United States Patent

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[54] **PACKAGE AND METHOD OF MAKING SAME**
13 Claims, 5 Drawing Figs.

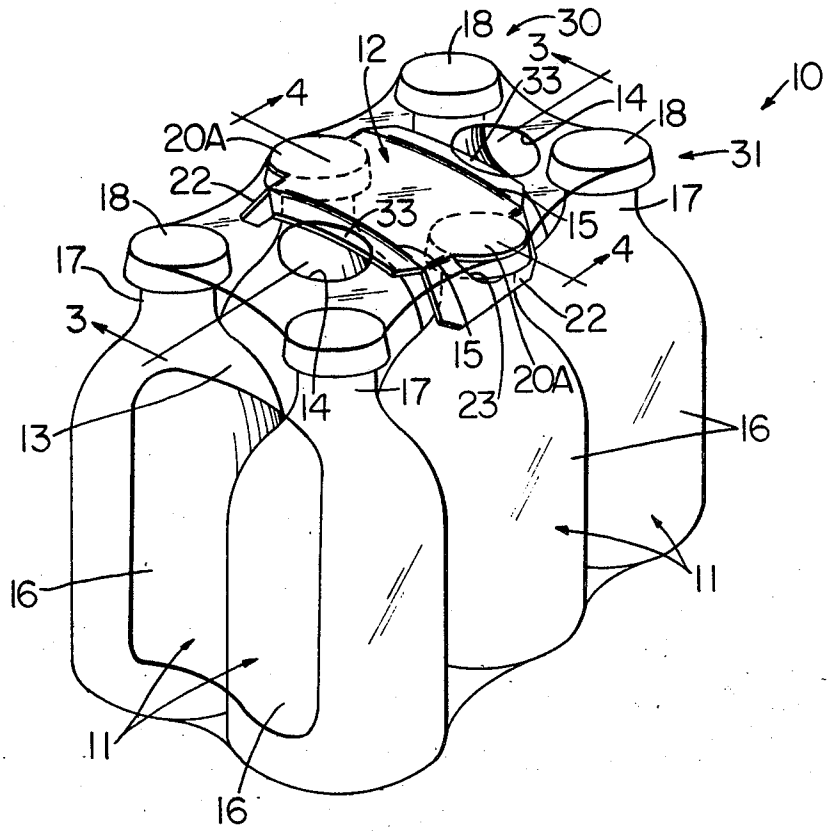
[52] **U.S. Cl.** **206/65,**
206/45.33
[51] **Int. Cl.** **B65d 71/00,**
B65d 85/62
[50] **Field of Search** ..... 206/65(E),
65(S), 65(C), 45.33; 229/40, 42, (S.C. Digest)

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ABSTRACT: A package, and method of making same, comprised of a plurality of containers and a carrier held together by an overwrap which is shrunk therearound, the overwrap has a finger receiving opening therein adjacent one edge portion of the carrier enabling a finger to be inserted therethrough and engaged under the carrier for carrying purposes.



