United States Patent

Conway et al.

[15] **3,640,421**

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[54] **DRAWER CONSTRUCTION FOR CARD FILES AND THE LIKE**

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[52] U.S. Cl. **220/22.3,** 220/22.5, 220/72

[51] Int. Cl. **B65d 1/24,** B65d 1/36, B65d 7/42

[58] Field of Search 220/22.1, 21, 72, 4, 22.2, 220/22.3, 22.4, 22.5, 22.6; 312/183, 71, 330, 763, 184; 217/64

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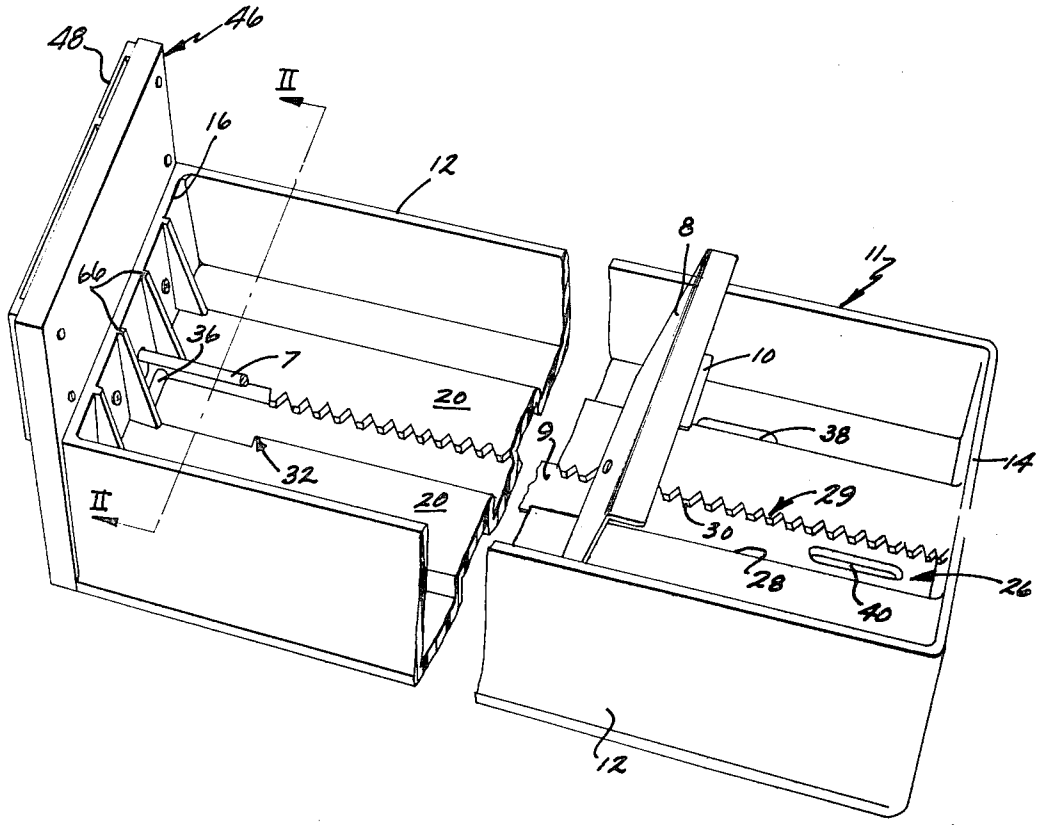
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[57] **ABSTRACT**

A card file drawer assembly formed of an integrally molded shell with a front panel structurally secured to the outer face of the front wall thereof. The shell has an undulated bottom forming drawer slide tracks, card supporting slide tracks and a guide track groove for a card compactor means, and also defines card stop ribs on the inner face of its front wall. The compactor means groove is closed on its sides and bottom and open at the top, with two horizontal rails projecting from the sides of the groove to partially hood the top thereof.

