

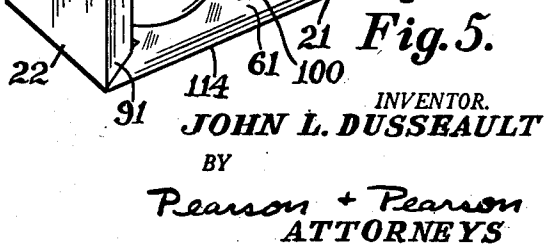
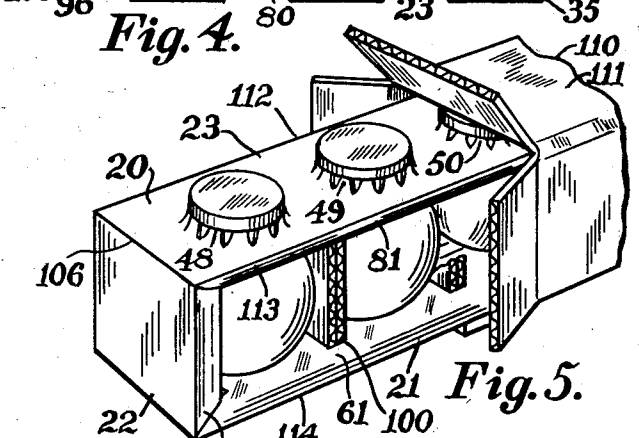
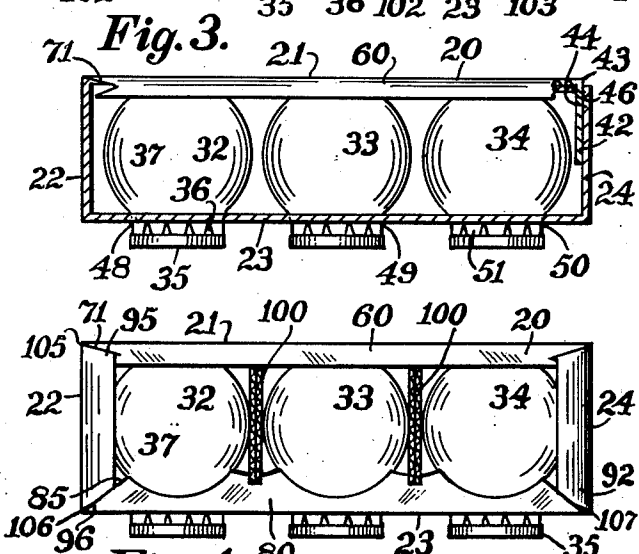
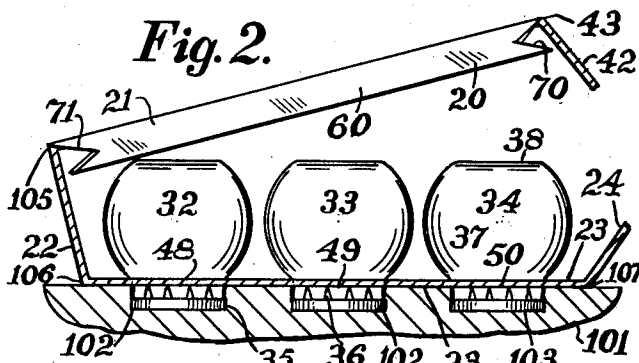
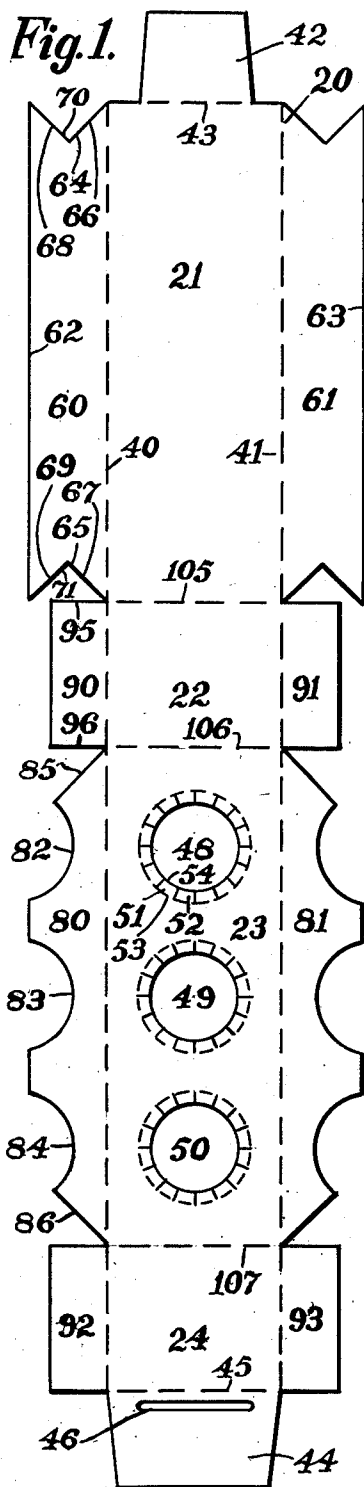
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SHIPPING AND DISPLAY CONTAINER

