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(54) **Inclinable display box**

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US-A1- 2004 060 972 US-A1- 2005 139 501
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Description

OBJECT OF THE INVENTION

[0001] The object of this invention, as indicated by the invention's name, is an inclinable display box, i.e. a display box which, in addition to storing and transporting the merchandise to be sold, acts as a means of displaying the products contained therein, and can also be positioned at an angle, promoting product distribution.

[0002] The invention's main feature is the special configuration and design of the sheet which configures the box. Thus, the box's structure has built-in means that, once placed on the shelf to sell the products contained therein, turn it into a display box. It also features means which allow it to be positioned at an angle, in a bid to promote the distribution and sales prospects of the products contained inside the boxes.

[0003] Therefore, this invention belongs to the field of boxes formed from die cut sheets of cardboard and, more specifically, to the field of display boxes.

BACKGROUND OF THE INVENTION

[0004] Numerous state of the art cardboard boxes are, at once, display boxes, wherefore they have perforated lines that enable part of their protective structure to be detached or torn away, helping customers view and access the merchandise contained therein.

[0005] These boxes are often shaped like a rectangular prism and positioned on high shelves, making it difficult, due to distance and the inability to see inside the boxes, to access products at the back thereof.

[0006] With cylindrical product packages, such as packets of biscuits and similar items, this issue has been resolved by making use of the packet of biscuit's cylindrical shape and elevating the rear of the display box.

[0007] This type of solution is provided by patent EP2070824 A1, which includes protruding tabs on the bottom rear surface of the box. When the box is folded and positioned on a horizontal surface, the rear section (the section opposite the front opening used for distribution) remains elevated. This manner of construction requires a box design which includes means to retract the protruding tabs that raise the rear, ensuring the boxes fit together when stacked for transport, not at an angle. Thus they are stable and occupy a minimal amount of space.

[0008] In the state of the art there are different patents known:

- WO 2005077781 wherein it is disclosed a carton provided for holding and positioning articles for easy access
- US 764543 which discloses a carton with gravity feed dispense
- US2005139501 wherein it is disclosed a container having a multiplicity of cans therein. The container disclosed is modified from a rectangular, closed wall

container to a container with part of the walls removed, thereby allowing easy access to the cans of the container

- US2004060972 which discloses a carton with a dispenser at one end of the carton which has a tilt platform that is formed in the bottom panel of the carton at the opposite end of the carton to facilitate the rolling of containers contained in the carton toward the dispenser when the dispenser is opened.

[0009] Although this solution matches the desired purpose, it can be improved. The sheet of cardboard used to form a display box with an elevated rear section can be simplified, allowing gravity to draw the products towards the front of the box, promoting product distribution and their prospects of being purchased by customers.

DESCRIPTION OF THE INVENTION

[0010] The object of the invention is a display box used to distribute products. Its main feature is the fact that its rear end may be raised to allow gravity to draw the products towards the front of the box. The products, therefore, must be, generally speaking, cylindrical in shape and positioned horizontally.

[0011] Like any other four-sided box, the box is formed from a die cut sheet of cardboard, while the top and base are formed by flaps which extend from the top and bottom edges of the side walls.

[0012] One of the box's potential shapes is the Federation of Corrugated Board Manufacturers' standard FE-FCO 0201 design, also known as the American box.

[0013] The box has two longer side panels and two shorter side panels. One of the shorter side panels is what we shall call the front shorter side panel, which is where the products shall be displayed and selected, while the other shall be called the rear shorter side panel.

[0014] The essence of this invention is, on the one hand, that on the sheet which forms the box there are perforated lines which define a removable section, whose removal turns the box into a display box and allows customers to view and access the products contained therein; and on the other hand, that also by way of perforated lines a foldable and non-detachable section is defined, which section, when folded underneath the box's base, raises the rear of the box and allows gravity to draw the products towards the front of the display case.

[0015] The longer side panels have a perforated line which runs along their length, while the front shorter side panel also has a perforated line which allows the box to be opened in the front. The ends of the latter perforated lines coincide with the adjacent ends of the longer side panels' perforated lines.

[0016] In one embodiment according to claim 1, on the rear shorter side panel, opposite the front panel there is a perforated line whose ends coincide with the ends of the longer side panels' adjacent perforated lines. On the upper flaps emerging from the longer side panels there

are also perforated lines. Therefore, when the box is folded, such perforated lines run from one end of the box to the other and extend along the longer side panels until they contact with those perforated lines which run from edge to edge in the longer side panels. Lastly, the front shorter side panel has two perforated lines, each line having a first horizontal stretch that departs from the end of the longer side panel's perforated and then descends vertically to the bottom edge of the box.

[0017] Once the box has been assembled and closed, the above-mentioned perforated lines define a removable section which comprises a part of the top section, a part of the longer side panels and a part of the rear shorter side panel; and also define a foldable section comprising a part of the top section, a part of the longer side panels and part of the front shorter side panel, this section being foldable over the box's bottom edge, thus forming a heel at the back of the box, enabling the display box to be positioned in a manner in which the rear section remains elevated, allowing gravity to draw the products towards the front of the box.

[0018] The second embodiment according to claim 5 also keeps the essence of the invention. Here, although the longer side panels and the front shorter side panel have perforated lines which meet at their ends and that allow the box to be opened at the top and at the front, on the rear shorter side panel there is a removable part with an intermediate folding line and an upper slot, which, in turn, has protruding tabs or edges that, once this removable section has been folded, will fit into slots made on the flaps which emerge from the bottom edge of the side panels.

DESCRIPTION OF THE DRAWINGS

[0019] As a supplement to this description and to provide a better understanding of the invention's features, based on an example of its preferred practical embodiment, this description also contains, as an integral part thereof, a series of drawings which, while illustrative and not exhaustive, represent the following.

