

May 2, 1939.

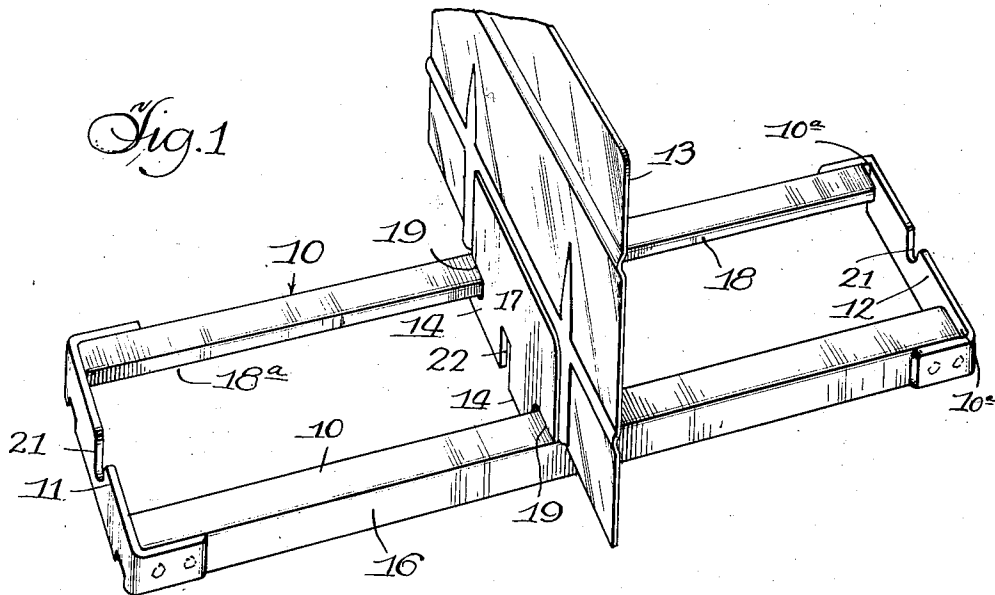
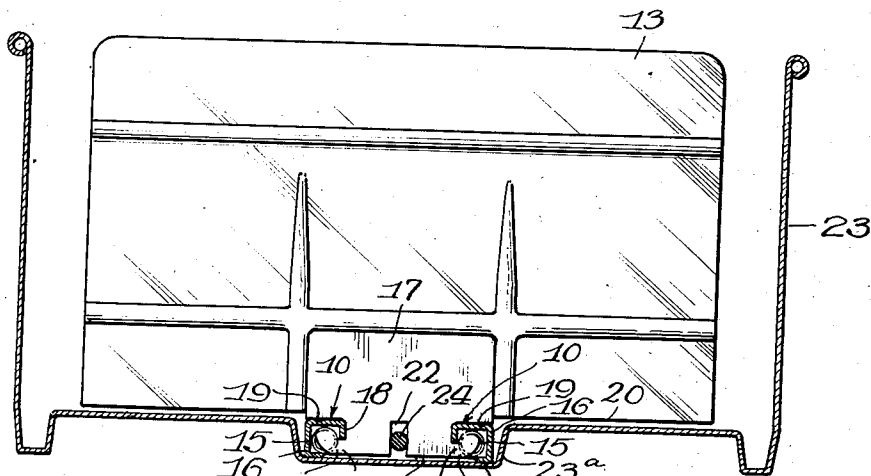
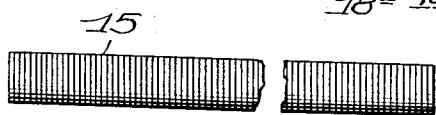
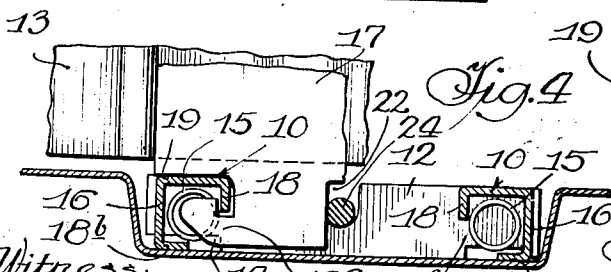
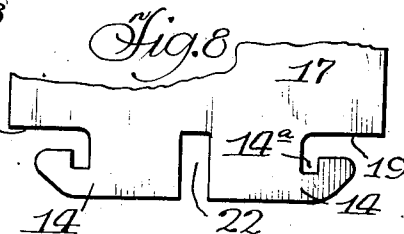
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2,156,955

