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(54) **TRI-FOLD SHEET DISPENSER**

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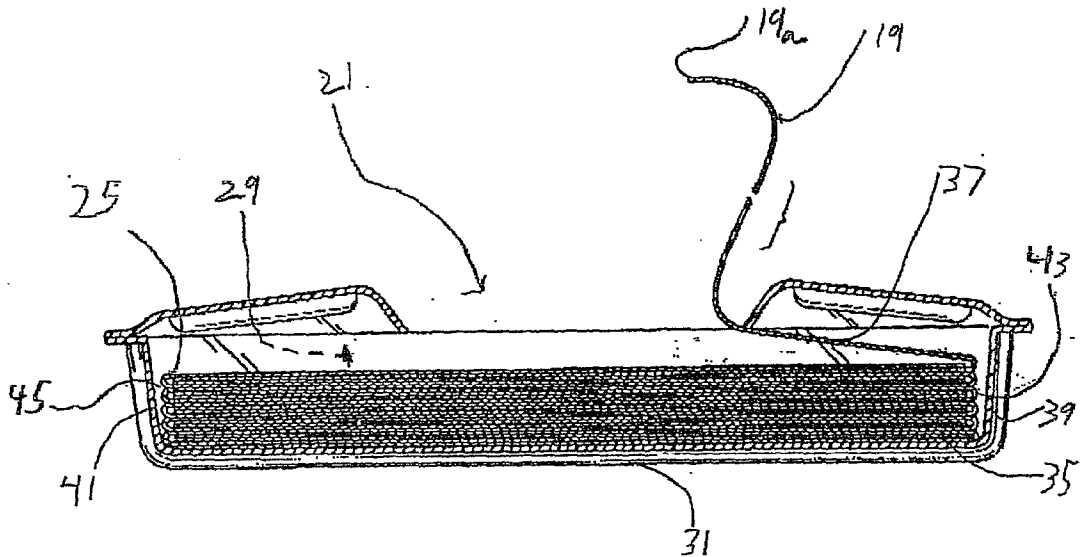
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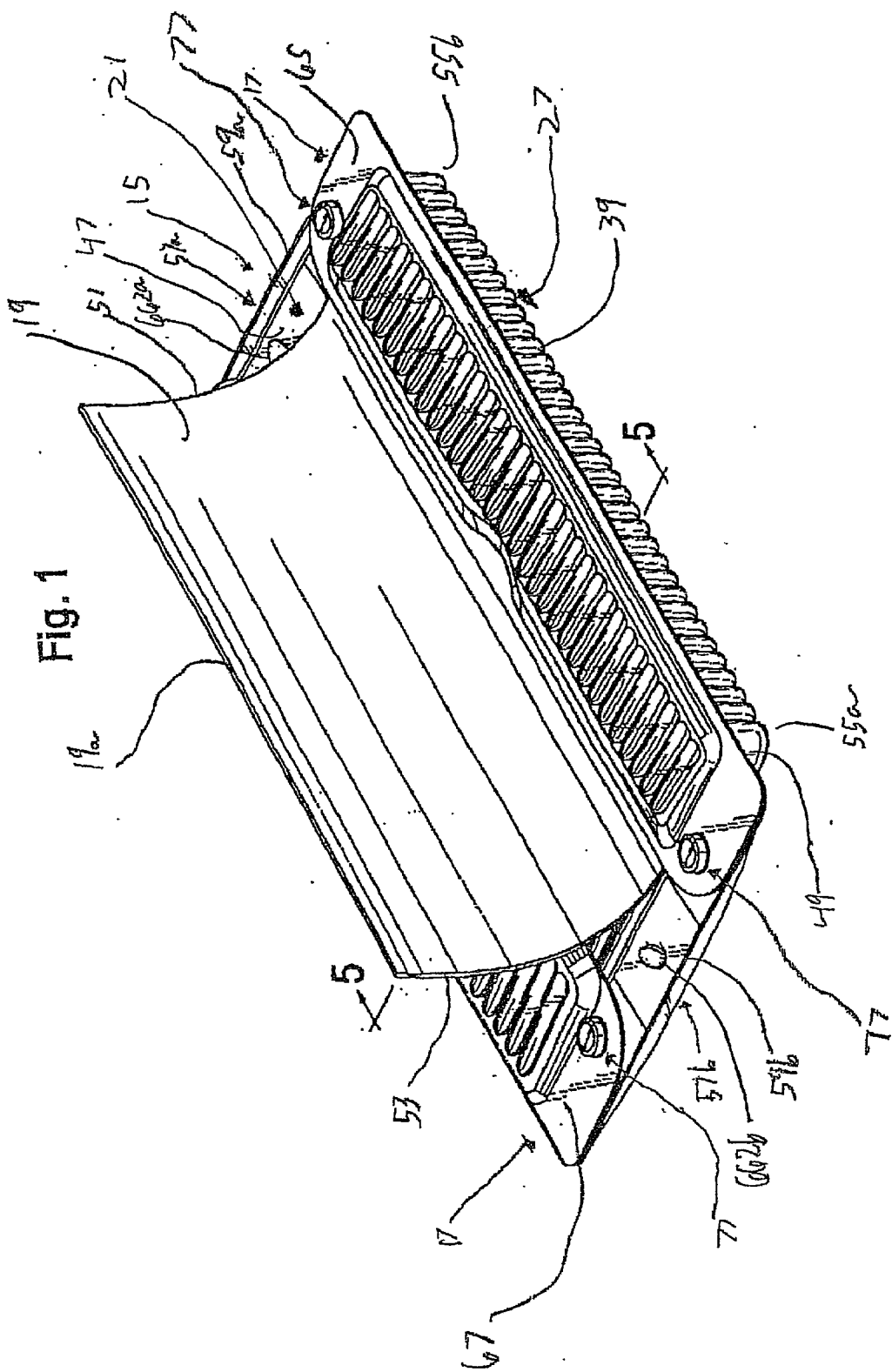
