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(54) **Cardboard tray**

Kartonschale

Plateau en carton

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(73) Proprietors:
- **Mengual Robles, Lucas**
  E-30880 Aguilas (Murcia) (ES)
- **Belmonte Martinez, Agustin**
  E-30880 Aguilas (Murcia) (ES)

(72) Inventors:
- **Mengual Robles, Lucas**
  E-30880 Aguilas (Murcia) (ES)
- **Belmonte Martinez, Agustin**
  E-30880 Aguilas (Murcia) (ES)

(74) Representative: **Alonso Langle, Emilio**
C. Explanada, 8
28040 Madrid (ES)

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Description

OBJECT OF THE INVENTION

The present invention refers to a cardboard box, of the type used for example for the transportation of fruit, and particularly of the type formed by a single sheet that conveniently shaped constitutes a cuboid container open at the top.

The object of the invention is to obtain a box simple in structure, easy to assemble and resistant enough to be piled up.

BACKGROUND OF THE INVENTION

Some carboard boxes are known of the type formed by a single sheet with a bottom panel which is separated by folding lines to the side walls and by folding lines to double front end walls, each of the double front end walls consisting of two parts, an initial section and an end section joined by a double folding line, so that the end section is folded onto the inner side of the initial section.

The US-A-5125568 patent refers to a stacking tray formed by double side walls, not with double front end walls, and the side prolongations of this double side walls are bended orthogonally with respect to the double side wall, requiring a U-shaped bracket to secure the fix these side prolongations. Two tab elements are extending from the upper edge of each side wall prolongations that are needed to be joined by said racket for mounting the box, and these tabs are used for fitting in a central opening of an upper box which is piled up.

The US 5125568 patent shows a tray with a double side wall, and its central part is extended on the bottom panel reducing the capacity of the box and damaging the fruits by friction of the edge of the extending portion.

In the US 5125568 patent there is not a continuous surface and the box needs the U shaped bracket, being so easily for the box be disassembled when the bracket escape from its fixed position by manipulating.

To overcome these problems we claim a carboard box that doesn't need this kind of fixing means like in the US patent, and that have means to contribute to a better way of piling up.

DESCRIPTION OF THE INVENTION

The invention is characterized by the features of claim 1.

For these purposes, there is a central section in the single sheet of the cardboard box, forming to the bottom, that extends longitudinally along the folding lines in the two front end walls and the two side walls of the box. These front end walls are double, so that the end section is designated to be folded onto the inner side of the initial section, and have side prolongations in both sections, forming two sections joined by a double folding line that also joins the two sections of the double front end walls.

The initial section of each prolongation of each double front end walls is joined to the initial section of the double front end wall by a folding line, corresponding to the vertical edge of the box, while the end section is joined to the end section of the double front end wall by three folding lines, one folding line situated inwards with respect to the previous folding line, and the other two folding lines placed slightly outwards. The section of the double folding line comprised between these two folding lines is transformed into a cut line that allows to form a V column with the area defined between them, as we will see in detail further on.

According to this special structure, the two sections of each side prolongation of each double front end wall are designed to cover the interior and the exterior part of both ends of the large side, so that in this zone there is a triple wall, that together with the double wall of the double front end wall constitutes a great structural rigidity, and the columns formed coinciding with the vertical edges of the box allow to pile them up securing a perfect stability.

DESCRIPTION OF THE DRAWINGS

In order to complete this description and to help to understand better the characteristics of the invention, there is a set of drawings attached to this document that represent with illustrative and not limitative character:

Figure 1: A plan view of an unfolded cardboard box realized according to the object of the present invention.

Figure 2: A section view in perspective of the same box, half-mounted.

Figure 3: A section view in perspective similar to the previous one, but completely mounted.

PREFERABLE WAY OF REALIZATION

In these figures, and particularly in Figure 1, it can be observed that the cardboard box proposed by the invention is formed by a single sheet, with a central section (1) forming the bottom of the rectangular box, delineated by folding lines (2, 2') that join the bottom (1) with the side walls of the box (3), folding lines (2) where there are circular holes for ventilation (4) that perforate both the bottom and the side wall (3); these side walls have typically shaped notches (5) cut out of the middle of the upper edge that contribute to the ventilation of the interior of the box.

