

Oct. 29, 1963

R. J. CURIE ETAL

3,108,732

DISPOSABLE TYPE POURING CONTAINER PACKAGE COMBINATION

Filed Sept. 13, 1962

5 Sheets-Sheet 1

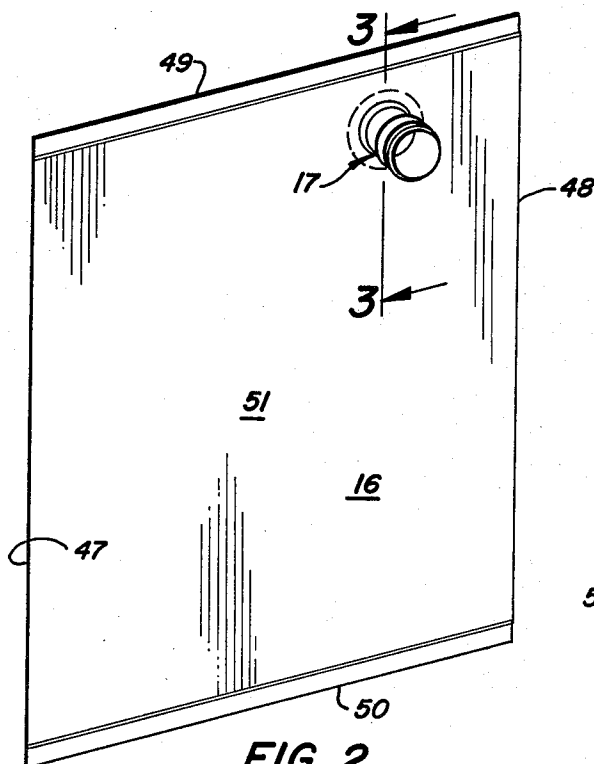


FIG. 2

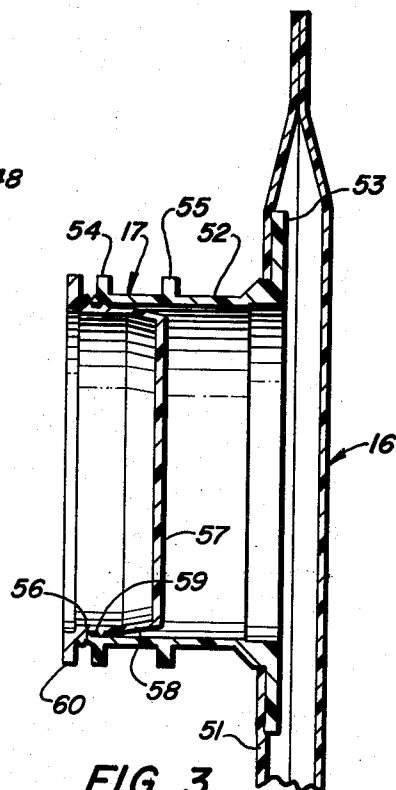


FIG. 3

