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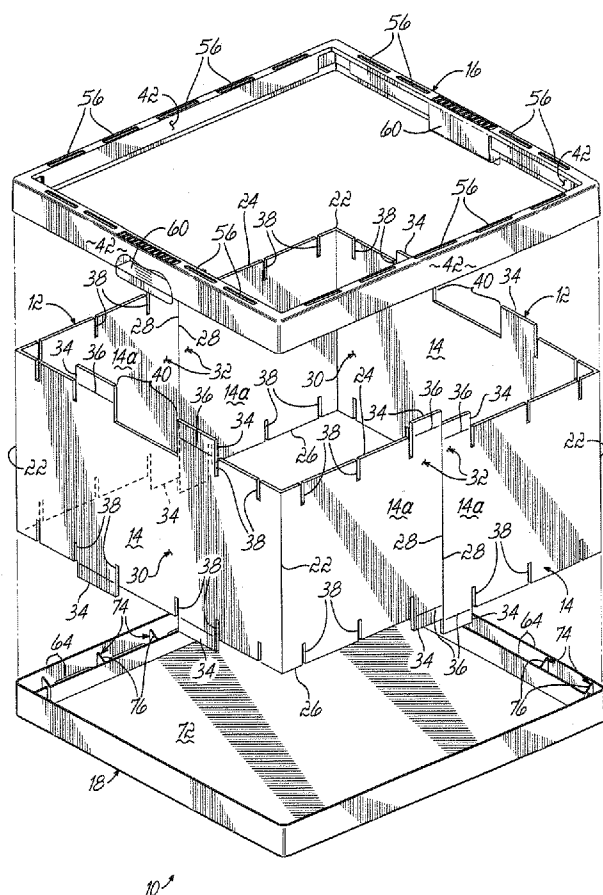
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(54) Title: STACKABLE MULTI-COMPONENT TOTE



(57) Abstract: A stackable tote (10) may be stacked with other identical or similar totes and/or existing, prior tote designs. The tote (10) is assembled from at least one box blank (12), a base (18) and a top rail (16). When folded into the appropriate shape, the box blank (12) results in the sidewalls (14) of the tote. To hold the erected box blank (12) in an assembled relationship and to reinforce the top and bottom edges of the tote (10), a channel shaped top rail (16) extends around the top edge of the tote (10) and the bottom edge of the sidewalls (14) is seated within a channel (64) in the base (18). The top rail (16) and base (18) are secured to the sidewalls (14) as the result of an inwardly extending hook (50, 70) in the associated channels (44, 64) which engages the folded tabs (34) of the sidewalls (14). One advantage of this invention is that a lightweight, stackable tote or container may be quickly and easily manufactured in a designed size or height. The tote of this invention may be stacked above or below the same or similar types of totes as well as existing tote designs.



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**STACKABLE MULTI-COMPONENT TOTE****Field of the Invention**

This invention relates to totes and more particularly to totes made from foldable blanks with components to hold the blanks in an erected, assembled relationship for stacking.

**5      Background of the Invention**

A wide variety of container structures are used by manufacturers to store and ship a variety of different products. In the automobile industry for example, an assembly plant assembling a particular automobile might use a number of different parts from different manufacturers. These manufacturers  
10      ship their respective parts to the assembly plant in containers where the parts are then removed from the containers and assembled into a finished automobile. The containers are also used to store or transport the various parts within the assembly plant.

Containers are useful for the transportation, storage, and display  
15      of goods in manufacturing facilities. Such containers, commonly called totes,

must be of sufficiently rigid construction to enable safe and damage free transport and storage of the goods contained therein. These totes are frequently designed so as to be stacked or mounted in a nesting relation for convenient transportation or storage.

5                   Although such totes or containers have proven adequate, they have various drawbacks. First, the totes are typically injection molded and such containers are heavy, which makes shipping and handling more difficult, dangerous and expensive. Assembly line workers are often unable to move the heavy containers with ease. Often times, the weight of the injection molded  
10                   container is far greater than the weight of the parts therein. In such situations, a more lightweight, but structurally sound, container would be desirable.

                  Another drawback to these containers is that the injection molded totes only are available in a limited number of sizes. The availability of different size containers is desired, but often limited by cost and manufacturing  
15                   economies. It is expensive, difficult and time consuming, if possible at all, to provide such injection molded totes in a variety of sizes.

                  Another drawback to the use of these containers is that each manufacture of injection molded containers has a unique design which is adapted to only be stacked with similar containers. Again, however, they are not  
20                   always compatible with containers made by other manufacturers. Therefore, a user may be limited to one container manufacturer if the user wishes to be able to stack these injection molded containers.

                  Accordingly, there is a need for a lightweight, sturdy tote or container which may be used in conjunction with existing totes for stacking  
25                   purposes.

There is further a need for a such a container which may be quickly, easily and economically made to any desired height or size.

### **Summary of the Invention**

5                   These and other objectives of the invention have been attained by a stackable tote manufactured to be stacked with other similar totes and/or existing, prior tote designs.

                  This invention is directed to a tote which is assembled from at least one box blank, a base and a top rail. When folded into the appropriate  
10   shape, the blank results in the sidewalls of the tote. A single blank may be used alone or in combination with other blanks for the tote. The blanks may be corrugated plastic, paperboard or other suitable material and may be die cut to the appropriate configuration and desired height.

                  To hold the erected blank in an assembled relationship and to  
15   reinforce the edges of the tote, a channel shaped top rail extends around the top edge of the blanks and a base is mounted to the bottom edge of the blanks. The base and top rail both have an open channel formed between a pair of channel walls. The channels fit over a double thickness of the sidewalls formed from tabs or flaps extending upwardly or downwardly from the sidewalls of the blank.  
20   The top rail and base are locked onto the top edge and bottom edge, respectively, of the blank as the result of an inwardly extending hook on at least one channel wall which snaps onto the folded tabs on the upper and lower edges of the sidewalls.

                  The base and top rail are each, in certain embodiments,  
25   manufactured from a single piece of extruded plastic or aluminum and may be injection molded. Alternatively, the base and top rail may each be constructed

of multiple pieces of material welded or otherwise joined together. The inwardly extending hooks on the channel wall engage the folded tab on the sidewalls thereby securing the top rail and base onto the edges of the sidewalls without the need for further fasteners such as screws, rivets, or staples. The configuration of the top rail and base enables nested stacking of additional totes.  
5 The base of each tote has a configuration which mates with the top rail.

One advantage of this invention is that a lightweight, stackable tote or container may be quickly and easily manufactured in a desired size or height. The tote of this invention may be stacked above or below the same or similar types of totes as well as existing tote designs. In this manner, the container may be integrated into an existing inventory of totes. The base and top rail configurations mate with each other and existing tote designs. Likewise, the base and top rail can be attached to blanks of a variety of heights based on user needs and not just the tote manufacturer's molding machinery  
10 specifications.

This invention provides a container which is lightweight enough that a worker may be able to easily move the container even when it is filled. Another advantage of this invention is that a stackable container of a desired size may be manufactured more quickly and less expensively than is presently possible with other such containers.  
20

The tote can be used alone, in combination with one or more other totes or in combination with one or more existing containers. Because the blanks of the tote can be made in a variety of sizes which can be cut to suit, customized solutions are quickly realizable. The piecewise assembly of the components permits users to achieve a wide variety of container solutions to meet specific needs without necessarily having to maintain a large inventory of  
25

specific components. For example, the top rail and base may be reused with different blanks in alternative applications.

### **Brief Description of the Drawings**

The objectives and features of the present invention will become more readily apparent when the following detailed description of the drawings is taken in conjunction with the accompanying drawings in which:

FIG. 1 is an exploded perspective view of one embodiment of a tote container according to this invention;

FIG. 2 is a perspective view of the tote of FIG. 1 in an assembled configuration;

FIG. 3 is a cross-sectional view taken along line 3-3 in FIG. 2;

FIGS. 4-6 are top plan views of alternative embodiments of blanks used in various embodiments of totes according to this invention;

FIG. 7 is an exploded perspective view of an alternative embodiment of a tote container according to this invention;

FIGS. 8-10 are top plan views of blanks used to form the sidewalls of the tote of FIG. 7;

FIG. 11 is an exploded perspective view of a further alternative embodiment of a tote container according to this invention;

FIG. 12 is a top perspective view of one embodiment of a top rail for use on a tote according to this invention;

FIG. 13 is a bottom perspective view of one embodiment of a base for use on a tote according to this invention;

FIG. 14 is a cross-sectional view of portions of two totes according to this invention mated and being stacked one upon the other;

FIG. 15 is a cross-sectional view of portions of a tote according to this invention mate and being stacked upon a tote of another configuration; and

FIG. 16 is a cross-sectional view of a tool being inserted into the base of a tote according to this invention for releasing the sidewall from the  
5 base.

### **Detailed Description of the Drawings**

Referring to FIG. 1, the components of a tote 10 according to one embodiment of this invention are shown. The tote 10 is assembled from one or more blanks as seen in FIGS. 4-6 which are die cut or otherwise pre-cut from,  
10 preferably, corrugated plastic sheet. However, the blanks 12 and resulting tote 10 may be made from any other suitable material. In one embodiment, each blank 12 is 5 millimeters thick and made from extruded corrugated plastic material. Depending upon the application, the blanks 12 may be other thicknesses as well.

15 As best illustrated in FIGS. 1 and 2, the tote 10 includes a number of sidewalls 14 formed from two blanks 12, a top rail 16, and a base 18. Each blank 12 is folded along fold lines to form a number of sidewalls 14 and associated corners 22 of the tote 10 as illustrated in FIG. 1. The tote 10 of FIG. 1 has four sidewalls 14 and each of the sidewalls 14 has a top edge 24 and a  
20 bottom edge 26. The tote 10 of FIGS. 1 and 2 utilizes a pair of blanks 12 as shown in FIG. 4. The lateral ends 28 of the blanks 12 abut one another to form a composite sidewall 14a. See FIGS. 1 and 2.