FILING DEVICE FOR USE IN VERTICAL FILING SYSTEMS

Filed Feb. 5, 1937

2 Sheets-Sheet 1



Witness:
Chas. R. Koush

Inventor,
John H. Page,
by *Offield M. McKelup, Scott & Poole* Attys.

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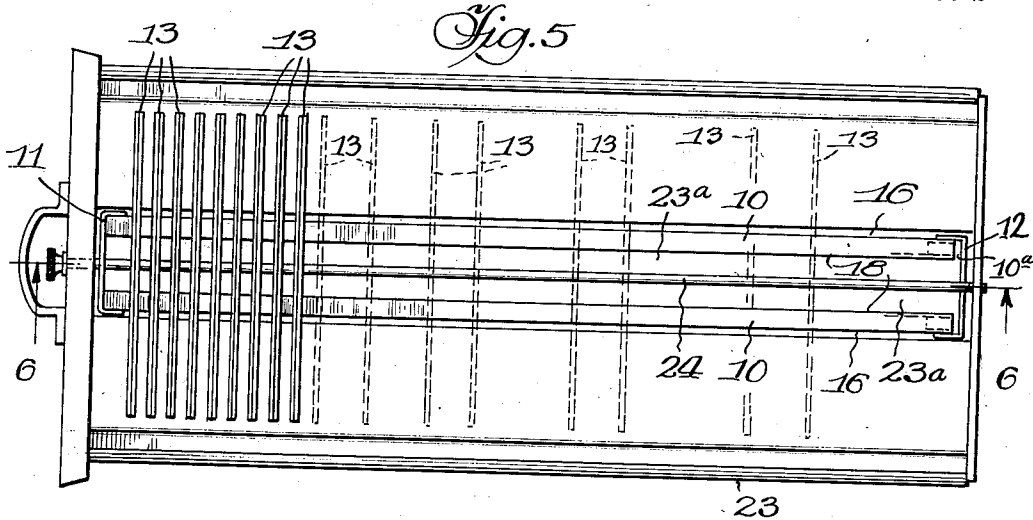
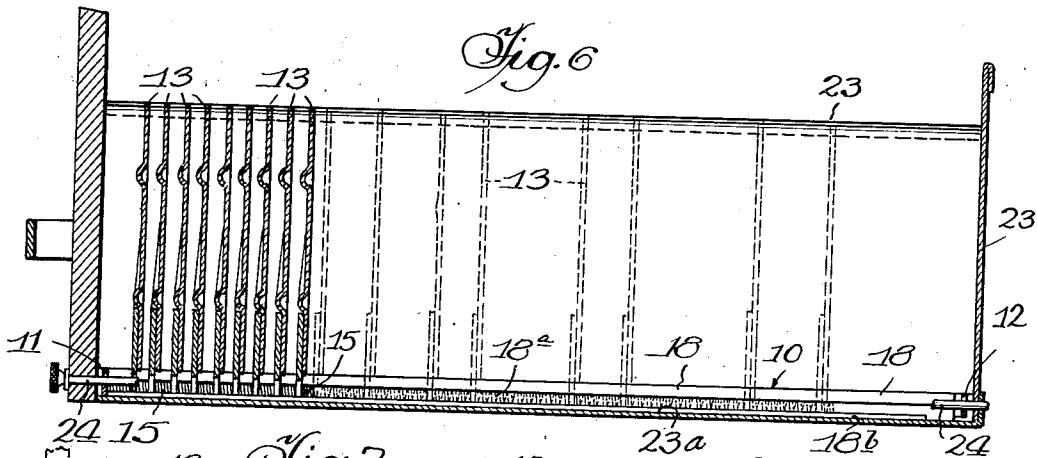
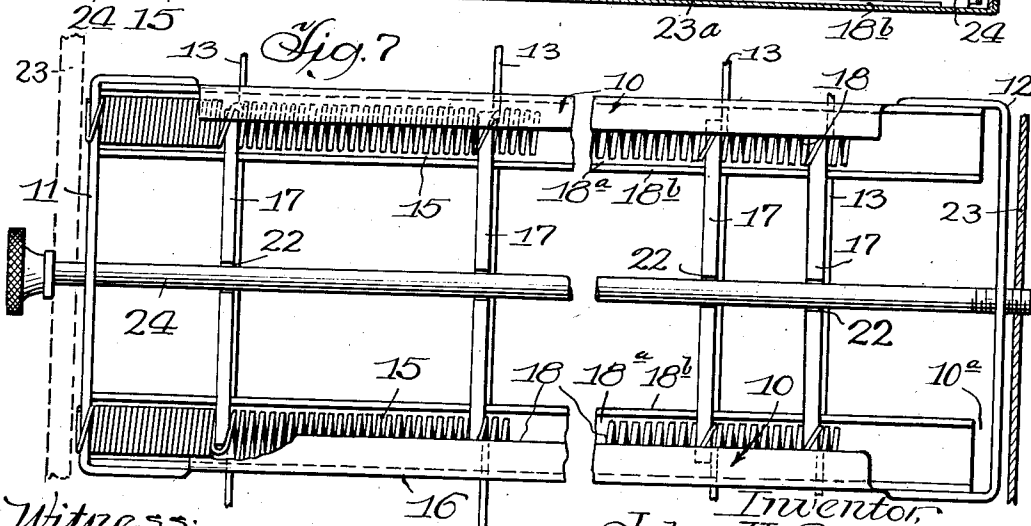
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FILING DEVICE FOR USE IN VERTICAL FILING SYSTEMS

