United States Patent [19]

Snethen

[11] **4,133,444**

[45] **Jan. 9, 1979**

[54] **FILING SYSTEM**

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[73] Assignee: **United Business Equipment Corp.**, Buffalo, N.Y.

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[51] **Int. Cl.**[2] **B65D 25/06**

[52] **U.S. Cl.** **220/22.4**; 220/22.5

[58] **Field of Search** 220/22.2, 22.3, 22.4, 220/22.5

[56] **References Cited**

U.S. PATENT DOCUMENTS

673,403	5/1901	Macey	220/22.4
768,716	8/1904	Zimmerli	220/22.4
931,978	8/1909	Wiesner	220/22.4
1,116,757	11/1914	Stuck	220/22.4
1,355,257	10/1920	Peel et al.	220/22.4
2,110,610	3/1938	Rickaby	220/22.5
2,187,832	1/1940	Link	220/22.4
2,746,815	5/1956	King	220/22.5
2,877,773	3/1959	Senell	220/22.5
3,700,118	10/1972	Snethen	214/1 R
3,770,159	11/1973	Dunlap	220/22.5

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[57] **ABSTRACT**

A filing system features a novel compressor in combination with a three rod filing tray. The compressor includes a first compressor part having a first bearing means adapted to releasably engage a centralmost of the rods and mounting an anti-tilt bar removably disposed above and to bridge across the rods; a second compressor part pivotally connected to the first compressor part and having a second bearing means normally biased for engagement with the centralmost rod for releasably retaining the compressor in desired position lengthwise of the rods. The compressor parts may be employed to alternately engage with file material arranged adjacent front and rear ends of the tray.

4 Claims, 4 Drawing Figures

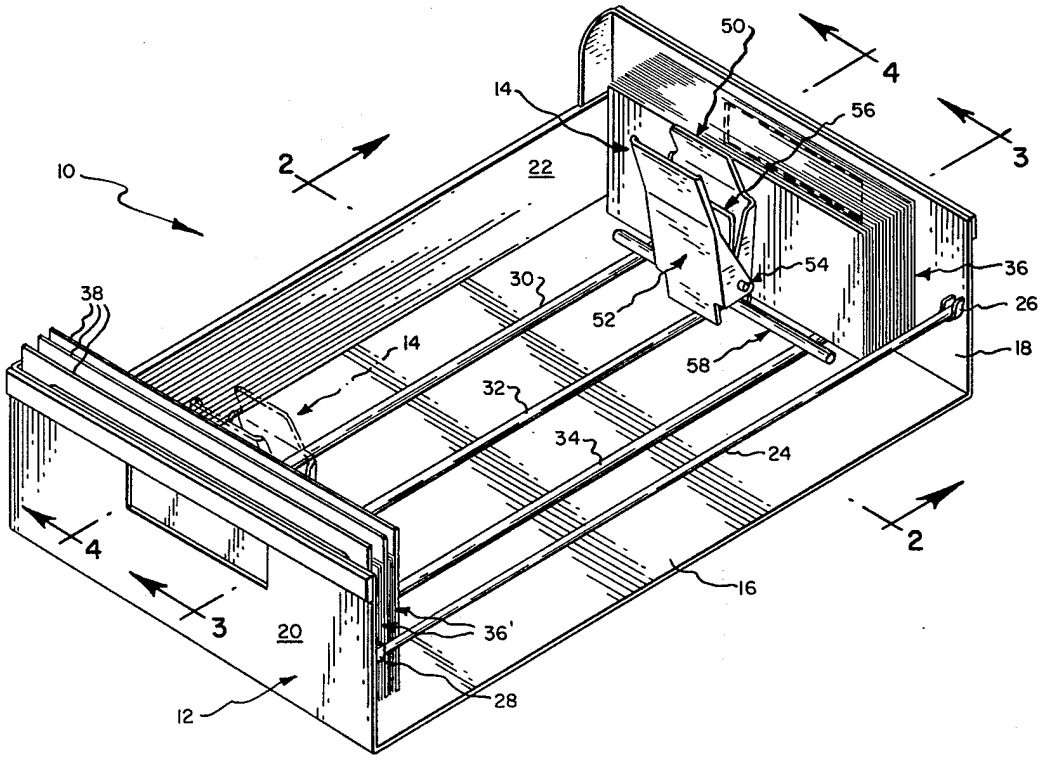


Fig. 1.

