W. S. PROUDFIT.

FILING DEVICE.

APPLICATION FILED APR. 7, 1919.

1,347,658.

Patented July 27, 1920.

2 SHEETS—SHEET 1.

Fig. 1

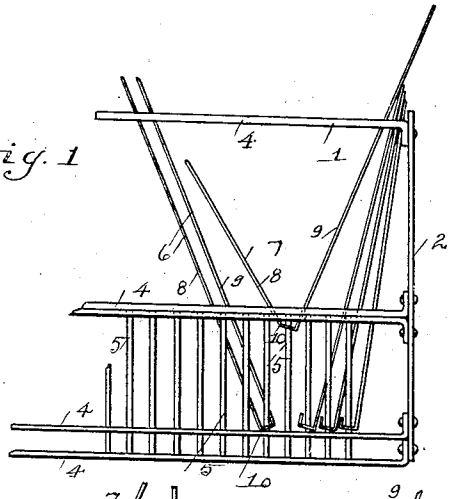
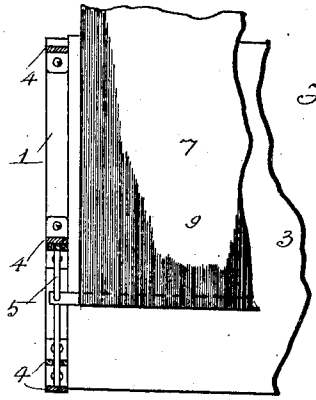


Fig. 2.



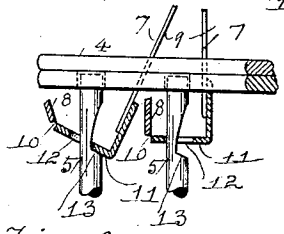


Fig. 4.

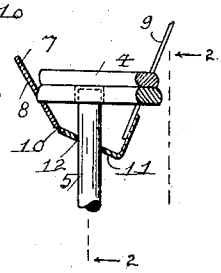


Fig. 3.

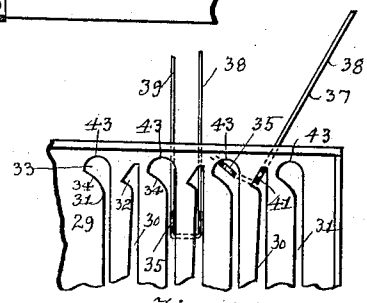
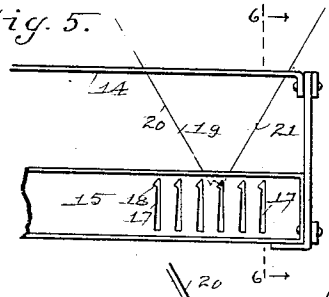


Fig. 14.

Fig. 5.



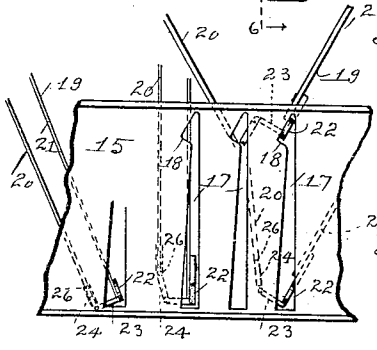


Fig. 7.

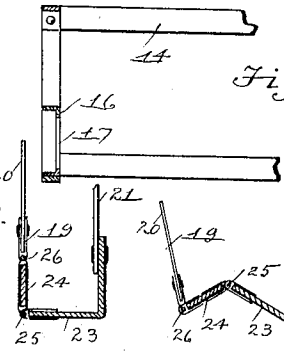


Fig. 6.

Fig. 8.

Fig. 9.

Witness:

Geo. L. Chapel

Inventor:

William S. Proudfit

By Cyrus W. Rice

his Attorney.

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2 SHEETS—SHEET 2.

Fig. 12.