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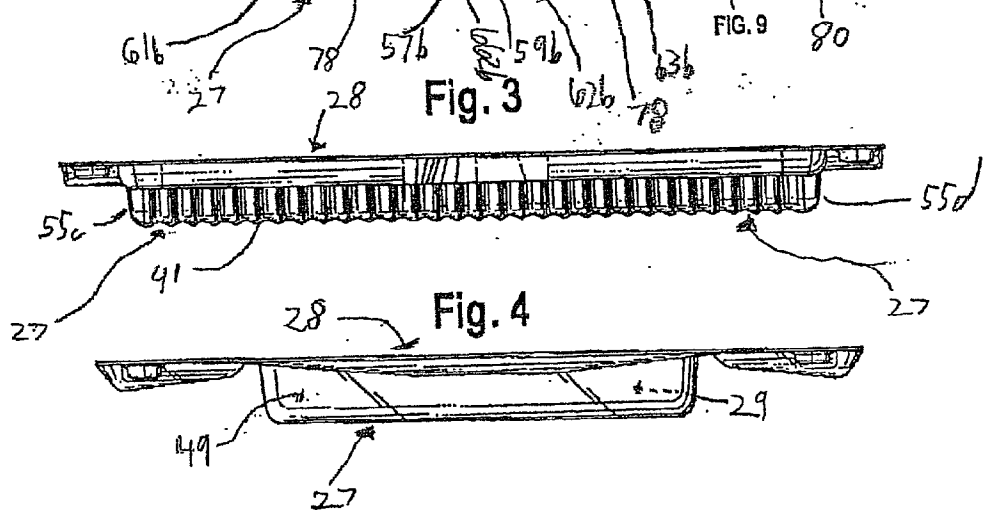
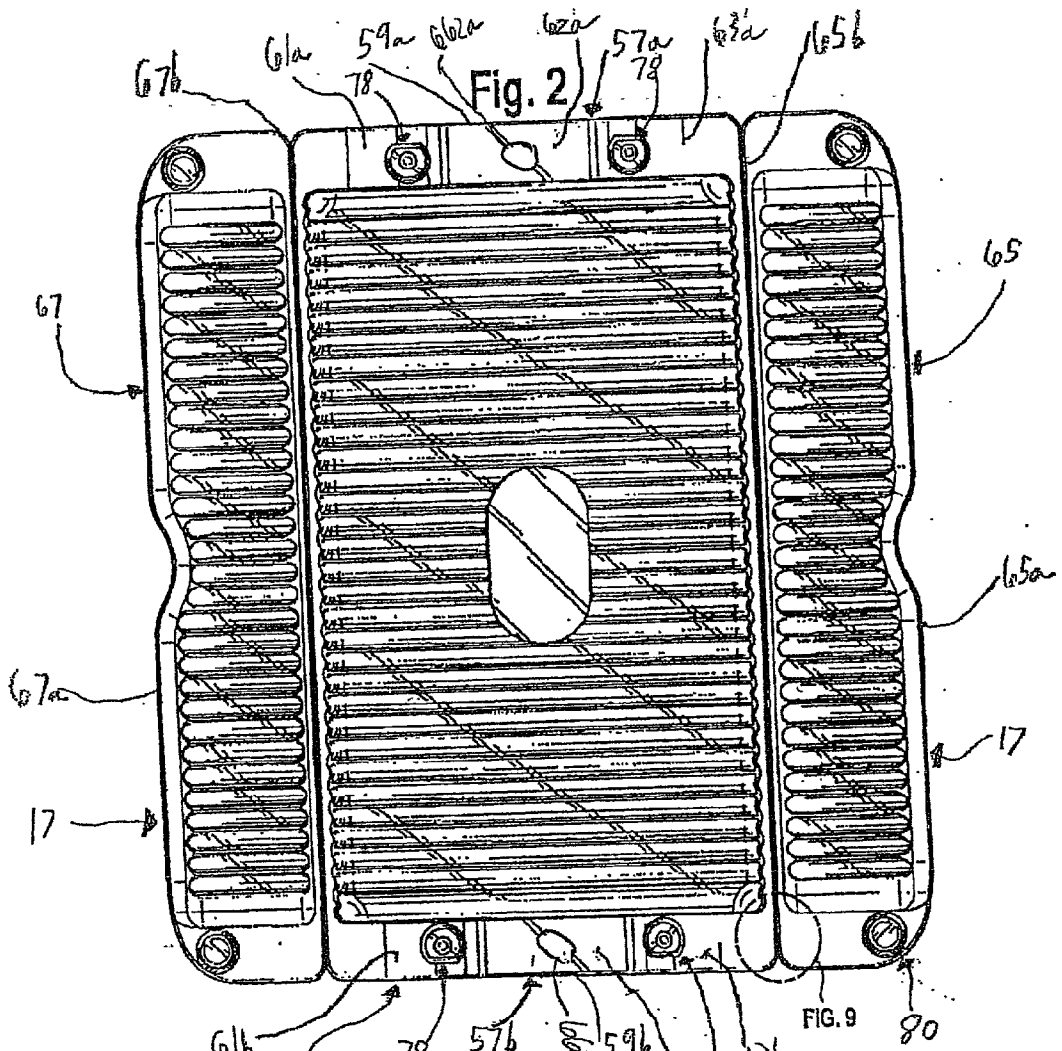
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(57) **ABSTRACT**