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SHIPPING AND DISPLAY CONTAINER

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This invention relates to a combined cushioning and display container for use in shipping and merchandising squat bottles of the flat cap, flat bottom, short neck, bulge body type. Such bottles are often used for such products as marmalade, jam and the like which may be made in tropical climates and shipped by rail or truck to northern climates.

Bottle breakage during shipment has heretofore been a major problem with known containers and efforts to overcome the same have been expensive as well as producing a bulky package which itself may be excessively costly to ship. In addition, the use of multiple pads or fillers and the use of strapping have sometimes required the complete destruction of the container at the reception point, thus preventing the bottles from being displayed in their original container.

The object of this invention is to provide a substantially open sided container for supporting and cushioning one or more bottles, when shipped within a tubular carton, and for displaying the bottles, when the carton is removed.

Another object of the invention is to provide a wrap-around type container for frangible bottles in which the bottles are cushioned at the bottom and at each opposite end by bearing against resiliently hinged integral flaps which absorb any impact or shock during shipment.

A further object of the invention is to provide a blank for such a container which may be formed of one piece of corrugated paper board without undue waste and without requiring complicated manipulation to be erected into a container.

Other objects and advantages of the invention will be apparent from the claims, the description of the drawings, and from the drawing in which:

Fig. 1 is a plan view of the preferred blank from which the container of this invention is formed.

Fig. 2 is a side view showing the container of this invention being erected around a plurality of identical bulge bottles.

Fig. 3 is a view similar to Fig. 2 showing the container wrapped around the bottles but with the cushioning and stiffening flaps not yet in place.

Fig. 4 is a view similar to Figs. 2 and 3 showing all flaps of the container in place ready for display or shipment, and

Fig. 5 is a perspective view of the container right side up and being slid into the tubular carton in which it is preferably shipped.

As shown in Fig. 1 the preferred form of blank 20 is unitary and formed of one piece of corrugated paper-board of any desired type suitable for shipping cartons.

Blank 20 includes a rectangular bottom panel 21, a first rectangular end panel 22, a rectangular top panel 23 and a second rectangular end panel 24. Each blank is designed to hold a predetermined number of identical bottles, each of a predetermined size and shape and for illustration purposes a blank for containing three identical bottles such as 32, 33 and 34 has been selected.