Figure 1 shows a perspective view of the box with the perforated lines marked.

Figure 2 shows the above-mentioned box as the removable section is being torn away.

Figure 3 shows the box once the removable section has been completely removed.

Figure 4 shows the box as the foldable section is being torn.

Figure 5 shows how the foldable section forms a support at the bottom, raising the box's rear section.

Figure 6 shows the sheet having been die cut and perforated, this sheet being the starting point for one embodiment.

Figure 7 shows the sheet having been die cut and perforated, this sheet being the starting point for a second embodiment.

PREFERRED EMBODIMENT OF THE INVENTION

[0020] In light of the figures, the following is a description a preferred embodiment of the invention.

[0021] Figure 1 shows a first embodiment in which we see a closed cardboard box. Said box shall be formed from a single die cut sheet of cardboard. In one embodiment, the flaps that emerge from the longer side panels make up the bottom of the box. The lid is also made up by the flaps which emerge from the top edges of the longer side panels.

[0022] The box has two longer side panels and two shorter side panels. Each longer side panel has a perforated line (1), and the rear shorter side panel also has a perforated line (3), all these lines running from one side to the other of their respective sides. The ends of the perforated line (3) connect with the ends of the perforated lines (1).

[0023] The top part of the box has a perforated line (7) which goes from one longer side panel to the other and by means of a perforated line (7.1) goes down along those longer side panels until it makes with the perforated line (1) of the longer side panels.

[0024] The other short side panel, i.e. the front short side panel, which allows exhibition of the contents, there are two perforated lines (8) made up of a first horizontal stretch (8.1) followed by a second vertical stretch (8.2), which reaches the bottom edge of the box.

[0025] The perforated lines form a first section which is removable (5) and a second section which is foldable (6), which section, when folded along the folding line (9), said line located between the box's front panel and the box's bottom, forms a support on the bottom rear section of the box. This support raises the rear of the box, drawing the products towards the front of the box.

[0026] Figure 2 shows the moment when the removable section (5) is being torn away. To ease the operation of tearing along the perforated lines (1) and (3), each longer side panel has a slot (2). Likewise, the perforated line (3) is interrupted by a slot (4), said slot defines a handle-like opening that allows a hand to reach in and tear the section away.

[0027] Figure 3 shows how the box looks like once the removable section (5) has been removed and the perforated line (7) has been torn. The foldable section (6) is shown, this section having a free edge (6.1) upon which the box will sit when the foldable section has been folded underneath the bottom, as shown in Figure 5.

[0028] Figure 4 shows the beginning of the operation of tearing the foldable section. The remaining perforated lines in the longer side panels are torn, as well as the horizontal (8.1) and vertical stretches (8.2) of the front shorter side panel. Further to this, the whole of the foldable section (6) is folded along the folding line (9).

[0029] Figure 5 shows the foldable section (6) folded underneath the bottom of the box, so that the free edge (6.1), which has been obtained by tearing the perforated line (7), is in touch with the surface and serves as a sup-

port, elevating the rear section of the display box.

[0030] Figure 6 shows the constructive features of the cardboard sheet which is used to manufacture the box: perforated lines (1) on the longer side panels, perforated line (3) on the rear shorter side panel and perforated line (8) on the front shorter side panel, and how the perforated lines (1) and (3) meet at their ends. To ease the tearing operation, there are slots (2) and (4). Finally, to close the box there is a tab (10) on the free edge of one of the shorter side panels.

[0031] Figure 7 shows perforated lines (1) going from one side to the other of the longer side panels, and perforated lines (8) on the front shorter side panel. This perforated lines (1) and (8) meet at one of their ends. The perforated lines (1) have their starting point at the top corner of the box. The front shorter side panel also has a slot (8.3) to ease the tearing operation of the detachable section.

[0032] To make the heel, there are perforated lines on the rear shorter side panel which define a foldable section (12). At the top of this foldable section (12), there is a cut which define some tabs (13) whose edges take the shape of a harpoon (14), designed to fit in the slots (11) opened on the flaps emerging from the low edge of the longer side panels. This foldable section (12) has an intermediate folding line (16) and a folding line (15) which runs along the bottom edge. Thus, folding the foldable section (12) over the folding line (15), and fitting the tabs (13) in the slots (11), a heel is formed, which rests along the intermediate folding line (16).

Claims

1. Display box which has two longer and two shorter side panels, with flaps which protrude from said panels, said flaps being used to close the box at its top and bottom, wherein the longer and the shorter side panels have foldable lines which define a first removable section that, once removed, opens the box at its top and front, and a second section, a foldable section (6), that, when folded, forms a heel at the bottom of the box which keeps the box elevated, **characterized in that** its removable section (5) is made by way of perforated lines (1) on its longer side panels, by way of perforated lines (8) on its front shorter side panel and by way of a perforated line (3) along its rear shorter side panel, all this perforated lines (1) (8) and (3) meeting at their ends; and **in that** the top part of the box has a perforated line (7) formed by the perforated lines (7.2) made on each of the flaps emerging from the upper edge of each longer side panel, which perforated line (7) goes from one longer side panel to the other and continues along the longer side panels by way of a perforated line (7.1) which reaches the perforated lines (1) of the longer side panel.

2. Display box according to Claim 1, **characterized in that** the foldable section (6) that forms a heel is defined by the perforated lines (7.2), (7.1) and the perforated lines (8) on the front shorter side panel, having a folding line (9) located at the joint between the front shorter side panel and the bottom of the box, so that, when folded underneath the bottom of the box, the foldable section (6) forms a heel which keeps the rear section elevated.

3. A display box, according to claim 2, **characterized in that** the perforated lines of the front shorter side panel are formed by an horizontal stretch (8.1) followed by a vertical stretch (8.2), which reaches the bottom edge of the box.