13 Claims, 7 Drawing Figures



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SHEET 1 OF 2

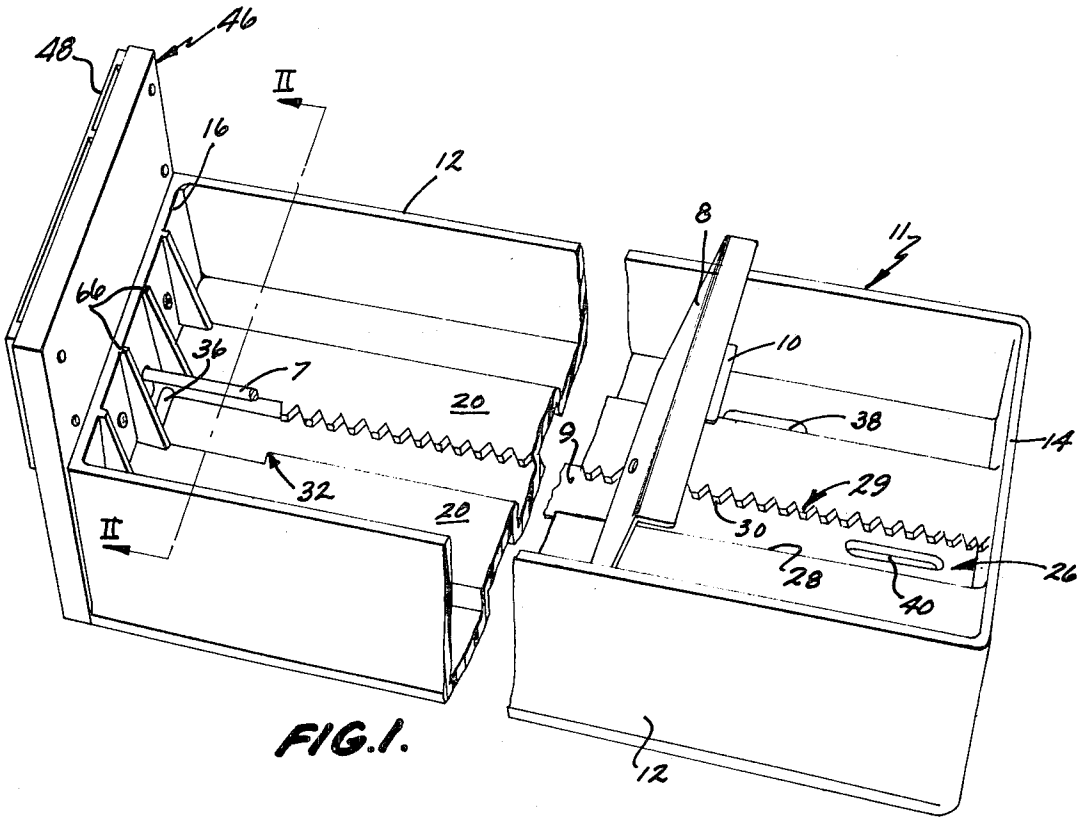


FIG. 1.

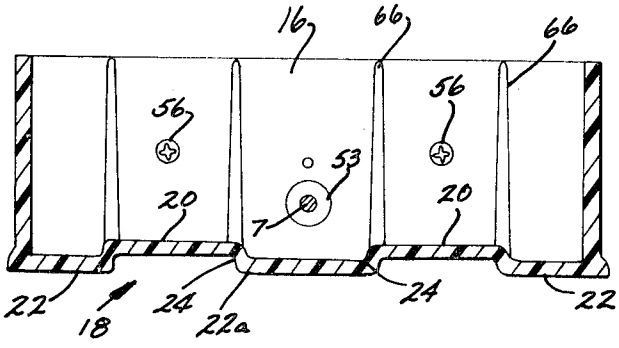


FIG. 2.

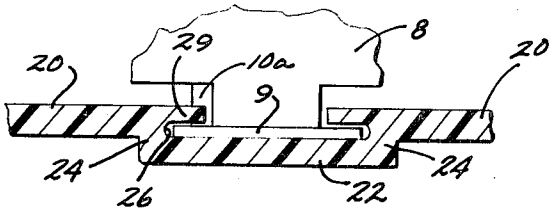


FIG. 3.

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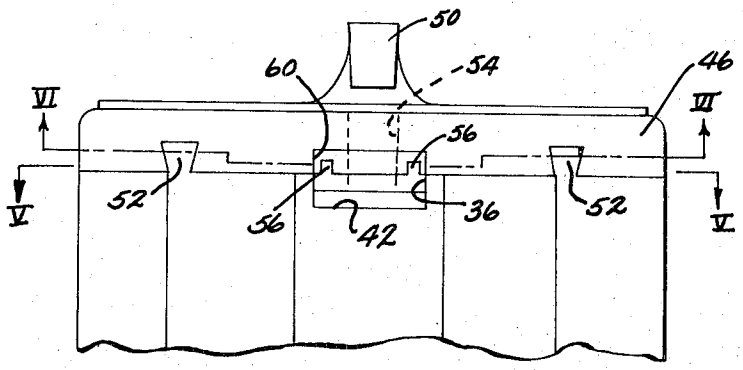


FIG. 4.

