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(54) Easily disposable modular container for pizza and the like

(57) The present invention provides an easily disposable box that may also be used as a storage container for holding leftovers, it is particularly well suited for pizza. In the most preferred embodiment, a pull-tab cord design is used as the primary means of weakening the box structure for disposal, which facilitates separating the overall box into two halves. The resulting open ends of one or both of the resulting halves may incorporate a small number of preformed score lines that facilitate folding the open end shut, thereby forming a second closed box structure. In the most preferred embodiment of the present invention, one half of the split box is sized so that when the open end is folded shut, the closed box is essentially half the volume of the original box. By utilizing a destructive pull-tab cord design instead of preformed perforations as the primary means of weakening the box structure for disposal, the structural integrity of the box is not weakened as compared to the typical pizza box until the customer chooses to pull the tab in order to dispose of the box or store leftover pizza.

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Description

[0001] CROSS-REFERENCE TO RELATED APPLICATIONS: This application claims priority from the following previously filed applications: US Provisional Application #60/814,924 filed 19 June 2006, US Provisional Application #60/859,331 filed 15 November 2006, and US Non-Provisional Application entitled Easily Disposable Modular Container For Pizza And The Like Filed 19 June 2007 by William Volz, Brady Neal Ware.

TECHNICAL FIELD:

[0002] The present invention relates to the container industry. More particularly, it is well suited for use as a food take-out and delivery article. For example, it is ideal as a pizza take-out or delivery article. Pizza take-out and delivery is a multi-billion dollar industry. The growth of the business has kept pace with the development of suitable containers for carrying the pizza.

BACKGROUND ART:

[0003] The modem pizza take-out or delivery article such as that used by the large retail chain stores is, in many ways, the ideal take-out or delivery system. In order to be an ideal system, the boxes must possess a combination of traits. The boxes must keep the pizza warm, be sturdy enough to withstand the delivery process, and be inexpensive to manufacture. Boxes known in the art achieve each of these characteristics. One example is that disclosed in U.S. patent #5,702,054.

[0004] Although boxes found in the art are nearly ideal take-out/ delivery vehicles for getting the product to the customer, none successfully address post delivery customer needs. More specifically, most containers found in art present a disposal problem. Pizza boxes are typically larger than indoor household trash receptacles. In order to dispose of the box, customers must crush or tear the box in order to reduce its size so that it may easily fit into a household trash receptacle. Additionally, the box is typically too large to easily fit into the household refrigerator for storing leftover pizza.

[0005] The subject of several patents is the improvement of the typical pizza box to help alleviate these shortcomings. For example, U.S. Patent numbers 5,273,206 and 5,197,659 disclose pizza box designs incorporating score-lines designed to facilitate rolling the pizza box into a cylindrical shape when empty for ease of disposal. U.S. Patent #5,305,949 discloses a pizza box incorporating removable punch-out sections and weakening lines, which facilitate folding the box in half for ease of disposal. U.S. Patent #5,209,392 discloses a box incorporating a transverse perforation, which facilitates breaking the box in two for ease of disposal. Each of the foregoing patents address the need for making the box more easily disposable but do not address leftover storage needs, In addition, each of these designs incorporate extensive score-lines or perforations that are needed to make the box more easily disposable but these also will weaken the structural integrity of the box during the delivery process.

[0006] Other patents address both ease of disposal and the need to have a box that can accommodate multiple volumes. U.S. Patent #5,071,062 discloses a box incorporating perforated score lines so that the top portion may be ripped off while the bottom portion of the box is retained and folded into a second enclosed box structure for the storage of left over pizza. U.S. Patent #6,375,066 discloses a box design incorporating transverse perforation lines through the lid and bottom portions of the box and an additional fold line which together facilitate breaking the box in two and folding the open end shut for use as a secondary storage container. U.S. Patent #7,051,919 discloses a box incorporating perforations and score lines, which facilitate the removal of multiple pieces of the original box and the folding of the remainder of the box into a tapered box structure for the storage of leftover pizza. However, each of these designs utilizes extensive perforations and score lines that weaken certain areas of the box structure to facilitate removal of portions and subsequent folding. Further, each are complex and difficult for the consumer to master. Because these perforations and score lines are present during the delivery process, these box designs are structurally weaker than the typical pizza box used in the art that does not incorporate such means. Additionally, none of the pizza boxes that are disclosed in the foregoing patents are designed to hold an entire half pizza for storage of leftovers.

DISCLOSURE OF INVENTION:

[0007] The present invention overcomes the shortcomings of the prior art and provides an easily disposable box that may also be used as a storage container for holding leftovers. The present invention most preferably utilizes a pull-tab cord design as the primary means of weakening the box structure for disposal (herein generally also referred to a divisional means) that facilitates separating the overall box into two portions. However, perforations may be used as a substitute for the pull-tab cord Further, perforations may be used in addition and in conjunction with the pull-tab cord in order to facilitate cleaner edges when the box is torn apart and or to reduce the effort required to tear the box in two. Depending upon the exact placement of the pull-tab cord, the halves may or may not be equal in size. Further, the resulting open ends of one or both of the resulting halves may incorporate a small number of preformed score lines and or perforations that facilitate folding the open end shut, thereby forming a second closed box structure. In a preferred embodiment of the present invention, one portion of the split box is sized so that when the open end is folded shut, the closed box is essentially half the volume of the original box. By most preferably utilizing a destructive pull-tab cord design instead of extensive preformed per-

forations as the primary means of weakening the box structure for disposal, the structural integrity of the box is not significantly weakened as compared to the typical box until the customer chooses to pull the tab in order to dispose of the box or store leftovers.

[0008] The most preferable embodiment of the present invention utilizes, as divisional means, a pull-tab connected to a cord running against or within the box so that when the consumer pulls it, the cord cuts or tears the box material similar to that found in the art and used to open some mailing containers. This weakens the structure of the box so that the box may easily be separated into two pieces. However, a row of perforations may be utilized as divisional means instead of the pull-tab cord means. The pull-tab allows the consumer to get a secure grip on the cord in order to pull it. In the preferred embodiment, the pull-tab is defined by perforations of the box adjacent to the sides of the cord and or at one end of the cord, but in other embodiments may include an additional piece of material attached to the cord for the consumer to grip. The cord may be made using any material of sufficient strength to tear the box material when pulled. Typically, the cord is made of a plastic polymer material. In one preferred embodiment of the present invention, the cord is made of polyethylene. In another preferred embodiment of the present invention, the cord is made of a woven fibrous material. Several tear tape products are available on the market and some of these are suitable for use in this box structure. The box may be constructed of any material of sufficient strength for use as a container that may be cut or torn by the cord material. In the preferred embodiment, the box is made of a corrugated paper cardboard material. In yet another embodiment, the corrugated paper material is coated with a water repellant substance such as a wax or a plastic coating found in the art in order to maintain the freshness of the leftovers.

[0009] In order to function properly, the cord must be securely attached to the box material. In one embodiment, polymer glue is used to attach the cord to the box, but any means of sufficient strength known in the art may be used to attach the cord to the box. In one particular embodiment, the cord is attached to the inner surface of the box. In another particular embodiment, the cord is attached to the outside surface of the box. In another particular embodiment, the cord is inserted within the box material. In embodiments wherein the box is constructed of corrugated material, the cord may run either parallel or perpendicular to the direction of corrugations. In yet another embodiment, the cord may comprise multiple layers, and be attached to both the inner and outer surface of the box. In yet another embodiment, the cord may comprise multiple layers, and be attached to both the inner surface of the box and be inserted within the box material. In yet another embodiment, the cord may comprise multiple layers; and be attached to both the outer surface of the box and be inserted within the box material.

[0010] Perforations may be added along either or both sides of the cord in order to reduce the effort required to rip the box or to help generate smoother edges along the rip. Further, perforations may be utilized without the cord, either singly or in multiple rows.

