Feb. 10, 1942. R. R. WEST 2,272,537

FILING DRAWER

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Fig. 2.

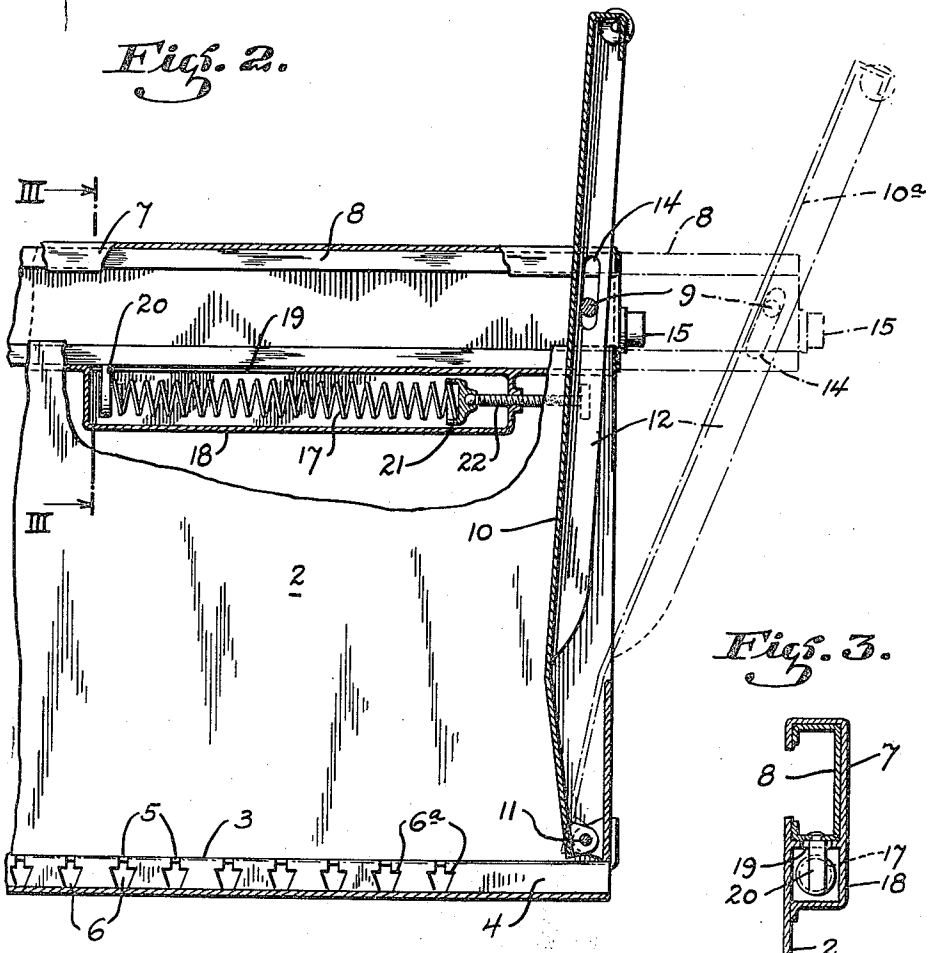

Fig. 3.

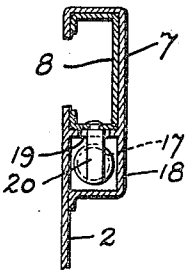

Fig. 1.