A dispenser for dispensing precut interleaved sheets; the dispenser has a main body which defines a sheet storage cavity. A cover is adjustably coupled to the main body. The cover is also adjustable to orient the dispenser in a dispensing position wherein said cover is oriented to define an elongated opening to allow for egress of precut interleaved folded sheets.







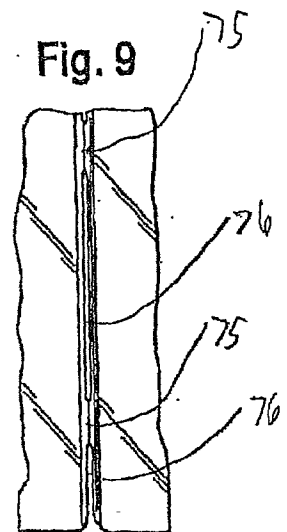
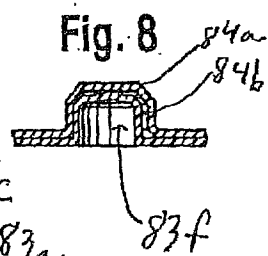
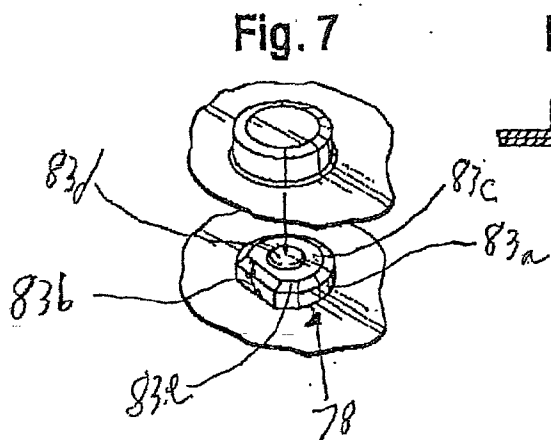
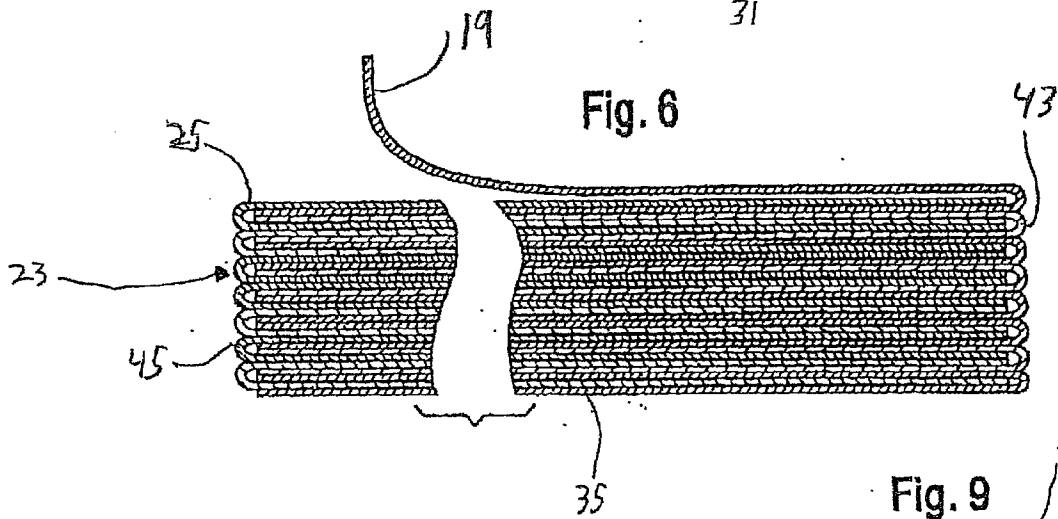
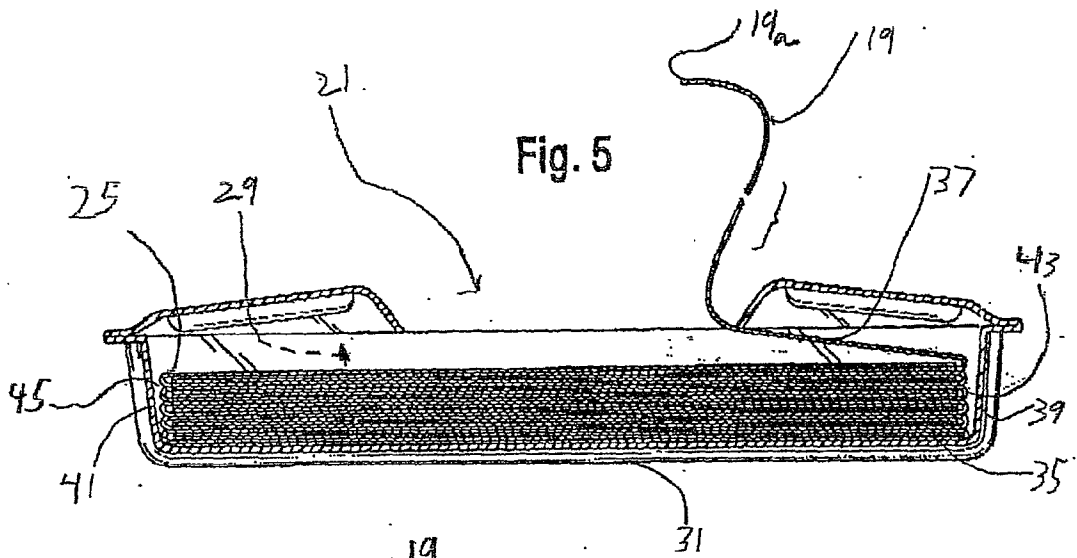
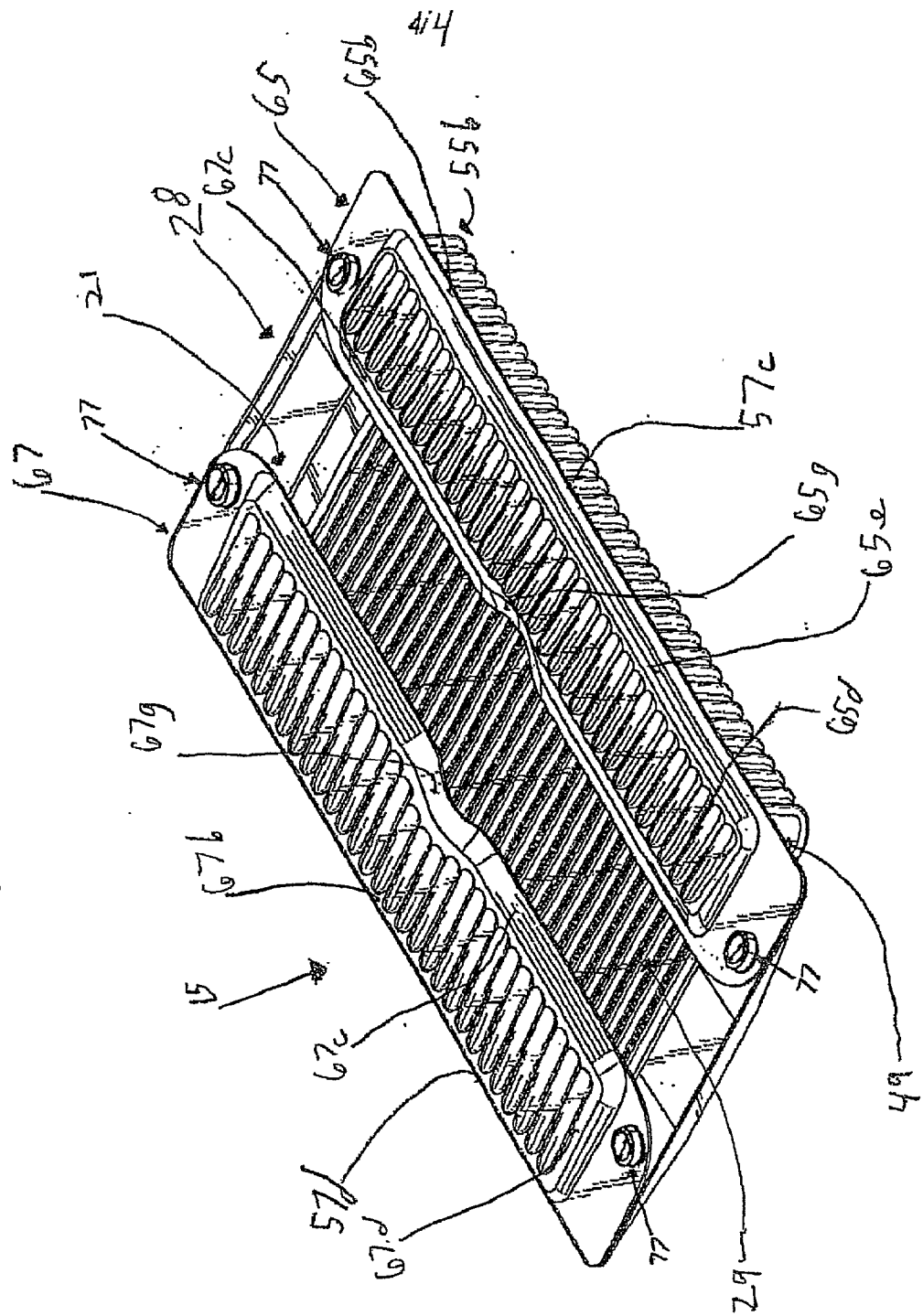


