

Description

This invention relates generally to can cartons and more particularly to a carrying handle for such cartons (known from GB-A-1602857).

FR-A-2 088 289 discloses a carton having a slot type handle opening in its top wall. The hand hole flap of the present invention is confined to and struck solely from the top wall. By contrast, the corresponding flap (15) of FR-A-2 088 289 extends fully across the top wall and into the adjacent, sloping side walls (2).

Flap fold line (14) extends into both side walls (2) and the end portions (15A) of the flap (15) are struck from the side walls. The differences between FR-A-2 088 289 and the present invention is particularly emphasised with reference to Figure 3 of the FR-A-2 088 289. As illustrated therein, the handle specifically relates to a wraparound carton for bottles arranged in a particular orientation so that considerable voids exist between the top portions of adjacent bottles. There is little doubt that such a handle cannot be used in a carton for cans wherein substantial areas of the cans are abutting the interior surface of the top wall, and wherein the side walls are perpendicular to the top wall.

One aspect of the invention provides a carrying handle for a carton containing a plurality of cans and having interconnected top, bottom and side walls and end closure panels, said handle comprising a perforated transverse slit, extending across one carton wall and having end projections extending into the two carton walls interconnected therewith and a transverse handle flap foldably joined to said one wall by a fold line spaced from said transverse slit, characterized in that said handle flap is struck solely from said one wall and the ends of said handle flap are defined by end slits which extend in said one wall between said perforated transverse slit and said transverse fold line.

Yet another aspect of the invention provides a can carton blank comprising a plurality of interconnecting walls including a main panel intended in use, when the blank is formed into a carton to be the top panel thereof, end closure panels foldably joined to said wall panel and a transverse handle flap, defined by a perforate transverse slit extending across said main panel and having end projections extending into the two carton wall panels interconnected therewith, characterised by a transverse fold line formed in said main panel and extending partially thereacross and in spaced relation to said perforate transverse slit, a pair of slits in said main panel each of which slits interconnects a respective one of the ends of said fold line with said perforate transverse slit, and by a fold line extending between the extremity of each of said end projections and the adjacent side edge of said main panel.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

FIGURE 1 is a perspective view of a loaded set-

up can carton which embodies the handle structure of this invention;

FIGURE 2 is a cross sectional view taken along the lines designated 2—2 in Figure 1;

FIGURE 3 is a view similar in some respects to Figure 1 but which shows the carton in lifted condition and depicts the function of the handle flap and parts associated therewith; and

FIGURE 4 is an enlarged part of a portion of a blank from which the carton is formed.

With reference to Figure 1, the can carton includes a main wall designated by the numeral 1 to which a side wall designated by the numeral 2 is foldably joined along fold line 3. A bottom wall 4 as shown in FIG. 2 is foldably joined to side wall 2 along fold line 5 and to a side wall 2a opposite from side wall 2 which is not observable in FIG. 1, a fragment of which appears in FIG. 4.

The closure panels for both ends of the carton are identical. As is apparent from FIGS. 1 and 3, panel 6 is foldably joined to the side wall 2 along a fold line 7 while panel 8 is foldably joined along a fold line 9 to the side wall opposite from that designated by the numeral 2. End flap 10 is foldably joined to carton wall 1 along fold line 11 while end flap 12 is foldably joined to the bottom wall 4 along fold line 13. Flaps 6, 8, 10 and 12 are secured in overlapping relation as shown in FIG. 1 and secured by known means to form an end closure for the carton.

As is apparent from FIG. 3, three rows of four cans each are disposed within the carton and are arranged with their axes in parallel relation to each other.

With reference to FIG. 1, a transverse perforated slit 15 is formed in top wall 1 and extends completely across that wall. In addition, this perforated slip includes end projections which extend downwardly into side wall 2 and also into the opposite side wall not observable in FIG. 1, the end projection formed in side wall 2 being designated by the numeral 16. Since slits 15 and 16 include imperforate portions, the carton components adjacent these slits are held together to provide strength and an uninterrupted area to which attractive graphics may be applied. A fold line 17 is formed in carton wall 1 and a pair of arcuate slits 18 and 19 interconnect the ends of fold line 17 with the transverse perforated fold line 15 to define a handle flap generally designated by the numeral 20.

