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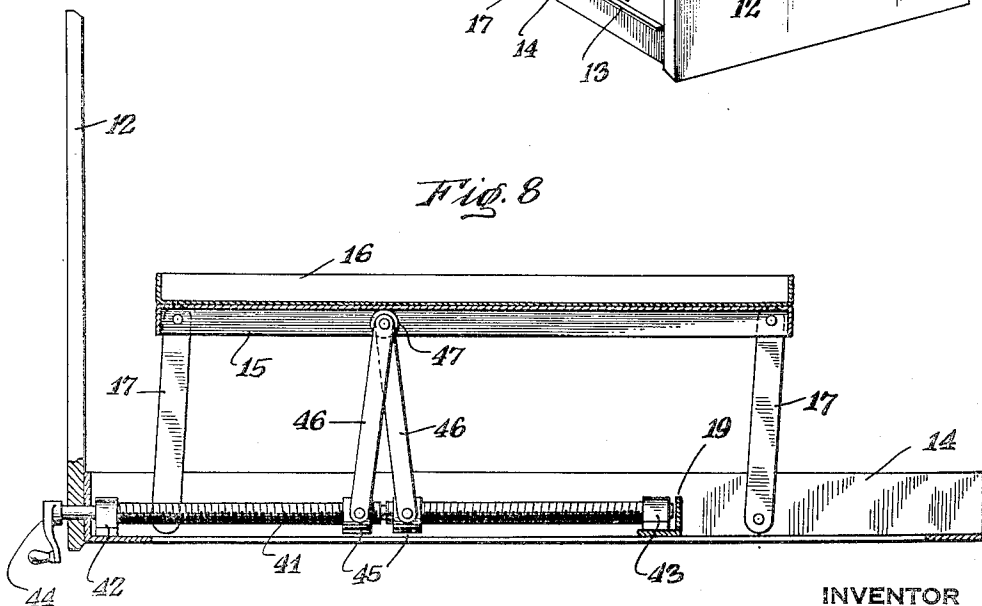
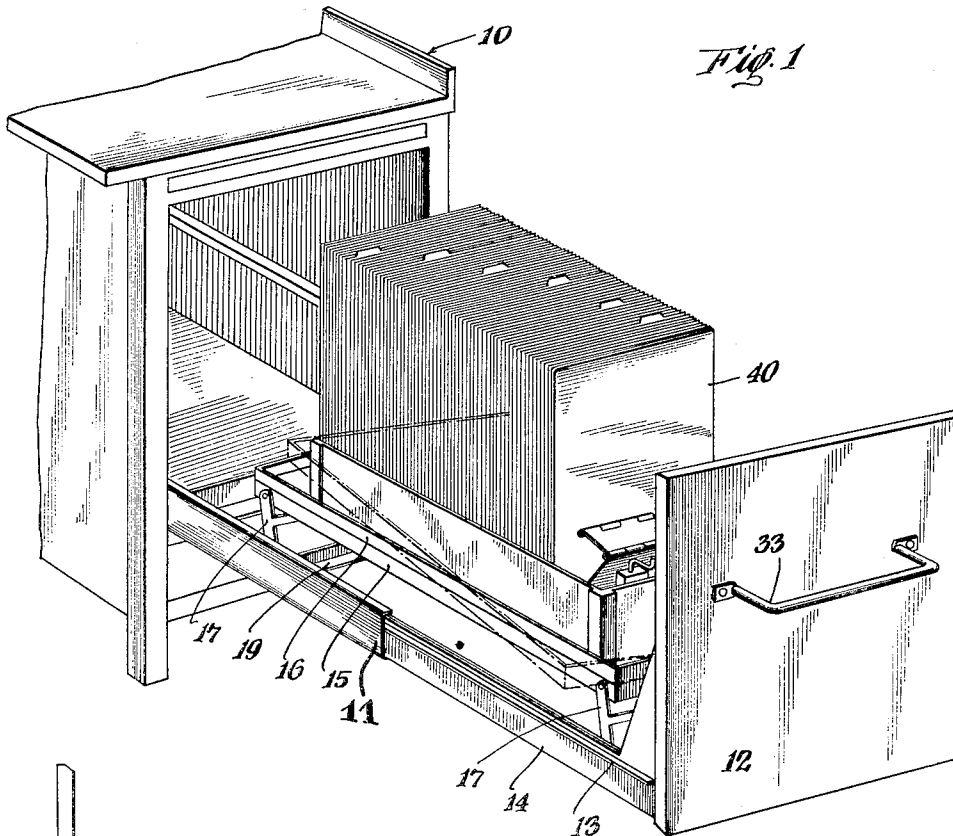
P. A. MIRABELLA