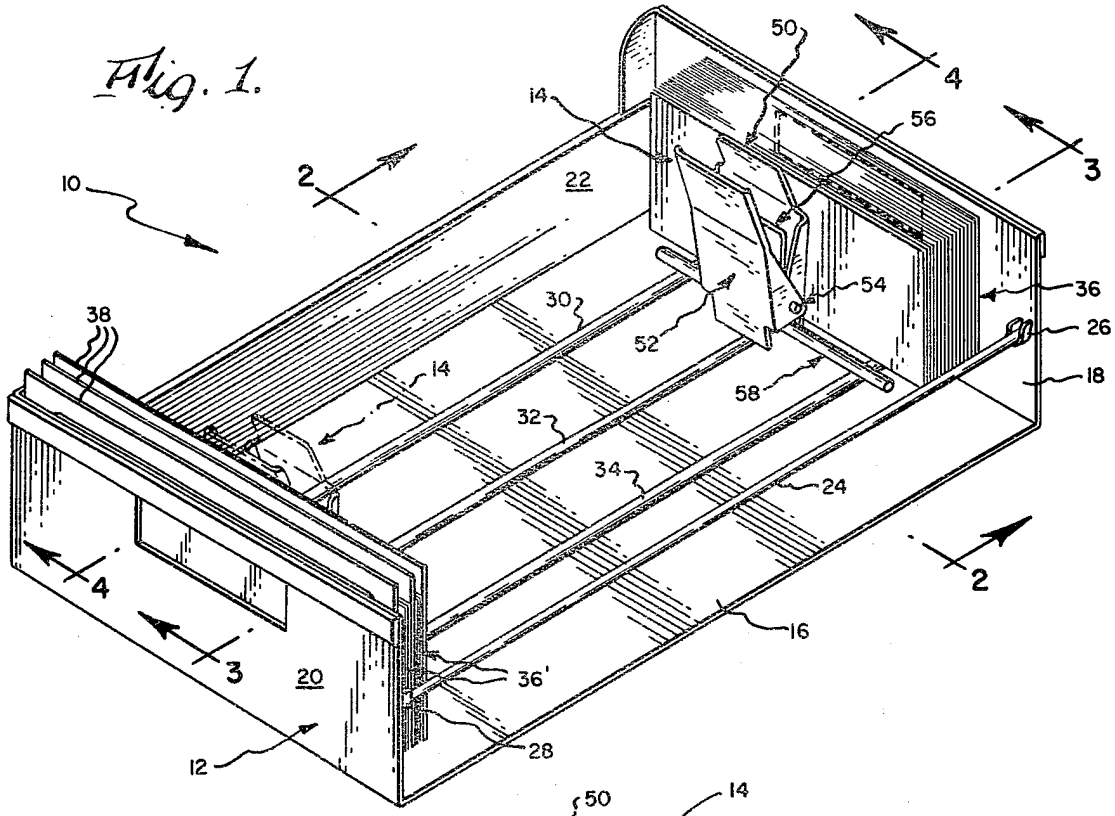


Fig. 2.