If desired, the tote sidewalls 14 may be formed from four blanks 12 like the one shown in FIG. 5 or one blank 12 like the one shown in FIG. 6.

25 In certain embodiments, each of a first pair 30 of opposed

sidewalls 14 has an identical first length L1, and each of a second pair 32 of opposed sidewalls 14 has an identical length L2. In one embodiment of the present invention, the lengths L1, L2 of the sidewalls 14 are all identical, resulting in a square tote 10. However, for purposes of the present invention, 5 the lengths may be different in order to create a rectangular tote 10 rather than a square tote 10. Furthermore, the tote 10 may have any number of sidewalls 14 and be in any configuration.

As shown in FIGS. 1 and 4-6, the blanks 12 according to various embodiments of this invention each include a number of tabs 34 which project 10 upwardly above the top edge 24 of the blank 12 and a number of tabs 34 which project downwardly below the bottom edge 26 of the blank 12. Each of the tabs 34 is joined to the blank 12 via a fold line 36 so that the tab 34 may be bent downwardly toward the associated sidewall 14 of the tote 10. Additionally, the blanks 12 each include a number of spaced slits 38 extending inwardly from the 15 top edge 24 or a bottom edge 26 of the blank 12 and generally perpendicular thereto. These slits 38 are spaced and size so as to receive ribs or portions of the top rail 16 and base 18 of the tote 10 in a manner described below. A notch or cutout 40 may also included along the top edge 24 of selected sidewalls 14 of the blank 12. The purpose of the notch 40 will be described below. One or more of 20 the sidewalls 14 may include printed indicia 41 on one or both faces to identify the tote 10, its intended contents, owner, manufacturer or the like.

One embodiment of the top rail 16 according to this invention is shown generally in FIGS. 1 and 2 and more specifically in FIGS. 3 and 12. The top rail 16 may be integrally molded from a plastic material or another material 25 affording sturdy and rigid construction. Although one continuous, uniform configuration of top rail 16 is illustrated and described, the top rail 16 may

assume other configurations as well. The top rail 16 includes a number of legs 42 which are joined together to form a profile of the top rail 16 which corresponds to the configuration of the tote 10 and the erected sidewalls 14 as shown generally in FIG. 1. The cross-sectional configuration of the top rail 16 is shown generally in FIG. 3 and includes a downwardly open channel 44 formed between a pair of spaced channel walls 46, 48. In the embodiment shown in FIG. 3, the outer channel wall 46 is taller than the inner channel wall 48 and the inner channel wall 48 includes a outwardly directed detent or hook 50 projecting into the open channel 44. The hook 50 and channel 44 of the top rail 16 facilitate the mounting and attachment of the top rail 16 onto the top edge 24 of the sidewalls 14 as will be described later.

The channel 44 also includes a number of spaced ribs 52 which project generally perpendicularly between the channel walls 46, 48. The ribs 52 provide added strength and rigidity to the top rail 16 and may include a downwardly sloped terminal edge 54 as shown in FIG. 3. A number of spaced slots 56 are also provided in the top rail 16 and the slots 56 are spaced around the top rail 16 as shown generally in FIGS. 1 and 2. A rim 58 projects inwardly adjacent the top edge of the top rail 16. Handles 60 are provided along opposite legs 42 of the top rail 16 so that the erected, assembled and filled tote 10 can be easily and conveniently carried. As shown in FIG. 12, each handle 60 is joined to the associated leg 42 of the top rail 16 by a living hinge 62. Before the top rail 16 is mounted to the top edge 24 of the sidewalls 14, the handles 60 are pivoted outwardly in the direction of arrow A as shown in FIG. 12 to provide convenient access for a user of the tote 10. The notches 40 in the top edge 24 of the sidewalls 14 accommodate and provide clearance for the handles 60.

Another component of the tote 10 according to various embodiments of this invention is the base 18 which is shown generally in FIGS. 1, 2, 3, 7 and 11 and, more specifically, in FIG. 13. The base 18 as shown herein is integrally molded to provide a sturdy and rigid support for the tote 10 and items contained therein. As such, the base 18 includes a perimeter channel 64 which is formed between inner and outer channel walls 66, 68, respectively as shown in cross section in FIG. 3. The outer channel wall 68 of the base 18 is taller than the inner channel wall 66 of the base 18. The inner channel wall 66 of the base 18 includes an outwardly directed hook or detent 70 projecting into the channel area 64. A generally planar upper support surface 72 of the base 18 is formed on the interior of the perimeter channel 64 as shown in FIGS. 1 and 14. The support surface 72 of the base 18 provides a smooth and uninterrupted floor for supporting the items contained in the tote 10 (not shown).

As best shown in FIG. 1, a number of spaced ribs 74 are provided in the base channel 64, each extending between the inner and outer channel walls 66, 68. The edge 76 of the ribs 74 may be sloped downwardly from the outer channel wall 68 toward the inner channel wall 66 as shown in FIGS. 1 and 3. As shown in FIGS. 3 and 13, a number of spaced slots 77 are provided in the base 18, the slots 77 being in communication with the base channel 64. The bottom surface 82 of the tote base 18, as shown in FIG. 13, may include a series of embossed, spaced panels 78. Each panel 78 as shown in FIG. 13 is generally rectangular and includes a web-like or lattice configuration 80 for added strength and support to the base 18 and assembled tote 10. The panels 78 project downwardly from a lower surface 82 of the base 18 and are offset from the outer perimeter edge of the base 18 as shown in FIGS. 3 and 13 for stacking purposes. The outermost corners of the panels 78 arranged on the bottom of

the base 18 each include a corner boss 84 to assist in stacking the totes 10.

Although one pattern of panels 78 is shown in FIG. 13, any other desired pattern may be incorporated into the base 18 to facilitate stacking.

To assemble the tote 10 from one or more blanks 12, each blank 12  
5 is folded along fold lines 20 into a generally vertical orientation to create one or more sidewalls 14 of tote 10. As shown in FIG. 3, each of the sidewalls 14 has an outside surface 86 and inside surface 88. Once the sidewalls 14 are erected, each of the tabs 34 is folded along the fold line 36. The tabs 34 are folded inwardly toward the inside surface 88 of the respective sidewall 14 of which the  
10 tab 34 forms a part.

After the sidewalls 14 of the tote 10 are erected and the tabs 34 folded, the next steps in the assembly of the tote 10 are to mount, attach or secure the top rail 16 and base 18 onto the sidewalls 14. The top rail 16 is mounted over the top edge 24 of the erected sidewalls 14 and the base 18 onto  
15 the bottom edge 26 of the sidewalls 14. Once the tabs 34 are folded downwardly, the top rail 16 is snapped onto the top edge 24 of the sidewalls 14. The top rail channel 44 has an opening of a width at least twice the thickness of the blank 12. As seen in FIG. 3, the channel opening 44 is of sufficient width to accommodate the sidewall 14 and tab 34 folded thereon.

20 As illustrated in FIG. 3, the outwardly extending hook or detent 50 is provided on a bottom edge of the inner channel wall 48. When the top rail 16 is snapped onto the erected sidewalls 14, the hook 50 engages a terminal edge 34a of the downwardly folded tab 34 thereby securing the top rail 16 on the erected sidewall 14 as shown in FIG. 3. The top rail 16 is pressed onto the top  
25 edge 24 of the tote 10 and the hooks 50 engage the downwardly folded tabs 34 of the sidewalls 14 without the benefit of mechanical fasteners, rivets, staples, or

the like. While the tab 34 is illustrated in FIG. 3 as being folded downwardly on the inside 88 of the sidewall 14, it could just as well be folded downwardly on the outside 86 of this same wall 14 provided an appropriate hook is available on the outer wall 46 of the channel 44. Although FIG. 3 illustrates an outwardly  
5 extending hook 50 on a bottom edge of the inner channel wall 48, the hook 50 could be located at any desired location on the inner channel wall 48 of the top rail 16. Alternatively, only the outer channel wall 46 could have an inwardly extending hook or both channel walls 46, 48 could have a hook.

The notches 40 in the top edge 24 of the sidewalls 14 are aligned  
10 with the handles 60 in the top rail 16. Before the top rail 16 is mounted onto the top edge 24 of the blank or blanks 12, each handle 60 is pivoted outwardly along the living hinge 62 as shown generally in FIG. 12. The notches 40 provide appropriate clearance for the handles 60.

The base 18 is mounted to the bottom edge 26 of the sidewalls 14  
15 of the blank 12 in a similar operation. Tabs 34 projecting downwardly below the bottom edge 26 of the blank 12 are folded along their respective fold lines 36 toward the inner face 88 of the sidewall 14. The bottom edge 26 of the sidewall 14 is then aligned with the upwardly open channel 64 in the base 18 and pushed downwardly into the channel 64. The bottom edge 26 of the sidewall, including  
20 the fold line 36 between the tabs 34 and the sidewall 14 where appropriate is seated in the bottom of the channel 64 as shown in FIG. 3. The tabs 34 are captured between the channel walls 66, 68 by the outwardly directed hook 70 thereby securing the base 18 to the sidewalls 14.

The ribs 74 in the base channel 64 and the ribs 52 in the top rail  
25 channel 44 are aligned with the slits 38 in the sidewalls 14 so that when the top rail 16 and base 18 are mated with the sidewalls 14, the interlocking relationship

between the slits 38 and the ribs 52, 74 provides added strength and alignment between the respective components of the tote 10.

