March 12, 1957 H. E. ELSDEN-KING ET AL 2,785,036

CABINETS

Filed Dec. 21, 1954 2 Sheets-Sheet 1

Fig. 1.

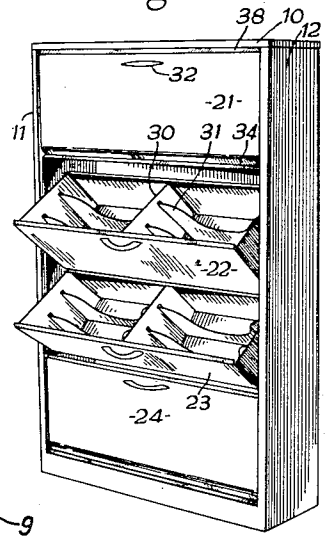


Fig. 2.

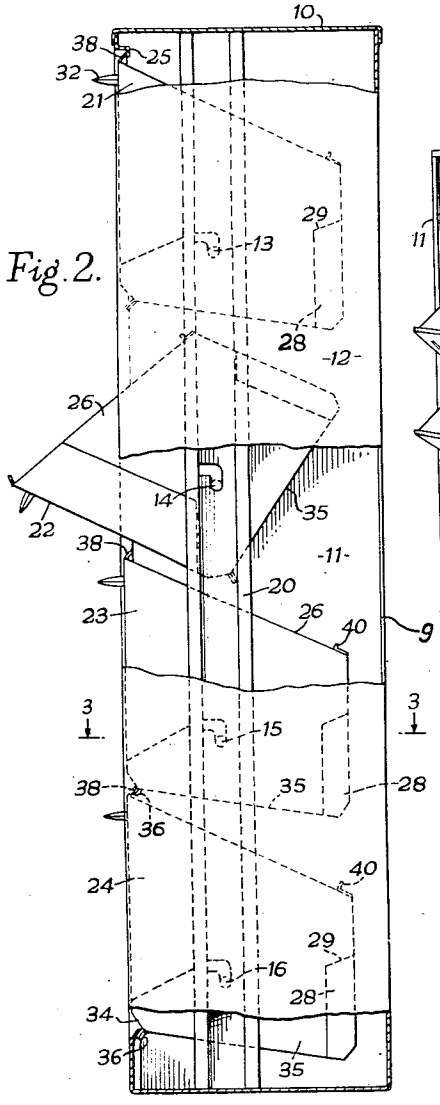
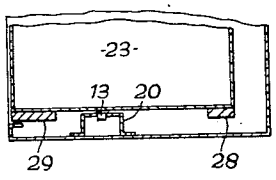


Fig. 3.



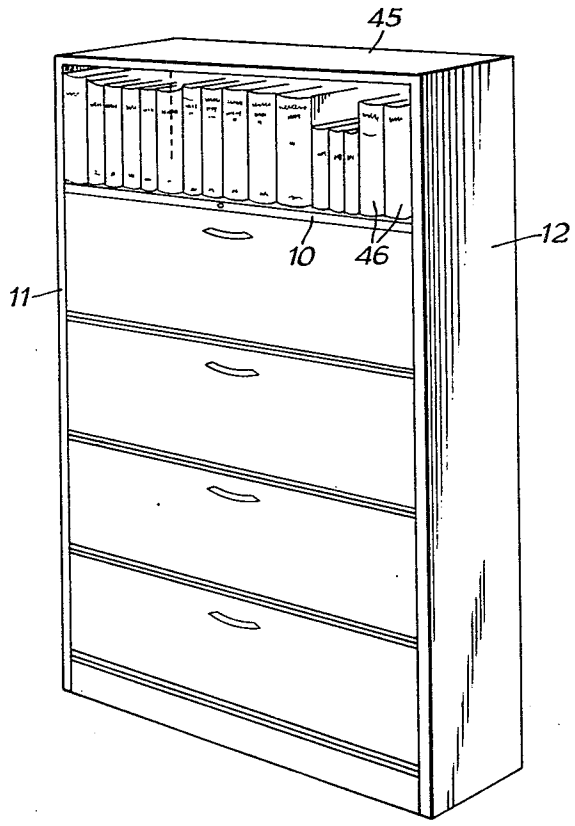
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Fig. 4.



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CABINETS

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5 Claims. (Cl. 312—327)

This invention relates to cabinets for containing articles and more particularly to filing cabinets for containing files of papers. Such cabinets are usually provided with a number of drawers which slide in and out on runners. These drawers have the disadvantages that they do not display the contents conveniently at all heights, require expensive runners, and are generally very deep in order that they may be economic in view of the expensive runners. Also when the drawers are pulled out the cabinet may tip over upon the user.

