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BOXES FOR TRANSPORTING AND DISPLAYING PRODUCTS

The present invention concerns counter display boxes which allow products packaged in individual packages to be both transported in batches, and to be displayed vertically in an attractive and orderly manner at the point of sales from the same boxes used for transporting them.

5 For products that do not have a well defined shape such as confectionary or an assortment of small unwrapped objects that can only be displayed loose, boxes made of corrugated cardboard, or of other materials, allowing products to be both safely transported and displayed in both modern and traditional distributions, are already known. GB Patent No. 2 281 065 and US Patent No. 4,066,205 disclose, for example,
10 parallelepiped boxes in which the front panel is able to be partially folded down, which allows the box to be placed on a shelf, making part of its content visible. Such boxes do not enable the products to be displayed in an orderly way giving the purchaser a difficult time to clearly identify the product of his choice.

The invention thus, more particularly concerns a box designed for transporting
15 products packaged in packages of elongated shape, which are not vertically stable by themselves, but nonetheless able to be displayed on shelves in the vertical direction owing to a particular arrangement and design of the cover or the box. A package of elongated shape without its own vertical stability consists, for example, a tetrahedral package with isosceles or equilateral triangular sides, which is easy and economical to
20 produce from a tubular shape closed at its ends by band seals located in planes perpendicular to one another. Such a package evidently does not allow vertical shelf display unless the shelves are especially designed for this purpose.

The invention thus concerns a box intended to transport elongated packages without vertical stability having at least one corner-shaped end, then to vertically
25 display in both modern and traditional distributions. The vertical position of said packages being made possible owing to the complementary structure of the corner ends formed in the cover or at the bottom of the box.

This complementary structure is formed by slots created from pre-cut portions and folds, said slots having a width provided such that the engagement of the ends is
30 limited to a determined height assuring both good stability and good visual display of the package. In another embodiment, the complementary structure is formed by an accordion shaped fold, able to be unfolded flat onto the bottom or fan-shaped, the V-shaped hollows having substantially the same dimensions as a part of the corner end of the packages.



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These complementary structures can be shaped in panels secured to the panels forming the box or in separate panels.

Other advantages and features of the invention will appear more clearly upon reading the following description of different embodiments given by means of

5 illustrative and non-limiting examples, in which:

- Figure 1 shows a first embodiment of a box in the closed position;
- Figure 2 shows the box of Figure 1 in tetrahedral package display mode;
- Figure 3 shows a second embodiment of an empty box in the open position;
- Figure 4 shows a variant of second embodiment shown in Figure 3.
- 10 - Figure 5 shows a third embodiment of an empty box in the open position;
- Figure 6 shows the box of Figure 5 in tube display mode;
- Figure 7 shows a fourth embodiment; and
- Figures 8A and 8B show in perspective respectively a tetrahedral package and a tube.

15 Figure 1 shows in perspective a parallelepiped box 1 enclosing, for the purpose of transport, elongated packages that are not vertically stable. These packages can be single-use, i.e. disposable after the product has been used, or for repeated usage if said packages include a sealing cap. In the first case this is generally a tetrahedral package with triangular sides like the one shown in Figure 8A,
20 a corner of which is torn off in order to consume the product. In the second case, this may be the tubes shown in Figure 8B, one end of which is sealed after filling, and the other end of which includes a cap of small size or rounded shape. The products contained in these packages can be extremely varied, such as food products (concentrated milk; condiments, etc.), beauty or health products (creams, medicated
25 ointments, etc.), products for craft activities (glue, filler, etc.) or artists (paints, etc.), products for which the client will make his choice visually, and for which it is thus necessary to have a counter display allowing a product or assortment of products to be clearly shown.

Box 1 includes in a conventional manner a bottom 5 surrounded by two side
30 panels 7, 9 each including in their top part a holding tongue 12, a front panel 6 and a back panel 8 extended by a flap hinged by folding to form cover 10 including on the side opposite the fold a closing tongue 11 that is then placed inside front panel 6. For transport, box 1 is closed and contains the aforementioned elongated packages. In order to display the packages on a shelf, cover 10 is provided with a plurality of rectangular
35 zones 13a, 13b, 13c each including pre-cut portions and folds for forming complementary structures to the corner ends of the packages. These rectangular zones 13a, 13b, 13c have been shown with their large sides parallel to side panels 7,

9, but they could equally be parallel to front and back panels 6, 8. The pre-cut portions are I-shaped including a longitudinal line 18 and two small transverse lines 20 connected to their ends by fold zones 21. As shown in rectangular zone 13a a small application of pressure allows the two small flaps 14, thus formed by pre-cut portions 18, 20 and folds 21, to be tipped inside the box to a slot 15. The width of slot 15 will evidently depend on the dimensions of the package and more particularly on the dimensions of its corner shape. Purely by way of indication, for a tetrahedral package that is approximately two times longer than its width, experiments have shown that the engagement height in the slot should be comprised between $\frac{1}{2}$ and $\frac{1}{3}$ of the length of said package, preferably $\frac{2}{5}$ of said length. For a tetrahedral package 9 cm long and 5 cm wide the engagement height will be approximately 3.5 cm and the width of the slot 2.5 cm.

In Figure 1 it can also be seen that panels 6, 7 and 9 include tear lines 16, 17, 19 for removing top parts 6b, 7b, 9b of said panels, so as to give side panels 7, 9 a trapeze rectangle shape. Sealing tongue 11 will then have to have as maximum width the length of the joining edge of panel 6a with panels 7a, 9a. Equally, top parts 6b, 7b, 9b could simply be folded down inside the box, provided there is a pre-cut portion in connecting angles 6b/7b and 6b/9b.

