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(54) BULK CONTAINER WITH INVENTORY VIEWING MEANS AND POUR SPOUT

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(57) **ABSTRACT**

A bulk container for storing and shipping flowable material in bulk. The container is constructed of inner and outer cartons laminated together and made of corrugated paperboard. The container has side walls with at least one viewing opening for viewing the level of contents of the container, and a closable dispensing opening through which the flowable material may be dispensed. The closable dispensing opening is located in a lower corner of one of the side walls, adjacent to but spaced from the corner, and is closed by a first pour spout flap in the outer carton foldable in a first direction, and a second pour spout flap in the inner carton underlying the first flap and foldable in a second direction. Both flaps are formed by two spaced apart slits in the respective inner and outer cartons, extending parallel to the direction of the flutes of the corrugated paperboard, with the slits in the outer carton in substantial registry with the slits in the inner carton. The flaps, when in their open position, form an opening in the wall adjacent to but spaced from the corner and through which product is dispensed. The viewing opening preferably is formed of two parallel, laterally and vertically offset narrow slots extending parallel to the direction of the flutes of the corrugated material and located within the lower half of the side wall.

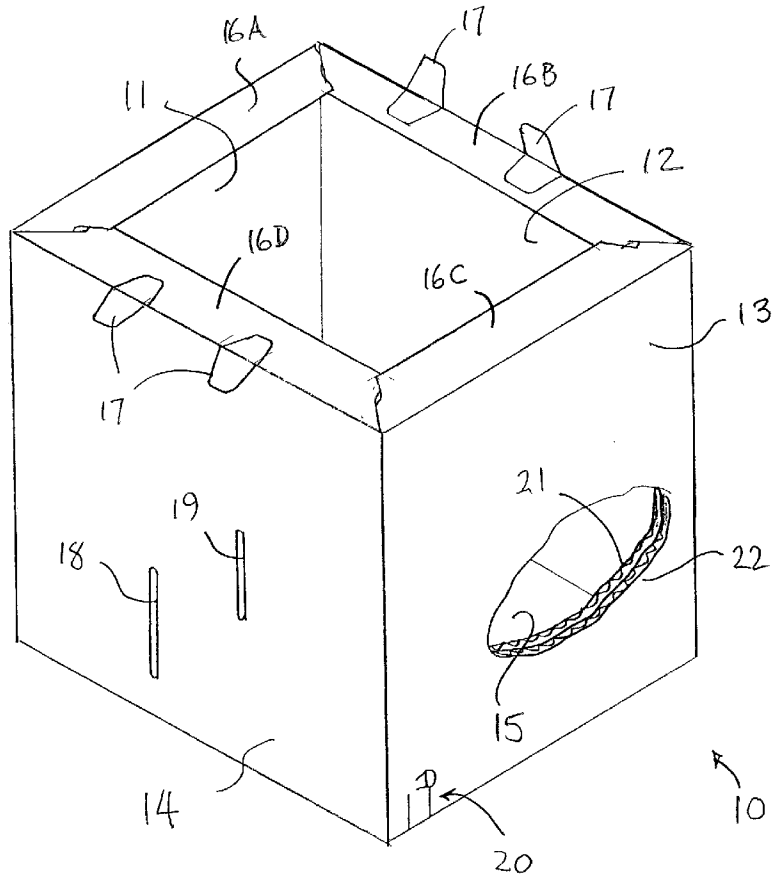
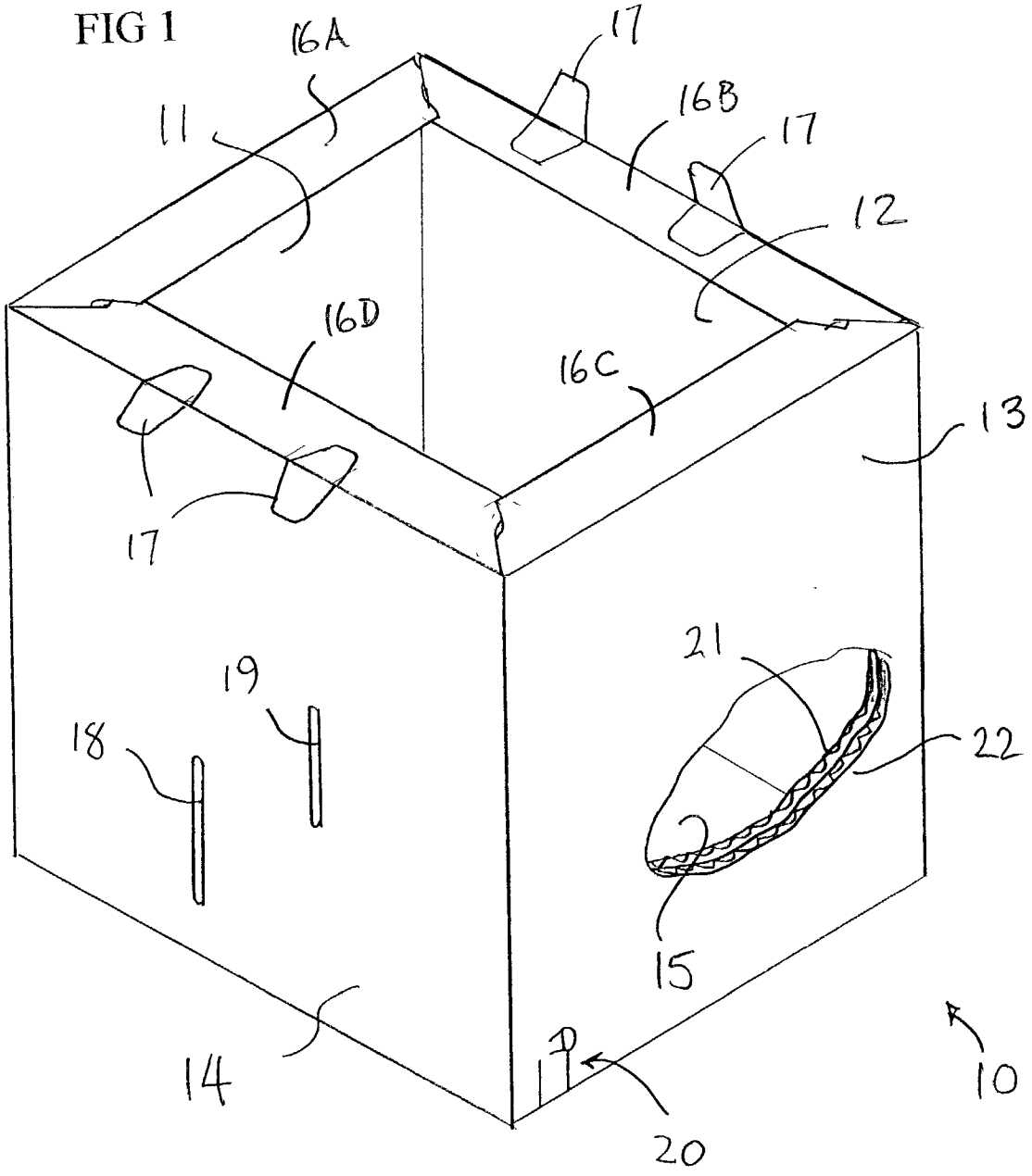