According to the present invention the cabinet comprises a casing and at least two filing boxes disposed one above the other and tiltably mounted in the casing so that they can be opened and closed tiltably, each box having a partition extending in the direction from front to rear dividing the box into two compartments each of which is wide enough to accommodate foolscap filing wrappers with their length widthwise of the cabinet, means being provided to limit the opening movement of each box at a position in which the front wall of the box is at an angle to the horizontal.

Preferably the boxes are each mounted in the cabinet for tilting movement around a position which is disposed from 15 to 45 percent of the depth (front to back) of the box from the front of the box and in the lower part of the box, means being provided for limiting the opening movement of the box at positions in which their centre of gravity (both when empty and when full) is disposed forwardly of the said position but with the front walls of the boxes well above the horizontal.

The axes or tilting positions of the boxes may be disposed at a position from 15 to 45 (preferably 25 to 40) percent of the depth (front to back) of the boxes from the front of the box and in the lower part of the box e. g. from 2.5 to 35 (preferably 10 to 35) percent of the depth above the floor of the box. With this selected position the box can be tilted without bringing the lower rear corner of the box very far rearwardly and the back of the cabinet can therefore be normally quite near the backs of the boxes e. g. the distance between the back of the cabinet and the backs of the boxes may be 2 to 20 percent of the depth of the boxes. This position of the pivots will also enable the front lower corner of the box to clear the front wall of the box beneath.

In carrying out the invention it is desirable to combine the following objects, viz: (1) an adequate tilting motion (2) maximum depth (front to back) and (3) minimum height for a given number of drawers in the cabinet. At the same time it is necessary that the front lower corner of the drawer shall not move into the path of the tops of the files in the drawer below and similarly the rear top corner shall not move into jamming contact with the bottom of the drawer above.

We have now found that this can be achieved by forming the drawer with its base inclined so that the rear of the base is from one to four inches (preferably two to three inches) lower than the front of the base when the drawer is closed.

It is also important to form the box with a front lower edge chamfered or radiused to such an extent that the normal parts of the base and front wall (i. e. the parts adjoining the chamfered or radiused parts) are from one half to one and a half inches from the intersection of the planes of the base and front wall.

As a result, it is possible to provide drawers to contain 10 inch deep files, the drawers being 12 inches deep overall at the front and 9 to 10, e. g. nine and a half, inches deep front to back whereby the dimension from lower front bottom corner or chamfered surface to top rear file will not exceed the height at the front. The depth will thus usually be from 75 to 85 percent of the overall height at the front.

The tilting of the drawer may be through 40 to 60°.

The invention will now be further described by way of example with reference to the accompanying diagrammatic drawings wherein:

Figure 1 is a perspective view of a cabinet made in accordance with the invention;

Figure 2 is a view of the cabinet partly in side elevation and partly in section;

Figure 3 is a horizontal section of one side of the cabinet on the line 3—3 on Figure 2; and

Figure 4 is a perspective view of a modified form of the cabinet.

The cabinet has a casing consisting of top, side and rear closed walls **10, 11, 12** and **9**. The depth (front to back) is about 11 to 14 inches and the height may be about 50 to 54 inches. Four boxes **21, 22, 23, 24** are mounted on pivots **13, 14, 15, 16** located in a common vertical plane. Each of the side walls **11, 12** has a vertical batten **20** attached thereto on the inner side thereof. These battens are the same distance from the front and such distance that the pivots **13** are located therethrough. The battens thus each provide front and rear vertical stop surfaces spaced from each other a distance of 5 to 20 percent of the width of the boxes. The front walls of the boxes are tall enough to cover the front of the cabinet when the boxes are in upright positions. The top edges of each of the front walls of the three lower boxes overlap the bottom edge of the front wall of the box above. The top edge of the front wall of the top box engages an abutment **25** on the front part of the top wall of the casing which abutment is formed by a recess across the front under edge of the top wall. The top edges of the side walls **26** of the boxes are inclined steeply downwardly from the front top parts rearwardly to provide clearance for the front lower edges of the boxes as these are tilted.

Each side wall of the boxes has a vertical bar or abutment wall **28** projecting sideways therefrom and extending vertically. The bar **28** is at the rear of the side wall and its upper end is at a height adapted to engage the adjacent rear stop surface of the batten **20** with the centre of gravity of the box and its contents forwardly of the pivots **13** when the box is tilted. The front wall of the box will then be at an angle of 30 to 60 (preferably 30 to 40) degrees to the horizontal. Each side wall of the boxes also has a vertical abutment **29** at the forward part thereof above the pivot **13** and adapted to engage the adjacent vertical stop surfaces of the batten **20** to locate the box in its closed position with the front wall vertical.