Other two folding lines (6, 6') join the central section (1) with the front end walls (7) which are double, an initial section (7) and an end section (8) joined to the first one by a double break line (9), through which the end section folds onto the inner side of the initial section, both sections having windows (10) that coincide when

folded and constitute the handles of the box.

Each double front end wall (7-8) has end or lateral prolongations which at the same time have two sections (11) and (12) corresponding to sections (7) and (8) mentioned before, and joined by a prolongation (9') of the double folding line (9). The initial section (11) is joined to the section (7) of the double front end wall by a single folding line (13) that corresponds to the vertical edge of the box once assembled, while the end section (12) is joined to the end section (8) of the wall by three folding lines, one inner folding line (14) that is situated inwards with respect to the break line (13) of the initial section, and other two folding lines (15, 15') that form a small fold (16), the exterior part of the double line (9, 9') mentioned before that joins the folding lines (14) and (15) transformed into a cut line (17) that allows to form, as shown in Figures 2 and 3, a flap (18) defined between both lines (14, 15), a slantwise wall that constitutes an V column for the rigidization of the vertical edges of the box.

As a complement of the structure described, there is an opening (19) in each corner of the bottom (1) of the box, which has a triangular shape in this example of realization, but could also be square or rectangular, and designed to introduce a small angular flange (20) defined by the cut line (17) mentioned before and other two transverse cut lines (21, 21') situated between the double folding lines (9, 9') as a prolongation of folding lines (14) and (15) that delimit the area (18) of the end section of the walls.

According to this structure, as explained before and shown in detail in Figures 2 and 3, the end section (8) of the wall is folded onto the initial section (7) of the wall, folding at the same time the end section (12) of the side prolongations of the double front end walls onto the initial section (11) of these prolongations, which bend orthogonally onto the folding line (13) and bluntly onto the break line (14), forming a fold (16) and joining the sections (11) and (12) of the prolongations of the double front end walls to the corresponding end section of the side walls (3), fixing them with adhesive, although they can also be fixed with staples, forming with the fold (16) an area (18), a slantwise wall that constitutes a triangular column for the rigidization of the box, having an opening (19) at the bottom that fits into the angular flange (20) of the box situated underneath, which protrudes with respect to the upper part of the box, as shown in Figure 3.

It is not considered necessary to make any further explanation for any expert in the matter to understand the significance and advantages of the invention.

Claims

1. Carboard box, of the typed used for transportation of fruit or similar, and particularly of the type formed by a single sheet with a bottom panel (1) which is separated by folding lines (2, 5) to the side walls (3) and by folding lines (6, 6') to double front end walls, each of the double front end walls consisting of two parts, an initial section (7) and an end section (8) joined by a double folding line (9), so that the end section (8) is folded onto the inner side of the initial section (7), characterized in that each double front end wall has side prolongations with two sections, one initial section (11) and one end section (12), joined by prolongations (9') of the double folding line (9), the initial section (11) of the side prolongations joined to the corresponding initial section (7) of the double front end wall by a single line (13) that coincides with the vertical edge of the box, and the end section (12) of the side prolongations is joined with the corresponding end section (8) of the double front end wall by three folding lines (14, 15, 15'), one inner line (14) placed inwards with respect to the prolongation of the single folding line (13), and the other two folding lines (15, 15') situated next to each other and slightly outwards with respect to the prolongation of the single folding line (13), and forming a slantwise wall (18) between the two folding lines (15, 15') once the box is mounted, the end line of the double folding line (9, 9') being a cut line (17) between the outer folding lines (14, 15), and the end section (12) of the side prolongation being folded onto the initial section (11) of the side prolongation such that they are bended orthogonally with respect to the double front end wall, and fixed to the inner end of the corresponding side wall (3).

