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(54) **CARTON FOR A PLURALITY OF CANS**

KARTON FÜR MEHRERE DOSEN

EMBALLAGE EN CARTON POUR PLUSIEURS CANETTES

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(56) References cited:
US-A- 3 330 463 **US-A- 4 128 169**

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Description

This invention relates to cartons for a plurality of cans.

Various cardboard sleeves for multipacks are known, but generally have apertures at the junction of the side and top panels for receiving the top edges of the articles. With certain articles, especially cans, the necessary aperture is located very close to the end edge of the sleeve and thus render the remaining strip of card vulnerable to tearing whenever the pack is handled. Tearing of course seriously affects the usefulness of the sleeve, but compactness of carton is essential not only from an aesthetic point of view but also from a business point of view. Clearly it is desirable to use as little cardboard as possible whilst retaining structural integrity and also bulkier cartons occupy more space and increase transport costs.

US Patent No 4128169 discloses a sleeve for retaining a plurality of bottles in a multipack unit. The sleeve has a top panel, two oppositely disposed upper side panels, lower side panels and a pair of base panels which are secured together. There is a single end panel which is hingedly connected to the top panel at each end of the sleeve and which extends across the full width of the sleeve. Each end panel is then secured to upper side panels by web means. Apertures are provided adjacent the base for receiving heel portions of the bottles.

US Patent No 3330463 discloses a sleeve for a multipack of cans. The sleeve has a top panel, oppositely disposed side panels and interconnected base panels. Gussets are provided for retaining the tops of the cans, which gussets interconnect the top panel and the side panels. The bottoms of the cans are retained by retaining tabs which are folded up from the base panels.

According to the present invention there is provided a carton for containing a plurality of cylindrical cans with each can having a heel portion, said carton having two open ends defining a generally open-ended sleeve shape of said carton, said carton comprising a top panel having opposed side edges and opposed end edges; spaced side panels each having a top edge, a bottom edge, and opposed end edges; an upper side panel joining the top edge of each of said side panels to a corresponding side edge of said top panel, said upper side panels, said side panels, and said top panel defining two upper corner portions at each of the open ends of said carton; a bottom panel joining and extending between said bottom edges of said side panels; four independent gussets, each gusset extending between an end edge of one of said side panels and a corresponding end edge of said top panel, each gusset spanning a corresponding upper corner portion of an open end of said carton; each gusset being hingedly attached to an end edge of said side panel, hingedly attached to a corresponding end edge of said top panel, and separate from the adjacent upper side panel; each gusset having a single fold line intermediate its hinged attachments to the side and top panels, said fold line subdividing said gusset into a first

portion attached to the top panel and a second portion attached to the side panel; each gusset being folded along its fold line to position the second portion of the gusset against its corresponding side panel with the first portion of said gusset extending across an upper corner portion of an open end of said carton for retaining the cans in said carton; and cut out sections formed in the bottom and side panels for receiving and retaining the heel portions of beverage cans grouped in the carton.

Preferably said bottom panel is formed by a first bottom panel section extending from the bottom edge of one of said side panels and a second bottom panel section extending from the bottom edge of the other one of said side panels, said first and second bottom panel sections being joined together to form said bottom panel.

In a preferred embodiment said second portion of each gusset is sized and configured such that, when folded against its corresponding side panel, it becomes sandwiched between said side panel and a beverage can contained in said carton whereby the beverage can holds the gusset in place with its second portion extending across an upper corner portion of an open end of said carton to retain the beverage can in the carton.

Embodiments of the invention will now be described in more detail. The description makes reference to the accompanying diagrammatic drawings in which:

Figure 1 shows a blank according to the present invention,

Figure 2 is a perspective view of the blank of Figure 1 being assembled into a carton,

Figure 3 is a perspective view of a carton according to the present invention made from the blank shown in Figure 1, and

Figure 4 is an end view of the carton shown in Figure 3.

