

H. M. HILL

ONE PIECE DISPENSING CONTAINER

Filed Feb. 10, 1964

2 Sheets-Sheet 1

Fig_2

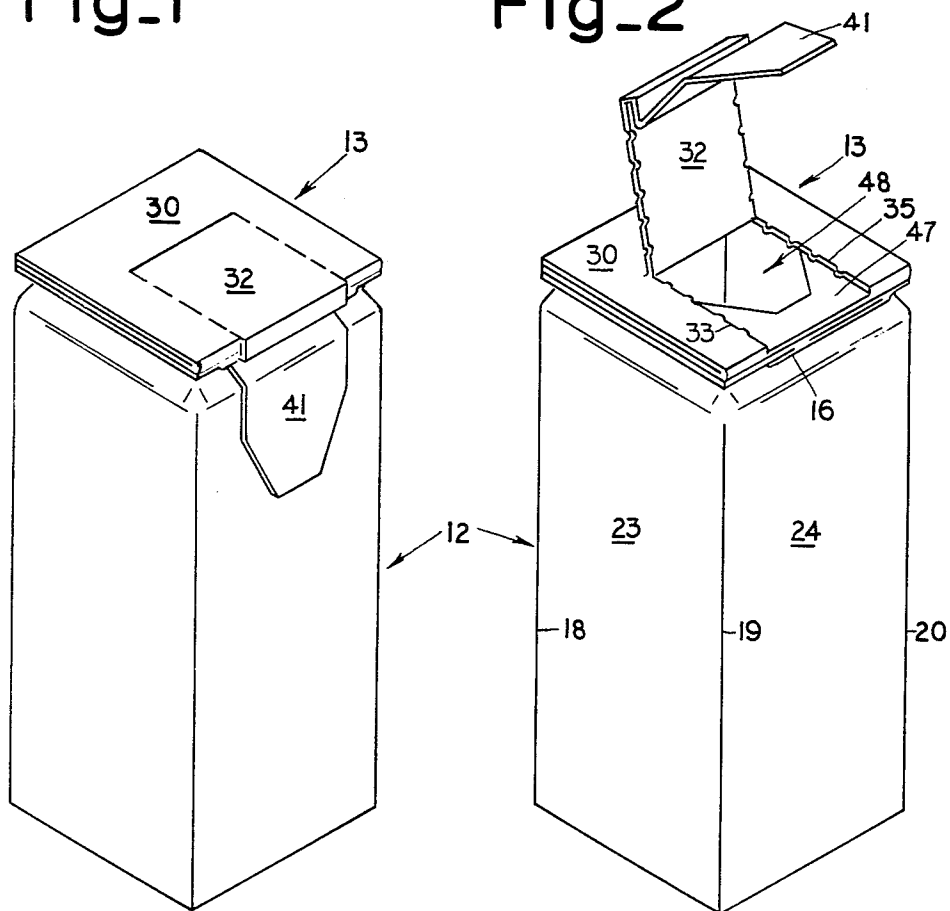
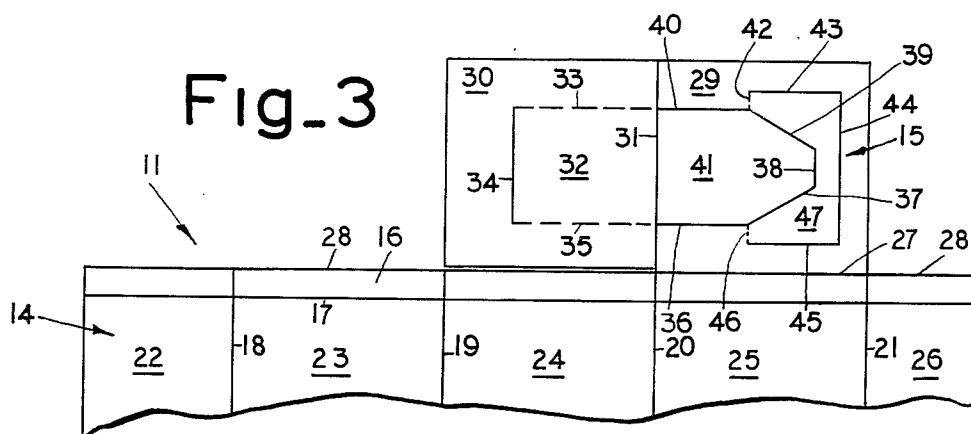


