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(54) **Carrier formed of foldable sheet material**

(57) A carrier (1100) formed of foldable sheet material comprises a bottom and a plurality of side panels (1115, 1119) adjoining and connected to the bottom. The side panels form an open compartment (1124). One of the side panels forms a handle panel (1118) having a first aperture (1126). The compartment is divided by a handle panel divider (1110) extending from the compartment. The handle panel (1118) is foldable over the handle panel divider of the carrier to form a compartment cover.

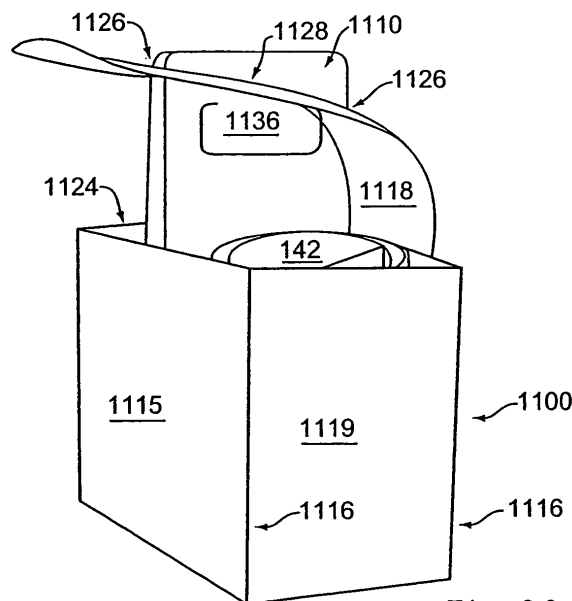


Fig.20

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Description

[0001] Consumers frequently purchase ready-made coffee, and other beverages, in bulk beverage containers, such as for the office and catering. Beverages are often purchased with other food items, such as pastries, sandwiches, and condiments. Many coffee-shops and fast food establishments also carry items such as compact discs, reading material, and coffee brewing equipment.

[0002] Although the bulk beverage containers are often more convenient than carrying several cups of, often hot, beverages, the consumer may still need carry serving supplies, food items and/or other items in their other hand. This may make it difficult to carry a purse, professional case, and other items that the consumer may have.

[0003] This invention provides a carrier formed of foldable sheet material, the carrier being usable with a container. The container has a top, a bottom and sides, the top having a handle, and at least one of the sides having a mouth for emptying contents from the container. The carrier includes a bottom, side panels adjoined and connected to the bottom, and a handle panel formed with at least one of the side panels. The handle panel includes a first aperture for fitting over the handle on the top of the container such that at least a portion of one of the side panels of the carrier rests against a side of the container adjacent to the mouth.

[0004] Other systems, methods, features and advantages of the invention will be, or will become, apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the invention, and be protected by the following claims.

[0005] FIG. 1 is a perspective view of a container with two assembled carriers.

[0006] FIG. 2 is a top plan view of the interior surface of a blank from which the carrier of FIG. 1 can be assembled.

[0007] FIG. 3 is a front view of a container with two assembled carriers.

[0008] FIG. 4 is a top view of a container with two assembled carriers.

[0009] FIG. 5 is a perspective view illustrating a carrier separate from a container.

[0010] FIG. 6 is an exploded detail of the head and neck portion of the carrier of FIG. 1 illustrating a first step of an exemplary folding option.

[0011] FIG. 7 is an exploded detail of the head and neck portion of the carrier of FIG. 1 illustrating a second step of an exemplary folding option.

[0012] FIG. 8 is an exploded detail view of the head and neck portion of the carrier of FIG. 1 illustrating an exemplary folding option.

[0013] FIG. 9 is a perspective view of a partially assembled double carrier with an exploded detail illustration

of latching components.

[0014] FIG. 10 is a perspective view of two carriers assembled together to form an alternate variation of the carrier.

[0015] FIG. 11 is a perspective view of another carrier used with the container of FIG. 1.

[0016] FIG. 12 is a top plan view of the interior surface of a blank from which the carrier of FIG. 11 can be assembled.

[0017] FIG. 13 is a perspective view of the carrier of FIG. 11 particularly illustrating the flexibility of the handle flap.

[0018] FIG. 14 is a perspective view of the carrier illustrating folding of the alternative handle flaps into the container.

[0019] FIG. 15 is a perspective back view of the carrier of FIG. 11, with an exploded detail view of an overlapping central portion of the handle flap.

[0020] FIG. 16 is a fully assembled view of carriers combined together.

[0021] FIG. 17 is a perspective back view of the carrier of FIG. 11 illustrating optional folding of the back flap.

[0022] FIG. 18 is a perspective back view of the carrier of FIG. 11 and with the back flap folded such that the carrier may be used independent of the container.

[0023] FIG. 19 is a partially assembled view of duplicate carriers illustrating the securing structures.

[0024] FIGS. 20 and 21 are exemplary partial perspective views of a fully assembled carrier particularly illustrating the handle flap folding over upright handle panels to form a compartment cover.

[0025] A carrier may be used alone or in combination with a container, such as a bulk beverage container, or other similar containers such as food containers and pet containers. The carrier may be used to carry beverages, condiments and/or other items such as food items. The carrier may fit over a handle of the container and hang on a side and/or back of the container. The carrier may also be used in combination with other carriers to form other configurations of carriers. The carrier may permit an establishment to purchase one carrier-type for multiple uses.

[0026] FIGS. 1, 3 and 4 illustrate a container **110** and a carrier **112** in their assembled forms. The carrier includes a storage container which may convert to a one, two or more-cell container. The carrier **112** may hang from the handle **111** on the top **108** of the container **110** to a side **109** of a container **110**. The top **108** of the container **110** may be angled, and therefore not parallel with the bottom side, so a portion of the carrier **112** may also be angled.

[0027] The carrier **112** includes an upwardly open compartment **124** and a handle panel **118** that may be integral therewith. The compartment **124** may be of an elongate rectangular configuration, and other shapes may be used. The compartment has a first end panel **114**, a second end panel **119**, a first side panel **115** and a second side panel **113** extended between the end pan-

els and joined thereto at the corners **116**, such as by appropriate fold lines. The bottom of the compartment **117** may support items that are placed inside the carrier **112**.

[0028] The compartment may include one or more separate compartments. A single compartment may be transformed to a double-space compartment with the use of a corner area **116** of the compartment that contains cutting lines **138** that form a horizontal band **139**. A compartment divider may be formed by pressing the corner area **116** of the compartment inward. The corner area **116** can be replaced in its original position **138** to regain the full space of the compartment.

[0029] The first side panel **113** may be extended and form a handle panel **118** that fits over the handle **111** of a container **110**. The handle panel **118** may include two distinct regions: an elongated head region **120**; and a neck region **122** that may be narrower than the head region **120** and may join the head region **120** to the compartment **124** at the first side panel **113**.

[0030] The head region **120** may contain four separate apertures **126**. These apertures **126** may afford the carrier handle panel **118** a snug, secure fitting. The apertures **126** may be arranged to permit the compartment to be placed on either side of the container **110**. The apertures **126** may be angled to accommodate an angled container **110** such that when positioned in a resting position on the container **110**, the carrier **112** may be positioned generally parallel to the ground.

[0031] Two folds **134** in the handle panel **118** align the compartment on either side of the container **110**. Holes **130** in the handle panel **118** assist in aligning the carrier **112** on the handle **111** of the container. A central flap region **128** may lie between the apertures **126** to further secure the carrier's handle panel **118** to the handle **111** of the container **110**.

The handle panel **118** may also contain cutting lines to define an alternative handle flap **136**. The flap **136** is convex only for illustrative purposes. The flap **136** may have other shapes, such as rectangular or triangular. Alternatively, the flap **136** may be replaced with one or more finger holes. Pushing inward on the flap **136** may reveal a transversely elongated finger opening. The consumer may have the option of using one or two carriers **112** on each container **110**, depending on the amount to be carried.

[0032] FIGS. 1, 3, and 4 illustrate the use of the container **110** with two carriers **112**. When used together, one handle flap **118** may lie on top of the other. One compartment **124** may hang on each side of the container **110**. Each compartment can hold pastries, bagels, cookies, drinks **142**, extra cups **143**, napkins, condiments **144**, and other store items, such as compact disks, reading material, and cooking utensils. These items may also be carried in the compartment **124**.

[0033] FIG. 2 shows an exemplary blank of the carrier **112**. The carrier may be composed of a generally flat material having some rigidity and being capable of being

bent or scored to facilitate bending along determined lines. An exemplary material is paperboard. The material may be coated, such as to provide increased water or fluid resistance and may have printing on selected portions of the material.

[0034] Alternatively or additionally, the carrier **112** may be composed of corrugated cardboard, chipboard, plywood, SBS, metal, plastic, fabric, ceramic, polymer, fibers, mesh, screen, wood, composite, mixtures or combinations of the foregoing, or the like. The carrier **112** may be made of one or more layers of one or more of the aforementioned materials. Where multiple layers of material are used they may be joined, such as, but not limited to, being laminated, glued, or otherwise fastened together for increased strength.

[0035] The carrier **112** may be a die cut from a single sheet of material. Alternatively, two or more segments of material may be used and joined together. While the carrier **112** material is preferably scored, where a plurality of panels or segments are used they can be joined using hinge or joint mechanisms. By score, it is meant to include a cut through a portion of the carrier sheet (either a continuous cut or a line of slits, holes, or perforations), or a weakened area, or a compressed area on at least one face of the sheet or other technique to permit bending of the material along a preferred line. The carrier may be constructed of a series of generally rectangular panels denoted by numerals **113**, **114**, **115**, and **119** joined by fold or score lines **116**. Flap **240** may include an adhesive **242**, such as glue. Bottom forming panels denoted as **117** may form a pressure lock configuration, which may close to form a sturdy bottom when items are placed inside. Scored lines **250** may be used to create flexibility in the horizontal band **139** defined by cut lines **138**.