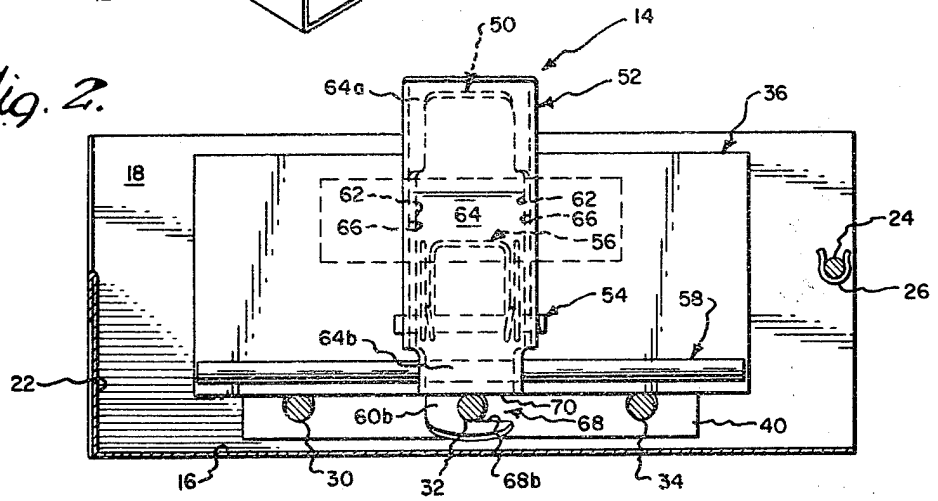


Fig. 3.

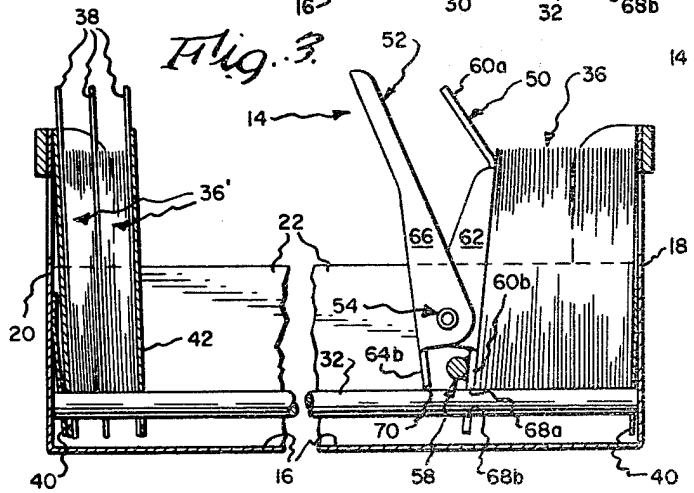
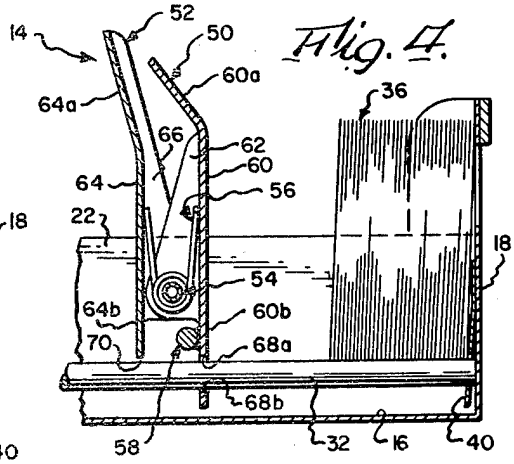


Fig. 4.



FILING SYSTEM

BACKGROUND OF THE INVENTION

Compressor follower devices are conventionally employed in file trays for the purpose of releasably compressing/clamping file material such as cards, checks and other sheets of paper stored in such trays.

A preliminary patent search directed towards the present invention noted the following patents as being of interest:

Patent No.	Patentee	Issue Date
768,716	C. Zimmerli	Aug. 30, 1904
1,116,757	E. Stuck	Nov. 10, 1914
2,187,832	F.L.W. Link	Jan. 23, 1940
2,877,773	F.R. Sewell	Mar. 17, 1959

The above enumerated patents disclosed compressor or follower devices for filing trays characterized in that they are non-removably attached to their associated tray at least throughout their normal range of travel/adjustment, and are not readily adapted for removable attachment with the rods of a three rod type filing tray.