The blanks 12 of the tote 10 according to this invention may be in a variety of configurations as shown in FIGS. 1 and 4-6, for example. Likewise, the tabs 34 projecting from the top edge 24 and bottom edge 26 of the various blanks 12 may be sized and positioned in a variety of configurations within the scope of this invention. More specifically, the inventors have found that at least four tabs 34 spaced along at least two different sidewalls 14 adequately secure the top rail 16 to the sidewalls 14 of the tote 10 and at least four tabs 34 spaced along at least two different sidewalls 14 adequately secure the base 18 to the sidewalls 14. However, one of ordinary skill in the art should understand that any specific number, configuration or placement of the tabs 34 along the top edge or bottom edge of the blank is not a limitation on this invention. Moreover, the blank 12 may extend entirely around the tote 10 or multiple blanks may be utilized in combination to form the various sidewalls 14 of the tote 10. For example, the blanks 12 shown in FIGS. 4 and 5 would be used in combination with other similar blanks to form the various sidewalls.

Advantageously, the blanks 12 may be die cut or otherwise formed in a variety of configurations and a variety of heights H thereby resulting in totes 10 which have the desired height H for a particular application. Prior art injection molded totes which have a defined sidewall height do not offer this advantage.

An alternative embodiment of tote 10a according to this invention is shown in FIGS. 7 - 10. The blanks 12a, 12b and 12c utilized to form the sidewalls 14a, 14b and 14c, respectively, in the tote 10a of FIG. 7 include corner blanks 12a (FIG. 10), handle sidewall blanks 12b (FIG. 8) and sidewall blanks

12c (FIG. 9). Tabs 34 projecting from the top edges 24 of the various blanks 12b and 12c are provided as well as notches 40 in the handle sidewall blanks 12b to accommodate the handle 60 in the top rail 16 as previously described.

Corresponding tabs 34 are likewise provided along the bottom edge 26 of the  
5 blanks 12b and 12c shown in FIGS. 8-10 utilized to form the tote 10a in FIG. 7 although such are not shown in FIG. 7 because the base 18 is mated with the blanks 12a, 12b and 12 c. One advantage of the multiple blank tote embodiment shown in FIG. 7 is that the corner blanks 12a may be made of a different material providing added strength and rigidity to the tote 10 and the  
10 complementary blanks 12b, 12c of the tote 10a could be of a still further different material allowing for economies of manufacture and supply.

Another embodiment of tote 10b according to this invention is shown in FIG. 11. The blanks 12 used to form sidewalls 14 shown in the tote embodiment of FIG. 11 do not include slits and the channels 44, 64 of the top  
15 rail 16 and base 18 do not include ribs 52, 74 in contrast to the tote embodiments previously discussed. In this embodiment, although the tabs 34 of blanks 12 are shown in specific locations, they may be located at desired locations and engage the top rail 16 and base 18.

All embodiments of tote according to this invention are designed  
20 and intended for stacking one upon another as shown generally in FIG. 14. The top rail 16 is sized and configured to nest with the base 18 of a similar tote 10 with the inwardly directed rim 58 projecting around the inner portion of the top rail 16 as shown in FIG. 14. The rim 58 provides a convenient surface and locating feature for the downwardly projecting panels 78 on the bottom surface  
25 82 of the base 18 to nest within the open area defined by the top rail 16. The bosses 84 on the outer corners of the panels 78 likewise register with the rim 58

of the top rail 16 during stacking of the totes 10 as shown in phantom lines in FIG. 14. Advantageously, the weight of the upper tote 10 and its contents is supported around the top rail 16 of the lower tote 10 and vertically through the sidewalls 14 thereby providing a more rigid and stable stacking arrangement.

5           A further advantage of each embodiment of the tote according to this invention is that it may be stacked and nested with prior art totes 11 as shown in FIG. 15. The upper regions of the prior art tote 11 are shown generally in FIG. 15 and the base 18 as shown in FIG. 15 of a tote 10 according to this invention is compatible for stacking and nesting with the prior tote 11 design.

10          Alternatively, a tote 10 according to this invention may be used to support a prior art tote 11 stacked on top of the top rail 16 of this invention (not shown). Accordingly, the user is not required to replace an entire inventory of existing totes 11 in an effort to realize the advantages and economies of the tote 10 according to this invention.

15           A further advantage of the tote according to various embodiments of this invention is that the base 18 and top rail 16 can be conveniently and easily removed from the sidewalls 14 for subsequent reuse, storage or shipping separate from an assembled tote configuration. As shown in FIG. 16, a simple tool 90 such as a screw driver, putty knife or other device can be inserted into

20          the slots 77 provided in the base 18 to deflect the tab 34 outwardly toward the inner surface 88 of the associated sidewall 14 until the tab 34 clears the hook 70 in the channel 64. Once the tab 34 is forced outwardly against the sidewall 14, the base 18 may be dislodged from the sidewall 14 and pulled from the blank 12. Similarly, the tool 90 may be inserted through the slots 56 in the top rail 16 to

25          manipulate the tabs 34 outwardly to provide clearance from the hook 50 in the top rail channel 44 and removal of the top rail 16 from the top edge 24 of the

sidewalls 14. Naturally, the top rail, base and blanks can be reassembled as needed. Alternatively, a blank 12 of a different configuration or height H may be utilized with the base 18 and top rail 16 for subsequent applications. For purposes of this document reference to tote 10 may include reference to totes  
5 10a, 10b or both.

While we have described several preferred embodiments of the present invention, persons skilled in the art will appreciate changes and modifications which may be made without departing from the spirit of the invention. For example, although one configuration of a tote is illustrated and  
10 described, the present invention may be used with other configurations, such as a tote without a top rail and/or handles located in the sidewalls or base of the tote. Therefore, we intend to be limited only by the scope of the following claims and equivalents thereof:

WE CLAIM:

1. A tote container comprising:
  - a plurality of sidewalls each having a top edge spaced from a bottom edge;
  - a plurality of upper tabs and a plurality of lower tabs each projecting
  - 5 from the top edge and the bottom edge, respectively, of selected sidewalls, each tab being joined to the associated sidewall by a fold line permitting the tab to be folded relative to the associated sidewall;
  - a top rail mounted to the top edge of the sidewalls;
  - a downwardly open channel on the top rail adapted to receive therein the
  - 10 upper tabs when folded downwardly along the associated fold lines toward the associated sidewalls to thereby mount the top rail to the sidewalls;
  - a base mounted to the bottom edge of the sidewalls; and
  - an upwardly open channel on the base adapted to receive therein the
  - lower tabs when folded upwardly along the associated fold lines toward the
  - 15 associated sidewalls to thereby mount the base to the sidewalls.
2. The tote of claim 1 wherein the base of a first tote as recited in claim 1 is adapted to mate with the top rail of a second tote as recited in claim 1 to thereby stack the first and second totes.
3. The tote of claim 1 wherein the base is a unitary structure and separate from the sidewalls until mounted thereto.
4. The tote of claim 1 wherein a first set of the upper tabs project from a different sidewall than a second set of the upper tabs.

5. The tote of claim 1 wherein a first set of the lower tabs project from a different sidewall than a second set of the lower tabs.
6. The tote of claim 1 further comprising at least four upper tabs and at least four lower tabs, the four upper tabs projecting from at least two different sidewalls and the four lower tabs projecting from at least two different sidewalls.
7. The tote of claim 1 further comprising:  
a plurality of spaced ribs spanning the channel in the top rail; and  
a plurality of slits extending generally perpendicularly from the top edge of selected sidewalls;
- 5 wherein the ribs are inserted into the slits when the top rail is mounted to the top edge of the sidewalls.
8. The tote of claim 1 further comprising:  
a plurality of spaced ribs spanning the channel in the base; and  
a plurality of slits extending generally perpendicularly from the bottom edge of selected sidewalls;
- 5 wherein the ribs are inserted into the slits when the base is mounted to the bottom edge of the sidewalls.
9. The tote of claim 1 wherein the sidewalls are formed from at least one blank and at least one sidewall is a composite sidewall formed from spaced sections of the at least one blank juxtaposed together.

10. The tote of claim 1 wherein the sidewalls are formed from a plurality of blanks juxtaposed together.
11. The tote of claim 10 wherein the plurality of blanks include a first set of blanks for forming corners at a juncture between adjacent sidewalls of the tote and a second set of the blanks form the sidewalls intermediate adjacent corners.
12. The tote of claim 1 further comprising:  
a plurality of corners each at a juncture between adjacent sidewalls;  
wherein the sidewalls are formed from at least one blank of a foldable material and the blank is folded to form at least some of the corners of the tote.
13. The tote of claim 1 further comprising:  
indicia printed on an outer face of at least one of the sidewalls.
14. The tote of claim 1 wherein the downwardly open channel extends substantially entirely around the top rail and the upwardly open channel extends substantially entirely around the base.
15. The tote of claim 1 further comprising:  
a first hook projecting into the channel on the top rail; and  
a second hook projecting into the channel on the base;  
wherein each of the hooks engage one of the tabs to retain the top rail  
5 and the base, respectively, onto the sidewalls of the tote.

16. The tote of claim 1 wherein the top rail and the base are selectively removable from the sidewalls.

17. The tote of claim 16 further comprising:

a plurality of slots in the top rail in communication with the downwardly open channel;

5 a plurality of slots in the base in communication with the upwardly open channel;

wherein at least some of the slots in the top rail provide access to the upper tabs captured in the top rail channel and at least some of the slots in the base provide access to the lower tabs captured in the base channel so that the respective tabs can be manipulated to release the top rail from the top edge of  
10 the sidewalls and the base from the bottom edge of the sidewalls.

