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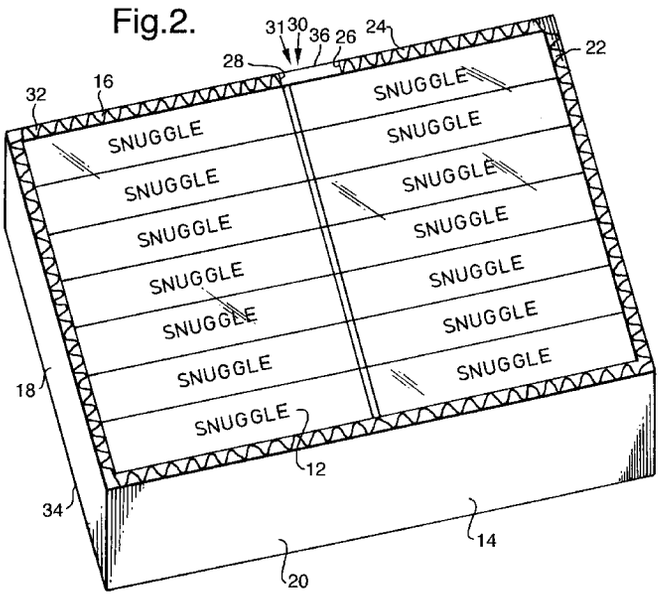
(54) Shrink wrap package

(57) A packaged product comprising a plurality of individual containers (12), a paperboard carrier wall (14) disposed along a portion of the periphery and shrink wrapping (36). The container wall preferably has an open top and bottom and also has two free edges (26,28) spaced from each other so as to leave a portion of the periphery uncovered by the wall.

Fig.2.



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Description

Background of the Invention

Generally, consumer product packages such as cartons or bottles are shipped from the manufacturer to the retailer in a shipping case. In some situations the shipping case is specially designed so that a portion may be readily removed to facilitate display of the product in the case. Certain shipping cases even permit viewing of the product without removal of a portion of the shipping case.

It is important that a shipping case provide adequate protection to the packages so that the product is not damaged in transit. Particularly important is that the shipping case have adequate compressive strength so that when cases are loaded one on top of another the weight of the upper case is supported by the lower case without any damage to the packages in the cases.

A further problem attendant to the design of modern shipping cases is the desire for reduction of resource used in the fabrication of the case. Not only does this reduce the cost of the case, but it minimizes the amount of waste material which must be disposed of when the mission of the case has been fulfilled. However, it is not an easy task to meet the dual goals of providing significant source reduction and at the same time affording adequate protection to the packages housed within the case.

A number of different types of cases and other shipping packages are known in the literature. Richardson, U.S. Patent No. 3,918,584 is directed to a shipping case for fragile product-filled cartons made from a rectangular sleeve of corrugated fiberboard having open ends and having the corrugation running between the open ends. A plurality of cartons are stacked in rectangular configuration in the sleeve and occupy the entire volume of the sleeve with exposed carton faces forming a substantial planer surface at both ends of the sleeve. Heat shrinkable transparent film in the form of a band is disposed around the open ends of the fiberboard sleeve and at least two opposite walls of the sleeve and is shrunk. The sleeve and carton are contained together as an integral unit providing a shipping case without end flaps.

In Richardson, the vertical compressive or end strength is said to be unexpectedly superior to that of conventional filled cases, thereby enabling, if desired, the use of lower weight packing materials with attendant cost savings. Moreover, the lack of flaps in the Richardson construction is said to minimize fatigue or damage since it is said virtually to be impossible to maintain the case in a square configuration as the flaps are being glued closed. The visibility of the cartons through the transparent overwrap is said to make less likely damaging or cutting of the cartons when the case is open.

Lehms, U.S. Patent No. 4,828,110 is directed to a unitized package of a plurality of generally cylindrical containers such as cans or bottles. The unitized package comprises several independent integral container cells of equal size held together to one another by a resilient film ribbon under tension. The film ribbon may be oriented polypropylene. Optionally, each container cell may be circumscribed by a band, such as plastic strips 28, 30 and 32. The resilient film ribbon of Lehms is in contact with the containers about the periphery of the package along a major portion, i.e. more than 50% of the cylindrical body portion length dimension.

Ryan et al., U.S. Patent No. 3,878,943 is directed to a rectangular shipping package comprising a carton having at least five sides enclosed within a shrunken packaging film.

