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F. S. SCHADE

EXPANDING FILE TRAY

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2,680,443

FIG. 1

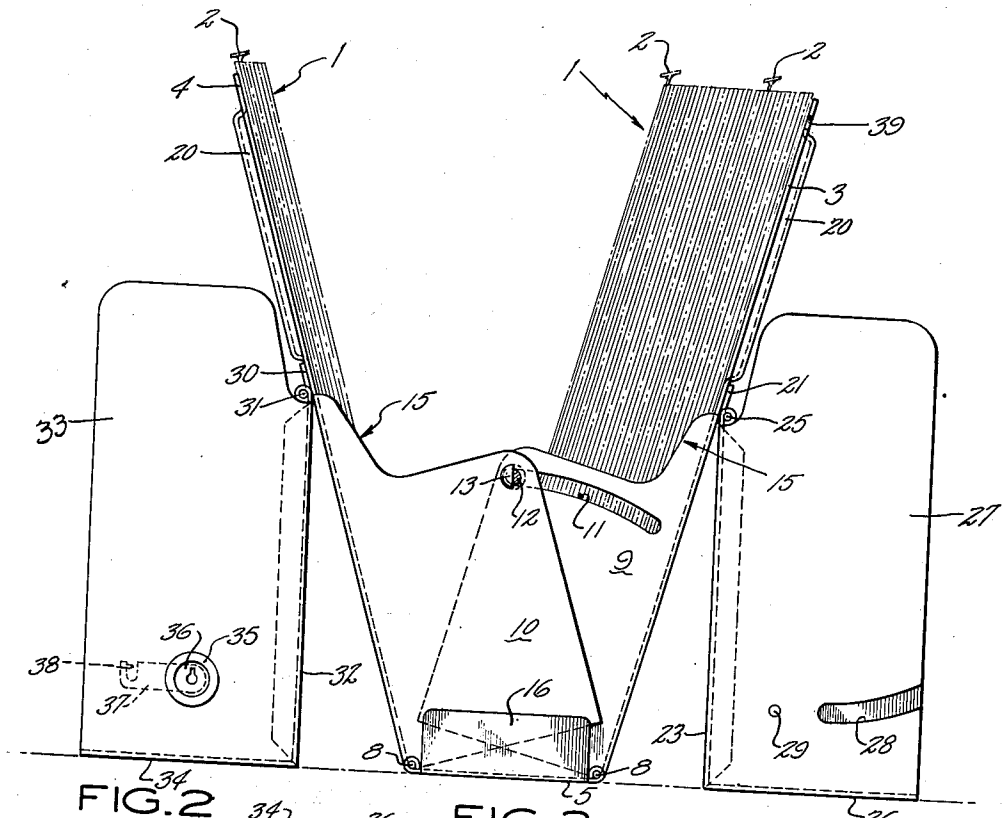


FIG. 2

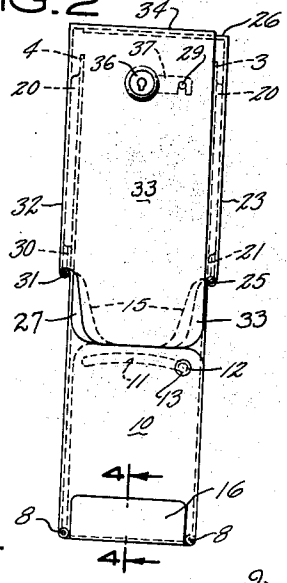


FIG. 3

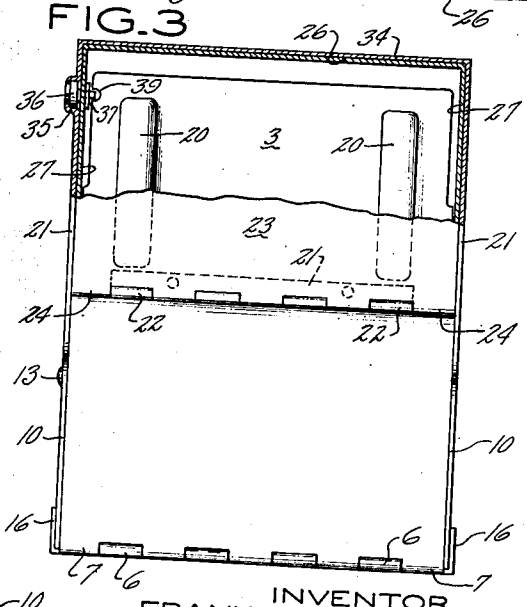
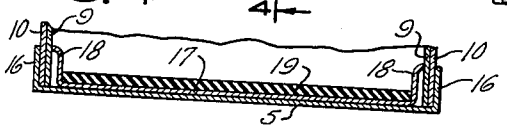


FIG. 4



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EXPANDING FILE TRAY

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8 Claims. (Cl. 129—16)

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This invention relates to expanding file trays of the type generally used for storage of various accounting records such as accounting sheets or record cards on which entries may be made on bookkeeping and accounting machines.