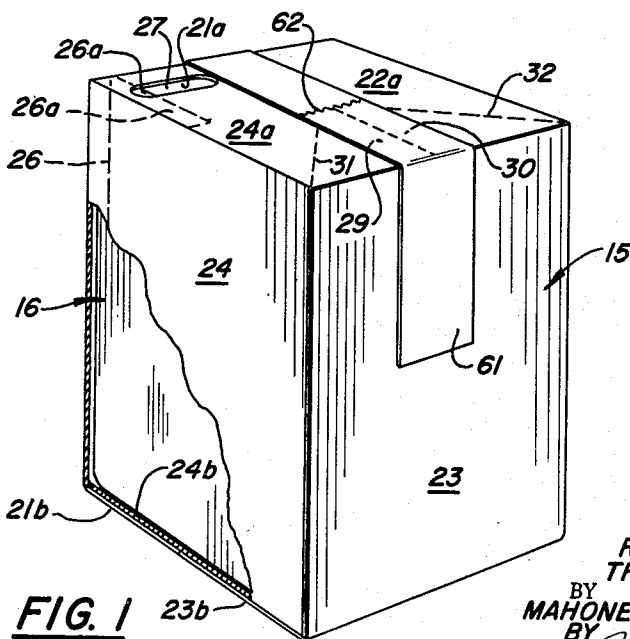


FIG. 1

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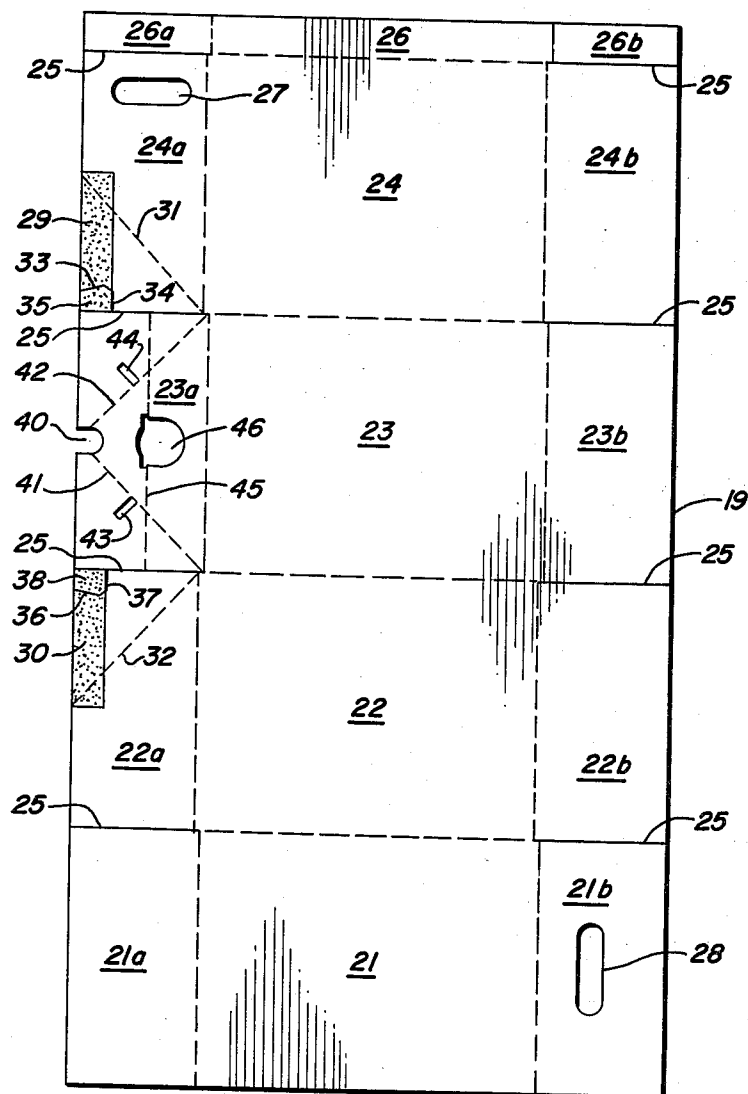


FIG. 4

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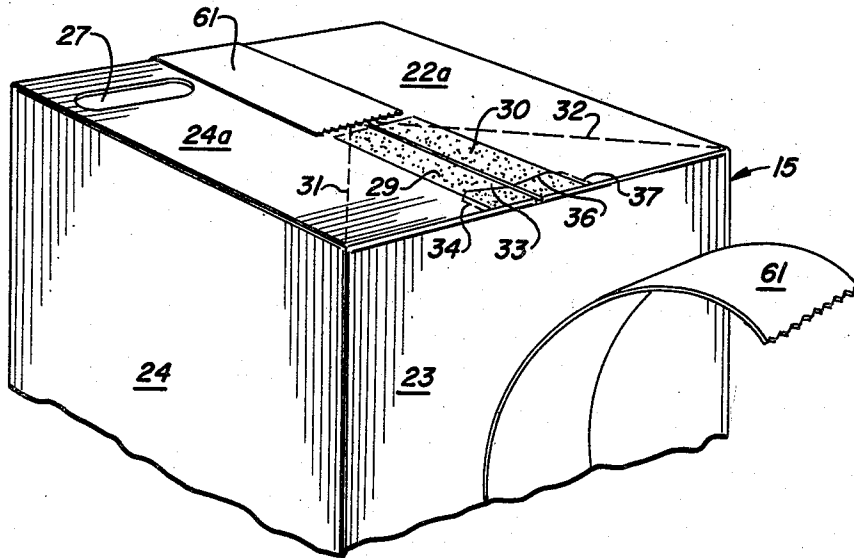