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Bottles such as 32 are well known and will be referred to herein as bulge bottles, meaning thereby that they are usually formed with a flat unbreakable cap 35, a short neck 36, a squat, bulging body portion 37 and a flat bottom 38. It should be noted that the lateral width of the four rectangular panels 21, 22, 23 and 24 is substantially greater than the corresponding maximum dimension, such as the maximum diameter of a bottle 32 whereby the longitudinal fold lines 40 and 41, which form the side edges of the container, are at a predetermined spaced distance beyond and outside the frangible side walls of the bodies 37 of the bottles such as 32. The longitudinal dimension of the top panel 23 and the bottom panel 21 is also greater than the corresponding dimension of a bottle 32, and where three bottles are carried as illustrated, it is substantially greater than the totals of the corresponding dimensions of the bottles such as 32, 33 and 34 to provide ample space at each end and between bottles when the blank 20 is erected. The longitudinal dimension of each end panel 22 and 24 is substantially greater than the height of the body 37 of a bottle 32 whereby a predetermined space will be provided between the bottom 38 of a bottle 32 and the bottom panel 21 when the carton is erected.

Detachable connecting means is provided at each end of the series of panels 21, 22, 23 and 24 comprising a tapered tongue flap 42 hingedly connected along lateral fold line 43 to the bottom panel 21 and a tapered tongue slot flap 44 hingedly connected to the second end panel 24 along lateral fold line 45. A tongue slot 46 is provided in flap 44 for receiving the tongue flap 42 when the blank 20 is erected into the rectangular, wrap around, container shown in Figs. 3-5.

The top panel 23 is provided with aligned spaced apertures 48, 49 and 50 conforming in outline to the outline of the neck of a bottle such as 32, in the example shown, this being circular and positioned to space the bottles apart and from the end panels 22 and 24. Each aperture such as 48 is formed by a plurality of inwardly projecting, radial tongues such as 51 and 52, hingedly connected at their bases 53 to the panel 23, but defining the aperture 48 at their free tips such as 54. Preferably the apertures such as 48 are of less area than the corresponding cross sectional area of a bottle 32 to enable the tongues to yield when a cap 35 is advanced there-through and enable the tips 54 to restrain the cap against retraction therefrom without substantial force and distortion of the tongues. Thus the apertures such as 48 do not merely loosely surround the necks of the bottles such as 32 but instead, the necks 36 are preferably clamped in the apertures and the bottle so firmly attached thereto that it will be raised with the top panel if the top panel is raised.

A pair of identical bottle cushioning flaps 60 and 61 are hingedly connected to bottom panel 21 along longitudinal fold lines 40 and 41, each flap being coextensive longitudinally with panel 21 along the fold lines. The cushioning flaps 60 and 61 are each of less lateral width than one half the lateral width of the panel 21 and arranged to be bent inwardly toward each other at an acute angle to the bottom panel 21 as shown in Fig. 2. When so folded the free side edges 62 and 63 of the flaps 60 and 61 are in parallelism with the bottom panel 21 and resiliently engage the bottoms 38 of the bottles such as 32 suspended in the apertures of the top panel. The flaps 60 and 61 resiliently press the bottles toward the top panel and may yield under shock or impact against the bottom panel with the free edges 62 and 63 slideably engaging the flat bottoms of the bottles. Each end such as 64 and 65 of each cushioning flap such as 60 is tapered toward the opposite end from the fold line such as 40 at an angle preferably of about 45° as shown at 66 and

67 for a purpose to be hereinafter explained. Preferably the tapered end portions 66 and 67 taper outwardly away from each other at 68 and 69 at the longitudinal centre line of the flap 69 to form each end 64 and 65 with a V shaped notch such as 70 or 71.