An object of the invention is to provide an expanding file tray of a simplified construction which is neat and compact in closed position of the parts for storage of the tray and which may be quickly and easily expanded for examination of the file contents and for handling the individual sheets in making entries on the same.

Another object of the invention is to provide a file tray of the class described in which the cover members thereof are so constructed and arranged in the assembly as to serve as bracing elements in open position of the tray on a work surface and to utilize said cover members to maintain the stability of the tray against tipping or falling when the contents of the tray are shifted in handling the same.

A further object of the invention is to arrange the means limiting the relative outward movement of the sides of the tray in open expanded position so that the tray sides will not readily fall to closed position and to relate said means to the mounting of the cover bracing members so that the tray may be quickly and easily moved to open or close the same.

These and other objects and advantages of the invention will appear from the following description of an embodiment thereof as shown by the accompanying drawings in which,

Fig. 1 is an end elevation of the tray opened up for use on a work surface;

Fig. 2 is a similar view of the tray in closed position;

Fig. 3 is a side elevation with parts cut away to show details of construction; and

Fig. 4 is a sectional view on line 4—4 of Fig. 2 showing detail of the tray bottom structure.

In the drawings Fig. 1 shows a record keeping file tray opened up as on a work surface for access to the file contents thereof indicated herein as a stack of vertically arranged sheets 1 which may be interleaved with the usual dividers having index tabs as at 2. As will readily be seen from Fig. 1 the sides 3 and 4 of the tray are divergently angled in open expanded position for inspection or removal of any individual file sheets with that portion of the stack behind a particular sheet tipped against one side wall panel and the other portion of the stack tipped against the other side wall panel. The sheets between oppositely tipped portions may be removed for

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making entries thereof, as for example, in a bookkeeping machine.

The side wall panels shown at 3 and 4 are each pivotally attached by a hinged connection at their lower edges to the opposite edges of a rectangular base or bottom plate 5. The hinges may be formed as shown by Fig. 3 by rolled hinge knuckle portions 6 extending in spaced relation from the plate 5 and complementary spaced knuckle portions 7 extending from the lower edge of panels 3 and 4. The hinge portions 6 and 7 interfit in axial alignment and embrace a pintle rod 8 (Fig. 1) for the relative pivotal swinging of each side panel with respect to the base plate 5.

The panel 3 is also provided at each side edge with a flanged portion as the integrally bent end plate 9 extending inwardly of the panel from the lower side edge portions thereof and overlying the end edge portions of the base plate 5. The plates 9 extend in slidable relation with and inwardly of end plates 10 similarly formed to extend from the lower edge portions of panel member 4. Both plates are of a width approximately equal to the width of the base plate. Across the upper portion of plates 9 are provided transverse slots as at 11 and in each slot is slidably received a pin 12 fixed in the upper outer corner of the plates 10. The pins are headed at both ends as at 13 and ride in the slot 11 to provide interengageable stop means for limiting relative outward pivotal swinging movement of the plates 9 and 10 and thus of the panel members 3 and 4. Thus as indicated by the relative positions shown by Figs. 1 and 2 the side panels may be vertically disposed either in spaced inwardly closed position or outward divergently angled open position. As will be noted in the latter position (Fig. 1) the top edges of end plates 9 and 10 may be cut away from adjacent the panel edges to which the plates are joined. Thus in the open position sufficient light will enter from opposite ends of the tray for the proper vision of entries recorded on the lower half of the sheets or cards comprising the stack 1. The cut back portions are indicated by the arrows 15.

The end plates 9 and 10 in closed position rest along their bottom edges on the base plate 5 as shown by Fig. 4, and plate 5 is provided at each end with an upturned end flange 16 maintaining the adjacent relation of the plates at their lower edge portions in both closed or open position. At the inner side of plates 9 an insert plate 17 provides by end flanges 18 an inner flanged sec-

tion spaced from the flange 16 for maintaining the lower ends of plates 9 and 10 together in close slidable relation. The flanges 18 are outwardly flared at the top to shield the bottom corners of record sheets against injury in the tray. A rubber pad 19 may also be provided for a bottom liner element.