FIG. 5

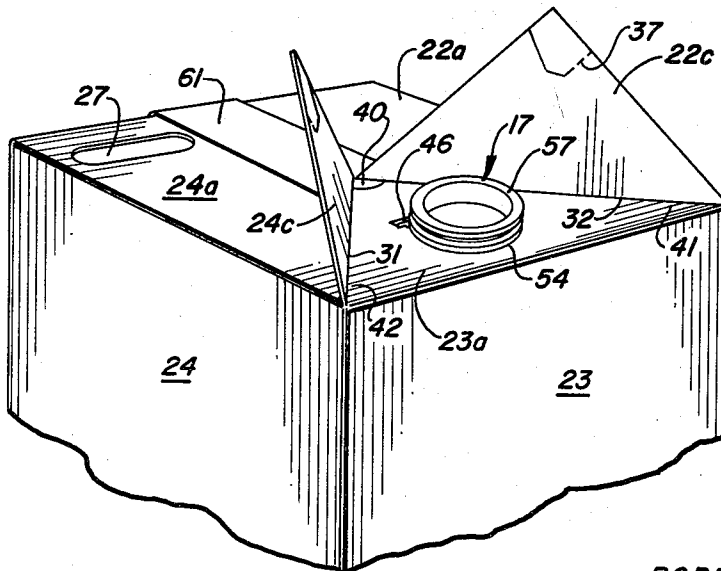


FIG. 6

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5 Sheets-Sheet 4

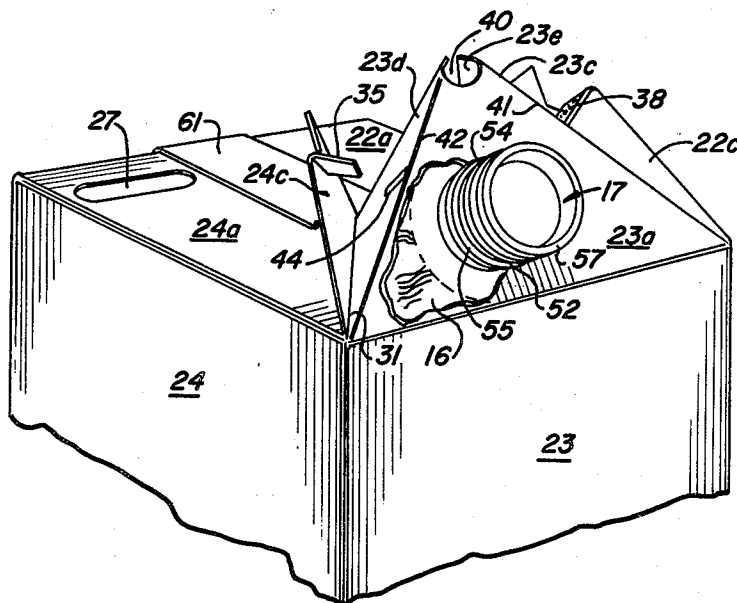


FIG. 7

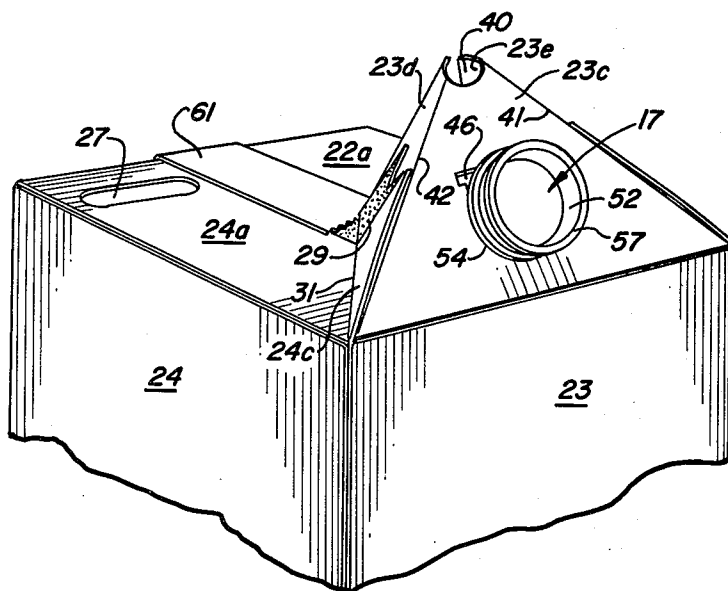


FIG. 8

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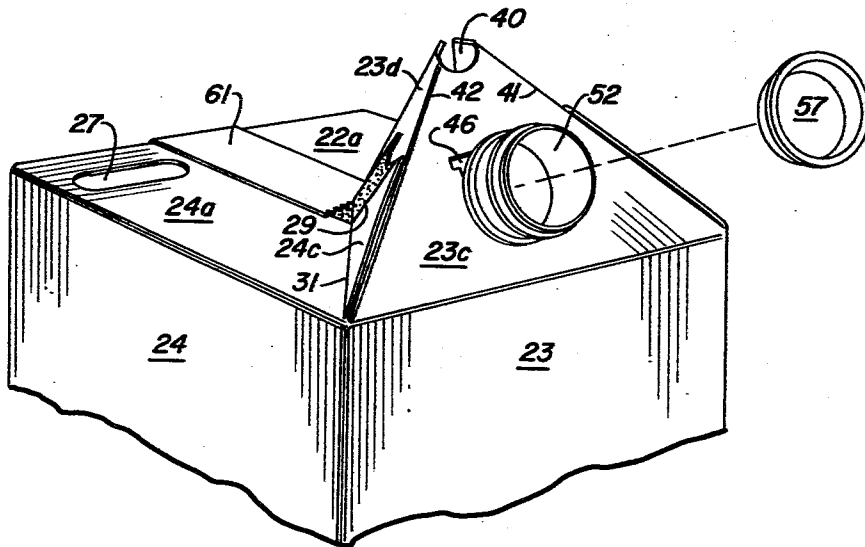