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SHEET 1 OF 2

FIG-1

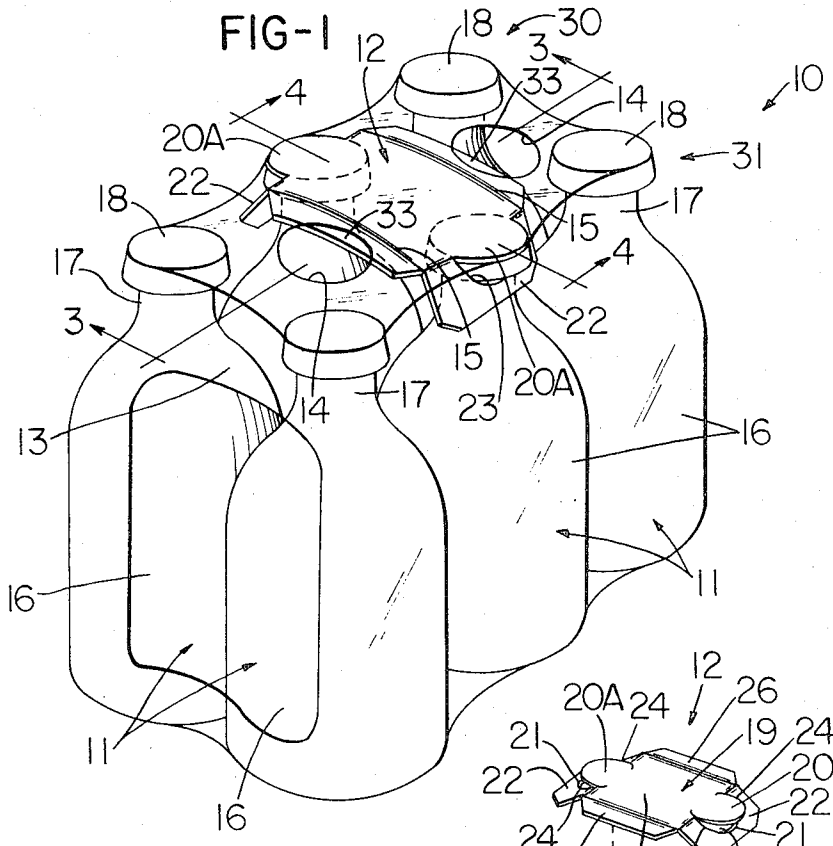
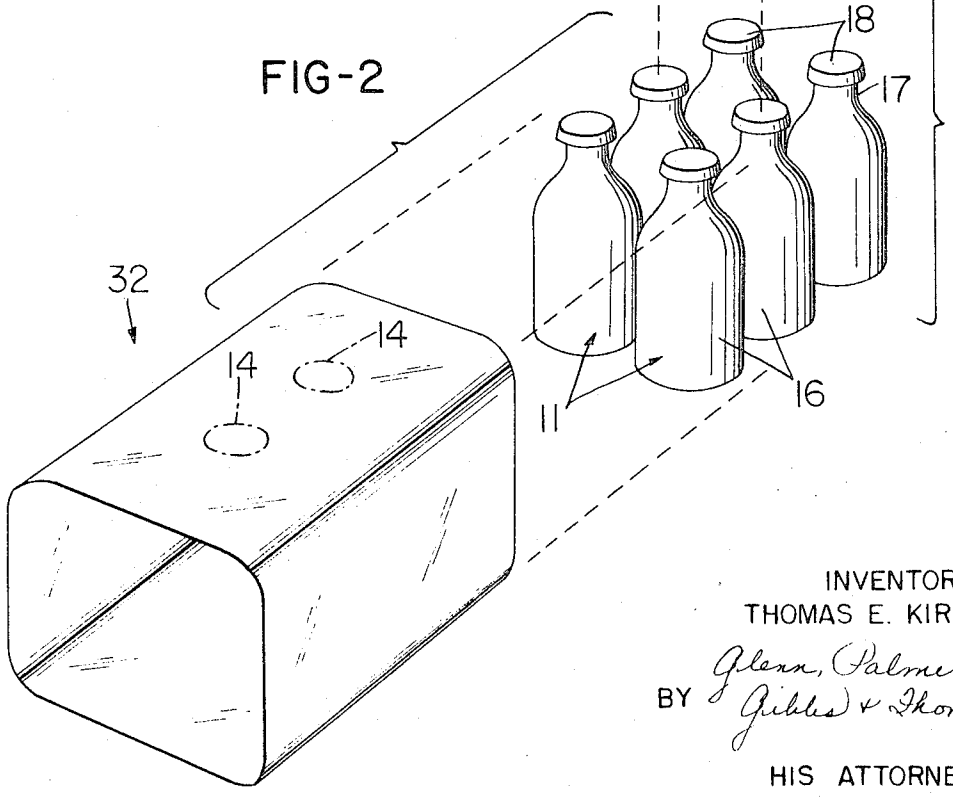


