Feb. 25, 1930. D. E. HUNTER 1,748,714

VERTICAL FILING DEVICE

Filed Jan. 11, 1928 2 Sheets-Sheet 1

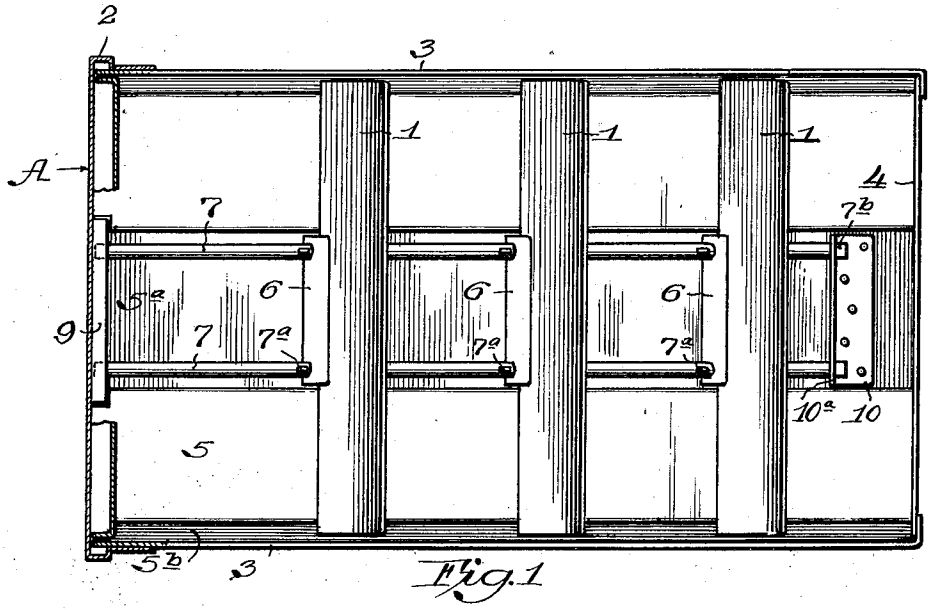


Fig. 1

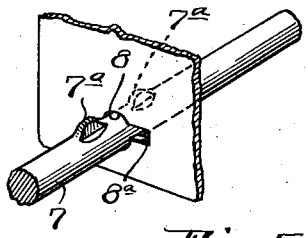


Fig. 5

Fig. 4

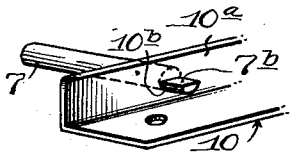


Fig. 2

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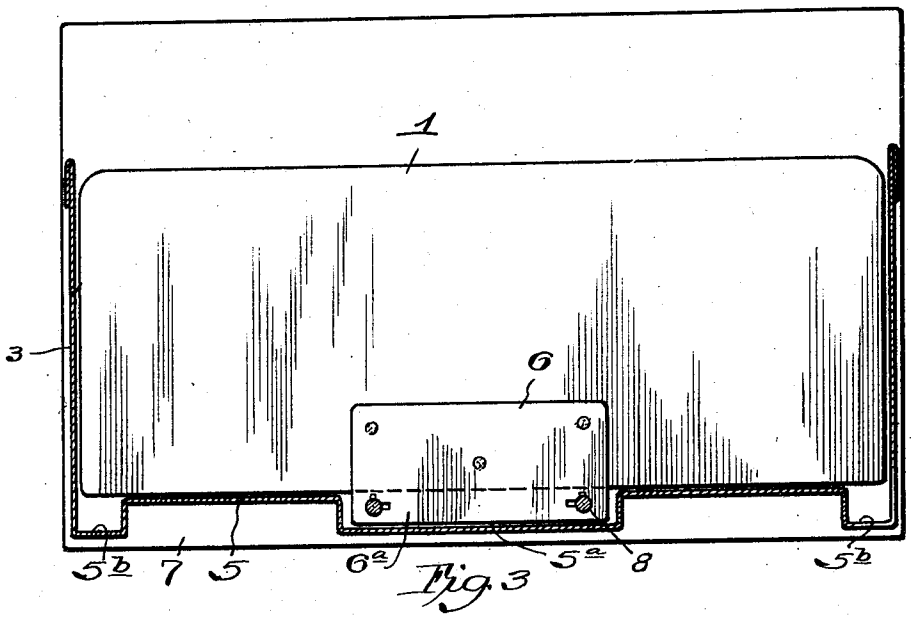
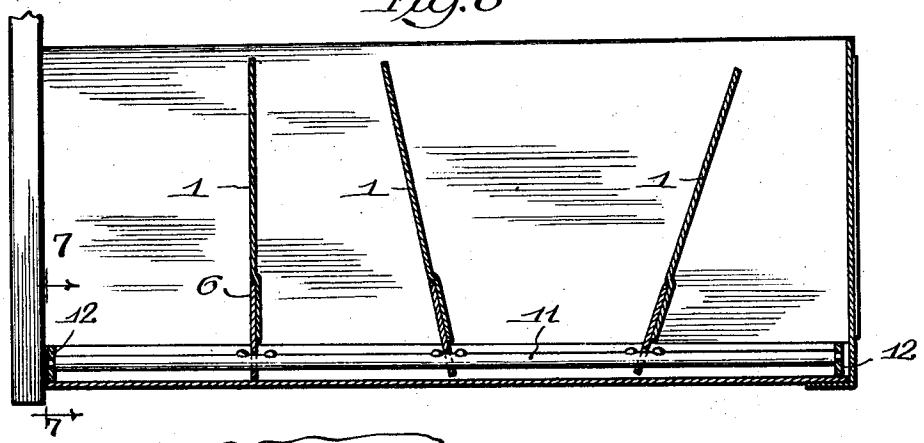


Fig. 3

Fig. 6



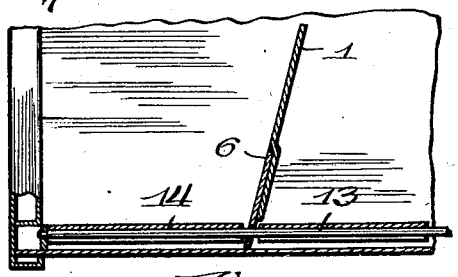


Fig. 8

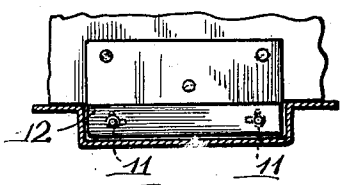


Fig. 7

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Patented Feb. 25, 1930 1,748,714

UNITED STATES PATENT OFFICE

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VERTICAL FILING DEVICE

Application filed January 11, 1928. Serial No. 245,867.

This invention relates to improvements in vertical filing devices, and more particularly to a novel arrangement of spaced partition plates within a drawer or like receptacle for vertical filing devices, and adapted to divide the space therein into a series of separate filing compartments.

The object of the invention is to provide a simple and practical mounting for the partition plates, whereby the same may be readily assembled within the drawer.

A further object of the invention is to provide a mounting for partition plates adapted for equipping drawers or filing receptacles already in use, by replacing the previously installed equipment with the partition plates.

A preferred embodiment of my invention is disclosed in the accompanying drawings, in which

Figure 1 is a top plan view of a drawer equipped with a permanent style of partition plate assembly.

Figure 2 is a view in vertical longitudinal section taken on line 2—2 of Figure 1.

Figure 3 is a view in vertical transverse section taken on line 3—3 of Figure 2.

Figure 4 is an enlarged detail view in perspective of the rear mounting for the supporting rods.

Figure 5 is an enlarged detail view in perspective showing the manner in which the plates are mounted on the supporting rods.

Figure 6 is a view similar to Figure 2, showing a modified arrangement of mounting for replacement purposes.

Figure 7 is a detail view in vertical section taken on line 7—7 of Figure 6, and

Figure 8 is a view in longitudinal section through a receptacle equipped with still a different type of mounting.