2. Carboard box, according to claim 1, characterized in that there is a small angular flange (20) protruding from the upper part of the vertical edge of the box, delineated by the cut line (17) and by two small cut lines (21, 21') which are a prolongation of the outer folding lines (14, 15) and that are located between the double folding lines (9, 9'), these angular flanges (20) being designed to fit into the openings (19) made at the bottom of the vertical edges of the boxes when they are piled up.

3. Carboard box, according to the previous claims, characterized in that there are several openings (4) for ventilation in the folding line (2) that joins the bottom (1) with the side walls (3).

Patentansprüche

1. Pappkarton, der Art, wie er bei dem Transport von Obst oder ähnlichem verwendet wird, und insbesondere der Art, der aus einer einzigen Folie gebildet ist, mit einer unteren Platte (1), die mit Faltlinien (2, 5) an den Seitenwänden (3) und mit Faltlinien (6, 6') an den doppelten Wänden des vorderen Endes getrennt ist, wobei jede der doppelten Wände des vorderen Ende aus zwei Abschnitten besteht, einem Anfangsabschnitt (7) und einem Endabschnitt (8), die durch eine doppelte Faltlinie (9) verbunden sind, so dass der Endabschnitt (8) über die

Innenseite des Anfangsabschnitts (7) gefaltet wird, dadurch gekennzeichnet, dass jede doppelte Wand des vorderen Endes mit seitlichen Verlängerungen aus zwei Abschnitten versehen ist, einem Anfangsabschnitt (11) und einem Endabschnitt (12), die durch Verlängerungen (9') der doppelten Faltlinie (9) verbunden sind, wobei der Anfangsabschnitt (11) der seitlichen Verlängerungen mit dem entsprechenden Anfangsabschnitt (7) der doppelten Wand des vorderen Endes verbunden ist, und zwar mittels einer einfachen Linie (13), die mit dem senkrechten Rand des Kartons zusammenfällt, und wobei der Endabschnitt (12) der seitlichen Verlängerungen mit dem entsprechenden Endabschnitt (8) der doppelten Wand des vorderen Endes mit Hilfe von drei Faltlinien (14, 15, 15') verbunden ist, wobei eine innere Linie (14) in Bezug auf die Verlängerung der einfachen Faltlinie (13) nach innen angeordnet ist und die anderen beiden Faltlinien (15, 15') nahe beieinander und leicht nach aussen gerichtet angeordnet sind in Bezug auf die Verlängerung der einfachen Faltlinie (13) und so nach dem Zusammenbau des Kartons eine schräge Wand (18) zwischen den beiden Faltlinien (15, 15') bilden, wobei die Endlinie der doppelten Faltlinie (9, 9') eine Schnittlinie (12) zwischen den beiden äusseren Faltlinien (14, 15) darstellt, und wobei der Endabschnitt (12) der seitlichen Verlängerung über den Anfangsabschnitt (11) der seitlichen Verlängerung gefaltet wird, so dass diese rechtwinklig in Bezug auf die doppelte Wand des vorderen Endes gefaltet werden und so am inneren Ende der entsprechenden Seitenwand (3) befestigt werden.

2. Pappkarton nach Anspruch 1, dadurch gekennzeichnet, dass ein kleiner ringförmiger Bund (20) vorgesehen ist, der über den oberen Teil des senkrechten Rands des Kartons hinausgeht, und eine Schnittlinie (17) begrenzt und dass zwei kleine Schnittlinien (21, 21') vorgesehen sind, die eine Verlängerung der äusseren Faltlinien (14, 15) darstellen, und die zwischen den doppelten Faltlinien (9, 9') angeordnet sind, wobei diese ringförmige Bunde (20) vorgesehen wurden, damit diese in den im Boden der senkrechten Ränder der Kartons vorgesehenen Öffnungen (19) eingepasst sind, wenn die Kartons gestapelt werden.