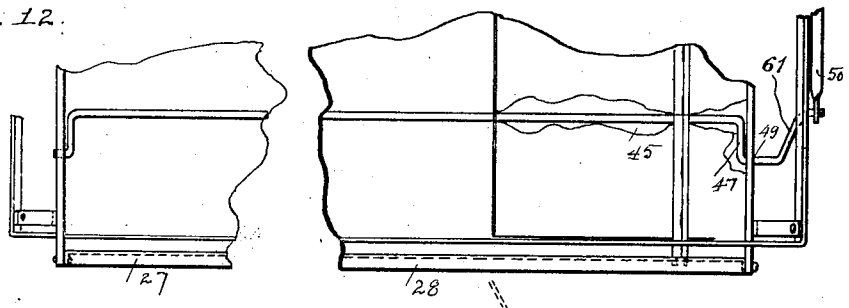
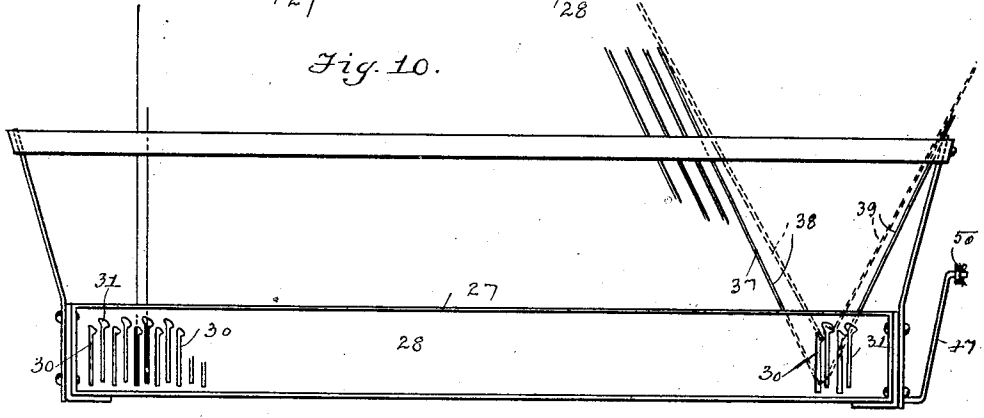


Fig. 10.



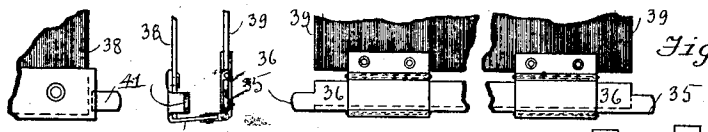


Fig. 15.

Fig. 16.

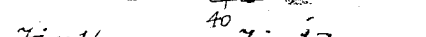


Fig. 17.

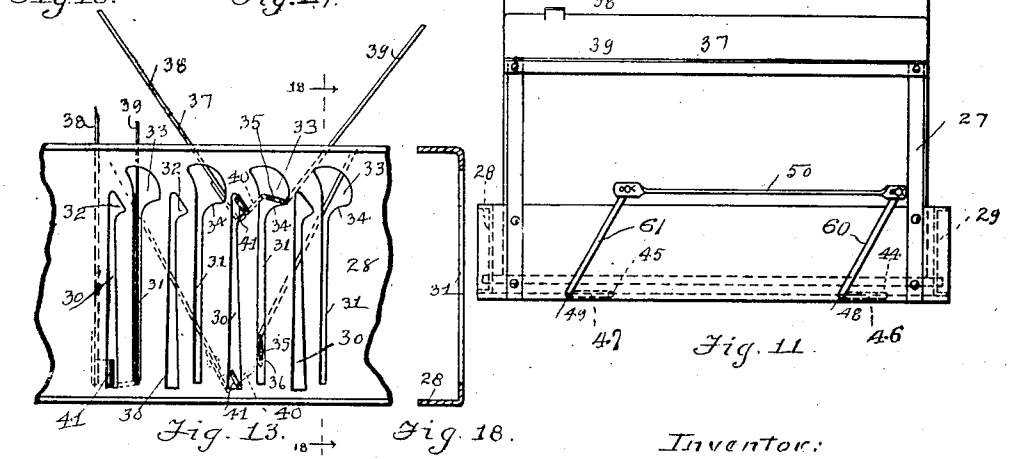


Fig. 11.

Fig. 13.

Fig. 18.

Inventor:

William S. Proudfit

By

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Witness:

Geo. L. Chapel

UNITED STATES PATENT OFFICE.

WILLIAM S. PROUDFIT, OF GRAND RAPIDS, MICHIGAN.

FILING DEVICE.

1,347,658. Specification of Letters Patent. Patented July 27, 1920.

Application filed April 7, 1919. Serial No. 287,938.

To all whom it may concern:

Be it known that I, WILLIAM S. PROUDFIT, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Filing Devices, of which the following is a specification.