4. A display box, according to claim 2, **characterized in that** each longer side panel there is a slot (2) and on the rear shorter side panel, along which runs the perforated line (3), there is a slot (4), the slots (2) and (4) disrupting the perforated lines (1) and (3).

5. A display box which has two longer and two shorter side panels, with flaps which protrude from said panels, said flaps being used to close the box at its top and bottom, wherein the longer and the shorter side panels have foldable lines which define a first removable section that, once removed, opens the box at its top and front, and a second section, a foldable section, that, when folded, forms a heel at the bottom of the box which keeps the box elevated, **characterized in that:**

- its removable section is made by way of perforated lines (1) which run from side to side of the longer side panels
- the front shorter side panel has perforated lines (8) which meet at their upper ends with the perforated lines of the longer side panels
- the end of the longer side panels' perforated line which starts from the rear shorter side panel, more specifically starts from the top corner of the box.
- On the front shorter side panel there is a slot (8.3) to ease the operation of tearing and removing the removable section which opens the box on its top and front.
- the foldable section forming the heel is made by way of perforated lines on the rear shorter side panel, which lines define a foldable section (12), said foldable section (12) having at its upper part a cut which defines a number of tabs (13) and having as well an intermediate folding line (16) and a lower folding line (15) along the box's bottom edge, so that when folding the foldable section (12) over the folding line (15) and fitting the tabs (13) into some slots (11) - which slots are located in the flaps which emerge from

the lower edge of the side panels - a heel is built, which heel rest along the intermediate folding line (16).

6. A display box, according to claim 5, **characterized in that** the edges of the tabs (13) take the shape of a harpoon (14).

Patentansprüche

1. Das Display verfügt über zwei längere und zwei kürzere Seitenwände mit aus den genannten Wänden herausragenden Klappen, die zum Schließen der Box an der oberen und unteren Seite benutzt werden. Die längeren und kürzeren Seiten sind mit Falzlinien versehen, die den ersten entfernbaren Abschnitt kennzeichnen. Wird dieser entfernt, öffnet sich das Display an der oberen, vorderen Seite und ein zweiter faltbarer Abschnitt (6), der im gefalteten Zustand die Bodenkante bildet, hält die Box im aufgerichteten Zustand. Dies wird durch den herausnehmbaren Abschnitt (5) gekennzeichnet, der mit den perforierten Linien (1) an seinen längeren Seitenwänden, perforierten Linien (8) an seinen vorderen, kürzeren Seite und perforierten Linie (3) entlang seiner hinteren, kürzeren Seite gefertigt ist. Alle diese perforierten Linien (1), (8) und (3) treffen sich an ihren Enden. Es gibt an dem oberen Teil der Box eine perforierte Linie (7), die aus den perforierten Linien (7.2) gebildet wird, die an den beiden, aus der oberen Ecke der jeweiligen, längeren Seitenwand hervortretenden Klappen erstellt sind. Diese perforierte Linie (7) verläuft von der einen, längeren Seitenwand zu der anderen und setzt sich entlang der längeren Seitenwand in der perforierten Linie (7.1) fort, die zu der perforierten Linie (1) der längeren Seitenwand führt.
2. Das Display gemäß Anspruch 1, wird durch den faltbaren Abschnitt (6) gekennzeichnet, der eine, durch die perforierten Linien (7.2), (7.1) und die perforierte Linie (8) an der vorderen, kürzeren Seitenwand - mit einer Falzlinie (9) an der Verbindung zwischen der vorderen, kürzeren Seitenwand und dem Boden der Box - definierte Kante bildet, auf die Weise, dass wenn unterhalb des Displaybodens gefaltet ist, der faltbare Abschnitt (6) eine Kante bildet, die den hinteren Abschnitt in aufgerichteter Stellung hält.
3. Das Display gemäß Anspruch 2, ist durch die perforierten Linien der vorderen, kürzeren Seite gekennzeichnet, die durch eine horizontale Strecke (8.1), gefolgt von einer vertikalen Strecke (8.2) gebildet sind und zu der Bodenkante der Box führen.
4. Das Display gemäß Anspruch 2, ist **dadurch gekennzeichnet, dass** sich an jeder, längeren Seiten-

wand ein Schlitz (2) und an der hinteren, kürzeren Seitenwand, wo die perforierte Linie (3) entlangläuft, ein Schlitz (4) befindet. Die Schlitz (2) und (4) unterbrechen die perforierten Linien (1) und (3).

5. Das Display, verfügt über zwei längere und zwei kürzere Seitenwände, mit Klappen die aus den erwähnten Wänden herausragen und für das Schließen der Box an der oberen und unteren Seite benutzt werden, bei der die längeren und kürzeren Seitenwände mit Falzlinien versehen sind, die den ersten entfernbaren Abschnitt kennzeichnen, bei dessen Entfernung sich die Box an der oberen und vorderen Seite öffnet, und ein zweiter, faltbarer Abschnitt, der wenn er gefaltet ist, eine Kante an dem Boden der Box bildet, welche die Box in aufgerichteter Stellung hält, wird **dadurch gekennzeichnet, dass:**