A partition plate assembly such as disclosed herein is intended primarily to replace the more common and well known follower plate arrangement which has long been the standard construction in drawers and other forms of filing devices. The present scheme or system marks a radical improvement in filing methods, since it seeks to divide the filed matter into sections separated by angularly shiftable but otherwise fixed partition plates, calculated to facilitate convenient access to the filed matter for reference, and to eliminate the difficulty of maintaining the vertical position of the contents, prevalent in the ordinary type of filing equipment, wherein the entire mass of filed matter is located in a single space and held upright only by the pressure exerted by the sliding follower plate.

In general, therefore, the invention embodies a series of stiff plates 1, spaced apart at predetermined intervals throughout the length of a drawer A or other filing receptacle, these plates assuming generally vertical position transversely or crosswise of the drawer, and so mounted that they are capable of swinging forwardly and rearwardly through a limited arc, but held against bodily displacement in either direction.

The present invention, however, is not directed to this general arrangement, but to a novel mounting for plates within the drawer, which will now be described:

The drawer A, which may also represent any receptacle or container used for the vertical filing of records, cards, correspondence and the like, is preferably of a sheet-metal construction consisting of a front wall or head 2 of a double wall construction, side walls 3, 3, a rear wall 4 and a bottom wall 5, all except the front wall being of a single thickness of sheet metal. The details of construction of the drawer are not important, except that the bottom of the drawer is preferably provided with a central longitudinal channel 5^a of say 3 or 4 inches in width and ½ to ¾ of an inch in depth. Along the sides of the bottom wall are also narrow channels 5^b, 5^b of the same depth, although these have no particular function in the mounting of the partition plates.

The partition plates 1 consist of rectangular pieces of sheet metal of sufficient thickness to be relatively stiff and non-yielding, their shapes and size conforming generally to the cross-sectional contour of the drawer, that is, their height is such that their top edges are about the same height as the side walls 3, 3, and their width slightly less than the inside width of the drawer, so there is

sufficient clearance between the vertical edges of the plates and the side walls 3, 3 to permit the plates to swing freely.

At the lower edge of each plate 1 and midway between its side edges is spot-welded a supporting or carriage plate 6, slightly thicker than the partition plate itself. In applying the carriage plate to the partition plate, the latter is preferably upset to provide a recess, as shown in Figure 2, so that the exposed surface of the carriage plate lies flush with the corresponding face of the partition plate. The lower portion of the carriage plate 6 projects below the lower edge of the partition plate and forms a depending flange 6^a of about ½ inch in length, adapted to extend into and register with the central channel 5^a in the bottom wall of the drawer, the plate 6 being slightly narrower than the channel so that there is ample clearance on either side of the flange 6^a.

Extending lengthwise of the channel 5^a are a pair of parallel round rods 7, 7 spaced inwardly a short distance from the sides of the channel and midway of its depth. These rods are of a size to be relatively stiff, say ¼ to ⅜ of an inch in diameter, and pass through the depending flanges 6^a at the bottom of the carriage plates, the latter being provided with holes 8 to receive the rods. Moreover, the rods are supported at their ends above the bottom of the channel 5^a and also held against rotation by members presently to be described.