Fig_3



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3,199,761

ONE PIECE DISPENSING CONTAINER

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2 Sheets-Sheet 2

Fig-4

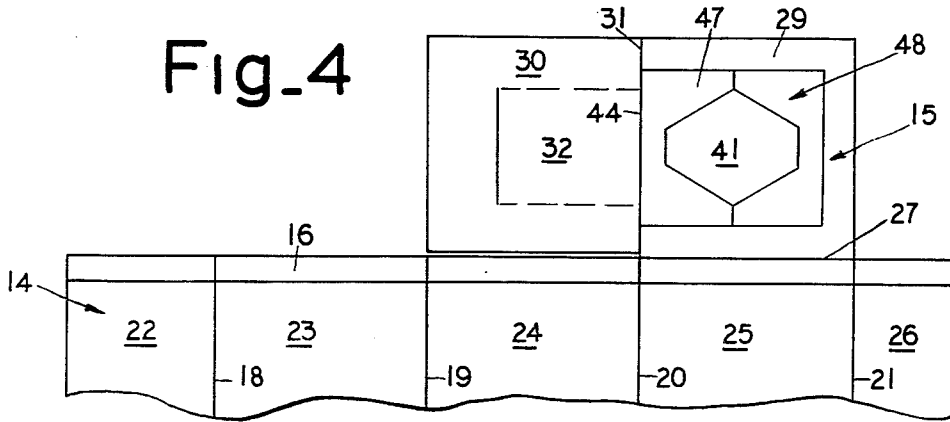


Fig-5

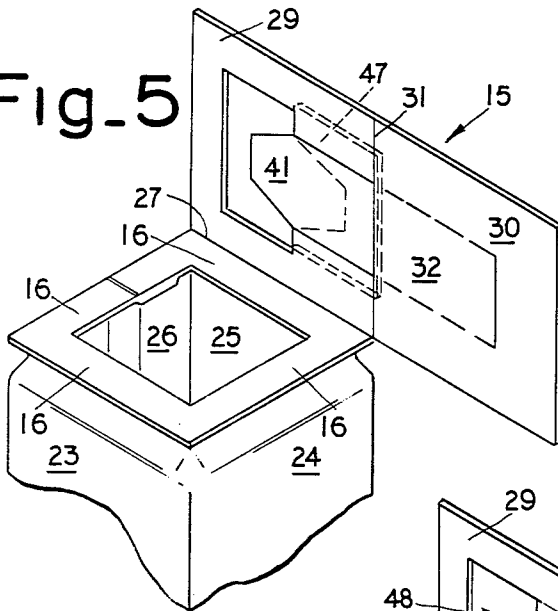


Fig-7

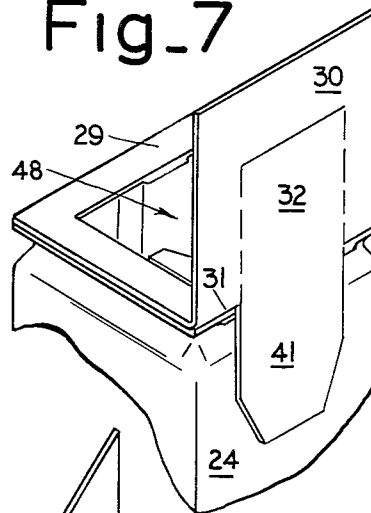
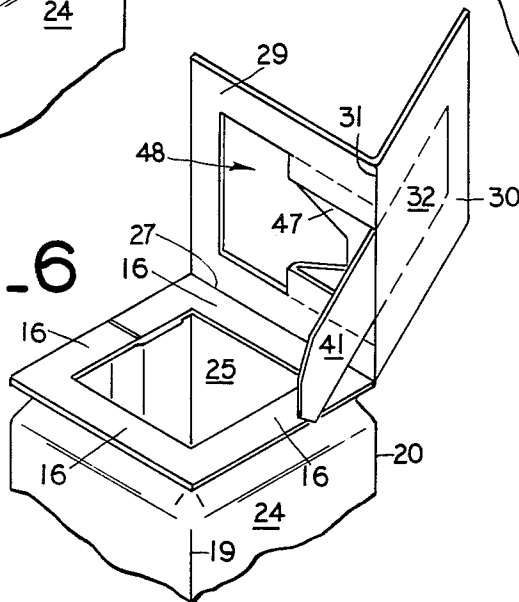


Fig-6



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3,199,761
ONE PIECE DISPENSING CONTAINER
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11 Claims. (Cl. 229-17)

This invention relates to containers for the packaging and delivery of liquids such as milk and has particular reference to a one-piece dispensing container adapted to be made at high speed in a packaging plant and to be easily opened by finger manipulation of a tear tab and strip to expose the sanitarily protected dispensing opening.