FIG. 9

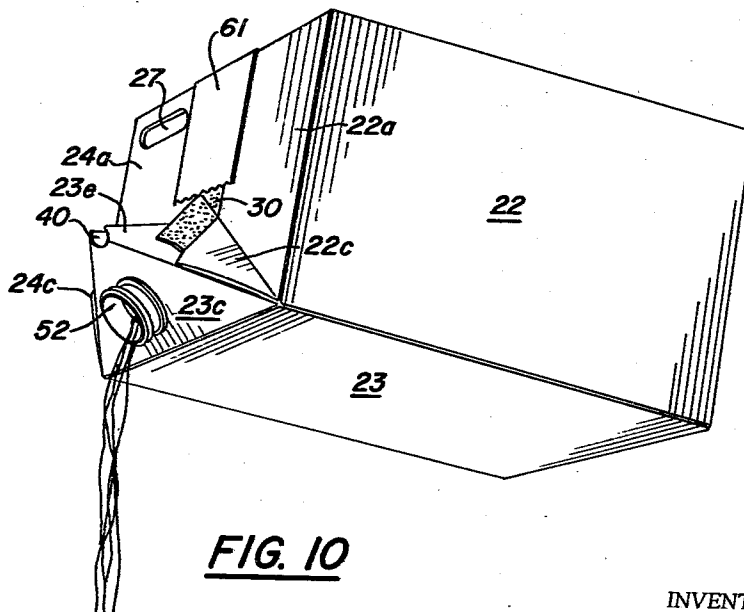


FIG. 10

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DISPOSABLE TYPE POURING CONTAINER PACKAGE COMBINATION

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5 Claims. (Cl. 229—14)