Referring first to the mounting of the plates on the rods 7, 7, it will be noted that at intervals along each rod is a pair of spaced lugs 7^a, 7^a corresponding to the location of each plate. These lugs or projections are in the nature of keys pressed outwardly from the surface of the bars in line with each other (Figure 5). The holes 8 in the plates are slightly greater in diameter than the rods, so that they have a rather loose fit, and each is provided with a radial slot or keyway 8^a extending laterally therefrom and preferably inward toward each other. Thus taking a single rod, it is possible to thread it through one plate or to thread several plates onto the rod by rotating the rod until the lugs 7^a register with the keyways 8^a, thus permitting the rod to slide through the holes 8. When the plates have been threaded onto the rod and positioned between the respective pairs of keys 7^a, 7^a, a turn of the rod through 90° locks them in place. This is the method employed in assembling the plates and rods, the latter then being inserted into the bottom of the drawer as follows: The adjacent ends of the rods (preferably the forward ends), are joined together by a cross bar 9 consisting of a bar or strip of metal through which holes are drilled to the proper size and spacing to loosely receive the ends of the rods. At the front of the drawer and along the bottom edge of the front wall or head 2 is provided a rearwardly facing channel 2^a into which the bar 9 is fitted and securely held in any suitable manner. Having positioned the bar 9, the assembled rods and plates are partially installed by inserting the front ends of the rods into the holes or sockets in said bar. To anchor the rear ends of the bars and at the same time lock them against turning, an angle plate 10 is provided which extends crosswise of the channel 5^a near its rear end. This angle plate has a narrow upstanding flange 10^a in which are punched two semi-circular holes 10^b, the radius being equal to that of the rods. Moreover, the rear end portions of the rods 7 are cut back a short distance so as to form semi-circular key ends 7^b, 7^b (Figure 4), with their flat sides at right angles to the radial position of the keys 7^a. The straight edges of the key holes 10^b in the angle plate 10 extend horizontally and uppermost to that after inserting the key ends of the rods through the holes and finally riveting the angle plate to the bottom of the channel, as shown in Figure 2, the plate and rod assembly becomes permanently mounted in the drawer, since the rods are held both against endwise and turning movement with the keys 7^a on the rods 7 turned through 90° from the keyways 8^a in the plates so that the latter can not slide along the rods. The space between each pair of lugs 7^a, 7^a allows a slight sliding movement, but this is merely to permit the plates to fulcrum or swing through a limited angle in either direction from the vertical without binding, the full angle of the swinging movement being obviously determined by the amount the diameter of the holes in the carriage plates exceeds that of the rods 7.

Figures 6 and 7 disclose substantially the same arrangement as heretofore described, except that the partition plate installation is designed to be removably mounted in a drawer, the latter being of the same construction as before. Similarly the rods and plates are the same, the essential difference being that the ends of the rods 11 are inserted through bars 12, 12 at each end, and riveted to hold them against rotation. These bars are set on edge and fit snugly into the central channel 5^a of the drawer bottom and serve to hold the plate assembly in place. Such an arrangement is intended for installation in drawers previously equipped with the so-called follower-plate, which can readily be removed and discarded.

Still another modification is shown in Figure 8, wherein the supporting rods 13 have longitudinally split sleeves 14 mounted thereon, said sleeves being of the proper length and spacing between their ends to provide spaces and stops for the plates.

Having thus disclosed a preferred embodiment of my invention, I claim:

1. In a filing device the combination with a container, a plate extending transversely of said container in a generally upright position, a rod extending lengthwise of said container adjacent the bottom thereof and through the lower edge portion of said plate, and means on said rod for holding said plate against displacement lengthwise of said container and permitting a limited angular swinging movement thereof.

2. In a filing device the combination with a container, a rod extending lengthwise of said container adjacent the bottom thereof, a plate adapted to extend in upright position transversely of said container, and to be supported on said rod for limited angular tilting movement through the medium of holes in the lower edge portion of said plate through which said rods extend, and means on said rod for holding said plate against displacement lengthwise of said container and permitting said limited angular swinging movement thereof.

3. In a filing device the combination of a container, a plate extending transversely of said container in substantially upright position, a pair of rods extending lengthwise of said container adjacent the bottom thereof and passing through the lower edge portion of said plate, permitting a limited angular swinging movement thereof, and means on said rods for limiting the displacement of said plate lengthwise of said rods.

4. In a filing device the combination with a container, a plate adapted to extend transversely thereof in substantially upright position, a pair of rods extending lengthwise of said container in parallel spaced relation and passing through holes in the lower edge portion of said plate, said rods and plates having coacting keys and keyways adapted to register to permit the passage of said rods through said plate, and to lock the same together by the subsequent rotation of said rods, and means for non-rotatably mounting said rods in the bottom of said container.