[0011] The Lines of Perforation may be comprised of any perforation found in the art. In one particular embodiment, the Lines of Perforation are comprised of elongated perforations situated at an angle between zero and ninety-degrees in relation to the Cord. In the most preferred embodiment, the Lines of Perforation are comprised of perforations that include two elongated cuts situated at essentially ninety-degrees to one another, and connected to one another in order to essentially generate a single perforation. In yet another particular embodiment of the present invention, a pair of parallel Lines of Perforation is utilized without the Cord. This embodiment is particularly desirable if the material composing the box has sufficient strength for the strip between the Lines of Perforation to be torn out with minimal breakage.

[0012] In a preferred embodiment of the present invention, the open end of at least one of the portions of the reduced first box structure includes additional score lines and or perforations as means for facilitating closure of the open end, generating the second box. In general, removable sections and closing tabs are arranged so as to imitate the intact, original box wall structure when possible. This facilitates formation of a second box that is very strong and opens and closes well. Further, this design is more intuitive for the consumer to use because they intact, original box wall structure can be used as a guide for the proper assembly of the second box. Several embodiments of the present invention utilizing closing means, which particularly point out the features of such means, are illustrated in the Best Mode portion of this application.

[0013] In summary, the present invention provides for a sturdy delivery vehicle that incorporates means for reducing the difficulty of disposal. Further, in a preferable embodiment, the split box is designed so the end may be folded closed, generating a sturdy storage container that may be used to store leftovers. Further, in a most preferable embodiment, the split box is designed so the end may be folded closed, generating a sturdy storage container that may be used to store a full half pizza of leftovers. Box designs incorporating the present invention are easy to use and economical to manufacture.

BRIEF DESCRIPTION OF DRAWINGS:

[0014] Figure 1 is a plan view of one embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. Figure 2 is a plan view of another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present in-

vention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. Further, this particular embodiment of the present invention incorporates means for holding an additional item within the box such as dipping sauce. Figure 3 is a plan view of another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold outside of the sides defining the bottom of the box when the box is closed. Figure 4 is a plan view of another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. In this design, the pull-tab cord runs through the length of the box. Figure 5 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. In this particular embodiment, the pull-tab coed does not run straight through the length of the box and the side of only one lid is folded to generate the closed box structure. Figure 6 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. In this particular embodiment of the present invention, a line of perforation is used as a substitute for the pull-tab cord. Figure 7 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby the sides defining the top of the box fold inside of the sides defining the bottom of the box when the box is closed. In this particular embodiment, perforations are used in conjunction with the pull-tab cord in order to facilitate separating the box into two portions. Further, an opening hole is illustrated in this particular embodiment for finger access to facilitate opening of the closed box structure. Figure 8 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design whereby a cord is utilized with adjacent perforations without means for generating the second, reduced, box structure. Further, an opening hole is illustrated in this particular embodiment for finger access to facilitate opening of the closed box structure. Figure 9 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design wherein the top is removably attached and the bottom portion folds over itself longitudinally to generate the second, reduced, box structure. Figure 10 is a plan view of yet another embodiment of the present invention illustrating how a sheet of material may be cut and folded into a container according to the present invention. This particular embodiment of the present invention utilizes a design wherein the top is removably attached and the bottom portion folds over itself laterally to generate the second, reduced, box structure.

BEST MODE FOR CARRYING OUT THE INVENTION:

[0015] The present invention may best be described by example. Ten preferred embodiments of the present invention are illustrated. The Best Mode is set out in Example 7. In all illustrations, a solid line represents a cut. A line with large dashes represents folds in the box structure that are most preferably but not necessarily scored using perforations or cuts. Lines denoted by small dashes represent lines that are perforated or otherwise weakened so that the consumer may tear the box material along the line. Lines denoted by small dots represent latent fold lines along which the box is folded to close the open end of the split box. These lines may be scored using perforations or indentations. Alternatively, they may be left un-scored. Lines denoted by dashes perpendicular to the length of the box represent the location of the cord

[0016] EXAMPLE 1: Figure 1 is a plan view of one preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. Lower Side Wall A along with Front Bottom Tab A and Back Bottom Tab A are together folded up towards the Bottom. Front Bottom Tab A and Back Bottom Tab A are further folded towards the Bottom at an angle of substantially ninety degrees to Lower Side Wall A. Lower Side Wall B along with Front Bottom Tab B and Back Bottom Tab B are together folded up towards the Bottom. Front Bottom Tab B and Back Bottom Tab B are further folded towards the Bottom at an angle of substantially ninety degrees to Lower Side Wall B. The Lower Front Wall is forded up towards the Bottom and is folded over Front Bottom Tab A and Front Bottom Tab B. Upper Side Wall A, Upper Front Wall, and Upper Side Wall B are folded up towards the Top at essentially a ninety-degree angle. To complete the assembly of the box (First Box), the Top is folded towards the Bottom using the Back Wall as a hinge. In this particular embodiment of the present invention, Upper Side Wall A, Upper Side Wall B, and the Upper Front Wall fold inside

of Lower Side Wall A, Lower Side Wall B, and the Lower Front Wall as the box is closed.

[0017] In order to easily dispose of the box or prepare the box for storing leftovers, the consumer grasps the Pull-Tab, and pulls the Cord, thereby ripping or cutting the box along the Cord line. The box may then be separated by tearing the box along the perforation parallel to and in line with the cord line in the Lower Front Wall. In an alternative embodiment, the Cord is extended, and the Pull-Tab is placed on the outer edge of the Lower Front Wall. In this alternative embodiment, a perforation parallel to and in line with the Cord line is unnecessary.

[0018] Once the box is separated into two pieces, both pieces may be disposed of directly, or alternatively, the open end of the large piece may be folded closed, forming a second sturdy container structure (Second Box). The open end is folded shut as follows. Removable Section A and Removable Section B are torn out of the box along the perforations. The Front Closing Tab and the Rear Closing Tab are folded up towards the Bottom after separating them from the Lower Front Wall and Back Wall along the perforations. The open edge of the Top is folded in along Latent Fold Line B. The open edge of the Bottom is folded in along Latent Fold Line A while in one embodiment; the Front Closing Tab is inserted between the leaves of the Lower Front Wall. In another embodiment, the Front Closing Tab is folded inward similar to the Rear Closing Tab. In yet another particular embodiment, the Front Closing Tab and Removable Section A are left connected and both are folded inwards similar to the Rear Closing Tab. In this example of a preferred embodiment of the present invention, one edge of the Front Closing Tab is angled in order to facilitate insertion between the leaves of the Lower Front Wall. Other embodiments of the present invention may feature a Front Closing Tab without such an angle.

[0019] The reduced size container may now be opened and closed as needed in a manner similar to the original full size container. When closed, the reduced size container is very sturdy and can be used to store leftovers conveniently.

[0020] EXAMPLE 2: Figure 2 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is very simitar to that illustrated by Example 1 and can be folded into a box structure in the same manner. In addition, this particular embodiment may be split into two pieces and the open end of the large piece may be folded into a sturdy closed secondary container in a manner similar to that described in Example 1.

[0021] In addition to the features described In Example 1, this particular embodiment includes means for holding an additional item within the closed structure of the box such as dipping sauce. Separating the longitudinal edges from Lower Side Wall A and Back Bottom Tab A, then folding in towards the center of the Bottom of the box construct the Sauce Retainer. The additional container can then be placed into the corner of the box and secured by the Sauce Retainer.

[0022] EXAMPLE 3: Figure 3 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. Lower Side Wall A along with Front Bottom Tabs A1, A2, and A3 are together folded up and in towards the Bottom. Similarly, Lower Side Wall B along with Front Bottom Tabs B1, B2, and B3 are together Folded up and in towards the Bottom. The Lower Front Wall is attached to Lower Front Tabs A3 and B3. Through this connection, the folding of Upper Side Wall A and Upper Side Wall B pulls the Lower Front Wall up into position. When folded properly, Lower Front Tabs A2 and B2 are folded over 180 degrees towards the Bottom. Upper Side Wall A, Upper Side Wall B, and the Upper Front Wall are folded up and in towards the Top into an angle of essentially ninety degrees. Upper Rear Tab A and Upper Rear Tab B are further folded in relation to Upper Side Wall A and Upper Side Wall B respectively into an angle of essentially ninety degrees. In order to complete the assembly of the box, the Top is folded towards the Bottom using the Back Wall as a hinge. In this particular embodiment of the present invention, Upper Side Wall A and Upper Side Wall B fold outside of Lower Side Wall A and Lower Side Wall B, respectively. The Upper Front Wall Folds inside of the Lower Front Wall as the box is closed.