1,934,370

FILING DRAWER

Filed Dec. 12, 1931

3 Sheets-Sheet 1



INVENTOR

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BY HIS ATTORNEY

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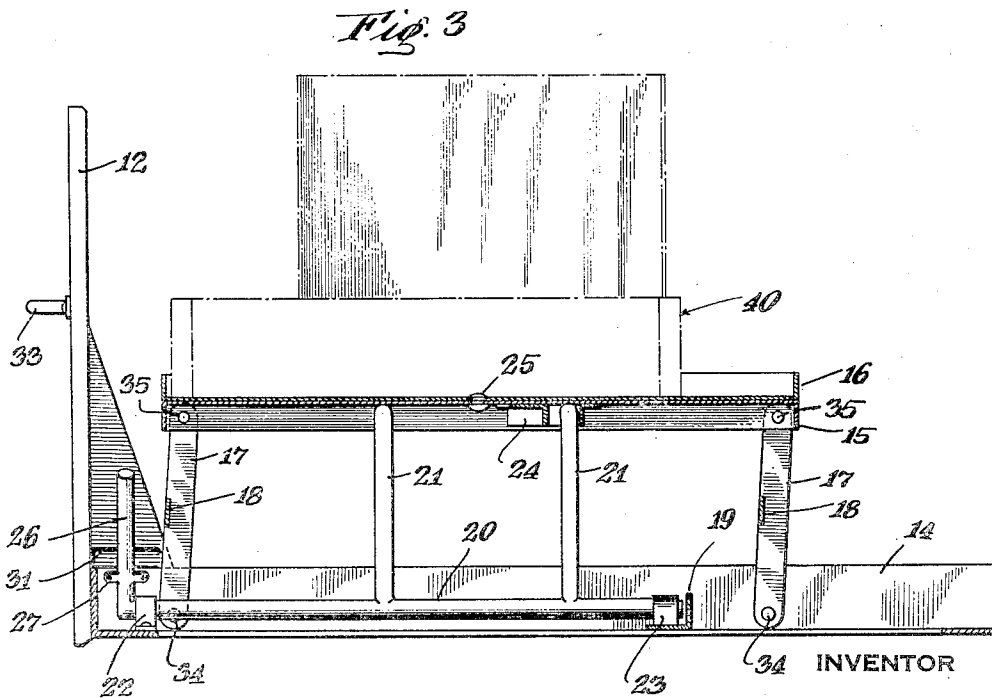
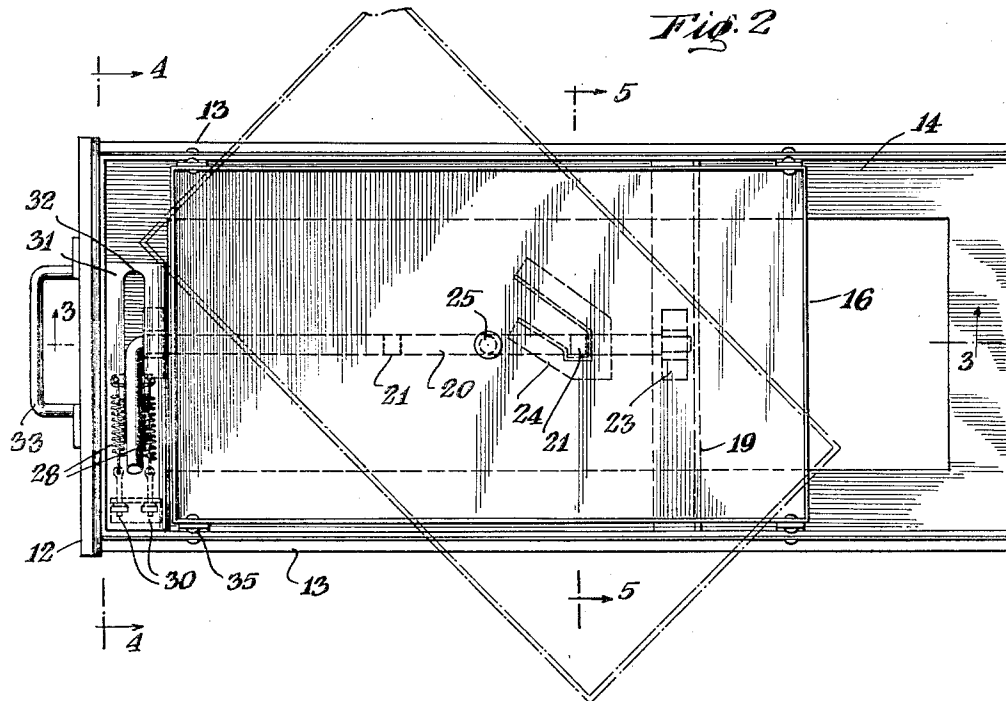
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3 Sheets-Sheet 3