Fig 10



TRI-FOLD SHEET DISPENSER

FIELD OF THE INVENTION

[0001] The invention relates particularly to a dispenser for manually dispensing pre-cut sheets from a stack of interleaved or interfolded sheets maintained in the dispenser.

BACKGROUND OF THE INVENTION

[0002] A foil sheet from a stack of pre-cut interfolded or interleaved sheets can be stored and dispensed from a convenient tissue type dispensing box. The dispensing box is generally constructed of cardboard. One end of the box has a laterally extending opening. The opening allows for removal of one sheet from the stack of sheets housed in the box. The removal of the top interfolded or interleaved sheet causes the leading edge of a next sheet in the stack to pop up through the elongated opening. A sheet is thus always supposed to be available for use until the last sheet is removed from the box. The dispensing box can be referred to as a pop up dispenser.

SUMMARY OF THE INVENTION

[0003] Pop up dispensers have a variety of problems. One problem concerns the inability of a user to easily determine how many sheets remain in the dispenser. Another problem concerns the depth of the cavity which houses the sheets. The depth of the cavity is often too great to ensure the next sheet behind the top removed sheet will actually pop up through the slot in a position ready for use. The gravitational pull on the next sheet and the interference of the portion of the dispenser defining the lateral opening with the next sheet often causes the next sheet to uncouple from the top removed sheet prior to the next sheet popping up through the elongated opening. The problem is exacerbated as the distance between the next sheet and the opening increases. Finally pop-ups are bulky. The bulky nature makes them difficult to display at the retail level. Further, pop-ups are not easily entered by a user's hand to clear a jam of an interfolded sheet.

[0004] The present invention improves upon the problems associated with previous pop up dispensers. One embodiment of the present invention constructs a dispenser from a clear light weight plastic. Utilizing the light weight clear plastic helps allow a user to gauge the fullness of the dispenser and to transport the dispenser. Additionally, Applicant's dispenser utilizes an adjustable cover. Further, Applicant's dispenser utilizes a cavity for storing the stack of folded sheets which has a shallow depth. Further, Applicant's dispenser utilizes a cover which has a structure to facilitate egress of foil sheets through an elongated opening defined by the cover and to allow for the next sheet to properly pop up so its leading edge protrudes through the opening so that the sheet is in a ready position for use.

