C. J. HICKS.

FILING CABINET.

APPLICATION FILED SEPT. 22, 1919

1,354,973.

Patented Oct. 5, 1920.

3 SHEETS—SHEET 1.

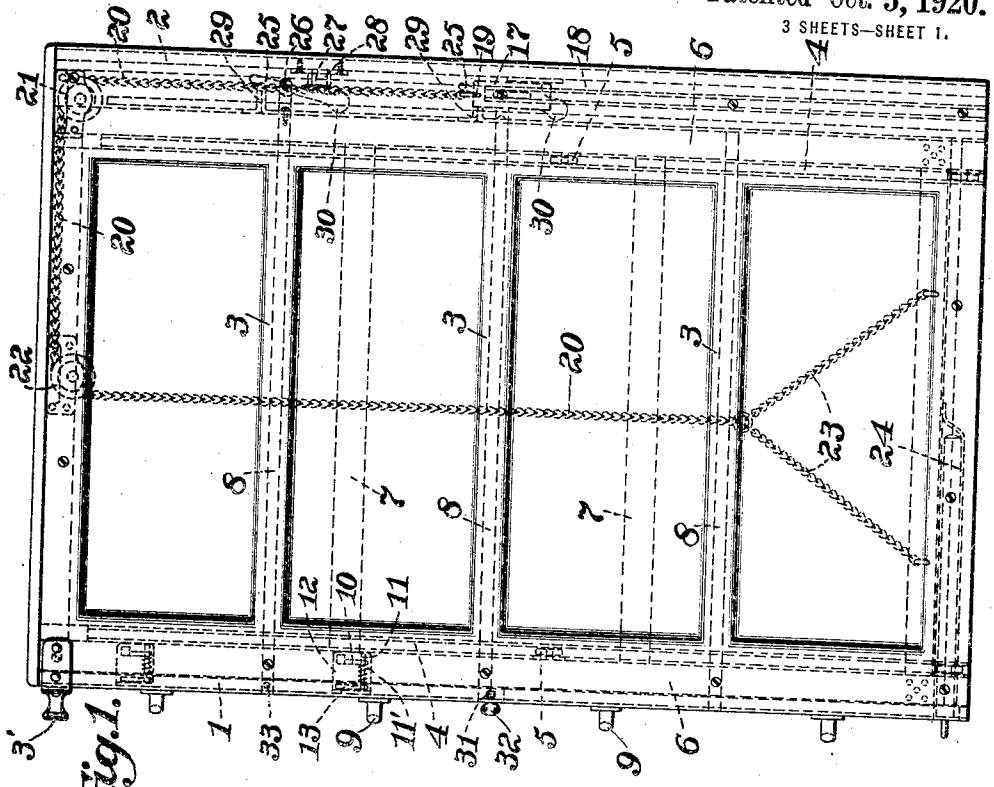


Fig. 1.

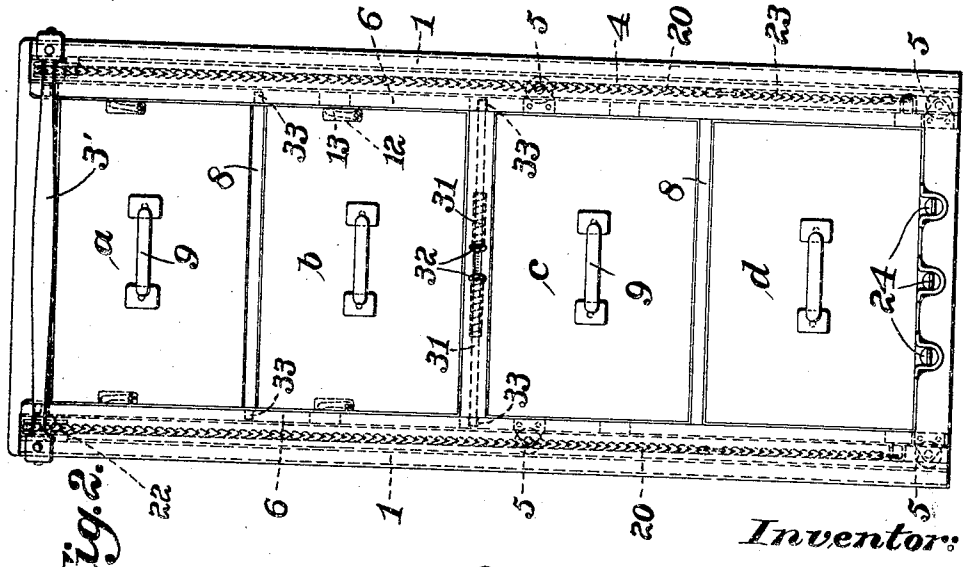


Fig. 2.