Fig. 4

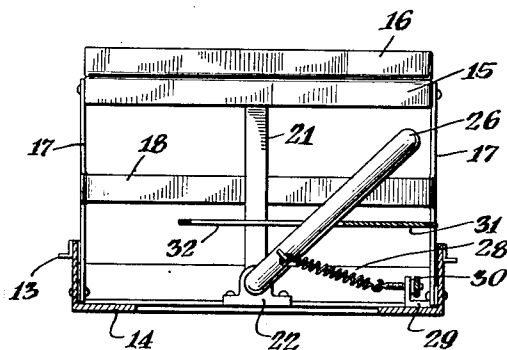


Fig. 5

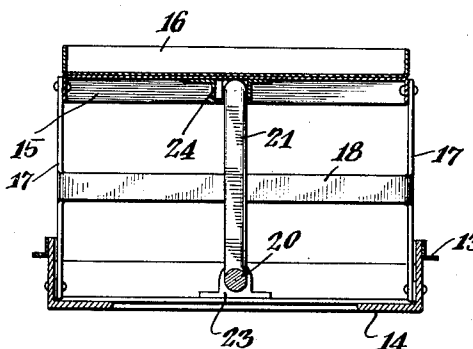


Fig. 6

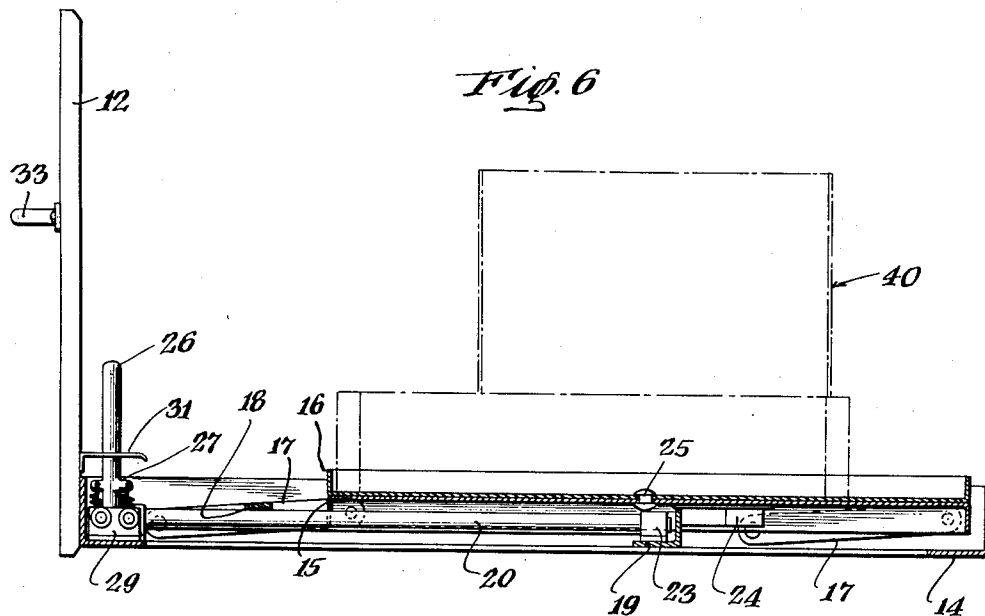
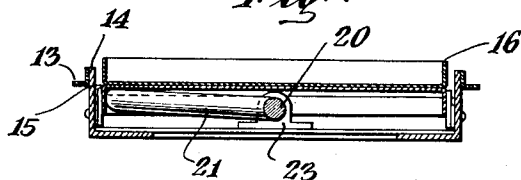


Fig. 7



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FILING DRAWER

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Application December 12, 1931

Serial No. 580,535

6 Claims. (Cl. 45—7)

This invention relates to filing drawers and more particularly to desk drawers of this character. It is particularly adapted for use in conjunction with the desk of a bookkeeping machine operator.

