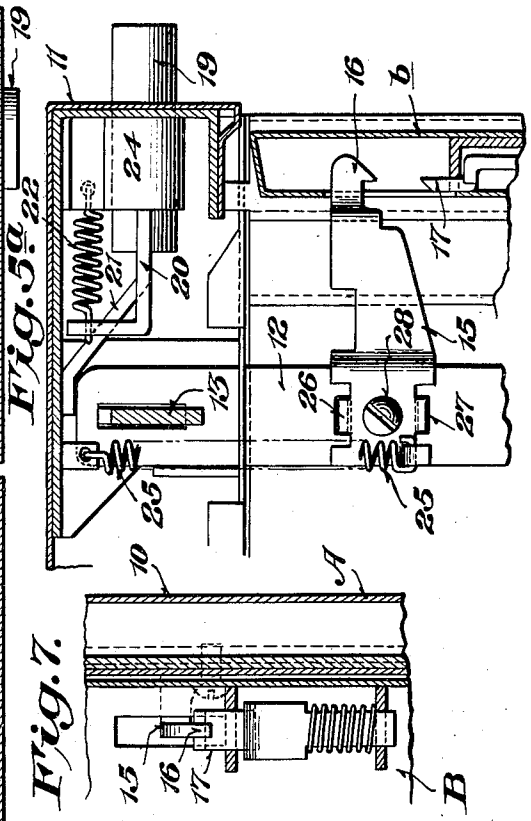


Fig. 5a.

Fig. 7.

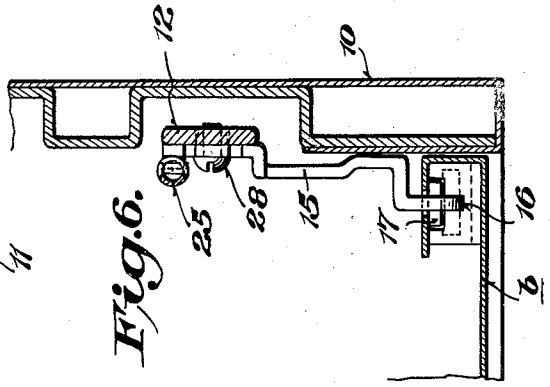


Fig. 6.

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LOCKING MEANS FOR DROP FRONT CABINETS

Filed April 14, 1936 3 Sheets-Sheet 3

Fig. 5.

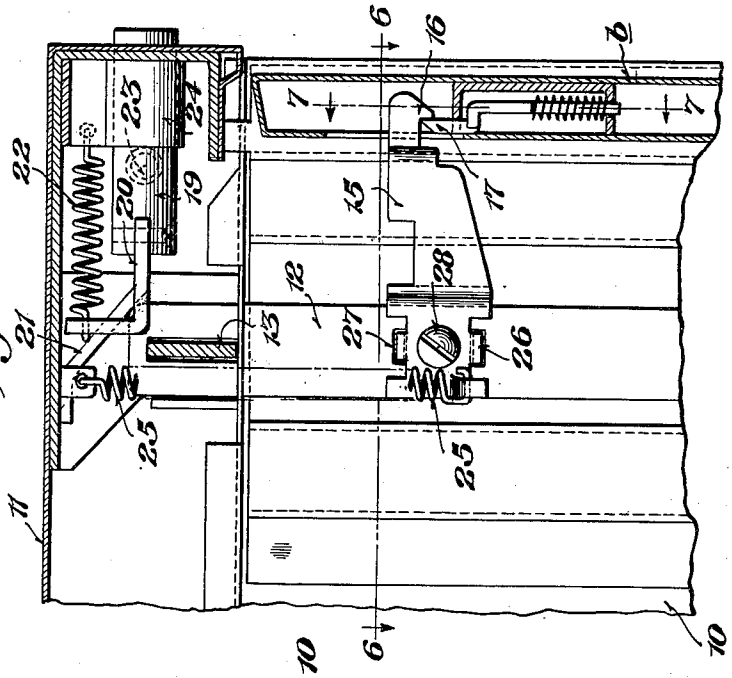
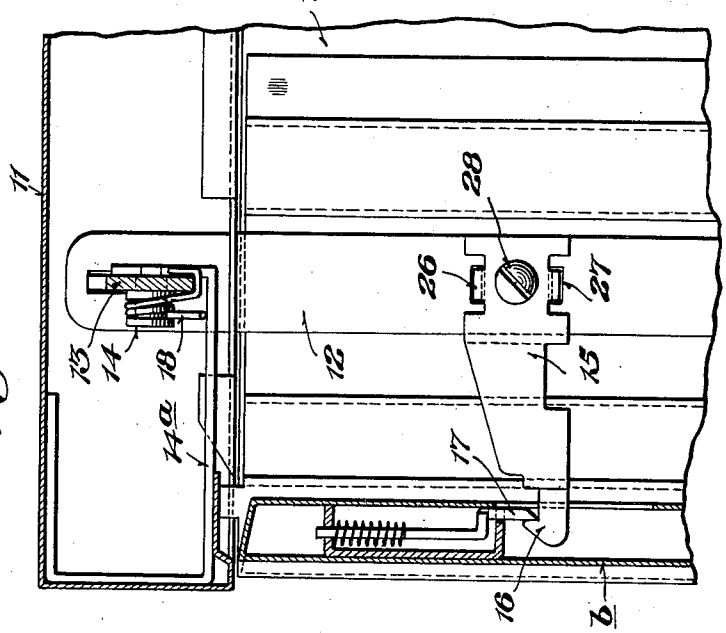