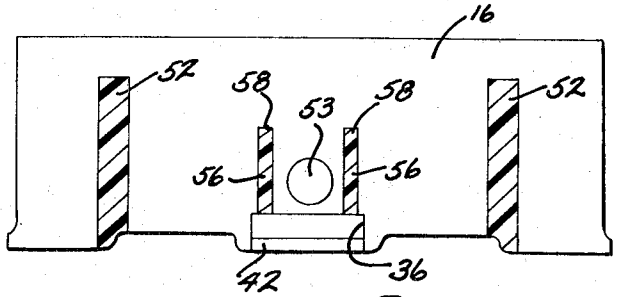


FIG. 5.

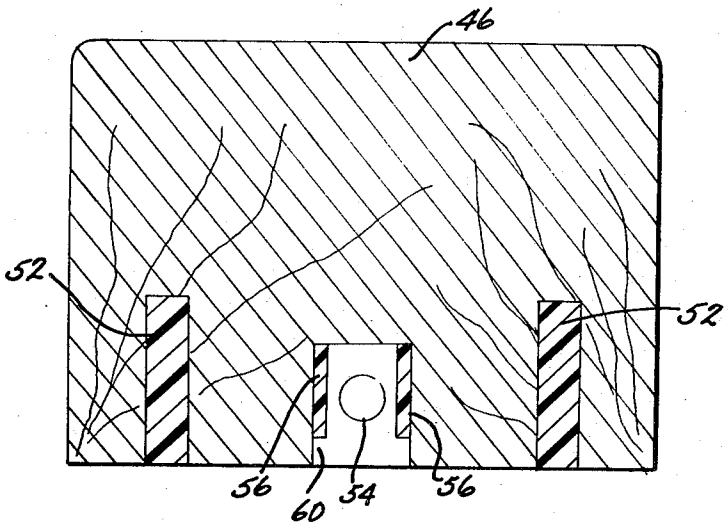


FIG. 6.

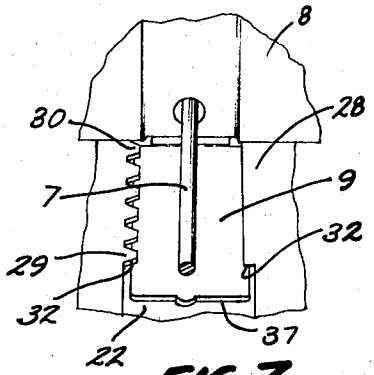


FIG. 7.

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DRAWER CONSTRUCTION FOR CARD FILES AND THE LIKE

BACKGROUND OF THE INVENTION

Library and other such card files have conventionally employed elongated wood drawers for the cards. These are specially crafted from a group of components into an effective but generally costly unit. Although attempts have been made to provide a less expensive substitute construction, none has previously been found which is both structurally and functionally satisfactory and esthetically acceptable, as far as is known.

Not only are conventional units relatively costly, but there is also a significant maintenance factor, due to the structural limitations of wood as a construction material, and the tendency of the several assembled parts to draw apart under constant usage or forced apart when dropped or the like. An example of an attempt to depart from the basic wooden form of a card drawer is to be found in U.S. Pat. No. 2,860,642; in this drawer, however, the groove for retaining the card compressor means passes completely through the bottom of the drawer (FIG. 3), thereby reducing its structural integrity.

Other prior art drawers have other disadvantages, such as that disclosed in U.S. Pat. No. 2,187,832, wherein the bottom forms a card compacting means groove which is three sided. In such a construction, the groove lacks a retention means for the card compressor, so that the drawer must rely on a rod or the like to hold the compressor in place. The tendency of such a rod to give and ultimately fail in holding the compressor or compacting means has necessitated better anchorage of the rod and the utilization of a rod a greater diameter. Such modification has resulted in obvious increased costs. Still another prior art drawer is disclosed in U.S. Pat. No. 3,635,587, wherein a compacting means groove is formed by an undulated bottom, the groove having as a separate component a rail or track structure. By its very nature, a track structure such as this greatly increases the manufacturing costs and the tendency of the construction to come apart through usage.