- ihr abnehmbarer Abschnitt mit - von der einen zu der anderen Seite der längeren Seitenwand verlaufenden - perforierten Linien (1) gefertigt ist.
- die vordere, kürzere Seitenwand über die perforierten Linien (8) verfügt, die an ihrem oberen Ende auf die perforierten Linien der längeren Seitenwände treffen.
- das Ende der perforierten Linie der längeren Seitenwand, die an der hinteren, kürzeren Seitenwand, genauer gesagt an der oberen Ecke des Displays beginnt.
- sich an der vorderen, kürzeren Seitenwand ein Schlitz (8.3) befindet, um das Aufreißen und Entfernen des abnehmbaren Abschnittes, - der das Display oben und vorne öffnet - zu erleichtern.
- der faltbare Abschnitt, der die Kante bildet, ist an der hinteren, kürzeren Seite mit perforierten Linien gefertigt, die den faltbaren Abschnitt (12) definieren. Dieser faltbare Abschnitt (12) verfügt an seinem oberen Teil über einen Schnitt, der die Anzahl von Laschen (13) bestimmt, und auch eine mittlere Falzlinie (16) und eine untere, entlang der Bodenkante der Box verlaufende Falzlinie (15) hat sodass, wenn der faltbare Abschnitt (12) über die Falzlinie (15) gefaltet wird und die Laschen (13) in einige Schlitz (11) eingeführt werden, - die Schlitz (11), die sich an den aus der unteren Kante der Seitenwände herausragenden Klappen befinden - eine Kante gebildet wird, die entlang der mittleren Falzlinie (16) liegt.

6. Das Display gemäß Anspruch 5, wird **dadurch gekennzeichnet, dass** die Kanten der Laschen (13) die Form einer Harpune (14) haben.

Revendications

1. Présentoir disposant de deux panneaux sur le côté plus long et deux panneaux sur le côté plus court, avec des rabats qui dépassent desdits panneaux, lesdits rabats étant utilisés pour fermer le présentoir en haut et au fond, dans lequel les panneaux du côté plus long et plus court ont des lignes pliables qui définissent une première section amovible qui, une fois enlevée, ouvre la boîte sur le haut et l'avant, et une seconde section, une section pliable (6), qui, une fois repliée, forme un talon au fond du présentoir qui maintient le présentoir élevé, **caractérisé en ce que** sa section amovible (5) est réalisée au moyen de lignes perforées (1) sur les panneaux de son côté plus long, au moyen de lignes perforées (1) sur le panneau de son côté avant plus court et au moyen d'une ligne perforée (3) le long du panneau de son côté arrière plus court, toutes ces lignes perforées (1), (8) et (3) se rejoignant à leurs extrémités ; et **en ce que** la partie supérieure du présentoir a une ligne perforée (7) formée par les lignes perforées (7.2) réalisées sur chacun des rabats émergeant du bord supérieur de chaque panneau du côté plus long, laquelle ligne perforée (7) va d'un panneau du côté le plus long à l'autre et continue le long des panneaux du côté le plus long au moyen d'une ligne perforée (7.1) qui atteint les lignes perforées (1) du panneau du côté le plus long. 5 10 15 20 25 30
2. Présentoir selon la Revendication 1, **caractérisé en ce que** la section pliable (6) qui forme un talon est définie par les lignes perforées (7.2), (7.1) et les lignes perforées (8) sur le panneau avant du côté plus court, ayant une ligne pliable (9) située sur la jonction entre le panneau avant du côté plus court et le fond du présentoir, de sorte que, quand elle est pliée en-dessous du fond du présentoir, la section pliable (6) forme un talon qui maintient la section arrière élevée. 35 40
3. Présentoir selon la Revendication 2, **caractérisé en ce que** les lignes perforées du panneau avant du côté plus court sont formées d'un allongement horizontal (8.1) suivi par un allongement vertical (8.2) qui atteint le bord inférieur du présentoir. 45
4. Présentoir selon la Revendication 2, **caractérisé en ce que** dans chaque panneau du côté plus court, il y a une fente (2) et sur le panneau arrière du côté plus court, le long duquel passe la ligne perforée (3), il y a une fente (4), les fentes (2) et (4) coupant les lignes perforées (1) et (3). 50
5. Présentoir disposant de deux panneaux sur le côté plus long et deux panneaux sur le côté plus court, avec des rabats qui dépassent desdits panneaux, lesdits rabats étant utilisés pour fermer le présentoir en haut et au fond, dans lequel les panneaux du côté 55

plus long et plus court ont des lignes pliables qui définissent une première section amovible qui, une fois enlevée, ouvre la boîte sur le haut et l'avant, et une seconde section, une section pliable, qui, une fois repliée, forme un talon au fond du présentoir qui maintient le présentoir élevé, caractérisé en ce

- sa section amovible est réalisée au moyen de lignes perforées (1) qui vont d'un côté à l'autre des panneaux du côté le plus long.

- le panneau avant du côté le plus court a des lignes perforées (8) qui rejoignent à leurs extrémités supérieures les lignes perforées des panneaux du côté le plus long

- l'extrémité de la ligne perforée des panneaux du côté le plus long qui commence depuis le panneau arrière du côté le plus court, commence plus spécifiquement du coin supérieur du présentoir

- sur le panneau avant du côté plus court se trouve une fente (8.3) servant à faciliter l'opération de déchirure et l'enlèvement de la section amovible qui ouvre le présentoir sur le haut et l'avant.

- la section pliable formant le talon est réalisée au moyen de lignes perforées sur le panneau arrière du côté plus court, laquelle ligne définit une section pliable (12), ladite section pliable (12) ayant sur sa partie supérieure une découpe qui définit un nombre de languettes (13) et ayant également une ligne de pliage intermédiaire (16) et une ligne de pliage inférieure (15) le long du bord du fond du présentoir, de sorte que lors du pliage de la section pliable (12) sur la ligne de pliage (15) et de l'ajustement des languettes (13) dans certaines fentes (11) - lesquelles fentes sont situées dans les rabats qui émergent du bord inférieur des panneaux de côté - un talon se forme, lequel talon repose le long de la ligne de pliage intermédiaire (16).

6. Présentoir selon la Revendication 5, **caractérisé en ce que** les bords des languettes (13) prennent la forme d'un harpon (14).