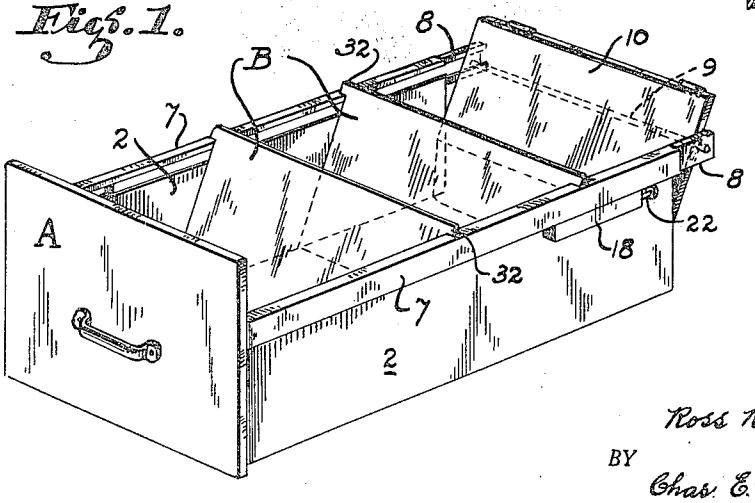

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Fig. 4.

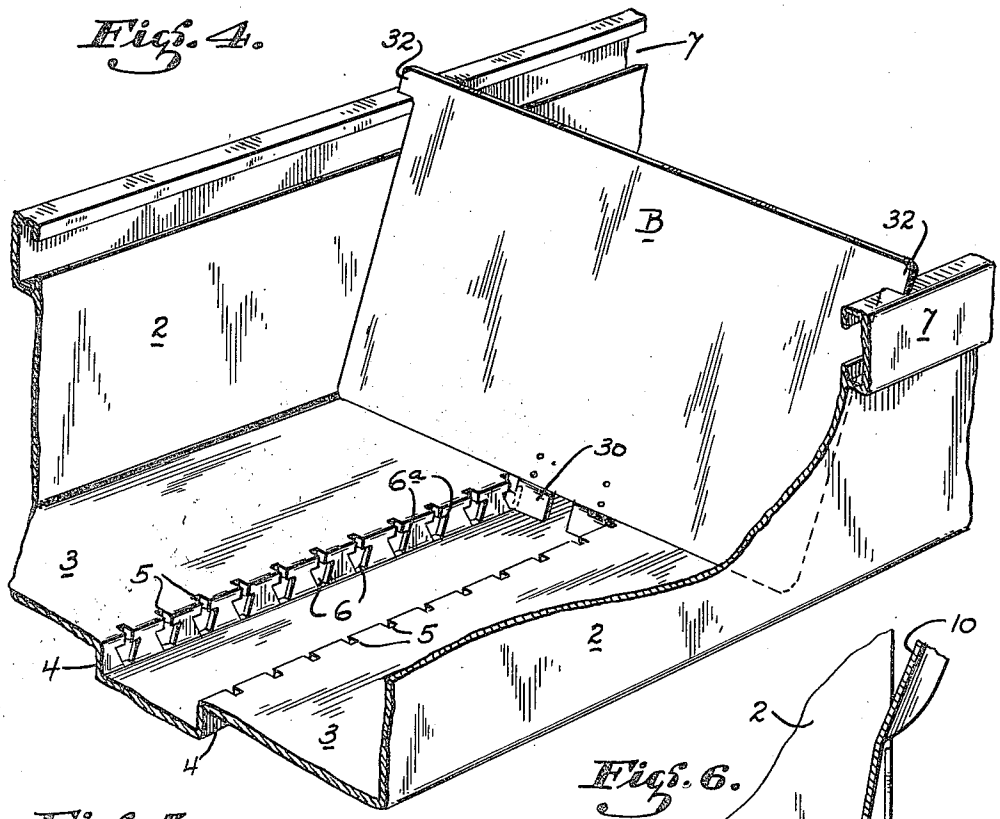


Fig. 6.