FIG 1



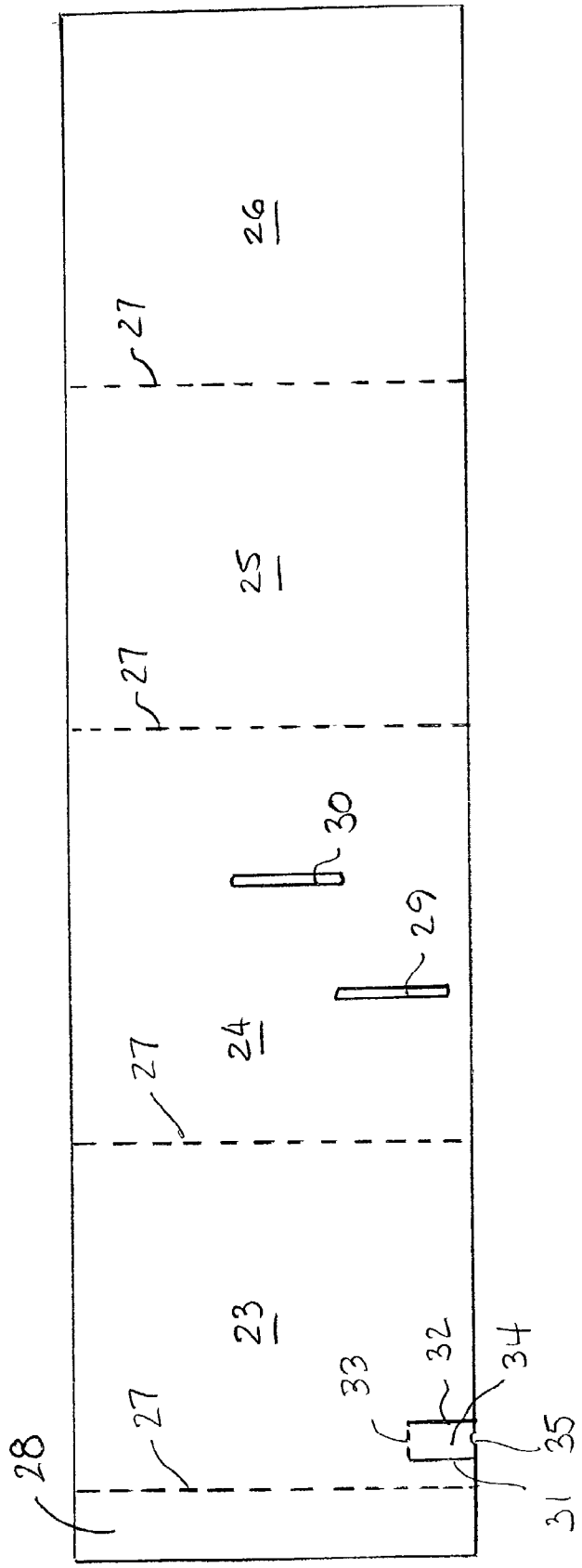
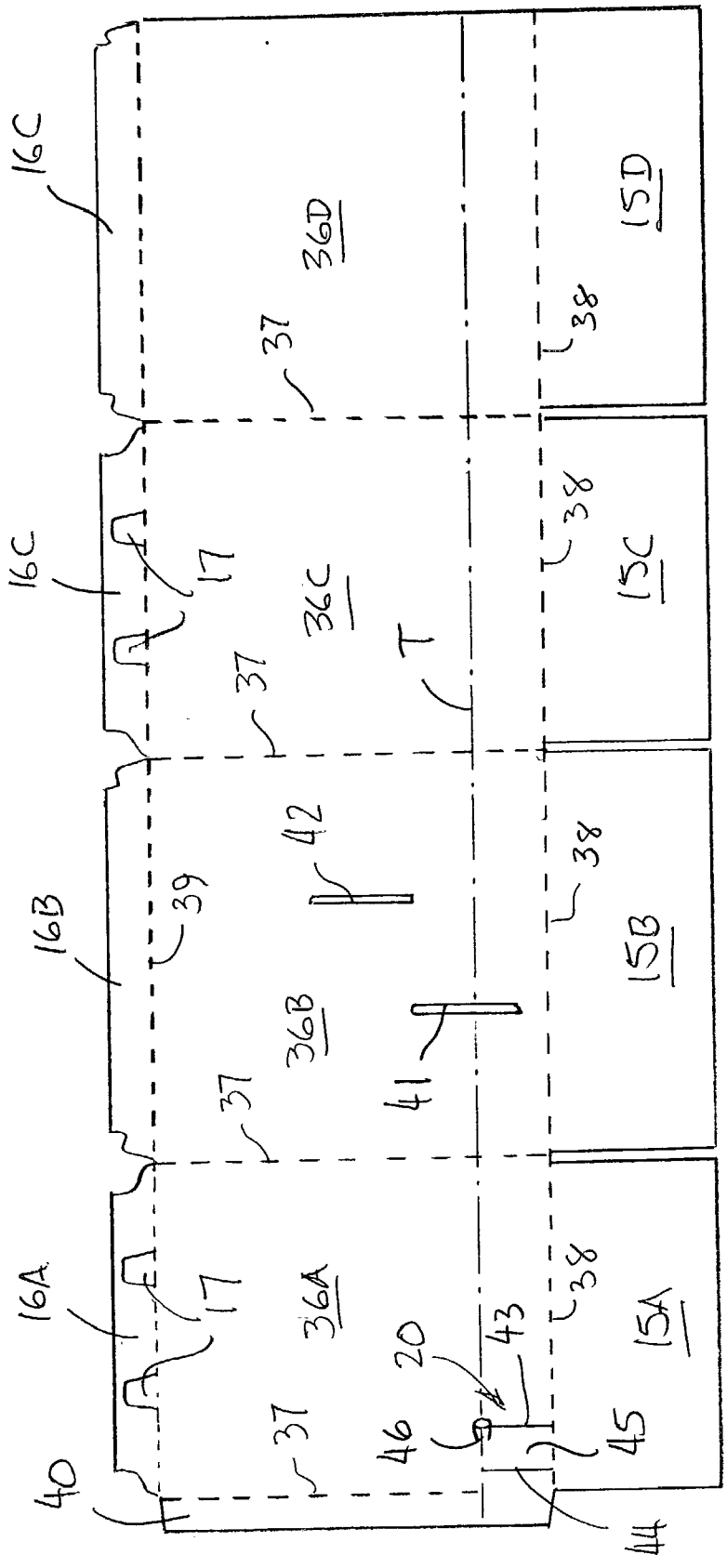