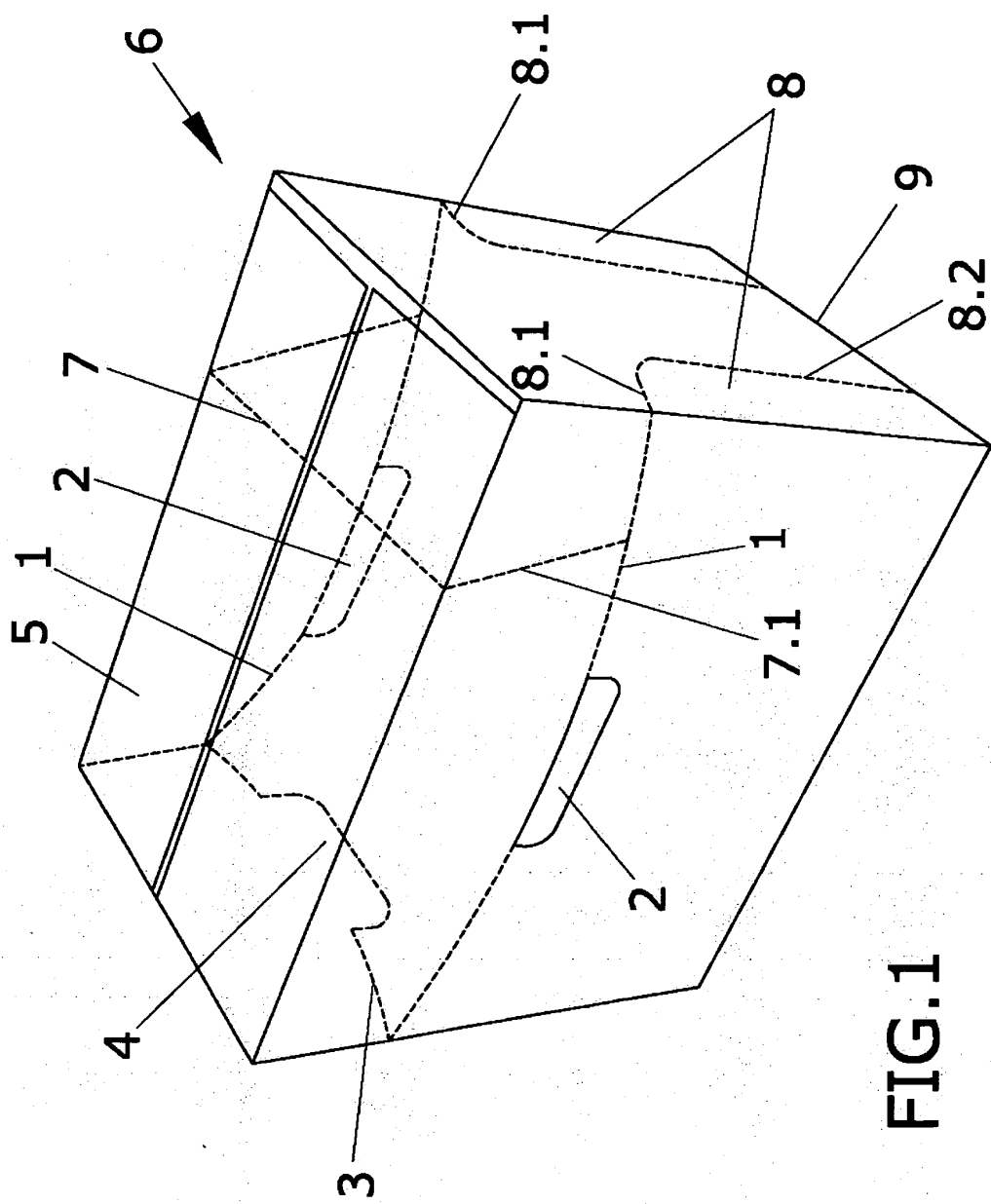


FIG. 1

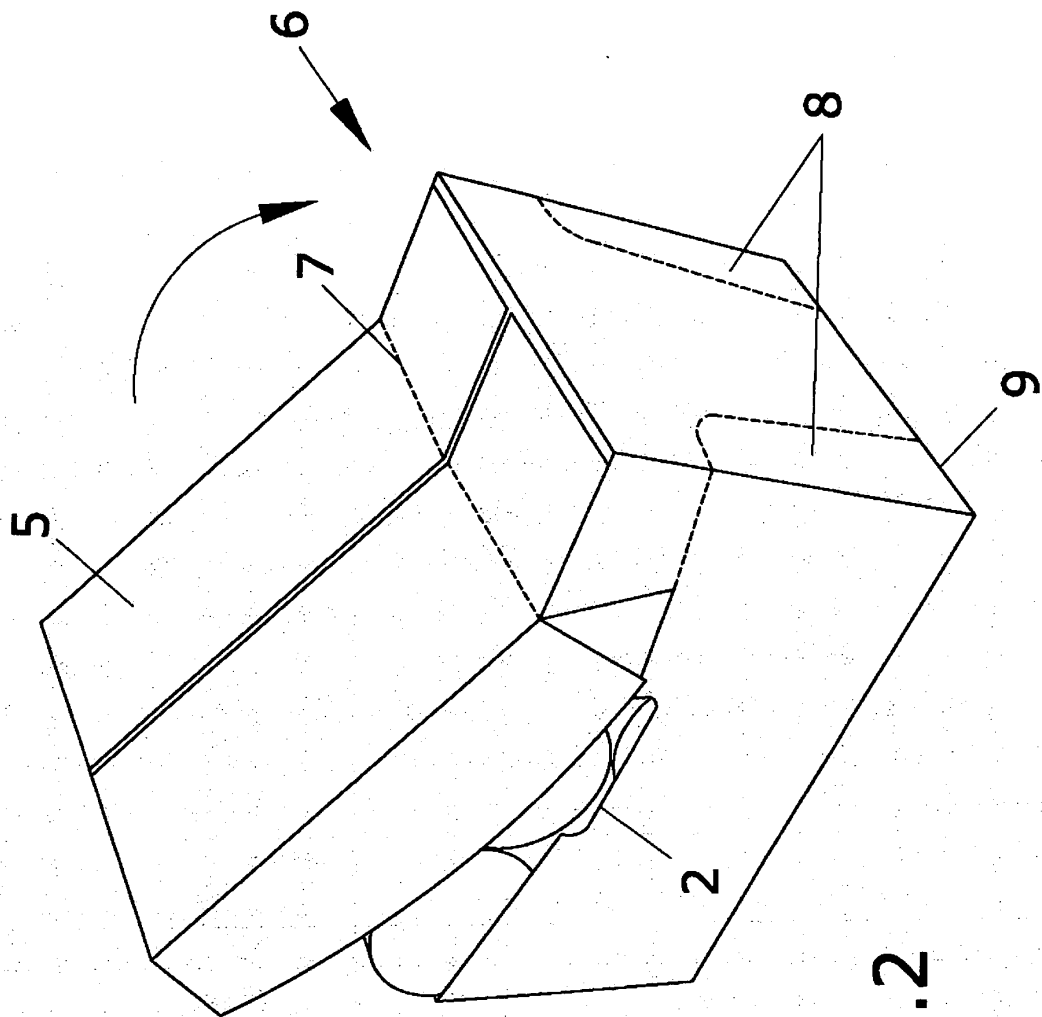


FIG. 2