Our invention relates to a disposable type pouring container package. It has to do, more particularly, with a dispensing container which can be filled with a product capable of being poured therefrom and which is designed to facilitate the pouring operation without spilling or running on adjacent surfaces of the package during pouring and without dripping after pouring. The package is particularly adaptable to the containing and pouring of liquids, such as milk or water, in a completely sanitary manner but is not limited thereto.

More specifically, the present invention deals with a container package of the type which includes an outer protective supporting and confining package shell, usually in the form of a box of corrugated board, paperboard, or the like, and an inner sanitary flexible liner or inner container, usually in the form of a collapsible bag, which is enclosed within and protected by the outer shell. The outer shell is usually supplied to the dealer in the liquid as a box in knockdown form and when it is to be used, it is set up as a complete box with open flaps at its upper end so that it can receive and retain the liner. The liner is usually supplied to the dealer in flat condition as a liquid-tight collapsed bag and is positioned in the interior of the open box. After the bag is properly positioned in the box and filled to expand it, the flaps of the box are sealed in place to completely enclose and protect the bag. The bag is provided with a suitably positioned opening which is used both as a filling and pouring opening and which has a closure co-operating therewith. Usually the bag opening is at the top of the box during filling and is sealed after filling by its closure and then the upper flaps of the box are folded into closed position and secured in covering relationship to the closure.

The closure fits onto the neck or pouring spout of the bag at the opening. The flaps at the upper end of the box are so designed and arranged that the pouring spout of the container is initially held in a position beneath the topmost portions of the flaps but, when the container is unsealed, is movable upwardly and outwardly relative to the adjacent corner of the box and the adjacent flap portions are adjustable to hold it in such pouring position. In this position, there is a pitcher effect so that the contents can be poured from the spout when the closure is removed without spilling and without running over the surfaces of the corner and without dripping when pouring is stopped.

In the accompanying drawings the preferred form of our disposable type pouring container package combination is illustrated and in these drawings:

FIGURE 1 is a perspective view, partly broken away, of the closed and sealed package of our invention.

FIGURE 2 is a perspective view of the flexible container or bag of the package combination.

FIGURE 3 is an enlarged vertical sectional view taken along line 3—3 of FIGURE 2.

FIGURE 4 is a plan view of a blank used in forming the box of the package combination.

FIGURE 5 is a perspective view, partially schematic, of an upper fragment of the package combination illustrating the first step in unsealing and opening the box.

FIGURE 6 is a similar view showing the next step in

2

exposing the closure or cap and pouring neck or spout of the flexible container or bag.

FIGURE 7 is a similar view, but partly broken away, and showing the neck of the bag moved into position for pouring.

FIGURE 8 is a view similar to FIGURE 7 showing the neck of the bag supported in pouring position by the flap portions of the box.

FIGURE 9 is a view similar to FIGURE 8 but showing the cap removed from the neck ready for pouring from the supported neck.

FIGURE 10 is a perspective, partially schematic, view illustrating the actual pouring operation from the package.

With reference to FIGURE 1, the two main units of the container package of this invention are illustrated therein and comprise the box 15 which is shown in set-up and sealed condition with its upper closure flaps closed and sealed, and the bag 16 which is shown within the box in the relationship it will have thereto when filled. The bag 16 is provided with a neck and closure unit 17 as indicated in FIGURES 2 and 3.

The box 15 may be of suitable sheet material, such as corrugated fiberboard, solid fiberboard, paperboard, or similar material, and its details are shown in FIGURES 1 and 4 to 8. The box may be made from a suitable blank 19, as shown in FIGURE 4, which is scored and slit to provide the side walls 21, 22, 23, and 24, having the attached upper closure flaps 21a, 22a, 23a and 24a, and the attached lower closure flaps 21b, 22b, 23b, and 24b. The various closure flaps are hinged to the respective side walls and are separated from each other at the slits 25. The outer edge of the wall 24 has hinged thereto an attaching flange 26 with hinged upper and lower tabs 26a and 26b. Finger-receiving slots 27 and 28 are provided in the respective diagonally opposed closure flaps 24a and 21b, as indicated.