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2 Sheets-Sheet 2



Witness:
Chas. L. Koush.

Inventor,
John H. Page,
by *Willa M. McKee Scott & Pook* Attys.

UNITED STATES PATENT OFFICE

2,156,955

FILING DEVICE FOR USE IN VERTICAL
FILING SYSTEMS

John H. Page, Muskegon, Mich., assignor to The
Shaw-Walker Company, Muskegon, Mich., a
corporation of Michigan

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6 Claims. (Cl. 129—16)

This invention relates to filing devices for use in vertical filing systems and including a plurality of partition plates capable of a limited pivotal or rocking movement about their bottom edges.

One object of the invention is to provide a filing device equipped with partition plates of the kind, so mounted that they will automatically position themselves longitudinally of the device to properly support in vertical position varying amounts of correspondence or papers between the several pairs of proximate partition plates, no matter how little or how much there be between one pair of proximate plates as compared to that between other pairs of proximate plates, or whether the device is partially or completely filled.

Another object of the invention is to provide a novel assembly of automatically positioning partition plates capable of a pivotal rocking movement about their bottom edges, which assembly is adapted for ready application to a standard file drawer or container, either in the beginning, or to replace the ordinary spacing equipment therein at a minimum of cost.

These and other objects and advantages of the invention will appear more fully as I proceed with my specification.

In the drawings:

Figure 1 is a perspective view showing a frame with a partition plate mounted thereon.

Figure 2 is a view representing a transverse section through a file drawer to which has been applied the improved assembly of partition plates.

Figure 3 is a side view of one of the coil springs used in the assembly.

Figure 4 is a fragmentary transverse section similar to Figure 2, but on an enlarged scale.