The construction of the tray employed in combination with the compressor of the present invention is disclosed in my prior U.S. Pat. No. 3,700,118, which issued on Oct. 24, 1972.

SUMMARY OF THE INVENTION

The present invention is primarily directed towards an improved compressor or follower device construction particularly adapted for use with a three rod filing tray of the type disclosed in my prior U.S. Pat. No. 3,700,118.

The subject compressor includes a first compressor part having a first bearing means adapted to releasably engage a centralmost of the rods and mounting an anti-tilt bar removably disposed above and to bridge across the rods; a second compressor part pivotally connected to the first compressor part and having a second bearing means normally biased for engagement with the centralmost rod for releasably retaining the compressor in desired position lengthwise of the rods. The compressor parts may be employed to alternately engage with file material arranged adjacent front and rear ends of the tray.

DRAWINGS

The nature and mode of operation of the present invention will now be more fully described in the following detailed description taken with the accompanying drawings wherein:

FIG. **1** is a perspective view of a filing system formed in accordance with the present invention;

FIG. **2** is a sectional view taken generally along the line **2**—**2** in FIG. **1**;

FIG. **3** is a sectional view taken generally along the line **3**—**3** in FIG. **1**; and

FIG. **4** is a sectional view taken generally along the line **4**—**4** in FIG. **1**.

DETAILED DESCRIPTION

Reference is first made to FIG. **1**, wherein a filing system formed in accordance with the present invention is generally designated as **10** and shown as including a filing tray **12** in combination with a compressor or follower device **14**. Tray **12** preferably includes a planar

bottom wall **16**; rear and front walls **18** and **20**, which upstand from adjacent rear and front ends of bottom wall **16**, respectively; a stationary side wall **22**; a removably supported side wall **24**, which may be in the form of a rod or plate releasably supported by rear and front wall mounted securing devices **26** and **28**, respectively; and three uniformly spaced, parallel file material support rods **30**, **32** and **34**, which have their ends supported by mounting plates **40** fixed to the front and rear walls, whereby to position the support rods in a spaced parallel relationship relative to the upper surface of bottom wall **16**. As thus far generally described, tray **12** is similar in construction to that described in my prior U.S. Pat. No. 3,700,118.

Tray **12** is particularly adapted for storage of sheet material, such as bank checks, which may be bottom edge supported on support rods **30**, **32** and **34** and selectively arranged, either as a non-separated package of checks **36** or as a plurality of groups of sorted checks **36'** divided on the basis of account number by appropriate signature or account cards **38**. Preferably, signature cards **38** would be formed adjacent their lower edges with slots permitting snap fitting thereof onto support rods **30**, **32** and **34**. Also, as desired, the tray may be provided with metal "bounding" plates **42**, which are permanently, slidably and tiltably supported on the support rods.

Compressor **14** is shown in FIGS. **1**–**4** as generally including first and second compressor parts **50** and **52**; hinge means, such as a hinge pin **54**, for joining compressor parts **50** and **52** for relative pivotal movement between their operative or clamping and inoperative or release position shown in FIGS. **3** and **4**, respectively; resiliently deformable means, such as a spring **56**, for normally biasing compressor parts **50** and **52** into their clamping positions; and an anti-tilt device, such as an elongated bar or rod **58** for constraining or limiting tilting movements of the compressor relative to the support rod on which it is supported. More specifically, first compressor part **50** is best shown in FIGS. **2**–**4** as being in the form of a generally U-shaped plate having a first connecting portion **60** formed with upper or operator and lower end portions **60*a*** and **60*b***, respectively; and a pair of first leg portions **62**. In a like manner, second compressor part **52** is formed from a generally U-shaped plate having a second connecting portion **64** formed with upper or operator and lower end portions **64*a*** and **64*b***, respectively; and a pair of second leg portions **66**. As will be apparent from viewing FIGS. **2**–**4**, hinge pin **54** has its opposite ends received within aligned openings formed in first and second leg portions **62** and **66**. Preferably, spring **56** is wound around hinge pin **54** and shaped to arrange its intermediate and end portions in bearing engagement with the inwardly facing surfaces of first and second connecting portions **60** and **64**, respectively. Also, anti-tilt bar **58** is preferably fixed, as by welding to the inwardly facing surface of lower end portion **60*b*** and disposed essentially parallel to the axis of hinge pin **54**. When compressor **14** is to be used in combination with a three rod type support system, the compressor would be supported on centralmost support rod **32** and anti-tilt bar **58** sized to bridge across all of the support rods with its ends disposed equidistant from compressor parts **50** and **52**.