The point of intersection of arcuate slit 18 with transverse perforated slit 15 is designated by the numeral 21 while the point of intersection between arcuate slit 19 and transverse perforated slit 15 is designated by the numeral 22. According to one feature of this invention, the spacing between fold line 17 and transverse perforated slit 15, ie, the width of handle flap 20 is equal approximately to one-half the distance between point 21 and fold line 3. In addition the length of projection 16 is approximately equal to the spacing between point of intersection 21 and fold line 3. While the particular distance between point 21 and fold line 3 is not critical, it is preferable that

this spacing be not less than twice the spacing between perforated slit 15 and fold line 17 in order to provide mechanical strength and to facilitate the function of handle flap 20.

In like fashion corresponding structure at the other end of the handle flap 20 is similarly constructed.

A fold line 23 is formed in side wall 2 and a similar fold line not observable in the drawings is shown in the side wall which is opposite the side wall 2.

Disposed adjacent the flap 20 is a similar handle flap 25, one edge of which is defined by transverse perforated slit 15 while a fold line 26 interconnects handle flap 25 with carton wall 1 and arcuate slits 27 and 28 are formed at the ends of handle flap 25 and correspond generally to arcuate slits 18 and 19.

The transverse perforated fold line 15 is formed of a plurality of perforations such as are indicated at 15a which are interspersed between imperforate portions 15b. According to one feature of the invention, the imperforate portions 15c, which are disposed immediately adjacent the arcuate slits 18, 19, 27 and 28 are approximately twice as long as the remaining imperforate portions such as 15b. These longer imperforate portions 15c have been constructed in a practical embodiment of the invention and are one-eighth of an inch in length while other imperforate portions such as 15b are approximately one-sixteenth inch in length.

While the fold lines 17 and 26 are shown as formed by perforated fold lines similar to perforated transverse slit 15, it will be understood that these fold lines could simply constitute somewhat weakened areas formed in conventional fashion such as the weakened fold line 23 or its counterpart 23a.

In using the handle flap of this invention to lift and carry the carton, the fingers of a user are inserted against the flap such as 20 as shown in FIG. 2. This operation causes the flap 20 to swing inwardly about its fold line 17 through an angle of approximately 180° to occupy a position of flat face contacting relation with the inner surface of a carton wall 1 as shown in FIG. 2. By this structure flap 20 effectively reinforces top or main wall 1 and affords a cushion along fold line 17 which protects the hand of the user. This operation may be accompanied by a downward bending of flap 25 so as to facilitate entry of the user's fingers into a position whereby folding of flap 20 may be effected.

Lifting of the carton causes an inward bending of the triangular structure defined by slit 16, fold line 23 and fold line 3 inwardly against the end of an associated can as represented in FIG. 3. This folding operation results in a distribution of the load over a wide area of the carton side wall. Preferably the fold line 23 is disposed approximately tangentially with respect to the end of the adjacent can C1.

In order to provide clearance for the carrying flap 20 to swing inwardly past the adjacent can

C1, the width of handle flap 15, ie, the distance between fold line 17 and transverse perforated slit 15 is approximately one-third of the radius of the adjacent can such as C1. This relationship of parts allows inward swinging of the flap 20 and accommodates easy clearance between that flap and the can C1. Preferably, the transverse perforated slit 15 should be disposed midway between the ends of the carrier. Also, the flap 25 may be used in order to lift and carry the carrier as well as the flap 20. The operation of carrying flap 25 is identical to the operation of carrying flap 20 as is obvious.

The provision of two identical centrally located carrying flaps and associated structure makes possible the lifting of the carton using either flap as a lifting element and frees the user from the necessity of determining precisely how to insert his fingers, ie, a choice of flaps is provided.

By this invention an efficient and strong carrying handle for a can carton is provided while the arrangement of the handle structure is such as to preserve the mechanical strength and integrity of the carton walls whereby effective can retention is achieved.

Claims

1. A carton containing a plurality of cans and having interconnected top (1), bottom (4) and side walls (2, 2a), end closure panels (6, 8, 10, 12), and a carrying handle comprising a perforated transverse slit (15) extending across one carton wall (1) and comprising end projections (16) extending into the two carton walls (2, 2a) interconnected therewith, and a transverse handle flap (20) foldably joined to said one wall by a fold line (17) spaced from said transverse slit, characterized in that said handle flap is struck solely from said one wall and the ends of said handle flap are defined by end slits (18, 19; 27, 28) which extend in said one wall between said perforated transverse slit and said transverse fold line.