FIG-2



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FIG-3

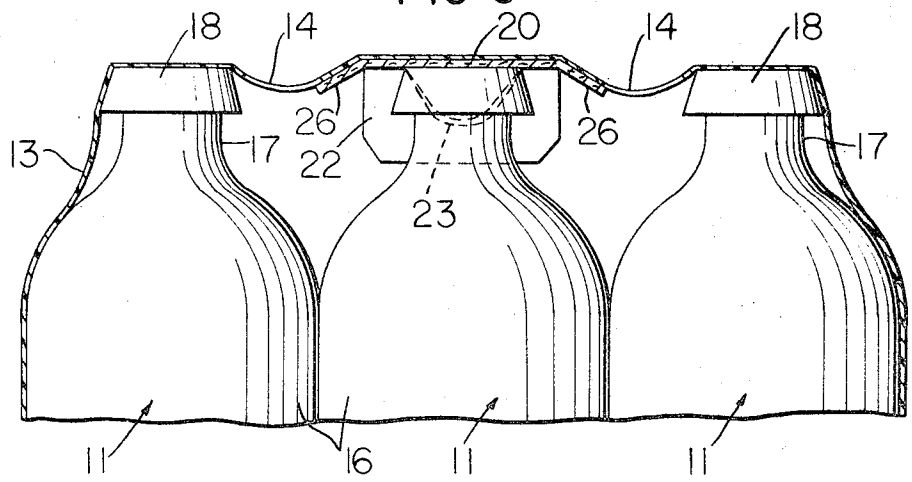


FIG-4

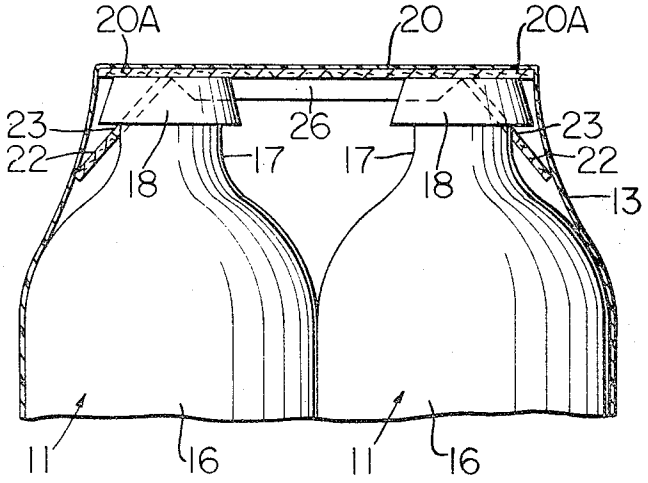
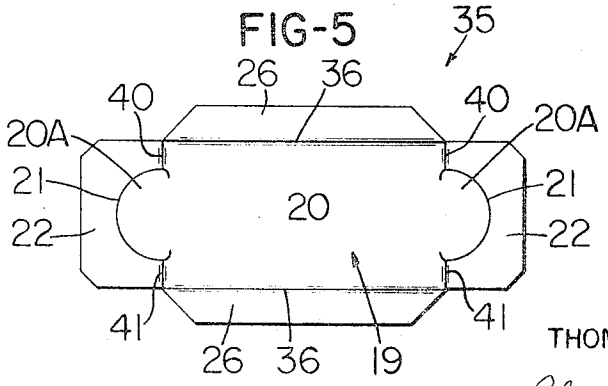


FIG-5



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PACKAGE AND METHOD OF MAKING SAME

BACKGROUND OF THE INVENTION

In packaging containers such as cans, bottles, and the like in a package construction which uses an overwrap which is shrunk in position to hold a plurality of containers together it has been found that excessive amounts of packaging materials are often utilized in an effort to protect the containers and provide a carrier for the package construction; and this use of excessive amounts of packaging materials results in increased costs for the package construction. Previous efforts to reduce the amounts of packaging materials in a package construction of the character mentioned above have been unsuccessful especially in applications where breakable containers, such as glass bottles, are being packaged.

SUMMARY

This invention provides an improved package which is of simple construction, uses minimum amounts of packaging materials, and is comprised of a plurality of containers and a carrier held together by an overwrap which is shrunk in position therearound with the overwrap having at least one finger-receiving opening provided therein adjacent an edge portion of the carrier which enables a finger to be inserted through such opening and engaged under the carrier for carrying purposes.