FIG 2


16C
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A
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FIG 3

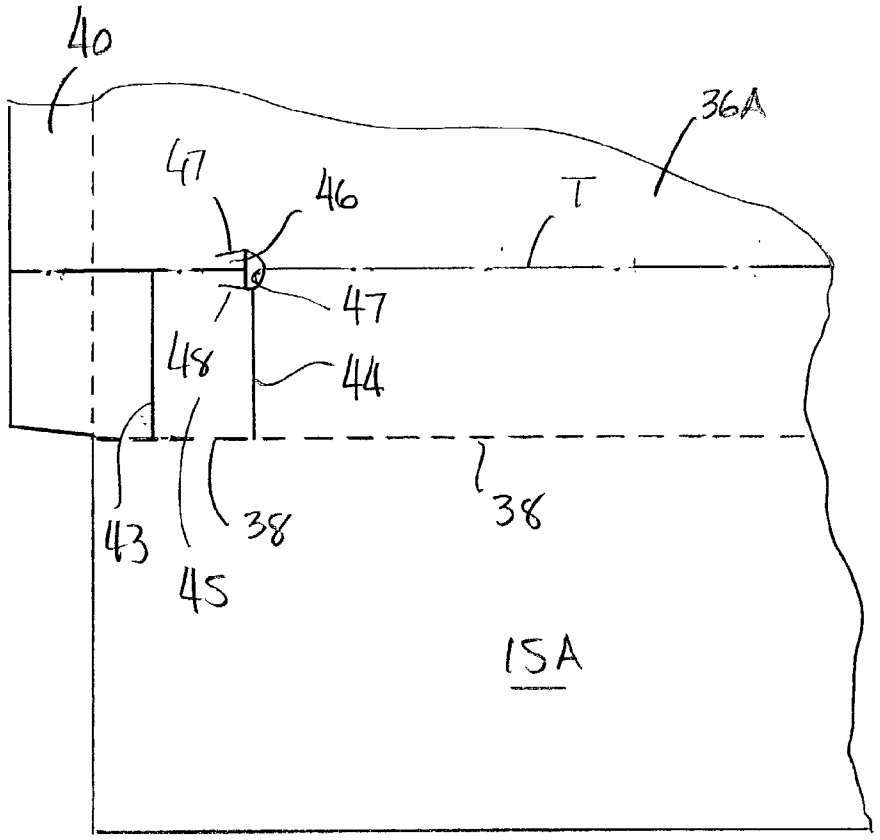


FIG 4

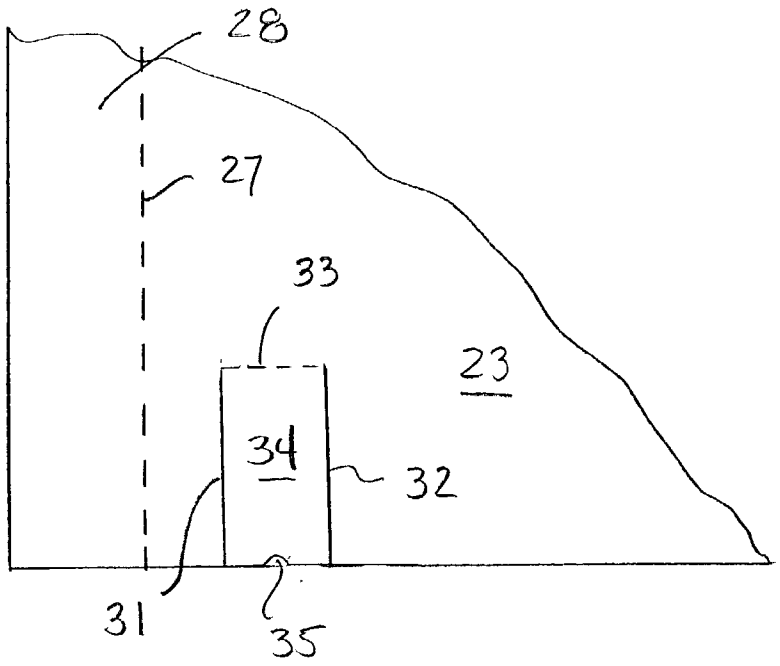
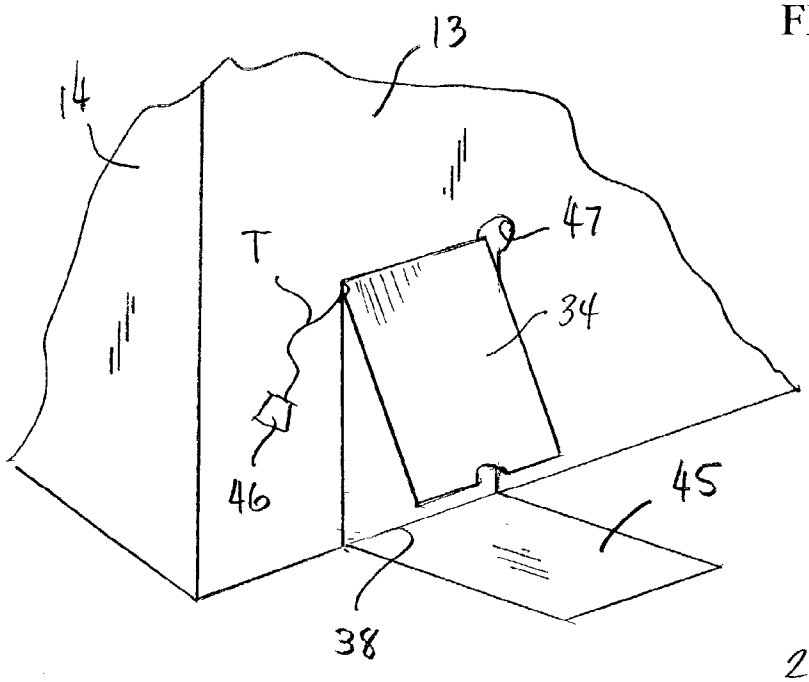


FIG 5

FIG 6



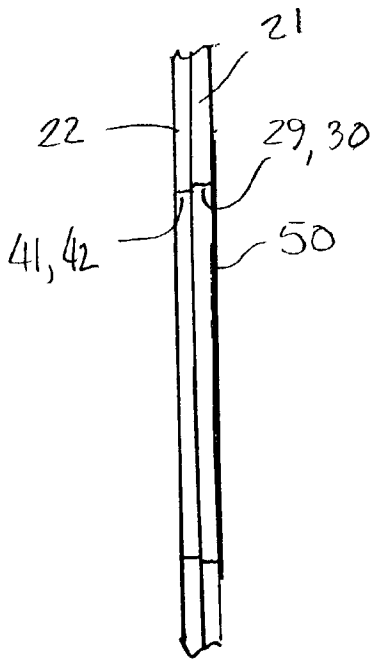


FIG 7

BULK CONTAINER WITH INVENTORY VIEWING MEANS AND POUR SPOUT

[0001] This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/339,640, filed Dec. 12, 2001.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] This invention relates generally to bulk containers, and particularly to a bulk container for flowable materials, wherein the container has viewing openings for viewing the level of contents in the container, and a pour spout for dispensing the contents from the container.