[0005] Accordingly, one embodiment of the invention can be described as a dispenser for pre-cut interleaved sheets; the dispenser having a main body. The main body defines a sheet storage cavity. The dispenser also has a cover. The cover is adjustably coupled to the main body. The dispenser has a dispensing position wherein said cover is oriented relative to the main body to define an elongated opening. The dispenser also has a fillable position wherein the cover is oriented relative to the main body to further expose an

opening into the sheet storage cavity. Said elongated opening has an area less than an area defined by the opening exposed when said dispenser is in the fillable position. The elongated opening opens into the sheet storage cavity. The dispenser can further have a construction where the cover is made of a first flap and a second flap. The dispenser can further have a construction which includes fasteners to fasten the cover to the main body.

[0006] Other problems associated with prior pop up dispensers and the advantages and features of the present invention can be seen with further reference to the drawings, detailed description, and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 shows a perspective top front view of a dispenser of the present invention filled with foil sheets with its cover oriented so that the dispenser is in a dispensing position;

[0008] FIG. 2 shows a top plan view of the dispenser with its cover oriented so that the dispenser is in a fillable position;

[0009] FIG. 3 shows a rear plan view of the dispenser shown in FIG. 2;

[0010] FIG. 4 is a left side plan view of the dispenser shown in FIG. 2;

[0011] FIG. 5 is a cross sectional view of the filled dispenser shown in FIG. 1 taken along view lines 5-5;

[0012] FIG. 6 is a cross-sectional view of the stack of sheets for disposal in the dispenser;

[0013] FIG. 7 is a close up of one of a plurality of fasteners which can be seen in FIGS. 1, 2, and 10; each fastener having a retainer ready to receive a post;

[0014] FIG. 8 is a close up of a cross sectional view of the fastener shown in FIG. 7 showing the post received by the retainer;

[0015] FIG. 9 is a close up of a portion of a joined side of a flap forming a portion of the cover as indicated in FIG. 2;

[0016] FIG. 10 is a top front perspective view of an empty dispenser of the present invention in a dispensing position.

DETAILED DESCRIPTION

[0017] One example of an embodiment of the claimed invention can be seen in the accompanying drawings. The shown dispenser 15 is made of a thin light weight clear plastic. The dispenser shown is fabricated from a single plastic sheet.

[0018] FIG. 1 shows the dispenser 15 with its cover 17 oriented in a closed position so that the dispenser is in a dispensing position. A top sheet 19 is ready to be pulled from the dispenser 15. FIG. 2 shows the dispenser with the cover 17 oriented in an open position so that the dispenser 15 is in a fillable position. In the dispensing position, FIG. 1, the cover 17 is closed and positioned to control egress of the single foil sheet 19 out of the dispenser through an elongated opening 21 defined by the cover 17 in the closed position. As can be seen in FIGS. 1 and 5, the top sheet 19 is removed from the dispenser by grabbing the top sheet 19 along a leading edge 19a and pulling the sheet through the elongated

opening 21, away from the dispenser and away from the stack of sheets 23. A next sheet 25 immediately beneath the sheet 19 being removed, by way of being interleaved or interfolded with the first sheet 19, is pulled up so that the next sheet's leading edge pops up through the dispenser slot. The next sheet thus becomes the top sheet and is ready to be manually dispensed.

[0019] In the open position, FIG. 2, the cover 17 is oriented with a main body 27 of the dispenser so that an opening forming an open end 28 into a main body sheet storage cavity 29 is large enough to allow for placement of the stack of interleaved or interfolded sheets 23 in the storage cavity. In the present example, the storage cavity 29 is also a dispensing cavity from which folded sheets are manually dispensed.

[0020] The storage cavity is defined by a bottom wall 31. The bottom wall supports the stack of sheets 23 at a sheet face surface 35. The sheet face surface supported by the bottom wall is opposite a surface 37 facing towards the elongated slot.

[0021] The storage cavity 29 is further defined by a first laterally traversing side wall 39 and a second laterally traversing side wall 41. The lateral walls are opposite and parallel to each other. The inner surfaces of each lateral wall 39, 41 border first 43 and second 45 lateral sides surfaces formed by the stack of sheets 23. The sheet's side surface bordered by the first lateral wall can be referred to as the first lateral side surface 43. The sheet's side surface bordered by the second lateral wall can be referred to as the second side surface 45.

