April 12, 1966 R. C. MARTIN 3,245,527

PACKAGE

Filed Aug. 6, 1963

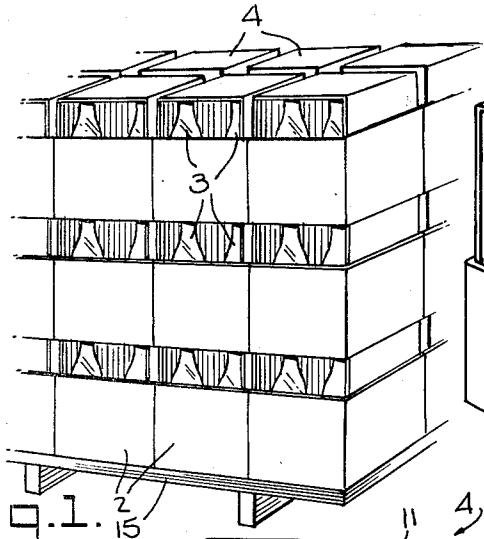

Fig. 1.

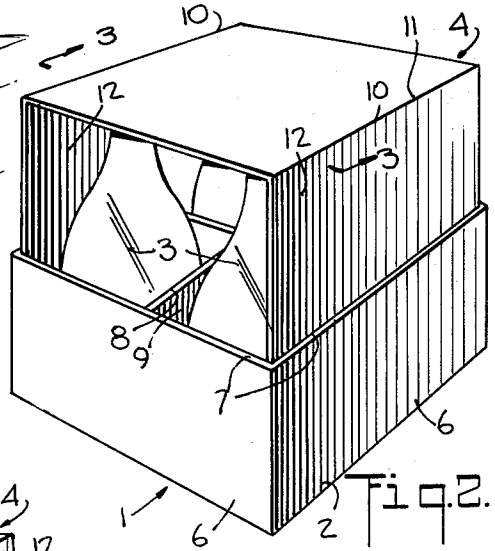

Fig. 2.

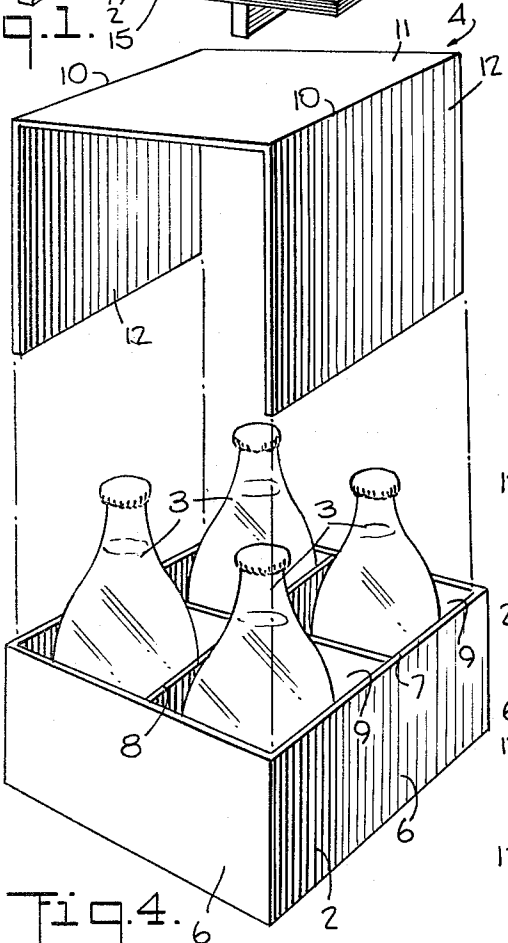

Fig. 4.

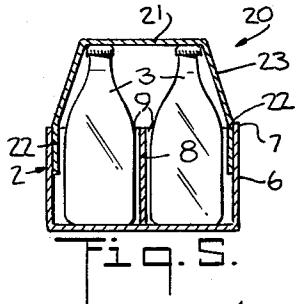

Fig. 5.