[0023] In order to easily dispose of the box or prepare the box for storing leftovers, the consumer grasps the Pull-Tab, and pulls the Cord, thereby ripping or cutting the box along the Cord line. The box is then easily separated into two pieces.

[0024] Once the box is separated into two pieces, both pieces may be disposed of directly, or alternatively, the open end of the large piece may be folded closed, forming a second sturdy container structure. The open end is folded shut as follows. The Removable Section is torn out along the perforations and removed from the box structure. The Front Closing Tab and the Rear Closing Tab are folded up towards the Top into an angle of essentially ninety degrees after separating them from the Upper Front Wall and Back Wall along the perforations. The open edge of the Bottom is folded in along the Lower Latent Fold Line towards the Bottom into an angle of essentially ninety degrees. The open edge of the Top is folded in along Latent Fold Line A folding along with it the Front Closing Tab and the Rear Closing Tab. The reduced size container may now be opened and closed as needed in a manner similar to the original full size container. When closed, the reduced size container is very sturdy and can be used to store leftovers conveniently.

[0025] EXAMPLE 4: Figure 4 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is very similar to that illustrated by Example 1

and can be folded into a box structure in the same manner. In addition, this particular embodiment may be split into two pieces and the open end of the large piece may be folded into a sturdy closed secondary container in a manner similar to that described in Example 1.

[0026] In addition to the features described In Example 1, in this particular embodiment the cord runs through the length of the box, which may simplify the manufacturing process. Further, in this particular embodiment, once the cord is pulled comptetely, the first box structure is torn completely in half, which eliminates the additional row of perforations parallel to and at the end of the Cord and the need to tear them. In the most preferable embodiment of this example, perforations are utilized beside the cord on the Lower Front Wall adjacent to Removable Section A in order to reduce the effort required to begin tearing the box.

[0027] EXAMPLE 5: Figure 5 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is similar to that illustrated by Example 4 and can be folded into a box structure in the same manner. In addition, this particular embodiment may be split into two pieces and the open end of the large piece may be folded into a sturdy closed secondary container. However, this particular embodiment utilizes a simplified design in relation to folding the open end shut when compared to that described in Example 4. In order to accomplish this, the cord does not run straight through the length of the box.

[0028] Once the putt-tab cord is pulled and the box is separated into two pieces, the open end of one of the pieces may be folded shut by folding the open edge of the Top down and inserting Locking Tab A into Slot A.

[0029] EXAMPLE 6: Figure 6 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is similar to that illustrated by Example 1 and can be folded into a box structure in the same manner. In addition, this particular embodiment may also be split into two pieces and the open end of the large piece may be folded into a sturdy closed secondary container.

[0030] However, in addition to the features described in Example 1, this particular embodiment utilizes perforations instead of the pull-tab cord. Therefore, in order to separate the box into two pieces, the box is torn along the Dividing Perforation.

EXAMPLE 7: Best Mode

[0031] Figure 7 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is the best mode of the present invention, and is very similar to that illustrated by Example 4 and can be folded into a box structure in the same manner. In addition, this particular embodiment may be split into two pieces and the open end of the large piece may be folded into a sturdy closed secondary container in a manner similar to that described in Example 1.

[0032] In addition to the features described in Example 1, this particular embodiment utilizes perforations adjacent to the Cord in order to reduce the effort required to tear the box material and or facilitate a cleaner torn edge. In the most preferable embodiment, Lines of Perforation extend along both sides of the Cord along essentially the entire length of the box where no other specific type perforation is needed, as illustrated. However, In yet another embodiment, the Line of Perforation extending along the Cord adjacent to the side of the box that is not designed to be folded shut is eliminated. In yet another specific embodiment, the Line of Perforation extending along the Cord adjacent to the side of the box that is designed to be folded shut is eliminated. Further, this particular embodiment utilizes an Opening Hole for finger access in order to facilitate opening the closed box structure. Further, in this particular embodiment, a portion of the perforation across the front wall adjacent to the Pull-Tab is eliminated. This facilitates removal of Removable Section A along only one row of the perforations across the front wall, which facilitates insertion of the Front Closing Tab between the leaves of the Lower Front Wall.

[0033] EXAMPLE 8: Figure 8 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is similar to that illustrated by Example 4 and can be folded into a box structure in the same manner. In addition, this particular embodiment may be split into two pieces in a manner similar to that described in Example 1. However, this embodiment illustrates how the divisional means may be utilized without utilizing the means for folding the open end shut to generate the second box structure. This particular embodiment is particularly advantageous when only disposability is a concern.

[0034] EXAMPLE 9: Figure 9 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention. This particular embodiment is similar to that illustrated by Example 4 and can be folded into a box structure in the same manner. However, this particular embodiment utilizes a removably attached Top portion. In order to reduce the size of the first box structure for disposal or storage of leftovers, the Top portion is removed. Then the Back Wall Removable Section, the Front Wall Removable Section, and one Back Bottom Tab are removed. Finally, the Bottom portion is folded over itself longitudinally and shut, generating the second closed box structure.

[0035] EXAMPLE 10: Figure 10 is a plan view of another preferred embodiment of the present invention and illustrates how a sheet of material may be cut and folded according to the present invention This particular embod-

iment is similar to that illustrated by Example 4 and can be folded into a first box structure in the same manner. However, this particular embodiment utilizes a removably attached Top portion, In order to reduce the size of the first box structure for disposal or storage of leftovers, the Top portion is removed. Then the Back Bottom Tabs are removed. Also, Side Wall Tab A and Side Wall Tab B are folded in towards the center of the Bottom. Finally, the Bottom portion is folded over itself laterally with the back wall folding inside of the Lower Front Wall and shut, generating the second closed box structure.

[0036] Each of the boxes depicted in the illustrations are simply examples of preferred embodiments of the present invention. Many other specific designs are possible without departing from the spirit and scope of the present invention. The location of the Cord May be moved in order to change the size or volume of the pieces of the slit box. Means for closing the open end similar to that disclosed in the illustrations may be added to both pieces of the split box instead of only one piece. Additionally, many minor changes may be made and details added to the box structure by those skilled in the art without departing from the spirit and scope of the present invention. Examples include but are not limited to: cuts or perforations along fold lines, small tabs designed to lock folded pieces in position, changes to the angle of certain edges to facilitate folding or dosing, and changes to the relative scale of the parts of the structure. Each of these changes and details are commonly added to box structures by those skilled in the art.

[0037] The present invention has several key advantages when compared to the prior art. First, the utility of the box as a delivery vehicle is not compromised by the pull-tab cord design because the structural integrity of the box is not weakened until the consumer chooses to pull the tab. Once pulled, the box is easily broken into two conveniently disposable pieces. Second, the open end of the split box may be folded shut forming a sturdy storage container. Third, the present invention achieves its utility while retaining a simple design that is easy to use and economical to manufacture.

[0038] It is hoped that only those limitations disclosed herein be used to limit the spirit and scope of the present invention.

[0039] The following clauses recite advantageous embodiments of the invention.

1. A re-closable container, comprising

   a. A bottom portion, the perimeter of which is defined by hingedly attached, opposing lower side walls, a hingedly attached back wall, and a hingedly attached lower front wall
   b. A top portion hingedly attached to said back wall, the perimeter of which is defined by hingedly attached, opposing upper side walls, a hingedly attached upper front wall, and said hingedly attached back wall.
   c. Divisional means for facilitating the division of box structure into at least two pieces, arranged longitudinally through the box structure

2. A re-closable container, comprising

   a. A bottom portion, the perimeter of which is defined by hingedly attached, opposing lower side walls, a hingedly attached back wall, and a hingedly attached front wall
   b. A top portion hingedly and removably attached to said back wall, the perimeter of which is defined by hingedly attached, opposing upper side walls, a hingedly attached upper front wall, and said back wall
   c. Tab portions hingedly attached to the lower side walls, adjacent to the front wall
   d. Tab portions hingedly attached to the lower side walls, adjacent to the back wall, at least one of which is also removably attached
   e. A removable portion, located near the center of the front wall, essentially rectangular in shape, defined by a border of perforations.
   f. A tab portion, located near the center of the back wall, essentially rectangular in shape, defined on three sides by a border of perforations and hingedly attached to the back wall on the fourth side.