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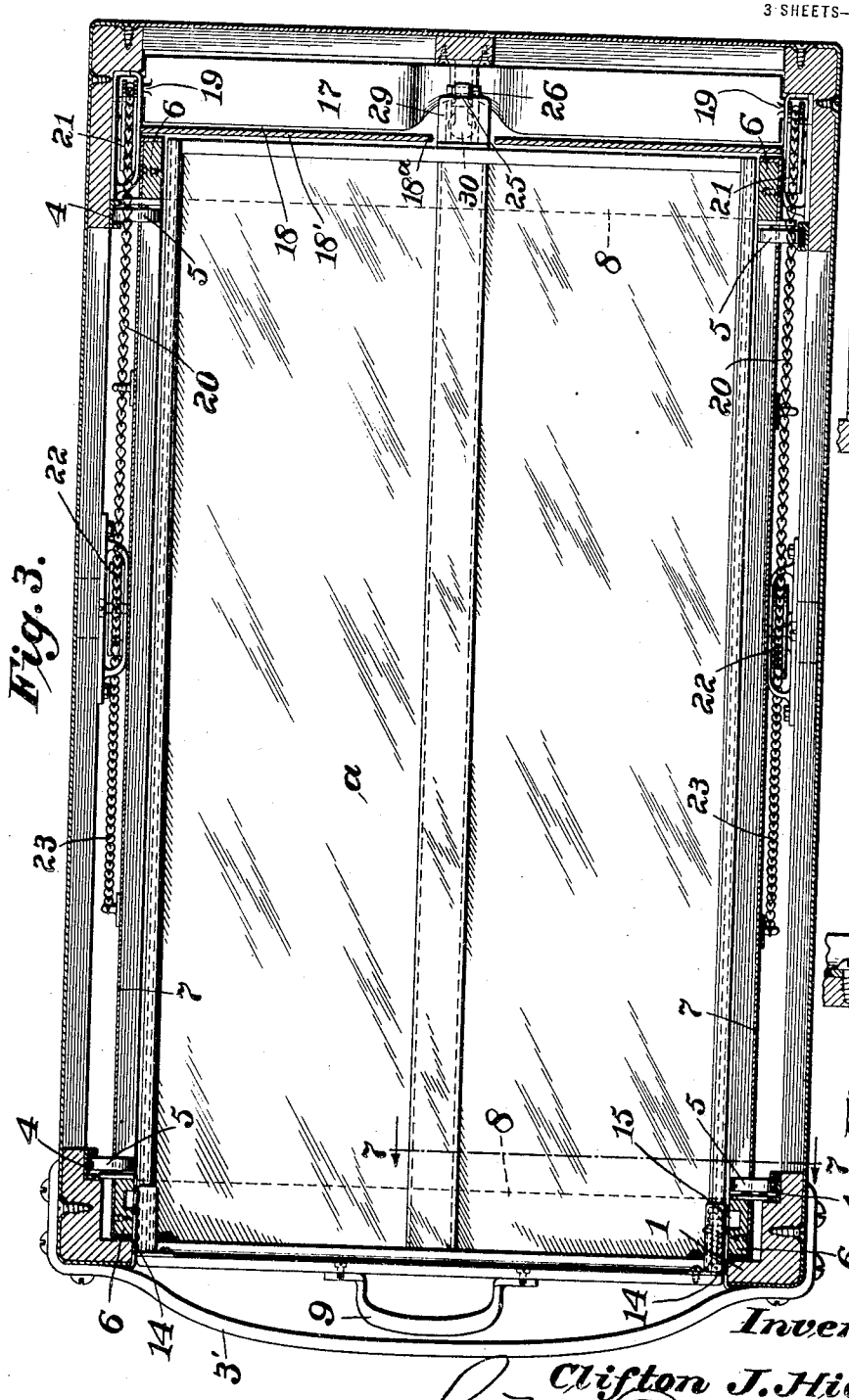
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3 SHEETS—SHEET 3.

Fig. 4.