Fig. 4.



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LOCKING MEANS FOR DROP FRONT CABINETS

Albert Theodore Swimmer, Youngstown, Ohio, assignor to The General Fireproofing Company, Youngstown, Ohio, a corporation of Ohio

Application April 14, 1936, Serial No. 74,373

5 Claims. (Cl. 45—94)

This invention relates to filing cabinets having drawers of the tilting or drop-front type, and has particular reference to locking means for such drawers.

Filing cabinets having drawers of the drop-front type are characterized by drawer fronts which are mounted to swing outwardly at their tops relatively to the drawer body when the drawer handles, which are on the drawer fronts, are pulled to open the drawers, and to swing inwardly to vertical or normal positions closing the fronts of the drawers when pressure is exerted thereon to close the drawers.

Accordingly, a general object of the present invention is to provide a locking means for cabinet drawers of the drop-front type, which locking means serves not only to lock the drawers against outward movement relative to the cabinet, but to lock the fronts of the drawers against outward swinging movement relative to the drawers, thereby completely to deny access to the drawers when the same are locked in closed positions.

Other objects of the invention are to provide a locking means for cabinet drawers of the drop-front type which functions as stated and which is of simple, inexpensive production and installation cost; which is rugged and unlikely to get out of order; which is easy to operate, and which is entirely reliable and efficient in operation.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

In the drawings, wherein like characters of reference denote corresponding parts in the different views:

Figure 1 is a front elevation of the top part of a filing cabinet illustrating by dotted lines the application thereto of a locking mechanism constructed in accordance with one practical embodiment of the invention.

Figure 2 is a side elevation on a small scale of a filing cabinet of the drop-front drawer type illustrating that the present locking mechanism is, or may be, common to all of the drawers in a tier.

Figure 3 is a horizontal section on the line 3—3 of Figure 1.

Figure 4 is a vertical section on the line 4—4 of Figure 1.

Figure 5 is a vertical section on the line 5—5 of Figure 1.

Figure 5a is a view similar to Figure 5 showing the unlocked status of the locking mechanism.

Figure 6 is a horizontal section on the line 6—6 of Figure 5.

Figure 7 is a vertical section on the line 7—7 of Figure 5; and

Figure 8 is a perspective view of the cam element of the locking mechanism.

Referring in detail to the practical embodiment of the invention illustrated in the drawings, A designates, generally, a cabinet casing and B designates, generally, a plurality of drawers slidably mounted in said casing and provided with fronts *b* which are hinged at their bottoms to said drawers for swinging movement relative thereto between vertical positions closing the fronts of the drawers and positions at upward and outward inclinations relative to the drawers to afford free and easy access thereto.

The cabinet A and the drawers B and their drop-fronts *b* may be of any known or desired construction, and since no novelty is claimed respecting their detailed constructions, they need not be described in detail. On the contrary, it is sufficient merely to state that the cabinet A includes, in accordance with common practice, side walls 10 and a hollow top 11; that the superimposed drawers B are mounted in any suitable manner for sliding movement through the open front of the cabinet between closed and open positions, and that the drawer sides are of materially less height than the drawer spaces, thereby affording spaces above their sides to accommodate portions of the present locking mechanism.