In the upper portion of the side panels 3 and 4 above the end plates 9 and 10 vertical ribbed portions 20 are pressed from the metal thereof to give added rigidity to the same and as will be apparent from Fig. 2 to provide spacer members for maintaining the parallel relation of the cover members to the side panels when the tray assembly is closed.

The cover members are hingedly carried by the side panels on a transverse axis at the mid section of the panels 3 and 4. A hinge strap mounting as at 21 is suitably fixed to the outer surface of panel 3 with rolled hinged knuckle portions 22 turned outwardly therefrom to interfit with complementary spaced hinge knuckles 24 formed along the lower edge of a leg portion for the cover as the panel 23. The knuckles are in axial alignment and a pintle 25 holds the cover for pivotal movement relative to the side panel 3.

The cover panel 23 is formed with a top flanged member as the lid member 26 and end flanges as the end cover plates 27. In the edge of one of the end plates 27 a slot 28 is cut transversely of the plate adjacent the top section thereof. Inwardly of the slot a pin 29 is fixed to the wall of the plate.

The lid 26 and end flange plates 27 are adapted for telescopic slidable relation with the inner wall surfaces of similarly formed portions of the other cover member. The opposite cover member as shown at the left of Fig. 1 is pivotally hung from a hinge strap 30 by rolled hinge portions with a pintle as at 31. The side panel portion is indicated at 32, the flanged end plates at 33, and the flanged lid member at 34. The end plate 33 opposite end plate 27 carrying the slot 28 is also provided with a lock mechanism set in an opening formed by an outwardly deformed circular flange indicated at 35. The lock 36 is provided with a pivoted locking bar 37 offset from the inner surface of the plate 33 with a hook 38 formed at the outer end of the bar. The stem for the bar is slidably received in the slot 28 of the plate 27 and at its inner end the hook may be turned to engage the locking pin 29. As shown at 39 (Fig. 1) a notch is cut for passage of the pin 29 in swinging the cover member into the upper position of Fig. 2.

The cover members are adapted in closed position of the tray to extend upwardly beyond the outer edges of the side panels to which they are attached, as seen in Fig. 2, and are held in parallel relation to the panels 3 and 4 with the lid portions overlying the interior of the tray by the spacer ribs 20. It will also be noted from the position of Fig. 2 that the end plates 33 and 27 close off the end portions of the tray above the end plates 9 and 10 as by the lower skirted sections of said plates 33 and 27 covering the cut back portions at 15.

When carried to the open position of Fig. 1 the cover members may be swung outwardly prior to spreading the side panels apart. The panels 23 and 32 are of a length to hang with the lid portions 26 and 34 in flat co-planar relation to the bottom plate on a work surface and laterally of the plate 5 so as to provide perpendicular supporting legs for the panels 2 and 3. Thus with the lids extending outwardly beyond the upper edges of the panels 2 and 3 a secure bracing means is provided against any tendency of the tray to fall. The point of support for the side panel is at the mid section thereof.

The pin 12 rides in the slot 11 for limiting the outer travel of the side panels and this connection being in the upper portion of the end plates 9 and 10 with the slot horizontally disposed across the plate 9, it will be seen that the sides will not inadvertently fall to closed position, yet pressure on the side panels 2 and 3 to close or open the tray may be applied for readily and easily moving the side inwardly or outwardly.

What is claimed is:

1. An expanding file tray comprising a bottom plate, side panels pivotally attached to said bottom plate at the side edges thereof and movable from a vertical oppositely spaced relation substantially perpendicular to the plate to a divergently related position angled outwardly from said plate edges, said side panel carrying interengageable means limiting the outward pivotal travel of the panels, cover members for supporting the side panels in said divergent relation including leg portions pivotally mounted at their inner ends on an axis extending transversely of the side panels at the mid sections thereof, and mounting means on said side panels pivotally carrying said leg portions, said leg portions being of a length to extend upwardly of said panels with their outer edges beyond the upper panel edges and downwardly from said mounting means adjacent the lower edges thereof, said leg portions at their outer edges having flanged lid portions extending inwardly of the side panels and overlying the interior of said tray in upwardly extended position of said legs, and extending outwardly of said panels in downwardly pivoted position of said legs for the bracing support of said panels laterally of said bottom plate in said divergently related position of said side panels.