2. A carton according to claim 1, further characterized in that each of said pair of end slits is of arcuate configuration.

3. A carton according to claim 1 or claim 2, further characterized in that the distance separating each of the junctions (21, 22) between each of said end slits and said perforated transverse slit and the adjacent edges of said one wall are approximately equal to the associated end projections.

4. A carton for a can package according to any of the preceding claims, further characterized in that the axes of packaged cans are generally parallel to each other and to said perforated transverse slit.

5. A carton according to any of the preceding claims, further characterized in that said fold line is perforate.

6. A carton according to any of the preceding claims, further characterized in that imperforate parts (15b) of said perforated transverse slit (15) which are disposed immediately adjacent and



outward of the ends of said transverse handle flap are of substantially greater length than other imperforate parts (15b) of said perforated transverse slit.

7. A carton according to any of the preceding claims, further characterized in that a second transverse handle flap (25) is struck from said one carton wall (1) and foldably joined thereto by a transverse fold line (26) generally parallel to and spaced from said perforated transverse slit (15), said perforated transverse slit defining coincidental transverse edges of both of said handle flaps.

8. A carton according to any of the preceding claims, further characterized in that said transverse handle flap is foldable inwardly through an angle of approximately 180° into face contacting relation with the inner surface of said one carton wall.

9. A carton according to any of the preceding claims, further characterized in that a fold line (23, 23a) is formed in each of those carton walls (2, 2a), which are interconnected with said one carton wall, each of said fold lines extending from the extremity of the associated end projection to the adjacent carton corner between said one carton wall and the wall interconnected therewith.

10. A carton according to Claim 9, further characterized in that each of said fold lines is disposed in substantially tangential relation with the end of an adjacent can disposed within the carton.

11. A carton according to any of the preceding claims, further characterized in that the distance between said transverse fold line and said perforated transverse slit is approximately one-third of the radius of the packaged cans.

12. A can carton blank comprising a plurality of interconnecting walls including a main panel (1) intended in use, when the blank is formed into a carton to be the top panel thereof, end closure panels (6, 8, 10, 12) foldably joined to said wall panel and a transverse handle flap (20), defined by a perforate transverse slit (15) extending across said main panel and having end projections (16) extending into the two carton wall panels (2, 2a) interconnected therewith, characterized by a transverse fold line (17) formed in said main panel and extending partially thereacross and in spaced relation to said perforate transverse slit, a pair of slits (18, 19; 27, 28) in said main panel each of which slits interconnects a respective one of the ends of said fold line with said perforate transverse slit, and by a fold line extending between the extremity of each of said end projections and the adjacent side edge of said main panel.

13. A can carton blank according to Claim 12, further characterized in that the distance between the point of intersection of each of said slits and said transverse perforate slit and the adjacent edge of said main panel, is approximately equal to the length of the associated end projection.

Patentansprüche

1. Schachtel, aufweisend eine Anzahl von Dosen mit miteinander verbundenen Ober- (1), Boden- (4) und Seitenwänden (2, 2a), Stirnseitenverschußklappen (6, 8, 10, 12), und einen Tragegriff, der einen perforierten Querschlit (15) aufweist, der sich entlang einer Schachtel (1) erstreckt und Endvorsprünge (16) aufweist, die sich in die zwei Schachtelwände (2, 2a) erstrecken, die mit dieser verbunden sind, und eine querverlaufende Griffflasche (20), die faltbar an dieser einen Wand durch eine Faltlinie (17) angelenkt ist, die vom Querschlit beabstandet ist, dadurch gekennzeichnet, daß die Griffflasche ausschließlich aus dieser einen Wand ausgestanzt ist und die Enden der Griffflasche durch Endschlitz (18, 19; 27, 28) begrenzt sind, die sich in dieser einen Wand zwischen dem perforierten Querschlit und der Querfaltlinie erstrecken.

2. Schachtel nach Anspruch 1, dadurch gekennzeichnet, daß jeder Endschlitz des Paares eine bogenförmige Gestalt aufweist.