3. A re-closable container comprising

   a. A bottom portion, the perimeter of which is defined by hingedly attached, opposing lower side Walls, a hingedly attached back wall, and a hingedly attached front wall
   b. A top portion hingedly and removably attached to said back wall, the perimeter of which is defined by hingedly attached, opposing upper side walls, a hingedly attached upper front wall, and said back wall.
   c. Tab portions hingedly attached to the lower side walls, adjacent to the lower front wall
   d. Tab portions hingedly and removably attached to the lower side walls, adjacent to the back wall
   e. Two tab portions, one each located near the center of each Lower Side Wall, essentially rectangular in shape, defined on two sides by a border of perforations and hingedly attached to the side wall on the third side.

4. A container, according to Clause 1, wherein the divisional means for dividing the box structure comprises Cord.

5. A container, according to Clause 1, wherein the divisional means for dividing the box structure comprises perforations.

6. A container, according to Clause 1, wherein the lower side walls include hingedly attached tabs adjacent to the front wall and adjacent to the back wall.

7. A container, according to Clause 1, wherein the Lower Front Wall folds over itself, forming a double walled structure.

8. A Container, according to Clause 1, wherein the upper side walls include hingedly attached tabs adjacent to the back wall.

9. A container, according to Clause 8, wherein the lower front wall and lower side walls are hingedly attached to one another through a triangular portion hingedly attached to the bottom portion.

10. A container, according to Clause 4, wherein perforations are arranged parallel and adjacent to the cord to aid in tearing of the box structure.

11. A container, according to Clause 1, further comprising

a. A removable portion on the upper front wall, adjacent to the divisional means and defined on two sides by perforations and on the third side by said divisional means.
b. A tab portion, on the back wall adjacent to the divisional means, defined on two sides by perforations, on the third side by said divisional means, and hingedly attached to the bottom portion on the fourth side.
c. A removable portion on the lower front wall, adjacent to the divisional means and defined on two sides by perforations and on the third side by said divisional means.

12. A container, according to Clause 11, further comprising

a. A tab portion on the lower front wall, adjacent to the cord, defined on two sides by perforations, on the third side by the divisional means, and hingedly attached to the bottom portion on the fourth side.

13. A container, according to Clause 11, further comprising

a. A retainer portion, defined by perforations on the lower side wall and tab portion across a corner of the folded box structure on two sides, and hingedly attached to said lower side wall on the third side, and said tab portion on the fourth side.

14. A container, according to Clause 11 wherein the divisional means comprises

a. A Cord
b. A Pull-Tab associated with said Cord

15. A container, according to Clause 11, wherein the divisional means comprises

a. A single row of perforations.

16. A container, according to Clause 11, wherein the divisional means comprises

a. Multiple rows of perforations essentially parallel to one another.

17. A container, according to Clause 14, further comprising

a. A row of perforations arranged adjacent to and essentially parallel with one side the Cord

18. A container, according to Clause 14, further comprising

a. Two rows of perforations arranged one on each side of and essentially parallel to the Cord.

19. A container, according to Clause 17, wherein each perforation of said row of perforations comprises

a. Two elongated cuts, situated at essentially ninety-degrees to one another, arranged in close proximity to one another in order to essentially generate a single perforation.
b. Said elongated cuts arranged so that one is essentially parallel to the cord and the other is essentially perpendicular to the cord.

20. A container, according to Clause 18, wherein each perforation of said rows of perforations comprises

a. Two elongated cuts, situated at essentially ninety-degrees to one another, arranged in close proximity to one another in order to essentially generate a single perforation.
b. Said elongated cuts arranged so that one is essentially parallel to the cord and the other is essentially perpendicular to the cord.

21. A container, according to Clause 11, wherein the inside surface of the box structure is coated with a waterproofing substance.

22. A container, according to Clause 1, further comprising

a. A Cord arranged on a curvilinear path longi-

tudinally through the box structure.
b. A Locking Tab formed from a part of the Top portion.
c. A Slot for receiving said Locking Tab in the Bottom portion.

[0040] The disclosures in European patent application number 07809674.0, from which this application is divided, are incorporated herein by reference.

Claims

1. A re-closable, size selectable container system structure, comprising

a. a bottom portion, the perimeter of which is defined by hingedly attached, opposing lower side walls, a hingedly attached back wall, and a hingedly attached lower front wall
b. a top portion hingedly attached to said back wall, the perimeter of which is defined by hingedly attached, opposing upper side walls, a hingedly attached upper front wall, and said hingedly attached back wall
c. divisional means for facilitating the division of the container system structure into at least two pieces, arranged longitudinally through the container system structure and **characterized by** the provision of
d. a back wall tab portion on the back wall adjacent to the divisional means, delineated by perforations and said divisional means, removably attached to the back wall, hingedly attached to the top portion
e. a removable portion on the lower front wall, adjacent to the divisional means, delineated by perforations and said divisional means, extending to the edge of the container system structure
f. a tab portion on the upper front wall, delineated by perforations and said divisional means, extending to the edge of the container system structure on the upper front wall, hingedly attached to the top, removably attached to the upper front wall
wherein the lower front wall and lower side walls are hingedly attached to one another through a triangular portion hingedly attached to the bottom portion.

2. A container according to Claim 1, wherein the divisional means comprises cord.

3. A container according to Claim 1, wherein the divisional means comprises perforations.

4. A container according to Claim 1, wherein the lower side walls include hingedly attached tabs adjacent to the front wall and adjacent to the back wall.

5. A container, according to Claim 1, wherein the lower front wall folds over itself, forming a double walled structure.

6. A container, according to Claim 1, further comprising a tab portion on the lower front wall, adjacent to the divisional means, defined on two sides by perforations, on the third side by said divisional means, and hingedly attached to the bottom portion.

7. A container according to Claim 1, further comprising a retainer portion, defined by perforations on the lower side wall and tab portion across a corner of the folded container, and hingedly attached to said lower side wall on the third side, and said tab portion on the fourth side.

8. A container according to Claim 1 wherein the divisional means comprises

a. a cord
b. a pull-tab associated with said cord.

9. A container according to Claim 1, wherein the divisional means comprises multiple rows of perforations essentially parallel to one another.

10. A container according to Claim 8, further comprising a row of perforations arranged adjacent to and essentially parallel with one side of said cord.

11. A container according to Claim 10, wherein each perforation of said row of perforations comprises

a. two elongated cuts, situated at essentially ninety-degrees to one another, arranged in close proximity to one another in order to essentially generate a single perforation
b. said elongated cuts arranged so that one is essentially parallel to the cord and the other is essentially perpendicular to the cord.

12. A container according to Claim 1, wherein the inside surface of the box structure is coated with a waterproofing substance.

