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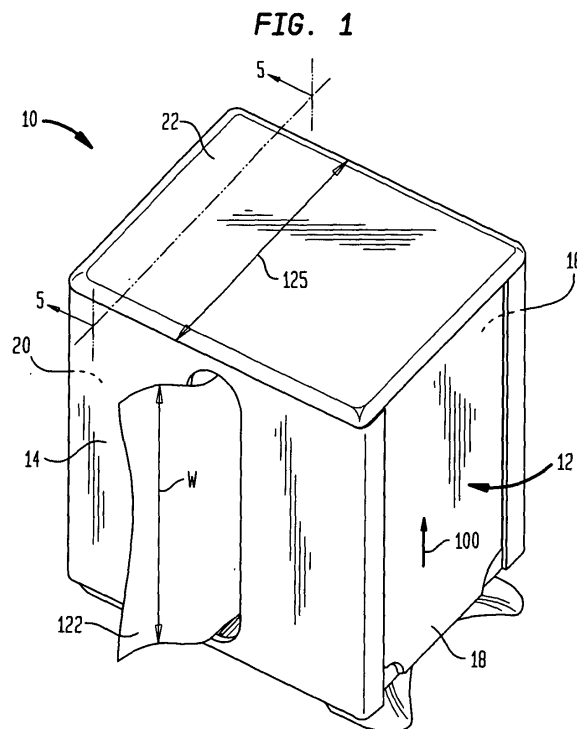
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(54) Tabletop napkin dispenser

(57) A tabletop dispenser (10) for inter-folded napkins includes a housing (12) with a front panel (14), a back panel (16), a pair of sidewalls (18,20), a top wall (22) and a bottom wall for dispensing a stack of inter-folded napkins each of which napkins has a width, **W**, and a folded length, **L'**, of its lead panel, the dispenser (10) having an elongate dispensing aperture on its front panel (14) and further characterized in that the distance between the front and back panels (14,16) of the dispenser (10) is equal to or less than about the folded length, **L'**, of the lead panels of the inter-folded napkins.



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Description

Claim for Priority

[0001] This non-provisional application claims the benefit of the filing date of U.S. Provisional Patent Application Serial No. 60/621,915, of the same title, filed October 25, 2004. The disclosure of U. S. Provisional Patent Application Serial No. 60/621,915 is incorporated herein by reference.

Technical Field

[0002] The present invention relates to dispensers for inter-folded napkins. There is disclosed in a preferred embodiment a napkin dispenser having a depth which is shorter than the folded length, L' , of the lead panels of the folded napkins.

Background of Invention

[0003] Inter-folded napkin dispensers are well known in the art. There is shown, for example, a gravity feed dispenser and method of dispensing inter-folded napkins in the United States Patent Application Publication No. US 2003/0062375 of *Christensen et al.* which shows a high capacity gravity feed dispenser. Such dispensers are particularly useful where a large number of napkins need to be made available at a single location. Likewise, there is disclosed in United States Patent No. 6,585,129 to *Moody et al.* a napkin dispenser for inter-folded napkins, a plurality of which dispensers may be placed on tabletops giving consumers multiple access points in a given eating establishment. Napkin dispensers for commercial use have been designed to limit the number of inter-folded napkins dispensed in order to eliminate waste which occurs when more napkins than necessary are withdrawn from the dispenser. The '129 patent, for example, teaches to add a baffle to the dispensing aperture in order to limit digital access to the napkin stack.

[0004] **Spring-loaded** dispenser which are often used in restaurants are somewhat prone to being over-filled such that they do not operate properly and are relatively expensive. These dispensers also may cause unwanted curl to be imparted to the napkins. See United States Patent Application Publication No. US 2003/0019880 of *Timmers et al.* Further features and general background may be found in the following patents. United States Patent No. 5,076,466 to *Petterson et al.*; United States Patent No. 4,838,454 to *Salzmann et al.*; United States Patent No. 4,679,703 to *De Luca*; United States Patent No. 2,852,158 to *Jones et al.*, as well as United States Patent No. 2,426,136 to *Agamaite, Jr.*

[0005] Despite advances in the art, there exists a need for relatively inexpensive dispensers designed to reliably supply inter-folded napkins in a commercial setting. It has been found in accordance with the present invention that an injection-molded dispenser, with a suitably dimen-

sioned internal cavity, and without moving parts, alleviates drawbacks of existing dispensers.

Summary of Invention

[0006] There is provided in a first aspect of the invention a tabletop dispenser for inter-folded napkins including a housing with a front panel, a back panel, a pair of sidewalls, a top wall and a bottom wall for dispensing a stack of inter-folded napkins each of which napkins has a width, W , and a folded length, L' , of its lead panel, the dispenser having an elongate dispensing aperture on its front panel and further characterized in that the distance between the front and back panels of the dispenser is equal to or less than about the folded length, L' , of the lead panels of the inter-folded napkins. Preferably, the back panel of the dispenser has a second elongate dispensing aperture corresponding in size and orientation to the elongate dispensing aperture of the front wall. In one preferred embodiment, the elongate dispensing apertures on the front and rear walls of the dispenser are vertically oriented and another preferred feature is wherein the dispenser consists essentially of the apertured housing and the distance between sidewalls of the housing corresponds to the folded length, L' , of the lead panels of the folded napkins and the distance between the top and bottom wall of the housing corresponds to the width, W , of the napkins of the inter-folded napkin stack.