Oglesbee, U.S. Patent No. 3,693,788 is directed to a package designed to pack and distribute articles such as glass tumblers, having an inner paperboard sleeve and an outer envelope such as a shrink film envelope. The sleeve has one or more flexible curved article gripping panels formed by the use of curved scorelines.

Heaney, U.S. Patent No. 3,990,576 is directed to an arrangement for packaging glass doors and the like for shipment and handling. The bundle of glass doors is wrapped in a packing strip, which is cinched to a pallet and covered with a transparent film, preferably by heat shrinking a clear plastic envelope therearound.

Brown, U.S. Patent No. RE.27,212 is directed to package constructions having open ended receptacle means filled with product containers arranged in rows and disposed in a heat shrunk film-like member holding the receptacle means and product containers tightly together. A plurality of receptacle means can be disposed in stacked relation within the heat shrunk tubular film-like member.

Coons, U.S. Patent No. 3,416,288 is directed to a method of shrink packaging utilizing a self-erecting pallet.

Begnaud et al., U.S. Patent No. 3,589,510 is directed to a package comprising a tray having four vertical sides and a bottom, contents in the tray and a shroud extending over the contents.

Clarkson, U.S. Patent No. 4,730,730 is directed to a tray for supporting a plurality of bottles and a band around the perimeter of the bottles. A shrink wrap is placed around the bottles, band and tray.

Ganz, U.S. Patent No. 3,756,397 discloses a single wrap of a single sheet of continuous shrinkable plastic material to constitute virtually the entire package for a cluster of plural, like containers such as bottles. The sheet circumferentially envelopes the cluster with the ends of the sheet overlapping at the alignment of one of the longitudinal ends of the clustered containers.

Shelton, U.S. Patent No. 4,177,895 is directed a package comprising a multi-cell container prepared from a partially corrugated first material having peaks and flutes, a polymeric film encompassing the outermost peripheral surface of said container and a cover for said container and which cover is prepared from at

least a partially corrugated second material having peaks and flutes.

Summary of the Invention

The present invention is directed to a packaged product for shipping, which comprises individual containers, for example of a consumer product. The individual containers are packed together to form a container mass having a periphery and the carrier wall is disposed along that periphery. The carrier wall includes two edges which are spaced from each other and do not overlap, whereby to leave uncovered by the carrier wall a portion of the periphery of the container mass.

The product containers and container wall are shrink wrapped together so as to form a unitary packaged product. The shrink wrap helps keep the individual containers in place whereas the container wall provides compressive, topload strength and protects the containers on several sides of the periphery to minimize substantially the likelihood that the containers will be damaged in transit. At the same time, however, the spacing of the two free ends of the carrier wall from each other permits at least a portion of the container or containers along the periphery to be viewed from outside the package. Moreover, in a preferred embodiment, the top and the bottom edges of the container wall are unattached, so the top and bottom of the container are open and may be viewed freely through the shrink wrapping.

Preferably, the containers occupy the entire volume inside the carrier wall whereby to minimize the likelihood of damage to any of the containers. In its preferred form, the containers of the invention are cartons and the carrier wall takes the form of a plurality of panels which are not curved and which snugly accommodate the containers within.

It is preferred that the portions of the carrier wall which are adjacent the periphery of the container faces be coextensive with those faces. That is, it is preferred that the height of the carrier wall be approximately the same as (perhaps slightly larger than) the height of the periphery of the container mass.

For a more complete understanding of the above and other features and advantages of the invention, reference should be made to the following detailed description of preferred embodiments and to the accompanying drawings.

Brief Description of the Drawings

Fig. 1 is a top plan view of a blank which may be used to fabricate the carrier wall of the invention.

Fig. 2 is a perspective view of the package of the invention.

Detailed Description of the Invention

The package of the invention 10 comprises individual containers such as cartons 12. Cartons 12 are packed together to form a container mass. The container mass is surrounded on its periphery by carrier wall 14 which is preferably made of a corrugated paperboard material. The periphery may comprise, for example, a side of the container mass, as shown.

Carrier wall 14 comprises panels 16, 18, 20, 22 and 24. Edges 26 of panel 24 and 28 of panel 16 do not meet and do not overlap whereby to leave a portion of the periphery of the container mass 30 uncovered so that the product may be viewed externally of the package. In addition, it is preferred that the top edge 32 and the bottom edge 34 of the carrier wall be free from attachments. Thus, both the top and the bottom of the package are open and can be viewed from without the package.

The package including individual containers is wrapped in shrink wrap 36 which preferably envelopes at least 60% of the surface area package especially at least 85%.