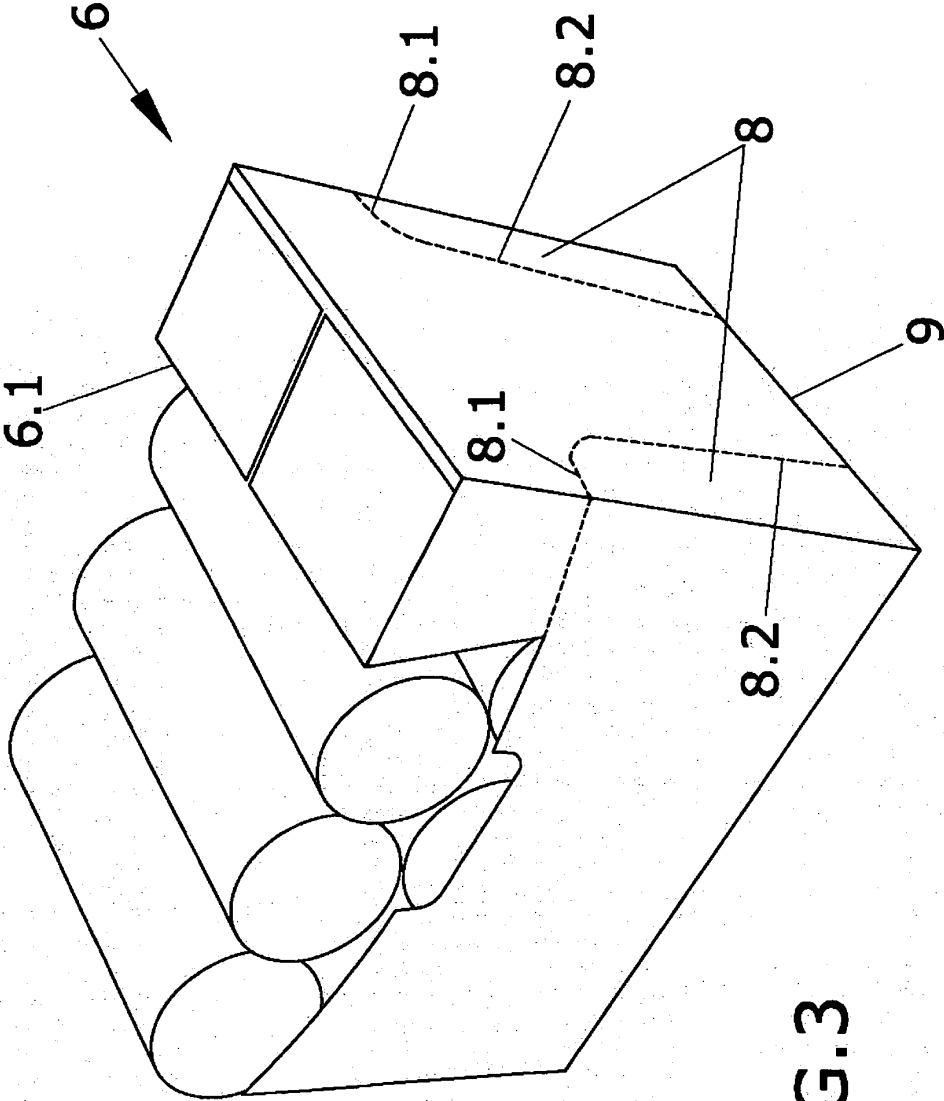


FIG. 3

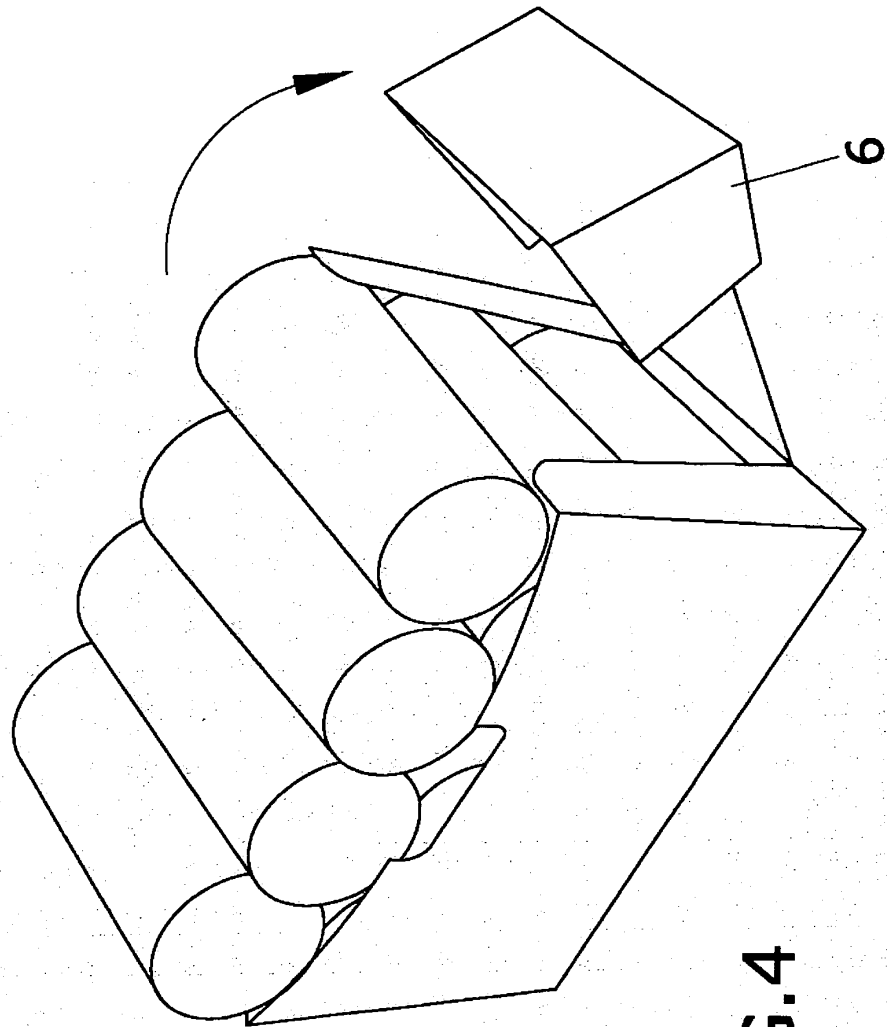


FIG. 4

