

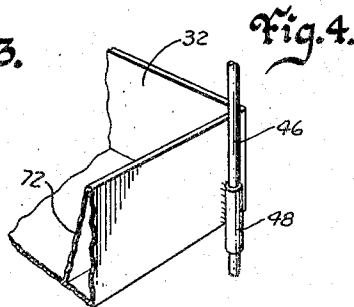
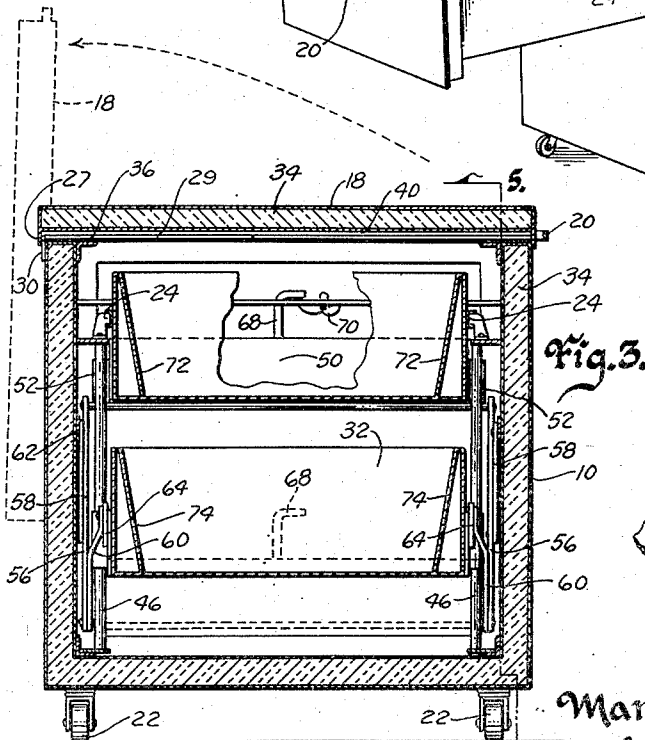
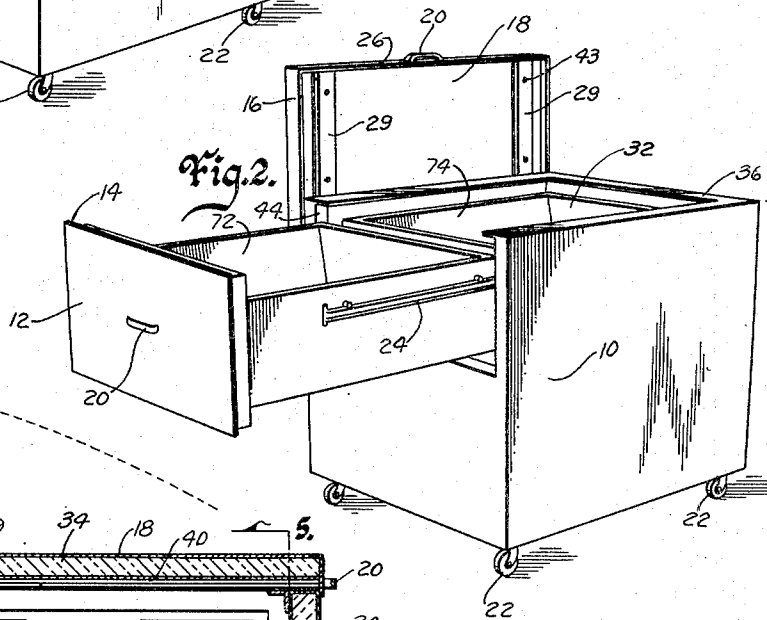
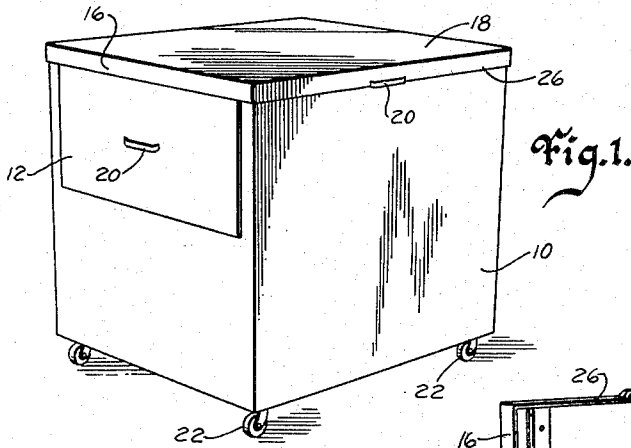
Aug. 20, 1957