5. In a filing device the combination of a container, a plate extending transversely of said container in substantially upright position and acting to divide the space therein into a plurality of compartments, a pair of rods extending lengthwise of said container in parallel spaced relation above the bottom thereof, and passing through registering holes in the lower edge portion of said plate, and radial projections on each rod at opposite sides of said plate and adapted to hold said plate against longitudinal displacement along said rod.

6. In a filing device the combination with a container, a plate extending transversely in said container in substantially upright position, a pair of parallel rods extending lengthwise of said container adjacent the bottom thereof and each having a pair of radial projections spaced apart longitudinally, said plate having holes adjacent the lower edge therof provided with key slots, said rods being adapted to pass through said holes and be turned to permit one of said projections to pass said slots, and means for anchoring the ends of said rods after the same have been turned to bring said projections and slots out of register.

7. In a filing device the combination of a container, a plate extending transversely of said container in substantially upright position, a pair of rods extending lengthwise of said container adjacent the bottom thereof and passing through registering holes in the lower edge portion of said plate and of a size to permit a limited angular tilting movement of said plate on said rods, and means on said rods for limiting the displacement of said plate lengthwise of said rods.

8. In a filing device the combination with a container, a plate extending transversely in said container in substantially upright position, a pair of rods extending lengthwise of said container in parallel spaced relation and supporting said plate for limited angular tilting movement through the medium of holes in the lower edge portion of said plate through which said rods pass, said rods having longitudinally spaced projections acting to hold said plate against displacement along said rods, and said plates having slots extending radially from the holes therein and adapted to register with said projections to permit said plate to be positioned therebetween, and means for anchoring the ends of said rods against turning after said plates have been assembled thereon.

9. In a filing device the combination with a container, a plate adapted to extend transversely thereof in substantially upright position, a pair of rods extending lengthwise of said container in parallel spaced relation and passing through holes in the lower edge portion of said plate, said rods and plates having coacting keys and keyways adapted to register to permit said plate to be positioned between said keys and to be locked by the subsequent rotation of said rods, and supporting members mounted in the bottom of said container and adapted to receive the ends of said rods and to hold the same against rotation.

10. In a filing device the combination with a container, of a series of plates extending transversely of said container in spaced relation, a pair of parallel plate-supporting rods extending lengthwise of said container adjacent the bottom thereof and adapted to be inserted through holes in the lower edge portion of said plates, said rods having pairs of longitudinally spaced radial lugs on the surface thereof adapted to register with keyways in the edge of the holes in said plates to permit the passage of the said rods therethrough, and a rod-supporting member

mounted at one end of said container and having a key hole adapted to be engaged by a key formed at the adjacent end of each of said rods to hold the same against rotation after said rods and plates have been assembled.

11. In a filing device the combination with a container, of a plurality of plates extending transversely of said container, a pair of parallel rods extending lengthwise of said container adjacent the bottom thereof and adapted to support said plates through the medium of holes in the lower edge portion of said plates through which said rods extend, said rods having pairs of radial lugs spaced apart lengthwise, and said plates provided with keyways cut in the edge of the holes in said plates to permit the same to be threaded onto said rods and between the several pairs of lugs, a transverse bar in which one end of each of said rods is anchored, means at one end of said container for holding said bar against displacement, and a supporting member for the opposite end of each of said rods having a vertical flange provided with irregular-shaped key holes, the adjacent ends of said rods being provided with correspondingly irregular-shaped end portions adapted to fit in said key holes to lock said rods against rotation.

12. In a filing device the combination with a container having a channel extending lengthwise of the bottom wall thereof, a pair of parallel rods extending lengthwise of said channel, plates supported on said rods and extending transversely of said container at predetermined intervals throughout its length, and each having a projecting portion at its lower edge extending into said channel and holes therein through which said rods extend, said rods and plates having coacting keys and key slots adapted to permit said plates to be assembled on said rods and held against longitudinal displacement between adjacent keys, and bars connecting the ends of said rods and adapted to be fitted crosswise of said channel.

Signed at Muskegon, this 5th day of January, 1928.

DAVID E. HUNTER.