A pair of identical bottle buttressing flaps 80 and 81 are hingedly connected to top panel 23 along longitudinal fold lines 40 and 41, each flap being coextensive longitudinally with panel 23 along the fold lines. Flaps 80 and 81, like flaps 60 and 61, are of less width than half the width of the panel to which they are attached and each flap such as 80 is provided with aligned, spaced cutouts or recesses such as 82, 83 and 84 arranged to embrace the top portion of the bodies 37 of the bottles to retain the same against lateral movement in any direction. Recesses such as 82 are parti-circular to conform with the circular shape of the corresponding portion of the bottles 32 and the buttressing flaps 80 and 81 are arranged to be folded inwardly toward each other at an acute angle to the top panel 23 to the position shown in Figs. 4 and 5. Each opposite end 85 and 86 of each buttressing flap 80 or 81 is tapered toward the other end preferably at the same angle as the angle of tapered ends 66 and 67 of flaps 60 and 61, which angle is preferably 45°.

Preferably the tongues 51 of each aperture such as 50 become engaged under the rim of the cap 35 of each bottle such as 34 to buttress the bottle against axial movement inwardly relative to panel 23 while the buttressing flaps 80 and 81 buttress the bottle against axial movement outwardly relative to top panel 23. The bottles are thus firmly seated and secured in the top panel 23 to flex therewith and with the cushioning flaps 60 and 61 under axial impact.

A pair of stiffening flaps 90 and 91 is provided on first end panel 22 and an identical pair of stiffening flaps 92 and 93 is provided on second end panel 23, all of said flaps being hingedly connected thereto along longitudinal fold lines 40 or 41. Each stiffening flap such as 90 is rectangular in outline, coextensive longitudinally with the end panels 22 or 24 and of a lateral width, at least near each opposite end such as 95 and 96 thereof, approximately equal to the corresponding oblique dimension of the tapered portions 66 and 67 of the adjacent cushioning flap. Each pair of stiffening flaps such as 90 and 91 is arranged to be folded inwardly to cause each flap to converge toward the other at an acute angle to the end panel to which it is attached in the manner shown in Figs. 4 and 5. One squared end 95 of each stiffening flap thus becomes seated behind the tapered portion 66 or 67 of the adjacent cushioning flap to lock the flaps such as 90 and 91 against outward unfolding. In addition, the stiffening flaps such as 90 are seated within the notches such as 70 or 71 whereby the tapered portions 68 and 69 of the cushioning flaps are locked inside the free vertical edges 98 and 99 of the flaps 90 or 91 to doubly insure the maintenance of all flaps in position during shipment. The other squared end 96 of each stiffening flap becomes seated behind the tapered end 85 or 86 of the adjacent buttressing flap to further lock the end flaps in position. The bottles themselves lock the cushioning flaps and the buttressing flaps in position against outward unfolding.

If desired, the stiffening flaps 90, 91, 92 and 93 may be so dimensioned laterally with relation to the shape and size of the bottles such as 32, to cause the free side edges such as 97 or 98 thereof to engage the sides of the adjacent end bottle when the flaps are inwardly folded and upstanding as in Fig. 4. In addition, loose doubled corrugated paperboard inserts such as 100 may be used between adjacent bottles such as 32 and 33 to further prevent any tendency to breakage.

In operation, the flat blank 20 is placed with the top panel down on a suitable support such as 101 and with the apertures 48, 49 and 50 in registration with recesses

such as 102, 103 and 104 in the support 101. Bottles such as 32, 33 and 34 are then turned upside down and the caps 35 of each bottle forced into the apertures 48, 49 and 50 until the inwardly projecting radial tongues such as 51 surrounding the apertures have secured a firm grip around the necks 36 of the bottles as shown in Fig. 2. The cushioning flaps 60 and 61 of bottom panel 21 are then nearly overfolded inwardly to an acute angle therewith and the bottom panel 21 and end panels 22 and 24 are brought around the bottles to form a quadrangular container by folding on the lateral or corner fold lines 105, 106 and 107. The container is detachably connected by the insertion of tongue flap 42 in the slot 46 of tongue slot flap 44 as shown in Fig. 3. The buttressing flaps 80 and 81 of top panel 23 may be folded into place before the insertion of the caps 35 in apertures such as 48 or may be so folded after the container is in the condition shown in Fig. 3. The overfolding of the flaps 80 and 81 to nearly an acute angle with top panel 23 causes the recesses such as 82 to each embrace one of the bottles and steady the same against all lateral movement. As shown in Fig. 4 the stiffening flaps 90, 91, 92 and 93 are then nearly overfolded inwardly to cause the ends 95 and 96 thereof to become seated behind a tapered end such as 85 of the adjacent buttressing flap and within the notch such as 70 of the adjacent cushioning flap. The inserts 100 may then be slideably inserted from the open sides of the container into position between adjacent bottles. The container is thus in condition for displaying the bottles therein within a rectangular frame formed by the angularly disposed flaps on each of the four panels thereof and the frangible contents are protected from impact or shock at top, bottom and both ends. The side walls of the bottles are in planes spaced behind the planes of the open side walls of the container so that even if the container were dropped on its side the bottles would not strike the surface upon which the container drops.