3. Pappkarton nach den vorhergehenden Ansprüchen, dadurch gekennzeichnet, dass in der Faltlinie (2), die den Boden (1) mit den Seitenwänden (3) verbindet, verschiedene Lüftungsöffnungen (4) vorgesehen sind.

Revendications

1. Caisse en carton du type de celles que l'on utilise pour le transport de fruits ou de produits similaires et en particulier, du type de celles formées par une seule feuille avec un panneau inférieur (1) séparé des lignes de pliage (2,5) aux parois latérales (3) et des lignes de pliage (6, 6') aux parois doubles de l'extrémité frontale, chaque paroi double de l'extrémité frontale comprenant deux parties, une section initiale (7) et une section finale (8) reliées par une double ligne de pliage (9), de sorte que la section finale (8) se replie sur la face interne de la section initiale (7), caractérisée par le fait que chaque paroi double de l'extrémité frontale est munie de prolongements latéraux à deux sections, une section initiale (11) et une section finale (12), reliées au moyen de prolongements (9') de la double ligne de pliage (9), la section initiale (11) des prolongements latéraux reliée à la section initiale correspondante (7) de la double paroi de l'extrémité frontale au moyen d'une ligne simple (13) coïncidant avec le bord vertical de la caisse et la section finale (12) des prolongements latéraux est reliée à la section finale (8) correspondante de la paroi double de l'extrémité frontale par trois lignes de pliage (14, 15, 15'), une ligne interne (14) disposée vers l'intérieur par rapport au prolongement de la ligne de pliage (13) simple et les deux autres lignes de pliage (15, 15') situées à proximité l'une de l'autre et légèrement vers l'extérieur par rapport au prolongement de la ligne de pliage (13) simple et formant une paroi inclinée (18) entre les deux lignes de pliage (15, 15'), une fois que l'on a monté la caisse ; la ligne finale de la double de pliage (9, 9') est une ligne de coupe (12) entre les lignes de pliage externes (14, 15) et la section finale (12) du prolongement latéral est repliée sur la section initiale (11) du prolongement latéral, de sorte que ces dernières se replient orthogonalement par rapport à la double paroi de l'extrémité frontale et soient fixées à l'extrémité interne de la paroi latéral (3) correspondante.

2. Caisse en carton, d'après la revendication 1, caractérisée par le fait qu'il existe un petit rebord angulaire (20) qui dépasse de la partie supérieure du bord vertical de la caisse, délimitant une ligne de coupe (17) et par deux petites lignes de coupe (21, 21') qui sont un prolongement des lignes de pliage externes (14, 15) et qui sont situées entre les lignes de pliage (9, 9') doubles, ces rebords angulaires (20) ayant été conçus pour s'adapter aux ouvertures (19) faites au fond des bords verticaux des caisses quand on les empilent.

3. Caisse d'après les revendications précédentes, caractérisée par le fait qu'il existe plusieurs ouvertures (4) pour ventilation sur la ligne de pliage (2) reliant le fond (1) aux parois latérales (3).