18. A tote container comprising:

a plurality of sidewalls each having a top edge spaced from a bottom edge;

5 a plurality of upper tabs and a plurality of lower tabs each projecting from the top edge and the bottom edge, respectively, of selected sidewalls, each tab being joined to the associated sidewall by a fold line permitting the tab to be folded relative to the associated sidewall;

wherein a first set of the upper tabs projects from a different sidewall than a second set of the upper tabs;

10 wherein a first set of the lower tabs projects from a different sidewall than a second set of the lower tabs;

a top rail mounted to the top edge of the sidewalls;

a downwardly open channel extending substantially entirely around the top rail and adapted to receive therein the upper tabs when folded downwardly  
15 along the associated fold lines toward the associated sidewalls to thereby mount the top rail to the sidewalls;

a base mounted to the bottom edge of the sidewalls;

an upwardly open channel extending substantially entirely around the base and adapted to receive therein the lower tabs when folded upwardly along  
20 the associated fold lines toward the associated sidewalls to thereby mount the base to the sidewalls;

a first hook projecting into the channel on the top rail;

a second hook projecting into the channel on the base;

wherein each of the hooks engages one of the tabs to retain the top rail  
25 and the base, respectively, onto the sidewalls of the tote;

wherein the base is adapted to mate with the top rail of a similar tote for stack the totes.

19. The tote of claim 18 wherein the base is a unitary structure and separate from the sidewalls until mounted thereto.

20. The tote of claim 18 further comprising:

a plurality of spaced ribs spanning the channel in the top rail;

a plurality of slits extending generally perpendicularly from the top edge of selected sidewalls;

5 wherein the ribs are inserted into the slits when the top rail is mounted to the top edge of the sidewalls.

21. The tote of claim 18 further comprising:

a plurality of spaced ribs spanning the channel in the base;

a plurality of slits extending generally perpendicularly from the bottom edge of selected sidewalls;

5 wherein the ribs are inserted into the slits when the base is mounted to the bottom edge of the sidewalls.

22. The tote of claim 18 wherein the sidewalls are formed from at least one blank and at least one sidewall is a composite sidewall formed from spaced sections of the at least one blank juxtaposed together.

23. The tote of claim 18 wherein the sidewalls are formed from a plurality of blanks juxtaposed together.

24. The tote of claim 23 wherein the plurality of blanks include a first set of blanks for forming corners at a juncture between adjacent sidewalls of the tote and a second set of the blanks form the sidewalls intermediate adjacent corners.

25. The tote of claim 18 further comprising:  
a plurality of corners each at a juncture between adjacent sidewalls;  