[0007] Typically, at least one of the top wall, bottom wall, sidewalls, front panel or back panels is hinged to the housing by way of hinge means such that it pivots between a closed position for dispensing napkins and an open position for reloading. Preferably there is further provided locking means adapted to require movement of the hinged wall or panel along a plane defined thereby in a closed and locked position prior to pivotal motion to its open position. This may be achieved, for example, wherein the hinge means includes two elongate slots and the locking means include two L-shaped slots. A preferred construction is

wherein the sidewalls each include an elongate hinge slot and an L-shaped locking slot and the front panel includes two hinge posts for mounting in the elongate hinge slots and two locking posts for engaging with the locking slots, the posts and slots being configured such that the front panel is hinged to the housing when the hinge posts of the front panel are mounted in the elongate hinge slots and is thereby pivotable between a closed position for dispensing inter-folded napkins and an open position for reloading, the locking posts of the front panel and the L-shaped locking slots of the sidewalls are configured such that when the front wall is in a closed and locked position, the locking posts and L-shaped locking slots cooperate to prevent pivotal motion of the front panel and wherein the front panel is movable between a closed and locked position and an unlocked position by movement of the front panel in a plane defined thereby in its closed and

locked position, the front panel being movable to the open position from the unlocked position.

[0008] Another preferred feature is wherein the front panel has a pair of opposed edge sections generally orthogonal to its front surface adapted to reside in a pair of corresponding recesses in the sidewalls of the dispenser when the dispenser is in a closed position, such that the edge sections are generally flush with the sidewalls of the dispenser. In such cases, the edge sections may be provided with hinge posts adapted to fit with corresponding slots in the sidewalls of the dispenser so as to mount the front panel for pivotal motion with respect to the sidewalls, and wherein the recesses in the sidewalls may have arcuate portions configured to accommodate pivotal motion of the front panel with respect to the sidewalls of the dispenser.

[0009] The bottom wall optionally has a plurality of retaining surfaces projecting upwardly therefrom, the retaining surfaces being transverse to a dispensing direction; the retaining surfaces are conveniently defined by a plurality of assembly posts projecting into the interior of the dispenser upwardly a distance of from about 1/16" to about 1/4" from an interior surface of the bottom wall.

[0010] The housing includes a unitary, injection-molded structure in a preferred construction comprising at least four walls selected from the front panel, the back panel, the top wall, the bottom wall and the two sidewalls. The injection-molded structure may be formed from a polymeric composition comprising a resin selected from ABS resins and polycarbonate resins, mixtures thereof. Most preferably all of the parts are made of ABS resin injection molding composition.

[0011] Another aspect of the invention is an improved method for dispensing inter-folded napkins, each of which has a width, **W**, and a folded length, **L'**, of its lead panel, comprising:

disposing a stack of the inter-folded napkins in a dispenser comprising a front panel, a back panel, a pair of sidewalls, a top wall and a bottom wall, the dispenser having an elongate dispensing aperture on its front panel and further characterized in that the distance between the front and back panels of the dispenser is equal to or less than about the folded length, **L'**, of the lead panels of the inter-folded napkins; and withdrawing inter-folded napkins through the dispensing aperture.

wherein the stack of inter-folded napkins is a stack of single-fold inter-folded napkins. A preferred size napkin is wherein the lead panels and tail panels each have a folded length, **L'**, of about 5 inches and a width, **W**, of about 6.5 inches.

[0012] Still further aspects of the invention will become apparent from the discussion which follows.

Brief Description of Drawings

[0013] The invention is described in detail below with reference to the drawings, wherein like numerals designate similar parts and wherein:

Figure 1 is a perspective view showing a napkin dispenser of the present invention;

Figure 2 is an exploded view of the dispenser of **Figure 1**;

Figure 3 is a view in perspective of the inventive dispenser of **Figure 1**, wherein the front panel is in an open position;

Figure 4 is a side view showing a side panel of the dispenser of **Figure 1**;

Figure 5 is a view in section along line 5-5 of **Figure 1** showing the geometry of a top panel of the inventive dispenser as well as the geometry of an assembly post;

Figure 6 is a schematic view showing a stack of single-fold inter-folded napkins from the side of a stack;

Figure 7 is a top view in perspective of a stack of inter-folded napkins such as the single-fold napkins shown in **Figure 6**; and

Figure 8 is a schematic diagram illustrating the geometry of a stack of two-fold inter-folded napkins.

Detailed Description

[0014] The invention is described in detail below with reference to the Figures for purposes of illustration only. Modifications within the spirit and scope of the present invention, set forth in the appended claims, will be readily apparent to those of skill in the art.