[0022] The cavity is further defined by first 47 and second 49 oppositely positioned parallel longitudinally traversing walls. The inner surface of each longitudinal wall borders corresponding first 51 and second 53 longitudinal side surfaces formed by the stack of sheets. The main body's first 47 and second 49 longitudinal side walls are perpendicular to it's first 39 and second 41 lateral side walls. The main body bottom wall 31 is integral with both its lateral side walls 39, 41 and its longitudinal side walls 47, 49. The lateral side walls 39, 41 and longitudinal side walls 47, 49 are integrally joined at each of four corners 55a, 55b, 55c, 55d of the main body 27. The main body bottom wall 31, lateral side walls 39, 41, and longitudinal side walls 47, 49 form a rectangular tray which defines the sheet storage cavity. The bottom wall 31 or support is corrugated to add strength. The two lateral side walls 39, 41 are also corrugated to add strength.

[0023] The main body lateral 39, 41 and longitudinal side walls 47, 49 are bordered proximate the main body open end 28 by what can be referred to as a ledge 57a, 57b, 57c, 57d. The ledge includes first 57a and second 57b longitudinally traversing ledges. The first and second longitudinally traversing ledges 57a, 57b each border one of the corresponding longitudinal walls 47, 49. Each longitudinal ledge 57a, 57b is opposite the bottom wall 31. Each longitudinal ledge 57a, 57b projects perpendicular to the bottom wall 31 and away from the main body open end 28. Each ledge 57a, 57b, in fact, forms handles at opposite ends of the main body to allow for carrying of the dispenser in the dispensing position. Each longitudinal ledge 57a, 57b is composed of three identifiable sections wherein said sections are the first outer shelf 61a, 61b, middle shelf, 62a, 62b and second outer shelf

63a, 63b. Each of the first 61a, 61b and second 63a, 63b outer shelves are located at an angle relative to said middle shelves 62a, 62b. The relative angles between said first outer shelves 61a, 61b and the middle shelves 62a, 62b and said second outer shelves 63a, 63b, and middle shelves 62a, 62b are substantially identical. Each middle shelf can have a hang hole 662a, 662b therethrough to allow a merchant to hang display a filled dispenser in the dispensing position. Lips 59a and 59b extend perpendicular from each of the longitudinal ledges 57a, 57b, such that said lips are located some distance apart and each aligning parallel to the other. One of each said lips 59a, 59b is located at an external most portion of one of each ledge 57a, 57b, and extend opposite the storage cavity 29 of the main body 27. The longitudinal ledges 57a, 57b each have features to facilitate coupling of the cover 17 to orient the cover 17 in the dispensing position. See FIG. 1.

[0024] The structure of the cover 17 can be seen in the drawings. The cover is made up of a first flap 65 and a second flap 67. Each flap 65, 67 has free sides 65a, 67a. Each free side extends along the lateral length of the dispenser. Each flap has joined sides 65b, 67b opposite the free sides. The first flap 65 has its joined side 65b at the main body first lateral ledge 57c. The second flap 67 has a joined side 67b joined at the main body second lateral ledge 57d. One of each flap 65, 67 is joined to one of each lateral ledges 57c, 57d by hinges. FIG. 9 shows some of the hinges 75. As can be seen in FIG. 9, the hinges 75 are formed by making slits 76 along the length where one of each flap 65, 67 and one of each lateral ledge 57c, 57d are joined. In the shown dispenser, each flap is joined with seven hinges. Each group of 7 hinges joining one of each flaps is separated from the other in the group of 7 by one of the slits.

[0025] The shown example utilizes snap fasteners 77 to secure each flap in a closed position to orient the cover in a dispensing position. There are a total of four snap fasteners 77. Each fastener consists of a post 78 and a retainer 80. Each post has an outwardly projecting surface. Each outwardly projecting surface includes outer side surfaces 83a, 83b and outer top surfaces 83c, 83d. Each outer side surface's first portion 83a makes an arc length of a certain degree. Each side surface's second portion 83b makes an arc length of a certain degree. The arc length of the second portion 83b is greater than the arc length of the first portion. In the present example, the arc length of the second portion 83b is 180° or flat. The outwardly facing top surfaces 83c, 83d, of each post include a centrally located cylindrical raised portion 83d and a non raised portion 83c. The top surfaces 83c, 83d of each post 78 are integral with their side surfaces and joined together with their side surfaces with an inclined edge 83e. Each post has an opposite inner surface defining a hollow 83f.

[0026] Each retainer 80 has an interior surface 84a defining a cylindrical hole 84b. One of each cylindrical hole 84b is sized to fit over and receive one of each corresponding post 78. Each post 78 thus snap fits into a hollow of a corresponding retainer 80. Each main body longitudinal ledge 57a, 57b, has one of said posts 78 at one end and another of said posts 78 at an opposite end. Thus each ledge 57a, 57b contains 2 posts. The posts are molded from the ledge and project upwards away from the bottom wall 31 of the main body 27.