[0004] 2. Prior Art

[0005] Containers with viewing openings to view the contents, and dispensing means to dispense the contents from the container, are known in the prior art. These containers generally are relatively small and lightweight in construction, and the provision of viewing openings and/or dispensing means in the walls of the container do not pose any problem with respect to the integrity or strength of the container.

[0006] Bulk containers are also known in the prior art for storing and shipping material in bulk. Many of these containers are made from corrugated paperboard because of its relatively low cost, light weight, and recyclability, and can be designed to hold in excess of 2400 pounds of material. Some of these containers are used for holding flowable materials, and a few have viewing openings and/or dispensing means for dispensing flowable material from the container. However, because of the need to maintain the strength and integrity of these bulk containers, special constructions are employed in the viewing openings and dispensing means. These special constructions add to the expense of the container.

[0007] Closures for beverage containers are currently packaged in small RSCs for shipment to facilities which apply the closures to beverage containers. This requires a considerable amount of time-consuming manual labor at the point of use, since many individual containers must be handled and opened in order to gain access to the closures before the closures can be applied to beverage containers. The result is increased labor and cost. To applicant's knowledge, beverage container closures have not been previously packaged in disposable bulk containers with a corner spout for shipment to a point of use and then dispensed directly from the bulk container.

[0008] Accordingly, there is need for a bulk container that has inexpensive viewing openings and dispensing means for flowable materials, wherein the viewing openings and dispensing means are constructed to maintain the strength and integrity of the container. There is also need for a bulk container for closures for beverage containers, with dispensing means for the closures from the corner of the container, whereby the time and labor involved in removing the closures from the container is drastically reduced.

SUMMARY OF THE INVENTION

[0009] The invention comprises a bulk container for storing and shipping material in bulk, and dispensing the material from the container at the point of use. By storing and shipping the material in a bulk container, and dispensing the material directly from the container, handling is significantly reduced, with concomitant reduction in cost. In particular, the bulk container of the invention has inexpensive viewing openings and dispensing means which maintain the strength and integrity of the container.

[0010] The bulk container of the invention is especially designed for storing, shipping and dispensing small parts, such as, e.g., beverage container closures.

[0011] The container of the invention has opposed sidewalls, a bottom formed by inwardly folded flaps, and a flap structure at the top. A lid or cover may be provided to close the top.

[0012] A plurality of elongate, narrow, vertically oriented slots are provided in at least one side wall for viewing the level of the contents of the container. The slots extend parallel to the flutes of the corrugated material, and have a limited length and are offset relative to one another in staggered relationship. Further, in a preferred embodiment the slots are provided in only a bottom half of the container. This arrangement minimizes the effect that the slots might otherwise have on the strength and integrity of the container, and adds virtually no cost, or very little cost, to the container.

[0013] In the particular embodiment disclosed herein, the container comprises an outer carton and an inner carton laminated to the inside of the outer carton. Viewing slots are provided in both the outer and inner cartons, in aligned registry with one another. In a preferred embodiment, the slots in the inner carton are slightly wider and longer than the slots in the outer carton to accommodate any slight misalignment that might occur between the inner and outer cartons when they are being laminated to one another.

[0014] If desired, the viewing openings may be covered on the inside of the container with a two mil sheet of plastic glued in place over the openings, and a printed inventory meter or scale can be placed on the outside of the container next to the openings. Instead of a sheet of plastic covering the openings on the inside of the container, a bag holding the product can be placed in the container.

[0015] A hinged, tear-out pour spout structure is formed in a bottom portion of one of the side walls of the container near one corner to permit the beverage closures, or other small parts or flowable material, to be easily evacuated (dispensed) from the container. The pour spout is designed to minimize any deleterious effect it might have on the strength and integrity of the container, and to this end has minimal cut lines extending across the flutes of the corrugated material. The pour spout comprises a downwardly foldable outer flap in the outer carton, and an aligned upwardly foldable inner flap in the inner carton.

[0016] A length of tear tape is embedded in the side wall a predetermined distance from the bottom, and a tear tab is formed in the side wall in registry with and connected to the tape so that the tear tab can be grasped and pulled outwardly to cause the tear tape to sever the wall of the outer carton along a predetermined line that corresponds to the top end of the outer, downwardly folding pour spout flap. A pair of parallel, spaced apart cuts are made in the outer carton wall, extending from the tear tape to the bottom of the side wall, so that when the tear tape is used to sever the outer carton

wall along the predetermined line, the outer pour spout flap may be folded downwardly about its bottom end.

[0017] A pair of parallel cuts are formed in the inner carton wall and are spaced apart a distance slightly less than the cuts defining the sides of the downwardly folding flap in the outer carton wall, and extend from the bottom of the outer carton wall to approximately the line defined by the tear tape. When the outer flap is folded downwardly, the lower end of the inner flap may be grasped and the inner flap folded upwardly to form a dispensing opening through the wall of the container.

[0018] When a desired quantity of product has been dispensed through the dispensing opening, the inner and outer flaps can be folded back into their original positions and, if desired, taped in place to close the container until it is subsequently desired to dispense additional product.

