Nov. 18, 1941. A. WESSELMAN 2,263,411

METHOD OF FILLING BOTTLE CARRIERS

Filed Nov. 5, 1937 2 Sheets-Sheet 1

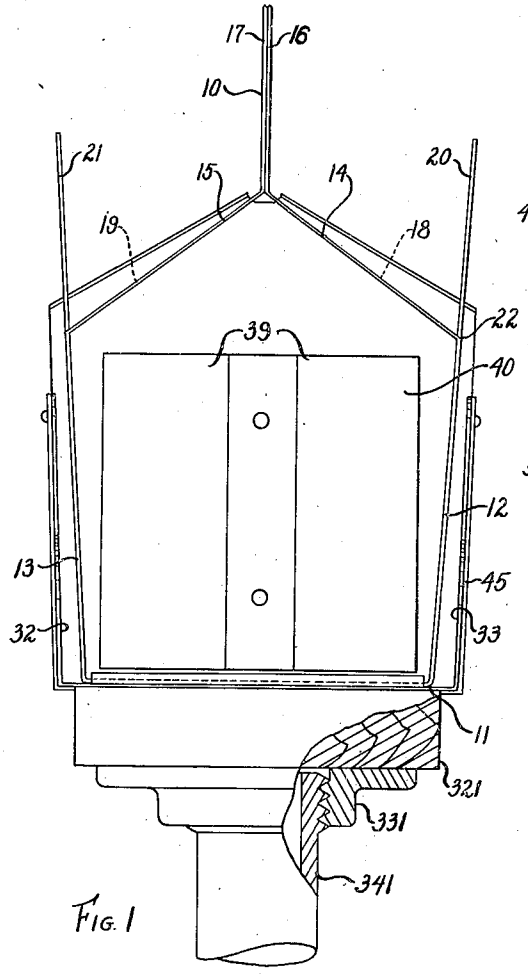


FIG. 1

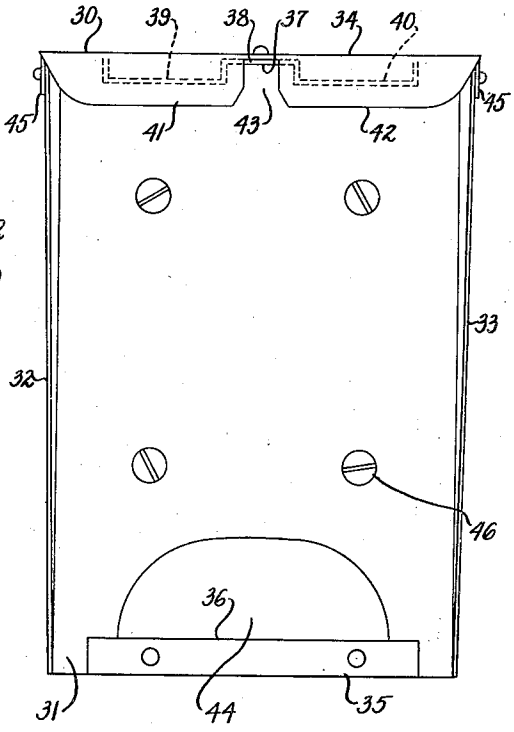


FIG. 2

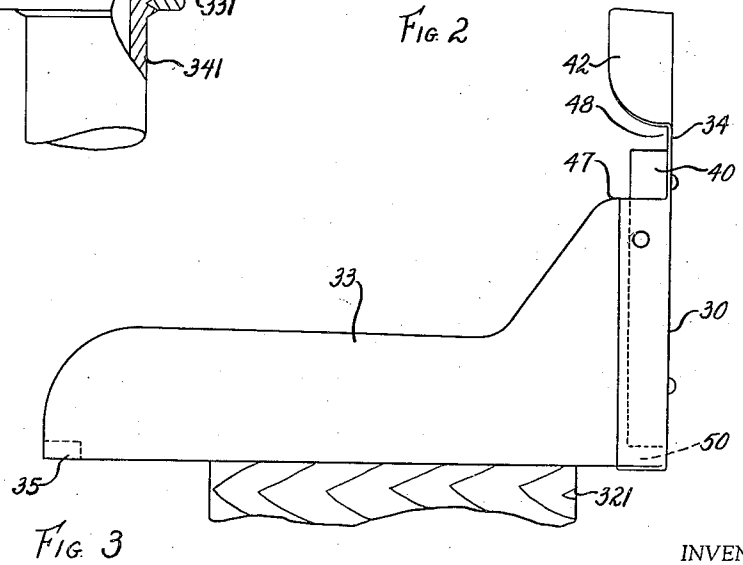


FIG. 3

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Nov. 18, 1941. A. WESSELMAN 2,263,411

METHOD OF FILLING BOTTLE CARRIERS

Filed Nov. 5, 1937 2 Sheets-Sheet 2

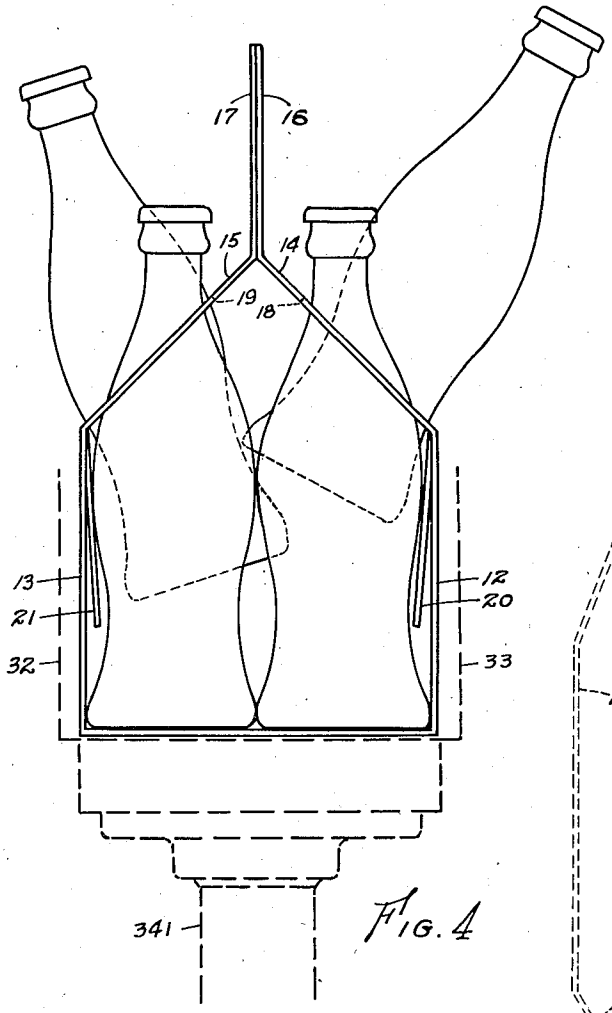


FIG. 4

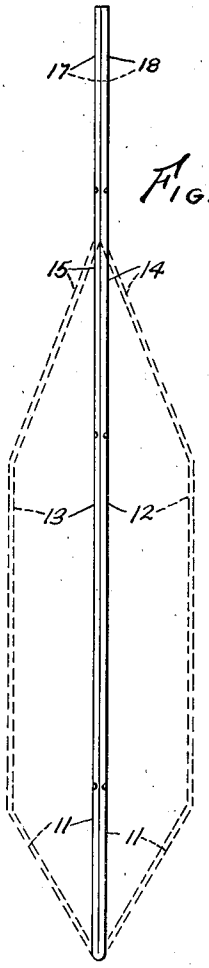


FIG. 5

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METHOD OF FILLING BOTTLE CARRIERS

Albert Wesselman, Cincinnati, Ohio

Application November 5, 1937, Serial No. 172,883

7 Claims. (Cl. 226—2)

The instant invention relates to apparatus for use with bottle carriers of the character shown in my copending applications, Serial No. 106,357, filed October 19, 1936, and Serial No. 118,621, filed December 31, 1936.