Preferably a tubular, collapsible carton 110 is provided, as shown in Fig. 5, for enclosing the container during shipment. Carton 110 fits tightly around the container so that its top wall 111 engages the caps 35, its bottom wall engages the bottom panel 21 and its side walls engage the side edges such as 112, 113 and 114 of the container formed by fold lines such as 40 and 41. Suitable end flaps of any well known type may be provided on carton 110 to cover the ends thereof during shipment.

I claim:

1. A blank for a bottle display and shipping container said blank comprising a flat sheet of corrugated, foldable, box board having four rectangular panels foldably connected along lateral, parallel fold lines to form in series a bottom panel, a first end panel, a top panel and a second end panel, said top panel having at least one aperture therein for receiving the neck of a bottle; a tongue flap foldably connected to the free end of said bottom panel and a tongue slot flap foldably connected to the free end of said second end panel for detachably connecting said free ends to form a container; a pair of bottle cushioning flaps each hingedly connected along a longitudinal fold line to an opposite side of said bottom panel, each of a width less than half the width of said bottom panel and each having free opposite ends formed as V shaped locking notches; a pair of bottle buttressing flaps, each hingedly connected along a longitudinal fold line to an opposite side of said top panel, each of a width less than half the width of said top panel and each having free opposite tapered ends and a pair of free stiffening flaps on each said end panel, each flap of each pair being hingedly connected along an opposite longitudinal fold line, and coextensive with, an end flap, each stiffening flap being of a width less than half the width of an end panel and each stiffening flap being

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adapted to be retained in a notch of one of said bottle cushioning flaps when said blank is erected.

2. A blank as specified in claim 1 wherein each said end wall is of substantially greater length than the height, from base to neck, of a bottle with which said blank is adapted to be used thereby enabling said cushioning flaps to converge upwardly from said bottom panel toward the base of a bottle when said blank is erected.

3. A blank as specified in claim 1 wherein each said top panel is formed with a plurality of radial, inwardly projecting tongues encircling and defining said aperture and said aperture is of less area than the cross sectional area of the neck of a bottle with which said blank is adapted to be used, said tongues being cooperable with said buttressing flaps to firmly seat a bottle in said top panel, when said blank is erected.

4. A wrap around folding box for the visual packaging of bulge type bottles, said box comprising four rectangular panels substantially greater in width than the maximum diameter of a bulge bottle to be contained therein and connected in series by corner fold lines to form a top panel, a first end panel, a bottom panel and a second end panel, said top panel having at least one aperture therein; integral, detachable, connecting means at the free ends of said series of panels for detachably connecting said free ends together; a pair of bottle cushioning flaps, each hingedly connected to an opposite side of said bottom panel, each folded inwardly toward the other at an acute angle to said bottom panel to resiliently support the bottom of a bottle depending by its neck portion from an aperture in said top panel and each having a locking notch at each opposite end thereof; a pair of bottle buttressing flaps each hingedly connected to an opposite side of said top panel, each folded inwardly toward the other at an acute angle to said top panel and each having oppositely disposed cutouts in the free side edge thereof for embracing the adjacent side of the top of a bulge bottle and buttressing the same against lateral movement in any direction and two pairs of stiffening flaps each pair hingedly connected to an opposite side of one of said end panels and each flap of each pair being folded inwardly toward the other at an acute angle to its respective end panel and seated in the notch of the adjacent cushioning flap.