[0036] The first side panel **113** may extend to form a handle panel **118** that fits over the handle of a container such as container **110**. First **213** and second **214** scored fold lines permit the head region **120** to fold. Folding the head region brings a cut out portion **212** into alignment with the alternative handle flap **136**. The cut out **212** portion is convex only for illustrative purposes. The cut out **212** may have other shapes, such as rectangular or triangular. The cut out portion **212** provides clearance for the handle flap **136** when it is punched through to reveal the transversely elongated finger opening. A latch lug **220** may be defined on three sides by cutting lines **244** which allow the latch lug **220** to flex resiliently outward from the corresponding first side panel **113**.

[0037] Numerals **246**, **248**, **250**, **252**, **254**, **256**, **258**, and **260** provide an illustrative example of possible dimensions of the blank. The detailed description of possible dimensions that follows is merely illustrative and not limiting.

[0038] Dimension **246** of the carrier **112** may be 12.221 inches. Dimension **248** of the carrier **112** may be 15.596 inches. Dimension **250** of the carrier **112** may be 5/8 inches. Dimension **252** of the carrier **112** may be 6 3/4 inches. Dimension **254** of the carrier **112** may be 3 7/16

inches. Dimension **256** of the carrier **112** may be 6 $\frac{3}{4}$ inches. Dimension **258** of the carrier **112** may be 3 $\frac{13}{32}$ inches. Dimension **260** of the carrier **112** may be 4 $\frac{5}{8}$ inches. These dimensions are illustrative only and may be varied to tailor the carrier to the dimensions of the container.

[0039] Referring to FIG. 3, the container **110** may be fitted with a mouth **312** for passage of contents from an inside of the container **110** to an outside of the container **110**, and vice versa, such as for loading and/or emptying contents. The carriers **112** may be duplicates arranged in opposite orientations. Numeral **314** illustrates a carrier in an open state where the divider band **139** is not punched in. Numeral **316** illustrates a carrier in a multi-compartment state where the divider band **139** is punched in. Either one or both of the corner areas **116** of the carriers **112** may contain divider bands **139** which may turn a single compartment into a multiple compartment. Both carriers **112** may lie flat against the sides of the container **110** due to folding along the scored lines **134**. The head portion **120** of the handle panel **118** may lie flat against the top of the container **110**. The head portion of the first carrier may lie flat on top of the head portion of the second carrier.

[0040] FIG. 4 shows a top view of the container **110** fitted with the two carriers **112**. The carriers **112** may be suspended from the handle **111** of the container **110** by the handle panel **118**. The head region **120** may have angled apertures **126** which fit over the container's handle **111**. The central flap region **128** between the sets of angled apertures **126** may provide a snug, secure fit. The first carrier **112** may lie layered on top of the second carrier **112**. Scored bending lines **134** may allow the carriers **112** to lie against the side of the container **110**.

[0041] FIG. 5 is a perspective view of the carrier **112** independent of the container **110**. The carrier **112** is in a partially unfolded state. By folding the head region **120**, or handle flap **118**, the carrier **112** may be used as a carrier independent of the container **110**.

[0042] FIGS. 6-8 illustrate an exemplary way to fold the head portion **120** for use of the carrier **112** without a container **110**. FIG. 6 illustrates the first exemplary fold. Folding the head region **120** along the first fold line **213** brings the flap section **128** into outward orientation and the cut out region **212** into inward orientation. FIG. 7 illustrates the second exemplary fold for separate carrier set-up. Folding the head region **120** at the second head region fold line **214** aligns the cut out region **212** with the cutting lines of the alternative handle flap **136**. FIG. 8 illustrates the final exemplary orientation of the head region in the separate carrier set-up. The flap section **128** is downwardly oriented and secured by a flange **215**. The cut out region **212** is aligned with the cutting lines of the alternative handle flap **136**. Pushing in on the alternative handle flap **136** creates the transversely elongated finger opening. The carrier as described, may be used either as a companion to a container, as a single unit, or in interlocked tandem with a duplicate carrier.

[0043] FIG. 9 illustrates two carriers **112** being joined together to form another carrier larger than the carrier **112**. The joining of carriers **112** may form a tandem carrier simply and rapidly, such as by utilizing the single latch assembly **218** and **220**. The two carriers may be positioned slightly longitudinally offset from each other with the latch lugs **220** aligned with the latch apertures **218** of the opposed carrier. The carriers are then longitudinally slid toward each other to engage each latch lug **220** into the latch aperture **218** of the opposed carrier. Latching the carriers together may restrict lateral separation of the carriers. An example of the possible latching mechanism follows. The example is merely illustrative as other latching mechanisms may be used.

[0044] The latch lug **220** may be arranged continuous with the first end panel **114**. The latch lug **220** may be generally rectangular with rounded corners, but other shapes may be used. To further stabilize and insure the integrity of latching, each latch lug **220** may be retained in its final latching position by a locking notch **910** in the lower corner and flush with the first end panel **114**. Once the latch lug **220** has been projected completely through the latch aperture **218**, it may lie against the respective inner faces of the end panels **114** and **119**. By pushing down on the containers, the locking notch **910** may engage a portion of the corner panel **116** to secure the latch. When so engaged, possible accidental or unintentional disengagement of the two carriers is reduced, particularly when the compartments are occupied with store items. Any load within the compartment will, by the natural direction of the load force, retain the compartments in lateral engagement with each other. If the carriers are to be disengaged, a positive manual manipulation, involving an upward pivoting and release of the locking notch and subsequent manipulation of the lug **220** may be required.

[0045] FIG. 10 is a perspective view of two carriers **112** assembled together in tandem to form a carrier **1000**. Folding of the head region **120** and pushing inward on the alternative handle flap **136** may reveal transversely elongated finger opening **1010**. The flap **136** of the first carrier, when inserted through the finger opening **1010** of the second carrier may secure the head panels and may provide protection and cushioning for the fingers. This arrangement may allow for the transport of multiple beverages **142** and condiments **144**, or other items. With the two carriers interlocked, the first and second alternative handle flaps **136** may align transversely across the assembly and the two elongate finger openings **1010** may be positioned for easy grasping by one hand. The positive interlock between the carriers within the handles themselves, created by insertion of the alternative handle flap **136** of the first carrier through the elongate finger opening **1010** of the second carrier, provides for a positive retention of the handles against each other in a manner which substantially defines a single handle for ready access thereto.

[0046] FIG. 11 illustrates a perspective view of another

carrier **1100** in its assembled form. The carrier **1100** may be made of paperboard or other materials, such as those described above. The carrier **1100** may hang on the back side of a container, such as the container **110** described above. The carrier **1100** may include one or more compartments **1124**. A handle panel **1118** may be integral with the first side panel **1113** of the compartment **1124**. The handle panel **1118** may include two apertures **1126** dimensioned to fit over the handle **111** of the container **110**, permitting a snug fit.

[0047] The compartment may be divided by two foldable handle panels **1110**, which are folded into the compartment **1124** in this configuration. A plane of the foldable handle panels may be transverse to the carrier side panels and parallel to the carrier end panels. The compartment **1124** can contain drinks **142**, extra cups **143**, napkins, condiments **144**, pastries, bagels, and other store items. The fold line **1112** may allow the carrier to lie flat against the back side of the container **110**. This carrier may make transporting numerous items more convenient.

[0048] FIG. 12 illustrates an exemplary blank of the carrier **1100**. The carrier **1100** may be advantageously configured to be constructed from a single one piece paper board plank. The carrier may be constructed of a series of generally rectangular panels denoted by numerals **1113**, **1114**, **1115**, and **1119** joined by fold lines or score lines **1116**. The flap **1240** may be secured using glue **1242** or another adhesive, from top to bottom. Bottom forming panels denoted as **1217** may be glued **1242**.

[0049] A perforated central region **1128** may extend between the two apertures **1126** in the handle panel **1118**. The handle panel **1118** may further include several scored folding lines **1212**, **1213**, and **1214**. The handle panel **1118** may also include two horizontal latching lugs **1220** which may be defined by cutting lines on three sides **1244**. The base of the latching lugs **1220** may be aligned with the second folding line **1213** such that when the handle panel **1118** is folded at the second fold line **1213** and the latching lugs **1220** are punched out, they flex resiliently outward from the second fold line **1213**. The latching lugs **1220** may be aligned with horizontal latching apertures **1218** at near the intersection of the handle panel **1118** with the first side panel **1113**. The latching lugs **1220** are shown associated with the second fold line **1213** only for illustration. The latching lugs **1220** may be multiple or singular, may be of any shape, and may be located anywhere along the handle panel **1118**. The latching apertures **1218** may be altered accordingly. Alternatively, the latching apertures may be omitted from the handle panel **1118**.

[0050] FIG. 13 is a perspective view of the carrier **1100**. This view particularly illustrates the ability of the handle panel **1118** to bend such that the apertures **1126** may be fixed over the container handle **111**. This view further illustrates that the carrier **1100** may be expanded into a box-like form from a flattened, collapsed form by asserting pressure on the container's end panels **1114**, and

1119.

[0051] FIG. 14 is a perspective view of the carrier **1100** particularly illustrating that the foldable handles **1110** may be flexed inward and tucked into the cavity of the compartment **1124**. Folding the foldable handles **1110** into the compartment **1124** may eliminate any interference the handles might create when the carrier is affixed to a container.