Figure 5 is a view representing a top plan of a file drawer equipped with a novel assembly of partition plates, with said plates shown in full lines in close assembly as when there are no guides, folders or papers between them, and shown in dotted lines as when in expanded relation with guide cards and the like between them.

Figure 6 is a vertical longitudinal section through Figure 5 in a plane indicated by the line 6—6 thereof.

Figure 7 is a bottom plan view of the assembly and the partition plates illustrating the manner of connecting the coil springs to the partition plates so as to automatically maintain the partition plates in proper spaced relation.

Figure 8 is a fragmentary elevation of the bot-

tom end of a bearing plate to be attached to a partition plate.

Referring now to that embodiment of the invention illustrated in the drawings: The improvement comprises rails 10, 10 held in parallel, spaced relation by end plates 11, 12, and a plurality of partition plates which are supported by and are adapted to slide along said rails, to which they are held by means of depending, laterally projecting tongues 14, 14, engaging the rails 10, 10 from below. The frame, comprised of the rails 10, 10 and the end plates 11, 12, is made of a length and width adapting it to be seated in the usual central, longitudinally extending bottom recess of a standard file drawer.

Coil springs 15, 15 are located below the rails 10, 10 and are connected at their front ends (as shown in Figure 7) to the front end plate 11 of the aforesaid frame. The rear partition plate is connected to the rear ends of the springs 15, 15; and the other partition plates are severally engaged between the coils of the springs in such manner that predetermined and preferably equal numbers of convolutions space the several plates from each other and the front partition plate from the front end plate 11 (see Figure 6).

The rails 10 are preferably rectangular tubular bars 16 (see Figures 2 and 4) each cut away at the side and bottom to present a depending side flange 18 and a bottom flange 18^b, with an intervening gap 18^a extending the length of the rail. The laterally disposed tongues 14, 14 which engage the rails 10 from below, are preferably formed as parts of a plate 17 (as shown in Figure 8) which is rigidly fixed to and depends below the partition plate 13 (as shown in Figure 1). Said plate 17 is the bearing and retaining member for the partition plate; and being thus subject to wear and strain, is made thicker than the partition plate 13 to which it is attached. It is reduced in width shortly below the bottom edge of the partition plate to present horizontal shoulders 19, 19 for sliding support of the partition plate on the rails 10, 10, leaving a narrow, central web which depends between and below said rails, where it is formed to present the aforesaid tongues 14 which extend laterally beyond said web. As shown, said tongues have upwardly opening notches 14^a for loose engagement by the depending side flanges 18 of the rail bars 16.

The coil springs 15, 15 are housed in the tubular rail bars 16, 16 (see Figures 2, 4 and 7) and the plates 17 are engaged between convolutions at spaced intervals by the laterally disposed tongues 14, 14 which lock the partition plates to said rail

bars. The diameter of the convolutions of the springs 15 is greater than the width of the gaps 18^a in the tubular rail bar 16. As a result, said springs are securely retained within their housings in proper connection and relation to the rails and partition plates without danger of disconnection from rough handling or otherwise, as when they are merely a part of an assembly for insertion into, and before they are locked in a file drawer to which said assembly is designed to be applied. The front and rear end plates 11, 12 are provided with upwardly opening notches 21, 21. Each plate 17 of the partition plates is provided with a corresponding downwardly opening notch 22.

By the construction above described, the partition plates 13 are securely locked to the rails against lateral or vertical movement and at the same time are capable of limited rocking or pivotal movement about their bottom edges for ready access to the guides and folders to be placed between them. And all the plates are normally held by the springs 15, 15 in closely spaced relation towards the front end plate 11 and are separated only by the lengths of the contracted coil spring sections interposed between them, as shown in full lines in Figures 5 and 6.