[0015] Terminology used herein is given its ordinary meaning; for example, "ABS" resin, "ABS" composition and like terminology refers to acrylonitrile-butadiene-styrene copolymers and compositions containing such copolymers.

[0016] Referring to **Figures 1** through **5** there is shown a dispenser **10** which includes a housing **12** with a front panel **14**, a rear panel **16**, and two side panels **18** and **20**. There is further provided a top panel **22** as well as a bottom panel **24**. Housing **12** is attached to a pedestal **26**.

[0017] Front panel **14** has a dispensing slot **28**. Slot **28** has a height **30** as well as a width **32**.

[0018] Front panel **14** is also provided with four mounting posts at **34**, **36**, **38**, and **40**, as well as outer edges **42**, **44**, which are generally orthogonal to the front of panel **14**. There is also provided a sub-housing **46**.

[0019] Sub-housing 46 is a unitary structure, preferably injection-molded, which includes side panels 18 and 20 as well as rear panel 16, a top wall 56 and bottom 24. Side panels 18 and 20 have elongated holes such as hole 48 and L-shaped slots such as slot 50 for receiving the mounting posts 34-40 of front panel 14. There is further provided a recess 52 in each of the side panels for receiving edges 42 and 44 of front panel 14.

[0020] A top wall 56 has a plurality of holes 58, 60, 62, and 64 for purposes of assembling the inventive dispenser. The rear panel has a second dispensing slot, 66 which is in spaced facing relationship with front slot 28.

[0021] On bottom panel 24 there is provided another plurality of holes 68, 70, 72 and 74 as well as support ribs 76, 78, and 80.

[0022] In order to assemble the inventive dispenser, the various portions thereof are injection-molded, preferably from a substantially amorphous molding resin such as acrylonitrile - butadiene - styrene resin (ABS) resin, polycarbonate or the like. The parts contain assembly features such as holes 58, 60, 62, 64, 68, 70, 72, 74, and so on as well as barbed assembly posts such as posts 82, 84, 86, and 88 on pedestal 26 as well as posts 90, 92, 94, and 96 on top panel 22. The shape of the various barbed assembly posts is perhaps best appreciated from Figure 5. That is to say, pedestal 26 is secured to sub-housing 46 by way of posts 82, 84, 86 and 88 which are inserted into holes 58, 60, 62, and 64. Likewise, the top panel is secured to unitary structure 46 by way of mounting posts 90, 92, 94 and 96 inserted into holes 62, 64, 58 and 60. The front panel is hingedly secured to the housing by way of posts 34 and 36 inserted into mounting holes 48 and 49. Likewise, posts 34 and 40 are engaged with slots 50 and 51.

[0023] Note that front panel 14 is also mounted for up and down motion with respect to sub-assembly 46. That is to say the lower posts 36 and 38 are mounted in elongated slots 48 and 49 so that the front panel may be opened in order to provide a stack of napkins to the interior of the dispenser. That is, the dispenser is opened as shown in Figure 3 and loaded with napkins. The front panel is then rotated upwards in the direction shown by arrow 98 (Figure 3) in order to close the dispenser. The entire panel is then slid upwardly in the direction indicated by arrow 100 so that the front panel is locked in place. In its fully closed position, (Figure 1), the front panel is lockably engaged by the L-shaped slots wherein the upper posts of the front panel i.e., post 34 and 40 are engaged in the upper part 53 of the L-shaped mounting slots of the side panels when the front panel is slid upwardly in the direction of arrow 100. Note that the edges 42 and 44 rest in sidewall recesses such as recess 52 so that the edges are generally flush with the side panels of the dispenser. It is also noted that edges 44 and 42 are sized to frictionally engage recess 52 so that the panel stays in place when slid upwardly. In order to provide visual symmetry there is optionally provided a groove 52' configured to provide an appearance similar to fully as-

sembled dispenser towards the front panel.

[0024] When loaded with napkins, the dispenser is thus capable of dispensing napkins through slot 28 of front panel 14 as well as slot 66 of rear panel 16. The slots have height such as height 30 which is substantially equal to a width, W, of a single-fold napkin.

[0025] The inventive dispenser is suitably sized such that the depth, D, of the dispenser (i.e., the distance between the front and back walls of the dispenser when closed) is equal or shorter in length than the lead panels (L') of inter-folded napkins to be dispensed thereby as will be appreciated from the discussion which follows. Likewise, the distance between the sidewalls, 31, is preferably equal to the lead panel folded length, L', and the interior height 33 is equal to the width of the napkins when a stack is secured in the "portrait" orientation shown in Figure 1. An added support feature for a napkin stack so that individual napkins do not "fall over" in the interior of the dispenser is provided in the form of a plurality of retaining surfaces transverse to dispensing direction 125. These surfaces are provided by way of posts 82-88 which project upwardly a distance 89 from bottom 24. Distance 89 may be anywhere from about 1/16" to about 1/4", typically about 1/8" or so.