M. M. CALDERON  
DUAL TRAY TUB FILE

2,803,514

Filed Nov. 12, 1954

2 Sheets-Sheet 1



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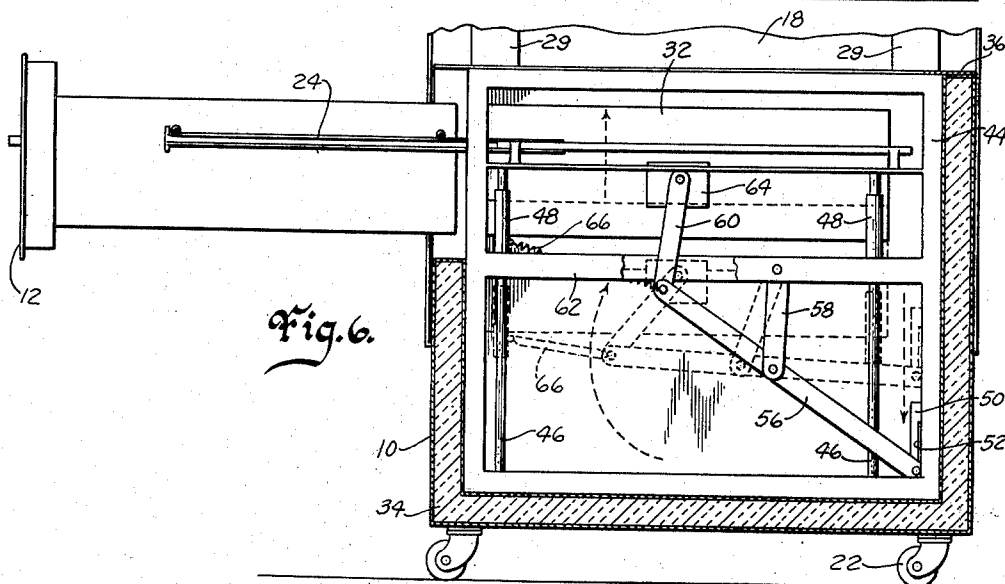
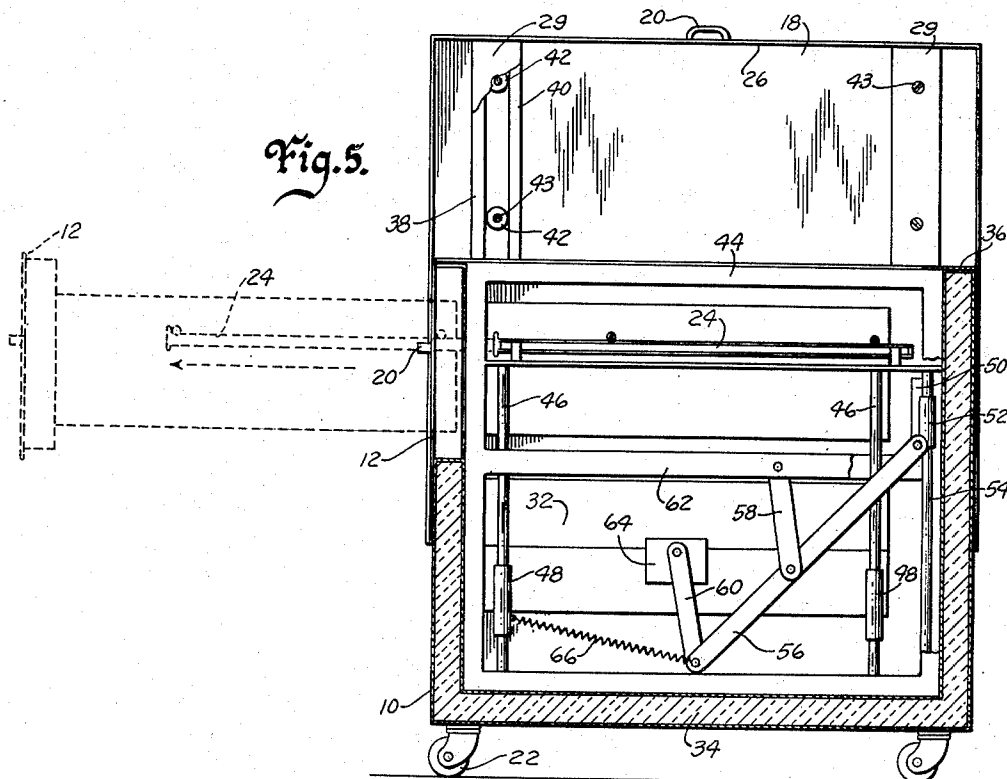
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2,803,514