5. A wrap around container for the visual packaging of flat bottom, short neck bottles, said container comprising a unitary, quadrangular box of corrugated paperboard foldably connected at the corners and having a bottom panel, two opposite end panels and a top panel, said top panel having at least one aperture therein adapted to receive the neck of a bottle and suspend the same within said container at a spaced distance above the bottom panel; a pair of free bottle cushioning flaps each on an opposite side of said bottom panel and each folded inwardly toward the other at an acute angle to said bottom panel, said flaps having free parallel side edges resiliently supporting and slidably engaging the flat bottom face of a bottle suspended in an aperture; a pair of free bottle buttressing flaps each on an opposite side of said top panel and each folded inwardly toward the other at an acute angle to said top panel said flaps having free side edges provided with oppositely disposed recesses each embracing the adjacent top portion of a bottle to restrain the same against lateral movement in any direction and two pairs of free stiffening flaps each flap of each pair being

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on an opposite side of one of said end panels and folded inwardly toward the other flap of the pair at an acute angle to its respective end panel and being restrained against outward folding by the adjacent end of the adjacent cushioning flap.

6. A combination as specified in claim 5 wherein each opposite end of each said cushioning flap and each opposite end of each said buttressing flap is tapered inwardly from the fold line thereof at an angle of about forty-five degrees but said stiffening flaps are rectangular in outline.

7. A combination as specified in claim 5 wherein each opposite end of each said cushioning flap is provided with a V notch for seating the adjacent edge portion of an end panel flap.

8. A combination as specified in claim 5 wherein the aperture in said top panel is circular and defined by the tips of a plurality of radial, inwardly projecting tongues formed in said top panel, said tongues engaging under the rim of the cap of a bottle in said aperture to buttress the same against axial movement in cooperation with said buttressing flaps.

9. A cushioning container for shipping a plurality of longitudinally aligned, frangible bottles of the type having an unbreakable flat top cap, a short neck, a squat bulging body and a flat bottom, said container comprising a quadrangular body of corrugated paperboard having a top panel with spaced, longitudinally aligned apertures for receiving the necks of a plurality of bottles and suspending the same; a pair of opposite end panels each of greater height than the height of said bottles and foldably connected to said top panel, a bottom panel foldably connected to each of said end panels and extending parallel to said top panel at a spaced distance below the flat bottoms of the bottles suspended therefrom; a pair of bottle cushioning flaps, each coextensive with, and inwardly folded at an acute angle from, an opposite longitudinal edge of said bottom panel to position the free longitudinal edges thereof in parallelism under the bottoms of said bottles for cushioning the same and a pair of stiffening flaps, on each said end panel, each stiffening flap of each pair being coextensive with, and inwardly folded at an acute angle from an opposite vertical edge of an end panel to position the free vertical edges of each pair in parallelism against the end of an end bottle for cushioning the same, said end flaps being rectangular in outline and said cushioning flaps having tapered ends for enabling each end flap to be seated behind the tapered end of the adjacent cushioning flap while stiffening said container.

10. A container as specified in claim 9 wherein the lateral dimensions of said top end and bottom panels are identical and greater than the corresponding maximum lateral dimension of the bottles to be contained therein whereby the planes of the sides of said bottles are at a spaced distance inwardly from the planes of the side edges of said container.

11. A container as specified in claim 10 plus a tubular collapsible carton of corrugated paperboard sleeved over said container in engagement with the under face of said bottom panel with the side edges of said container and with the upper faces of the caps of said bottles.

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