SUMMARY OF THE INVENTION

This invention relates to drawers, and more particularly to card file drawer assemblies for library cards and the like. Specifically, the invention provides a card file drawer assembly comprised of a generally rigid, elongated, open-topped, molded polymeric shell; such shell having a bottom and integral upstanding side and backwalls and a drawer closure panel on one end of the shell, extending upwardly above the level of the upstanding walls and including a handle and index-retaining means. The bottom of the integrally molded shell has an undulated configuration forming a centrally located, three-sided upwardly opening track groove, said groove including rails spaced above the bottom as integral horizontal extensions from each of the sides of the groove. A card-compacting means or compressor fits inside the shell, extending above the shell walls, and is guided by and slidable within the track groove. Means are included for permitting the compacting means to move close to the front end of the shell without becoming disengaged from its track groove, and means are provided for allowing dust and debris to fall from the shell.

Accordingly, it is an object of the invention to provide a card drawer which is basically of integral construction, which is structurally sound, and which is attractive without being expensive to manufacture.

It is another object of the invention to provide a drawer of the above character wherein the drawer itself, rather than the card rod, acts to retain the card compacting means.

It is a related object of the invention to provide a drawer of the above character wherein the use of metal parts is minimized. Other objects and advantages will become apparent upon reference to the following drawings and detailed discussion.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmented perspective view of the drawer constructed in accordance with the invention;

FIG. 2 is a sectional elevation taken through the plane II—II of FIG. 1 and illustrating the shell with the front panel removed;

FIG. 3 is an enlarged fragmentary sectional view of the track groove and the card compacting means;

FIG. 4 is a fragmentary bottom plan view of the drawer illustrated in FIG. 1;

FIG. 5 is a sectional elevation taken through the plane V—V of FIG. 4;

FIG. 6 is a sectional elevation taken through the plane VI—VI of FIG. 4; and

FIG. 7 is a top perspective fragmentary view of the drawer of FIG. 1, illustrating details of the card compacting means of the groove.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The drawer constituting the invention and illustrated in the drawings is primarily utilized in retaining cards such as for library card files. It will be apparent, however, that it can be utilized in the retention of any given type of document, the drawer size being modified accordingly. In the preferred embodiment, the drawer utilizes a conventional card retention rod 7 (FIGS. 1 and 7) which extends rearwardly from an anchored position in the front of the drawer, but which is not anchored in the rear except by its engagement with the card compressor or compacting means. The latter is conventional and comprises a plate 8 and a tongue 9 which is confined in a groove formed in the bottom of the drawer, in a manner hereinafter discussed. A conventional tooth-engaging blade is actuated to free the compactor plate 8 for sliding, by moving a handle 10 on the plate.

The drawer assembly comprises an integral polymeric shell 11 formed from a molded plastic and having sidewalls 12, an end wall 14 and a front wall 16. A bottom wall 18 formed as integral part of the shell has an undulated configuration comprising two raised longitudinal sections 20 (FIG. 2) whose upper surfaces support the cards retained in the drawer, and three mutually spaced lowered longitudinal sections 22, disposed coplanar with each other and below the level of sections 20. As illustrated, sections 20 and 22 all extend lengthwise of the shell, from the backwall 14 to the front wall 16. The central lower longitudinal section 22*a* between the raised sections 20 is interconnected to the latter by sidewalls 24 to form an elongated groove 26 inside the shell for the retention of the card compacting means 8 (FIG. 3). To retain the card compacting plate 8 within the groove 26, a pair of rails 28 and 29 are integrally formed as horizontal extensions from the raised sections 20 and sidewalls 24, spaced above the plane of the section 22*a* and hooding the latter, to rails 28 and 29 which is narrower than the bottom part of a tongue 9 forming a guide foot for the card compressor plate 8, thereby ensuring that the tongue 9 will be retained in the groove 26 throughout the full extension of the rails 28 and 29. To engage the card-compacting plate in a stepwise and adjustable fashion by means of the conventional retractable blade 10*a* actuated by the handle 10, the rail 29 is provided with integral horizontally extending teeth 30 (FIGS. 1 and 7).