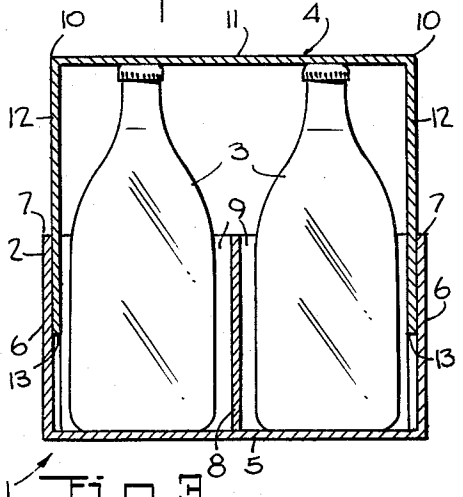

Fig. 3.

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3,245,527

PACKAGE

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4 Claims. (Cl. 206—65)

The present invention relates to an improved carton and more particularly to an improved stack of cartons and the method of stacking such cartons.

It is well known in the art to package articles, such as bottles, into cartons where the bottles are taller than the side walls of the cartons so that the tops of the bottles protrude above the side walls. It is also well known to form a stack of such packages by stacking these packages on top of each other so that the bottom walls of the upper cartons rest on the tops of the bottles in the lower cartons.

Since the bottles protrude above the side walls, the overlying packages are unstable and tend to sway and move relative to the lower ones so that there is danger that the upper packages may fall off. Moreover, severe jarring of the packages, as may occur during transport, may cause the upper cartons to break the necks of the protruding bottles.

It has thus been difficult to place such packages on top of each other and even more difficult to transport such stacks of packages.

Bottle manufacturers are also finding the handling of bottles to be increasingly difficult due to the differing heights of the bottles used by different customers so that standard cartons no longer provide firm stacks. It is desirable for efficient bottle handling to use standard cartons which can be firmly stacked at the bottle manufacturing plant on pallets. When thus stacked as pallets, an efficient shipping unit is provided as the bottles may remain on this pallet and may be handled efficiently by fork lifts and other standard handling equipment through all the subsequent transporting, storing, shifting and other operations prior to and after the bottle filling operation. The present invention is particularly useful in this regard as it makes a standard carton size useful for this type of container handling permitting the handling of bottles of varying heights and also permitting a firm steady pallet load of bottle packages to be arranged regardless of the particular height of the bottle being handled. A convenient and inexpensive method for handling and storing bottles in a standardized pallet-type operation is thus provided using economical relatively shallow standard sized cartons.

The present invention has for one of its objects the provision of an improved package for bottles.

Another object of the present invention is the provision of an improved stack of bottle packages wherein the upper packages will not come into direct contact with the bottles in the lower packages.

Another object of the present invention is the provision of an improved method of stacking bottle packages into a unitary stack.

Another object of the present invention is to provide an improved method of handling container cartons or pallets.

Other and further objects of the invention will be obvious upon and understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and

is shown in the accompanying drawings, forming a part of the specification, wherein:

FIG. 1 is a perspective view of a stack of packages formed in accordance with the present invention;

FIG. 2 is a perspective view of a package formed in accordance with the present invention;

FIG. 3 is a sectional view taken along lines 3—3 of FIG. 2 showing the relative position of a carton and its cover with bottles therein;

FIG. 4 is an exploded perspective view showing the manner of mounting the cover on a carton; and

FIG. 5 is a perspective view of another embodiment of the present invention.

Referring more particularly to FIGS. 2 and 3, the package of the present invention, designated generally by the numeral **1**, comprises a lower carton **2**, adapted to receive bottles **3**, and an upper cover **4**.

The lower carton **2** has a bottom wall **5** and upstanding side walls **6** terminating in a top edge **7**. The lower carton **2** is provided with the usual divider **8** which forms bottle-receiving compartments **9** adapted to receive bottles **3**. It will be noted that the necks of the bottles **3** protrude above the top edges **7** of the side walls **6** of the cartons **2**. While a four compartment carton is shown it will be understood that the carton may have any number of compartments.

The cover portion is preferably made from a blank which is folded along fold lines **10** to form a central top panel **11** and side flaps **12** extending downwardly from each side of the central panel **11**.