By again referring particularly to FIGS. **2**–**4**, it will be understood that lower end portion **60*b*** serves to define a first bearing means, which is preferably in the

form of a side edge opening slot **68** having upper and lower bearing edges **68***a* and **68***b* adapted to frictionally engage with the upper and lower surfaces of centralmost support rod **32**, respectively, whereas lower end portion **64***b* serves to define a second bearing means, such as may be defined by its lower marginal edge **70** adapted to frictionally engage with the upper surface of support rod **32**.

When an operator desired to mount, remove or adjust compressor **14** relative to support rod **32**, he would first apply finger pressure to the oppositely or outwardly facing surfaces of upper end portions **60***a* and **64***a* to a degree sufficient to pivot compressor parts **50** and **52** against the bias of spring **56** into their release positions shown in FIG. **4**. If adjustment of compressor **14** lengthwise of support rod **32** is desired, the operator would then simply move the compressor to a desired position and then release upper end portions **60***a* and **64***a* in order to permit spring **56** to bias the compressor parts into their clamping positions shown in FIG. **3**, wherein edge **68***a* underengages and edges **68***b* and **70** overengage support rod **32**. In effect, engagement of edge **70** with the support rod serves to vertically tilt the compressor parts to a degree sufficient to bring edges **68***a* and **68***b* into frictional engagement with the support rod. When compressor parts **50** and **52** are disposed in their clamping position relative to support rod **32**, anti-tilt bar **58** is disposed to overlie and bridge across rods **30**, **32** and **34** in order to constrain or limit the degree of tilting movements of compressor **14** about the axis of support rod **32**. Preferably, a small vertical spacing should exist between anti-tilt bar **58** and the support rods in order to facilitate adjustment of the compressor lengthwise of support rod **32**, as well as insertion and removal of the compressor from the tray in the manner to be described.

Again making reference to FIG. **3**, it will be noted that when the compressor parts are disposed in their clamping positions, their respective lower end portions **60***b* and **64***b* tilt or extend upwardly and relatively toward rear and front walls **18** and **20**, respectively, such as to permit the compressor to be selectively employed to compress the file material adjacent the rear and front ends of the tray, as indicated in full and phantom line in FIG. **1**.

When it is desired to remove compressor **14** from within tray **12** after first pivoting compressor parts **50** and **52** into their release positions shown in FIG. **4**, the operator would simply move the compressor transversely of support rod **32** sufficiently to remove the support rod from within the confines of slot **68** and then lift the compressor to remove same from between support rods **30** and **32** and then from within the confines of the tray. Preferably, the widthwise dimension of lower end portion **60***b* would be less than the distance between support rods **30** and **32**, so as to permit removal/insertion of the compressor without the requirement that anti-tilt bar **58** be tilted relative to a plane disposed normal to support rods **30**, **32** and **34**; this being particularly advantageous when the tray is substantially filled.

The present invention has been described with particular reference to a filing tray having a three support rod type filing system. However, it will be appreciated that the construction of compressor **14** may be modified to accommodate same for use in filing trays having support rods of a number other than three.