The heat shrinkable material may comprise any of the uniaxially or biaxially oriented polymeric films which upon application of heat are shrunk to a decreased surface area.

Suitable films include oriented polyolefinic films such as polyethylene, polypropylene, polyisopropylethylene and polyisobutylethylene. Other films which may be useful are polyvinyl chloride, polyethylene terepthalate, polyethylene-2,6-napthalate, polyhexamethylene adipamide, as well as polymers of alpha mono-olefinically unsaturated hydrocarbons having polymer producing unsaturation such as in butene, vinyl acetate, methylacrylate, 2-ethyl hexyl acrylate, isoprene, butadiene acrylamide, ethylacrylate, N-methyl-n-vinyl acetamide, etc. Many other films may be successfully employed as well. Polyolefin, preferably biaxially oriented polyethylene, is preferred.

It can be seen that the carrier wall protects containers 12 along the side of the container mass while leaving the top and the bottom (not shown) free for observation by a consumer or others. Likewise, a portion of the periphery may be seen where the edges 26, 28 do not overlap, at 31. Moreover, as seen in Fig. 2, the flutes of the corrugated paperboard are disposed vertically so as to improve the ability of the carton to withstand forces imposed above and below. This is especially important where cartons are stacked one upon the other and the carrier wall provides the containers with further protection in this respect.

It is preferred that the package of the invention contain cartons housing fabric softener sheets; however the package may be useful for other types of consumer products containers such as bottles. Consumer products for which the container may be used include powdered laundry detergent, liquid laundry detergent, liquid fabric softeners, powdered automatic dishwashing detergent, hand dishwashing bottles, just to name a few.

It is preferred that the containers occupy approximately 98-100% of the internal volume of the carrier

wall. This permits the package to provide the optimum protection to the containers.

The bottom perspective view of the package 10 will resemble the top perspective view seen in Fig. 2

It is preferred that the containers not extend above the height of the carrier wall to optimize protection for the containers. Indeed it is preferred that the top and bottom of the carrier wall be level with or just slightly above the tops and bottoms of the containers. The package of the invention permits adequate support and protection for the containers without the addition of further features. That is the carrier wall as described and the shrink wrap is all that is necessary to both support and protect the containers.

It should be understood, of course, that the specific forms of the invention herein illustrated and described are intended to be representative only as certain changes may be made therein without departing from the clear teachings of the disclosure. Accordingly, reference should be made to the following appended claims in determining the full scope of the invention.

Claims

1. A packaged product comprising:

a) a plurality of individual containers packed together to form a container mass,

b) said container mass having a periphery,

c) a paperboard carrier wall disposed along a portion of the periphery of said container mass and covering a portion of said periphery,

d) said wall having two free ends spaced from each other so as to leave a portion of said periphery uncovered by said wall, said edges not overlapping,

e) said container mass and carrier wall being shrink wrapped whereby said containers are fully supported by said shrink wrap and said carrier wall and whereby the portion of said periphery uncovered by said wall is visible outside said packaged product.

2. The packaged product according to claim 1 wherein said wall is made of corrugated paperboard.

3. The packaged product according to claims 1 or 2 wherein said carrier wall comprises a plurality of panels.

4. The packaged product according to claim 3 wherein at least one of said panels is coextensive with the side of the periphery to which it is adjacent.

5. The packaged product according to claims 3 or 4 wherein said container mass periphery is rectangular or square and said carrier wall comprises a plurality of panels.

6. The packaged product according to any preceding claim wherein the container mass periphery has a height and the container wall has a height and the heights of the container mass periphery and of the container wall are the same.

7. The packaged product according to claim 5 or 6 wherein said rectangle or square has four sides and said carrier wall covers at least three sides.

8. The packaged product according to any preceding claim wherein said containers are cartons.

9. The packaged product according to claim 8 wherein said cartons contain fabric softener sheets.

10. The packaged product according to claim 8 or 9 wherein said cartons are six-sided.

11. The packaged product according to any preceding claim wherein only said shrink wrap and said carrier walls hold said container mass together.

12. The packaged product according to any preceding claim wherein said two free ends of said carrier wall are side edges and where said carrier wall has a top edge and a bottom edge, said top and bottom edges also being free of attachment.

13. The packaged product according to any of claims 3 to 13 wherein said panels are disposed perpendicularly to each other.

14. The packaged product according to any preceding claim wherein said carrier wall is non-curved.

Fig.1.