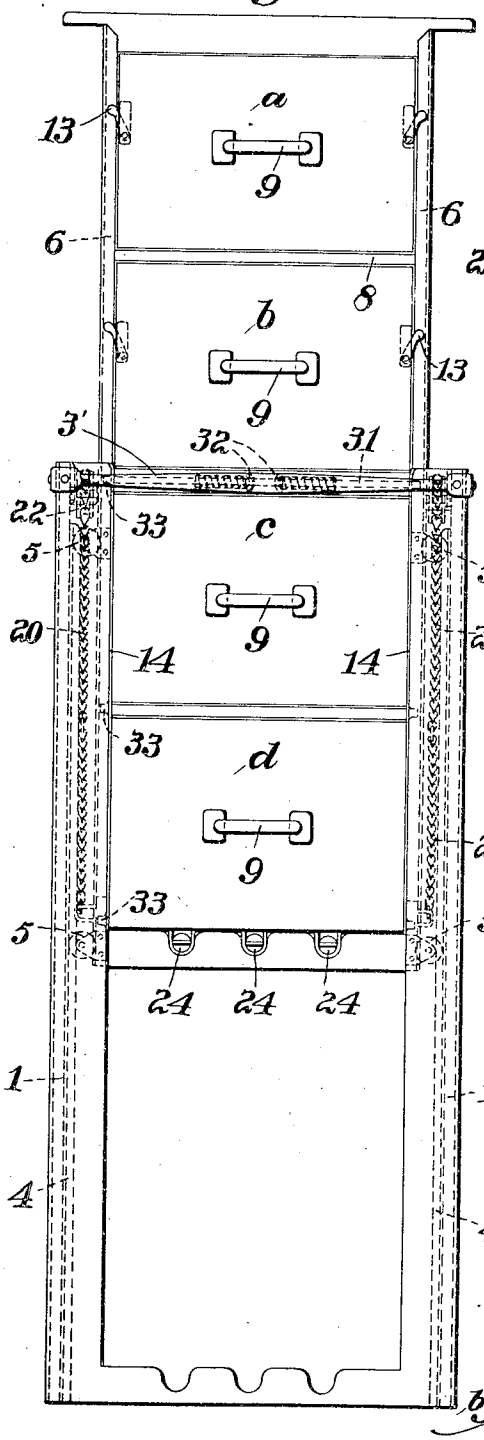


Fig. 5.

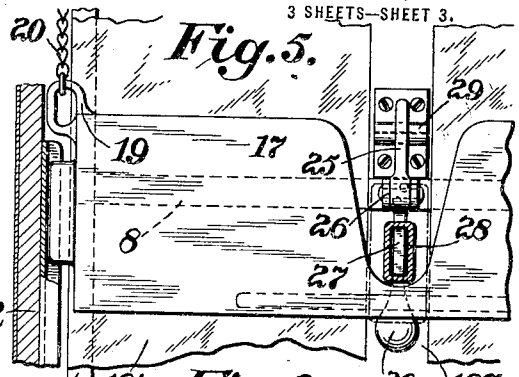


Fig. 6.

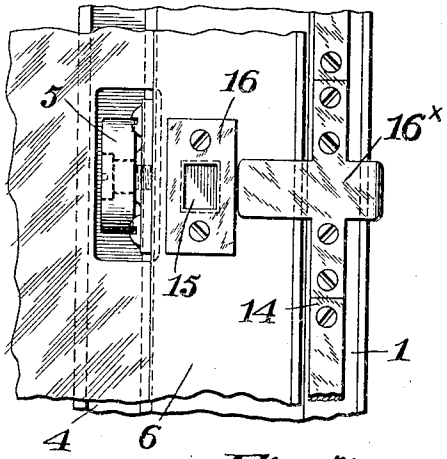
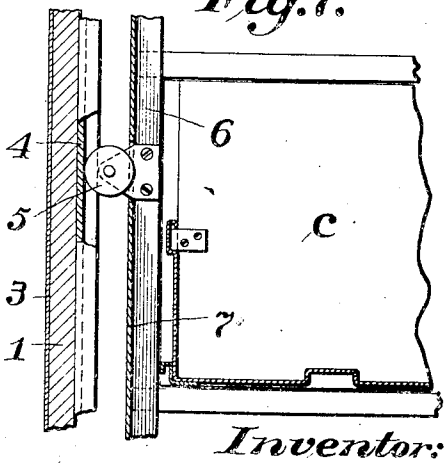


Fig. 7.



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UNITED STATES PATENT OFFICE.