DUAL TRAY TUB FILE

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8 Claims. (Cl. 312—311)

This invention is a two drawer or tray, opened top when in use file. It is of the type generally referred to as "tub" files in the art. It is novel primarily, because the two trays that can be placed on a level with each other for use as a file are disposed one above the other when in storage and the mechanism for placing them on a level with each other is enclosed entirely within the cabinet of the device. This makes it possible to have a file of this type which can be fireproofed. One of the trays moves horizontally and is referred to herein as a drawer. The other of the units moves vertically and is called a compartment to distinguish it from the drawer. The compartment occupies the space vacated by pulling the drawer out when the file is opened for use and recedes below the drawer for storage.

The objects of this invention are to provide a dual tray tub file that:

1. Can be fireproofed.
2. That is extremely strong to resist damage to the contents of the file in the event the file is subjected to a great shock.
3. Can be opened for use quickly and easily.
4. Can be closed into a fireproof condition rapidly.
5. Incorporates a simple, compact mechanism for raising and lowering the compartment which mechanism can be entirely enclosed within the cabinet of the file.
6. Has a mechanism mounted on a separate frame that can be removed from the cabinet for servicing of the mechanism.

While the foregoing specifically stated objects are the principal ones of my invention, it is my intention to have as objects thereof any such that may be clear to those skilled in the art after they have read this specification, including the claims, and examined the accompanying drawings which are briefly described as follows:

Fig. 1 is a perspective view of the file in a closed condition.

Fig. 2 is a perspective view of the file open and ready for use.

Fig. 3 is a vertical sectional view of my file with a portion of the drawer broken away to show the construction of the device more clearly; broken lines illustrate adjusted positions of the parts.

Fig. 4 is an enlarged, fragmentary perspective view of one corner of the compartment showing the arrangement of the guide post and guide.

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 3 and drawn to the same scale as that figure. The top of the file is shown in a raised position and portions of the frame are broken away to permit certain elements of the mechanism to be illustrated. Broken lines illustrate an adjusted position of the drawer.

Fig. 6 is a similar view to that shown in Fig. 5 and drawn to the same scale as that figure except that the drawer is shown extended and the compartment is shown raised. Broken lines illustrate an adjusted position of the compartment and its raising linkage.

Referring to the drawings, I have shown the cabinet

generally at 10 as being an approximate cube with the side broken only at one point by the drawer front 12, which as shown in Fig. 1, has its upper edge 14 in Fig. 2 overlapped by the flange 16 of the closed top 18. Conventional handles 20 and casters 22 are provided for convenience. The top 18 may be provided with any suitable form of a conventional lock (not shown) by means of which the entire cabinet may be held closed because the top engages and holds closed the drawer.