Figure 1 shows a blank 10 for forming a carton 11, as shown in figures 2 to 4, around a plurality of articles which in this case is six cans 12 for beverages arranged in two rows of three. The carton 11 has a top portion 13 formed with two finger holes 14 for facilitating the carrying of the carton. Hingedly connected to each side edge of the top portion along fold lines 15, 16 are upper side panels 17, 18 which are adapted to conform to the bevelled upper surfaces of the cans 12. Hingedly connected to each side of the upper side panels 17, 18 along fold lines 19, 20 are main side panels 21, 22. Hingedly connected to the lower edges of the side panels 21, 22 along fold lines 23, 24 are lower side panels 25, 26 which in turn are connected along fold lines 27, 28 to bottom panels 29, 30.

The panels 21, 25, 29; 22, 26, 30 are formed with apertures 31 and formations 32 for engaging and retaining heel portions of the cans 12. As can be seen in figure 4, the heel of the can protrudes to some extent through the aperture 31 and this serves to prevent to a great extent transverse movement of the can 12 within the carton 11.

The bottom panels 29, 30 are provided with various formations 33 which are arranged so as to interlock and interengage so as to close the blank 10 to form the sleeve-like carton 11.

The blank 10 is also formed with gusset portions 34 which interconnect each side panel 21, 22 with the top portion 13. Each gusset portion 34 has a first panel 35 hingedly connected to the top portion 13 and a second panel 36 hingedly connected to the side panel 21, 22 along the fold line 37. The first and second panels 35, 36 are also hingedly connected together along fold line 38. The upper side panel 17, 18 is bypassed by the provision of a hole 39.

When forming the carton 11 around the cans 12, the top portion is placed across the tops of the cans and the side panels and bottom panels are folded around the cans 12. During the folding the second panels 36 of the gusset portions 34 are tucked in behind their associated side panels 21, 22 and the bottom panels 29, 30 are connected together. These second panels 36 and the lower part of the first portions 35 are, in the finished carton 11, sandwiched in position between the cans 12 and the side panels 21, 22 and cannot readily be pulled out. In the finished carton 11 the first panels 35 of the gusset portions 34 partially block the open end areas of the carton and thereby prevent the tops of the cans from being removed from the carton. This is clearly shown in figure 4.

It will be appreciated that articles other than beverage cans can be used in the above described carton. For example, the carton could be adapted for use with bottles. Also different types of can would require slightly modified panel arrangements. In addition it will be appreciated that other bottom panel securing techniques are envisaged, for example different formations 33 may be used or the two panels may simply be secured with adhesive. Also the connection between the ends of the blank has been shown as being in the bottom portion, but it will be appreciated that it could be located in a side or the top portion if required. Further modifications may include further fold lines in the first gusset portion if desired or in any other panel so as to accommodate features of the articles being contained.

The carton is ideally suited to manufacture from paperboard but other semi-rigid or rigid sheets could be used. Also fold lines could also encompass score lines or any combination of fold lines and score lines.

The above described type of carton provides a secure package for a plurality of articles and does not rely on apertures for retaining the tops of the articles. The weak spots between the endmost top apertures and the end edge of known cartons are therefore eliminated without adding bulk to the carton.

Claims

1. A carton for containing a plurality of cylindrical cans (12) with each can (12) having a heel portion, said carton having two open ends defining a generally