[0026] Referring to Figures 6 and 7, there is shown a stack 110 of single-fold inter-folded napkins which includes, for example, a plurality of napkins such as napkins 112, 114, 116, 118 and 120. Each napkin has a lead panel 122 as well as a tail panel 124. The lead panel is made available through dispensing aperture 28, for example, as is shown in Figure 1 wherein stack 110 is oriented in the dispenser as shown. When the lead panel is drawn through the dispenser, its tail panel, panel 124, drags the next adjacent lead panel, lead panel 126 of napkin 114 through the aperture. In this way, the napkins are continuously made available for consumption.

[0027] In accordance with the present invention, the stack of napkins has a lead panel folded length, L', which is longer than the depth, D, of the inventive dispenser. Thus when the napkins are oriented such that a stack is aligned along slot 28, that is to say, the width, W, of the stack is along the height 30 of the dispensing slot 28 each napkin may be drawn there through and bring the tail of the next napkin into proximity with the dispensing aperture. Because the lead panel folded length, L', is longer than or equal to the depth, D, of the dispenser, the napkins of the stack are never beyond the reach of a consumer. Thus, unlike the prior art which requires more sophisticated geometry, springs and so forth, the present invention simply uses the relative sizes of the dispenser and napkins to make the napkins available. Note that the dispenser accommodates a stack which may be of a height H up to where H is about equal to the depth, D, of the dispenser. In preferred embodiments, the distance between the top and bottom walls will correspond to the width, W, of the stack, allowing for tolerances of both napkin size and the alignment of stacking. Typically, between about 1/4" and 3/8" of "headroom" will be availa-

ble.

[0028] Referring to **Figure 8** there is shown still yet another geometry of a stack **150** of two-fold inter-folded napkins. Two-fold inter-folded napkins have three panels instead of two panels as is the case with single-fold napkins discussed above. Stack **150** includes a plurality of napkins such as napkins **152, 154, 156, 158** and **160** which are inter-folded in the manner shown in **Figure 8**. Here again, the lead panel folded length, **L'**, of the stack is selected so that it is greater in length or equal to the depth, **D**, of inventive napkin dispenser **10** such that the napkins are always accessible.

[0029] While the invention has been described in connection with several examples, modifications to those examples within the spirit and scope of the invention will be readily apparent to those of skill in the art. In view of the foregoing discussion, relevant knowledge in the art and references discussed above in connection with the Background and Detailed Description, the disclosures of which are all incorporated herein by reference, further description is deemed unnecessary.

Claims

1. A tabletop dispenser for inter-folded napkins comprising a housing with a front panel, a back panel, a pair of sidewalls, a top wall and a bottom wall for dispensing a stack of inter-folded napkins each of which napkins has a width, **W**, and a folded length, **L'**, of its lead panel, the dispenser having an elongate dispensing aperture on its front panel and further **characterized in that** the distance between the front and back panels of the dispenser is equal to or less than about the folded length, **L'**, of the lead panels of the inter-folded napkins.
2. The tabletop dispenser according to Claim 1, wherein the back panel of the dispenser has a second elongate dispensing aperture corresponding in size and orientation to the elongate dispensing aperture of the front panel.
3. The tabletop dispenser according to Claim 2, wherein the elongate dispensing apertures on the front and rear panels of the dispenser are vertically oriented.
4. The tabletop dispenser according to Claim 1, wherein the elongate dispensing aperture on the front panel of the dispenser is vertically oriented.
5. The tabletop dispenser according to at least one of the preceding claims, consisting essentially of the apertured housing, wherein the distance between sidewalls of the housing corresponds to the folded length, **L'**, of the lead panels of the folded napkins and the distance between the top and bottom wall of the housing corresponds to the width, **W**, of the napkins of the inter-folded napkin stack.
6. The tabletop dispenser according to at least one of the preceding claims, wherein at least one of the top wall, bottom wall, sidewalls, front panel or back panels is hinged to the housing by way of hinge means such that it pivots between a closed position for dispensing napkins and an open position for reloading.
7. The tabletop dispenser according to Claim 6, further including locking means adapted to require movement of the hinged wall or panel along a plane defined thereby in a closed and locked position prior to pivotal motion to its open position.
8. The tabletop dispenser according to at least one of the Claims 6 and 7, wherein the hinge means includes two elongate slots and the locking means include two L-shaped slots.
9. The tabletop dispenser according to at least one of the preceding claims, wherein the sidewalls each include an elongate hinge slot and an L-shaped locking slot and the front panel includes two hinge posts for mounting in the elongate hinge slots and two locking posts for engaging with the locking slots, the posts and slots being configured such that the front panel is hinged to the housing when the hinge posts of the front panel are mounted in the elongate hinge slots and is thereby pivotable between a closed position for dispensing inter-folded napkins and an open position for reloading, the locking posts of the front panel and the L-shaped locking slots of the sidewalls being configured such that when the front wall is in a closed and locked position, the locking posts and L-shaped locking slots cooperate to prevent pivotal motion of the front panel and wherein the front panel is movable between a closed and locked position and an unlocked position by movement of the front panel in a plane defined thereby in its closed and locked position, the front panel being movable to the open position from the unlocked position.
10. The tabletop dispenser according to at least one of the preceding claims, wherein the front panel has a pair of opposed edge sections generally orthogonal to its front surface adapted to reside in a pair of corresponding recesses in the sidewalls of the dispenser when the dispenser is in a closed position, such that the edge sections are generally flush with the sidewalls of the dispenser.
11. The tabletop dispenser according to Claim 10, wherein the edge sections are provided with hinge posts adapted to fit with corresponding slots in the sidewalls of the dispenser so as to mount the front panel for pivotal motion with respect to the sidewalls, and wherein the recesses in the sidewalls have ar-