3. Schachtel nach Anspruch 1 oder Anspruch 2, dadurch gekennzeichnet, daß die Abstände, die jede der Verbindungsstellen (21, 22) zwischen jedem der Endschlitz und dem perforierten Querschlit von den benachbarten Kanten dieser einen Wand trennen, ungefähr gleich den zugehörigen Endvorsprüngen sind.

4. Schachtel für eine Dosenverpackung nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß die Achsen der verpackten Dosen allgemein parallel zueinander und zum perforierten Querschlit sind.

5. Schachtel nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß die Faltlinie perforiert ist.

6. Schachtel nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß nichtperforierte Teile (15b) des perforierten Querschlit (15), die unmittelbar im Anschluß an und außerhalb der Enden der querverlaufenden Griffflasche angeordnet sind, von wesentlich größerer Länge sind als andere nichtperforierte Teile (15b) des perforierten Querschlit.

7. Schachtel nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß eine zweite querverlaufende Griffflasche (25) aus dieser einen Schachtelwand (1) ausgestanzt und faltbar an diese durch eine Querfaltlinie (26) angelenkt ist, die allgemein parallel zu und vom perforierten Querschlit (15) beabstandet ist, welcher deckungsgleiche Querkanten von beiden Griffflaschen begrenzt.

8. Schachtel nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß die querverlaufende Griffflasche nach innen um einen Winkel von ungefähr 180° in flächige Anlage mit der Innenfläche dieser einen Schachtel faltbar ist.

9. Schachtel nach irgendeinem der vorangegangenen Ansprüche, dadurch gekennzeichnet, daß in jeder der Schachtelwände (2, 2a), die mit dieser einen Schachtelwand verbunden sind, eine



Faltlinie (23, 23a) ausgebildet ist, die sich vom äußeren Ende des zugehörigen Endvorsprunges zur benachbarten Schachtelkante zwischen dieser einen Schachtel und der mit ihr verbundenen Wand erstreckt.

10. Schachtel nach Anspruch 9, dadurch gekennzeichnet, daß jede der Faltlinien in im wesentlichen tangentialer Beziehung zum Ende einer benachbarten Dose, die sich innerhalb der Schachtel befindet, angeordnet ist.

11. Schachtel nach irgendeinem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß der Abstand zwischen der Quersfaltlinie und dem perforierten Querschlitze ungefähr ein Drittel des Radius der verpackten Dosen beträgt.

12. Dosenschachtelzuschnitt mit einer Anzahl von miteinander verbundenen Wänden, die eine Hauptwand (1) einschließen, die, wenn der Zuschnitt zu einer Schachtel aufgerichtet, im Gebrauch als deren obere Wandung bestimmt ist, Stirnseitenverschlußklappen (6, 8, 10, 12), die faltbar an den Wänden angelenkt sind, und eine querverlaufende Griffflasche (20), die durch einen perforierten Querschlitze (15) begrenzt ist, der sich über die Hauptwandung erstreckt und Endvorsprünge (16) aufweist, die sich in die zwei Schachtelwandungen (2, 2a) erstrecken, die mit dieser verbunden sind, gekennzeichnet durch eine Quersfaltlinie (17), die in der Hauptwandung ausgebildet ist und sich teilweise über diese und in beabstandeter Beziehung zum perforierten Querschlitze erstreckt, ein Paar Schlitze (18, 19; 27, 28) in der Hauptwandung, von denen jeder ein Ende der Faltlinie mit dem perforierten Querschlitze verbindet, und durch eine Faltlinie, die sich zwischen dem äußeren Ende eines jeden Endvorsprunges und der benachbarten Seitenkante der Hauptwandung erstreckt.

13. Dosenschachtelzuschnitt nach Anspruch 12, dadurch gekennzeichnet, daß der Abstand zwischen dem Schnittpunkt jedes der Schlitze und dem perforierten Querschlitze und der benachbarten Kante der Hauptwandung ungefähr gleich der Länge des zugehörigen Endvorsprunges ist.