In Fig. 2, drawer 12 is shown extended on its conventional roller track 24. This is readily accomplished after the top 18 is opened by first lifting the top until flange edge 16 no longer engages the upper portions of drawer 12 and then sliding the top until a substantial portion of the top extends laterally over the side of the cabinet 10 and serves to counter balance the majority of the remaining weight of the top. A slight lifting action on the handle of the top is all that is necessary to swing the top up into the position shown in Fig. 2. As sliding tilting forms of tops are well known in the art, the structure is not described in detail. After the top has been raised, the drawer 12 may be pulled out and the space above the compartment 32 is then clear for the compartment to rise into the position previously occupied by the drawer and be on a level with the drawer. The practical effect of this is provide a large "working file" of the tub type all portions of which are at desk level. The file is also held to a width that can be reached across by the average file clerk although it is very large capacity.

As shown in Fig. 5, the entire bottom of the cabinet is closed with only a portion of one wall cut out to permit the drawer 12 to slide out through it. The cabinet is double walled with insulation 34 provided for fireproofing. The drawer 12 is provided with a double walled front which is filled with a heat resisting material also designated 34. Insulation 34 also fills the space in the hollow top 18. The upper edge of the cabinet proper is finished with a squared, U-shaped flange member 36. This completes the description of the cabinet as it appears to the user.

I turn now to a description of the mechanism for supporting and moving vertically the compartment 32. It is the concept of moving the compartment vertically and the means for accomplishing this feat shown in the preferred form of the invention that are the most important part of this invention. I recognize that other structures might be adaptable to my invention, and I do not intend to limit myself to this particular preferred structure and thereby exclude mechanical equivalents of my structure that may fall within the scope of appended claims.

Within the cabinet 10 and slidable vertically therein is the frame 44 which supports the conventional rollers of the drawer 12. Secured to the frame also are the vertical guide posts 46 which are slidably embraced by the guides 48 that are secured to compartment 32. A counterweight 50 is also mounted for vertical sliding movement on the frame by means of the guides 52 which are secured to the counterweight and slidably embrace the posts 54 that are secured to the frame 44. The counterweight 50 provides the major energy for lifting the compartment 32. It is connected to the compartment by the following linkage. The main lifting lever 56 is pivotally secured to the counterbalance and also to the fulcrum link 58 and the lifting link 60. The fulcrum link 58 is also secured to the cross bar 62 of the frame 44 while the other end of the lifting link is secured pivotally to the plate 64 that is secured to the compartment 32 itself. A resilient member such as the coil spring 66 is secured from one of the guides 48 that are secured to the compartment and to the joint between the lifting lever and the lifting link. The spring serves as an aid to the counterbalance in beginning the movement of the compartment from either of its

up or down at-rest positions. It will be noted from an inspection of Fig. 6, that the spring is under tension only when the compartment is either up or down. In the intermediate position, there is little or no tension on spring 66. Fig. 5 shows the spring under tension for the beginning of the up movement. The amount of lift offered by the counterbalance can be controlled to some extent by changing the amount of weight. It is customary for this type of file to be used at or near capacity at all times, however, so there is little practical advantage in so doing. The weight is set at the amount that is adapted to counterbalancing the weight of compartment 32 plus a capacity load of filing material. As it is more difficult to lift the compartment than to force it down, the counterbalance is made slightly heavier than the compartment and its contents. Spring 66, because it is secured to the compartment and moves up and down with it, offers the same starting impetus from either of the at-rest positions of the compartment. To insure the compartment remaining down so that the drawer 12 can be slid back over the compartment when the latter is down, a hook 68 is secured to the counterbalance and it engages toggle latch 70 that is secured to the frame 44. The spring loaded toggle latch 70 is of the familiar screen door holding latch in which a U-shaped element is engaged by the door to "toggle" the latch into a cocked position when the door is opened and springs shut on top of the door after being triggered off by the door striking it as it goes closed. As very little force is necessary to hold the counter balance up and the compartment down, this form of a spring loaded toggle latch has been found to be very satisfactory.

While only the linkage on one side of the compartment has been described, it is clear from an examination of Figures 3, 5 and 6 that similar linkage is also positioned on the other side of the compartment. There is also another resilient element comparable to spring 66 but it is not shown.