At the outer edge of the upper closure flap 24a adjacent the slit 25 which separates it from the flap 23a is a band 29 of ink or other coating which will prevent sticking of adhesive tape thereto for a purpose which will be explained later. For the same purpose a band 30 is provided at the outer edge of the flap 22a adjacent the slit 25 which separates it from the flap 22a. The flap 24a has a combined scored and perforated, or otherwise weakened, line 31 extending at an angle from its outer edge across the outer end of the band 29 to the slit 25 at the corner of the flap 24a where it is hinged to the side wall 24. Similarly, the flap 22a has a scored and perforated line 32 extending at an angle from its outer edge, across the outer end of the band 30 to the slit 25 at the corner of the flap 22a where it is hinged to the side wall 22. At the inner end of the band area 29, the flap 24a is provided with a perforated tear line 33 and a score line 34 substantially at a right angle to provide a tab 35. Similarly, at the inner end of the band 30, the flap 22a is provided with a perforated tear line 36 and a score line 37 to provide a tab 38. It will be noted that the hinge lines of the respective upper and lower closure flaps are slightly offset to facilitate folding of the closure flaps into overlapping relationship at the top and bottom of the box.

The top closure flap 23a is provided with an outwardly opening finger-receiving notch 40 located at its outer edge midway of its side edges. Extending from the notch 40 inwardly in diverging relationship are the angularly disposed score lines 41 and 42. These lines 41 and 42 terminate at the respective side edges of the flap 23a, or at the slits 25, and at the hinge or score line where the flap 23a joins the side wall 23. Extending outwardly at right angles to the respective score lines 41 and 42 are the tab-receiving slots 43 and 44. Another score line 45 extends entirely across the flap 23a intermediate its inner hinge

3

line and outer edge, intersecting with the score lines 41 and 42. Located within the tab 23a midway of its side edges and with its outer edge substantially in alignment with the score line 45 is a neck-receiving opening 46.

When the box 15 is set up, the blank is folded along the various fold lines between the vertical walls 21, 22, 23, and 24 and the fold line between the wall 24 and the attaching flange 26. The flange 26, as indicated in broken lines in FIGURE 1, is overlapped with the outer surface of the adjacent wall 21 and is glued or otherwise secured in place. By positioning the flange 26 outside the wall 21, a continuous smooth surface is provided around the interior of the box so that the bag 16 will not be cut. The bottom flaps 21b, 22b, 23b and 24b, are folded inwardly into overlapping relationship with the flaps 21b and 23b lowermost and may be secured in that position by means of gluing or by a piece of adhesive tape (not shown). The upper flaps 21a, 22a, 23a and 24a are folded inwardly into overlapping relationship with the flaps 22a and 24a outermost and being held down in position by a piece of adhesive tape 61, the tape being perforated intermediate its ends at 62. The tab 26a is folded inwardly over the flap 21a and may be glued thereto as indicated by broken lines in FIGURE 1.

The bag 16 is made of suitable flexible plastic such as a transparent polyethylene film. It is formed fluid-tight, preferably from a tubular section of the film, and is shown in flat or collapsed condition with the straight, folded side edges 47 and 48. The upper and lower edges of the bag are also straight and are provided with the sealed seams 49 and 50 which may be of the heat-sealed type. One of the flat walls 51 of the bag adjacent the upper edge 49 has the closure and neck unit 17 sealed in an opening formed in that wall. The flexible bag 16 will be made of a suitable size so that it can be positioned within the relatively rigid box 15 and when expanded, will conform substantially to the shape of the box but there will be a surplus of material of the bag adjacent the neck unit 17 for a purpose to be described later.