wherein the sidewalls are formed from at least one blank of a foldable material and the blank is folded to form at least some of the corners of the tote.

26. The tote of claim 18 wherein the top rail and the base are selectively removable from the sidewalls.

27. The tote of claim 26 further comprising:  
a plurality of slots in the top rail in communication with the downwardly open channel;

a plurality of slots in the base in communication with the upwardly open  
5 channel;

wherein at least some of the slots in the top rail provide access to the upper tabs captured in the top rail channel and at least some of the slots in the base provide access to the lower tabs captured in the base channel so that the respective tabs can be manipulated to release the top rail from the top edge of the sidewalls and the base from the bottom edge of the sidewalls.

28. A method of assembling a tote container comprising the steps of:
- erecting a plurality of sidewalls, each sidewall having a top edge spaced from a bottom edge;
  - bending a plurality of tabs each projecting from the top edge of selected sidewalls toward the associated sidewall;
  - mounting a top rail onto the top edge of the sidewalls;
  - engaging the tabs projecting from the top edge of the sidewalls with at least one detent on the top rail to thereby retain the top rail on the top edge;
  - bending a plurality of tabs each projecting from the bottom edge of selected sidewalls toward the associated sidewall;
  - mounting a base onto the bottom edge of the sidewalls; and
  - engaging the tabs projecting from the bottom edge of the sidewalls with at least one detent on the base to thereby retain the base on the bottom edge.
29. The method of claim 28 wherein the top rail has a downwardly open channel and the mounting of the top rail step further comprises inserting the top edge and the tabs projecting therefrom into the top rail channel, and the base has an upwardly open channel and the mounting of the base step further comprises inserting the bottom edge and the tabs projecting therefrom into the base channel.
30. The method of claim 29 wherein the detent in the base and the detent in the top rail are each hooks projecting into the associated channel and the engaging steps each further comprise juxtaposing a terminal edge of each tab against the associated hook.

31. The method of claim 28 wherein the top rail and the base are releasably mounted to top edge and bottom edge, respectively, of the sidewalls.

32. The method of claim 28 wherein the erecting step further comprises:  
folding at least one blank into a desired configuration of the sidewalls.

33. The method of claim 29 further comprising:  
inserting ribs in the base channel into slits projecting from the bottom  
edge of the sidewalls; and

5 inserting ribs in the top rail channel into slits projecting from the top  
edge of the sidewalls.

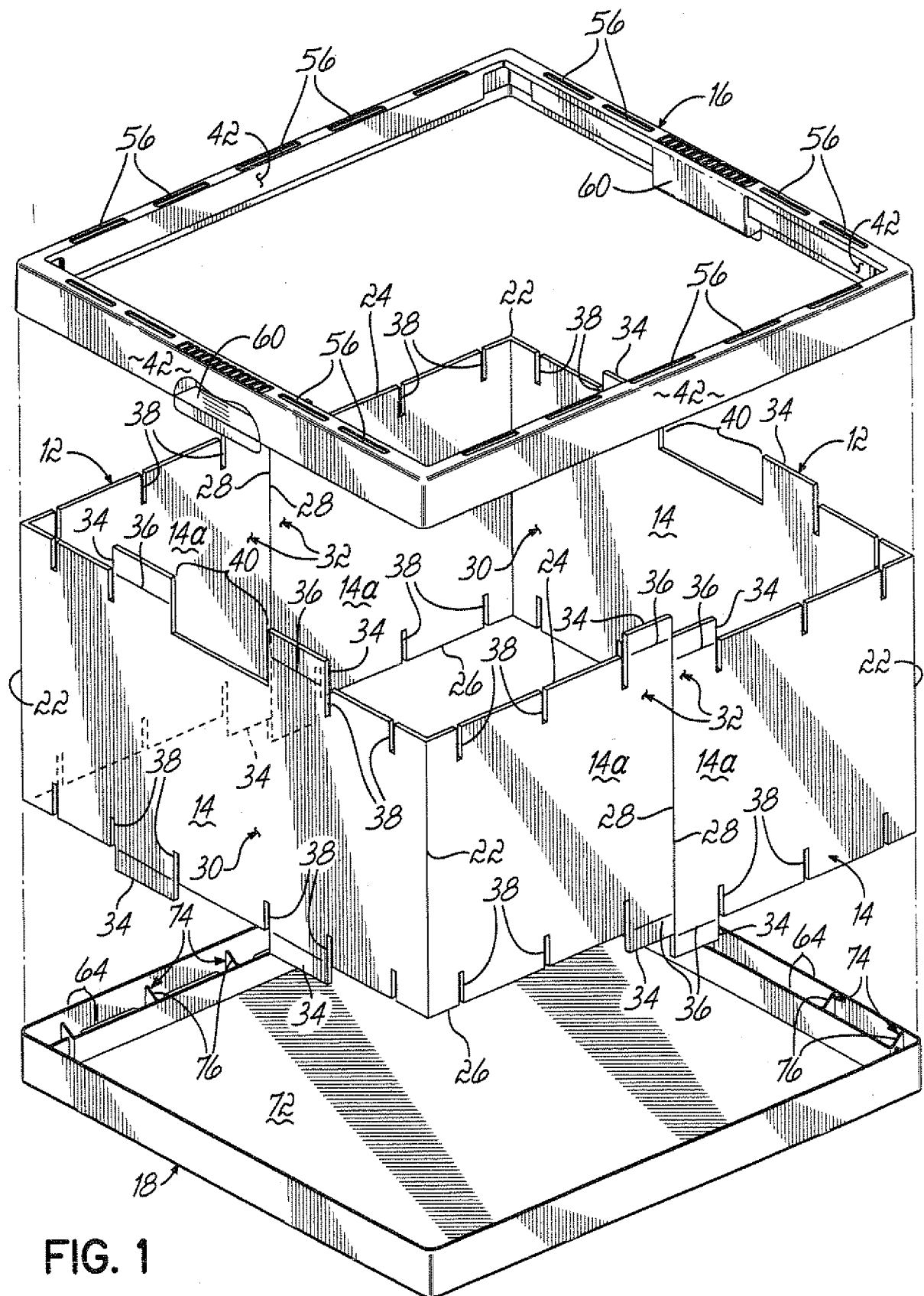
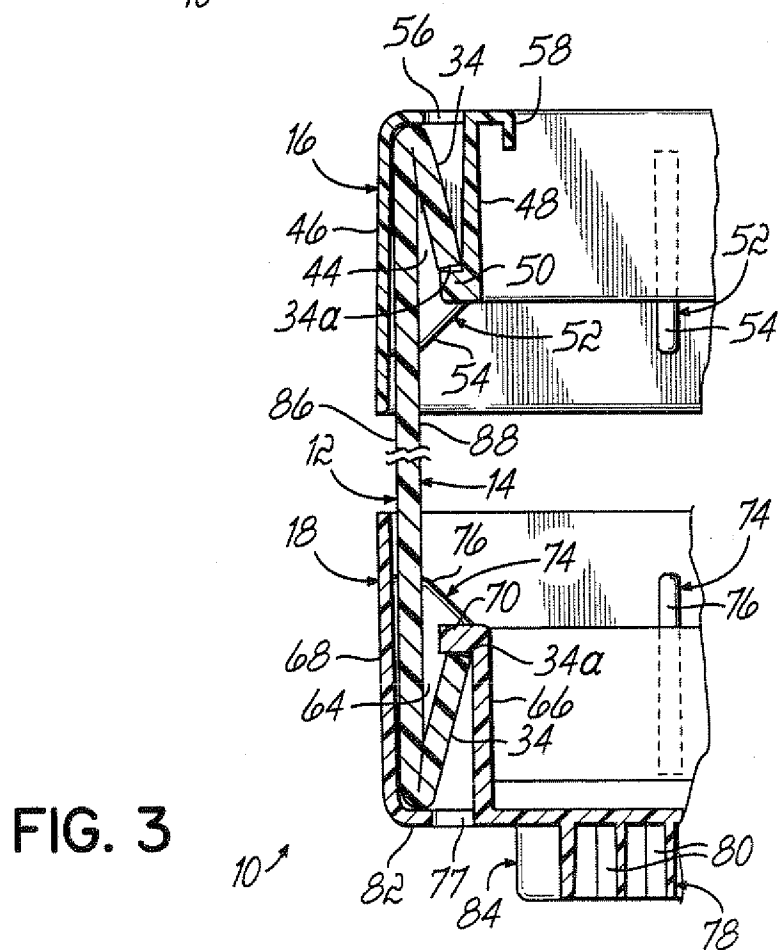
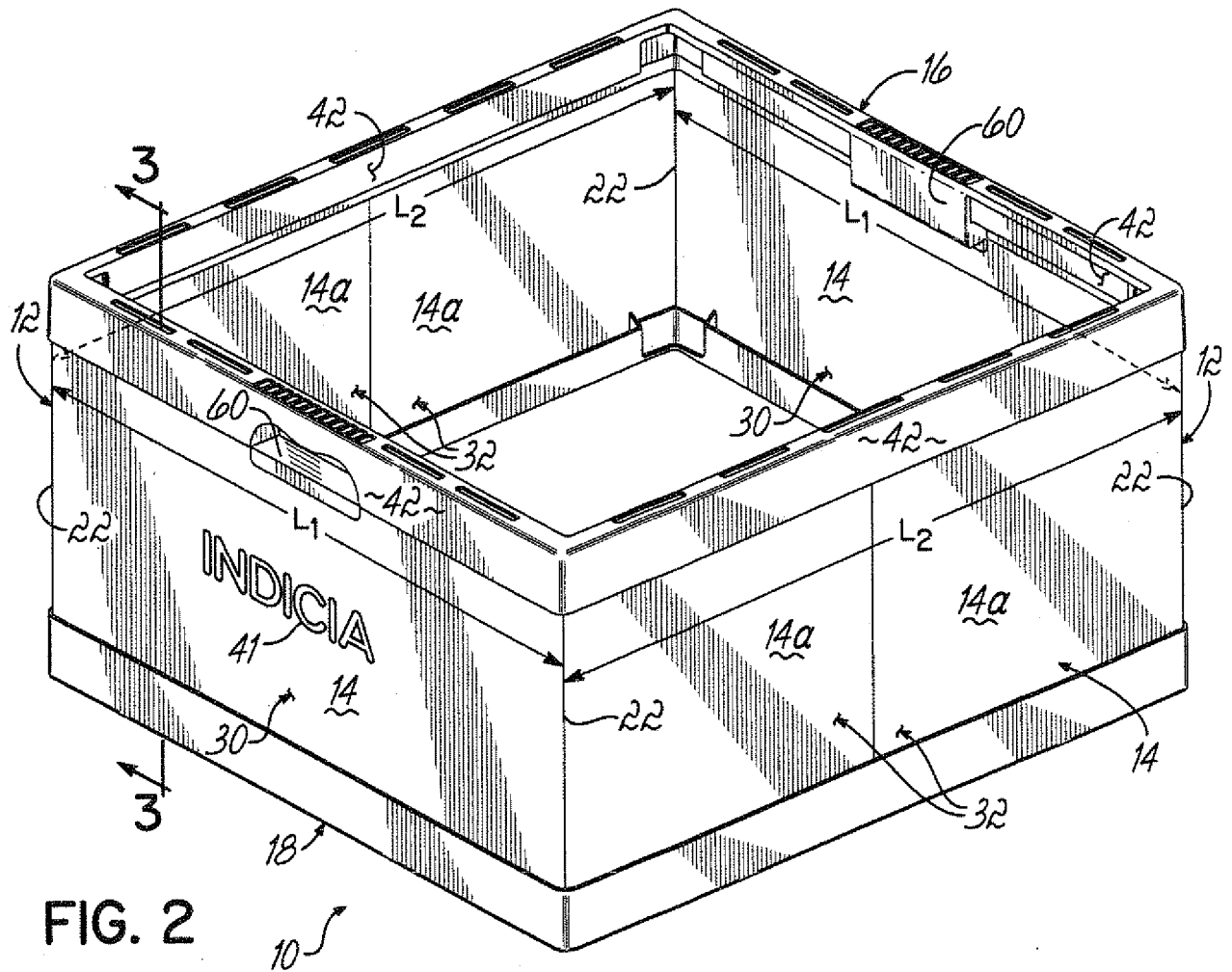