[0052] FIG. 15 provides a back view of the carrier **1100**. The figure illustrates the perforated central region **1128** extending between the apertures **1126**. This region may open to allow passage of the container's handle **111** while affixing the carrier **1100** to the container **110**. However, it may close under the container handle **111** after assembly, providing a snug fit.

[0053] FIG. 16 is a perspective view of two carriers **1100** assembled in tandem. Folding the handle panel **1118** and securing two carriers **1100** in tandem results in a four-pack carrier. Pushing in on a perforated aperture **1136** may reveal a transversely elongated finger opening **1637** for carrying the four-pack carrier. The aperture **1136** is rectangular for illustration only. The aperture may be other shapes, or may be replaced with one or more finger holes. Accordingly, the finger opening **1637** may be other than transversely elongated.

[0054] FIGS. 17-19 illustrate an exemplary folding of the handle panel **1118** and assembly of duplicate carriers **1100** into a four-pack carrier. The following description is by way of example only; other folding mechanisms may be used to accomplish the same end. FIG. 17 illustrates an exemplary folding of the handle panel **1118**. The handle panel may be folded at a first **1212** and second **1213** fold line. Latching lugs **1220** may be released from the handle panel **1220** by pushing inward along the cutting lines **1244**.

[0055] FIG. 18 is a back perspective view of the carrier **1100**. Folding at the second folding line **1213** followed by folding at the third folding line **1214** may bring the latching lugs **1220** into immediate alignment with the latching apertures **1218**. The fold may be secured by inserting the latching lug **1220** through the latching apertures **1218**.

[0056] An example of a possible latching mechanism follows. The example is merely illustrative. Other latching mechanisms may be used. The first side panel **1113** may include a second latching lug **1710** defined by cutting lines along a first and second side. This latching lug may be cut along a third side to create a notch **1712** that divides the second lug **1710** from the body of the carrier **1100** at the corner region **1116**. The lug remains integral with the carrier's first end panel **1114** at its uppermost region.

[0057] FIG. 19 illustrates an exemplary assembly of two two-compartment carriers **1100** into a four-compartment carrier **1600**. The joining of two carriers **1100** to form a tandem four-compartment carrier **1600** may be effected simply and rapidly utilizing the joining lug **1710**. Attachment may be achieved by first positioning the car-

riers **1100** slightly offset from each other with the latch lug **1710** of the first duplicate carrier aligned with a hatch **1712** cut into the second duplicate carrier. The latch lug **1710** is inserted into the hatch **1712**, and the opposed carriers are brought into orientation by clockwise rotation such that the latch lug **1710** may fully engage the hatch **1712**. Proper alignment orients the first and second transversely elongated finger openings **1637** such that the handle tongue **1136** of the first carrier **1100** can be inserted through the finger opening **1637** of the second carrier **1100**. Latching the carriers together may restrict lateral separation of the carriers. This latching method may be replaced by or used in combination with other known latching methods.

[0058] FIGS. 20 and 21 illustrate how the handle panel **1118** can bend forward and form a compartment cover on a single carrier. With the foldable handle panel divider **1110** erect, the foldable handle panel **1110** may be inserted through the apertures **1126** and central perforated region **1128** and secured by tucking in to the compartment **1124**.

[0059] While various embodiments of the invention have been described, it will be apparent to those of ordinary skill in the art that many more embodiments and implementations are possible that are within the scope of the invention.

Claims

1. A carrier (1100) formed of foldable sheet material, the carrier (1100) comprising:
 - a bottom; and
 - a plurality of side panels (1115, 1119) adjoining and connected to the bottom, wherein the side panels (1115, 1119) form an open compartment (1124), and wherein one of the side panels (1115, 1119) forms a handle panel (1118) having a first aperture (1126), wherein the open compartment (1124) is divided by a handle panel divider (1110) extending from the compartment (1124), and wherein the handle panel (1118) is foldable over the handle panel divider (1110) of the carrier (1100) to form a compartment cover.
2. A carrier (1100) as claimed in claim 1, wherein the handle panel (1118) includes first and second apertures (1126) with a perforated central region (1128) therebetween.

