

Nov. 22, 1966

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3,286,714

CONTAINER FOR RECORDS

Filed April 30, 1962

2 Sheets-Sheet 1

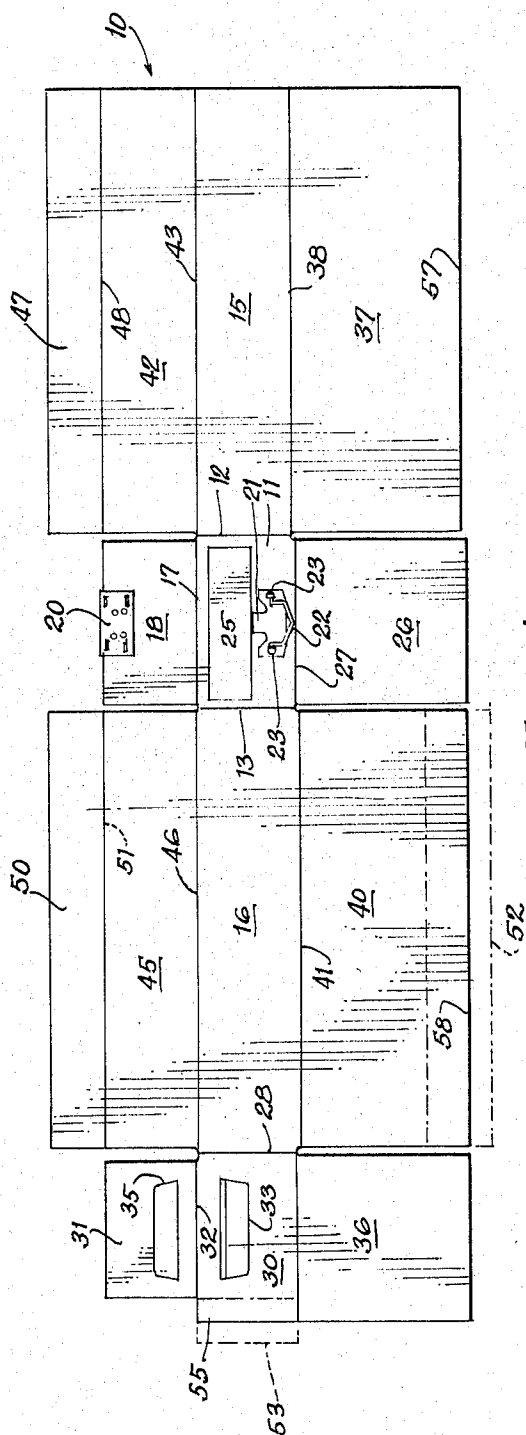


FIG. 1

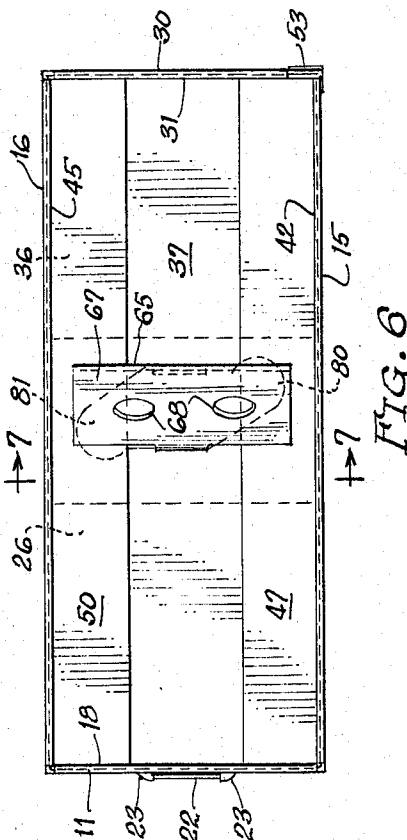


FIG. 6

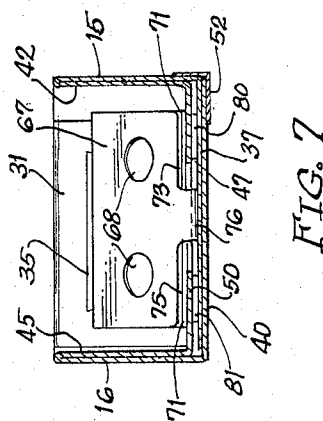


FIG. 7

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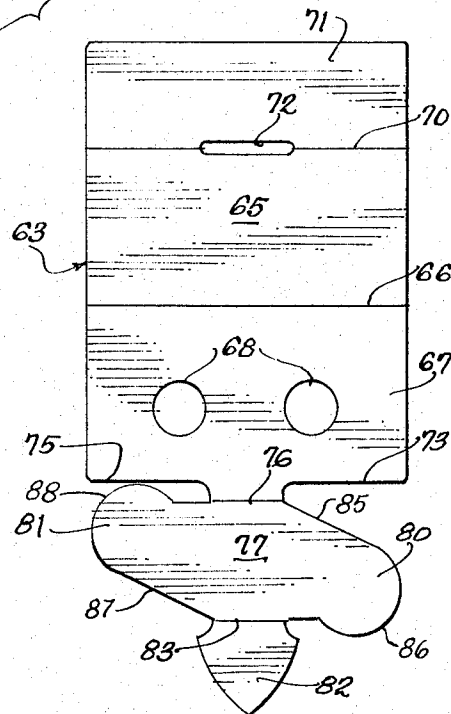
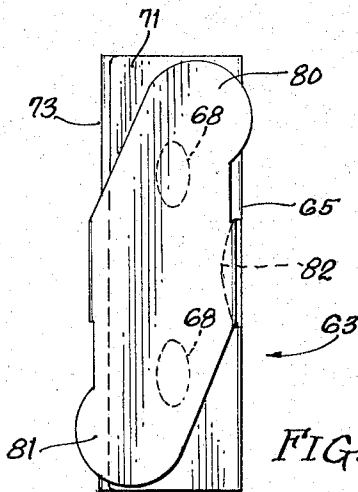
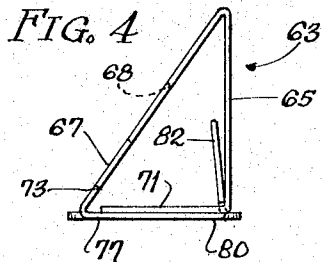
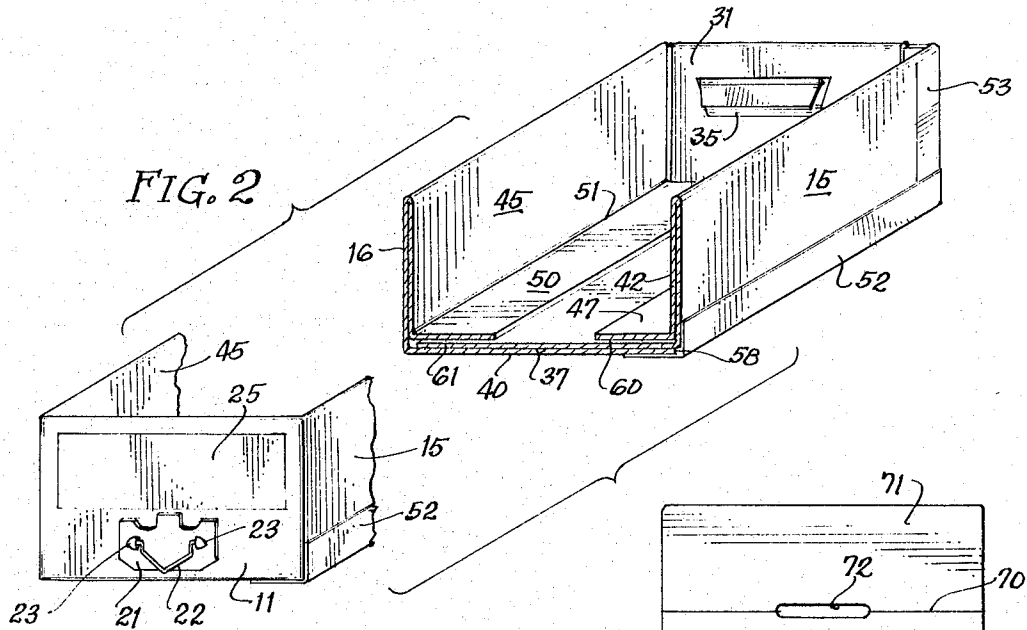


FIG. 3

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3,286,714

CONTAINER FOR RECORDS

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Filed Apr. 30, 1962, Ser. No. 190,930

5 Claims. (Cl. 129—31)

This invention relates to a collapsible container for storing cards, papers or other records, and particularly to a container that is foldable from a flat blank made of inexpensive material, and employed in combination with a follower for maintaining the records standing and accessible, said follower also being foldable from a flat blank.