Revendications

1. Porte-boîtes en carton contenant une pluralité de boîtes et présentant, réunies entre elles, des parois latérales (2, 2a), des parois inférieure (4) et supérieure (1), des panneaux de fermeture d'extrémité (6, 8, 10, 12), ainsi qu'une poignée de transport comportant une fente transversale perforée (15) s'étendant sur une paroi (1) du porte-boîtes et des saillies d'extrémité (16) s'étendant dans les deux parois (2, 2a) du porte-boîtes réunies entre elles, et un rabat de poignée transversal (20) relié par pliage sur la paroi (1) le long d'une ligne de pliage (17) à distance de la fente transversale (15), caractérisé en ce que le rabat de poignée est obtenu uniquement à partir de la paroi (1) et que ses extrémités de poignée sont délimitées par des fentes d'extrémité (18, 19; 27, 28) qui s'étendent dans la paroi (1) entre la fente transversale perforée (15) et la ligne de pliage transversale (17).

2. Porte-boîtes en carton selon la revendication 1, caractérisé en ce que chacune des paires de fentes d'extrémité présente une configuration en courbe.

3. Porte-boîtes en carton selon l'une ou l'autre des revendications 1 ou 2, caractérisé en ce que la distance séparant chacune des jonctions (21, 22) entre chacune des fentes d'extrémité, la fente transversale perforée et les bords adjacents de la paroi est approximativement égale aux saillies d'extrémité associées.

4. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 3, caractérisé en ce que les axes des boîtes emballées sont généralement parallèles les uns aux autres et à la fente transversale perforée.

5. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 4, caractérisé en ce que la ligne de pliage est perforée.

6. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 5, caractérisé en ce que des parties non perforées (15b) de la fente perforée (15), en position immédiatement adjacente et extérieure aux extrémités du rabat de poignée transversal, sont de longueur sensiblement supérieure aux autres parties non perforées (15b) de la fente transversale perforée.

7. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 6, caractérisé en ce qu'un second rabat de poignée transversal (25) est obtenu à partir de la paroi (1) du porte-boîtes en carton et relié par pliage le long d'une ligne correspondante transversale (26) généralement parallèle à la fente transversale perforée (15) et à distance de celle-ci, la fente transversale perforée déterminant des bords transversaux coïncidants des rabats de poignée.

8. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 7, caractérisé en ce que le rabat transversal est repliable vers l'intérieur d'un angle d'environ 180° pour entrer en contact à plat avec la surface intérieure d'une paroi du porte-boîtes en carton.

9. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 8, caractérisé en ce qu'une ligne de pliage (23, 23a) est formée dans chacune des parois du porte-boîtes en carton (2, 2a), réunies entre elles avec une paroi du porte-boîtes en carton, chacune des lignes de pliage s'étendant de l'extrémité de la saillie d'extrémité associée au coin du porte-boîtes en carton adjacent, entre une paroi du porte-boîtes en carton et la paroi reliée à cet endroit.

10. Porte-boîtes en carton selon la revendication 9, caractérisé en ce que chacune des lignes de pliage est disposée en relation essentiellement tangentielle avec l'extrémité d'une boîte adjacente placée dans le porte-boîtes en carton.

11. Porte-boîtes en carton selon l'une quelconque des revendications 1 à 10, caractérisé en ce que la distance entre la ligne de pliage transversale et la fente transversale perforée représente environ le tiers du rayon des boîtes emballées.

12. Flan de porte-boîtes en carton comprenant plusieurs parois réunies entre elles comportant un



panneau principal (1) destiné, une fois le flan formé en porte-boîtes en carton, à en devenir le panneau supérieur, des panneaux de fermeture d'extrémité (6, 8, 10, 12) reliés par pliage au panneau principal et un rabat de poignée transversal (2), défini par une fente transversale perforée (15) s'étendant sur le panneau principal et comportant des saillies d'extrémité (16) se prolongeant dans les deux panneaux de parois de porte-boîtes en carton (2, 2a) reliés entre eux, caractérisé en ce qu'une ligne de pliage transversale (17) formée dans le panneau principal et se prolongeant partiellement en travers et en relation d'espacement à la fente transversale perforée, une paire de fentes (18, 19; 27, 28) dans le

panneau principal, chacune de ces fentes réunissant entre elles l'une des extrémités correspondantes de la ligne de pliage et la fente transversale perforée, et par une ligne de pliage s'étendant entre l'extrémité de chacune des saillies terminales et le bord latéral adjacent du panneau principal.

13. Flan de porte-boîtes en carton selon la revendication 12, caractérisé en ce que la distance entre le point d'intersection de chacune des fentes et de la fente perforée transversale, et le bord adjacent du panneau principal, est approximativement égale à la longueur de la saillie terminale associée.

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