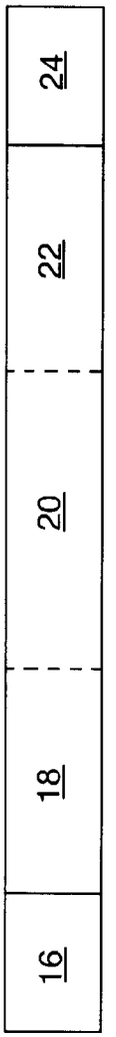
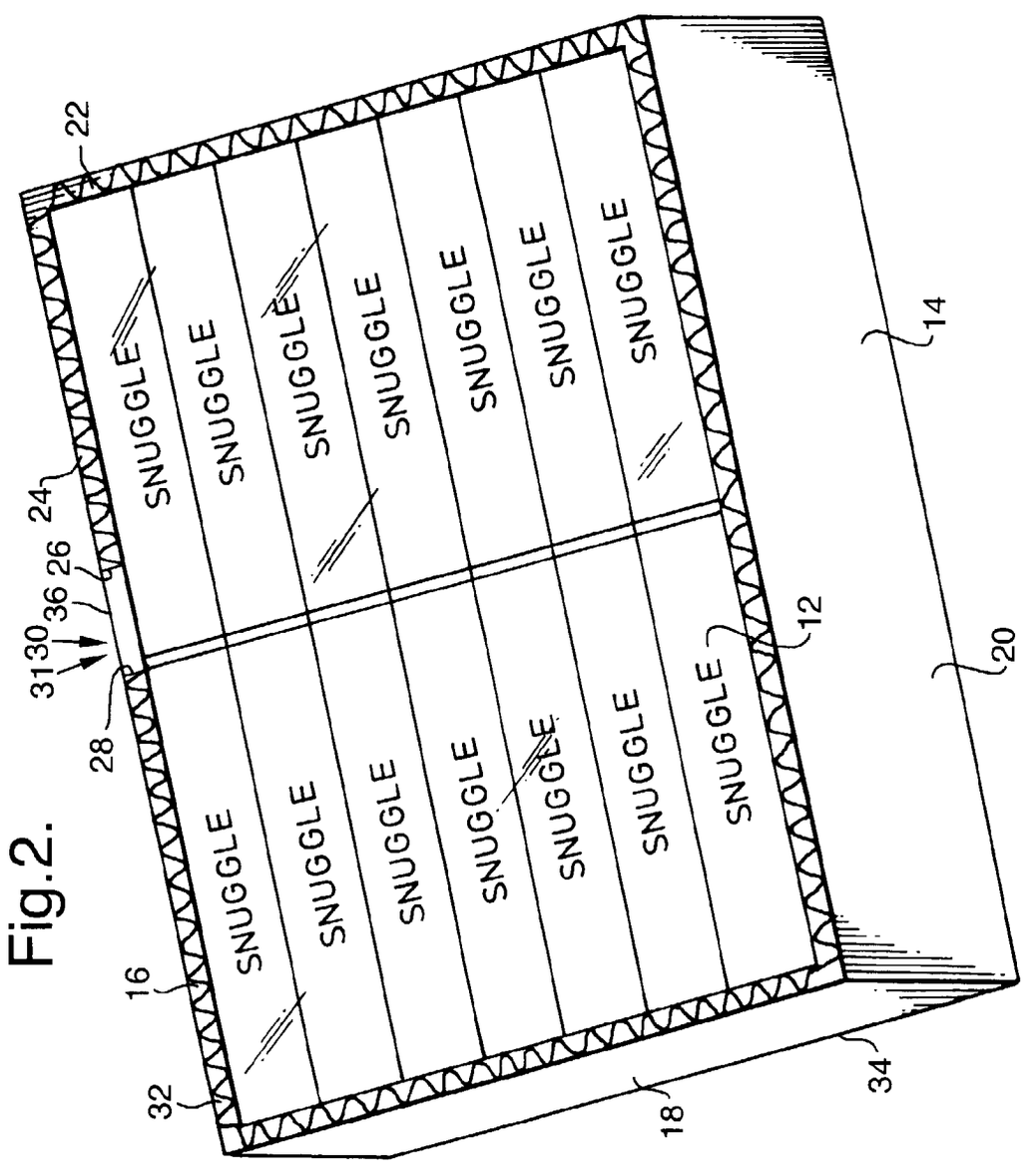


Fig.2.



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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 3999

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	GB 2 013 607 A (DEUTSCHE GERÄTEBAU) 15 August 1979 * page 1, line 92 - line 115 * * page 2, line 45 - line 55; figure 5 *	1-8, 10-14	B65D71/00
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	20 August 1998	Bridault, A

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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