An object of the invention is to provide means for holding the bottle carrier in bottle receiving position whereby to expedite and simplify the assembly of a carrier and a charge or load of bottles.

Another object is to provide a simple and inexpensive device for holding the bottle carrier in bottle receiving position during the filling or loading operation.

These and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is an end elevational view of a device embodying the invention and having a bottle carrier positioned therein, parts being shown in section.

Fig. 2 is a plan view of the parts shown in Fig. 1, the bottle carrier being omitted.

Fig. 3 is a side elevational view of the device shown in Fig. 2.

Fig. 4 is an end view of a bottle carrier, supported within the holder, and indicating the procedure for bottle insertions.

Fig. 5 is an end elevational view of a collapsed bottle carrier, indicating by means of broken lines a partly opened condition of the carrier.

As explained in my referred copending applications, bottle carriers, indicated at 10, are made of cardboard having a base or bottom 11, side walls 12 and 13, top or cover members 14 and 15, and handle members or flaps 16 and 17. The top or cover members 14 and 15 of the carrier are provided with bottle receiving apertures 18 and 19 and the material struck from the cover members 14 and 15 for producing the apertures 18 and 19 is developed into flaps 20 and 21. The flaps 20 and 21 may be positioned to lie adjacent and upon the inner faces of the side walls 12 and 13 in the assembled carrier and charge of bottles, or the flaps may be subdivided into end members and a central portion for providing partitions between bottles disposed on a common side of the carrier 10 in accordance with my said application Serial No. 118,621.

In assembling a load or group of bottles in a carrier such as 10, the carrier is placed in the holder 30 so as to assume substantially the position shown by the carrier 10 in Fig. 1. At such time the flaps 20 and 21, being hinged along the line of separation of the sides 12 and 13 from the top members 14 and 15, extend upwardly as shown in Fig. 1. If it is intended for the flaps 20 and 21 to wholly lie adjacent to the inner faces of the side walls 12 and 13, such flaps may be moved to substantially such positions incident to setting up the carrier in the holder, or an operator, when first introducing bottles into the openings 18 and 19 may bring the bases of the bottles into contact with the outer faces of the flaps 20 and 21, and thus move or force the flaps through the openings 18 and 19 to the indicated positions adjacent the inner faces of the sides 12 and 13.

When parts of the flaps 20 and 21 are to be used as partitions between bottles assembled on a common side of a carrier 10, an operator permits the flaps 20 and 21 to extend upwardly in substantial alignment with the side walls 12 and 13, incident to mounting of the carrier in the holder. An operator then inserts two bottles, bases foremost, through each of the openings 18 and 19. A third bottle is then introduced through each of the openings 18 and 19, such third bottle being inserted between two bottles previously inserted on either side of the carrier. Incident to the insertion of the third bottle on either side, the base of the bottle is brought into contact with the outer face of one of the flaps 20 or 21 and the flap is then forced through one of the openings 18 or 19, thus causing an end portion of each flap to bend at right angles to the central or intermediate portion of the flap and place the end portions of the flap in position to serve as a partition between adjacent bottles, as shown in detail in my said application Serial No. 118,621.