[0019] The placement and configuration of the viewing openings, and location and arrangement of the tear line and cuts forming the hinged tear-out pour spout in a bottom corner portion of the container, result in maintaining the integrity of the container and at the same time allows for ease of opening despite the heavy board combination. Moreover, the construction and location of the pour spout insure that approximately 95% of the contents can be dispensed from the container through the pour spout. The pour spout can be located in any bottom corner portion of the container.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The foregoing as well as other objects and advantages of the invention will become apparent from the following detailed description when considered in conjunction with the accompanying drawings, wherein like reference characters designate like parts throughout the several views, and wherein:

[0021] **FIG. 1** is a top perspective view of a bulk container incorporating the viewing openings and pour spout of the invention.

[0022] **FIG. 2** is a plan view of the blank for forming the inner carton of the container of the invention.

[0023] **FIG. 3** is a plan view of the blank for forming the outer carton of the container of the invention.

[0024] **FIG. 4** is an enlarged fragmentary plan view of a lower corner portion of the blank for forming the outer carton, showing the arrangement of tear tape, tear tab, and cuts forming the outer, downwardly folding pour spout flap.

[0025] **FIG. 5** is an enlarged fragmentary plan view of a corresponding lower corner portion of the blank for forming the inner carton, showing the arrangement of cuts forming the inner, upwardly folding pour spout flap.

[0026] **FIG. 6** is an enlarged, fragmentary perspective view of a lower corner portion of the container, showing the inner and outer pour spout flaps folded toward an opened position.

[0027] **FIG. 7** is an enlarged, fragmentary sectional view showing a transparent plastic film laminated to the inside of the inner carton in covering relationship to the viewing openings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0028] A corrugated paperboard bulk container according to the invention is indicated generally at **10** in the drawings. The container has four side walls **11**, **12**, **13** and **14**, a bottom wall **15** formed of flaps **15**A, **15**B, **15**C and **15**D, and four interlocking narrow peripheral flaps **16**A, **16**B, **16**C and **16**D around the top. In the particular example shown, locking tabs **17** are formed in two of the top flaps, and these tabs can be folded outwardly and downwardly to engage the inside of a depending skirt of a cover (not shown) to retain the cover in place on the container.

[0029] A plurality of viewing openings **18** and **19** are formed in at least one side wall, and a pour spout **20** is formed in a lower corner portion of one side wall for dispensing product from the container.

[0030] The container comprises an inner carton **21** and an outer carton **22** laminated together. The inner and outer cartons are made of corrugated paperboard and are arranged with the flutes or corrugations thereof running vertically.

[0031] As seen best in **FIG. 2**, the inner carton **21** has four side wall forming panels **23**, **24**, **25** and **26** foldably joined to one another along scores **27**. A glue flap **28** is foldably connected along one edge of one of the panels **23**. A pair of elongate, narrow, parallel slots **29** and **30** are formed in at least one side wall panel **24** in spaced apart, vertically staggered relationship to one another, in the bottom half of the container. The lengths and positioning of the slots are such that the upper end of the lower positioned slot **29** is higher than, or at least as high as, the lower end of the higher positioned slot **30**.

[0032] A pair of spaced apart, parallel, vertical cuts **31** and **32** are formed in a bottom corner portion of another panel **23**, extending from the bottom edge of the panel to a horizontal score **33** spaced a predetermined distance upwardly from the bottom edge. The cuts and score define an upwardly folding pour spout flap **34** in the inner carton, and a small area **35** is cut out of the bottom edge of the flap to facilitate grasping the flap to pull it outwardly and upwardly.

[0033] The outer carton **22**, as seen best in **FIG. 3**, comprises four side wall forming panels **36**A, **36**B, **36**C and **36**D, foldably joined to one another along parallel scores **37**, with the four bottom forming flaps **15**A, **15**B, **15**C and **15**D foldably joined along a score **38** at the bottom edges of the panels **36**A, **36**B, **36**C and **36**D, and the narrow top flaps **16**A, **16**B, **16**C and **16**D foldably joined along a score **39** to the top edges of the panels. A glue flap **40** is foldably connected to one edge of one of the panels **36**A.

[0034] A length of tear tape T is embedded in the walls of the outer carton in predetermined spaced relationship from the bottom edge of the panels **36**A, **36**B, **36**C and **36**D. It should be noted that when reference is made to the tear tape being "embedded" in the walls of the outer carton, it is to be understood that the tape is placed such that when it is pulled as described hereinafter, it severs or tears completely through the material of the outer carton. Thus, the tape should be understood as being on an inner surface of the outer carton when the carton is erected into a box as shown in **FIG. 1**. Except as described below, the tape extends the entire width of the blank forming the outer carton, as seen

in **FIG. 3**. This tape not only serves the function described below, but also reinforces the carton to resist bulging of the side walls when the container is filled with product.

[**0035**] A pair of elongate, narrow, parallel slots **41** and **42** are formed in at least one side wall panel **36**B in spaced apart, vertically staggered relationship to one another, in the bottom half of the container. The lengths and positioning of the slots are such that the upper end of the lower positioned slot **41** is higher than, or at least as high as, the lower end of the higher positioned slot **42**, and these slots are located so that they register with the slots **29** and **30** in the inner carton when the inner and outer cartons are laminated together. In this last regard, the slots in the inner carton can be made slightly wider and longer than the slots in the outer carton to accommodate any slight misalignment that might occur when the inner and outer cartons are laminated together.