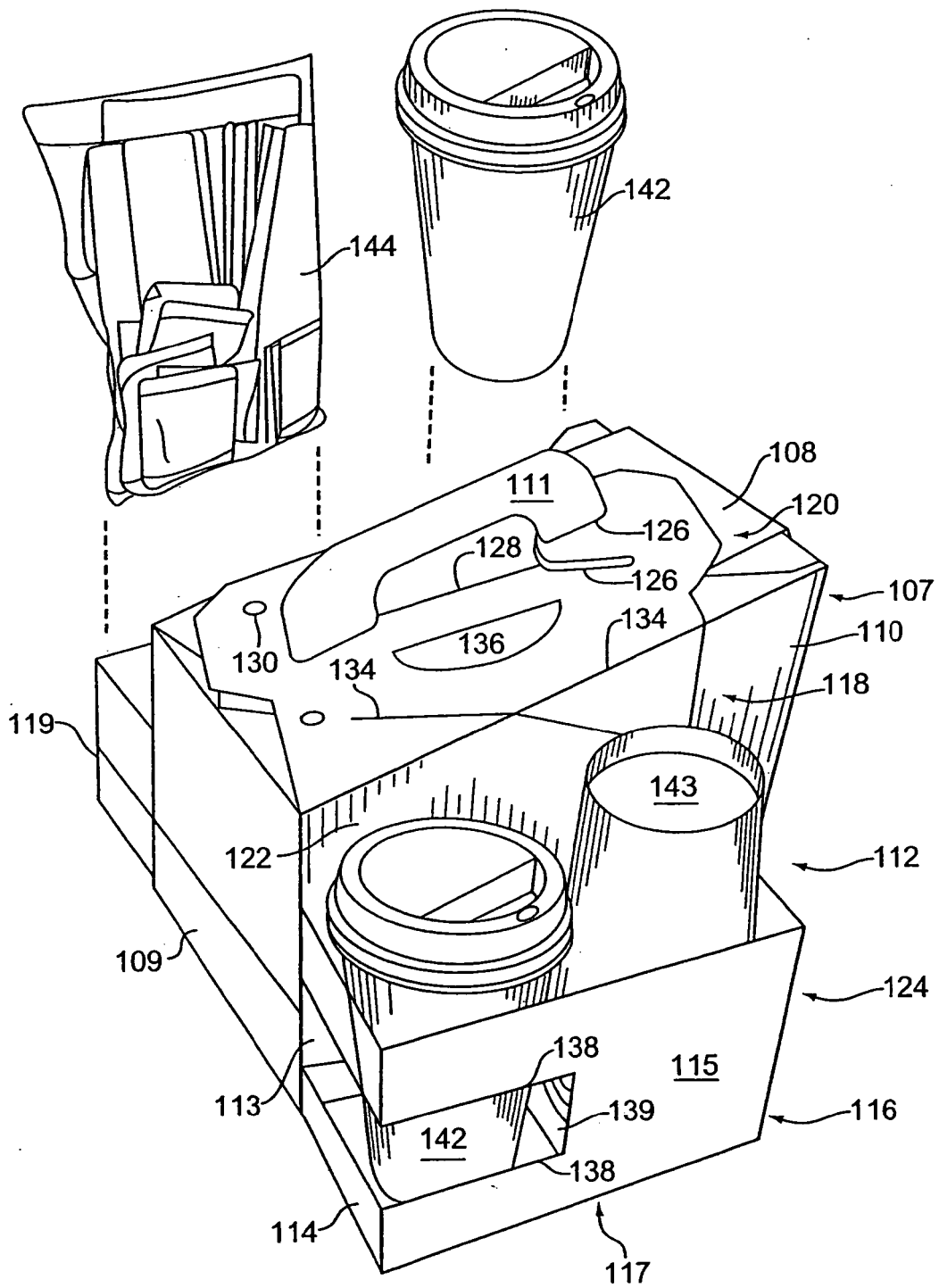


Fig. 1

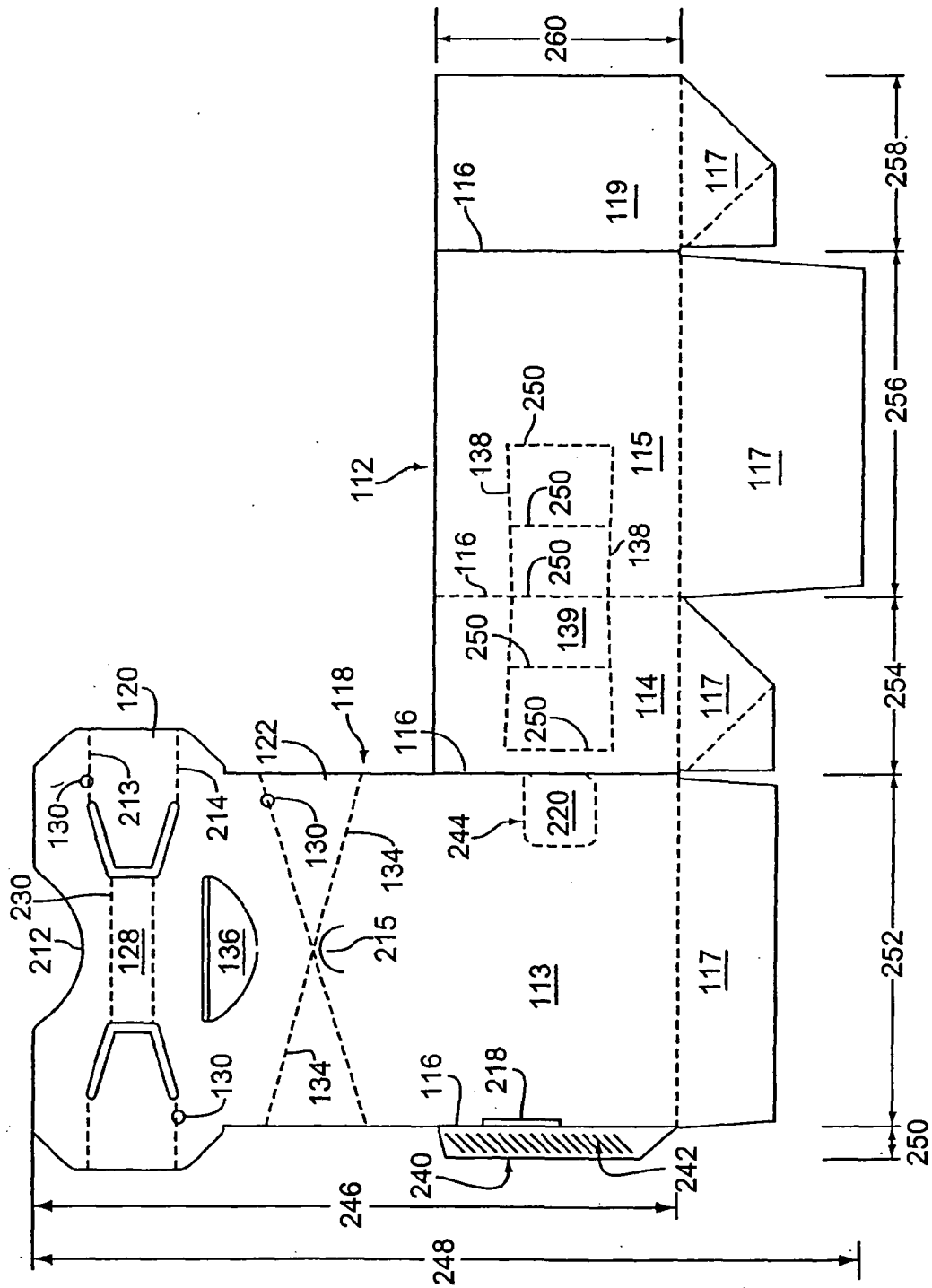


Fig. 2

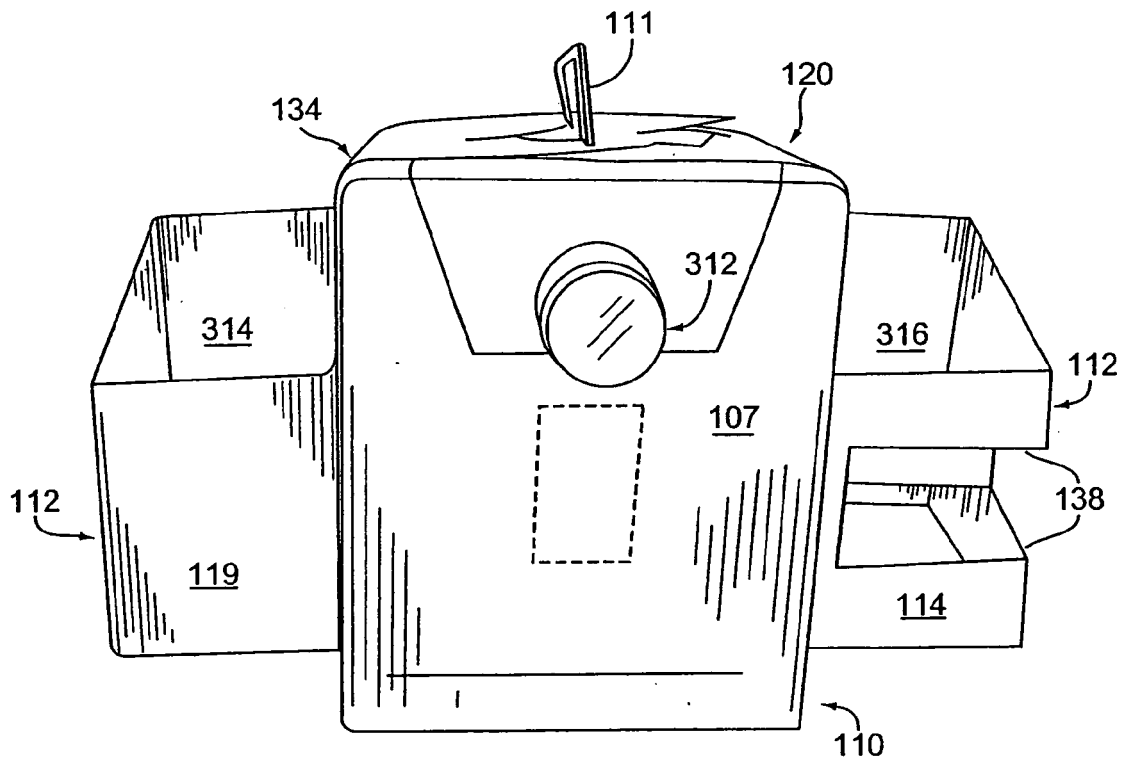


Fig. 3

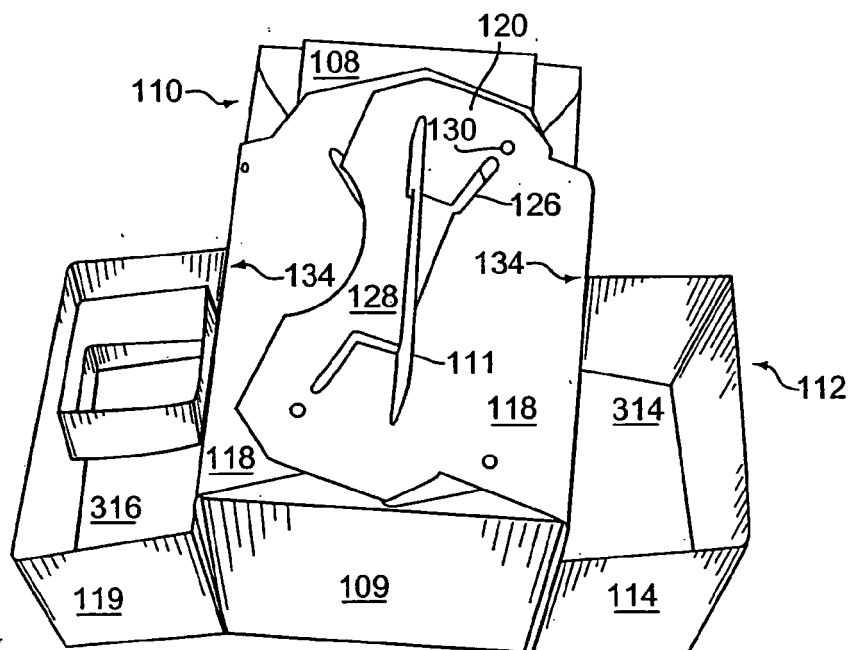


Fig. 4