To assemble the partition plates and springs on the frame comprised of the supporting rails 10 and the end plates 11 and 12, the desired number of partition plates 13 are introduced in succession through the gaps 18^a, 18^a between the rear ends of the rails 10 and the rear end plate 12 (see Figure 1). The horizontal shoulders 19, 19 are engaged upon the top of the rails 10, 10 and the laterally disposed tongues 14, 14 are engaged below said rails by their upwardly opening notches with the depending side flanges 18, 18 of the rail bars 16, as shown in Figure 4. The partition plates are then pushed forwardly along the rails. The springs are next attached at one end to the front end frame plate 11; and at uniform intervals, convolutions of the springs are engaged with the bottom edges of the bearing plates 17 of the partition plates,—the plate 17 of the rearmost partition plate being engaged with the springs near their rear ends. The springs are then forced through the gaps 18^a, while still retaining them engaged with the plates 17 of the partition plates, to bring them to complete housing within the tubular rail bars 16. This is readily accomplished, notwithstanding the fact that the gaps are less in width than the diameter of the coils of said springs, by turning said coils at an angle as they are pushed through said gap. The complete assembly is now ready to be placed in a file drawer.

23 indicates a standard file drawer, and 23^a the usual bottom recess extending lengthwise of the drawer. The assembly of partition plates and rail frame is placed in the drawer 23 with the bottom flanges 18^b of the rail bars 16 on the bottom of the recess 23^a, as shown in Figure 2. The familiar central guide rod 24 is then inserted into and secured in the drawer,—being passed through the notch 21 of the front end plate 11, through the notches 22 of the several partition plates 13, and then through the notch 21 in the rear end plate 12, beyond which its threaded end is engaged in the rear wall of the file drawer in the usual manner, as shown in Figures 2, 4 and 6. This securely locks the assembly in the file drawer, with the partition plates in vertical, parallel, closely spaced, yielding relation towards the front

of the drawer, as shown in full lines in Figures 5 and 6.

Guide cards and/or folders separated into as many groups as there are spaces provided by the partitions in the drawer, are severally placed in their respective spaces. Papers, letters and the like are then inserted in the usual manner in the folders or in the spaces between the guide cards. In this operation the partition plates rock backward or forward upon the rails 10 to give free access to said folders and the papers within them. In this operation the spaces of the several partition plates will be expanded to varying lengths, according to the number of guide cards, folders and papers inserted between proximate plates. The sections of the springs 15 between the several partition plates permit the space expansion required between proximate plates independently between the space expansion required between other proximate plates, no matter what variations in length such spaces may present, as shown in dotted lines in Figures 5 and 6 and in full lines in Figure 7. The partition plates will yieldingly hold the guide cards or folders between them in upright position and at the same time, because of the loose engagement of the tongues 14 below the rails 10, said partition plates may be swung pivotally to a limited extent upon their lower edges for ready access to said guide cards and folders for insertion or removal of papers.

While there is sufficient play in the connection between the partition plates 13 and the rail bars 16 to permit the aforesaid rocking or pivotal movement, such play is not enough to permit a free sliding movement of any or all of the partition plates along the rails towards the rear of the drawer when the drawer is slammed into its compartment. The shock of such closing of the drawer will act to incline all the partition plates with respect to the rails 10, thus gripping the rails between the shoulders 19 and the tongues 14 to arrest and lock the plates in their respective positions.

Since all of the partition plates 13 are connected by the springs 15 to the front end plate 11 of the assembly, all of said plates will automatically assume and maintain a position as near to said plate or the front of the drawer as the intervening guide cards and folders with their contents will permit; and it will never be necessary to pull out the file drawer to its full length to get to the spaces between the rearmost partition plates, until the spaces between the several plates in the drawer have been expanded to completely fill the drawer.

It will be obvious that whether the file drawer contains few papers in the spaces between the partition plates, or many, even to the extent of filling the draw, the plates will always be maintained in an approximately vertical position; and as the expansion of the spaces between the partition plates results automatically as required, it is never necessary to touch the plates for adjusting their position within the drawer from the time filing in the drawer is begun until the drawer is completely filled. When the contents of the drawer are removed at the end of a filing period, the partition plates will automatically resume their closely spaced vertical relation at the front of the drawer; and however the quantity of papers filed in any one or more spaces between proximate partition plates may increase, it is not necessary to transfer some of the papers in such space to an adjacent space, since the springs are suffi-

ciently flexible to take care of extreme conditions of loading in the several spaces.