The present invention relates to filing devices; that is, such devices as are used to contain in orderly arrangement letters, documents and the like: and its object is, generally, to provide a device of that character so constructed that the papers, etc., therein contained may be very readily examined as desired; and more particularly, to provide a plurality of separate containers for such papers arranged side by side and adapted to be severally raised and lowered and to be held in raised position; and further, to provide such containers which are expansible in raised position and contractible in lowered position.

These and any other objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the structures hereinafter described and illustrated in the accompanying drawings, in which:—

Figure 1 is a side view of a portion of one form of my filing device;

Fig. 2 is a transverse vertical section of a portion of the same taken on planes corresponding to line 2—2 of Fig. 3;

Fig. 3 is an enlarged side view of certain parts of the same;

Fig. 4 is a like view of such parts but showing a modified construction of said form of my device;

Fig. 5 is a side view of a portion of a second form of my filing device;

Fig. 6 is a transverse vertical section of a portion of the same taken on a plane corresponding to line 6—6 of Fig. 5;

Fig. 7 is an enlarged side view of certain parts of the same;

Fig. 8 is a transverse vertical section of the lower portion of one of the containers for holding papers, etc., and showing the same in non-expanded condition;

Fig. 9 is a like view of the same, but showing the container in expanded position;

Fig. 10 is a side view of a third form of my filing device;

Fig. 11 is a front or end view of the same;

Fig. 12 is a top plan view of the same;

Fig. 13 is an enlarged side view of certain parts of the same;

Fig. 14 is an opposite side view of the same but showing a modified construction;

Fig. 15 is a side view of the lower portion of one of the containers employed in the third form of my filing device;

Fig. 16 is a like view of a portion of the opposite side of said container;

Fig. 17 is an end view of the same; and

Fig. 18 is a vertical section of a side of the frame taken on a plane corresponding to line 18—18 of Fig. 13.

In Figs. 1, 2, 3 and 4 the first and most simple form of my filing device is shown, Fig. 4 illustrating a modified construction thereof. A frame 1 has end portions 2, 3 connected by side rails 4. Vertically disposed rods 5 supported by certain of these side rails form guides whereon are severally guided the bottoms of the containers 6, 7 in their raising and lowering movement, hereinafter explained. These containers comprise a pair of side members 8, 9 one of which is swingably connected at 10 at the bottom 11 of the container. The bottoms of these containers are provided with extensions having orifices 12, in which orifices the containers are freely slidable vertically on the guide rods, one rod at each side of the device being provided for each container. When the containers are all in lowered position as is container 6, and especially if they be well filled with papers, etc., they assume an approximately vertical position, but when one of them, as 7 is raised on the guide rods, its side members may be

readily swung apart in order to disclose their contents. The orifices are of such size relatively to the diameter of the guide rods that when the side member 9 is swung away from the other side member 8 the bottom member 11 of the container, which is rigid with the side member 9 and which has the orifices, is tilted so as to bind on the rods as shown in Fig. 3 and thus holds the container in raised position, until the side member 9 is moved to substantially vertical position, whereupon the container is free to slide down into lowered position.

In Fig. 4, the modified construction of my first form of the device is shown: The rods are notched in their sides to provide shelves 13 whereon the bottoms 11 of the raised containers seat when their side members 9 are swung to open the containers. By this construction the containers are held in raised position positively and not by the merely binding engagement of the bottoms with the rods as shown in Fig. 3.

In the second form of my filing device illustrated in Figs. 5, 6 and 7, the frame has opposite sides 15, 16 each provided with vertically disposed guide slots 17 having adjacent their upper ends lateral extensions 18. Each of the containers 19 comprises a pair of side members 20, 21 swingably connected at the bottom, the side member 21 having adjacent its bottom lugs 22 oppositely disposed, one being slidable in the guide slot 17 at one side of the device and the other slidable in the corresponding slot in the other side of the device. In these containers (seen in transverse vertical section in Figs. 8 and 9 and in end view in Fig. 7), the side member 21 is provided with a rigidly connected bottom or shelf 23, and the bottom member 24 is swingably connected at 25 on one side to said bottom or shelf 23 and at 26 on the other side is similarly connected to the lower edge of the side member 20. When the container is raised, as is the container seen in solid lines at the right hand side of Fig. 7, the side member 21 may be swung so that the lugs move into the extensions 18 and seat on the bottom thereof to hold the container in raised position; as this movement occurs, the bottom 23 tilts upwardly and the bottom member 24 tilts downwardly as seen in Fig. 9, there being thus formed a ridge along the pivotal axis 25. The side members 20 and 21 being opened or swung away from each other, the contents of the container may be easily examined and the individual papers may be shifted from one side of said ridge to the other as may be desirable to divide them into separate piles. When the side members 20, 21 are closed toward each other, the lugs move out of the extensions 18, and the container falls to its lowered position, wherein the bottom member 24 assumes a vertical position, the container being now contracted as shown in Fig. 8. It will be seen that the container is expanded for access to its contents when raised and is contracted when lowered.