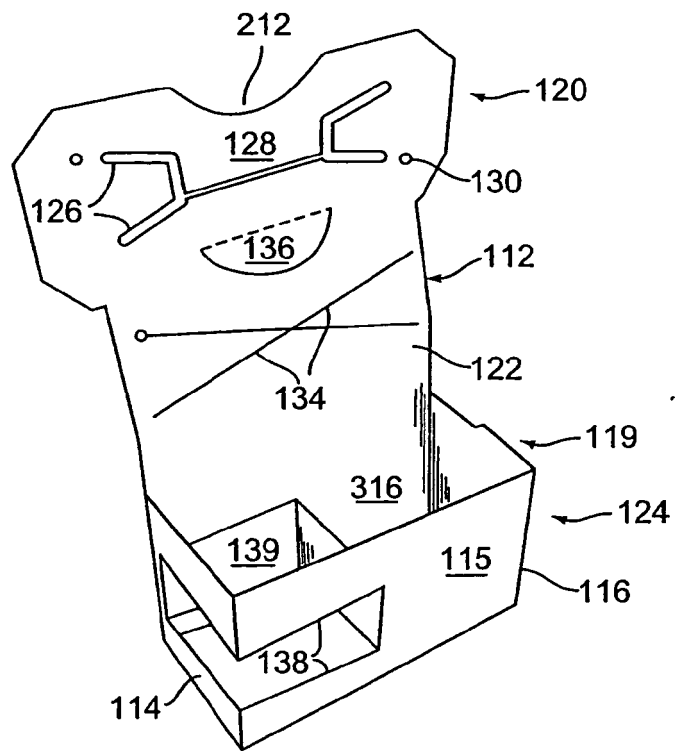


Fig.5

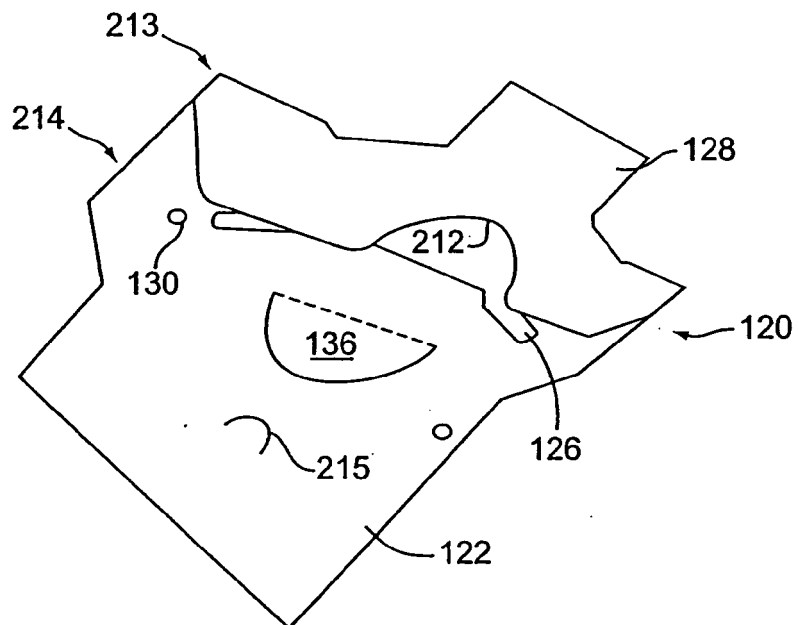


Fig.6

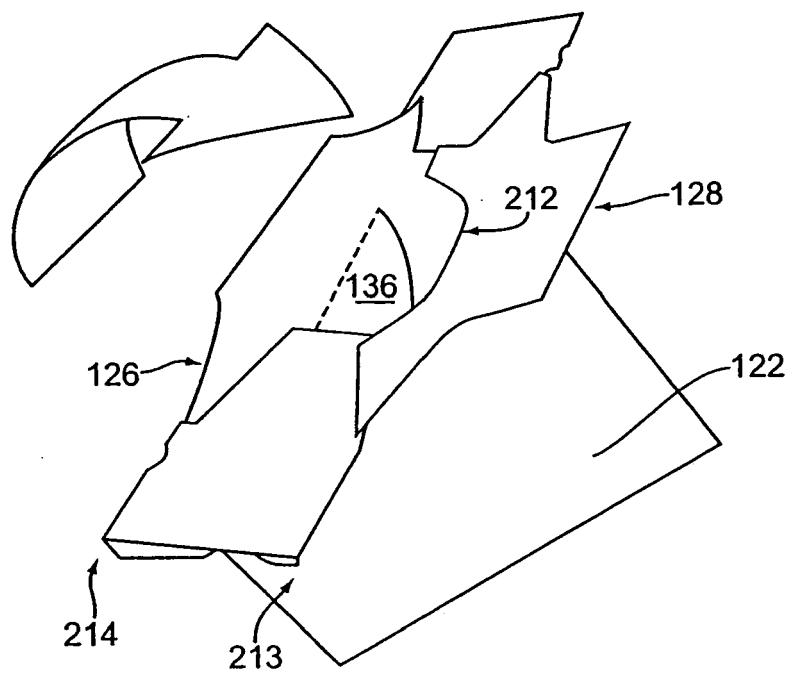


Fig. 7

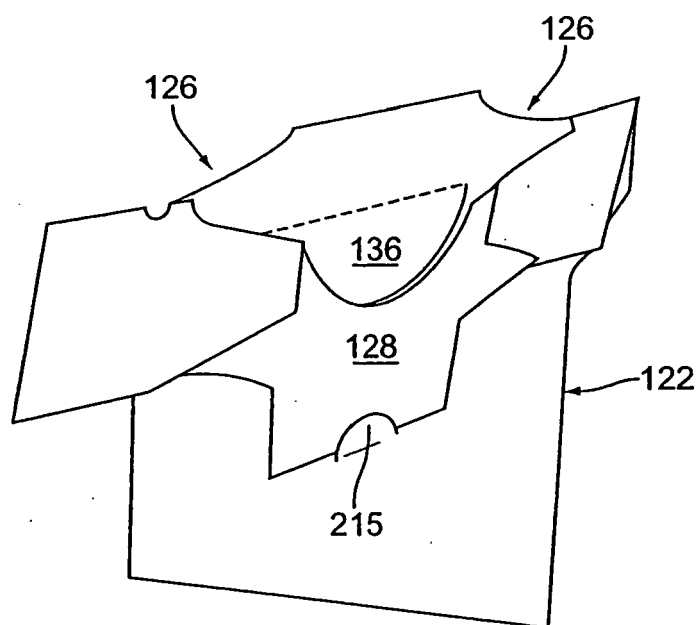
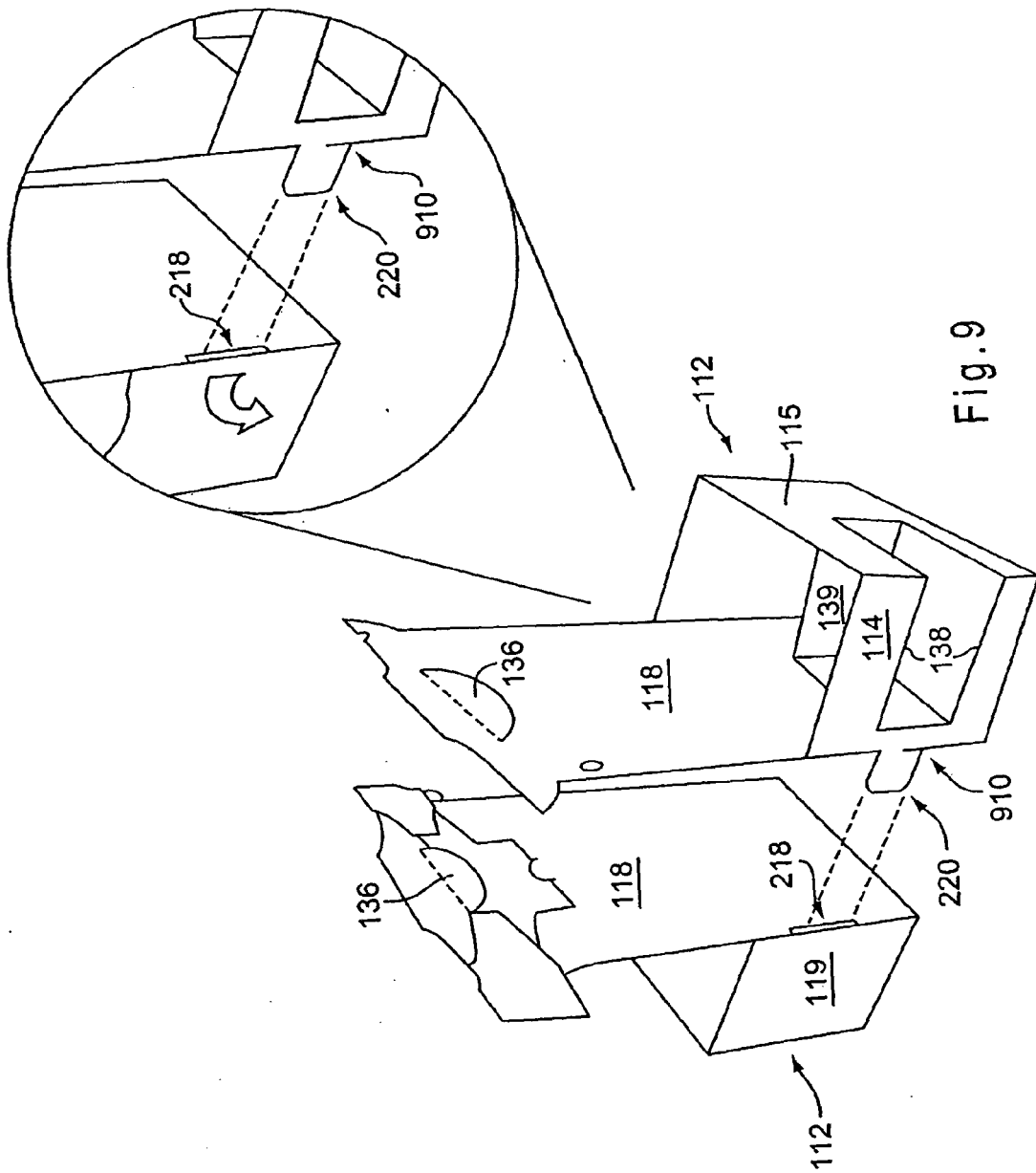