Other details, uses, and advantages of this invention will become apparent as the following description of the exemplary embodiment thereof presented in the accompanying drawings proceeds.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings show a present exemplary embodiment of this invention, in which:

FIG. 1 is a perspective view illustrating one exemplary embodiment of the package of this invention comprised of a plurality of containers in the form of bottles and a carrier therefor being held together by a shrinkable overwrap;

FIG. 2 is an exploded perspective view particularly illustrating the containers, carrier, and overwrap prior to assembly thereof as an integral unit;

FIG. 3 is a view with parts in cross section and parts broken away taken essentially on the line 3–3 of FIG. 1;

FIG. 4 is a view with parts in cross section and parts broken away taken essentially on the line 4–4 of FIG. 1; and

FIG. 5 is a plan view of the paperboard carrier comprising the package of FIG. 1.

DESCRIPTION OF ILLUSTRATED EMBODIMENTS

Reference is now made to FIG. 1 of the drawings which illustrates one exemplary embodiment of the package construction or package of this invention which is designated by the reference numeral 10. The package 10 is comprised of a plurality of containers 11, a carrier 12, and an overwrap 13 shrunk tightly in position around the containers 11 and carrier 12. The overwrap 13 has a pair of finger-receiving openings 14 provided therein and each opening is arranged adjacent an associated edge portion 15 of the carrier 12. The openings 14 enable a thumb and finger, for example, to be inserted therethrough and engaged under the carrier 12 to enable easy carrying of the package 10.

The containers 11 are presented in this example of the invention as a plurality of breakable bottles which will also be referred to as bottles 11. Each bottle 11 has a cylindrical sidewall 16 the upper portion of which tapers inwardly so that it blends smoothly together with the lower end of a cylindrical neck 17 and a closure cap 18 is provided and suitably sealed in position against the top portion of the neck 17.

The carrier 12 has a top surface which will be referred to as a top bearing surface and is designated generally by the reference numeral 19 and the surface 19 in this example of the invention is defined by the combined areas of the top surfaces of a roughly rectangular central portion 20 of the carrier and a pair of roughly semicircular projections 20A extending from opposite ends of the central portion 20. Thus, upon lifting against the bottom portion of the carrier 12 the top bearing surface 19 is effective in transmitting the entire weight of the containers 11 to the overwrap 13 and distributing the entire weight over a substantially large area defined by the total area of the surface 19. This distribution of the weight of the package over a comparatively large area prevents localized stretching and loosening of the overwrap which could otherwise occur if the carrier 12 were not provided.

The exemplary carrier 12 is in the form of a saddlelike carrier and the roughly semicircular projections 20A extending from opposite ends of central portion 20 are defined by corresponding semicircular cuts 21 in the carrier 12. The carrier 12 also has a pair of extension flaps 22 extending from opposite ends of the rectangular central portion 20. As best seen in FIG. 1, each extension flap 22 has a base portion provided with a semicircular opening 23 defined by an associated cut 21 upon folding the flap 22 downwardly and the flap 22 has a pair of side edges 24 which face toward each other and define corresponding sides of the opening 23. The carrier 12 also has another pair of extension flaps 26 extending downwardly from its side edges.

The bottles 11 are arranged in the package 10 in a pair of rows, indicated at 30 and 31 in FIG. 1, and in this example of the invention a plurality of three bottles are arranged in a rectilinear path in each row with the two rows being arranged in parallel relation to define a conventional six-pack. The carrier 12 is arranged substantially transverse the two rows 30 and 31 and is supported against the caps 18 of the two center bottles.

The carrier 12 is placed in position over the two center bottles with each projection 20A covering an associated closure cap 18 and with the side edges 24 provided in each end extension flap 22 engaging opposed portions of the closure cap 18 to prevent shifting of the carrier 12 with respect to bottles 11 and the overwrap 13. The end extension flaps 22 are held in a substantially vertical position by the overwrap 13 urging thereagainst and the extension flaps 22 and 26 serve to provide greater rigidity for the carrier 12 and enable easier carrying of the package 10 with minimum likelihood that the carrier 12 will deflect or otherwise bend in an undesirable manner.

The overwrap 13 may be of any suitable material which is capable of holding the bottles 11 with their cylindrical sidewalls 16 in intimate contact with each other and such overwrap is preferably made of a heat-shrinkable plastic material which is heat shrunk in position utilizing any suitable technique such as a shrink tunnel, for example. Further, the plastic overwrap 13 may be defined using a single sheet which is suitably wrapped in position or from a suitable plastic sleeve.