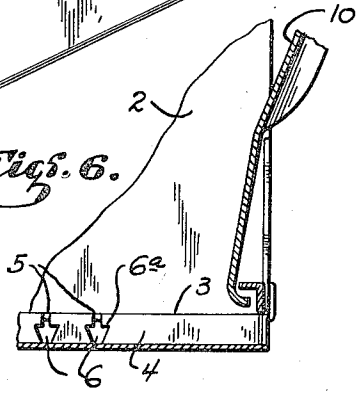
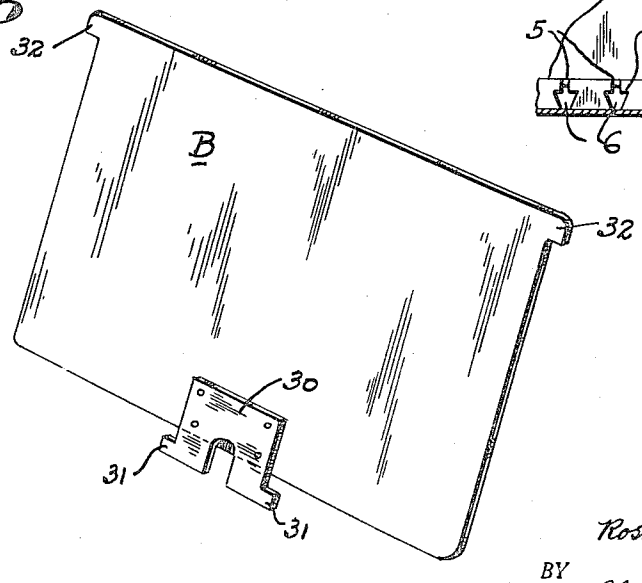


Fig. 5.



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2,272,537

UNITED STATES PATENT OFFICE

2,272,537

FILING DRAWER

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Application August 22, 1939, Serial No. 291,358

8 Claims. (Cl. 45—7)

This invention relates to filing drawers, and particularly to a compression plate disposed at the rear end of the drawer whereby the files contained in the drawer may be readily expanded when the drawer is opened and conversely compressed when the drawer is closed.

In Patent No. 1,887,882, a file drawer is disclosed which is provided with a pair of slidable and extensible side bars between which is pivotally mounted a movable follower plate. These sliding bars, together with the pivoted follower plate cause compression of the files within the drawer during closing and expansion of the files during opening. The compressing action is obtained by forcing the back or rear ends of the sliding bars against the inside frame or back of the cabinet in which the drawer is mounted, the sliding movement being approximately three inches. This motion first forces the follower plate and the files into a vertical position and then moves the files bodily along the bottom of the drawer from one and one-half to three inches. The amount of push or force necessary to accomplish the compression and movement of the files in closing the drawer is objectionable to most operators. Furthermore, compression and movement of this character is purely theoretical and not practical where speed filing is essential.

The object of the present invention is to generally improve and simplify the construction and operation of filing drawers and the follower or compression plate contained; to provide a compression plate which is hinged at its lower edge to the rear end of the drawer so that compression at the bottom edges of the files is constant; to provide a compression plate the upper end of which is movable only and which is spring actuated to normally compress the upper ends of the files but permitting the operator of the file to expand the contents at the top for the purpose of removal or examination of the contents; to provide an adjustable spring actuating mechanism so that any desired pressure may be applied to the files; and further, to provide a structure which is economical to manufacture and which may be readily installed and applied.

The invention is shown by way of illustration in the accompanying drawings, in which:

Fig. 1 is a perspective view of a file drawer;

Fig. 2 is an enlarged central vertical section of the rear end of the drawer;

Fig. 3 is a cross section taken on line III—III of Fig. 2;

Fig. 4 is a perspective view of a portion of the drawer showing one of the removable spacer plates;

Fig. 5 is a perspective view of one of the removable spacer plates; and

Fig. 6 shows a modified form of the lower end of the compression plate.

Referring to the drawings in detail, and particularly to Figs. 2 and 4, A indicates the front panel of a filing drawer, 2—2 the sides, and 3 the bottom thereof. In the bottom proper and extending centrally and longitudinally is a depressed channel with side walls 4—4 in which are formed uniformly spaced slots 5 terminating in enlarged V-shaped notched ends as indicated at 6. The purpose of these combination notches and slots will hereinafter appear.