The side flaps **12** are of greater length than the portions of the bottles **3** which extend above the top edges **7** of side walls **6** of carton **2** so that when the cover **4** is applied to the carton **2**, the central panel **11** rests on top of bottles **3** and the flaps **12** extend downwardly along the sides of the bottles and are held in place between divider **8** and side walls of the carton. Since the flaps **12** are longer than the portion of bottles **3** which extend above the top edges **7** of side walls **6**, the lower edges **13** extend below the top edges **7** of side walls **6** of the cartons **2**.

The central panel **11** resting on top of the bottles **3** will act as a support to permit another package to be stacked on top to form a stack, as shown in FIG. 1. Since there is no contact between the bottom walls **5** of the cartons **2** in one layer and the bottles **3** of the lower layer (because of the intervening central panel **11** of the cover portion **4**), the upper packages will not sway or move relative to the lower packages. Hence the chance of upper packages falling off or bottles in lower packages breaking is minimized. Thus, the structure permits the packages to be easily transported in a vertical column or stack.

While the cover portion **4** has been shown as being formed from a rectangular blank, it is within the scope of the present invention to utilize a cross shaped blank in which four downwardly extending flaps are formed rather than the two shown in the drawing.

FIG. 5 shows another embodiment of the present invention. The cover **20** has top panel **21** resting on articles **3** and side flaps **22** extending within the lower carton **2** below its side walls **6**, in a manner similar to the embodiment shown in FIGS. 1 to 4. However, each side flap **22** is connected to top panel **21** by an angled side flap **23** so that the cover **20** makes a closer fit with the articles **3** and provides a steady support.

FIG. 1 illustrates the above described packages arranged on a pallet **15**. These packages include the cartons **2** containing the bottles **3** and having the above described covers **4** positioned intermediate the bottle tops of one carton and the bottom of the carton there-

above. The stack may also be formed with the cartons shown in the embodiment of FIG. 5.

A stable arrangement of the cartons **2** results on the pallet **15** permitting the stacked cartons to be handled on the pallet **15** and to remain thereon from the time that the bottles have been thus arranged for shipping until the final utilization of the bottles such as in a bottle filling operation. A palletized stack is thus formed which facilitates intermediate handling of the bottles both by the manufacturer and by the customer so that the bottles need not be removed from the pallet as the pallet is transferred from one position to another using the usual handling facilities such as a fork lift trucks.

The stacking of the cartons using the above described package and method thus permits efficient handling of relatively tall bottles in shallow standard and compact cartons and in addition, permits the standardized handling of bottles of varying heights since the above described cover and carton combination are useful over a wide range of individual bottle heights and styles. The method therefore makes the handling of bottles more simple and efficient by making the stacks more firm and by permitting the above described palletized handling using standardized inexpensive relatively shallow cartons.

It will thus be seen that the present invention provides an improved container package and method of packing which permit better and more economical package handling.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described the invention, it is claimed:

1. A package comprising a carton having upstanding side walls, a plurality of bottles standing upright on the bottom of said carton, with their upper ends extending substantially above the upper edges of said side walls, a divider comprising upright mutually intersecting panels defining individual compartments for receiving and separating said bottles, maintaining said bottles in stable upright position and having end edges juxtaposed to opposite side walls of the carton, and a foldable one piece cover formed of substantially rigid sheet material having an uninterrupted top panel resting on the tops of the bottles and having integral depending side flaps each having three free edges, said flaps extending into said carton between said end edges of the divider and said side walls and being unattached to the carton and the divider.

2. A package as claimed in claim **1** wherein an angled section connects said top panel with each of said flaps.

3. A stack comprising a plurality of packages stacked on top of each other in layers, each package comprising a carton having upstanding side walls, a plurality of bottles standing upright on the bottom of said carton, with their upper ends extending substantially above the upper edges of said side walls, a divider comprising upright mutually intersecting panels defining individual compartments for receiving and separating said bottles, maintaining said bottles in stable upright position and having end edges juxtaposed to opposite side walls of the carton, and a foldable one piece cover formed of substantially rigid sheet material having an uninterrupted top panel resting on the tops of the bottles and having integral depending side flaps each having three free edges, said flaps extending into said carton between said end edges of the divider and said side walls.

4. A stack as claimed in claim **3** wherein an angled section connects said top panel with each of said flaps.

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