At each side of the cabinet A near the front thereof and outwardly of the sides of the drawers B so as not to interfere with opening and closing movements of said drawers, is suitably mounted for vertical movement a vertically disposed lock bar 12 which extends substantially throughout the height of the cabinet so as to be common to all of the drawers B.

Within the hollow top 11 of the cabinet is a substantially horizontally disposed rock bar 13 which extends substantially from side to side of the cabinet and at its ends is suitably articulated to the upper ends of the lock bars 12, as, for example, by having its ends engaged in slots in said lock bars. Midway between its ends, said rock bar 13 is suitably pivoted, as indicated at 14, to a bracket 14a or any other fixed part of the cabinet top 11 for rocking movement in a vertical

plane. It thus follows that if either of the lock bars is moved upwardly, the other is moved downwardly and vice versa.

On each lock bar 12 is mounted a plurality of hook elements 15, one individual to the drop-front b of each drawer. These hook elements extend forwardly from the lock bars 12 above the sides of the drawers and are of such lengths that the hook formations 16 at their outer or forward ends cooperate with keeper elements 17 on the inner sides of the drop-fronts b of the drawers when said drawers are closed and said drop-fronts are in their normal or vertical positions closing the fronts of said drawers.

Since the lock bars 12 are simultaneously movable in opposite vertical directions, the hook formations of the hook elements 15 of one of the lock bars face upwardly and the hook elements of the other lock bar face downwardly, as illustrated in Figures 4 and 5, respectively. Moreover, the keeper elements 17 which cooperate with the hook elements 15 having the upwardly facing hook formations, face downwardly, and the keeper elements which cooperate with the hook elements having the downwardly facing hook formations, face upwardly, so that opposite vertical movements of the lock bars result in simultaneous locking and unlocking of the locking devices at opposite sides of the cabinet and the drop-fronts as will be apparent.

As spring 18 associated with the pivot 14 and the rock bar 13 tends constantly to rock said rock bar 60 a position in which the lock bar having the hook elements with the upwardly facing hook formations is held at its limit of downward movement, as determined by any suitable stop means, and in which the lock bar having the hook elements with the downwardly facing hook formations is held at its upper limit of movement. In said positions of said lock bars, the hook formations of the respective hook elements are disposed below and above their related keeper elements 17, respectively, assuming that the drawers and their drop-fronts are closed, and, therefore, the drop-fronts are free to be opened and closed relative to the drawers and the drawers are free to be opened and closed relative to the cabinet.

Mounted in the front of the cabinet top 11 adjacent to the upper end of the lock bar 12 having the hook elements 15 provided with the downwardly facing hook formations 16, is a key controlled lock of any suitable type having a horizontally disposed, non-rotatable, inwardly and outwardly movable barrel or its equivalent 19 by which is carried a cam plate 20 for cooperation with the upper end of said lock bar. That is to say, said cam plate 20 has a portion 21 thereof extending upwardly and inwardly over the top of the said lock bar 12 and so related thereto that when the lock barrel 19 is in its outermost position, the said lock bar is permitted to assume its uppermost position under the influence of the spring 18, and when the lock barrel is moved to its innermost position, said plate portion 21 exerts a wedging or cam action upon the upper end of said lock bar and forces same downwardly to a position in which the hook formations of its hook elements engage the related keepers 17 thereby locking the drawers and their drop fronts closed. In this connection, it is understood, of course, that when the lock bar referred to is forced downwardly, the other lock bar is moved upwardly and thereby the drawers and their drop fronts are locked at both sides thereof.

Normally the lock barrel 19 is urged outwardly by a suitable spring 22 so that normally the spring 18 functions to maintain an unlocked status of the locking mechanism. On the other hand, said lock barrel, after being pushed inwardly to produce a locked status of the locking mechanism, may be retained in its innermost position in any suitable or desired manner. In this connection, the drawings illustrate that the lock barrel 19 is equipped with a pin 23 which is key projectable to engage the lock barrel casing or support 24 to prevent outward movement of the lock barrel from its innermost position.

If desired, there may be employed a coil spring 25 connected between the top of the cabinet top 11 and the lock bar 12 with which is associated the cam plate 20, to assist the spring 18 in moving the rock bar 13 and the lock bars 12 to their normal positions. In fact, a spring such as 25 arranged as shown or at any other convenient point may be employed for the purpose stated to the exclusion of the spring 18.