The use of collapsible containers made from pressed board, corrugated paper or other foldable, but relatively stiff, material is widespread. Such containers are very desirable because they are durable under most storage conditions, yet they may be purchased inexpensively and shipped and stored flat before they are used.

When used for storing records, such containers or boxes are generally not as satisfactory as regular file cabinets for several reasons, one of which is that the containers must be full to prevent the papers inside from collapsing in disarray. The use of a follower for holding papers snugly against the front of the container has heretofore been difficult with pressed board storage boxes because the inclusion of metal parts that provide the follower assembly add substantially to the cost of manufacture and affect seriously the ease of shipping, storing and assembling such containers.

To be adequate, a follower must be easily adjustable for various positions along the length of the box, it should be very inexpensive to produce, ship and store, and it should be easy to assemble. The follower also should not require that the structure of the box be changed significantly to accept it, and it should not take up so much room in use that it seriously diminishes either the capacity or the utility of the container for storage.

It is an object of this invention to provide a storage box for storing records which is constructed to act cooperatively with a follower for holding the stored records on end and in organized array, both the storage box and the follower being constructed of foldable material.

It is another object of this invention to provide a flat blank which is easily foldable into a storage box, and a follower which acts cooperatively to produce an improved container for storing papers or other records.

These and other objects are accomplished by this invention which includes a blank that is cut and scored so that when folded, it has front, back and bottom panels of the usual type. This invention further provides the box folded from the blank to have side panels which include rail flaps extending the length of the container from each inside surface of the side panels. The rail flaps extend substantially less than half the width of the container toward the other side panel so that the two rail flaps within the container are a substantial distance apart. The rail flaps are positioned to be either in contact with the bottom panel or in very close proximity to it, and are usually positioned so that their terminal edges are parallel and the space between them forms a slot-like configuration in the bottom of the container.

The follower blank of this invention is foldable generally into the shape of a triangular prism having a normally horizontal side to engage the floor of the box, a paper supporting side that makes an acute angle with the horizontal side, and an upstanding side that connects at its upper edge with the upper edge of the paper supporting side and holds the latter in position. In the preferred embodiment, all three sides are connected at their edges by hinges formed by folding the blank. The horizontal or bottom portion of the follower is provided with laterally

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extending ears, the length of which run generally in the direction of the axis of the prism. The width of the ears is less than the distance between the rail flaps of the container and the overall length of both ears is substantially wider than the space between rail flaps, and usually approximately the same as the axial length of the follower which in turn is slightly less than the width of the container.

When the container is folded, as will be described in greater detail hereinafter, the follower may be assembled with the container by being placed so that the ears lie within this slot formed between the two rail flaps after which the follower is rotated within the box so that the ear portions slide between the bottom panel and the rail flaps of the container. Thus confined, the ear portions prevent the follower from being lifted from the container, and the friction of the bottom panel and rail flaps against the bottom and top surfaces respectively of the ear portions maintain the follower in any position that it is placed.

The container of this invention may be best described with reference to the accompanying drawings which illustrate a presently preferred embodiment of this invention and which are intended as illustrative of the invention rather than limiting on its broad scope.

FIG. 1 shows a plan view of a blank which may be folded to form a container embodying this invention;

FIG. 2 is a perspective fragmentary view partly in section illustrating a box produced by folding the blank illustrated in FIG. 1;

FIG. 3 is a plan view of a blank which may be folded to form a follower that acts cooperatively with the box of FIGS. 1 and 2;

FIG. 4 is a side view of a follower produced by folding the blank of FIG. 3;

FIG. 5 is a bottom view of the follower illustrated in FIG. 4;

FIG. 6 is a plan view of a combined container and follower completely assembled, and

FIG. 7 is a front sectional view in FIG. 6 taken along the line 7—7.