The width of the cabinet from side to side is sufficient to contain two foolscap series of files with a partition **30** between them.

One or more separator plates **31** are provided upstanding from the base and parallel to the front wall. Handles **32** are provide on the front walls of the boxes and near the upper edge thereof.

The container when open and its contents will have its centre of gravity set well back in the casing, but for-

wardly of the pivot **13** so that it stays open gravitationally. The centre of gravity preferably does not move forwardly during opening by more than two inches if at all. The movement is such that the side elevational area of the container moves outside the area of the casing by at least ten percent of the area of the container but not more than twenty-five percent. The danger of tipping over of the whole cabinet is avoided.

For the purpose of calculating the side area of the container the top of the front wall should be considered as joined by a line to the top edge of the rear wall by a line forming the top of the area under consideration.

The centre of gravity of the boxes moves rearwardly of the pivots **13** just before closing so that the final closing movement is effected gravitationally and the boxes are held shut gravitationally.

Each box is chamfered at its front lower edge **34** so that the flat parts of the base and front wall are from one half to one and a half inches from the intersection of the planes of the base and front wall.

The upper portion of the front wall of each box is bevelled i. e. bent back or inclined rearwardly at an angle to the front wall, as at **38**, to match the chamfer at the lower front corner of the drawer above. Part of this chamfer is hidden by the bevel in the closed position of the boxes.

The base **35** of each box is arranged at an angle to the horizontal, the rear of the base being from 1 to 4 inches lower than the front of the base when the box is closed. The front edge of the base has a forwardly and downwardly projecting lip **36**.

By means of the inclined base and chamfering a considerable gain in overall filing capacity is obtainable for a given height.

The position of tilting of the boxes is represented by pivots **13** but this position may be a variable position and the boxes can be mounted for tilting by means other than pivot pins.

The rear wall of the box has a forwardly projecting part **40** to hold the rear file tilted forwardly. Alternatively the rear wall may be wholly inclined for this purpose. The projection **40** may be from three eighths to one and one quarter inches forwardly of the lower rear corner.

The cabinet may be made in sheet metal pressings, wood or otherwise.

As shown in Figure 4 the side walls **11**, **12** and rear wall may be extended upwards to form a space to receive a row of books **46** a top wall **45** being added to close the top of this space but leaving the front open.

We claim:

1. A filing cabinet comprising, a casing, and at least two filing boxes disposed one above the other, each box having a base, a front wall, a rear wall, two side walls, and an open top, a bevel portion joining the base and the front wall, the upper portion of the front wall of the lower box being at least as high as lower part of the bevel portion of the upper box, means for pivotally mounting the boxes independently in the casing so that each box can be opened and closed tiltably around a pivotal axis without interference with the adjacent box, the base of each box being inclined downwardly when closed so that the rear of the base is from one to four inches lower than the front of the base, the upper edges of the side walls of the boxes when closed being inclined downwardly but to a greater degree than the inclination of the base, interengaging means on the casing and each box to limit the opening movement of the box when the front wall of the box is at an angle of 30° to 60° to the horizontal, the pivotal axis of each box within the casing being located in such position that the center of gravity of the box is forwardly of the pivotal axis when the box is open and rearwardly of the pivotal axis when the box is shut, and in all positions of the box the center of gravity of the box is within the casing; the inclination of the base and the top edges of the side walls of each box being such that the boxes can be brought closer together to reduce the overall height of the casing without interference between the path of movement of the bevelled portion of the upper box with the path of movement of the upper part of the lower box.

2. A filing cabinet as claimed in claim 1 wherein the upper box has a forwardly projecting lip at the front edge of the base over which the top of the front wall of the lower box extends.

3. A filing cabinet as claimed in claim 1 wherein the side walls of the casing are extended above the upper filing box to form a book space closed with a top wall.

4. A filing cabinet as claimed in claim 2 wherein the rear wall of the box has a forwardly projecting part to hold the rear file tilting forwardly.

5. A filing cabinet as set forth in claim 2 including a portion in each box extending in the direction from front to rear dividing the box into two compartments, each compartment being wide enough to accommodate filing wrappers with their length widthwise of the cabinet, and separator plates in each compartment parallel with the front wall of the casing.

References Cited in the file of this patent

UNITED STATES PATENTS

619,190	Knappenberger	Feb. 7, 1899
658,480	Burton	Sept. 25, 1900
897,087	Grant	Aug. 25, 1908
1,318,306	Walker	Oct. 7, 1919
2,420,011	Paxton	May 6, 1947

FOREIGN PATENTS

654,744	France	Dec. 7, 1928