To allow the guide foot or tongue 9 of the card compacting plate 8 to be inserted into and removed from the groove 26, the rails 28 and 29 extend forwardly from the backwall 14 to a terminating position 32 which is spaced a predetermined distance from the front wall 16. The distance from the position 32 to the front wall 16 is no less than the length of the tongue 9 which projects from the front of the compressor plate 8. Because the tongue 9 has a width which is slightly less than the width of the groove 26, when the plate 8 is moved to a position near the front wall 16, the tongue 9 can be lifted upwardly out of the groove, inasmuch as in this position the tongue is forward of the rail terminations 32 and therefore is not retained by the rails 28 or 29.

It will be readily apparent that the integral construction provided by the polymeric shell, wherein the card-compacting means is retained in a partially closed groove is exceedingly rugged and strong structurally, and the retention of the card compressor very secure, since the use of the horizontally extending rails ensures that the card compacting means will be retained without relying on the card alignment and retention rod 7. Because all of the parts forming the card-compacting means groove 26 are integrally formed with the shell, the manufacturing costs of the drawer are greatly reduced.

To allow the compacting means to be moved to a position close to the front wall 16, a slotlike opening 36 (FIGS. 1, 4 and 5) is formed in the front wall 16 of the shell, such opening having a width and height which are substantially the same as the comparable dimensions of the groove 26. Such an opening allows the front end 37 (FIG. 7) of the tongue 9 to project into the plane of the front wall 16, thereby allowing the compacting plate 8 to be moved that much closer to the front wall 16, such as when there are only a few cards held in the drawer.

To provide for removal of dust and dirt which has collected in the drawer, an opening 38 (FIG. 1) is formed in each of the two outside channels 22, adjacent to the raised sections 20. Also, an opening 40 is provided in section 22*a*, at the bottom of the groove 26, near the backwall 14, and a similar opening is also provided near the front wall 16 (FIGS. 4 and 5).

Attached to the outer side of the integral front wall 16 of the shell is a rigid face panel 46 (FIGS. 4 and 6) which serves both a decorative and a structural function. An index plate 48 of a conventional nature is mounted to the front of the panel 46. Preferably, the index plate has an integral handle 50, as well as a slot for receiving an index card. It will be noted that the walls 12, 14 and 15 of the integral shell need not and do not extend the full height of the cards to be contained, as indicated by the height of the card compressor plate 8. The front panel 46, which is preferably of well-finished hardwood, is used as a facia to close the front of the drawer, and thus extends considerably above the top level of the walls of the integral shell 11. The face panel is rigidly attached to the front wall 16 of the shell, preferably by a dovetail connection (FIG. 4). This comprises a pair of dovetail projections 52 (FIGS. 4, 5 and 6) which are integrally formed with the shell 11, and a pair of corresponding dovetail grooves formed in the face panel 46. To allow the card rod adjusting knob (not specifically shown) to project outwardly beyond the front of the face panel 46, an opening 53 is provided in the front wall 16 of the shell and a similar opening 54 is drilled in the face panel 46. To complete the attachment of the facing panel 46 to the front wall 16 of the shell, screws 56 pass through the front wall 16 and into the rear side of the panel 46. To guide the engagement of the face panel with the dovetails 52, a pair of spaced, parallel ribs 56 (FIGS. 4, 5 and 6) are formed integrally with the front wall 16 of the molded shell 11, the ribs 56 terminating at a top level 58. The facing panel 46 is provided with a cooperating rectangular recess 60 which extend only part way up its height from the bottom thereof, the flat top of the recess 60 resting on the tops of the spaced ribs 56, to determine when the face panel is in the correct position on the shell and to help align the two components.

An important feature of the integrally molded shell 11 of the invention lies in the presence of a plurality of spaced, vertical reinforcing ribs 66 (FIGS. 1 and 2) found integrally with the front wall 16 and on the inner surface thereof. The ribs 66 reinforce the front wall 16 against stresses resulting from pushing and pulling on the drawer by its facia panel 46, and from carrying the drawer bodily by its handle 50 secured to the facia panel, as is a frequent practice of those using such drawers. Furthermore, it will be observed (FIG. 1) that the inner edges of the ribs 66 slope downwardly and rearwardly. This not only strengthens them and augments the structural rigidity of the drawer, but also provides an integral, included card rest at the front of the drawer, against which the front groupings of cards may be tilted and rested when cards further back in the drawer are being examined. As may be appreciated, this greatly facilitates use of the cards, since it allows them to be separated more easily and prevents the front cards from falling flat onto the bottom of the drawer.