uate portions configured to accommodate pivotal motion of the front panel with respect to the sidewalls of the dispenser.

12. The tabletop dispenser according to at least one of the preceding claims, wherein the bottom wall has a plurality of retaining surfaces projecting upwardly therefrom, the retaining surfaces being transverse to a dispensing direction. 5
13. The tabletop dispenser according to Claim 12, wherein the retaining surfaces are defined by a plurality of assembly posts. 10
14. The tabletop dispenser according to Claim 13, wherein the assembly posts project upwardly a distance of from about 1/16" to about 1/4" from an interior surface of the bottom wall. 15
15. The tabletop dispenser according to at least one of the preceding claims, wherein the housing includes a unitary, injection-molded structure comprising at least four walls selected from the front panel, the back panel, the top wall, the bottom wall and the two sidewalls. 20
16. The tabletop dispenser according to Claim 15, formed of a polymeric composition comprising a resin selected from ABS resins and polycarbonate resins. 25
17. The tabletop dispenser according to Claim 15, formed of a polymeric composition including an ABS resin. 30
18. The tabletop dispenser according to Claim 15, formed from an ABS resin injection molding composition. 35
19. An improved method for dispensing inter-folded napkins, each of which has a width, **W**, and a folded length, **L'**, of its lead panel, comprising: 40
 - (a) disposing a stack of the inter-folded napkins in a dispenser comprising a front panel, a back panel, a pair of sidewalls, a top wall and a bottom wall, the dispenser having an elongate dispensing aperture on its front panel and further **characterized in that** the distance between the front and back panels of the dispenser is equal to or less than about the folded length, **L'**, of the lead panels of the inter-folded napkins; and 45
 - (b) withdrawing inter-folded napkins through the dispensing aperture. 50
20. The method according to Claim 19, wherein the stack of inter-folded napkins is a stack of single-fold inter- 55

folded napkins.

21. The method according to at least one of the Claims 19 and 20, wherein the napkins have a folded length, **L'**, of about 5 inches and a width, **W**, of about 6.5 inches.
22. In a tabletop napkin dispenser for dispensing inter-folded napkins having a folded length, **L'**, of their lead panels and a width, **W**, the improvement comprising a generally rectangular dispenser consisting essentially of a front wall, a back wall, two sidewalls, a top wall and a bottom wall, at least a front wall having an elongate dispensing aperture, wherein the distance between the front and back walls is equal to or less than about folded length, **L'**, of the lead panel of the inter-folded napkins.
23. The improvement according to Claim 22, wherein the back wall has a second elongate dispensing aperture corresponding in shape and orientation to the dispensing aperture of the front wall.
24. The improvement according to Claim 23, wherein the front and rear elongate dispensing apertures are vertically oriented.
25. The improvement according to Claim 22, wherein the inter-folded napkins are single-fold napkins.