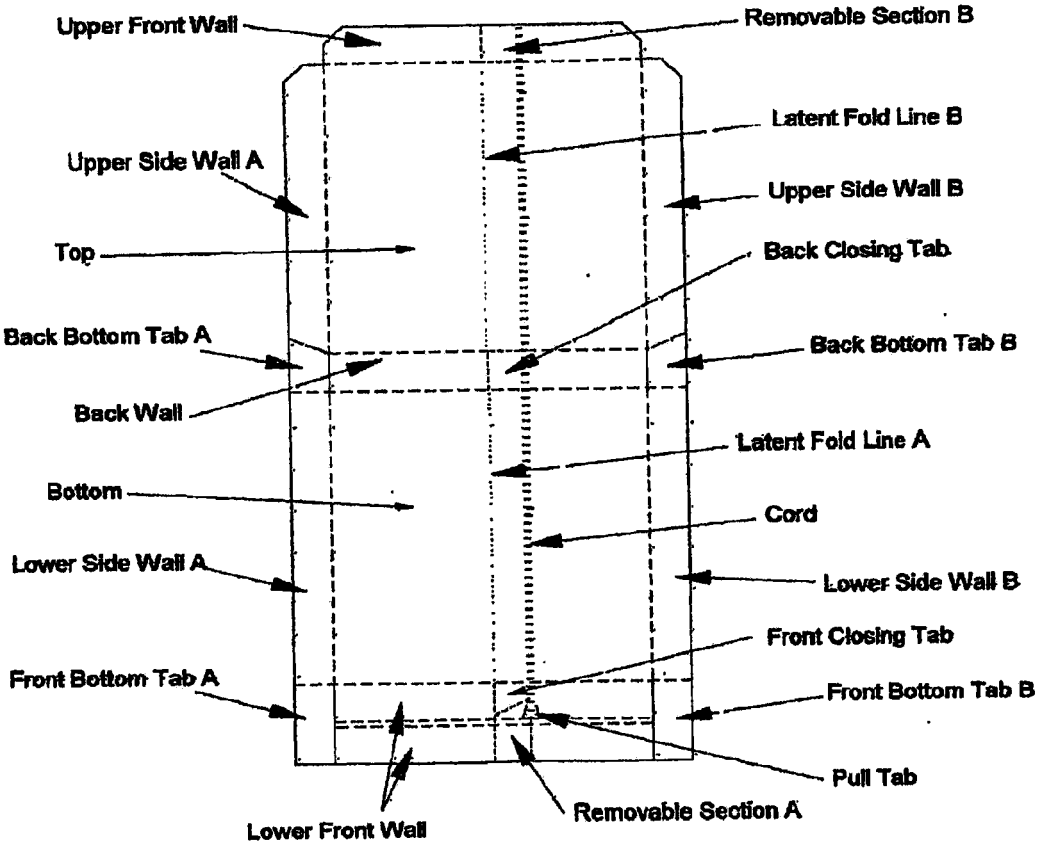

FIG. 1 Plan View

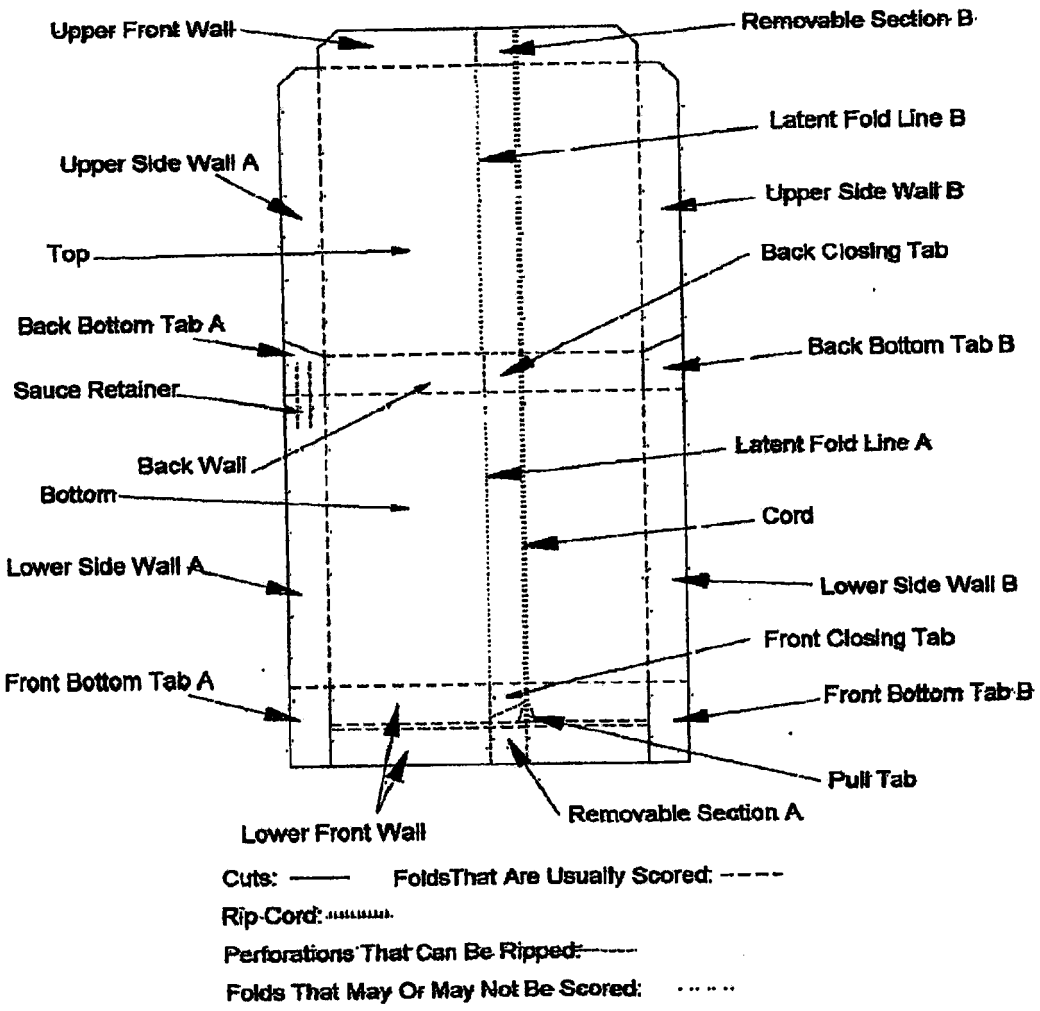

FIG. 2: Plan View

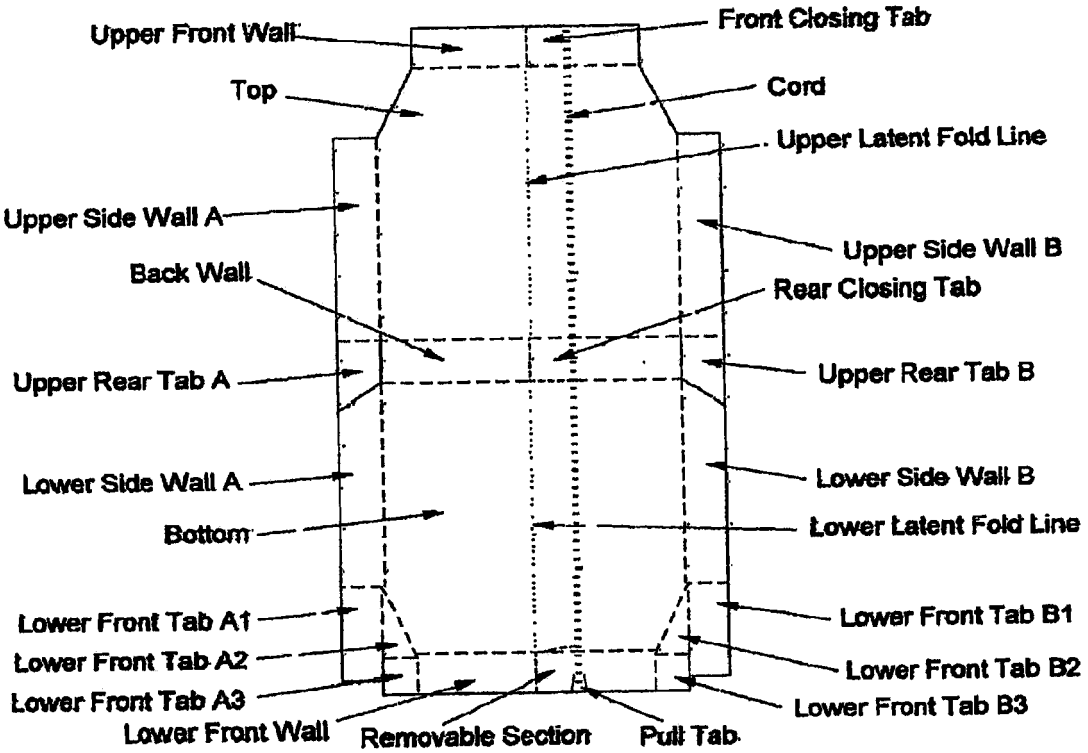

FIG 3. Plan View

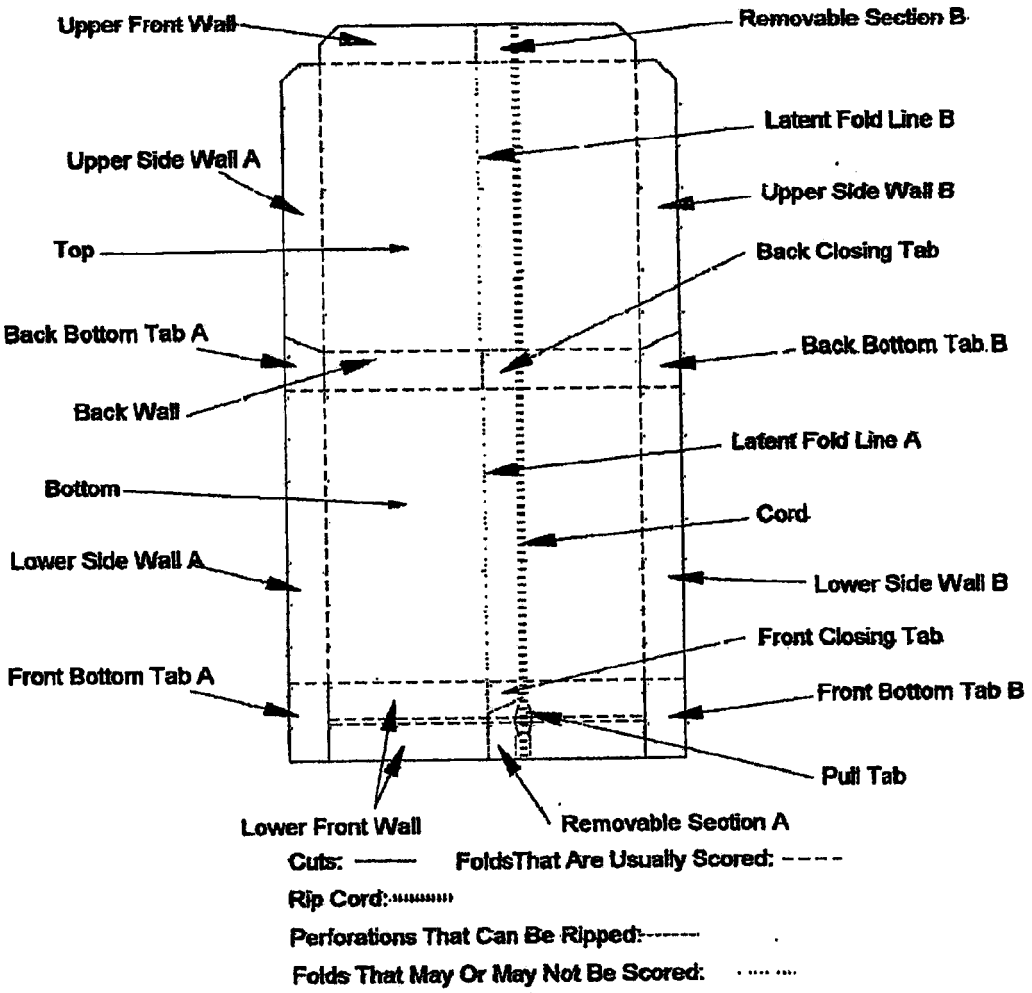

FIG. 4 Plan View

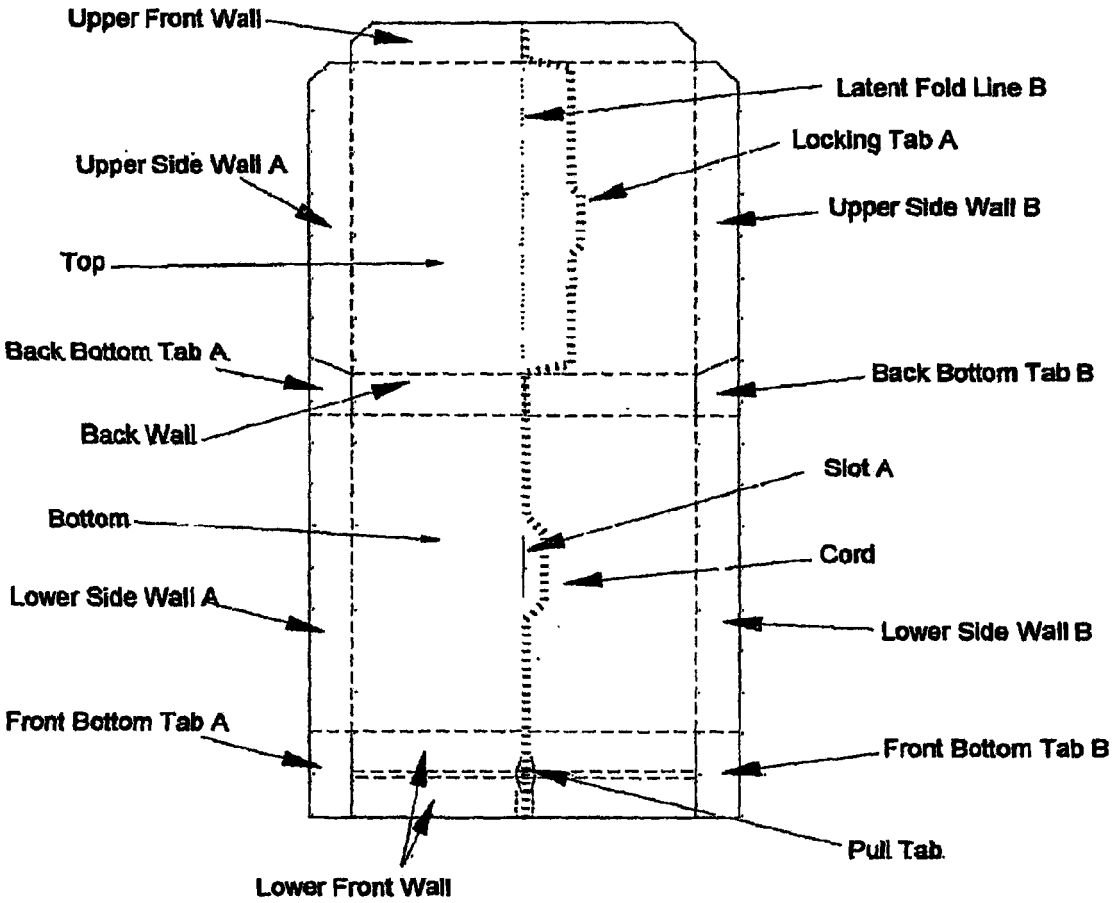

FIG. 5 Plan View

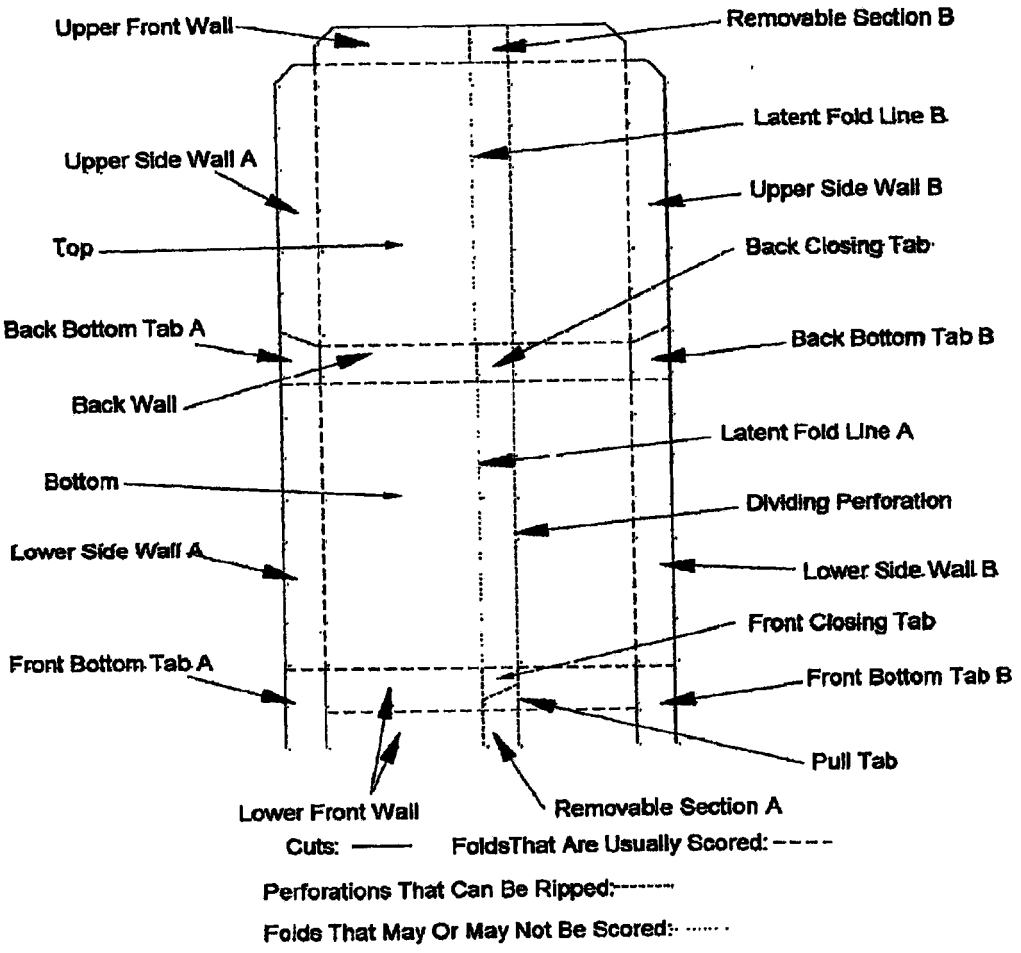

FIG. 6 Plan View