It will be seen that the drawer construction of the present invention, utilizing the integrally molded interior shell having the configuration and attributes described, and the outer facia panel of the character noted, provides an extremely rigid drawer made primarily by use of modern manufacturing techniques and yet having an outward appearance greatly similar to the accepted and established structurally outmoded drawers of the past, and usable in the same wooden cabinets used in the past without creating an esthetically upsetting or incongruous appearance. The preferred wood facia panel rigidifies the construction while decoratively closing the drawer at its front; also, it allows the walls of the molded shell to be considerably shorted or lower than the cards themselves, thereby reducing the cost of manufacture and also facilitating and making easier the handling of the cards held within the drawer. Furthermore, the use of a quality hardwood facia panel of the preferred type, covering the entire front of the drawer, gives an overall impression that the entire drawer is of the old-style handmade wooden construction which has become such a fixture in libraries and the like, replacement of which by a mere molded plastic counterpart is esthetically and psychologically disagreeable and unacceptable to the majority of persons presently staffing such institutions.

It is entirely conceivable that upon examining the foregoing disclosure, those skilled in the art may devise particular embodiments of the concepts forming the basis of the invention which differ somewhat from the preferred embodiment shown and described herein, or may make various changes in structural details to the present embodiment. Consequently, it is to be recognized that the preferred embodiment shown and described is for purposes of general illustration only and is in no way intended to illustrate all possible forms of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A card file drawer assembly comprising: a generally rigid, elongated, open-topped, one-piece molded polymeric shell; said one-piece shell having a bottom and integral upstanding end and sidewalls: said bottom having an undulated configuration forming an integral guide track within said shell; card-compacting means in said shell, and slidably guided along said guide track; a drawer facia panel on the outside of one of said end walls of said shell, said panel covering substantially all of said end wall and extending upwardly from the level of said bottom above the level of said upstanding walls; and said one-piece shell having a plurality of laterally spaced upstanding reinforcing ribs extending upwardly from said bottom wall along said one end wall and interconnecting the same.

2. The drawer as defined in claim 1, wherein said facia panel includes at least one groove in the side thereof adjacent said shell, and said one shell end wall having at least one rib projecting forwardly of the wall and received within said groove.

3. The drawer as defined in claim 1, wherein said one shell end wall and facia panel are attached to each other by an interfitting dovetail joint.

4. The drawer as defined in claim 3, wherein said panel has a dovetail groove formed therein and said one end wall has a dovetail ridge received within said groove.

5. The drawer as defined in claim 1, wherein said guide track comprises an elongated groovelike recess defined by bottom, top and sidewall sections.

6. The drawer as defined in claim 5, wherein said top wall sections defining said recess have integral horizontally projecting teeth.

7. The drawer as defined in claim 5, wherein said top wall sections defining said recess form an elongated opening communicating with the interior of said groove, and wherein such opening is narrower than the interior of said groove between said sidewall sections.

8. The drawer as defined in claim 7, wherein said opening formed by said top wall sections is widened at one end of said shell, said compacting means including a tongue, said tongue being slidably engaged in said groove, said tongue having a length which is not substantially greater than the widened length of said groove, whereby said compacting means tongue can be disengaged from said groove.

9. The drawer as defined in claim 5, wherein said card compacting means has a tongue which is slidably engageable within said guide track groove, and wherein said one shell end wall has an opening therein in alignment with said groove for admitting entry of said tongue to permit movement of the compacting means close to said one end wall.

10. The drawer as defined in claim 1, wherein said bottom includes openings therethrough for allowing dust and the like to be removed from said shell.

11. The drawer as defined in claim 1, wherein said ribs define an upwardly inclined rest means for cards at the front of the drawer when tilted forwardly.

12. A card file drawer assembly as defined in claim 1 wherein said guide track comprises an elongated groovelike recess defined by wall surfaces in the bottom of said shell, and certain of said surfaces defining a regularly notched configuration forming a succession of integrally molded teeth comprising a pair of said one-piece shell.

13. The drawer as defined in claim 12, wherein said integrally molded guide track teeth comprise horizontally extending portions.

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