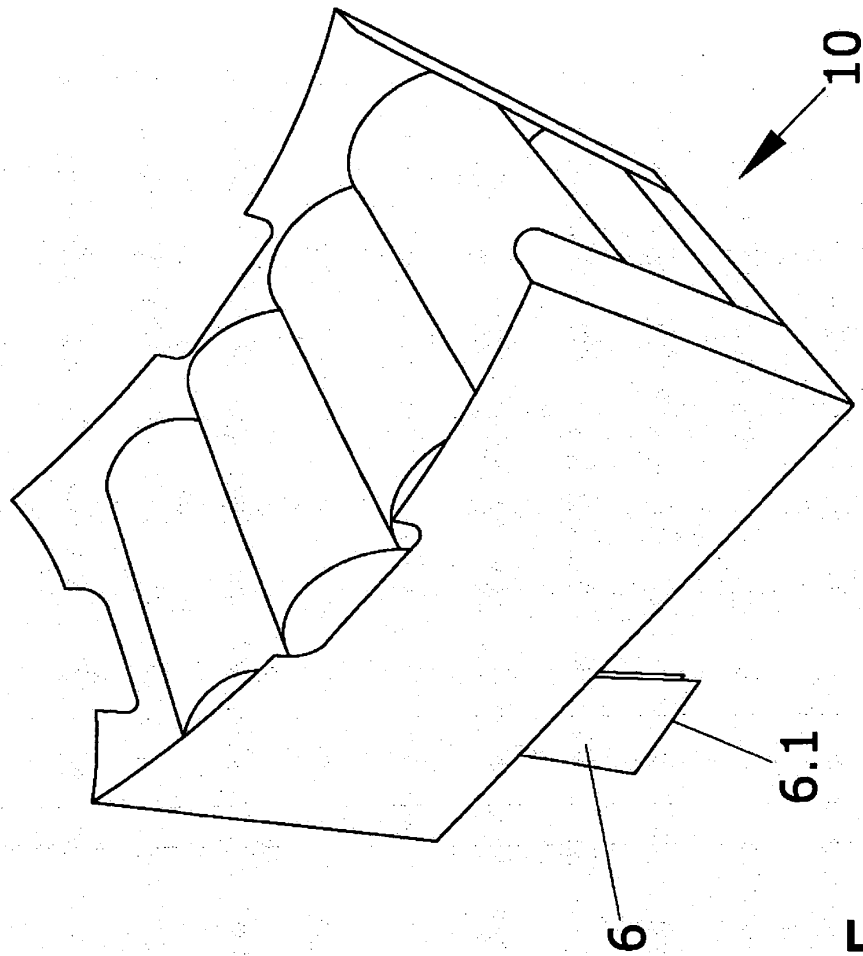


FIG. 5

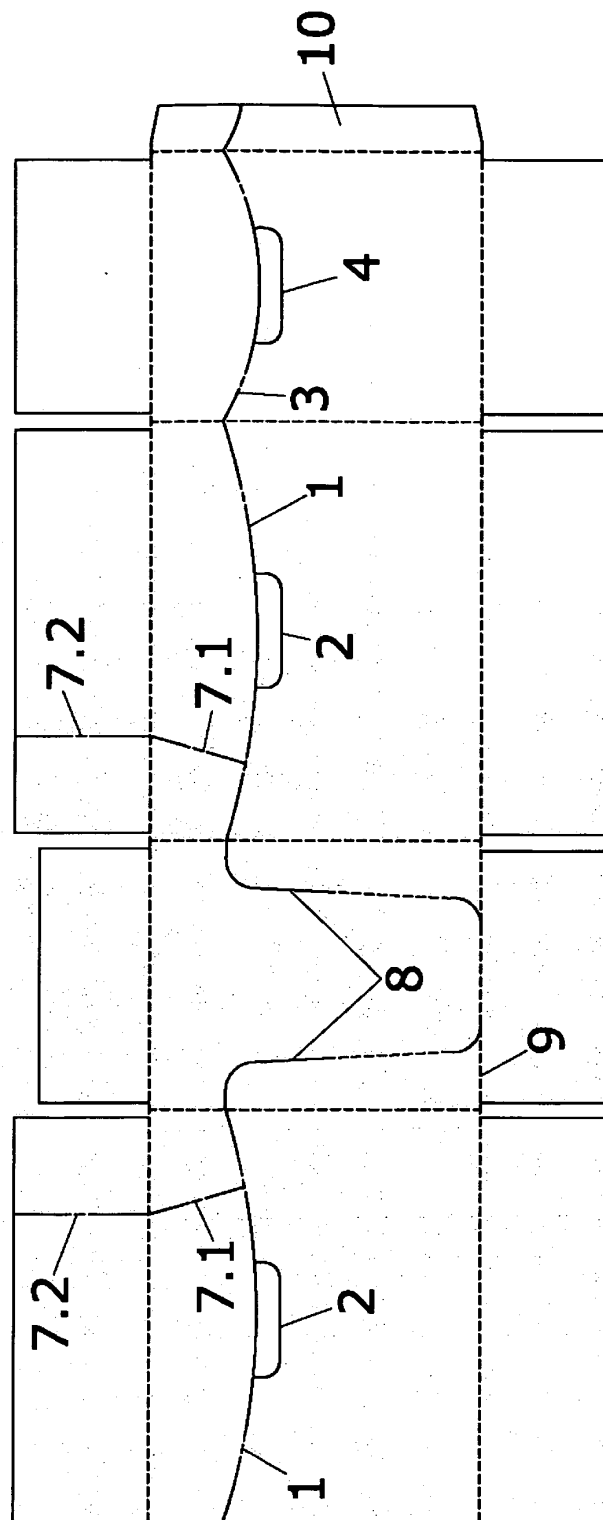


FIG. 6

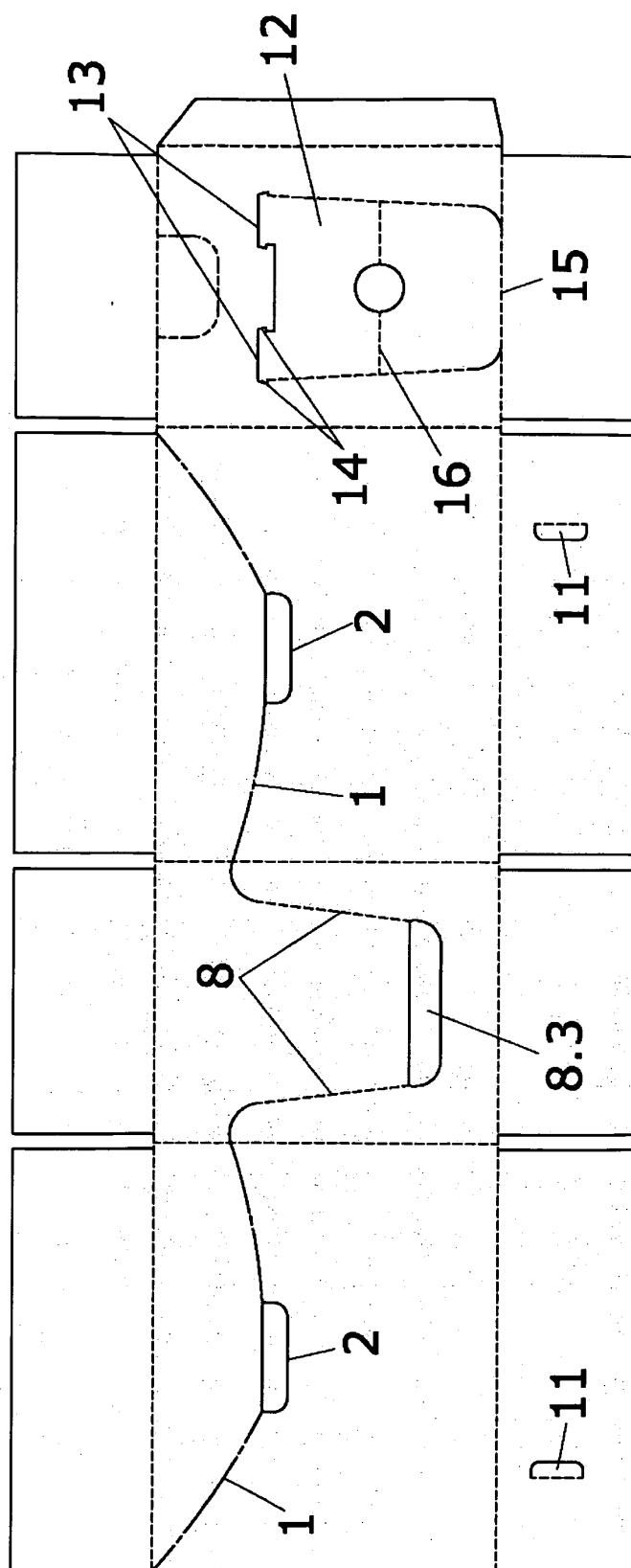


FIG. 7

REFERENCES CITED IN THE DESCRIPTION

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