As can be seen in Figure 2, in this variant cover 10 has a certain inclination, which allows the packages to be offset vertically and to make them even more visible and attractive. Depending on the space left between each rectangular zone 13a, 13b, 13c, the packages can perfectly aligned with one behind the other or give the impression of being arranged in a quincunx as shown.

Box 2, shown in the open position in Figure 3, corresponds to a second embodiment wherein the complementary structure of the packages is formed on the bottom by two flaps 27 and 29 that can be unfolded from side panels 7a, 9a and can be made in the same flanks as the panels. It will be observed that the bottom can continue to be closed by one or two panels extending front panel 6 and/or back panel 8. Each flap 27, 29 includes on each of its edges unfolding lugs 27a, 27b; 29a, 29b which allow, as shown in the left part of the Figure, a bridge to be formed by pressing two central lugs 27b, 29b against each other. These lugs must have at least the engagement height of the corner ends as their width. The median parts of the flaps are structured as indicated in the first example to form slots 15.

Figure 4 shows a variant of this second embodiment. It can be seen that the two flaps 27, 29 now form only a single element 28, formed by a single independent flank of box 2. In the counter display mode, lugs 28a, 28b are applied against the inner surfaces of front panel 6a and back panel 8. Lugs 28a, 28b can have the same

width, or conversely lug 28b can be wider such that element 28 is inclined and provides a display of the packages comparable to that shown in Figure 2. For transporting the packages when the box is closed, element 28 can be turned over and pressed against the bottom of the box.

5 Figure 5 shows in perspective a box 3 corresponding to a third embodiment of wherein the complementary structure of the corner ends is also located in bottom 5 of box 3. This structure is accordion shaped 25 by means of folds 26. As previously indicated, this structure can be obtained either from one or two flaps secured to side panels 7a, 9a, or from an independent flap of box 3. The spacing between folds 26 is
10 a function of the width of box 3 and the engagement height H necessary to hold the packages properly. For transport, this accordion structure can obviously be folded against one or two panels of the box. It can also be seen that cover 10 includes, on either side of a pre-cut portion 23, two folds 22 which, as shown in Figure 6, allow an advertising message 24 or the prices of the articles contained in the display case to be
15 seen, when cover 10 is folded down at folds 22.

The display box of Figure 6 contains packages shown in Figure 8A, which may be alternatively that of shown in figure 8B.

Figure 7 shows in perspective a box 4 corresponding to a fourth embodiment which differs from the embodiment previously described in that the accordion structure
20 25 is unfolded in a fan-shape and held by half-discs 30 pre-cut in the bottom.

The boxes that have just been described can be made by any of the techniques known in this field, either from a single flank with or without bonding owing to sets of notches, slots and folds, or from several flanks by bonding. Modifications to the various embodiments described can be made by those skilled in the art without
25 departing from the scope of the present invention.

CLAIMS

1. Box for the transport and display of individual elongated packages with no vertical stability having at least one corner-shaped end, said box including a bottom (5), two side panels (7, 9), a front panel (6), a back panel (8) and a cover (10) hinged in one of the panels, said bottom (5) or cover (10) comprising flaps, characterised in that the cover (10) or the bottom (5) can be modified to form a complementary structure and in that said complementary structure is formed by said flaps, said structure allowing the corner ends of the packages to be engaged at a determined height to hold the latter in a vertical position.
2. Box according to claim 1, characterised in that the complementary structure is formed in the cover (10) by a plurality of rectangular zones (13, 13b, 13c) each including two flaps (14) obtained by pre-cut portions (18, 20) allowing them to be folded down inside the box along fold lines (21) parallel to their joining line to form a slot (15).
3. Box according to claim 1, characterised in that the complementary structure is formed on the bottom (5) by two flaps (27, 29) able to be unfolded from two opposite panels, each flap having in its median part a plurality of rectangular zones (13a, 13b, 13c) each including two flaps (14) obtained by pre-cut portions (18, 20) allowing them to be folded down inside the box along fold lines (21) parallel to their joining line to form a slot (15), and on each of their edges a lug (27a, 27b; 29a, 29b) having as width substantially the engagement height of the corner end in the slots, the lugs (27b, 29b) located at the ends of the two flaps (27, 29) abutting against each other.
4. Box according to claim 1, characterised in that the complementary structure is formed on the bottom by at least one flap (28) extending a panel and comprising a plurality of equidistant folds (26) parallel to said panel, allowing an accordion structure (25) to be obtained, the depth of each V-shaped hollow substantially corresponding to the engagement height of the corner end.
5. Box according to claim 4, characterised in that the accordion structure (25) is unfolded flat on the bottom (5) of the box.
6. Box according to claim 4, characterised in that the accordion structure (25) is unfolded in a fan-shape above the bottom (5) of the box.
7. Box according to any of claims 3 to 6, characterised in that the complementary structure is detachable from the box or formed in an independent flank of said box.
8. Box according to claim 1, characterised in that the panel opposite the connection to the cover and the two other adjacent panels include pre-cut lines for tearing off a strip to make the packages positioned vertically in the box more visible.

9. Box according to claim 1, characterised in that the complementary structure is designed to receive tetrahedral shaped packages.

10. Box according to claim 9, characterised in that the engagement height of a corner end of a tetrahedral package is comprised between $\frac{1}{2}$ and $\frac{1}{3}$ of the length of said package, preferably $\frac{2}{5}$ of said length.