FIG. 1

10



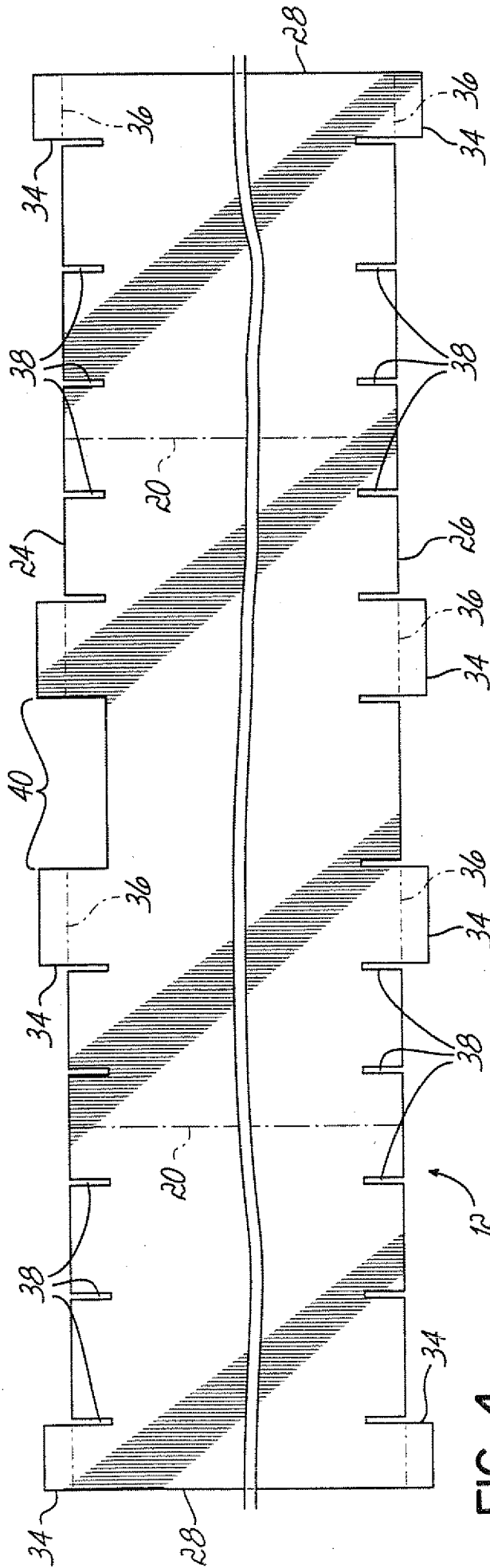


FIG. 4

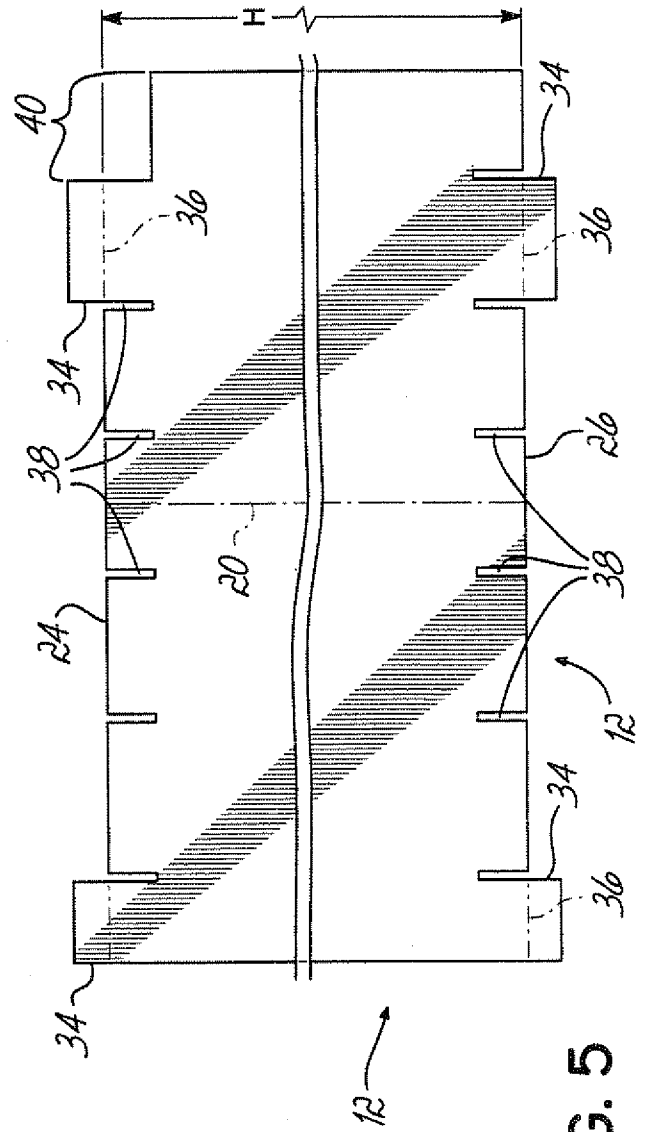
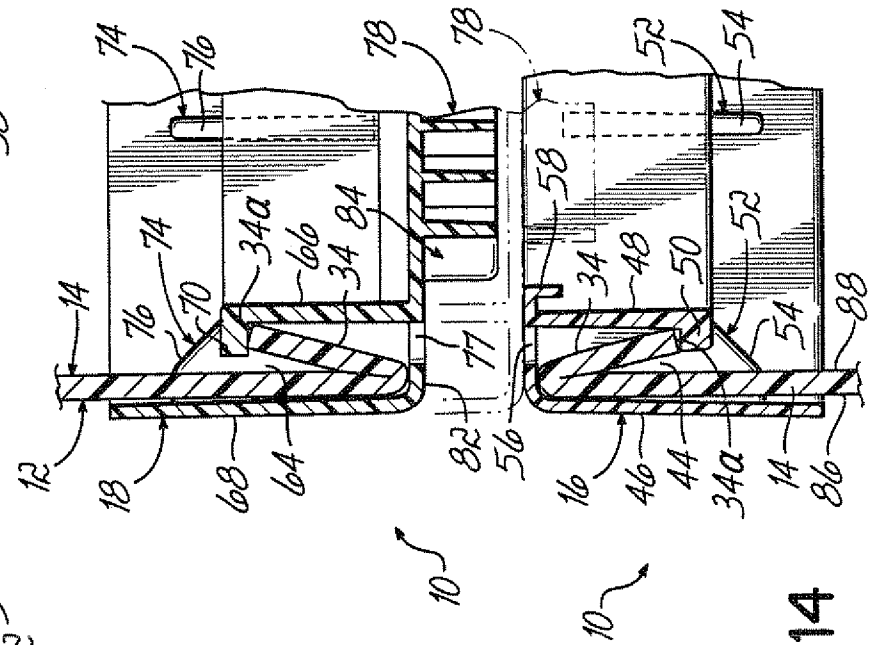
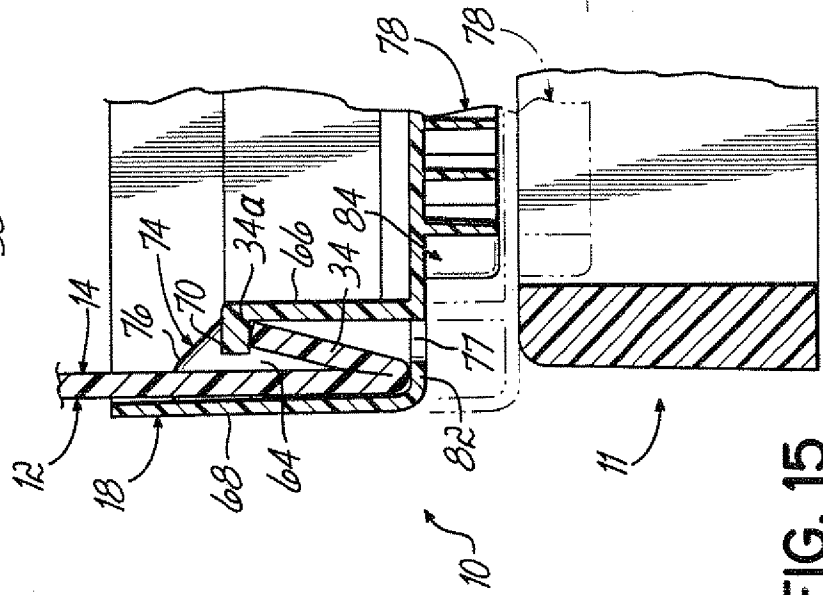
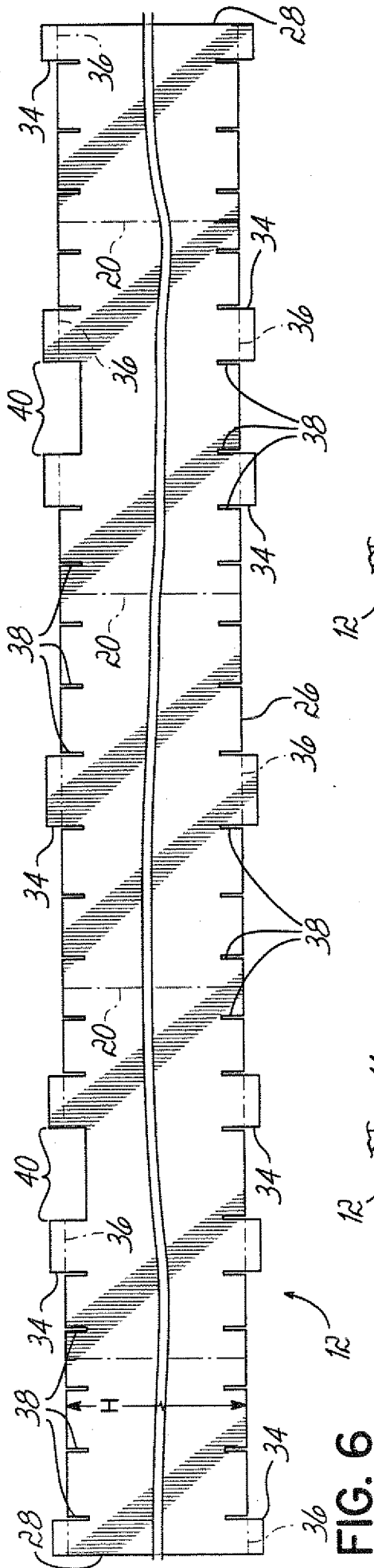