[**0036**] A pair of parallel cuts **43** and **44** are made in a lower corner portion of another panel **36**A, extending from the score **38** at the bottom edge of panel **36**A to the tear tape T. These cuts are spaced apart a slightly greater distance than the cuts **31** and **32** in the inner carton and are located so that the cuts **31** and **32** lie within the space bounded by the cuts **43** and **44**. The score **38**, cuts **43** and **44**, and tape T define a fold down outer pour spout flap **45**.

[**0037**] As seen best in **FIG. 4, a** tear tab **46** defined by a pair of converging cuts **47** and **48** and a D-shaped cut-out **47** across the tear tape is attached to the tear tape T at the upper end of cut **44**. The cut-out provides access to the tab **46** so that the tab can be grasped and pulled outwardly and toward the adjacent corner of the container to sever the material of the outer carton along the tear line from cut **44** to cut **43** and thus separate the upper end of the outer pour spout flap **45** from the side wall so that the flap can be folded downwardly about the score **38**.

[**0038**] If desired, a thin sheet or film **50** of transparent material may be secured over the inside of the viewing opening slots **29** and **30** in the inner carton, as shown in **FIG. 7**.

[**0039**] In a specific construction of the container according to the invention, wherein the container is particularly adapted for storing and dispensing plastic closure caps for beverage containers, and in a container having a side wall height of about 46 inches and width of 38 inches, the tear tape is located approximately 8 inches from the bottom edge of the container, the outer fold down pour spout flap has a width of about 5 inches, the inner fold up pour spout flap has a width of about 4⅜ inches, the near edge of the outer pour spout flap is spaced from about 2 to about 3 inches from the adjacent corner of the container, and the near edge of the inner pour spout flap is spaced about 2½ inches from the adjacent corner. In a preferred construction for dispensing plastic closure caps, the dispensing opening formed when the pour spout flaps are opened is from about 7½ to 8 inches high and from about 4¼ to 5¼ inches wide.

[**0040**] In use, a container made from the inner and outer cartons described above is filled with product, e.g., plastic closures for beverage containers, and shipped to a point of use. When it is desired to access the closures, an operator grasps the tear tab and pulls the tear tape to sever the material holding the upper end of the outer pour spout flap, which is then folded downwardly. The operator can then grasp the lower end of the inner pour spout flap and fold it upwardly to form an opening into the interior of the container and through which the contents are dispensed. Normally, following the initial opening of the container, approximately half of the contents are emptied from the container, after which the flaps may be folded to their closed positions and taped in place until ready for subsequent use.

[**0041**] The vertical orientation of all cuts, parallel to the direction of the flutes of the corrugated material, rather than across them, except where the tear tape forms a cut when the pour spout is opened, and the location of the pour spout in a lower corner portion of the container, has very little deleterious effect on the strength and integrity of the container. The particular size, location and configuration of the pour spout also ensures that approximately 95% of the contents can be dispensed from the container without operator intervention, and the relationship of the upwardly and downwardly folding flaps that form the pour spout results in a strong and secure closure of the pour spout.

[**0042**] Although particular embodiments of the invention are illustrated and described in detail herein, it is to be understood that various changes and modifications may be made to the invention without departing from the spirit and intent of the invention as defined by the scope of the appended claims.

What is claimed is:

1. A bulk container for storing and shipping flowable material in bulk, wherein the container has side walls of corrugated paperboard, and a closable dispensing means through which the flowable material may be dispensed, said closable dispensing means being located in a lower corner of one of said side walls, adjacent to but spaced from said corner, and comprising spaced apart slits in the wall, extending parallel to the direction of the flutes of the corrugated paperboard, and defining an outer pour spout flap that folds in a first direction outwardly of the wall to an open position, and an inner pour spout flap underlying the outer flap and foldable in a second direction outwardly of the wall to an open position, said flaps, when in their open position, forming an opening in the wall adjacent to but spaced from said corner and through which product is dispensed.

2. A bulk container as claimed in claim 1, wherein:

the corrugations, and thus the slits, extend vertically in the wall; and

said outer pour spout flap folds downwardly to its open position about a fold line at a bottom edge of the wall, and said inner pour spout flap folds upwardly to its open position about a fold line spaced upwardly from said bottom edge.

3. A bulk container as claimed in claim 2, wherein:

said container comprises inner and outer cartons of corrugated paperboard laminated together to form said walls; and

said outer pour spout flap is defined by spaced apart slits in said outer carton, and said inner pour spout flap is defined by spaced apart slits in said inner carton.

4. A bulk container as claimed in claim 3, wherein:

a tear strip extends between and in traversing relationship with said slits in the outer carton, delineating an upper end of the outer pour spout flap, whereby the tear strip

may be grasped and pulled across the upper end of the outer pour spout flap to sever the corrugated paperboard between the slits to enable the outer pour spout flap to be folded downwardly.

5. A bulk container as claimed in claim 4, wherein:

bottom flaps are foldably joined to the bottom edges of the walls along a fold line, and the fold line for the outer pour spout flap is the same as the fold line for the bottom flaps.

6. A bulk container as claimed in claim 5, wherein:

the fold line for the inner pour spout flap is defined by a score line in the inner carton spaced from the bottom edge of the wall approximately the same distance as said tear strip in the outer carton.

7. A bulk container as claimed in claim 6, wherein:

the slits defining the inner pour spout flap are spaced closer together than the slits defining the outer pour spout flap.