The third form of my filing device is illustrated in the remaining figures of the drawings, a slight modification of said form being seen in Fig. 14. The frame 27 has sides 28, 29 each provided with pairs of vertically disposed guide slots 30, 31, there being one pair (30, 31) of slots at each side of the frame for each container. The slot 30 is similar to the guide slot 17 of the second form of my device, having a like lateral extension 32, and performs a similar function. This extension 32 is toward the other slot 31 of the pair, which has a lateral extension 33 disposed oppositely from the slot 30. This extension 33 has a convexly curved bottom 34 along which slides the lug 35 of the bottom member 36 when the container 37 is raised as is the container shown in solid lines at the right hand side of Fig. 13.

These containers 37 of the third form of my device are similar to the containers 19 of the second form, having the side members 38, 39, the rigidly connected shelf or bottom 40, the swingably connected bottom member 36 and the lugs 41 slidable in the slots 30. These containers 37 however have the aforesaid oppositely disposed lugs 35 carried by the swingably connected bottom member 36 which lugs slide in the slots 31.

In this third form of the device, the bottom of the container is constrained into collapsed form by reason of the lugs 35 and 41 traveling in the pairs of slots 31, 30 when the container falls from raised position.

In the modified construction of this third form of my device as shown in Fig. 14, the extensions 33 of the slots 31 have concavely curved upper portions 43, so that the lugs 35 are guided by and between the convexly curved lower portions 34 and said concavely curved upper portions of the extensions.

It will be seen that the lugs are rockable but non-rotatable in the slots and that the slots are widened toward their lower ends.

Means may be provided for raising all the containers simultaneously. To this end the bars 44, 45 below the containers have arms 46, 47 swingably mounted at 48, 49 on the frame. These bars may be raised to parallel positions or different levels by moving the link 50 which connects the arms 60, 61 of the two bars.

The bottom 11 of the first form of my device and the bottom 23 of the second form and the bottom 40 of the third form are preferably disposed at less than a right angle to the container's side member to which such bottom is rigidly joined, as particularly shown in Fig. 13; the papers whose lower edges rest on said bottom 11, 23 or 40 are thus held so that, if of the same vertical ex-

tension, their upper edges are stepped so that they may be readily fingered and separated.

My device is peculiarly well adapted to use in so-called "machine book-keeping." It may be constructed in drawer or tray form or otherwise as may be convenient.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction shown or described.

I claim:

1. In a device of the character described; a plurality of containers arranged side by side and adapted to be severally raised and lowered, each container comprising a pair of side members swingably connected at its bottom; vertically disposed guides for the bottoms of the containers in their raising and lowering movement; means for releasably holding the containers severally in raised position.

2. In a device of the character described; a plurality of containers arranged side by side and adapted to be severally raised and lowered, each container comprising a pair of side members swingably and also expansively and contractibly connected at its bottom; vertically disposed guides for the bottoms of the containers in their raising and lowering movement; means for releasably holding the containers severally in raised position.

3. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members swingably connected at its bottom, one of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position.

4. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members swingably connected at its bottom, one of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position, the lugs being non-rotatable in the guide slots.

5. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots widening downwardly and having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members swingably connected at its bottom, one of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position.

6. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, one of said members having a bottom portion rigidly connected thereto and the other of said members having a bottom swingably connected thereto and to the first member's bottom portion, the first member having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position.

7. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, one of said members having a bottom portion and the other of said members having a bottom swingably connected thereto and to the first member's bottom portion, one of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position.

8. In a device of the character described; a frame having opposite sides provided with vertically disposed guide slots having adjacent their upper ends lateral extensions; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, one of said members having a bottom portion and the other of said members having a bottom swingably connected thereto and to the first member's bottom portion, one of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the guide slots in the opposite sides of the frame and adapted to engage in said extensions thereof to hold the container in raised position, the lugs being non-rotatable in the guide slots.