In FIG. 1 there is illustrated a blank designated generally as 10. Although all portions of the blank lie in the same plane, the blank is cut and scored so that when ultimately folded, the various panels defined by such cuts and scores will lie in different planes and form different portions of a box. As illustrated, the front panel 11 is connected with score marks 12 and 13 to side panels 15 and 16. The front panel 11 is also connected by score 17 to a front panel reinforcement 18 which is folded to double back behind the front panel so that a double thickness is formed for this panel. Reinforcing panel 18 may contain a metal plate 20 that is positioned to lie immediately behind metal plate 21 on the front panel so that these two plates may be riveted together to form a firm foundation for handle 22 which is shown confined by enclosing elements 23 to the front plate. A label or card 25 is provided so that a printed or written record of the contents of the box may appear on the front panel.

As illustrated, a bottom flap 26 is connected by score 27 to the lower part of the front panel 11 and this flap in ordinary use is bent 90° rearwardly of the front panel and forms a portion of the bottom of the ultimate box.

Side panel 16 is connected by score 28 to rear panel 30. When a doubly reinforced rear panel is desired, the rear panel 30 is connected to the rear panel reinforcing panel 31 by score 32. Similar to the structure of the front panel, the panel 31 is folded so as to double back on panel 30 thereby providing a double thickness in this position. The elongated openings 33 and 35 superimpose each other when the panels are folded back upon one another and form a single opening suitable for a hand grip

for pulling the box from a drawer or to aid in carrying it from one place to another. This opening is optional. The rear panel 30 is connected also to a bottom flap 36 which is folded toward the inner portion of the box and forms part of the bottom thereof similar to the function described for flap 26.

Panel 15 is connected to a floor panel 37 by a score 38 and panel 16 is connected to a bottom panel 40 by a score 41. The side panel 15 is also connected to an inner side panel 42 by a score 43 and side panel 16 is connected to an inner side panel 45 by a score 46. Inner side panel 42 is connected on a margin opposite score 43 to a rail flap 47 by score 48 while inner side panel 45 is correspondingly connected to a rail flap 50 by score 51. On the outer margin of bottom panel 40, a tape 52, shown in phantom, may be affixed and on the outer margin of the panel 30 another tape 53 may be affixed, the use of both said tapes to be described subsequently.

The box embodying this invention may be made from the blank shown in FIG. 1 as follows. First, the side panels 15 and 16 are folded along score marks 12 and 13 at approximately 90° to front panel 11 to extend roughly parallel and straight back from front panel 11. Subsequent to this, the panel 30 is folded along score 28 so that its edge 55 meets the edge 56 of panel 15. When tape 53 is used, these edges are held in contact by having a portion of the tape 53 glued to the panel 15 and another portion of tape 53 glued to panel 30 as shown. The next step in forming the box is to fold the floor panel 37 upwardly so that its terminal edge 57 is brought roughly into coincidence with the score mark 41 in panel 16. Then bottom flaps 26 and 36 are folded upwardly into contact with the under surface of floor panel 37 after which the bottom panel 40 is folded upwardly so that its terminal edge 58 comes directly below score mark 38 of panel 15. The bottom panel 40 may be held in place by gluing its upper surface to panels 26 and 36, or it may be held in place by the tape 52 which is glued across the gap between bottom panel 40 and side panel 15 along the edge formed by folding along score mark 38.

The next step in assembling the box of FIG. 1 consists of folding panel 31 back on panel 30, preferably with some adhesive between the two panels so that the double panel construction is formed with the openings 33 and 35 coming into coincidence and forming a single opening. The panel 18 is then folded back on front panel 11 so that the riveting or bolting or whatever other means of fastening is employed to hold metal plates 21 and 20 together may be assembled and the handle 22 is thus attached.

The next step in the assembly is to fold panel 42 so that it doubles back on panel 15 preferably with some adhesive between the two panels. Panel 42 is the same width as panel 15 and when so folded back, the rail flap 47 will fold along line 48 to lie parallel with the floor panel 37 inside of the box. Panel 45 is similarly folded back and glued on panel 16 and the rail flap 50 will likewise lie parallel with the floor panel 37 with panels 47 and 50 extending toward the center of panel 37, but being far enough apart to form a slot-like configuration in the bottom of the completed box.