open-ended sleeve shape of said carton, said carton comprising a top panel (13) having opposed side edges (15,16) and opposed end edges; spaced side panels (21,22) each having a top edge (19,20), a bottom edge (23,24), and opposed end edges; an upper side panel (17,18) joining the top edge (19,20) of each of said side panels (21,22) to a corresponding side edge (15,16) of said top panel (13), said upper side panels (17,18), said side panels (21,22), and said top panel (13) defining two upper corner portions at each of the open ends of said carton; a bottom panel (29,30) joining and extending between said bottom edges of said side panels (21,22); four independent gussets (34), each gusset (34) extending between an end edge of one of said side panels (21,22) and a corresponding end edge of said top panel (13), each gusset (34) spanning a corresponding upper corner portion of an open end of said carton; each gusset (34) being hingedly attached to an end edge of said side panel (21,22), hingedly attached to a corresponding end edge of said top panel (13), and separate from the adjacent upper side panel (17,18); each gusset (34) having a single fold line (38) intermediate its hinged attachments to the side and top panels, said fold line (38) subdividing said gusset (34) into a first portion (35) attached to the top panel (13) and a second portion (36) attached to the side panel (21,22); each gusset (34) being folded along its fold line (38) to position the second portion (36) of the gusset against its corresponding side panel (21,22) with the first portion (35) of said gusset extending across an upper corner portion of an open end of said carton for retaining the cans in said carton; and cut out sections (31) formed in the bottom and side panels for receiving and retaining the heel portions of beverage cans (12) grouped in the carton.

2. The carton of claim 1 and wherein said bottom panel is formed by a first bottom panel section (29) extending from the bottom edge of one of said side panels (21) and a second bottom panel section (30) extending from the bottom edge of the other one of said side panels (22), said first and second bottom panel sections (29,30) being joined together to form said bottom panel.
3. The carton of claim 1 and wherein said second portion (36) of each gusset (34) is sized and configured such that, when folded against its corresponding side panel (21,22), it becomes sandwiched between said side panel and a beverage can (12) contained in said carton whereby the beverage can (12) holds the gusset (34) in place with its second portion (36) extending across an upper corner portion of an open end of said carton to retain the beverage can (12) in the carton.

Patentansprüche

1. Ein Karton zum Umschließen einer Mehrzahl von zylindrischen Dosen (12), wobei jede Dose (12) einen Unterrandteil aufweist, der besagte Karton zwei offene Enden hat, die eine im allgemeinen an den Enden offene Hüllenform des besagten Kartons abgrenzen, und der besagte Karton die folgenden Teile umfaßt: ein oberes Flächenelement (13) mit entgegengesetzten Seitenkanten (15, 16) und entgegengesetzten Endkanten; mit Abstand voneinander angeordnete Seitenflächenelemente (21, 22), die jeweils eine Oberkante (19, 20), eine Unterkante (23, 24) und entgegengesetzte Endkanten aufweisen; ein oberes Seitenflächenelement (17, 18), das die obere Kante (19, 20) der jeweiligen besagten Seitenflächenelemente (21, 22) mit einer entsprechenden Seitenkante (15, 16) des besagten oberen Flächenelements (13) verbindet, wobei die besagten oberen Flächenelemente (17, 18) die besagten Seitenflächenelemente (21, 22) und das besagte obere Flächenelement (13) an jedem der offenen Enden des besagten Kartons zwei obere Eckteile abgrenzen; ein unteres Flächenelement (29, 30), das mit den besagten unteren Kanten der besagten Seitenflächenelemente (21, 22) in Verbindung steht und sich zwischen den besagten unteren Kanten erstreckt; vier unabhängige Zwickel (34), wobei sich jeder Zwickel (34) zwischen einer Endkante eines der besagten Seitenflächenelemente (21, 22) und einer entsprechenden Endkante des besagten oberen Flächenelements (13) erstreckt, jeder Zwickel (34) einen entsprechenden oberen Eckbereich eines offenen Endes des besagten Kartons überspannt; jeder Zwickel (34) gelenkig an eine Endkante des besagten Seitenflächenelements (21, 22) angebracht ist, gelenkig an eine entsprechende Endkante des besagten oberen Flächenelements (13) angebracht ist und von dem anschließenden oberen Seitenflächenelement (17, 18) separat ist; jeder Zwickel (34) eine einzige zwischen dessen Anlenkanschluß an das Seitenflächenelement und das obere Flächenelement befindliche Falzlinie (38) aufweist, während die besagte Falzlinie (38) den besagten Zwickel (34) in einen ersten Teil (35), der an dem oberen Flächenelement (13) angebracht ist, und einen zweiten Teil (36), der an dem Seitenflächenelement (21, 22) angebracht ist, unterteilt; jeder Zwickel (34) entlang dessen Falzlinie (38) gefaltet ist, so daß der zweite Teil (36) des Zwickels an das entsprechende Seitenflächenelement (21, 22) angelegt wird, während sich der erste Teil (35) des besagten Zwickels quer über einen oberen Eckbereich eines offenen Endes des besagten Kartons erstreckt, um die Dosen in dem besagten Karton festzuhalten; und der besagte Karton in den unteren und in den Seitenflächenelementen angefertigte Ausschnitte (31) aufweist, um die Unterrandteile von