The keepers 17 preferably are yieldably mounted as shown or in any other suitable manner to assure their interlocking cooperation with the hook elements 15 without shock, it being pointed out in this connection that the vertical movements of said hook elements are in excess of that required to effect their engagement with and disengagement from said keeper elements and that during their engagement with said keeper elements, the latter yield.

Obviously, the hook elements 15 may be mounted on the lock bars 12 in any desired manner. As illustrated in the present instance, each hook element is provided with a pair of lugs 26 engaged in a pair of slots 27 formed in the lock bar to accommodate the same, and a screw 28 is employed to secure each hook element to its lock bar, the lugs 26 serving, as is apparent, to prevent rotary or other movements of the hook elements relative to the lock bars and to relieve the screws 28 of strains.

If it should be desired not to lock any one or more of the drawers when any other one or more of the drawers is locked, this may be provided for simply by removing the hook elements 15 associated with the drawer, or drawers, which are not to be locked. Moreover, the present locking means, instead of being provided at both sides of the cabinet, may be provided at only one side of the cabinet.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood, that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

I claim:—

1. In a cabinet having a drawer provided with a drop-front, a vertically disposed vertically movable lock bar at each side of the cabinet, a latch element on each lock bar, a keeper on the drop-front at each side thereof, a connection between said lock bars whereby they are vertically movable in unison and in opposite directions to cause their latch elements to engage said keepers when the drop-front and the drawer are closed, and key controlled lock means for moving said lock bars to cause the latch elements to lockingly engage said keepers.

2. In a cabinet having a drawer provided with a drop-front, a vertically disposed vertically movable lock bar at each side of the cabinet, a latch

element on each lock bar, a keeper on the drop-front at each side thereof, a connection between said lock bars whereby they are vertically movable in unison and in opposite directions to cause their latch elements to engage said keepers when the drop-front and the drawer are closed, spring means tending constantly to move said lock bars to positions in which said latch elements do not lockingly engage said keepers when the drawer and the drop-front are closed, and key controlled lock means for moving said lock bars to positions in which said latch elements lockingly engage said keepers when the drawer and the drop front are closed.

3. In a cabinet having a drawer provided with a drop front, a vertically disposed vertically movable lock bar at the side of the cabinet, a latch element on said lock bar, a keeper element on the drop-front, spring means for vertically moving said lock bar in a direction to cause said latch element to be disengaged from said keeper when the drawer and the drop-front are closed, a lock element mounted on the casing for inward and outward movement, a cam on said lock element disposed for cooperation with said lock bar upon inward movement of said lock element to positively vertically move said lock bar in a direction to cause said latch element to lockingly engage said keeper when the drawer and the drop-front are closed, key controlled means for locking said lock element in an inwardly moved position thereof in which the latch element is lockingly engaged with said keeper, and spring means separate from said first mentioned spring means for moving said lock element outwardly, thereby to permit said first mentioned spring means to move said lock bar to a position disengaging said latch element from said keeper, when said key controlled locking means is released.

4. In a filing cabinet having a drawer provided with a drop-front, latch means on the drop-front, cooperating latch means on the cabinet, spring means for urging the latch means on the cabinet to unlatched position, cam means on the cabinet manually projectable and effective positively when projected to move the latch means on the cabinet to latching position, spring means separate from said first mentioned spring means tending constantly to retract said cam means, and a key controlled lock for securing said cam means projected.

5. In a cabinet, a drawer, a vertically disposed vertically movable lock bar carried by the cabinet, a latch element on said lock bar, a keeper element on said drawer, spring means for vertically moving said lock bar in a direction to cause said latch element to be disengaged from said keeper when the drawer is closed, a lock element mounted on the casing for inward and outward movement, a cam on said lock element disposed for cooperation with said lock bar upon inward movement of said lock element to positively vertically move said lock bar in a direction to cause said latch element to lockingly engage said keeper when the drawer is closed, key controlled means for locking said lock element in an inwardly moved position thereof in which the latch element is lockingly engaged with said keeper, and spring means separate from said first mentioned spring means for moving said lock element outwardly, thereby to permit said first mentioned spring means to move said lock bar to a position disengaging said latch element from said keeper, when said key controlled locking means is released.

ALBERT THEODORE SWIMMER.