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FILING-CABINET.

1,354,973. Specification of Letters Patent. Patented Oct. 5, 1920.

Application filed September 22, 1919. Serial No. 325,342.

To all whom it may concern:

Be it known that I, CLIFTON J. HICKS, a citizen of the United States, and resident of Riverdale, Maryland, have invented certain new and useful Improvements in Filing-Cabinets, of which the following is a specification.

I aim to provide a filing cabinet which will be capable to avoid stooping of the user in gaining access to the lowermost compartments or drawers of the cabinet.

The invention consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a side elevation of the cabinet embodying the invention.

Fig. 2 is a front view.

Fig. 3 is a horizontal sectional view, Figs. 3^a and 3^b are details.

Fig. 4 is a view similar to Fig. 2 with the series of compartments in elevated position to bring the lowermost compartment or compartments into an elevated plane to enable access to be gained thereto without requiring stooping of the user.

Fig. 5 is a detailed view looking from the rear of Fig. 1 showing the counter-weight and locking mechanism, a part of the frame being shown in section.

Fig. 6 is a detailed view of a lock keeper and associated parts.

Fig. 7 is a sectional detailed view on line 7—7 of Fig. 3 of guide means between the inner and outer members of the cabinet.

In these drawings the outer casing or cabinet is composed of vertical members 1, 2, at front and rear of each side which may be connected by intermediate panel portions and ribs 3 and the front vertical portions 1 have an open space between them, as shown in Fig. 2, and may be suitably braced by a cross bar or cross bars 3′ connected thereto. This outer casing has vertical guide ways at 4 within it which receive rollers 5 connected to the inner casing which is made up of end standards or posts 6 connected by any suitable form of panel portion such as shown at 7. This inner frame member carrying the rollers 5 is vertically movable on the vertical tracks or ways 4 and it carries the drawers or compartments which may be of any suitable number, four being shown at *a*, *b*, *c*, and *d*. The inner frame has cross partitions 8, Fig. 2, which provides the spaces in which the drawers *a*, *b*, *c* and *d* are located and movably mounted to be drawn forwardly in order to gain access to their contents. Each of the drawer members is provided with a handle 9 by which it may be manipulated.

Fig. 4 illustrates the inner frame in elevated position with the two lower compartments located at the proper level for manipulation without requiring the user to stoop down. The two upper compartments, *a*, *b*, lie in planes above the top of the outer casing and in order to prevent their manipulation when in this position, locking means are provided which will hold them in closed position. If some such locking means were not provided, a careless person or one not familiar with the operation of the cabinet, might pull forward one of the upper drawers and the weight of this over-hanging drawer and its contents might be sufficient to cause the cabinet to tip over. The locking means consists of an arm 10 mounted on a shaft 11, Fig. 3^a, the shaft having suitable bearings in a house 12 and carrying a controlling arm 13 adapted to work against a part of the main outer frame. When the inner frame is lowered to a position to bring the locking device below the upper edge thereof, at this time the arm 13 will work against a track member or portion 14 of the outer casing and the shaft 11 will be rocked to swing the bolt or lock arm 10 inwardly toward the center line of the cabinet and thus the locking device will be in released position and the drawer may be drawn forward so long as the inner member or frame of the cabinet is lowered to a position which will bring the locking device below the top edge of the outer frame or casing. When, however, the stack of drawers is lifted by the upward movement of the inner frame the controlling arm 13 will ride off from the track 14 of the outer frame and the spring 11′ will turn the shaft 11 and locking arm 10 so that the latter will enter the recess 15 in the post or standard portion 6 of the inner frame and the drawer, therefore, will be locked within the inner frame. The opening 15 for receiving the locking arm is bounded by a suitable wear member 16, shown in Fig. 6, and this figure also shows a wear member 16^x secured to the outer frame member and adapted to furnish

a track or wear piece for the bolts or arms 10 to work against when the drawer is pushed back into place.

Means are provided for counter-balancing the weight of the inner frame, this means being designed to give stability to the apparatus as well as enabling the person to operate it with expenditure of little power. This counter-balancing means consists of a weight 17 which is in the form of a long cross bar arranged in a space or boxing 18 at the rear of the frame, the ends of the weight being connected at 19, Fig. 3, with chains 20 extending upwardly over pulleys 21 and 22 mounted in suitable bearings in the outer frame and then extending downwardly, as shown in Fig. 1, with its lower end divided as at 23 and connected to the extreme lower portion of the inner frame or member.