The holder 30 is preferably made of sheet metal and comprises a suitable base 31 that may be mounted upon a support 321 and which support may be in the nature of a wooden block, mounted upon a suitable flanged coupling 331 and which coupling in turn is mounted upon a suitable standard 341. The base 31 is provided with upwardly and outwardly extending sides 32 and 33. At one end a closure or end member 34 is provided and at the other end a positioning block 35 is mounted. The distance between the inner edge or face 36 of the block 35 and the inner face 37 of the end wall 34 approximates the length of a carrier 10. The end 34 comprises a wall-like member previously mentioned, and a bottle positioner 38 upon the inner face of the wall 34 and comprising a pair of inwardly projecting panel-like members 39 and 40. The panel members 39 and 40 are in-

tended to prevent the bottles, when introduced into the carrier, from being moved too close to the end of the carrier disposed adjacent the wall **34** whereby to properly position the bottles in the carrier. The panels **39** and **40** stop short of the bottom or base **31** whereby to provide a space **50** beneath panels **39** and **40** into which the edge of the carrier **10** may be introduced incident to positioning the carrier in the holder. The upper edge of the wall **34** is developed into a pair of inwardly turned flanges **41** and **42** that are spaced by an opening or slot **43**. The slot **43** is provided to accommodate upwardly extending handle members **16** and **17** of a carrier **10** and the inwardly turned flanges **41** and **42** are intended to lie over the cover members **14** and **15** of a carrier and to thus substantially hold the carrier in the set up position shown in Fig. 1.

The base **31** is provided with an aperture or opening **44** adjacent and inwardly of the block **35** and through which opening an operator may introduce his hand for initiating the lifting or removal action incident to extraction of a loaded carrier from the holder.

As shown herein, the end wall member **34** is shown as a separate piece of sheet metal having its edges flanged as shown at **45** and which flanged ends are riveted or otherwise suitably mounted upon the outer faces of the side members **32** and **33** as well as extending over the outer face of the bottom or base **31**.

The base **31** may be attached to the block **321** by any suitable means, for example, screws or bolts **46**.

The inwardly turned flanges **41** and **42** are spaced from the flanged ends **45** of the end **34** and from the uppermost portions **47** of the sides **32** and **33**, as shown at **48**, whereby to accommodate the device to the corners **22** of the carrier.

In view of the detailed explanation of the manner in which the holder cooperates with bottles carriers incident to the filling operation of the carrier, the use and operation of the device is obvious.

While there has ben explained herein the steps of manually setting up a carrier in the holder, and of manually inserting two bottles through each of the openings **18** and **19**, and then manually inserting the flaps **20** and **21** by pushing a third bottle against each of such flaps, incident to forcing the flaps and third bottles into position between two bottles already inserted on each side of the carrier, it is to be understood that the described method of loading the carrier may be accomplished by mechanized means, if desired. Also, mechanized means may be used to cause the first pair of bottles inserted in an opening such as **18**, to move the flap, such as **20**, through the opening, as previously explained, and as intended in those instances where the ends of the flaps **20** are not to serve as partitions between bottles disposed on the same side of the carrier.

The carriers referred to herein, are intended primarily for use in distributing "Coca Cola" in bottles. Bottled "Coca Cola" is apparently, universally, dispensed in bottles of the general shape or design shown in United States Design Patent No. 63,657 of December 25, 1923, issued to C. J. Root. Such bottles have an annular central depression disposed between the base and an annular rounded upper or shoulder portion. These characteristics of the bottles are taken into consideration in connection with applicant's bottle carriers, the holder for bottles carriers disclosed herein and the method employed in assembling six such bottles in a carrier.

There are also certain practical matters that must be considered with the problems met by the applicant's within and related inventions. The preferred form of applicant's bottle carrier, and the form which has been accepted by the trade and which is now in great demand by the trade, has its handle flap portions **16** and **17** secured together as shown in Fig. 4 of my said application, Serial Number 106,357, and having a median score line in the base or bottom thereof, as shown in Fig. 4 of my said application Serial Number 118,621. These carriers, when so constructed, present some little difficulty in separating the two half sections of the carrier, preparatory to placing the bottles therein, if one should seek to grasp the two half sections and so separate them. However, by striking the end comprising the base, or by placing that end against a firm surface and exerting pressure against that end, the half sections readily bulge outwardly in opposite directions. An operator, after such initial bend, ordinarily inserts his hand into the opening thus provided between the two half sections and may then bend the blank along various of the score lines. If the holder shown herein is being used, the bottom of the carrier may be placed on the base of the holder and moved into position between the end wall **34** and the block **36**. Incident to moving the one end of the carrier beneath the flanges **41** and **42**, the blank is bent along the score lines between the sides and top or cover members as shown at **22** herein.