In some respects the instant invention constitutes an improvement upon the container disclosed in my copending application in the United States Patent Office under Serial No. 214,058 filed on Aug. 1, 1962 titled "Dispensing Container and One Piece Blank," now Patent No. 3,128,032.

An object of this invention is the provision of a unitary blank for a container having a flat top.

Another object of this invention is improvement of container pouring characteristics in a container of the type disclosed in copending Serial No. 214,058, now Patent No. 3,128,032.

Another object of the invention is to provide an independent yet integral shaped pouring weir within a two-ply single flap closure having an integral tear strip and tear tab.

Another object of the invention is improvement of the sanitary protection of pouring surfaces in a container made from a unitary blank.

Yet another object of the invention is economy of material through the use of no more material than would be used in an ordinary container.

A further object of the invention is improvement of the opening qualities of a container made from unitary blank.

Numerous other objects and advantages of the invention may be apparent as it is better understood from the following description which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

FIGURE 1 is a perspective view of a completed and filled container made in accordance with this invention.

FIGURE 2 is a perspective view of the container of FIGURE 1 after opening to dispense the contents.

FIGURE 3 is a plan view of the blank used in making the container of FIGURE 1.

FIGURE 4 is a plan view of the blank of FIGURE 3 after a preliminary folding and gluing operation on the pouring weir.

FIGURE 5 is a perspective view of the upper end of a container made from the blank of FIGURE 4 after a side seaming and top necking operation, the lower end of the container broken away.

FIGURE 6 is a perspective view of the container of FIGURE 5 after a folding operation to reposition the tear tab and outer ply.

FIGURE 7 is a perspective view of the container of FIGURE 6 after a further folding and gluing operation to prepare the container for filling.

As preferred embodiment of the instant invention FIGURES 1 to 7 inclusive of the drawings illustrate a container blank 11 from which a container of rectangular cross-section may be readily and economically made. The container is made up of tubular body 12 closed at its upper end by a flat two-ply filling and dispensing top closure 13. The bottom of the container may be closed in any suitable manner.

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Referring to FIGURE 3, blank 11 is comprised of a major area 14 and an elongated flap 15. Major area 14 has a narrow flange-forming area 16 set off at its upper edge by score line 17 and is divided vertically by score lines 18, 19, 20, and 21 into five wall-forming panels 22, 23, 24, 25, and 26. Elongated flap 15 is articulated to the upper edge of panel 25 in a score line 27 coextensive with upper edge 28 of major area 14. Elongated flap 15 is divided into two substantially equal areas 29 and 30 by a vertical score line 31 coextensive with score line 20. Areas 29 and 30 become respectively the inner and outer piles of a two-ply dispensing top closure (FIGURE 6). Within outer ply 30 (FIGURE 3) a tear strip 32 is defined by a horizontal weakened score 33, a vertical score 34, and horizontal weakened score 35. In inner ply 29 horizontal cut line 36 coextensive with weakened score 35, angular cut line 37, vertical cut 38, angular cut 39, and horizontal cut 40 outline tear tab 41 which is integral with tear strip 32 and hinged thereto in vertical score 31. Additionally within inner ply 29, a vertical score 42, a horizontal cut 43, a vertical cut 44, a horizontal cut 45, a vertical source 46, an angular cut 37, vertical cut 38, and angular cut 39 define weir-forming member 47 which is integrally hinged to inner ply 29 in vertical score lines 42 and 46. Herein lies the advantage of the present disclosure over that of my earlier disclosure now known as Serial No. 214,058, now Patent No. 3,128,032. In that earlier disclosure the width of the tear tab was reduced at the junction with the tear strip in order to provide good pouring characteristics. The independent, though integral, weir-forming member 47 of my present disclosure allows the tear tab and tear strip to be of equal width at their junction with improved opening qualities while retaining the same excellent pouring characteristics.

To make up the container the blank of FIGURE 4, with weir-forming member 47 folded and glued to inner ply 29, is preferably wrapped about a mandrel and side seamed. The bottom of the container may be formed and glued on this same mandrel or it may be completed in a separate operation. Following this, the upper end of the body is necked in and flanges 16 are turned outward (FIGURE 5) while elongated flap 15 rests in a vertical position. In the next operation outer ply 30 is hinged about vertical score 31 withdrawing tear tab 41 from its position within inner ply 29 to assume the appearance of FIGURE 6. Inner ply 29 may now be hinged about score line 27 until contact is made with flanges 16 when the two may be joined adhesively. The container now appears as in FIGURE 7 and may be filled through filling and dispensing opening 43. After filling, outer ply 30 is hinged about score 31 until contact is made with inner ply 29 when the two are joined adhesively and tear tab 41 is tucked under flange 16 and adhesively attached thereto. The container now has the appearance of FIGURE 1.