in dem Karton gruppierten Getränkdosen (12) aufzunehmen und festzuhalten.

2. Der Karton nach Anspruch 1, bei dem das besagte untere Flächenelement durch einen ersten Bodenflächenelementabschnitt (29), der sich von der Unterkante eines der besagten Seitenflächenelemente (21, erstreckt, und einen zweiten unteren Flächenelementabschnitt (30), der sich von der unteren Kante des anderen der besagten Seitenflächenelemente (22) erstreckt, gebildet wird, wobei die besagten ersten und zweiten unteren Flächenelementabschnitte (29, 30) miteinander verbunden werden, um das besagte untere Flächenelement zu bilden.
3. Der Karton nach Anspruch 1, bei dem der besagte zweite Teil (36) jedes Zwickels (34) so bemessen und gestaltet ist, daß er, wenn er durch Falten an das entsprechende Seitenflächenelement (21, 22) angelegt ist, zwischen dem besagten Seitenflächenelement und einer in dem besagten Karton enthaltenen Getränkdose (12) zu liegen kommt, so daß die Getränkdose (12) den Zwickel (34) in Position hält, wobei sich dessen zweiter Teil (36) quer über einen oberen Eckbereich eines offenen Endes des besagten Kartons erstreckt, um die Getränkdose (12) in dem Karton festzuhalten.

Revendications

1. Emballage en carton prévu pour contenir plusieurs canettes cylindriques (12), chaque canette (12) ayant une partie talon, ledit emballage en carton ayant deux extrémités ouvertes définissant une forme générale de manchon à bouts ouverts dudit emballage en carton, ledit emballage en carton comprenant un panneau supérieur (13) ayant des bords latéraux opposés (15, 16) et des bords d'extrémités opposés ; des panneaux latéraux espacés (21, 22) ayant chacun un bord supérieur (19, 20), un bord inférieur (23, 24) et des bords d'extrémités opposés ; un panneau latéral supérieur (17, 18) reliant le bord supérieur (19, 20) de chacun desdits panneaux latéraux (21, 22) à un bord latéral correspondant (15, 16) dudit panneau supérieur (13), lesdits panneaux latéraux supérieurs (17, 18), lesdits panneaux latéraux (21, 22) et ledit panneau supérieur (13) définissant deux parties d'angles supérieures à chacune des extrémités ouvertes dudit emballage en carton ; un panneau inférieur (29, 30) s'étendant entre lesdits bords inférieurs desdits panneaux latéraux (21, 22) et les reliant ; quatre soufflets indépendants (34), chaque soufflet (34) s'étendant entre un bord d'extrémité d'un desdits panneaux latéraux (21, 22) et un bord d'extrémité correspondant dudit panneau supérieur (13), chaque soufflet (34) couvrant une partie d'angle supérieur correspondante d'une extrémité ouverte