As a practical matter, the flaps **20** and **21** are not wholly severed from the blank, along the upper edges of such flaps, incident to manufacture thereof. Small sections of stock, possibly one-sixteenth of an inch ($\frac{1}{16}$'') wide, generally two for each flap, are left at the upper outer edges of the flaps. These connecting webs are provided to prevent the flaps from extending beyond the adjacent faces of the blank during the subsequent gluing of the handle flaps, at or along their lower areas of contact as shown in Fig. 4 of my said application Serial Number 106,357. These webs are easily and readily ruptured by an operator's hand incident to mounting the carrier on the base of the holder, thus positioning the flaps as shown in Fig. 1 of the drawings herein. If the flaps are not to have their ends turned to provide partitions as previously explained, the webs may be ruptured by pushing the bottle bottoms against the flaps. By reason of the characteristics of the cardboard stock from which the carriers are made, an operator who seeks to fill a carrier without the use of a holder, ordinarily finds that two hands are insufficient to hold the carrier parts in position for expeditious loading or charging of the carrier with bottles.

Assuming now that a carrier has been properly positioned on the holder, the bottles may be readily inserted in the carrier as previously explained. Preferably, the first two bottles introduced at a given side of the carrier, are moved apart after insertion thereof, thus providing adequate space between them for the entry of the third bottle between them. Also, by reason of the peculiar shape of "Coca Cola" bottles, it is preferable to first partly insert the third bottle at one side of the carrier and then, while

the referred to annular recess between the base and bulged upper portion of such bottle is in position to receive the opposite flap and base of a third bottle on the opposite side of the carrier, a third bottle is introduced into the other side of the carrier. Thus an area is provided, for slightly turning the bottles in an arc extending about a horizontal axis, for ready insertion of the third bottle at each side of the carrier.

What is claimed is:

1. The method of assembling in a bottle carrier, two rows of bottles, each row consisting of three bottles, which method consists of holding in set up position, a bottle carrier having a base, opposed sides, and top members each having an opening therein, of the approximate diameter of a bottle and of a length intermediate two and three diameters of such bottles, said carrier comprising flaps formed from the material struck from the top members for providing the said openings in the top member, said flaps each having an edge hingedly attached to the upper edge of its adjacent side member, then simultaneously inserting two bottles into the carrier on each side of the carrier, by passing the bottoms of the bottles through the opening in the top member while the flaps adjacent said openings are projected upwardly from the side walls, then forcing a third bottle against the flap and between the said two inserted bottles for displacing the two inserted bottles laterally into their final resting positions, coincident to turning the ends of the flaps transversely of such bottles into partition forming position between the bottles.

2. The method of assembling two rows of three bottles each in a bottle carrier having a pair of apertured top members and which bottles have a depression intermediate their tops and bottoms and which apertures in the top members are of a width approximating the maximum diameter of the bottles and of a length intermediate two and three such diameters, and which method comprises holding the carrier with said apertures accessible, inserting two bottles through each of such apertures, moving apart the bottles inserted through common apertures for providing a space between them for receiving another bottle between them, then partially inserting a bottle through one of said apertures until the depression in such bottle will register with the base of a bottle similarly inserted through the other aperture, inserting the base of such similarly inserted bottle in said other aperture until the base thereof registers with said depression of the other bottle, and then moving said last two mentioned bottles downwardly between the other two bottles previously positioned and spaced on their respective sides of the carrier.