The upper side edges of the drawer are channeled as indicated at 7—7, and these channels form guideways for a pair of sliding bars 8—8 which are connected at the rear ends by a cross rod 9. Forming a closure for the rear end of the drawer is a compression plate 10 which is hinged as at 11 at its lower edge to the rear bottom portion of the drawer. The ends of the plate 10 are flanged as indicated at 12, and vertically disposed elongated slots 14 are formed in the flanges through which the cross rod 9 extends.

The side bars 8 have a limited sliding movement of from one to three inches, and as they are connected by the cross rod 9 and this extends through the slots 14 formed in the flanges on the follower plate, this plate will swing about its hinges 11 from the full line position shown in Fig. 2 to the dotted line position indicated at 10a during opening movement of the drawer, and the movement will be reversed during closing. Bumpers 15 on the rear ends of the sliding bars and rollers on the upper edge of the compression plate will engage the frame of the cabinet in which the drawer is mounted and by push action on the part of the operator will force the bars back into the channels 7 in which they are mounted.

It is preferable, however, to maintain the side bars in retracted position and the compression plate in a consequently vertical position during normal operation whether the drawer is open or closed. This is accomplished by employing a pair of compressing springs 17, one on each side of the drawer. These springs are mounted in suitable housings 18 disposed below each of the channels 7. A slot 19 is formed in each channel and fastened to each side bar 8, and projecting into each housing 18 is a lug 20 which engages with

one end of each spring. The opposite end of each spring seats in cups 21 carried by screw rods 22. These have a threaded engagement with the ends of the housings 18 and, by proper adjustment, any degree of pressure may be exerted by the springs on the lugs 20 and, through the side bars and the compression plate 18 actuated thereby, sufficient pressure is exerted to normally maintain the upper ends of the files under balanced compression; but they will at the same time permit the operator of the file to expand the contents at the top for the purpose of removing or examining the contents.

In Patent No. 1,887,882, previously referred to, the follower plate is hinged approximately two-thirds of its height above the bottom. This location of the hinge has the disadvantage of crowding the contents forward at the bottom and in practice forces the contents to lift up off the bottom of the drawer. In other words, in actual operation, the contents are first lifted up and later slump down and some files will remain up and some down; hence uniform visibility of the upper edges of the files is not maintained. Obviously if one can employ a follower or compression plate which is permanently hinged at the bottom of the drawer and at the same time permit expansion of this plate and the files within the drawer, then forced compression at the bottom is eliminated and the contents will remain in visible alignment without the disadvantage above referred to. In the improved structure disclosed in this application certain of the essential parts of the patent heretofore referred to are employed, to-wit, the sliding bars, and substituting for the movable follower board a compression plate located at the rear of the drawer and hinged or hooked into the bottom thereof and adding the spring action to this compression plate, the effect of which will be to automatically restore to a balanced vertical position the compression plate, the spacer plates, and the file contents whenever they have been spread apart. The spring action furthermore eliminates the necessity of forced compression during the closing of the drawer. At the same time the springs may be so adjusted to the weight of the contents of the drawer that the operator of the file can readily expand the contents at the top for the purpose of removing or examining the contents.

If it is desired to subdivide the contents of a drawer, spacer plates such as shown at B (see Figs. 1, 4 and 5) may be employed. These plates have a bottom plate 30 riveted or otherwise secured thereto, on the lower and outer edges of which are formed laterally extending lugs 31. Lateral lugs 32 are similarly formed at the upper end of the spacer plates B so that they will normally rest on top of the channels 7 and assume an inclined position. To change the position of the spacing plates it is only necessary for the operator to grasp them by their upper edges and to swing them to a vertical position, when the plates B, together with the lugs 31, may be lifted vertically out of the notches and slots 5. The plate may then be moved longitudinally to any desired position and while still held vertically is dropped in to the notches 5 and then released to tilt either forwardly or rearwardly. In the tilted position, the plates B are locked against removal, as the lateral lugs 31 will engage shoulders 6a in each of the notches 6 and will remain in engagement until the plates B assume a vertical position. These plates, together with the follower plate, positively avoid sliding movement of the lower edges of the files along the bottom of the drawer. The lower edges of the files will thus remain under constant compression, and this is as it should be, as it is only the upper portions or edges of the files that require expansion when they are to be open for examination, etc.