One object of this invention is a compact filing drawer.

Another object of this invention is the conservation of desk space.

Another object is to utilize the maximum amount of drawer space while at the same time reducing the inconvenience to the operator to a minimum.

Another object of this invention is to increase efficiency with a minimum of extra cost.

Other objects will appear from the detailed description which follows:—

In the drawings comprising three sheets of eight figures numbered 1 to 8 inclusive;

Figure 1 is a perspective view of a desk drawer embodying the invention showing a fragmentary view of a portion of the desk;

Figure 2 is a top plan view of the drawer of Figure 1 with the index and file cards removed;

Figure 3 is a side view of the drawer of Figure 2 with the file in raised position partially in section taken along the line 3—3 of Figure 2 looking in the direction of the arrows;

Figure 4 is a front view of the device partially in section taken along the line 4—4 of Figure 2 looking in the direction of the arrows;

Figure 5 is a sectional view taken along the line 5—5 of Figure 2 looking in the direction of the arrows;

Figure 6 is a side view of the device of Figure 3 in collapsed position and partially in section;

Figure 7 is a sectional view of the device in collapsed position; and

Figure 8 is a side view partially in section of a modification.

Like reference characters designated corresponding parts throughout the several figures of the drawings.

The desk 10 of which only a fragment is shown may be of any conventional form having a large drawer 12 in one section thereof. The section may also include an additional drawer positioned preferably beneath drawer 12 which will occupy the upper portion of the drawer tier. The drawer may be slidably mounted in the desk 10 in any suitable form of guideway but it is preferably mounted in the conventional form of ball bearing guideway 11. The guideway 11 is adapted to receive the main supporting members or frame work 14 of the drawer 12 having the L shaped

extensions 13 secured thereto whereby the frame work 14 is slidably supported in the guideways 11 of desk 10. A tray carrier frame work 15 carrying the index tray 16 rotatably secured thereto as at 25 is connected to the frame work 14 of drawer 12 by means of a plurality of parallel links 17 pivotally connected to the frame work 14 at 34—34 and to the tray carrier 15 at 35—35. By means of the links 17 the tray carrier 15 and consequently the index tray 16 may be raised and lowered within the drawer 12 as indicated in Figures 3 and 6 or Figures 5 and 7. The links 17—17 are strengthened by means of the interconnecting cross brace members 18—18 (compare Figures 3, 4 and 5). These cross brace members 18 may likewise function as stop members to arrest the collapsing movement of the filing tray as best indicated in Figure 6 where the cross brace 18 is shown resting against the actuator 20.

The frame work 14 is further strengthened by means of the cross brace 19 (compare Figures 2 and 6). The actuator 20 is centrally journaled relative to the frame work 14 in the bearings 22 and 23, the latter being secured to the cross brace 19. The actuator 20 is provided with a plurality of radial extension arms 21—21 constituting lever members pressing against the underside of the tray carrier 15 to control the raising and lowering thereof. The actuator 20 terminates in a handle 26 which is swingably moveable in a guideway 32 formed in the shelf-like extension 31 projecting inwardly from the interior of the front wall of the drawer 12. The handle 26 is provided with ear-like extensions 27 threaded to receive the ends of the coiled springs 28—28. The opposite ends of said springs are adjustably secured to the bracket 29 (compare Figures 4 and 6). The tension of the springs 28 may be varied by means of the adjustable nuts 30—30.

To raise the tray carrier 15 the handle 26 is moved into the position indicated in Figures 2, 3 and 4, and the levers 21 press against the underside of the tray carrier 15 forcing the parallel link mechanism 17—17 to swing about the pivots 34—34 to move from a horizontal to a substantially vertical position. In swinging the handle 26 from the lowered position (Figure 6) to the raised position (Figures 2, 3 and 4) of the tray carrier 15 the tension of the coiled springs 28 is diminished and the energy stored up in the springs 28 is consumed in raising the tray carrier 15 against the influence of gravity acting upon the index tray 16 and the card index 40. Similarly when the handle 26 is moved in a counter clockwise direction (see Figure 4) until it as-

sumes the position shown in Figure 6 when the tray carrier 15 is in collapsed position the downward movement of the tray carrier forces the levers 21—21 into a horizontal position best indicated in Figure 7 and the tension of the springs 28—28 is increased to store up energy for raising the tray carrier 15 and index 16 when the device is again brought into the raised position. By adjusting the tension upon the coiled springs 28 to substantially counterbalance the weight of the index 40 and index tray 16 the operator will not be required to expend energy when swinging the handle 26 from the raised to the lowered position of the device or vice versa.