9. In a device of the character described; a frame having opposite sides each provided with pairs of vertically disposed guide slots, the first slot of each pair having

adjacent its upper end a lateral extension toward the second slot of said pair and said second slot having adjacent its upper end a lateral extension oppositely disposed from the first slot of said pair; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, the first of said members having a bottom portion and the second of said members having a bottom member swingably connected thereto and to the first member's bottom portion, the first of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the first guide slots of pairs of slots in the opposite sides of the frame and adapted to be turned into and engage in said extensions thereof to hold the container in raised position, and the said bottom member of the second side member having oppositely disposed lugs respectively slidable in the second guide slots of said pairs of slots in the opposite sides of the frame and adapted to be turned into and engage the said extensions thereof; the guide slots of each pair of slots and the extensions thereof being so interrelatively disposed that the side members of the containers are held nearer each other in the lowered position of the containers than in the raised position thereof.

10. In a device of the character described; a frame having opposite sides each provided with pairs of vertically disposed guide slots, the first slot of each pair having adjacent its upper end a lateral extension toward the second slot of said pair and said second slot having adjacent its upper end a lateral extension oppositely disposed from the first slot of said pair and having a convexly curved bottom portion; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, the first of said members having a bottom portion rigidly connected thereto and the second of said members having a bottom member swingably connected thereto and to the first member's bottom portion, the first of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the first guide slots of pairs of slots in the opposite sides of the frame and adapted to be turned by the separating movement of said members into and to engage in said extensions of said slots to hold the container in raised position, and the said bottom member of the second of said side members having oppositely disposed lugs respectively slidable in the second guide slots of said pairs of slots in the opposite sides of the frame and adapted to be turned into and engage the convexly curved bottom portions of the extensions thereof; the guide slots of each pair of slots and the extensions thereof being so interrelatively disposed that the side members of the containers are held nearer each other in the lowered position of the containers than in the raised position thereof.

11. In a device of the character described; a frame having opposite sides each provided with pairs of vertically disposed guide slots, the first slot of each pair having adjacent its upper end a lateral extension toward the second slot of said pair and said second slot having adjacent its upper end a lateral extension oppositely disposed from the first slot of said pair and having a convexly curved bottom portion and a concavely curved top portion; a plurality of containers arranged side by side in the frame, each comprising a pair of side members, the first of said members having a bottom portion rigidly connected thereto and the second of said members having a bottom member swingably connected thereto and to the first member's bottom portion, the first of said members having adjacent its bottom oppositely disposed lugs respectively slidable in the first guide slots of pairs of slots in the opposite sides of the frame and adapted to be turned by the separating movement of said members into and to engage in said extensions of said slots to hold the container in raised position, and the said bottom member of the second of said side members having oppositely disposed lugs respectively slidable in the second guide slots of said pairs of slots in the opposite sides of the frame and adapted to be turned into and to be guided between the convexly and concavely curved portions thereof; the guide slots of each pair of slots and the extensions thereof being so interrelatively disposed that the side members of the containers are held nearer each other in the lowered position of the containers than in the raised position thereof.

12. In a device of the character described; a plurality of containers arranged side by side and adapted to be severally raised and lowered and having side members expansively and contractibly connected at their bottoms; guides for the raising and lowering movement of the containers and so disposed as to contract their side members in their lowered position and to permit their expansion in their raised position; means for releasably holding the containers severally in raised position.

13. In a device of the character described; a plurality of containers arranged side by side and adapted to be severally raised and lowered, each container comprising a pair of side members swingably connected at its bottom; means for guiding the bottoms of the containers in their raising and lowering movement; means for releasably holding the containers severally in raised position; a bar below the containers; means for raising the bar to parallel positions to simultaneously

raise and to permit the lowering of the containers.

14. In a device of the character described; a plurality of containers arranged side by side and adapted to be severally raised and lowered, each container comprising a pair of side members swingably connected at its bottom; means for guiding the bottoms of the containers in their raising and lowering movement; means for releasably holding the containers severally in raised position; a pair of bars below the containers having arms at each end provided with alined bearing portions spaced from the body portions of the bars and having also operating arms at one end of the bars; means for connecting the latter arms for swinging the same simultaneously to raise and lower the bars and containers.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 3rd day of April, 1919.

WILLIAM S. PROUDFIT.