I claim:

1. In a filing system including a storage tray having a bottom wall, front and rear walls upstanding from front and rear ends of said bottom wall and at least three parallel support rods and supported by said front and rear walls and arranged in a spaced parallel relationship relative to said bottom wall; and a compressor for releasably engaging materials filed within said tray in engagement with said rods, the improvement wherein said compressor comprises in combination:

a first compressor part having an upper operator end portion and a lower end portion;

a second compressor part having an upper operator end portion and a lower end portion, said lower end portion of one of the compressor parts being formed with a slot bounded in part by upper and lower bearing edges, said slot opening at one end thereof and being sized to freely and removeably receive one of said rods, said lower end portion of the other of said compressor parts having a lower end bearing edge;

hinge means for joining said compressor parts for pivotal movement about a pivot axis for removeably mounting said compressor parts on said one rod with said upper and lower bearing edges disposed in frictional surface engagement with upper and lower surfaces of said one rod and with said lower end bearing edge disposed in frictional surface engagement with said upper surface of said one rod, said first and second compressor parts when mounted on said one rod being free to tilt about the axis thereof and have their lower end portions arranged to extend upwardly and towards said rear and front walls of said tray, respectively;

resiliently deformable means for normally maintaining said compressor parts mounted on said one rod; and

anti-tilt means in a form of a bar fixed to one of said compressor parts to overlie and engage with other ones of said rods for limiting tilting movement of said compressor parts about the axis of said one rod when mounted thereon.

2. The improvement according to claim **1**, wherein said slot opens through a vertically disclosed side edge of said lower end portion of said one of said compressor parts, and said lower end portion of said one of said compressor parts has a widthwise dimension less than the spacing between said one rod and another of said rods adjacent thereto.

3. The improvement according to claim **1**, wherein said slot is formed in said first compressor part, said bar is fixed to said first compressor part, and said bar is arranged intermediate said first and second compressor parts and to extend essentially parallel to said pivot axis.

4. In a filing system including a storage tray having a bottom wall, front and rear walls upstanding from front and rear ends of said bottom wall and at least three parallel support rods end supported by said front and rear walls and arranged in spaced parallel relationship relative to said bottom wall; and

a compressor for releaseably engaging materials filed within said tray in engagement with said rods, the improvement wherein said compressor comprises in combination:

a first compressor part in the form of a generally U-shaped plate having a first connecting portion and a pair of first leg portions, said first connecting portion having an upper operator end portion and a lower end portion, said lower end portion being

formed with a slot bounded in part by upper and lower bearing edges, said slot opening through a vertical side edge of said lower end portion and being sized to freely receive one of said rods, and said lower end portion of said first connecting portion having a widthwise dimension less than the spacing between said one rod and another of said rods adjacent thereto;

a second compressor part in the form of a generally U-shaped plate having a second connecting portion and a pair of second leg portions, said second connecting portion having an upper operator end portion and a lower end portion having a lower end bearing edge;

hinge means received within aligned openings formed in said first and second leg portions for joining said first and second compressor parts for pivotal movement about a pivotal axis for removeably mounting said first and second compressor parts on said one rod with said upper and lower bearing edges disposed in frictional surface engagement with upper and lower surfaces of said one rod and with said lower end bearing edge disposed in frictional surface engagement with said upper surface of said one rod, said first and second compressor parts when mounted on said one rod being free to tilt about the axis thereof and having the lower end portions of their first and second connecting portions arranged to extend upwardly and towards said rear and upper walls of said tray, respectively;

spring means mounted on said hinge means for normally maintaining said first and second compressor parts mounted on said one rod; and

anti-tilt means fixed to said first connecting portion to overlie and engage with other ones of said rods for limiting tilting movement of said first and second compressor parts about the axis of said one rod when mounted thereof, and said anti-tilt means being a bar arranged intermediate said first and second compressor parts and to extend essentially parallel to said pivotal axis.

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