In the raised position of the tray carrier 15 one of the levers 21 engages in the channel formed in the locking member 24 as best indicated in dotted lines in Figure 2 to lock the device in raised position against premature collapsing. In raised position the index 40 will appear substantially as indicated in bold outline in Figures 1, 2 and 3, and the operator now rotates the index tray 16 relative to the tray carrier 15 about the pivot 25 in the direction indicated in dotted lines in Figures 1 and 2 until the index tray 16 is positioned at right angles to the tray carrier 15 when the index cards 40 will be facing the seated operator at a convenient height for easy manipulation.

The method of operation is as follows:—The operator first pulls the drawer outwards from its closed position by means of the handle 33 whereby the frame work 14 slides freely in the guideway 11 until the tray carrier 15 carrying index tray 16 and index 40 is clear of the drawer opening. The handle 26 is next moved in a clockwise direction from the position shown in Figure 6 to that shown in Figure 4 causing the tray carrier 15, index tray 16 and index 40 to be raised to the position best shown in Figure 3 and the lever 21 will lock in the guideway formed in the locking member 24. The operator now rotates index tray 16 about the pivot 25 until the index 40 is in the most accessible position which will ordinarily be when the index tray 16 is at right angles to the tray carrier 15. When the operator is finished with the index the index tray 16 is rotated about the pivot 25 until the index tray 16 and tray carrier 15 are in alignment. When the handle 26 is moved in a counter clockwise direction from the position shown in Figure 4 to that indicated in Figure 6 the tray carrier 15 and consequently index tray 16 and index 40 are lowered by means of the parallel link mechanism 17—17 until the top of the index cards 40 are lower than the front of the drawer 12. The drawer 12 is now restored to its normally closed position in the desk 10. The device constitutes a simple arrangement for bringing the contents of an index into the position of maximum accessibility to the operator, and the top of the desk is at all times clear for other purposes. The mechanism is simple and inexpensive and may be embodied in any standard desk equipment at very small additional cost.

Various alternative embodiments of the invention will suggest themselves to those skilled

in the art. One such variation is shown in Figure 8 where the actuator 20 is replaced by the rod 41 journaled in the bearings 42 and 43 and rotatable by means of the handle 44. The rod 41 is provided with right and left threads. The rotation of the handle 44 causes the collars 45—45 to travel towards and from each other causing the links 46—46 carrying the roller 47 to be elevated and depressed thereby raising and lowering the tray carrier 15 or its links 17—17 in substantially the same manner as previously described. The index tray 16 will be rotatably mounted relative to tray carrier 15 by means of a pivot 25 as before. Other variations of the principles involved will also be obvious to those skilled in the art.

What is claimed is:

1. The combination with a file drawer of a tray carrier, an index tray pivotally connected to said carrier and rotatable relative thereto, means operable to lower and raise said carrier and tray into and out of said drawer, and manually operated means for controlling said lowering and raising operation.

2. In a filing device and in combination, a drawer having a bottom member, manually controlled means for raising and lowering said bottom member out of and into said drawer, and a tray rotatably secured to said bottom member.

3. In a filing device and in combination, a drawer having a bottom member, a spring, manually controlled means for controlling the lowering of said bottom member against the increasing tension of said spring and for controlling the raising of said bottom member to reduce the tension of said spring, and a tray rotatably secured to said bottom member.

4. In a filing device and in combination, a drawer having a movable bottom member, means for mechanically elevating and depressing said bottom member relative to said drawer, and a tray rotatably secured to said bottom member.

5. In a filing device and in combination, a drawer having a movable bottom member, a spring, means for mechanically elevating said bottom member to release said spring and for depressing said bottom member to tension said spring, and a tray rotatably secured to said bottom member.

6. In a filing device and in combination, a drawer having a movable bottom member, and means for mechanically elevating and depressing said bottom member comprising a roller bearing against the underside of said bottom member, a pair of links pivotally connected together, said pivot constituting a spindle for said roller, a pair of collars, pivotal connections between the opposite ends of said links and said collars, and a manually rotatable right and left hand screw shaft, said collars being threaded to said right and left hand shaft portions and movable towards and from each other on said shaft to operate said links and roller to raise and lower said bottom member, the direction and extent of movement of said collars being dependent upon the direction and extent of rotation of said shaft.

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