FIG. 1

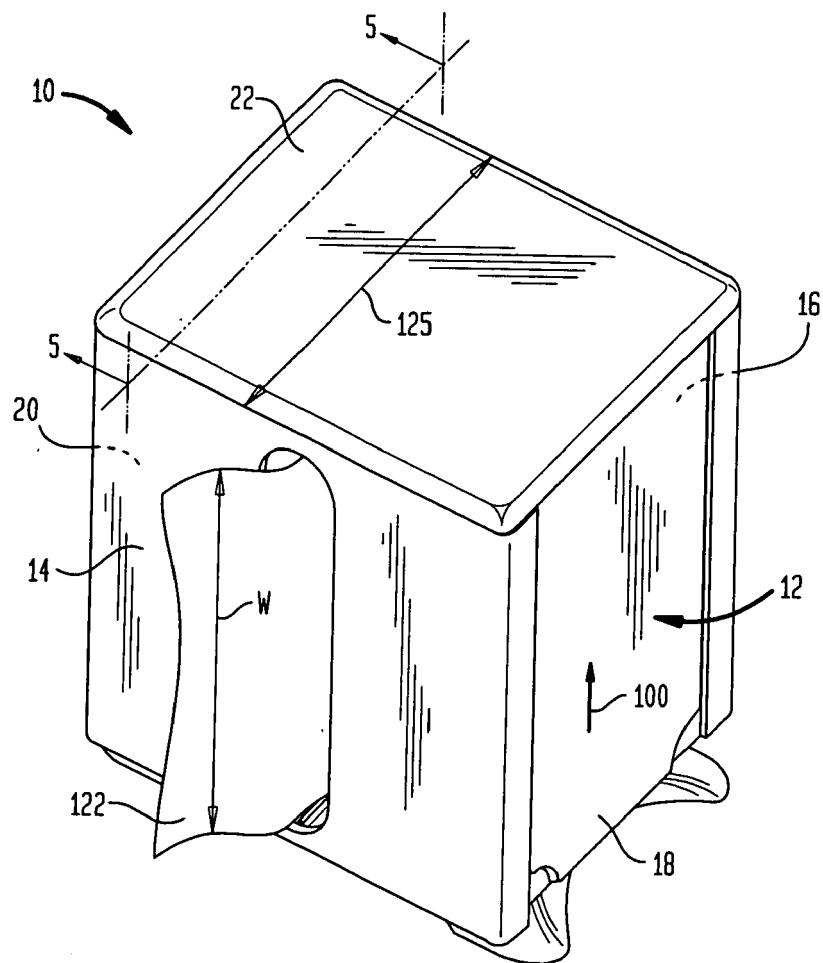
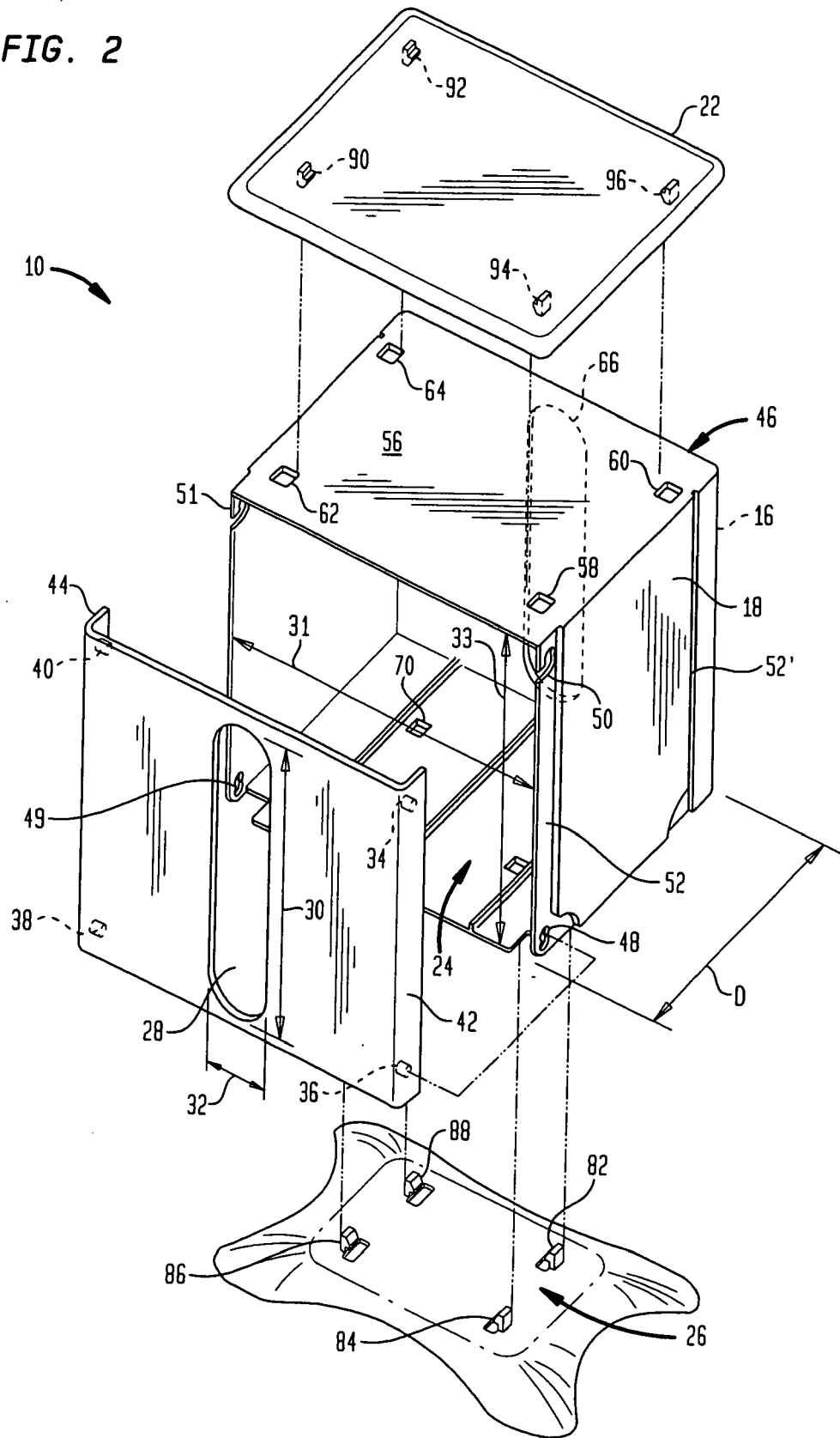