dudit emballage en carton ; chaque soufflet (34) étant fixé de manière articulée à un bord d'extrémité dudit panneau latéral (21, 22), fixé de manière articulée à un bord d'extrémité correspondant dudit panneau supérieur (13), et séparé du panneau latéral supérieur adjacent (17, 18) ; chaque soufflet (34) ayant une seule ligne de pliure (38) intermédiaire entre ses fixations articulées aux panneaux latéral et supérieur, ladite ligne de pliure (38) subdivisant ledit soufflet (34) en une première partie (35) fixée au panneau supérieur (13) et une deuxième partie (36) fixée au panneau latéral (21, 22) ; chaque soufflet (34) étant plié le long de sa ligne de pliure (38) pour positionner la deuxième partie (36) du soufflet contre son panneau latéral correspondant (21, 22), la première partie (35) dudit soufflet s'étendant en travers d'une partie d'angle supérieur d'une extrémité ouverte dudit emballage en carton pour retenir les canettes dans ledit emballage en carton ; et des sections découpées (31) formées dans les panneaux inférieur et latéraux pour recevoir et retenir les parties talons des canettes de boisson (12) groupées dans l'emballage en carton.

2. L'emballage en carton selon la revendication 1 et dans lequel ledit panneau inférieur est formé par une première section de panneau inférieur (29) qui s'étend du bord inférieur d'un desdits panneaux latéraux (21) et une deuxième section de panneau inférieur (30) s'étendant du bord inférieur de l'autre desdits panneaux latéraux (22), lesdites première et deuxième sections de panneau inférieur (29, 30) étant reliées ensemble pour former ledit panneau inférieur.

3. L'emballage en carton selon la revendication 1 et dans lequel ladite deuxième partie (36) de chaque soufflet (34) est dimensionnée et configurée de telle sorte que, lorsqu'elle est pliée contre son panneau latéral correspondant (21, 22), elle est serrée entre ledit panneau latéral et une canette de boisson (12) contenue dans ledit carton, si bien que la canette de boisson (12) maintient le soufflet (34) en place, sa deuxième partie (36) s'étendant en travers d'une partie d'angle supérieure d'une extrémité ouverte dudit emballage en carton pour retenir la canette de boisson (12) dans l'emballage en carton.