The construction of the closure and neck unit 17 and the manner in which it is sealed to the wall 51 of the bag 16 may be as shown in FIGURE 3. The unit 17 is provided with an annular neck or collar 52 which has a peripheral attaching flange 53 at its inner edge. The neck 52 is slipped through the dispensing opening in the wall 51 so that the wall 51 around the opening will lie over the flange 53. The neck or collar 52 and, in fact, the entire unit 17, will be of suitable plastic material. This material can be heat-sealed to the wall 51 and this is done to seal the collar 52 within the dispensing opening in the bag. It will be noted that the collar 52 is provided on its outer surface with an outwardly extending peripheral flange 54 at its extreme outer edge and with a similar flange 55 spaced axially inwardly thereof. The collar or neck 52 is provided with an inwardly extending sealing lip 56 at its outer extremity.

The unit 17 also includes the removable cap 57. This cap is of dish-like form having an annular flange 58 adapted to be inserted within the neck 52, this flange having an annular sealing groove 59 into which the sealing lip 56 will snap when the cap is inserted into the neck. The flange 59 of the cap carries an outwardly extending peripheral flange 60 at its outermost extremity.

The filled bag 16 will be sealed in the box or carton 15 as indicated in FIGURE 1. Before sealing the unit 17 will be inserted in the neck-receiving opening 46 as the flap 23a is swung inwardly into closing position (FIGURE 6). The tape 61 will extend over the point between the meeting inner edges of the closure flaps 22a and 24a and down over the side walls 21 and 23. The tape, however, will not stick to the areas 29 and 30 of the respective flaps 24a and 22a. Therefore, the tape 61 may be torn at the tear line 62 and be pulled upwardly and outwardly away from the flaps 24a and 22a exposing the areas 29 and 30

4

and the associated score lines 31 and 32, as shown in FIGURE 5. Also, the tab-forming tear lines 33 and 36 and the associated score lines 34 and 37 are exposed. Then, as indicated in FIGURE 6, the corners of the respective flaps 24a and 22a are bent upwardly at the respective weakened score lines 31 and 32 producing upwardly extending triangular support flaps 24c and 22c. This exposes the flap 23a and the cap and neck unit 17 positioned therein. At this time, the flap 23a will be positioned between the two flanges 54 and 55 on the neck 52. The finger-notch 40 will also be exposed.

Next, as shown in FIGURE 7, the tabs 35 and 38 of the respective support flaps 24c and 22c are turned outwardly. Also, by means of a finger inserted in the notch 40, the flap 23a is pulled upwardly and this produces a central triangular neck carrying flap 23c and side supporting flaps 23d and 23e. This arrangement results from pulling outwardly on the flap 23a at the notch 40 and causing the folding of the flap 23a along the respective fold lines 41 and 42 as they engage the respective flaps 24a and 22a at the fold lines 31 and 32 thereof. There will be sufficient surplus of material in the bag to permit outward swinging of the unit 17 with the bag. Preferably at this time, the neck 52 is pulled outwardly so that the innermost flange 55 thereof engages the outer surface of the flap 23c, as shown in FIGURE 8, so that the neck 52 projects farther outwardly from the flap 23c. The flap 23c is held in this projected angular position, shown in FIGURE 8, by inserting the tabs 35 and 38 inwardly through the respective slots 43 and 44. Then, as shown in FIGURE 9, when the cap 57 is removed from the neck 52, the box can be tipped to perform the pouring operation in the manner shown in FIGURE 10. Tipping is facilitated by the finger-receiving opening 27 at the top of the box which is shown in FIGURE 10, and the similar opening 28 (FIGURE 4) which is at the bottom of the box but does not appear in FIGURE 10. The neck 52, supported by the angularly disposed flap 23c, will project sufficiently so that when the box is tilted as in FIGURE 10, the stream of pouring material will miss the adjacent corner of the box at the score line between the flap 23c and the side wall 23. As soon as pouring is interrupted, the stream is cut off by the outer lip on the neck 52 so that there will be no dripping. In other words, a pitcher effect is obtained even though the box is of the usual square form. This effect is obtained by swinging the neck-supporting flap upwardly from a flat position to an upper inclined position where it is fixed in such position. The cap 57 may be replaced after each pouring to reseal the bag container 16 until the entire contents of the container is poured therefrom.