When the compartment 32 is raised the spring 66 and its counterpart (not shown) pull the linkage forward as shown in Fig. 6 with broken lines. The pivoted fulcrum links and lifting links make this movement possible. As the counterweight sinks to the bottom of the cabinet, the linkage swings back again as shown in Fig. 6 with solid lines. In this position, the compartment is raised to the level of the drawer 12 which was previously pulled out. The compartment is lowered by a reverse of the raising process, and at the top of the travel of the counterweight, the hook 68 engages the spring loaded toggle latch 70 to hold the weight up and the compartment down so that the drawer can be returned to its closed position in preparation for closing the file. It will be noticed that the spring 66 and its counterpart are secured to the guide sleeve so that it moves with the compartment. When the compartment has been lowered and the drawer returned to its closed position, the top can then be swung to a horizontal position and slid back over the cabinet. As the top reaches a position centered over the cabinet, the flanges of the top can drop down over the side of the cabinet with the flange 16 retaining the drawer 12 against opening.

The false sides 72 and 74 for the drawer and the compartment respectively may be provided if desired to permit the filing work to be held closer together at the bottom than at the top which makes it more easily scanned than is true if it is held with the material in a truly vertical position.

By the use of the structure described herein, a file of really remarkable capacity can be placed in a relatively confined space. Since all of the mechanism is contained within the cabinet, the cabinet is closed at the bottom

and may be made truly fireproof. The separate frame inside the cabinet, not only makes it possible to withdraw the entire working mechanism for servicing, but also makes it a unit of extraordinary strength to resist damage to the safe or file and its contents such as might otherwise occur through shock or jolts administered to the unit by falling itself in a fire damaged building or by having objects fall on it. All of the joints of the unit should be made with anti-friction joints of some nature. I have found ball bearings to be very satisfactory.

Having thus disclosed my invention both by showing and describing a practical though not exclusive embodiment of it and by pointing out the inventive concepts involved in arriving at this structure, I now point out particularly what I believe to be my invention in the following claims.

I claim:

1. In a tub file; an open topped cabinet; a horizontally slidable drawer within said cabinet and withdrawable therefrom selectively; and a vertically moveable compartment mounted in said cabinet below said drawer when said drawer is in said cabinet and adapted to be raised to the level of said drawer to occupy the space vacated by moving said drawer when said drawer is withdrawn from said cabinet.

2. The tub file of claim 1 in which said compartment has means operatively associated with it to hold it at rest in a position in which it is placed by external force.

3. The tub file of claim 2 in which said means for holding said compartment in a lowered position is a toggle latch.

4. The tub file of claim 3 in which vertical guide posts are secured to said frame; vertical guides slidably embracing said guide posts and secured to said compartment; a counterbalance moveably secured to said frame; a link pivotally secured to said compartment; a fulcrum link pivotally secured to said frame; a lever arm pivotally secured to said link, said fulcrum link and said counterbalance; and L-finger secured to said counterbalance; said toggle latch being secured to said frame and engaging said L-finger at times.

5. The tub file of claim 4 in which a spring is secured to said guide and the pivot of said lever arm and said link.

6. In a vertically movable filing compartment structure; a frame; vertical guide posts secured to said frame; a compartment; guides secured to said compartment slidably embracing said vertical guide posts; a counterweight slidably secured to said frame; a fulcrum link pivotally secured to said frame; a link pivotally secured to said compartment; and a lever arm pivotally secured to said link, fulcrum link and counterweight.

7. The vertically moveable filing compartment structure of claim 6 in which a spring is secured between said guide and the pivot between said link and lifting lever.

8. In a tub file; an open topped cabinet; a frame slidably fitting within said cabinet; a drawer moveably secured to said frame to reside in said cabinet and be horizontally withdrawn therefrom selectively; a vertically moveable compartment secured to said frame below said drawer and adapted to be raised to the level of said drawer to occupy the space vacated by moving said drawer when said drawer is withdrawn from said cabinet.

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