FIG. 1

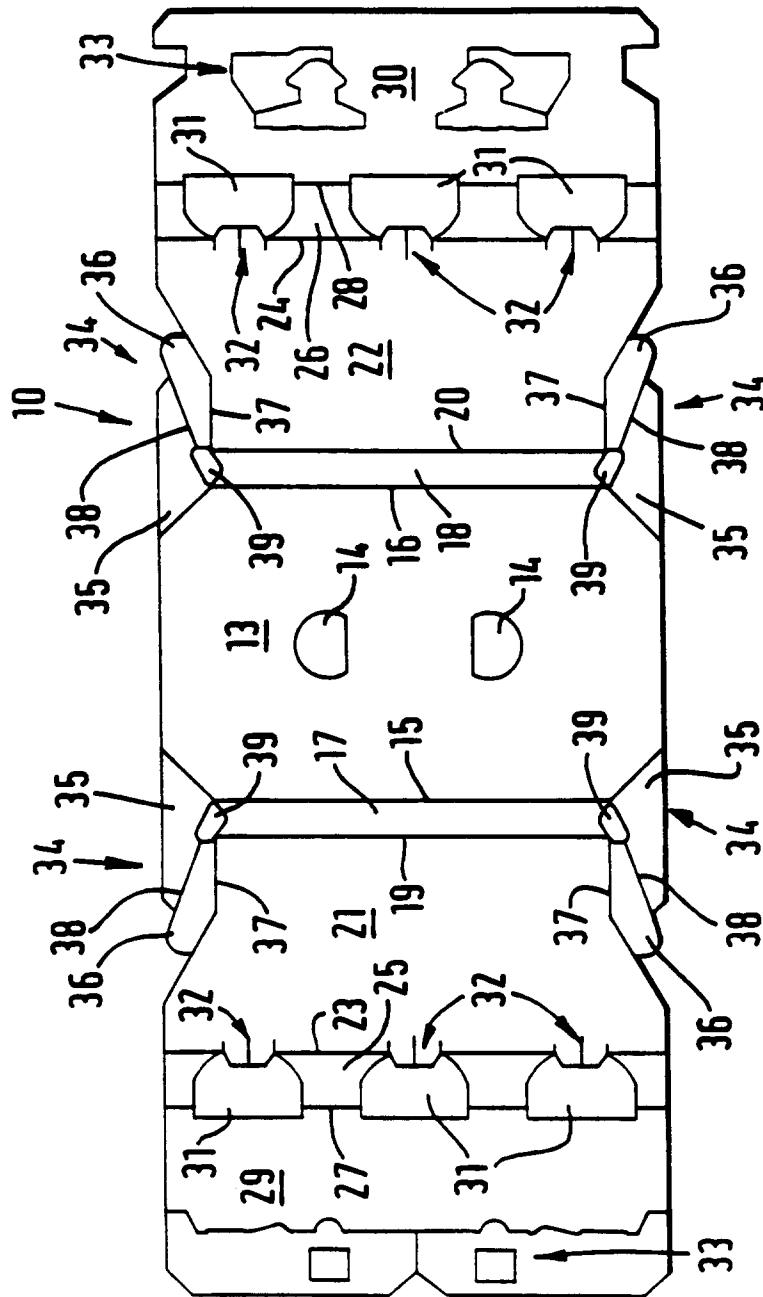


FIG. 2

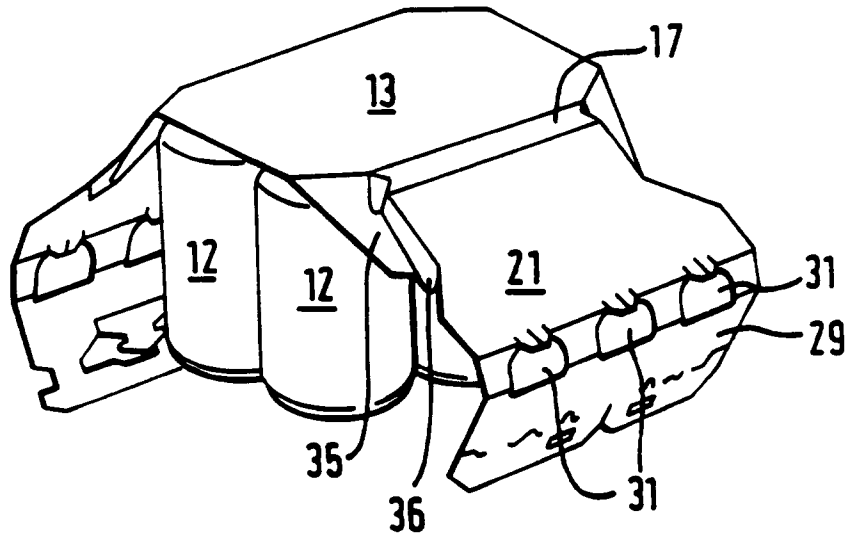


FIG. 3

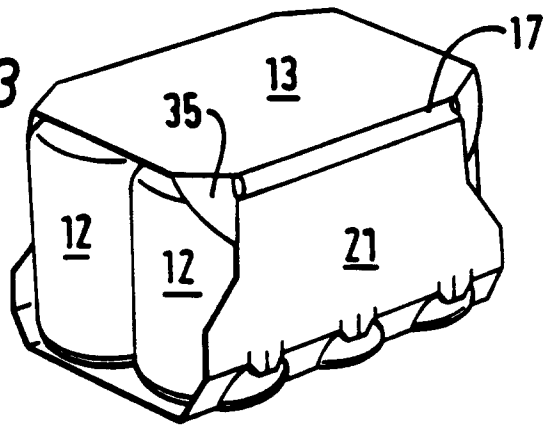


FIG. 4