FIG. 5



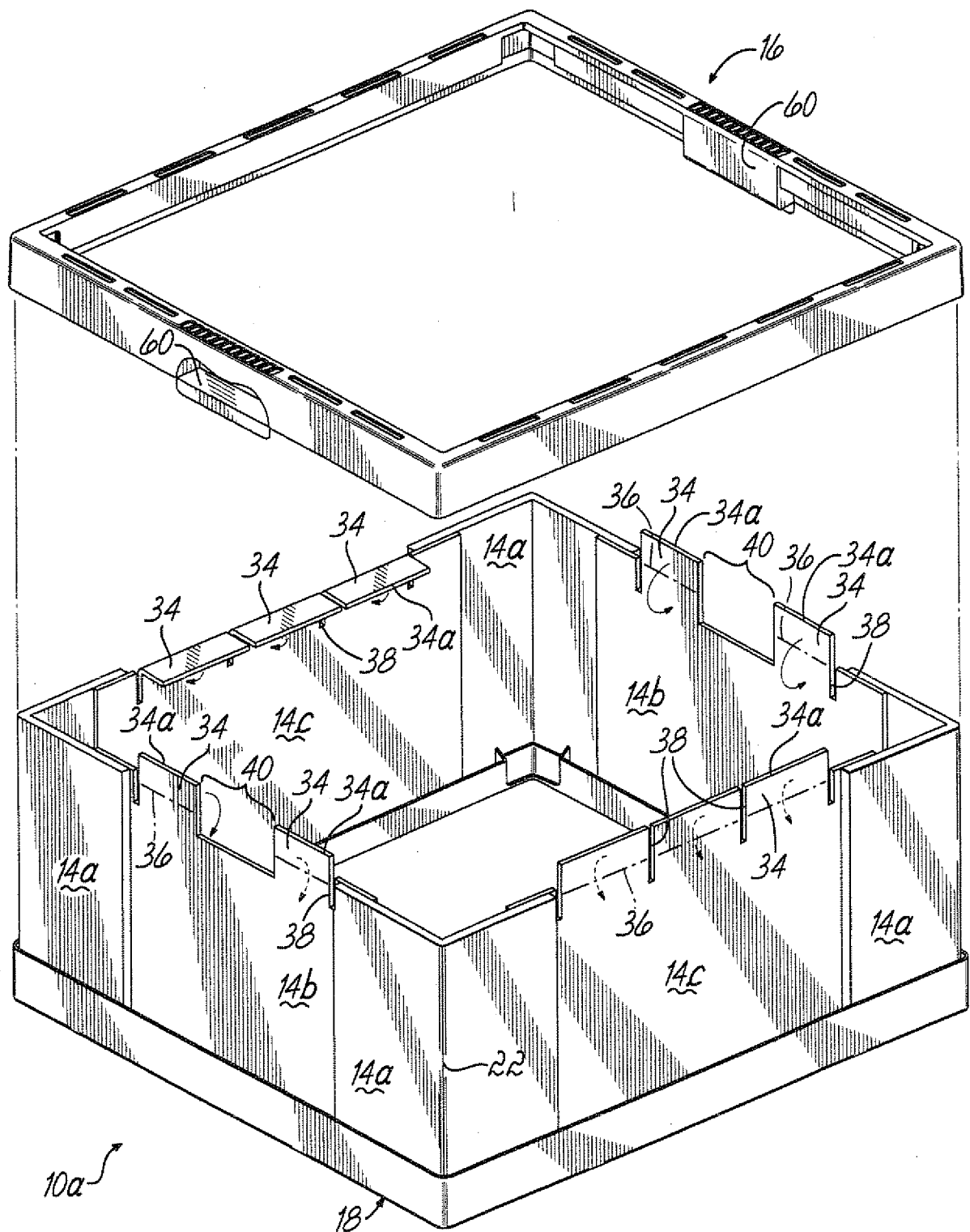


FIG. 7

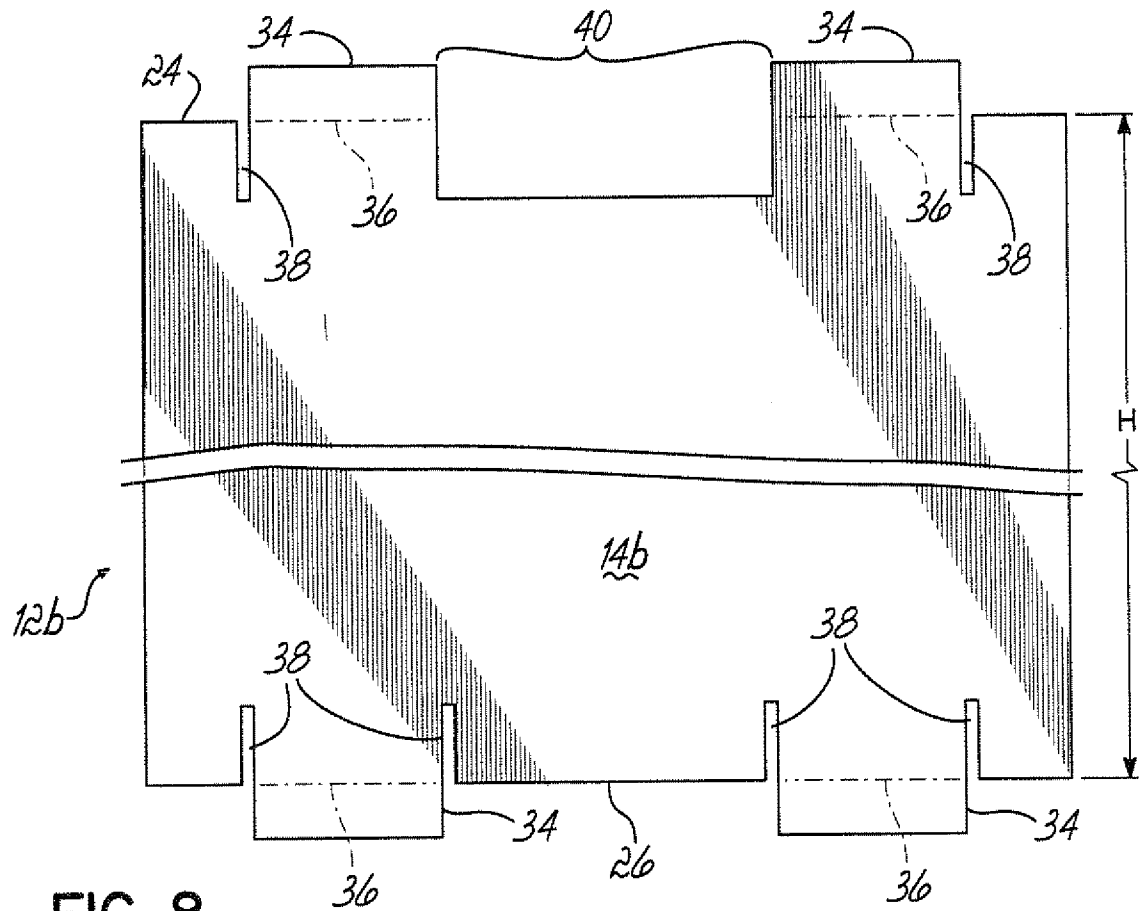


FIG. 8

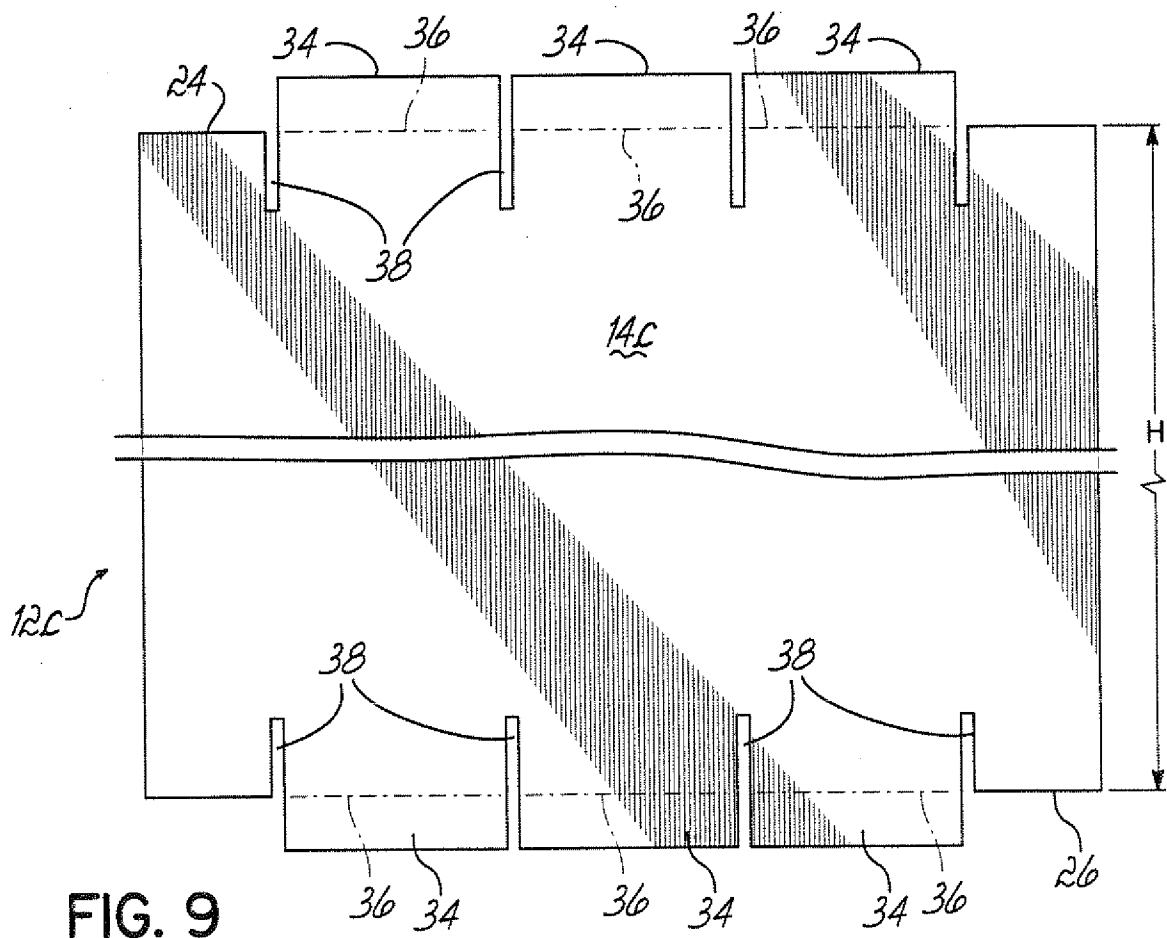


FIG. 9

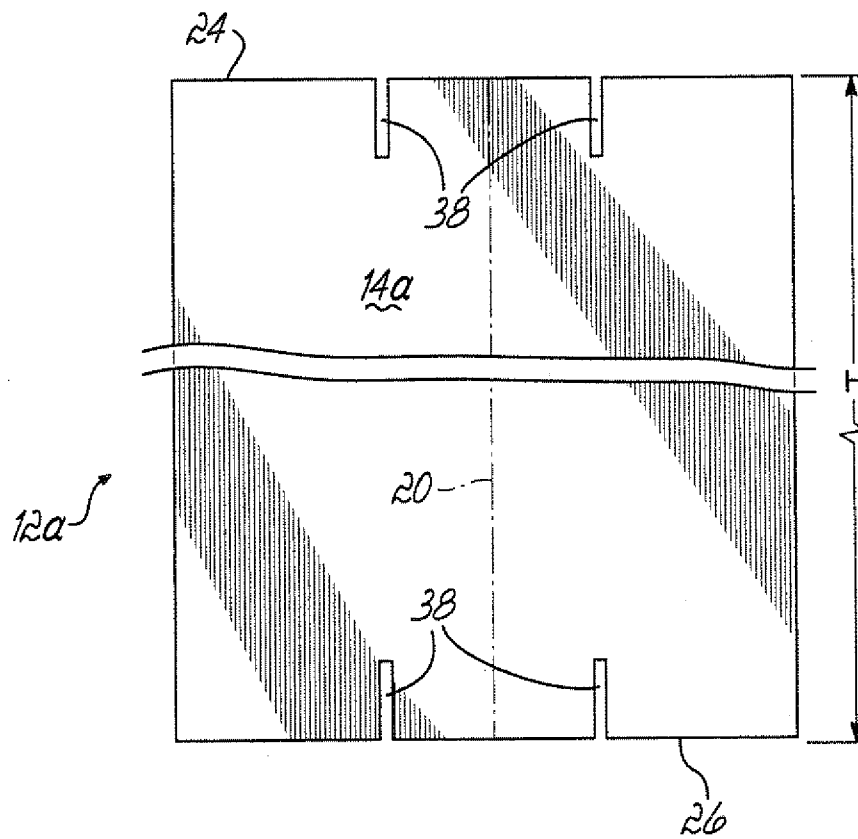