FIG. 2



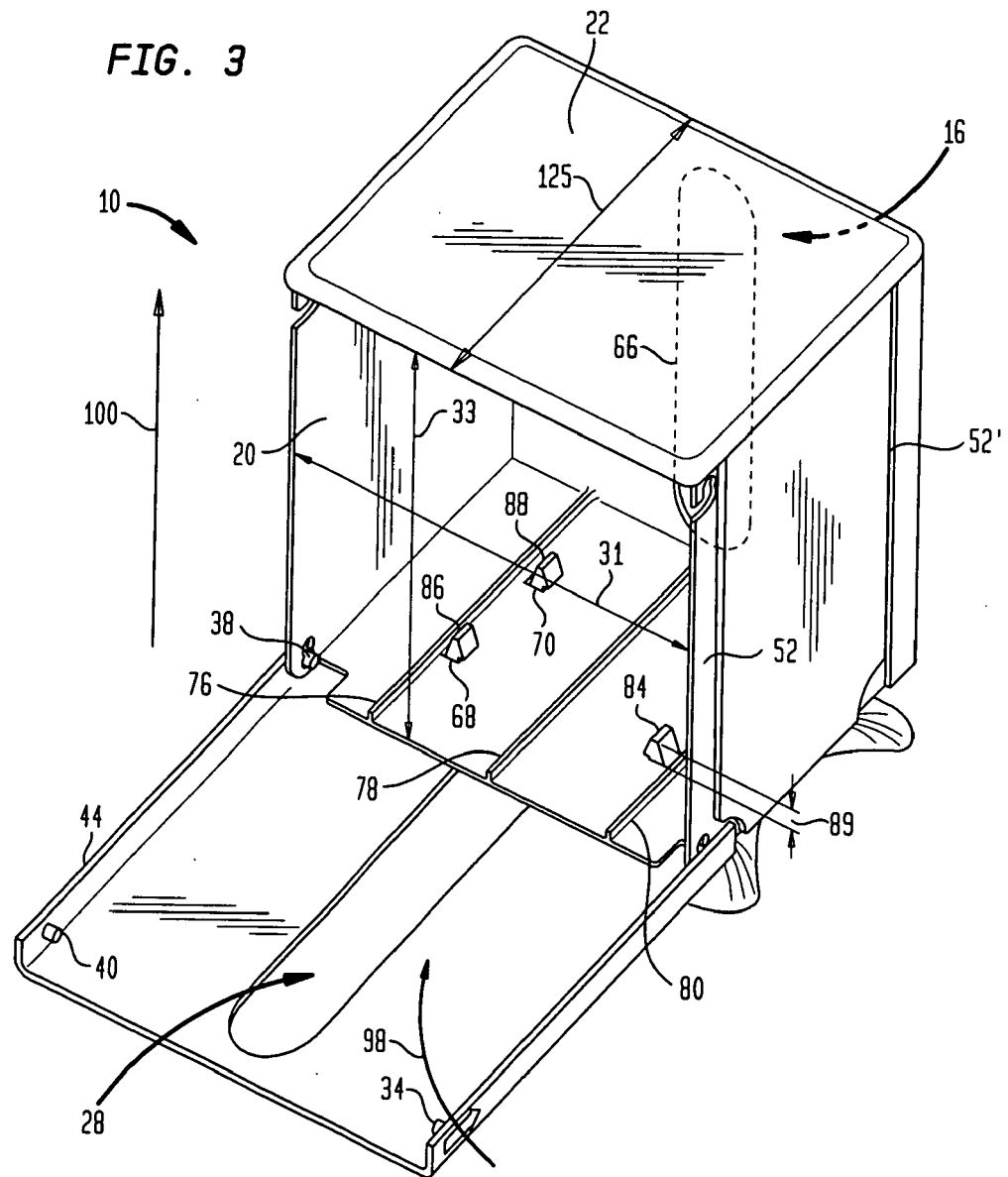


FIG. 4

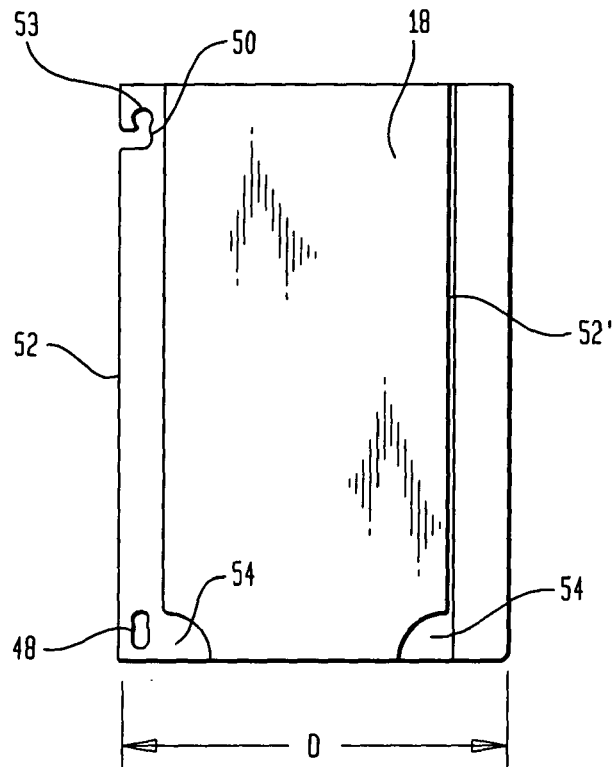


FIG. 5