8. A bulk container as claimed in claim 1, wherein:

at least one elongate narrow viewing slot extends vertically in at least one said side wall to provide a viewing opening for visually determining the level of contents in the container.

9. A bulk container as claimed in claim 8, wherein:

there are a plurality of viewing slots of limited length arranged in horizontally offset vertically staggered relationship to one another, an upper end of one slot being at substantially the same level as a lower end of an adjacent slot, each of said slots individually providing a view of the contents over only a minor extent of the height of the container, but said plurality of slots together providing a view of the contents over a substantial extent of the height of the container.

10. A bulk container as claimed in claim 9, wherein:

there are two viewing slots in a side wall of the container, each slot extending over approximately one fourth the height of the side wall, and both said slots being located in the lower half of the container side wall.

11. A bulk container as claimed in claim 10, wherein:

the corrugations and the viewing slots extend vertically in the wall; and

said outer pour spout flap folds downwardly to its open position about a fold line at a bottom edge of the wall, and said inner pour spout flap folds upwardly to its open position about a fold line spaced upwardly from said bottom edge.

12. A bulk container as claimed in claim 11, wherein:

said container comprises inner and outer cartons of corrugated paperboard laminated together to form said walls;

said outer pour spout flap is defined by spaced apart slits in said outer carton, and said inner pour spout flap is defined by spaced apart slits in said inner carton; and

said viewing slots are formed in both the inner and outer cartons, the viewing slots in the inner carton being in aligned registry with the viewing slots in the outer carton.

13. A bulk container as claimed in claim 12, wherein:

a tear strip extends between and in traversing relationship with said slits in the outer carton, delineating an upper end of the outer pour spout flap, whereby the tear strip may be grasped and pulled across the upper end of the outer pour spout flap to sever the corrugated paperboard between the slits to enable the outer pour spout flap to be folded downwardly.

14. A bulk container as claimed in claim 13, wherein:

bottom flaps are foldably joined to the bottom edges of the walls along a fold line, and the fold line for the outer pour spout flap is the same as the fold line for the bottom flaps.

15. A bulk container as claimed in claim 14, wherein:

the fold line for the inner pour spout flap is defined by a score line in the inner carton spaced from the bottom edge of the wall approximately the same distance as said tear strip in the outer carton.

16. A first one piece corrugated paperboard blank for constructing a bulk container having side walls, a bottom, a top, at least one viewing opening in a side wall thereof, and a dispensing means for dispensing product from a container constructed from the blank, said blank comprising:

a plurality of side-wall-forming panels foldably joined together along parallel fold lines extending parallel to the flutes of the corrugated paperboard, whereby the flutes extend vertically in the side walls of a container constructed from the blank, said side-wall-forming panels having a top edge and a bottom edge;

a plurality of bottom-forming flaps foldably joined to the bottom edge of said side-wall-forming panels along a fold line at said bottom edge;

a pair of spaced apart parallel slits in a lower corner portion of one of said side-wall-forming panels, said slits extending parallel to the flutes of the corrugated paperboard and extending from the fold line at said bottom edge to upper ends of the slits at a predetermined distance from the bottom edge; and

a length of tear tape on an inner surface of said blank at said predetermined distance, extending perpendicular to the flutes of the corrugations and in spanning relationship to said upper ends of the slits, whereby in a container constructed from the blank the tear strip may be grasped and pulled outwardly to sever the paperboard between the upper ends of the slits to form a pour spout flap that may be folded outwardly and downwardly about the fold line at the bottom edge of the walls.

17. A blank as claimed in claim 16, wherein:

at least one elongate narrow viewing slot is formed in at least one of the side-wall-forming panels to provide a viewing opening to view the level of the contents of a container constructed from said blank.

18. A blank as claimed in claim 17, wherein:

there are two elongate narrow viewing slots formed in one side-wall-forming panel, said slots being laterally offset and parallel to one another, one of said slots beginning near said bottom edge and terminating a first distance spaced from the bottom edge, and the other slot beginning at said first distance and terminating a second distance spaced from the bottom edge, said second

distance being greater than the first distance, and both said distances being in a lower half of said side-wall-forming panel.

19. A blank as claimed in claim 18, wherein:

a second one piece corrugated paperboard blank is adapted to be laminated to an inner surface of said first blank to construct a container, said second blank comprising:

a plurality of side-wall-forming panels substantially the same size as the side-wal-forming panels in the first blank, and foldably joined together along parallel fold lines extending parallel to the flutes of the corrugated paperboard, whereby the flutes extend vertically in the side walls of a container constructed from the blank, said side-wall-forming panels in the second blank having a top edge and a bottom edge substantially coterminous with the top edge and bottom edge of the side-wall-forming panels in the first blank when laminated thereto;

a pair of spaced apart parallel slits in a lower corner portion of one of said side-wall-forming panels in said second blank in a location to substantially register with the slits in the first blank when the first and second blanks are laminated together, said slits in the second blank extending parallel to the flutes of the corrugated paperboard and extending from said bottom edge to a fold line at upper ends of the slits at a predetermined distance said bottom edge, said slits and said fold line defining a pour spout flap that may be folded upwardly about said fold line.

20. A blank as claimed in claim 19, wherein:

there are two elongate narrow viewing slots formed in one side-wall-forming panel of said second blank, said slots being in aligned registry with the slots in the first blank when the two blanks are laminated together.

* * * * *