To open the container, tear tab 41 (FIGURE 1) is grasped between the thumb and forefinger and drawn upward and back over the top of the container. This action first ruptures the bond between tear tab 41 and flange 16 and then severs tear strip 32 from outer ply 30 along weakened scores 33 and 35 to expose pouring weir-forming member 47 and dispense the contents through filling and dispensing opening 48.

To reclose the container, tear strip 32 is returned to its original position and tear tab 41 is hooked under flange 16.

It is to be understood that in the foregoing operations a suitable adhesive will be used in all joints where required or the waterproof coating of the container may in some cases serve as the adhesive.

It is thought that the invention and most of its advantages will be understood from the foregoing description and drawings and it will be apparent that changes may be

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made in the construction and arrangement of the parts without departing from the spirit and scope of the invention, the form hereinbefore described being a preferred embodiment thereof.

I claim:

1. A container comprising a rectangular tubular body of the foldable material closed at its lower end; the side walls of said body terminating at their upper edges in a necked-in area and outwardly extending end seam flanges; an integral elongated flap articulated to the upper edge of one side wall of said body, said flap hinged at substantially a median position and folded and adhesively attached to said flanges and to itself forming a two-ply closure, the outer of said plies having a tear strip the edges of which lead directly into the edges of an integral tear tab, said tear tab produced from material cut from the second of said plies while forming a dispensing opening therein, and an integral pouring weir partially cut from material surrounding said tear tab and folded upon said second ply forming an enlarged filling and dispensing opening therein.

2. A flat blank of foldable material including a major area scored and adapted to be folded and adhesively secured into a rectangular tubular body having a flanged upper edge, integral with said major area a substantially rectangular elongated flap hinged to the upper edge of said major area and adapted to be formed into a two-ply closure for a container, the outer ply-forming area of said flap having within it a tear strip the edges of which lead directly into the edges of an integral tear tab formed from material cut from a second ply-forming area of said flap to form a dispensing opening, and an additional area of said second ply-forming area partially cut from material surrounding said tear tab and adapted to be formed into an integral pouring weir when in folded condition.

3. A container formed by folding and gluing the blank claimed in claim 2.

4. In a dispensing container a two-ply closure formed from a single piece of material having a tear strip in the outer ply integral with a tear tab formed from material cut from a second ply the edges of said tear tab leading directly into the edges of the said tear strip and a pouring weir partially cut from material of said second ply surrounding said tear tab and folded upon said second ply.

5. A container closed at one end by a closure as claimed in claim 4.

6. A container closure comprising a single elongated flap integral with a container body, said flap folded upon itself at substantially a median position providing a two-ply dispensing closure in which an integral tear tab is

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formed at an edge of the outer ply from material severed from another ply while producing a filling and dispensing opening in said other ply the edges of said tear tab leading directly into the edges of a tear strip in said outer ply and an integral pouring weir partially cut from material of said other ply while producing an enlarged filling and dispensing opening in said other ply surrounding said tear tab.

7. A container closed at one end by a closure as claimed in claim 6.

8. A top closure for a container comprising a single piece of material folded upon itself to form a two-ply closure member; within the outer ply of said member a tear strip the edges of which lead directly into the edges of an integral tear tab cut from material of the second ply of said closure member while forming a filling and dispensing opening, and a pouring weir partially cut from material surrounding said tear tab and integrally hinged to the inner periphery of said filling and dispensing opening and forming an enlargement of said filling and dispensing opening when folded upon said second ply.

9. A container closed at its upper end by a closure as claimed in claim 8.

10. A container comprising a rectangular tubular body having an integral top closure as claimed in claim 8 and one or more integral flaps producing a bottom closure.

11. In a container formed from a single piece of material, a two-ply top closure formed from a single flap folded at substantially a median position; a tear strip in the outer ply of said two-ply closure and integral with said tear strip a tear tab the edges of which lead directly into the edges of said tear strip, said tear tab cut from the second ply of said two-ply closure while forming a filling and dispensing opening in said second ply; and a pouring weir partially cut from material surrounding said tear tab and integrally hinged to the inner periphery of said filling and dispensing opening and folded and adhesively attached to said second ply forming a pouring lip for said filling and dispensing opening.

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