FIG. 10

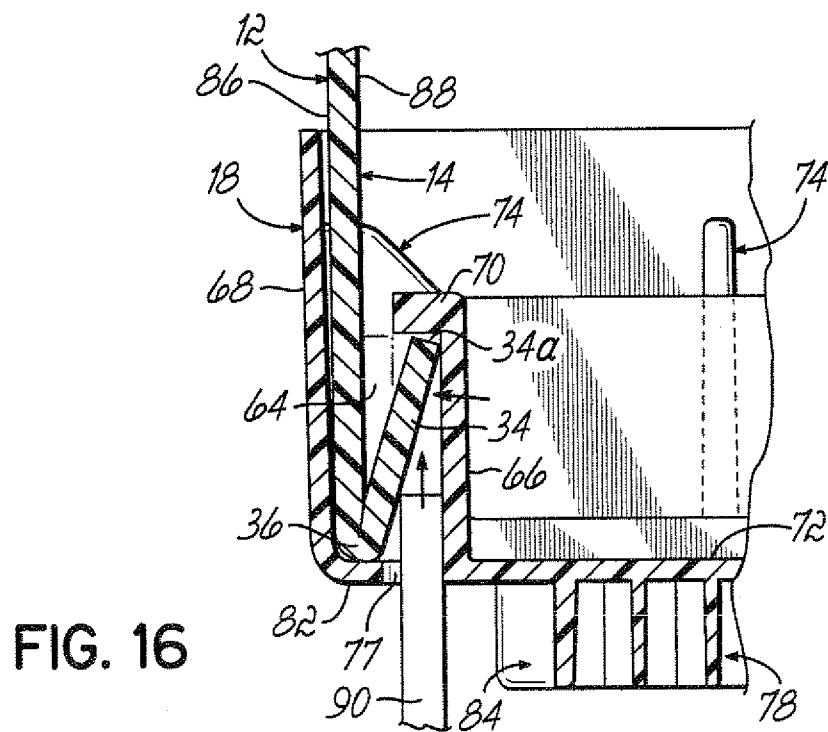


FIG. 16

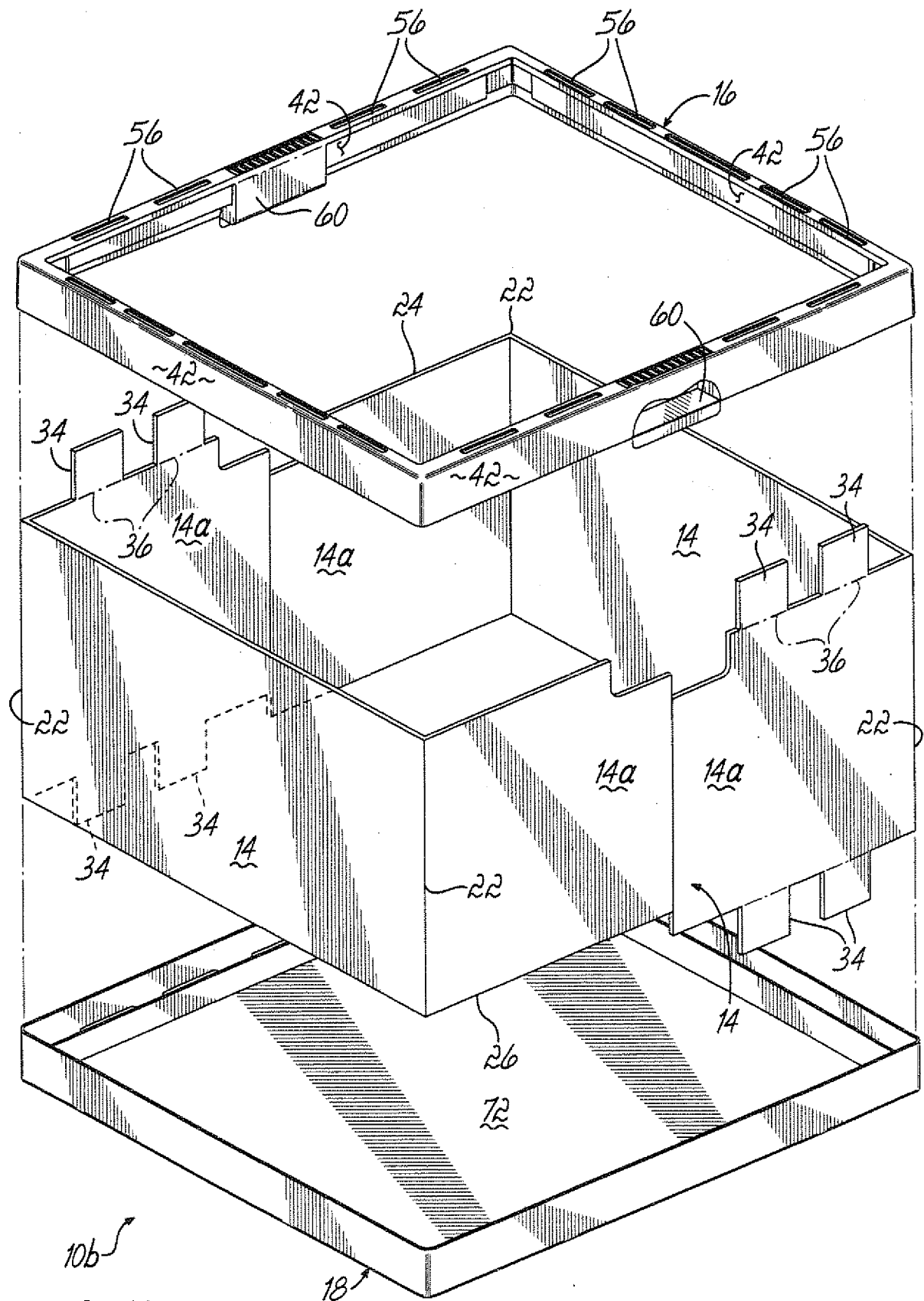


FIG. 11

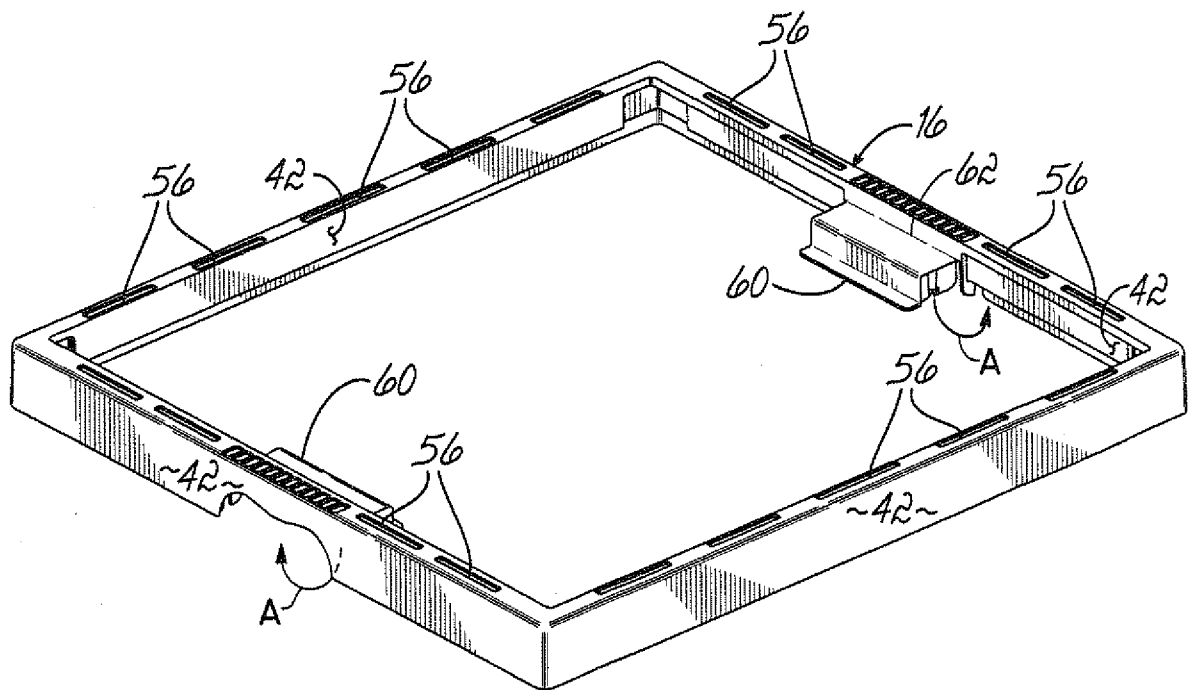


FIG. 12

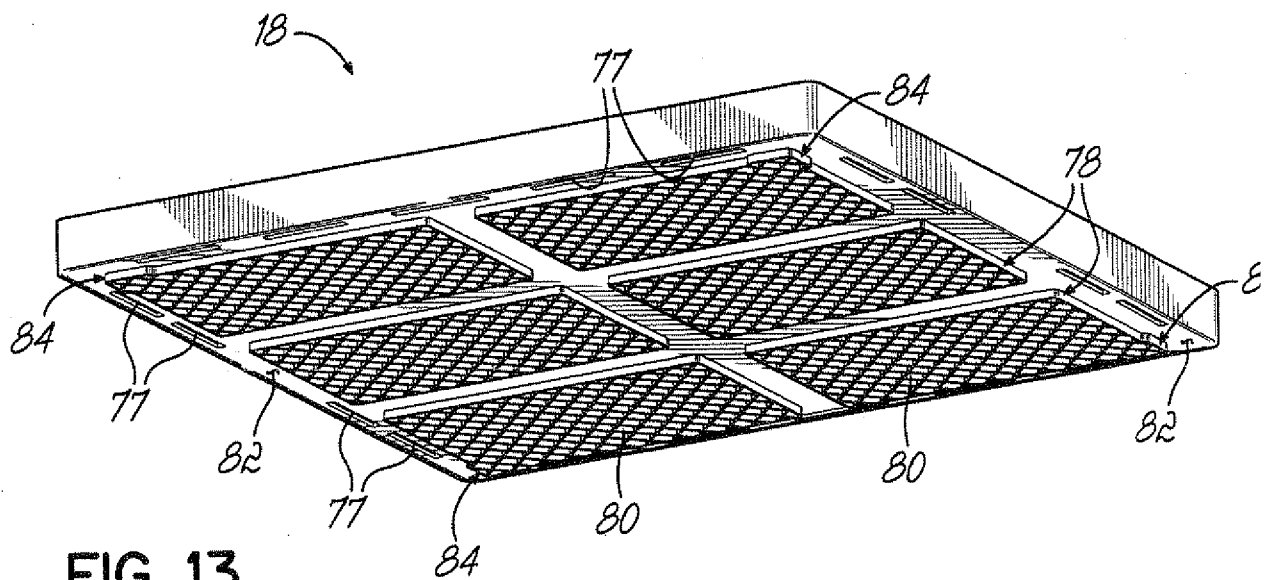


FIG. 13