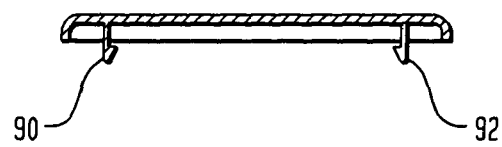


FIG. 6

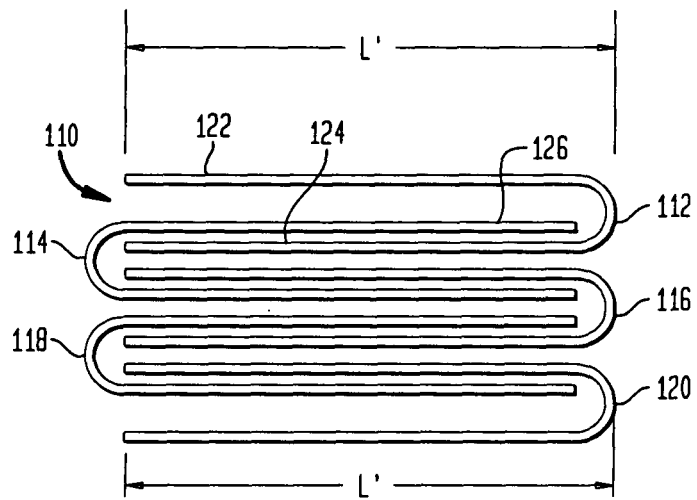


FIG. 7

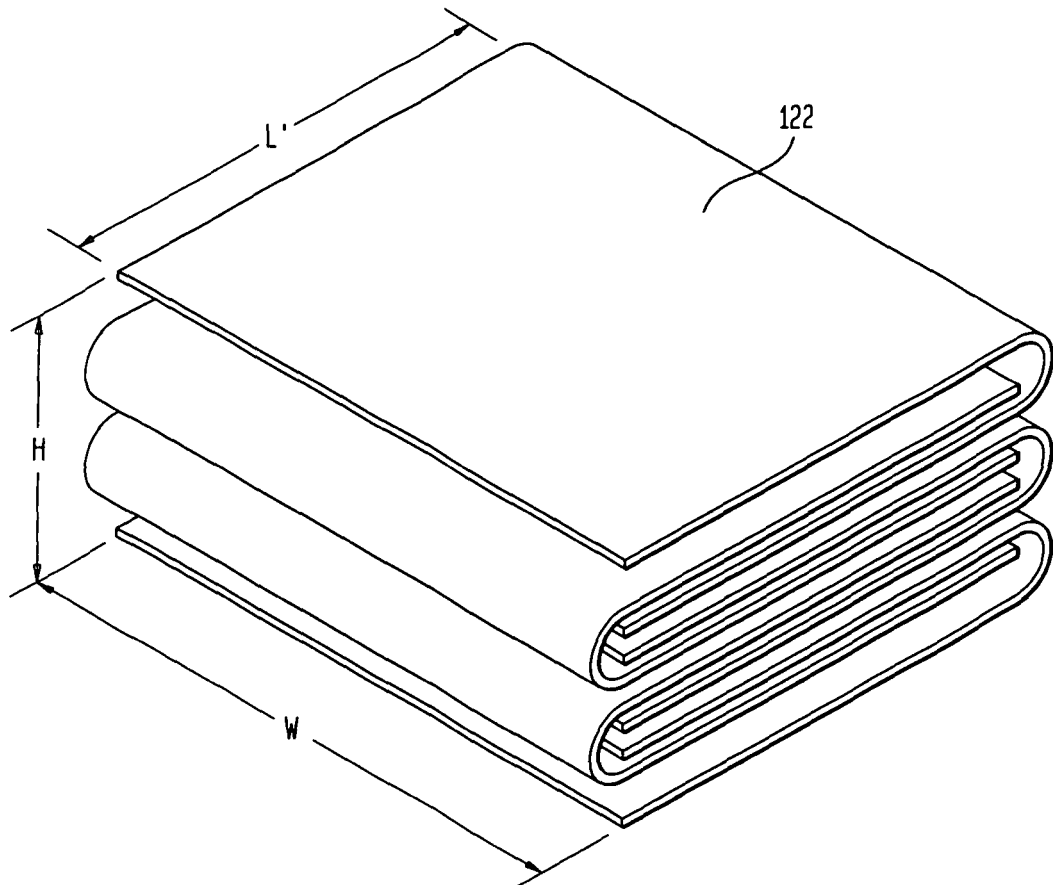


FIG. 8