Our invention provides a disposable pouring package consisting of a box and an enclosed flexible bag which can be unsealed and adjusted readily for pouring. The pouring can be accomplished without spilling or dripping.

According to the provisions of the patent statutes, the principles of this invention have been explained and have been illustrated and described in what is now considered to represent the best embodiment. However, it is to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

Having thus described our invention, what we claim is:

1. A disposable type dispensing container package comprising a box enclosing a flexible collapsible bag, said box having a flat wall and said bag having a pouring neck adjacent said wall, said wall also including a flap hinged at one edge of said wall and movable from a position substantially in the plane of the wall to an angular position relative to and outwardly beyond the plane of said wall, said flap having an opening located within the area thereof and inwardly of the hinge point thereof to receive and retain said neck for movement therewith, said wall also being provided with hinged flaps movable into en-

5

gement with the neck-receiving flap to hold it in said outer position.

2. A disposable type dispensing container package comprising an upright box enclosing a flexible collapsible bag having a pouring neck adjacent its upper end, said box having closure flaps at its upper end comprising a pair of inner flaps and a pair of outer flaps with the flaps of each pair extending inwardly and with their inner edges substantially meeting at a joint, and the flaps of the two pairs being disposed in crossed overlapping relationship, one of said inner closure flaps having an opening for receiving and retaining said neck, said flap being hinged along a line to an adjacent vertical wall of said box with said opening spaced inwardly of said line and intermediate the side edges of the flap, said flap having score lines extending in diverging relationship from a point midway of said flap at its inner edge to its hinged corners to provide a central triangular flap and opposed attached triangular side flaps, the two outermost closure flaps having score lines disposed over and substantially aligning with the score lines of said inner closure flap to provide two triangular flaps outwardly of said central triangular flap when it is swung outwardly, said last-named two triangular outer flaps having retaining tabs for cooperating with slots in said opposed triangular side flaps when the central flap is pulled upwardly and outwardly to hold it in such position.

3. A box for receiving a flexible collapsible bag, said box having upright walls with attached closure flaps at its upper end, said closure flaps comprising a pair of inner flaps and a pair of outer flaps with the flaps of each pair extending inwardly and with their inner edges substantially meeting at a joint and the flaps of the two pairs being disposed in crossed overlapping relationship, one of said inner closure flaps having an opening for receiving and retaining a pouring neck on said collapsible bag, said flap being hinged along a line to an adjacent upright wall with said opening spaced inwardly of said line and out-

6

wardly of the inner edge of said flap and midway of the side edges of the flap, said flap having score lines extending in diverging relationship from a central notch midway of the side edges of the flap and in its inner edge to its hinged outer corners to form a central triangular flap and opposed hinged triangular side flaps, the two outermost closure flaps having score lines disposed over and substantially aligning with the score lines of said inner closure flap to provide two triangular flaps outwardly of said central triangular flap when it is swung outwardly, said last-named two triangular outer flaps having retaining tabs at their outermost corners for cooperating with slots in said opposed triangular side flaps which are located midway along the score lines therein and at right angles thereto.

4. A box according to claim 3 having a score line extending across said first closure flap in alignment with said opening and intersecting with said diverging score lines.

5. A disposable type container package comprising a box enclosing a flexible collapsible bag, said box having a substantially flat wall and said bag having a pouring neck adjacent said wall, said wall also including a flap hinged at one edge at said wall and movable from a position substantially in the plane of the wall to an angular position relative to and outwardly beyond the plane of said wall, said flap having an opening located within the area thereof and inwardly of the hinge point thereof to receive and retain said neck for movement therewith, and hinged support flaps movable between said wall and said neck-receiving flap in supporting relationship to said flap when it is moved to said outer position to hold it in such position.

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