In Fig. 2 the rear compression plate 10 is shown as hinged to the rear and bottom portion of the drawer. This is not absolutely essential, as the lower edge of the compression plate might be hook-shaped as shown in Fig. 6 to interlock with a similar shaped hook of the rear edge of the drawer.

While this and other features of the invention have been more or less specifically described and illustrated, I wish it understood that various changes may be resorted to within the scope of the appended claims, and that the finish and materials may be such as the experience of the manufacturer may dictate and other conditions demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer, springs acting on said bars to urge the bars to move from their position, when extended, to their retracted position, a cross rod connecting the bars, and a connection between the rod and the compression plate whereby the upper end of the compression plate will swing rearwardly of the drawer during rearward movement of the bars.

2. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer, springs acting on said bars to urge the bars to move from their position, when extended, to their retracted position, a cross rod connecting the bars, and a vertically slotted flange on each side of the compression plate through which the cross rod extends to cause the upper end of the compression plate to swing rearwardly of the drawer during rearward movement of the bars.

3. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer, a cross rod connecting the bars, a connection between the rod and the compression plate whereby the upper end of the compression plate will swing rearwardly of the drawer during rearward movement of the bars, and a spring connected with the sliding bars to cause said bars, when extended, to be returned to their retracted position and at the same time cause the pivoted compression plate to be returned to a vertical position.

4. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer, a cross rod connecting the bars, a vertically slotted flange on each side of the compression plate through which the cross rod extends to cause the upper end of the compression plate to swing rearwardly of the drawer during rearward movement of the bars, and a spring connected with the sliding bars to cause said bars, when extended, to be returned to their retracted position and at the same time cause the pivoted compression plate to be returned to a vertical position.

5. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the

rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer and adapted when the drawer is opened to be manually moved to project beyond the rear end of the drawer, a cross rod connecting the bars, a vertically slotted flange on each side of the compression plate through which the cross rod extends to cause the upper end of the compression plate to swing rearwardly of the drawer during rearward movement of the bars, a compression spring disposed on each side of the drawer, a lug on each sliding bar engaging one end of an adjacent spring, and adjustable means engaging the opposite end of each spring to vary the compression of the springs, said springs normally maintaining the bars in a retracted position and the pivoted compression plate in a vertical position.

6. In a filing cabinet drawer a compression plate pivotally attached at its lower edge to the rear end of the drawer, a pair of bars slidably mounted one in each side of the drawer and adapted, when the drawer is opened, to be moved to project beyond the rear end of the drawer, a connection between each bar and the compression plate whereby said plate will swing about its pivot in a rearward direction when the sliding bars are projected beyond the rear end of the drawer, and spring means acting on the bars to move them from their extended position to their retracted position and to maintain the compression plate in a vertical position.

7. The combination with the drawer of a filing cabinet of a compression plate pivotally attached at its lower edge to the rear end of the drawer, a sliding bar running in guides on each side of the drawer, springs acting on said bars to return said bars from an extended position to a retracted position, and a pivotal connection between the follower plate and each of said spring actuated bars.

8. The combination with the drawer of a filing cabinet of a compression plate pivotally attached at its lower edge to the rear end of the drawer, a sliding bar running in guides on each side of the drawer, springs acting on said bars to return them from an extended position to a retracted position, a pivotal connection between the follower plate and each of said spring actuated bars, and means to vary the tension of said springs acting on said bars.

ROSS R. WEST.