2. In an expanding file tray having a bottom plate and side panels mounted for pivotally swinging the same into divergently angled relation from the sides of the plate, cover members having leg portions and lid portions at the outer ends of said leg portions, said leg portions being pivotally mounted at their inner ends on said side panels adjacent to and above the transverse center line thereof and being of a length to extend upwardly of the panels beyond the outer edges thereof, said lid portions in said upper position of the legs extending inwardly into overlying relation to the interior of said tray and being movable in lower downwardly extending position of said leg portions into an outwardly extending relation adjacent to and above the plane of said bottom plate, said side panels having means to limit said relative outward swing on the bottom plate, said lid portions at said limit of outward panel movement being in said lowered position in spaced co-planar relation with said bottom plate.

3. In an expanding file tray provided with side panels hinged at their lower edges on a bottom plate for pivotal movement outwardly of the plate and having means to limit said outward movement to a divergently angled relation for access to the tray contents and the turning of the tray contents to rest in tipped position against either of the side panels, cover members having supporting leg portions hinged on an axis ex-

tending transversely of each side panel above the transverse center line thereof, said supporting portions having at their outer ends lid portions extending at right angles thereto with the supporting portions being of a length to lie in parallel relation to the side panels and upwardly thereof beyond the outer edges of said panels and disposing the lid portions in overlying relation to the interior of said tray, said supporting portions being movable into depending position from said side panels and extending in said position in laterally spaced perpendicular relation to said bottom plate with the lid portions disposed outwardly thereof and in co-planar relation therewith for the bracing support of said side panels in angularly directed relation.

4. An expanding file tray comprising a bottom plate, vertically disposed side panels pivotally mounted at their lower edges at each side of said bottom plate and provided with inwardly directed end flanges extending from the lower side edge portions of said side panels substantially the width of said bottom plate, the flanges of one panel slidably overlapping the flanges of the other panel at the ends of said bottom plate and one of said slidably related flanges carrying means projecting therefrom towards the other flange with the latter flange having stop means limiting the relative outward slidable movement of said flanges and the relative outward movement of said side panels, said side panels at their limit of outward movement lying spread apart and disposed in divergently angled relation to said bottom plate for access to the contents of the tray, cover members mounted on said side panels with flanged lid portions at the outer edges thereof and pivotal hinge means at the inner edges thereof, hinge receiving means mounted transversely of said side panels at the mid-section thereof carrying said members for pivotal movement from upwardly directed parallel relation to said side panels to depending relation therewith, with said lid portions extending inwardly of the side panels at the top of the panels and in depending position extending outwardly of the panels adjacent the lower edges thereof to lie in spaced relation laterally of said bottom plate for supporting the panels at said mid-sections thereof.

5. An expanding file tray comprising a bottom plate, vertically disposed side panels pivotally hinged at their lower edges to the sides of said plate and provided with inwardly directed end flanges extending from the lower side edge portions of said panels substantially the width of said bottom plate, the flanges of one panel slidably overlapping the flanges of the other panel at

the ends of said bottom plate and one of said flanges having a transversely disposed slot in the top section thereof with the other flange carrying a pin received in said slot to limit the relative slidable movement of said flanges, cover members hinged on the outer surfaces of said panels and having their inner edges pivotally carried adjacent the transverse center line thereof, said cover members including panel portions extending in nested upwardly directed relation to the side panels beyond the upper edges thereof and provided with lid and end flanges extending in said position inwardly of the side panels with the flanged portions of one cover slidably overlapping the flanges of the other portion in telescopic relation, said cover members being movable from nested relation on said side panels into depending relation to the side panels with the flanged lid portions thereof being disposed in co-planar relation with said bottom plate and laterally spaced from the edges of said plate for bracing support of said side panels in divergently angled position of the panels relative to the bottom plate.

6. The structure of claim 4 in which the bottom plate is upwardly flanged at the ends thereof and outwardly of said slidably related end flanges of the side panels, and a tray insert plate is disposed on the upper surface of the bottom plate with end flanges upwardly turned to lie at the inner sides of said panel end flanges for maintaining the adjacent slidable relation at the lower edge portions of said panel flanges.

7. The structure of claim 5 in which said end flanges of the cover and the end flanges of the side are in abutting relation in closed position of the covers to enclose the entire area at the ends of said tray.

8. The structure of claim 5 in which an overlapping flange of one cover member is provided with a lock mechanism having an inwardly directed stem and lock bar and the complementary flange of the other cover member is provided with a slot to receive the stem and a pin offset from the slot for engagement by said lock bar.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
931,600	Hafely	Aug. 17, 1909
2,364,640	Martin	Dec. 12, 1944

FOREIGN PATENTS

Number	Country	Date
217,404	Great Britain	1924
412,071	Great Britain	1934