Fig. 8



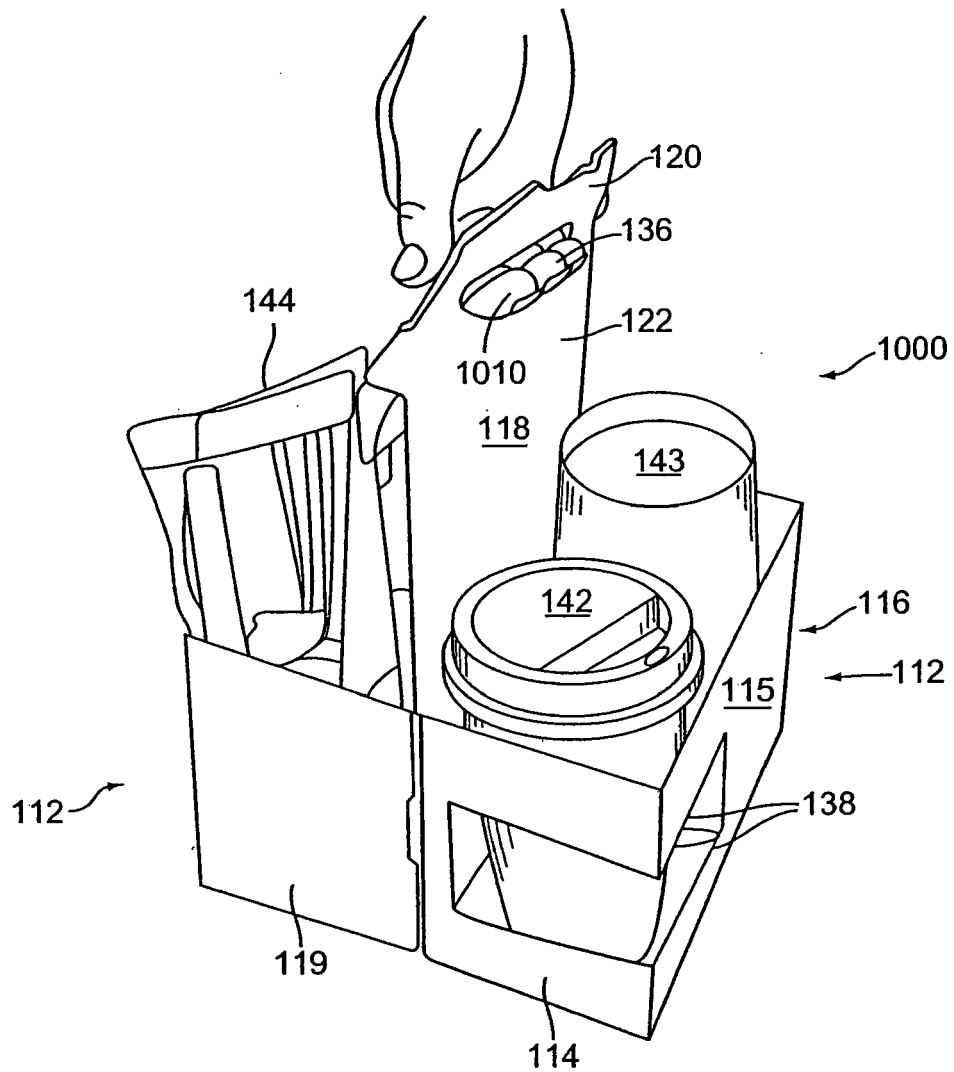


Fig.10

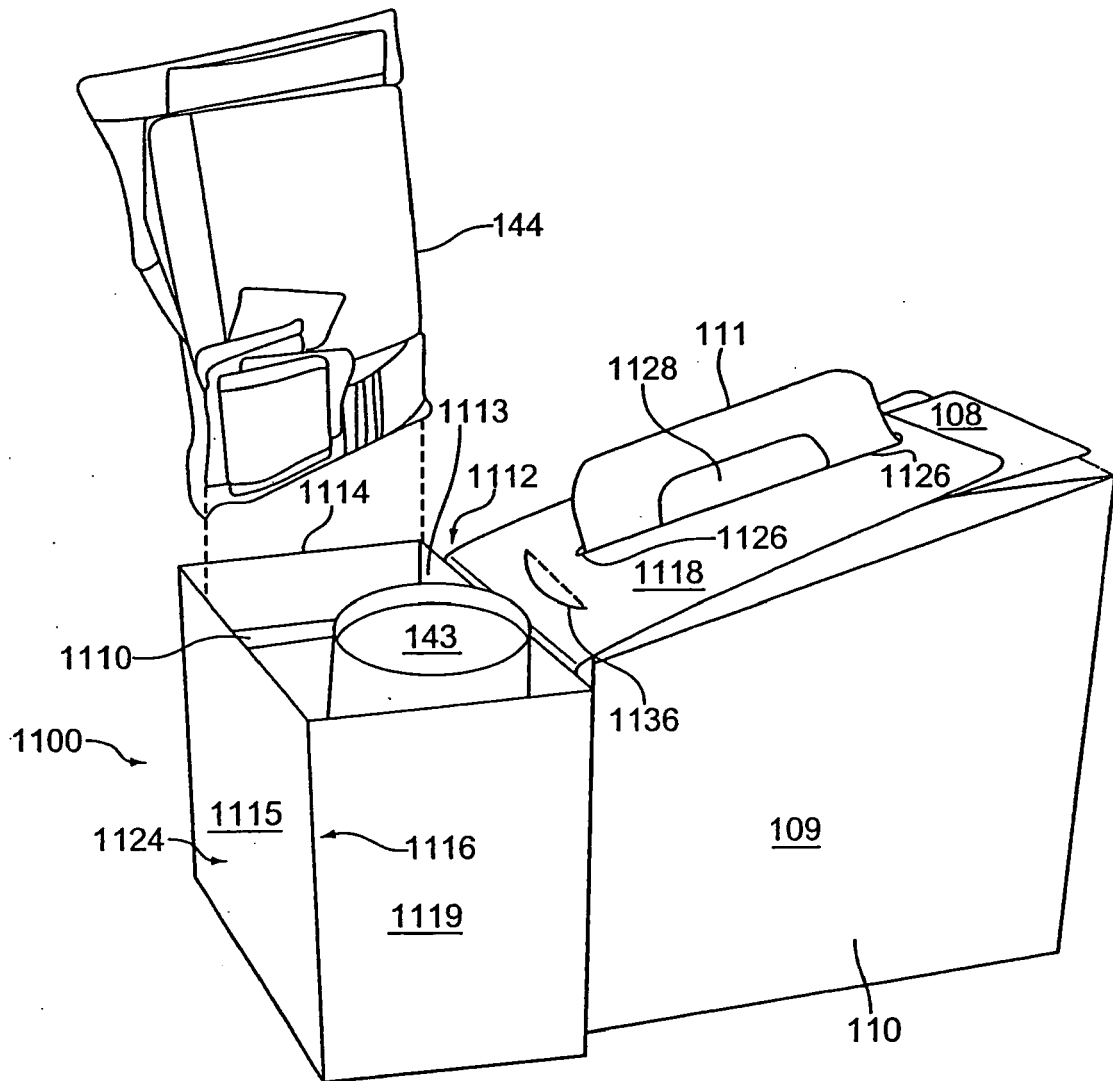


Fig.11

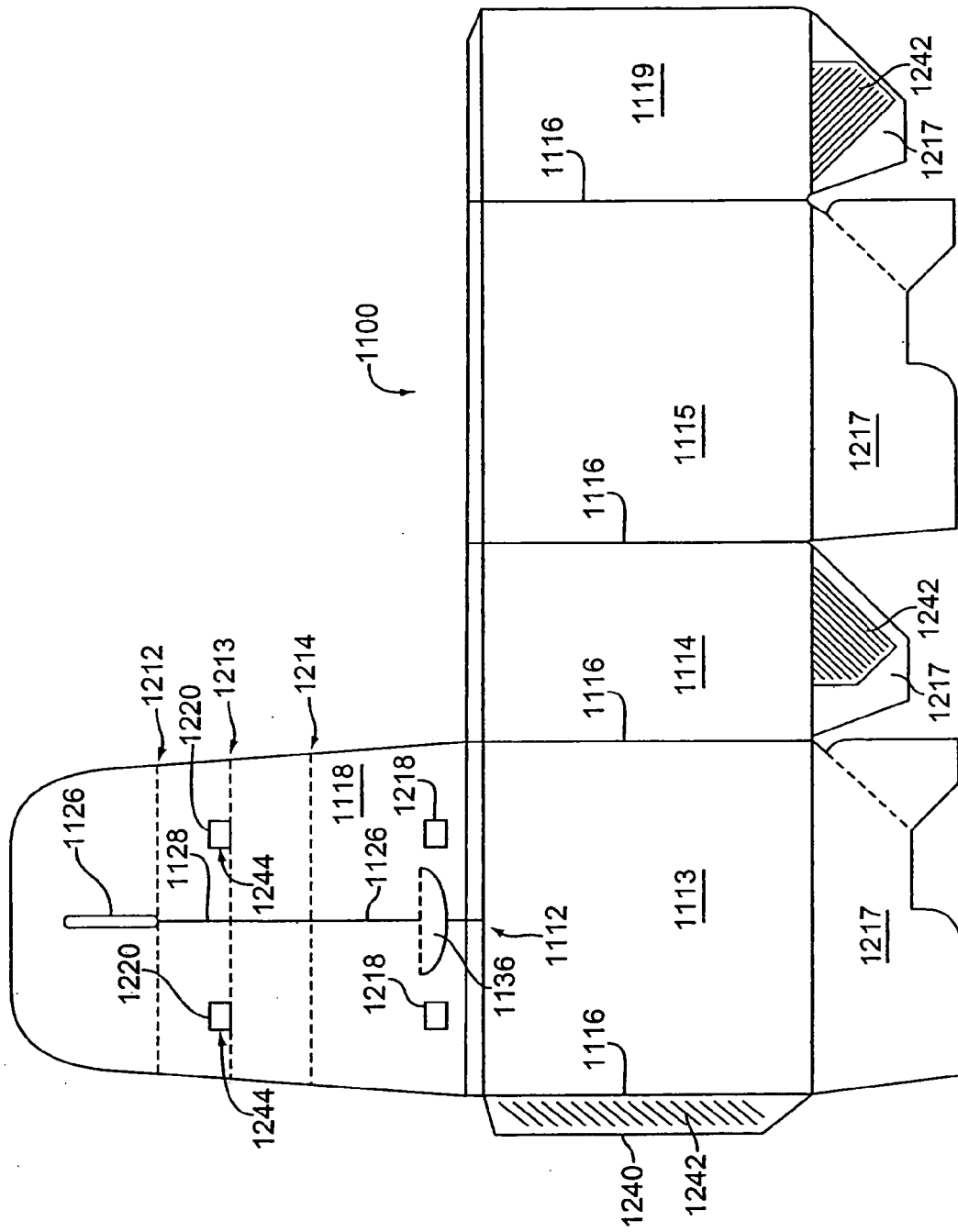


Fig. 12

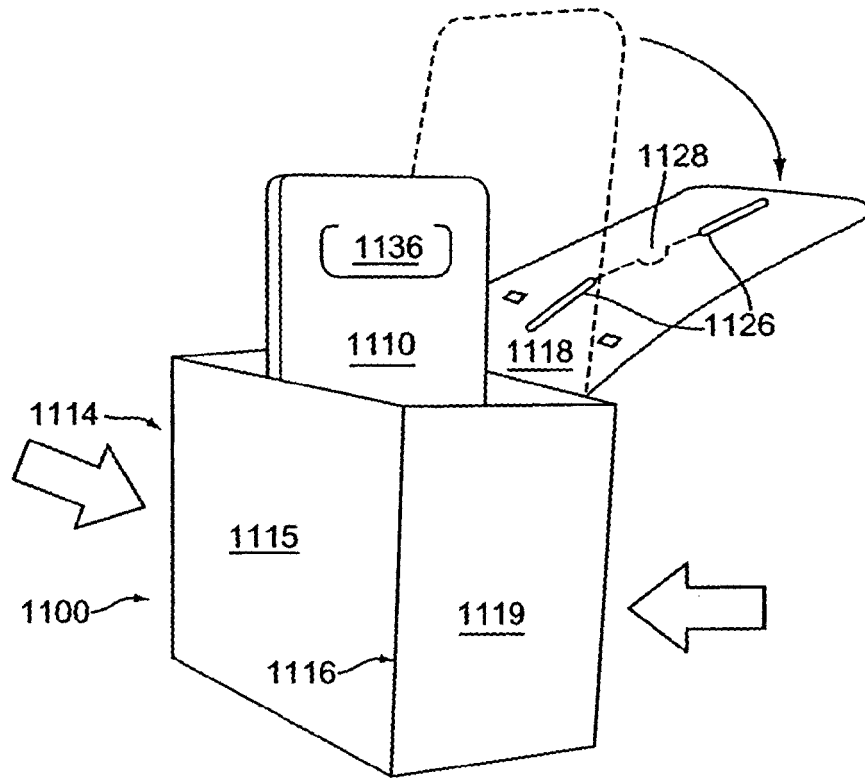


Fig.13

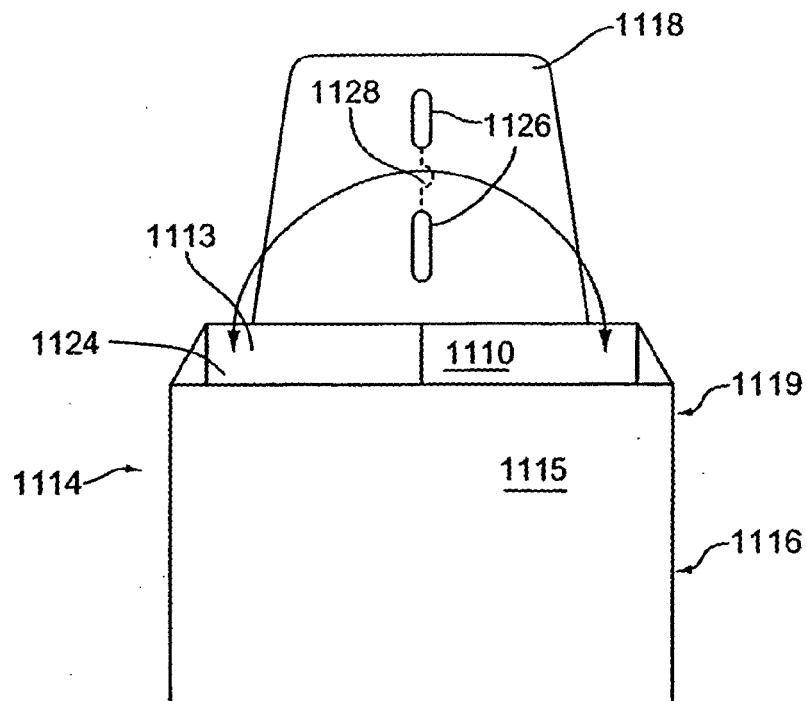