3. The method of filling a collapsible bottle carrier which is initially in flat formation with opposed sides, opposed apertured tops, and scored bottom halves thereof disposed flatwise against each other, which method comprises striking the scored edges of the bottom halves against a support to separate the sides and tops, and thereafter maintaining a substantially vertical pressure upon marginal portions only of the separated opposed tops to expose the top aperture while spreading the sides apart, while the bottom halves remain supported, and then directing bottles with their bottoms foremost, through the top apertures and onto the bottom halves corresponding to the sides at which the bottles were inserted, the bottles for the ends of the carrier being inserted first, followed by insertion of the intermediate bottles.

4. The method of filling a pentagonal bottle carrier whose convergent apertured tops, bottom halves, and opposed side walls initially are disposed in two closely adjacent parallel planes, said method comprising the steps of striking the line of meeting of the two bottom halves against a supporting table to spread the sides, tops, and bottom halves to pentagonal formation, then sliding the carrier bottom flatwise along the table longitudinally of the meeting line of its bottom halves to a low-ceiling area which compresses forward margins only of the tops toward the bottom halves, leaving the top apertures accessible from above, and thereafter directing bottles with their bottoms foremost, at an angle toward one another from both sides of the carrier, through the top apertures and onto the bottom halves corresponding to the sides at which the bottles were inserted, and then reversing the sliding movement of the carrier to free the forward margins of the tops for vertical displacement of the carrier from the table.

5. The method of filling a collapsible bottle carrier which is initially in flat formation with opposed sides, opposed apertured tops, and opposed bottom halves disposed flatwise against each other with said bottom halves meeting at a score line common to both said bottom halves, which method comprises pressing said bottom halves in the region of their common score line against a support to maintain a lateral separation of the sides and tops, and thereafter maintaining a substantially vertical pressure upon marginal portions only of the separated opposed tops to expose the top apertures while spreading the sides apart, while the bottom halves remain supported, and then directing bottles with their bottoms foremost, through the top apertures and onto the bottom halves corresponding to the sides at which the bottles were inserted, the bottles for the ends of the carrier being inserted first, followed by insertion of the intermediate bottles.

6. The method of producing and filling a composite merchandise package comprising a pentagonal cardboard bottle carrier whose convergent apertured tops, bottom and opposed side walls are connected together for providing a continuous pentagonal body, hollow transversely thereof, said method comprising the steps of distending the carrier parts into pentagonal form, then supporting the bottom on a table with the bottom, side walls and tops distended in pentagonal formation, then sliding the carrier bottom flatwise along the table longitudinally of its bottom to a low-ceiling area which compresses the tops toward the bottom, leaving the top apertures accessible from above ,and thereafter directing bottles with their bottoms foremost through the top apertures and onto the bottom, and then reversing the sliding movement of the carrier to free the forward margins of the tops for displacement of the carrier from the table.

7. The method of producing and filling a composite merchandise package comprising a pentagonal cardboard bottle carrier whose convergent apertured tops, bottom and opposed side walls are connected together for providing a continuous pentagonal body extending about an unobstructed passage extending laterally therethrough, the apertures in the tops extending lengthwise of the tops and being of a length

intermediate two and three diameters of the bottles to be inserted therein, said apertures being approximately wide enough to permit such bottles to be inserted therein for loading the carrier, said method comprising the steps of distending the carrier parts into pentagonal form, then supporting the carrier on a table and maintaining a substantially vertical pressure upon marginal portions only of the separated opposed tops, to keep the sides spread apart with the openings in the top members accessible, then inserting two bottles in to each of said openings in the top members and bringing said bottles into contact with the bottom of the carrier and retaining the carrier in distended condition and then inserting a third bottle through each of said openings in the top members and between the two bottles previously inserted in each said openings whereby to position each of said first inserted group of bottles at an end of such openings and in position to contact the cardboard containers at the ends of said openings in the top members, said bottles being substantially received in the lateral passage through the carrier body, said bottles being supported on the base and retaining the carrier sides and tops in substantially fully distended position or condition.

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