FIG. 2, which is shown with greatly exaggerated wall thicknesses and which is shown with an exaggerated amount of space between the rail flaps and the floor panel, illustrates, in cross-section and perspective, the box resulting from the folding of blank 10. As illustrated in FIG. 2, it is readily seen how the tape 52 is glued in place to encompass the corner formed by the proximity of edge 58 with score mark 38. This view also shows how tape 53 encloses the vertical rear corner of the container. The figure further illustrates the slot-like configuration formed by rail flaps 47 and 50 lying against the floor panel 37 and extending toward each other. As shown in FIG. 2, inner side panels 42 and 45 do not extend downwardly far enough to contact floor panel 37

so that there remains a space 60 between floor panel 37 and rail flap 47 and a corresponding space 61 between floor panel 37 and rail flap 50. In this respect, although glue may be used between panels 16 and 45 and between panels 14 and 42, there must not be any adhesive between rail flap 47 and the floor 37 or between rail flap 50 and floor panel 37. In other words, these spaces must be free to accept the ear elements of the follower along their entire length.

FIG. 3 illustrates a plan view of a flat blank suitable for folding into a follower embodied in this invention. The blank illustrated in FIG. 3 is generally designated as 63 and it consists of panel 65 that will be an upstanding panel in the completed follower, connected with a score 66 to a paper supporting panel 67 shown here with finger holes 68 punched through it for purposes of easy grasping and manipulation. The panel 65 is connected by a score 70 to a panel 71 that forms a rail engaging element of the follower. The score 70 is adapted with a cut-out slot 72 in a medial portion between the ends of the blank.

The panel 67 is laterally restricted along one edge forming margins 73 and 75 and the middle intact portion is scored with a score 76 that connects it to the irregularly shaped panel 77. The panel 77 becomes the floor engaging element of the follower. This floor-engaging panel is formed with projections or ears 80 and 81 and a tab 82 that is connected with a score 83 to the main body of the panel 77. The lateral dimension of the tab 82 is such that it passes with difficulty through the slot 72.

Ear 80 is defined in part by a straight side 85 tangent to a substantially semi-circular end 86, and ear 81 is defined in part by a straight side 87 tangent to a substantially semi-circular end 88.

FIG. 4 illustrates a side view of the blank 63 folded and suitable for installing in a box as illustrated in FIG. 2. In FIG. 4, the upstanding panel 65 extends vertically upward at 90° from the bottom of the rail-engaging panel. The paper engaging panel 67 forms an acute angle with the rail-engaging element. Obviously, the follower can be made with the angle most convenient for use in supporting the particular records being stored. FIG. 5 illustrates a bottom view of the follower shown in FIG. 4 and shows better how ears 80 and 81 extend laterally across the follower and are capable of engaging rail flaps 47 and 50 by either sliding underneath them or, in the embodiment shown, holding the rail flaps between the ear elements and panel 71 thereby increasing the friction and improving the ability of the follower to maintain its position when installed in the box.

FIG. 6 shows a plan view of the follower installed in the assembled box for containing records and FIG. 7 illustrates a sectional view taken along the line 7—7 of FIG. 6. These two views together illustrate the assembly including both the box and the follower. The rail flap 50 is not glued to floor panel 37 nor is rail flap 47 glued to floor panel 37 and these rail flaps extend toward each other leaving a space therebetween that defines a slot. The follower assembly folded as shown in FIGS. 4 and 5 is installed in the box by placing it so that the straight sides 85 and 87 of the ear flaps are between the opposed edges of rail flaps 47 and 50 so that ears 80 and 81 lie in the slot defined by the space between rail flaps 47 and 50. With the follower assembly thus positioned, the assembly is turned until the paper supporting panel 67 faces front panel 11 of the box. Ear 81 will be guided beneath rail flap 50 by the semi-circular end 86 and ear 80 will be guided beneath rail flap 47 by semi-circular end 88. The panel 71 remains above the rail flaps and forms a backing acting with ears 80 and 81 to embrace or bracket the rail flaps. The panel 71 and ears 80 and 81 form a bottom engaging element which causes the upstanding panel 65 to rise vertically and substantially parallel to front panel 11 whereby it positions the paper engaging panel 67 to be at an acute angle adapted best

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to holding papers on edge in organized array without falling either forward or backward. In this respect, it may be noted that the combination of the box and follower have a self-correcting characteristic with regard to supporting papers. Papers or cards maintained in the box are supported by the rail flaps 47 and 50. It is desirable for the follower to be movable to accommodate greater or lesser numbers of papers; however, the follower should be movable with enough difficulty to prevent the weight of the papers that the carton is containing from moving the follower. With the construction as herein described, a greater load in the box causes a greater force to be exerted on the rail flaps 47 and 50 which therefore squeeze ears 80 and 81 tighter so that they are more difficult to move. Thus, the follower's ability to bear its burden increases automatically as that burden increases.