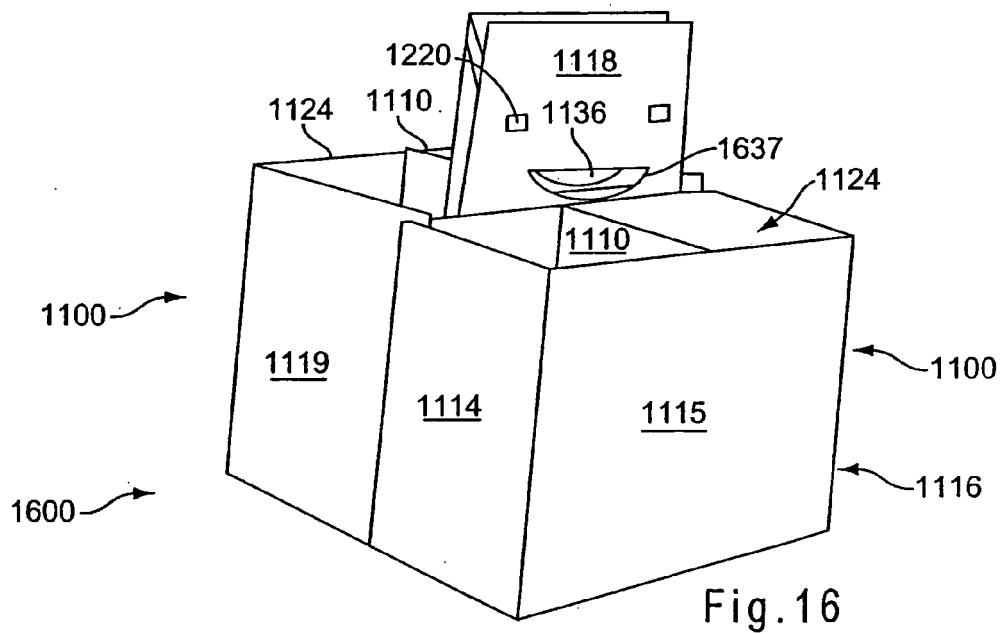
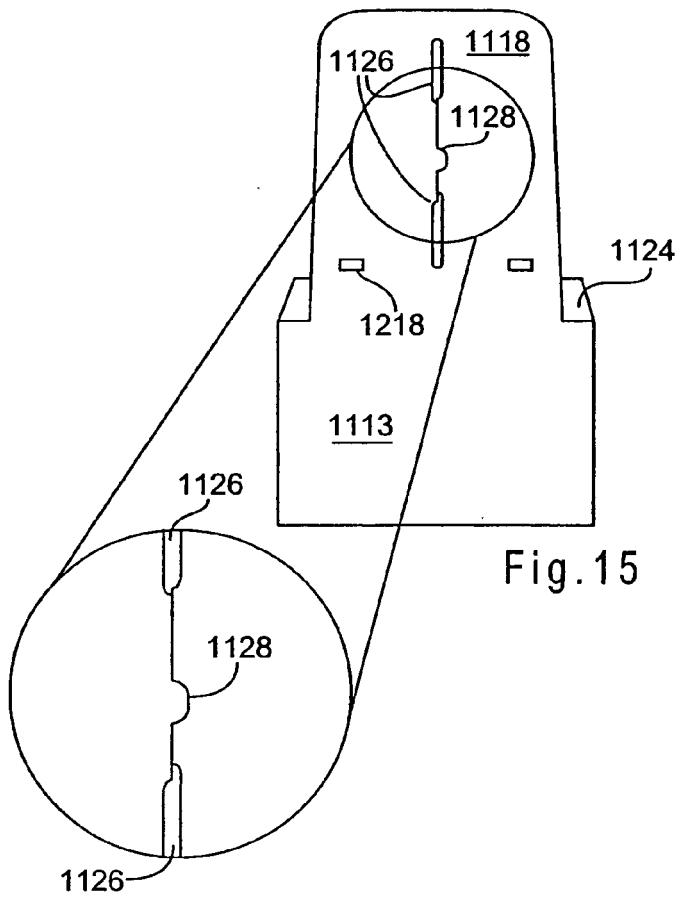
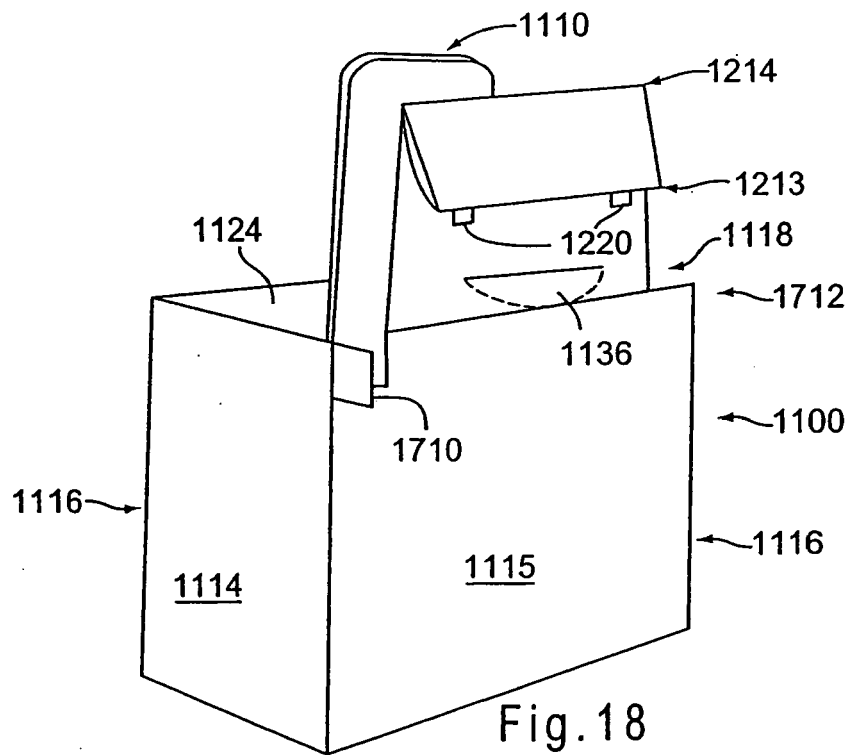
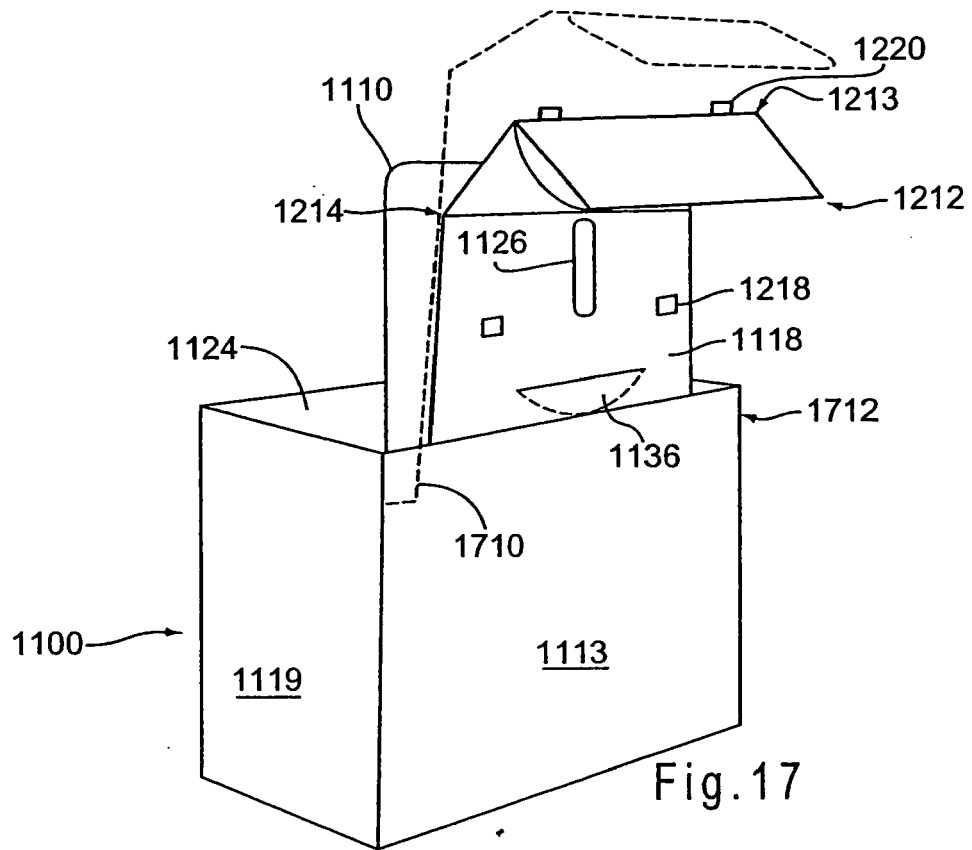
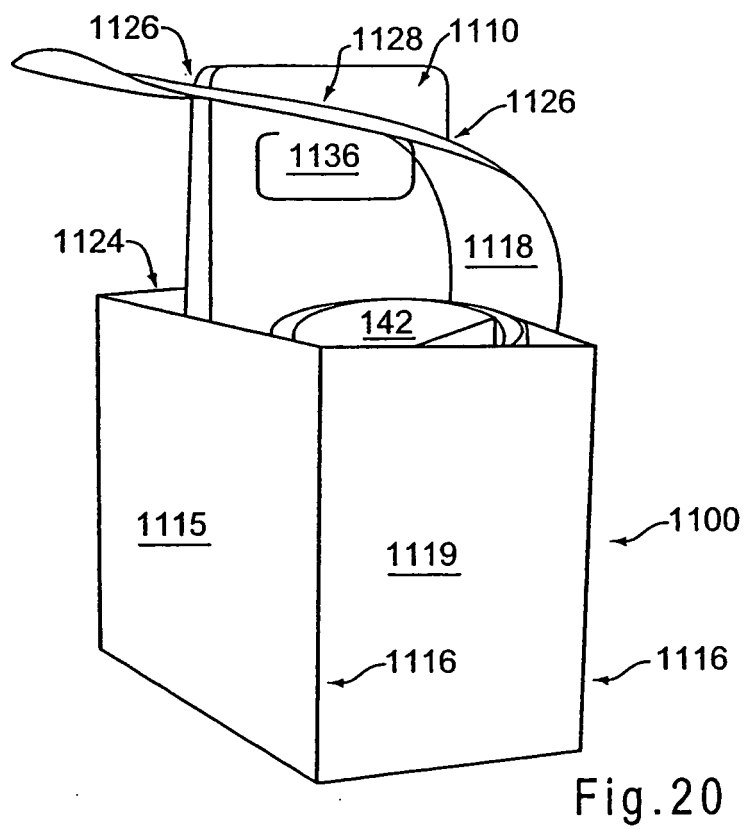
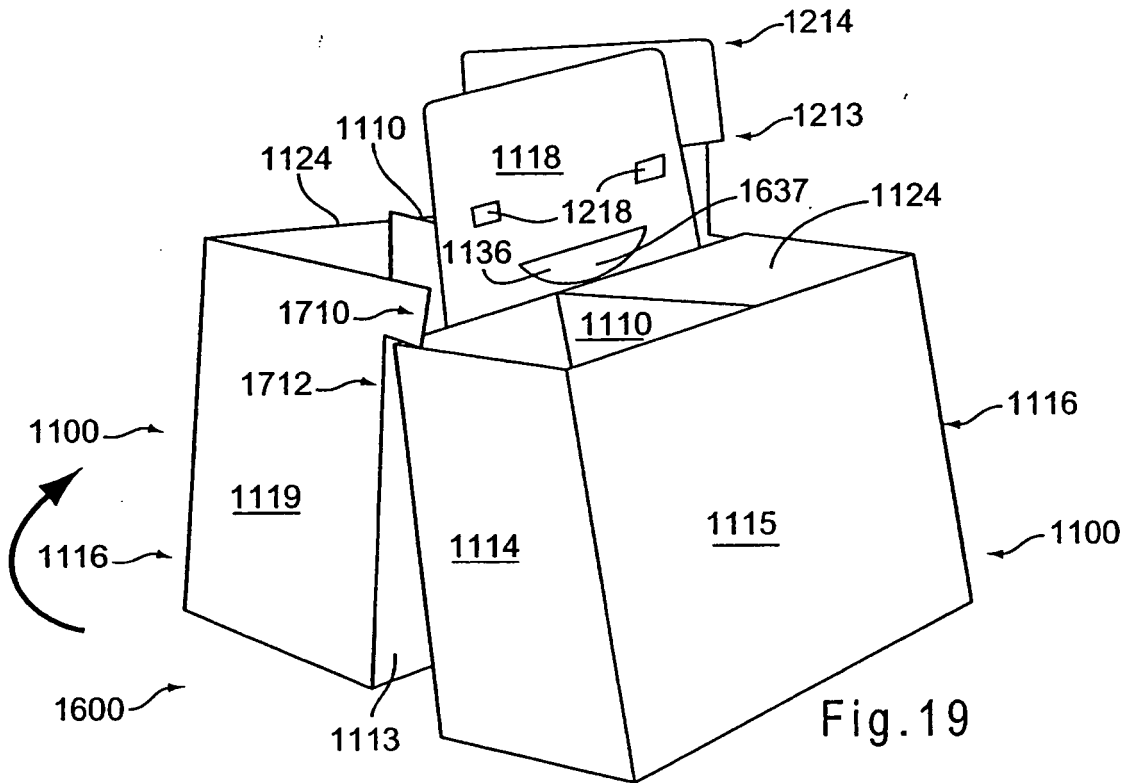