The overwrap 13 of this example is provided using a seamless tubular sleeve illustrated at 32 in FIG. 2. The seamless sleeve comprising the overwrap 13 is shown as having the finger-receiving openings 14 provided therein prior to placing such sleeve around the bottles 11 and carrier 12. However, it will be appreciated that the openings 14 may be provided in the overwrap 13 following the overwrapping of the bottles and the carrier by the utilization of a suitable heated tool such as a heated conical tool having a sharp point.

The openings 14 may have any suitable configuration or peripheral outline and in this example are shown as having a circular peripheral outline which is less susceptible to tearing. The openings 14 are arranged so that a fractional portion of each opening 14 is arranged over the carrier 12 as illustrated at 33 in FIG. 1 and this arrangement enables easy insertion of a thumb and finger therethrough and easier engagement of the bottom of the carrier 12.

The carrier 12 may be formed in any suitable manner and made from any suitable foldable material. It is preferably formed from the paperboard blank 35 illustrated in FIG. 5 of the drawings. The description of the blank 35 will proceed by

describing primarily those portions which were not previously described in detail in connection with the description of the carrier **12** and where a detailed description was made previously in connection with the carrier, such description will not be repeated in connection with the blank and corresponding component portions of the blank will be designated by the same reference numerals as in the carrier **12**.

The blank **35** has a pair of parallel score lines **36** defining the central portion **20** of the resulting carrier **12** made from such blank and each score line **36** has an extension flap **26** extending outwardly thereof. Blank **36** also has a set of score lines **40** and **41** arranged in spaced and aligned end-to-end relation at each end thereof and the score lines **40** and **41** are arranged perpendicular to the score lines **36**. Each set of score lines **40** and **41** defines the base of an associated and extension flap **22**.

The top bearing surface **19** of the carrier **12** has an area which is roughly one-third of an area of the top wall of the package **10** and the extension flaps **22** and **26** have a comparatively small total surface area whereby a minimum amount of structural material is utilized for the carrier **12**. Nevertheless, the area of surface **19** is sufficiently large that it is capable of supporting the total weight of the package without any tendency for localized stretching and loosening of the overwrap **13**.

It will be appreciated that if the package **10** were to be constructed without the use of a carrier **12** and by merely overwrapping the bottles with a filmlike plastic overwrap with openings **14** provided therein localized stretching of the overwrap would occur adjacent the openings upon lifting thereagainst. This localized stretching would, in effect, allow the bottles **11** to jostle around within the loosened overwrap **13** and such jostling would result in breakage as well as tend to produce further stretching which would further aggravate the likelihood of breakage.

As previously indicated, the overwrap **13** is preferably a shrinkable overwrap which is made of a heat-shrinkable film of plastic material and any suitable plastic material may be utilized for this purpose. Further, by using such a shrink film and the carrier **12** which is of minimum size a minimum amount of material is required thereby providing optimum economy.

The provision of the overwrap **13** is in the form of a shrink film enables the holding of bottles **11** in intimate contact with each other with a controlled force of known magnitude which may be varied as desired for each particular application by the selection of a film having he required physical and chemical properties. It has also been found that by holding breakable bottles in intimate contact with each other, as taught herein, it is not necessary to undergo the expense of providing spacers between bottles.

The carrier **12** is shown fastened in position against the center bottles **11** of the package **10** to prevent shifting thereof; however, it will be appreciated that any other suitable technique may be used to prevent shifting of such carrier. Also, the carrier may be arranged in any desired manner at the top of a particular package.

While present exemplary embodiments of this invention, and methods of practicing the same, have been illustrated and described, it will be recognized that this invention may be otherwise variously embodied and practiced by those skilled in the art.