When the container of this invention is going to contain large sheets such as 8½ x 11 paper that is relatively limp, the angle that paper supporting panel 67 makes with the bottom of the box may be more acute. When the box of this invention is employed to contain such records as business machine cards, the follower may be constructed to hold the cards substantially vertically. The adjustments in the angle are readily made by selection of the length of the panels 71 and 77, and for use with business machine cards, the follower assembly may be only an inch long from front to back, thereby consuming practically no useful space with regard to the volume of the box. The containers of this invention may be employed simply as boxes to be held on shelves or they may be employed as drawers in conjunction with cabinets especially designed to receive them. The containers may be made in any size and they may be made more or less elaborate depending on their use. The containers of this invention may also be made with cooperating covers or other elements to improve their ability to store specific types of papers.

The containers of this invention may also be adapted with flaps having glue or other adhesive already applied to various of the flaps so that assembly can be accomplished by application of moisture to these surfaces, or by just uncovering such surfaces when pressure sensitive adhesives are used. There may be many other modifications of the general inventive concept, and these are intended as being included within the scope of the appended claims.

Having thus described this invention, what is claimed is:

1. A storage box comprising an elongated rectilinear container formed from a blank of foldable stiff paperboard material, said container including a floor, a front panel, a rear panel, side panels and elongated rail flaps integral with and connected to said container along fold lines inside said container, said rail flaps having smooth uninterrupted upper and lower surfaces, said rail flaps further overlying and being disposed closely adjacent to said floor along substantially the entire length of said floor, said rail flaps having unbroken free edges facing one another and defining between those free edges a slot-like space along substantially the entire length of said container, and a follower member formed from a blank of foldable stiff paperboard material and disposed transversely of and movable longitudinally of said container, said follower member having a paper supporting panel, a rail-engaging panel, a floor engaging panel and means for maintaining said rail-engaging panel and said paper supporting panel in a predetermined angular relationship, said floor-engaging panel comprising a central portion having a transverse dimension with respect to the container which is less than the width of said slot-like space and ear-like projections integral therewith and extending transversely of the container under said rail-engaging

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panel and lying between said elongated rail flaps and said floor to guide said follower member in the longitudinal movement of the latter in said container, said ears being shaped to expose diagonally opposite corners of said rail-engaging panel from the floor of the container, whereby said rail-engaging panel rests upon the rail flaps while the ears are received between the rail flaps to facilitate assembly of the follower member in the container.

2. A storage box as described in claim 1, wherein said means for maintaining said rail-engaging panel and said paper-supporting panel in a predetermined angular relationship comprises a guide panel integral with said paper-supporting panel and a tab on the rail-engaging panel interlocked with the upstanding panel, said rail-engaging panel overlying and extending transversely of said rail flaps to cooperate with said ear-like projections to grip said rail flaps therebetween to increase the frictional engagement between said follower member and said box member to improve the ability of said follower member to maintain its position in the box member.

3. A paperboard follower for use in a record storage box having inwardly extending spaced rail flaps, said follower comprising a sheet of paper board folded along substantially parallel scores to form a three-sided figure having a rearwardly sloping paper-supporting side, an upstanding side, and upper and lower substantially horizontal bottom panels adapted to receive the rail flaps between them, said upper and lower bottom panels being substantially coextensive, said sheet of paperboard being notched inwardly along the score connecting the lower bottom panel with one of said sides to form outwardly extending ears, each said ear being formed with one edge thereof straight and disposed at an acute angle with the score line adjacent thereto, the straight edge of one ear being disposed opposite the straight edge of the other ear and substantially parallel thereto, and said straight edges extending across opposed corners of the upper bottom panel to expose such corners of said upper bottom panel.

4. A paperboard follower as described in claim 3, the straight side of one ear being spaced from the straight side of the other ear a perpendicular distance which is slightly less than the distance between the rail flaps on the record storage box.

5. A paperboard follower as described in claim 3, each said ear terminating in a semi-circular edge tangent to the straight side and extending beyond the scores defining the lower edges of the rearwardly sloping side and the upstanding side of the follower.

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