Fig.14







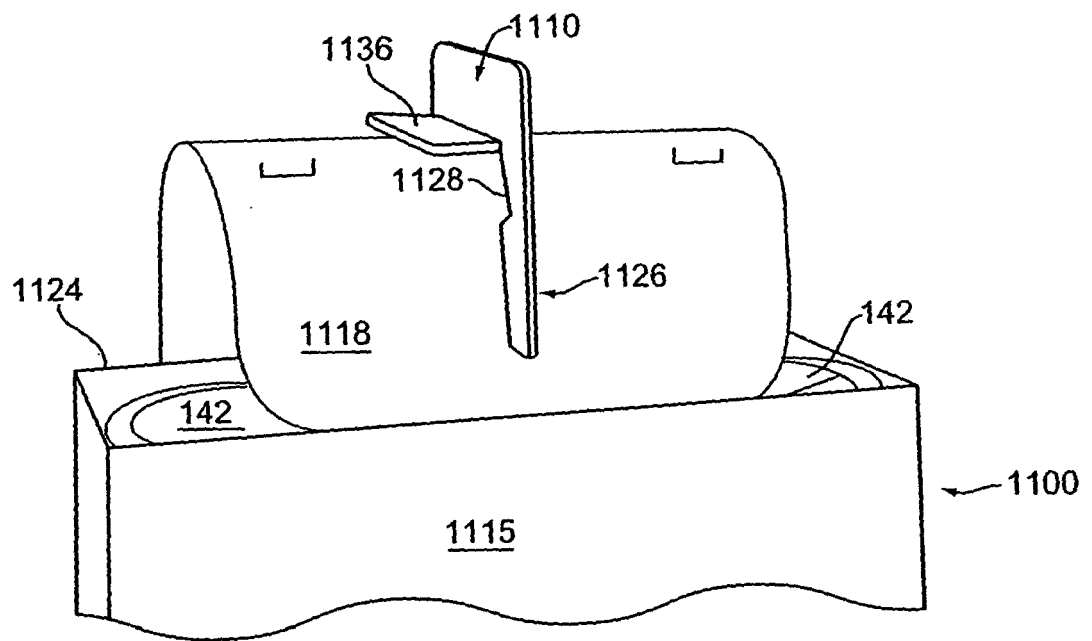


Fig.21