I claim:

1. In combination: a plurality of containers each having a tubular sidewall, a saddlelike carrier supported against the top portions of at least two of said containers, said carrier having a substantially rectangular central portion which has a top surface defining a bearing surface, and an overwrap shrunk in position around said containers and against said carrier, said overwrap holding said containers with their sidewalls in intimate contact and having a finger-receiving opening therein adjacent one edge portion of said carrier enabling a finger to be inserted therethrough and engaged under said carrier for carrying purposes, said bearing surface transmitting the entire weight of said containers to said overwrap and distributing said entire weight over a substantially large area and thereby preventing localized stretching and loosening of said overwrap which would provide space between said containers and allow jostling and possible damage to said containers.

2. A combination as set forth in claim **1** in which said carrier has extension flaps extending downwardly from the periphery thereof, said extension flaps providing greater rigidity for said carrier.

3. A combination as set forth in claim **1** and further comprising another opening in said overwrap arranged adjacent both said first-named opening and the edge portion of said carrier opposite said one edge portion, said openings enabling easier carrying of said containers.

4. A combination as set forth in claim **1** and further comprising another opening in said overwrap arranged adjacent both said first-named opening and the edge portion of said carrier opposite said one edge portion, said openings comprising circular openings each being arranged so that a fractional portion thereof is arranged over said carrier to enable easier insertion of a thumb and finger therethrough and thereby enable easier carrying of said containers.

5. A combination as set forth in claim **1** in which said overwrap comprises a heat-shrinkable plastic overwrap which is heat shrunk in position.

6. A combination as set forth in claim **1** in which said overwrap comprises a seamless tubular sleeve made from a heat-shrinkable plastic material which is heat shrunk in position, said sleeve having another opening provided therein and arranged adjacent both said first-named opening and the edge portion of said carrier opposite said one edge portion, said openings enabling easier carrying of said containers.

7. A combination as set forth in claim **1** in which said plurality of containers comprise a pair of rows of containers having a plurality of containers in each row with said carrier being arranged substantially transverse said pair of rows.

8. A combination as set forth in claim **1** in which said top surface of said carrier has an area which is roughly one-third of the area of the top wall of the package defined by said combination.

9. A combination as set forth in claim **1** in which said plurality of containers comprise a plurality of breakable bottles each having a tubular sidewall and a closure, said carrier preventing said localized stretching to prevent damage by breaking of said bottles.

10. In combination: a plurality of breakable bottles each having a tubular sidewall and a closure, a carrier supported against the top portions of at least two of said bottles, said carrier having a top surface defining a bearing surface, and an overwrap shrunk in position around said bottles and against said carrier, said overwrap holding said bottles with their sidewalls in intimate contact and having a finger-receiving opening therein adjacent one edge portion of said carrier enabling a finger to be inserted therethrough and engaged under said carrier for carrying purposes, said bearing surface transmitting the entire weight of said bottles to said overwrap and distributing said entire weight over a substantially large area and thereby preventing localized stretching and loosening of said overwrap which would provide space between said bottles and allow jostling and possible breading thereof, said carrier comprising a saddlelike paperboard carrier having a substantially rectangular central portion and having a pair of extension flaps extending downwardly from its opposite end edges and another pair of extension flaps extending downwardly from its side edges, said extension flaps providing greater rigidity for said carrier.

11. A combination as set forth in claim **10** in which said overwrap comprises a seamless tubular sleeve made from a heat-shrinkable plastic material which is heat shrunk in position, said sleeve having another opening provided therein and arranged adjacent both said first-named opening and the edge portion of said carrier opposite said one edge portion, said openings enabling easier carrying of said bottles.

12. A combination as set forth in claim 10 in which said plurality of bottles comprise a pair of rows of bottles with said carrier arranged substantially perpendicular to said pair of rows and between a pair of adjoining bottles.

13. A combination as set forth in claim 10 in which said substantially rectangular central portion of said carrier has a roughly semicircular projection extending from each end thereof defined by a substantially semicircular cut in said carrier, an extension flap extending from each end, each extension flap having a base portion provided with a substantially semicircular opening therein defined by an associated cut and said substantially semicircular opening defining side edges in its extension flap which face toward each other, said carrier being supported in position on the closures of two of said bottles with each projection covering an associated closure and with said side edges in each extension flap engaging opposed portions of an associated closure to prevent shifting of said carrier, and said extension flaps being held in position by said overwrap and providing greater rigidity for said carrier.