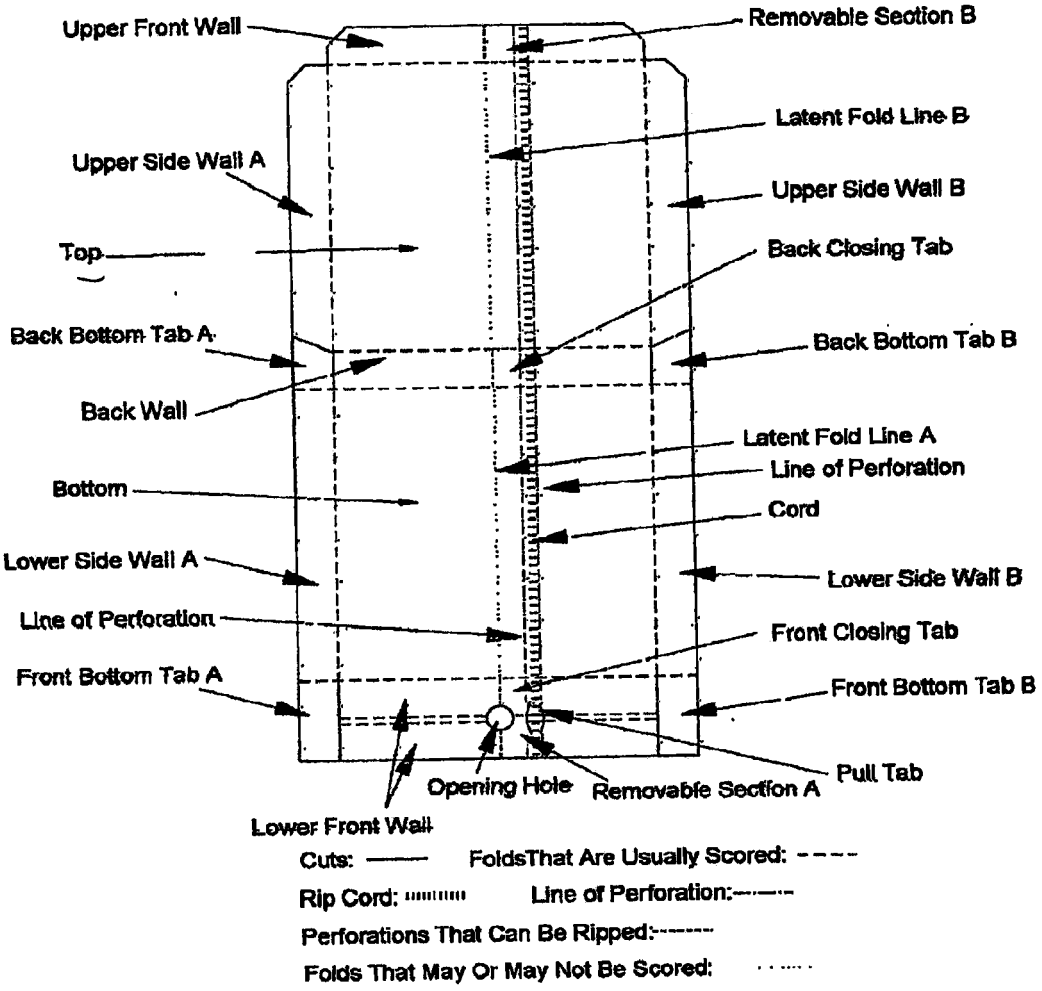

FIG. 7 Plan View

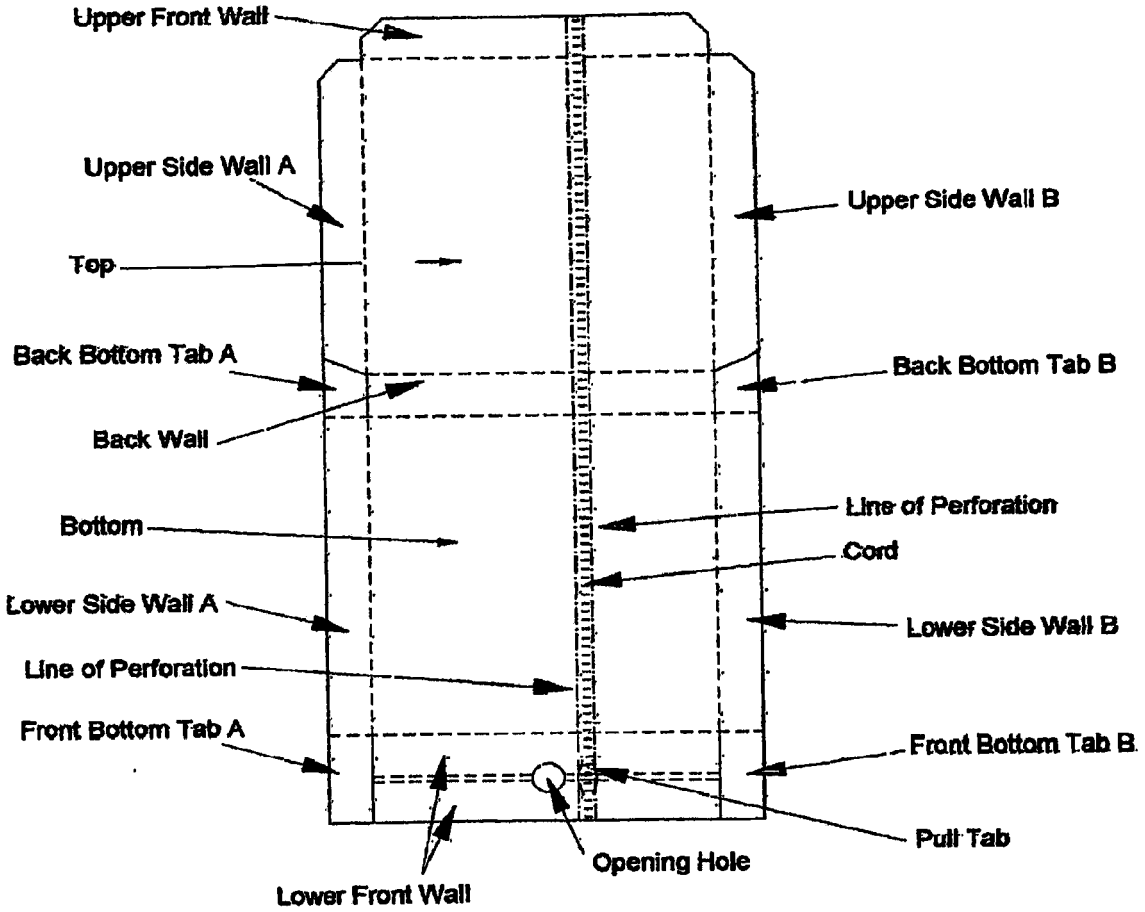

FIG. 8 Plan View

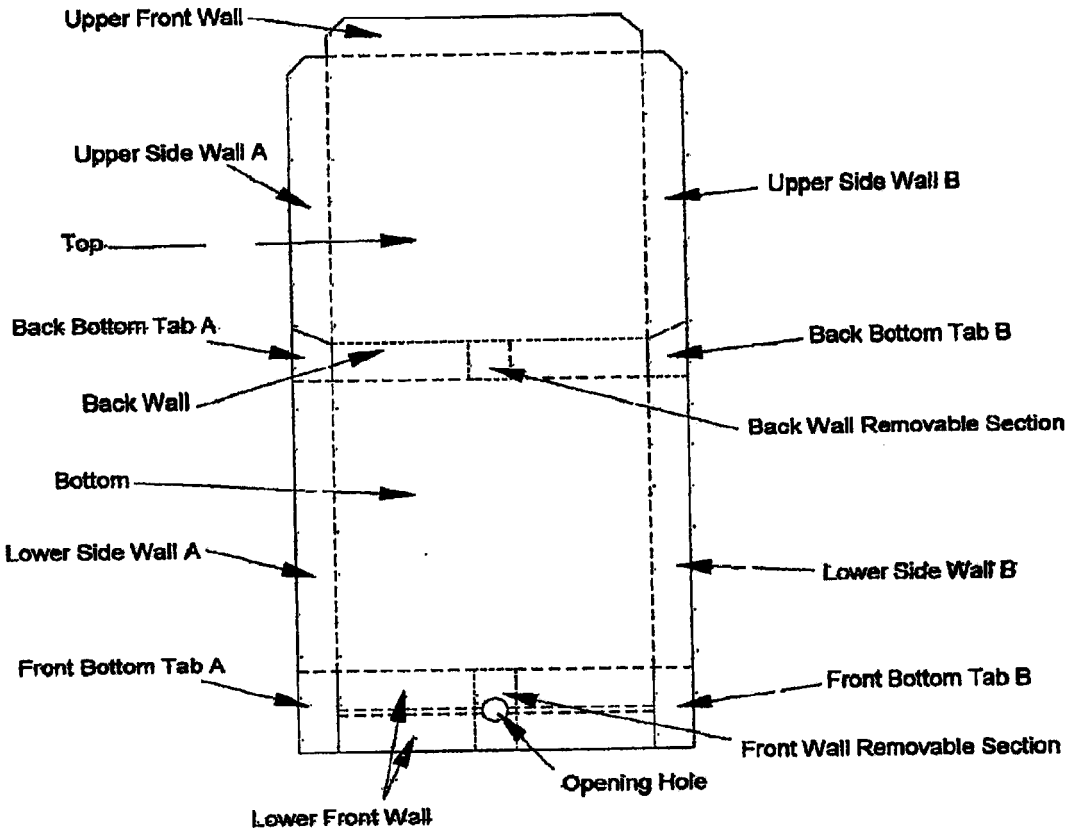

FIG. 9 Plan View

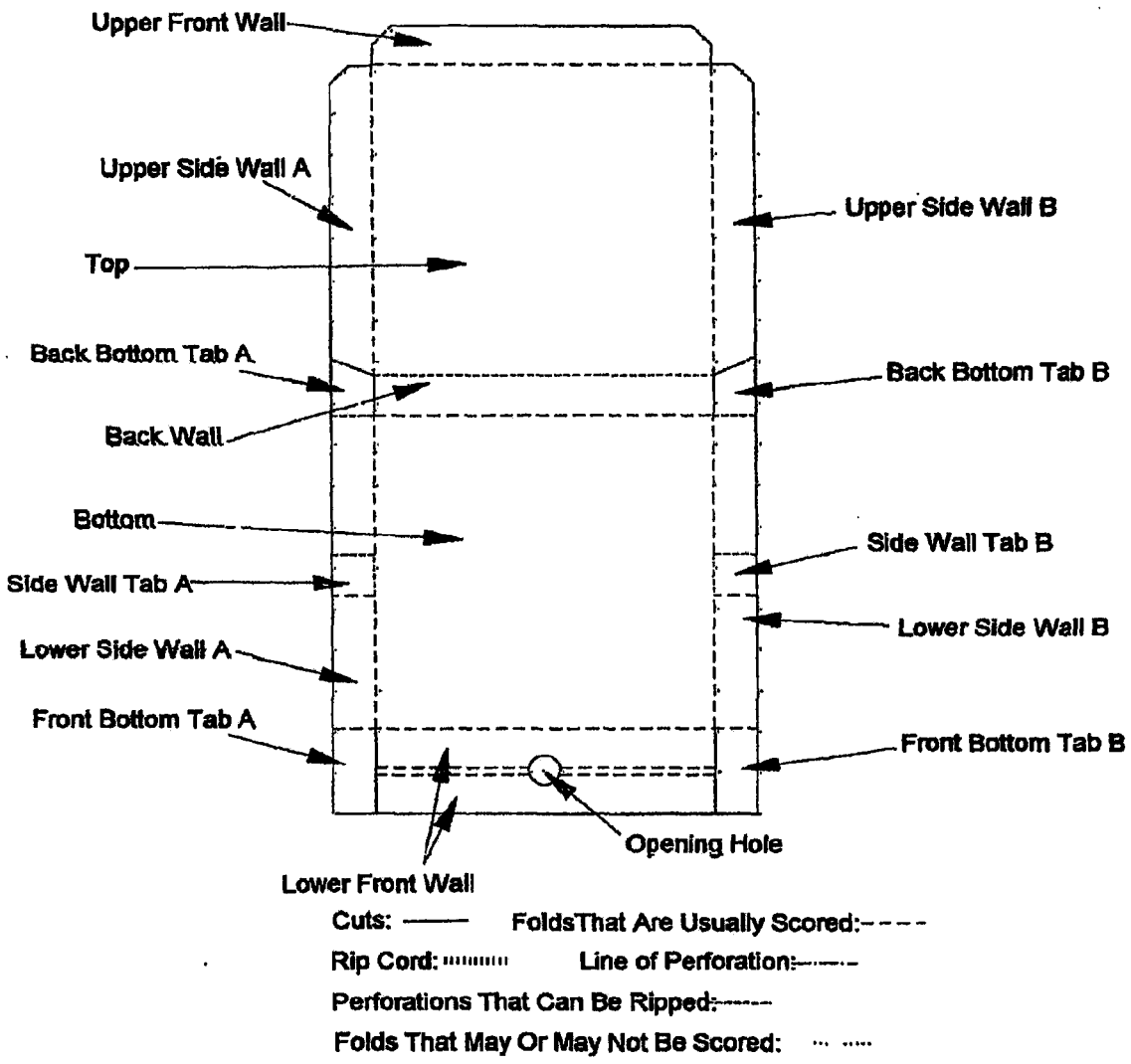

FIG. 10 Plan View

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EUROPEAN SEARCH REPORT

Application Number
EP 12 16 9848

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	EP 1 593 606 A2 (ENCASE LTD [GB]) 9 November 2005 (2005-11-09) * abstract; figures 1,2,4,5 * * paragraph [0027] - paragraph [0046] * -----	1-12	
A	US 6 547 125 B2 (CORRELL JOHN D [US]) 15 April 2003 (2003-04-15) * abstract; figures 1,2 * -----	1-12	
A	US 4 621 736 A (ROCCAFORTE HARRY I [US]) 11 November 1986 (1986-11-11) * column 4, paragraph 3; figures 2,5,10 * -----	1-3,8, 10,11	
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B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	12 July 2012	Segerer, Heiko

CATEGORY OF CITED DOCUMENTS

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12-07-2012

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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