When the inner frame is in normal or its lowest position, the weight member 17 would be about mid-way of the height of the apparatus, as indicated in dotted lines in Fig. 1. Now as the inner frame is lifted the weight 17 will lower and thus the center of gravity of the entire apparatus will be lowered to such an extent that tipping of the apparatus from its normal vertical position will be rendered practically impossible through accident or mistake.

Means are also provided for compensating for the increase in weight of the inner frame due to filling the drawers with the material to be stored therein. This compensating means consists of a series of comparatively small weights 24 arranged in recesses as shown in Fig. 4 and in dotted lines in Fig. 1 at the bottom portion of the inner frame. These weights are calculated together with the weight of the inner frame to just about counter-balance the weight of the member 17. They are removable so that as the drawers become filled and the counter-balance consequently is destroyed between the weight of the stack of drawers and the member 17, the counter-balance may be restored by removing at proper intervals the weights 24, one after the other.

It is desirable to provide means which will insure that the drawers are in closed position previous to the time that they are to be elevated so that a person unfamiliar with the operation of the cabinet will not raise the inner stack of drawers while any one of them is drawn into its forward position because here again the weight of this over-hanging drawer might be sufficient to tip the apparatus over from its normal position or such tipping might occur by the user or other person accidentally pushing against the cabinet.

Various means may be provided for insuring the closed position of the drawers before the inner frame can be elevated. As an illustration of such means I show latches at 25 pivotally mounted at the rear of the inner frame at 26 and having each a projection at 27 to engage a keeper 28 fixed to the rear wall of the outer casing. For operating these latches, each of the two uppermost drawers is provided with a projection 29 fixed to its rear wall and adapted when the drawer is closed to press against the upper end of the latch and disengage its tooth or projection from the keeper 28 so that then the inner frame may be lifted. So long, however, as either one of the drawers *a* and *b* stand open or partly open the corresponding latch will be free from the pressure of the projection and its weighted lower end 30 will swing the latch to position where its tooth or projection will engage the keeper and thus hold the inner frame against vertical movement until such time as the drawer is closed.

As above described, the outer frame of the casing, being open at the front, is braced by a cross bar 3′. This cross bar will also act as means for insuring the closing of either one of the upper drawers *a*, *b*, before the inner tier of drawers can be lifted all the way to their elevated position because should either of these drawers be standing open to any extent the handle thereof would strike against the cross bar 3 and prevent the elevation of the inner frame carrying the tier of drawers. This measure of safety may be increased by adding a second brace just at the level of the upper partition 8 so that the handle of the drawer *b* will strike against this brace in lifting the inner frame should the drawer *b* be partly open. Of course these cross bars must be of such a size and such location that they will not interfere with the opening of the drawers *a*, *b*, when the inner frame is in lowered position.

Reverting to Figs. 3 and 5, the partition 18′ forming the box for the weight 17 is divided at 18ª so that the projection 29 can extend into the boxing to engage the latch when the drawer is closed.

I do not limit myself to any particular details of means for insuring that the drawers be in closed position before the inner frame is elevated. Other means besides those described above may be employed. For instance, studs may be arranged on the main frame posts 1 projecting inwardly to enter slots or grooves formed in the sides of the drawers, these grooves having vertical portions and also horizontal portions, the vertical portions coming in alinement with the studs when the drawers are fully closed so that no obstruction is offered to the elevation of the inner frame with the drawers because the vertical grooves will allow the drawers to move up, in which action the studs would run in the vertical

grooves. When the inner frame is in its lowermost position the studs are in line with horizontal grooves in the sides of the drawers so that these may be pulled out, but in any of their open positions vertical movement of the inner frame will be prevented because of the engagement of these studs with the horizontal grooves.

I provide means whereby the inner frame may be held at different elevations consisting of spring bolts 31, Fig. 2, adapted to be operated by finger pieces 32. The ends of these bolts enter recesses 33 in the sides of the main frame.

I claim as my invention:

1. In combination in a filing cabinet, an outer supporting frame, an inner frame movable vertically within the outer frame, a tier of drawers horizontally slidable in the inner frame said inner frame when raised projecting above the outer frame and positioning the uppermost drawer above said outer frame and locking means operating automatically to lock said uppermost drawer to the inner frame in retracted position when raised above the level of the outer frame and to automatically release the uppermost drawer when the inner frame is lowered, substantially as described.