[0027] Each one of the retaining members **80** are located at one end of each flap. Each retaining member **80** is molded from the non raised end of each flap, proximate each flaps free side.

[0028] Each flap **65, 67** relative to the main body **27** is closed to orient the flaps so that the cover **17** is in the dispensing position. See **FIGS. 1 and 10**. Orienting the cover to the dispensing position requires pivoting each flap so that the retainers **80** on each flap move towards the posts **78** on the ledges. Each flap **65, 67** is thus pivoted in a direction to a point where each of the retainers **80** receives one each of the posts **78**. The flaps are snapped shut by engaging each of the posts **78** firmly into one each of the retainers **80**. The flaps **65, 67** and fasteners **77** are designed to form a cover which stays shut during removal of the top sheet from the stack of sheets. The flaps can be unsnapped to re-orient the cover in the open position to clear a jam of the interfolded sheets.

[0029] The flaps **65, 67** each have raised surfaces. A portion of each raised surface is corrugated. The raised surfaces create a side profile which forms a wedge shape. The raised surfaces of each flap starting proximate the free side of each flap, slope upwards towards each flap's attached side to form first sloped raised portions **65c, 67c**. At a point, each raised surface slopes downwards towards each flap's joined sides to form second gradual and corrugated sloped portions **65d, 67d**. At points **65e, 67e**, the raised portions of each flap bevel integrally with anon raised portion of each flap proximate the joined sides, **65b, 67b**. Additionally, each flap at each end of its free side has a rounded corner **65f, 67f**. Further, each flap, at its free end, towards each flap's center, has a concave arcuate surface **65g, 67g**. The arcuate surface of one flap is identical to the arcuate surface on the other flap except the arcuate surfaces are oppositely oriented. The arcuate surfaces **65g, 67g** proximate each flap's free end and extend through each flap's first slope portion **65c, 67c**.

[0030] The shown foil sheets, have a length of about 10 5/8 inches and a width of 9 inches. The depth of the cavity in the shown dispenser from the middle shelf is about 0.5 inches and about 0.75 inches from each of the outer shelves. The main body's lateral walls have a length of about 9 inches. The main body's longitudinal walls have a length of about 5 1/2 inches. Each corrugation of the corrugated surfaces is about 0.25 inches in width. The raised portion of each flap has a width of about 2 inches. The elongated opening has a width of about 1 and 3/4 inches. The first sloped raised portion surface is at an incline of about 45°. The second corrugated sloped portion is at an incline of about 15°. The dispenser prior to shipping to a retailer, can be shrink wrapped in the closed position filled with a stack of interleaved sheets.

In the claims:

1. A dispenser for pre-cut interleaved sheets comprising:
 - a main body defining a sheet storage cavity;
 - a cover, said cover adjustably connected to said main body;

- a fillable position wherein said cover is oriented relative to said main body to expose an opening into said sheet storage cavity;

- a dispensing position wherein said cover is oriented relative to said main body to define an elongated opening, said elongated opening having an area less than an area defined by said opening exposed when said dispenser is in a refillable position;

- and wherein said elongated opening opens into said sheet storage cavity.

2. The dispenser of claim 1 wherein said cover comprises a first flap and a second flap.

3. The dispenser of claim 1 further comprising;

- at least one fastener, wherein at least a portion of said fastener is on said cover.

4. The dispenser of claim 2 further comprising;

- a first wall of said main body;

- a second wall of said main body;

- a bottom wall of said main body;

- a first ledge extending from said first wall of said main body;

- a second ledge extending from said second wall;

- a fastener, wherein at least a portion of said fastener is on said cover and a portion of said fastener is on said first ledge.

5. The dispenser of claim 3 wherein said at least one fastener comprises;

- a post and a retainer.

6. The dispenser of claim 2 wherein said first flap comprises;

- a joined side, said joined side joined to said main body;

- a free side, said free side opposite said joined side, said free side defining a portion of said elongated opening when said dispenser is in said dispensing position;

- an arcuate concave surface formed in said free side;

7. The dispenser of claim 6 wherein said first flap further comprises;

- a raised surface, said raised surface has a sloped portion formed from said raised surface, and

- a portion of said arcuate surface is formed on said sloped portion.

8. The dispenser of claim 1 wherein at least a portion of said main body has a corrugated surface and a portion of said cover has a corrugated surface.

9. The dispenser of claim 1 wherein the dispenser in the dispensing position has within the storage cavity pre-cut interfolded sheets, and the cover is shrink banded shut to permanently orient the dispenser in the dispensing position.

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