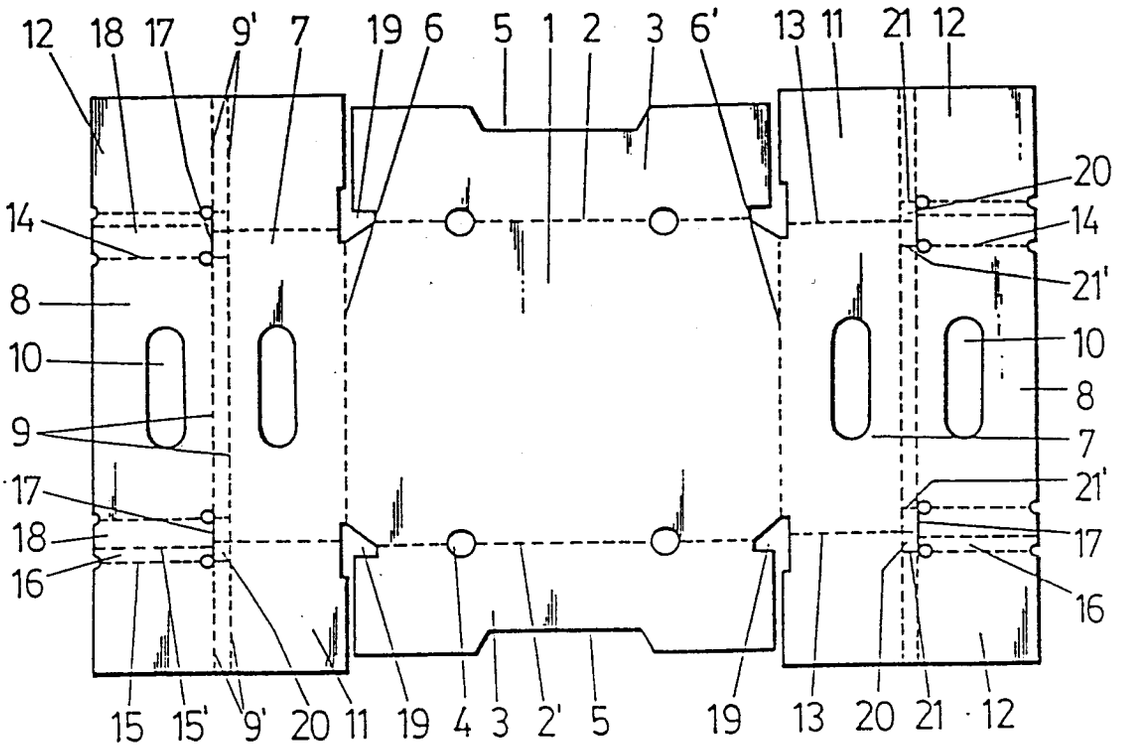


FIG.-1

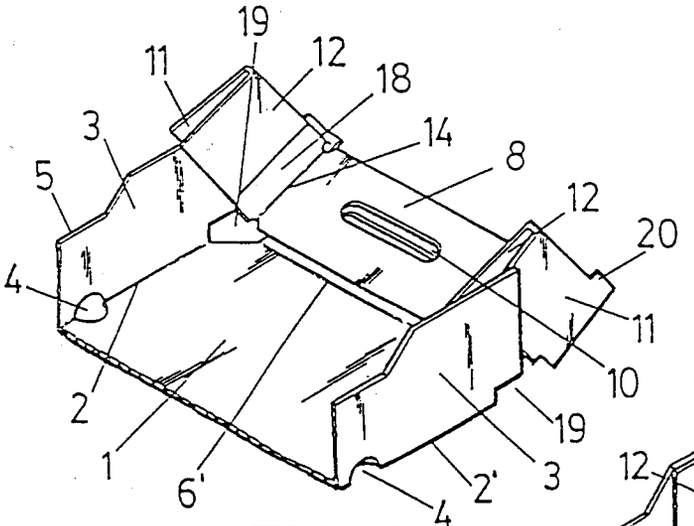


FIG.-2

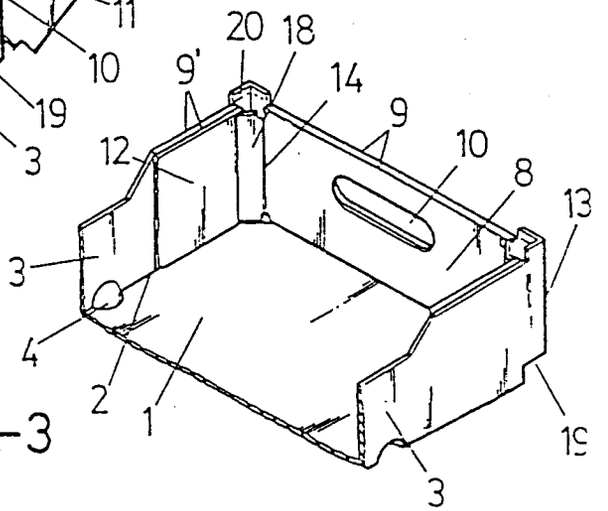


FIG.-3