2. In combination with an outer frame, an inner vertically movable frame carrying a series of slidable drawers and locking means for the upper drawer or drawers to prevent them from being open when elevated, said locking means operating automatically to release the drawers when the inner frame is lowered and to lock the drawers when the inner frame is raised, and consisting of a locking member and a controlling member therefor operated by contact with a part of the main frame to release the lock when the inner frame is lowered, substantially as described.

3. In combination with an outer frame, a vertically movable inner frame carrying a tier of slidable drawers, locking means for the upper drawer or drawers, a spring for setting the locking means in position to hold the drawer against opening when the inner frame is lifted and a controller to contact with a portion of the main frame when the tier of drawers is lowered to thereby release the locking means, substantially as described.

4. In combination with an outer frame, an inner frame carrying a series of slidable drawers and vertically movable in relation to the outer frame to bring the lower drawers to proper level for convenient operation, and locking means between the inner frame and the outer frame for preventing the elevation of the inner frame except when the upper drawer or drawers are in closed position, said locking means being automatically released by moving the drawer to its inward position and being automatically set when the drawer is moved outwardly, substantially as described.

5. In combination with an outer frame, an inner frame carrying a series of slidable drawers and vertically movable in relation to the outer frame to bring the lower drawers to proper level for convenient operation, and locking means for preventing the elevation of the inner frame except when the upper drawer or drawers are in closed position, said locking means comprising a catch on the inner frame, a keeper on the main frame to be engaged thereby, and means for operating the latch when the drawer is closed to release it from the keeper, substantially as described.

6. In combination with an outer frame, a vertically movable inner frame for a tier of drawers slidably mounted therein, locking means for the upper drawer or drawers operable automatically to hold the same in closed position within the inner frame by the elevation of the inner frame above the outer frame, and means for insuring the closing of the upper drawer or drawers before the inner frame can be lifted, each of said drawers being accessible to permit pulling force being exerted thereon in either their elevated or lower positions, substantially as described.

7. In combination, a main outer frame, an inner vertically movable frame carrying a tier of slidable drawers, said outer frame having a front which is open substantially throughout its length, rendering the drawers accessible to outward pulling force in both elevated and lowered positions, and coacting members attached to the inner and outer frames to obstruct the vertical movement of the inner frame when the lower drawer or drawers are open, substantially as described.

8. In combination, a main outer frame, an inner vertically movable frame, carrying a tier of slidable drawers, said outer frame having a front which is open substantially throughout its length, rendering the drawers accessible to outward pulling force in both elevated and lowered positions, and means to obstruct the vertical movement of the inner frame when the lower drawer or drawers are open, said means including a latch pivoted to the inner frame, provided with a lug engaging a recess in the outer frame, substantially as described.

9. In combination in a filing cabinet, an outer frame having a front substantially open throughout its height, a tier of vertically movable drawers within said outer frame, each of said drawers being accessible to be pulled out when the tier of drawers is in either lowered or elevated position and means automatically for locking the upper drawer or drawers against pulling out when

the tier is elevated and said upper drawers lie above the level of said outer frame, substantially as described.

10. In combination in a filing cabinet, an outer frame having a front substantially open throughout its height, a tier of vertically movable drawers within said outer frame, each of said drawers being accessible to be pulled out when the tier of drawers is in either elevated or lowered position and locking means for automatically preventing the upper drawer or drawers against pulling out when the tier is elevated and locking means for automatically preventing the elevating of the tier of drawers while the upper drawers are pulled out substantially as described.

11. In combination an outer frame, a tier of drawers vertically movable within the outer frame, said outer frame having a front open substantially throughout its height to permit the drawers to be pulled out when in lowered position, an inner frame carrying the tier of drawers and a lock individual to and carried by the upper drawer or drawers for automatically locking the same to the inner frame by elevation of the inner frame above the outer frame, substantially as described.

12. In combination an outer frame, a tier of drawers vertically movable within the outer frame, said outer frame having a front open substantially throughout its height to permit the drawers to be pulled out when in lowered position, an inner frame carrying the tier of drawers and an automatic lock individual to and carried by the upper drawer or drawers for locking the same to the inner frame by the elevation of the inner frame above the outer frame, and automatic means for preventing the upward movement of the inner frame when the lower drawer or drawers is in its outward position substantially as described.

In testimony whereof I affix my signature.

CLIFTON J. HICKS.