While in describing a preferred form of my invention I have mentioned many details of construction and arrangement of parts, it is to be understood that the invention is not limited thereto except as may be pointed out in the appended claims.

I claim as my invention:

1. In a filing device for vertical filing systems, parallel spaced tubular rail bars, a plurality of partition plates mounted on said rail bars, each partition plate being provided with means engaging said rail bars from below, said means permitting sliding movement along said rail bars and limited rocking movement thereon, springs housed in said tubular rail bars and connected thereto at their front ends, means connecting said partition plates severally to said springs in spaced relation, and the partition plate farthest removed from the front ends of said rail bars being connected to the rear ends of said springs.

2. In a filing device for vertical filing systems, parallel spaced tubular rail bars, a plurality of partition plates mounted to slide on said rail bars, said partition plates being provided with means engaging said rail bars from below permitting limited rocking movement of said plates on said bars, said rail bars having gaps extending lengthwise thereof, coil springs insertible through said gaps housed in said tubular rail bars and connected to the front ends of said rail bars, said coil springs having coils of greater diameter than the width of said gaps in said rail bars, and said partition plates being severally connected to said springs in spaced relation with the partition plate farthest removed from the front ends of said rail bars connected to the rear ends of said springs.

3. In a filing device for vertical filing systems, parallel spaced tubular rail bars, a plurality of partition plates mounted to slide on said rail bars, said rail bars each having a depending flange with a gap below said flange extending lengthwise of said rail bars, means connected to each partition plate depending between said rail bars and having laterally extending tongues provided with upwardly opening notches engaged by the depending flanges on said rail bars, and coil springs housed in and connected to the front ends of said rail bars, and said partition plates being severally connected to said springs in spaced relation with the partition plate farthest removed from the front ends of said rail bars connected to the rear ends of said springs.

4. A filing device for insertion in a standard

file drawer having a central depression extending lengthwise thereof, said filing device comprising a frame of the length and width of said central depression and including parallel rails, a plurality of partition plates mounted to slide on said rails, means locking each partition plate to said rails, but permitting limited rocking movement thereon, coil springs connected to the front end of said frame, and said partition plates being severally connected to said springs in spaced relation with the partition plate farthest removed from the front end of said frame connected to the rear ends of said springs.

5. A filing device assembly adapted to be applied to a standard file drawer having a central bottom recess extending lengthwise of said drawer, said assembly comprising parallel spaced tubular rail bars and front and rear end plates, a plurality of partition plates mounted to slide on said rail bars, said tubular rail bars each having a gap extending lengthwise thereof, coil springs insertible through said gaps housed in said rail bars and connected at their front ends to said front end plate, means locking each partition plate to said rail bars but permitting limited rocking movement of said plates on said rail bars, and said partition plates being severally connected to said coil springs in spaced relation with the partition plate farthest removed from said front end plate connected to the rear ends of said springs.

6. A filing device assembly adapted to be applied to a standard file drawer having a central bottom recess extending lengthwise of said drawer, said assembly comprising parallel spaced tubular rail bars and front and rear end plates, a plurality of partition plates mounted to slide on said rail bars, said tubular rail bars each having a gap extending lengthwise thereof and a depending flange defining one edge of said gap, coil springs of greater diameter than the width of said gap insertible therethrough housed in said rail bars and connected at their front ends to said front end plate, each partition plate being provided with means depending below the top surfaces of said rail bars, said means having tongues engaged with said flanges to hold said partition plate to said rail bars but permitting limited rocking movement thereon, and said tongues being severally connected to said coil springs to hold the partition plates in spaced relation, with the tongues of the partition plate farthest removed from said front end plate connected to the rear ends of said springs.

JOHN H. PAGE.