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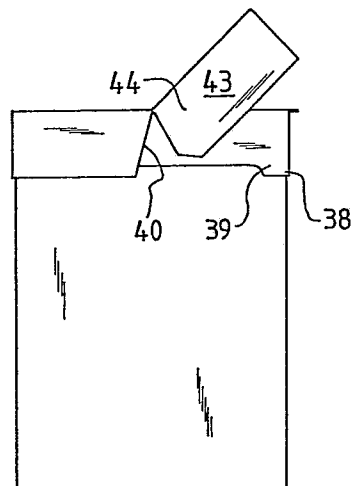
⑤④ **A package.**

⑤⑦ A folding box comprising four side wall panels, a joint panel and a bottom and a top closure, said top closure being arranged for forming an overlapping closure having a collar and comprising end panels integral with the side walls panels. One (15) of the panels is larger than the area of the folding box mouth.

In order to provide a reclosable cover said end flap (15) is arranged with a tearing and folding denotation (39, 40) originating from a point (38) at a collar height defining distance from at least one folding box region.

The tearing and folding denotation extends to a free edge of the end flap and forms a reclosable closure (43) which exposes a folding box cross-section which is less than the total cross-section area.

FIG. 4



Description

A Package

The present invention relates to a package comprising a folding box having four side wall panels, a joint panel and a bottom and top closure. More precisely, the package is of the type where the top closure is arranged for forming an overlapping cover having a collar and comprises end flaps integral with the side wall panels, one of the end flaps being larger than the folding box mouth.

Such a package represents a well established so-called folding box structure. Basically the package has excellent tightness, primarily powder tightness, basically by using the well established technique comprising the application of a so-called membrane on both or at least one of the folding box ends.

The basic folding box structure has a well developed and worked-through machinery program for the handling of the folding boxes. The known folding box does also allow reclosing and is easy openable. Generally the package is manufactured from cardboard material and may be punched out easily to the actual shape.

However, there is a need for a controlled pouring out of the contents of the package, i.e. it is desirable to be able to determine the pouring volume with a certain degree of accuracy and the pouring out of a too large filling volume in one step is not desirable.

Previously, folding boxes have been equipped with special pouring spout structures, such a one comprises a metal spout and another one uses a punched out flap in a folding box corner which when folded out forms a pouring spout.

Both structures, however, mean tampering of the tightness because the folding box wall is broken through.

The present invention provides a more favourable alternative and provides a package comprising a folding box having four side wall panels, a joint panel and a bottom and a top closure, said top closure being arranged for forming an overlap cover having a collar and further comprises end flaps integral with the side wall panels, one of which is larger than the folding box mouth.

The packaging structure is characterised by a tearing and folding denotation originating from a folding box corner region and having an extension at a collar height defining distance and extending the whole way out to a free edge of the end flap for forming a reclosable cover which exposes a folding box cross-section less than the total cross-section area.

In one embodiment a first portion of the said tearing and folding denotation extends generally parallel to the top closure, at said distance from the plane thereof, and thereafter a second portion follows and extends cross-wise the top closure.

In a further embodiment of the package, said first portion of the tearing and folding denotation has a punched out portion terminated by a short bridge of material acting as the initial breaking through region in a direction towards said folding box corner.

In order to increase the opening angle of the collar, said second end portion of the punched out region preferably merges into a tearing denotation in the collar inclined relative said corner.

Preferably, the opposite side of the collar has a corresponding, inclined tearing denotation.

Said inclined tearing denotations are connected by a folding denotation acting as a hinge for the closure.

The part of the collar opposite to the hinge is designed for forming a latching function together with a folding box end flap. Due to the location of said tearing and folding denotation the closure has a portion which is unfoldable to a pouring pipe arrangement. In order to obtain the tightness mentioned at the introduction, the package has a membrane or membranes sealed to the end flaps.

The invention will now be exemplified by reference to the accompanying drawings, where

Fig. 1 shows the inside of a planar folding box blank,

Fig. 2 shows the blank in Fig. 1 after erection of the folding box part,

Fig. 3 shows the same folding box after closing the folding box mouth by a membrane and after forming an overlapping lid,

Fig. 4 shows the folding box manufactured from the blank in

Fig. 5 after the box has been erected, closed and again opened, and

Fig. 5 shows an alternative embodiment of the blank.

The blank in Fig. 1 comprises four side walls 10, 11, 12 and 13 and a joint flap 13a. Integral with said side wall panels there are end flaps 14, 15, 16 and 17 at one end of the blank and end flaps 14', 15', 16' and 17' at the other end of the blank.

In a manner known per se, the panels are delimited from each other by creasing lines 18, 19, 20, 21, 22, 23, 24, 25 and 26.

The creasing line 18 forms the border between the side wall panel 11 and the end panel 14 which has a dimension larger than the folding box cross-section of the erected folding box as shown in for instance Fig. 2.

The subpanel 27 of the end flap 15 is, as also appears from Fig. 2, designed for being folded down and attached against the outside of the panel 11.

After having folded also the panels 28, 29, 30, 31, 32, 33, 34 and 35 90° relative the proper closure panel 36, the shape according to Fig. 3 is obtained, where a membrane 37 also has been shown sealed onto the flaps 14, 16 and 17 that have been folded out horizontally.

Between the panels 27 and 28, i.e. at the collar height defining level in Figs. 2 and 3 there is a punched out region 37, which at a short distance from the corner region 38 of the folding box is terminated by an initial breaking through region 39. Thus, this region is the one and only region which at the beginning keeps the overlapping cover in place

on the folding box after the completed closure has been attached to the folding box.

In Fig. 4 the region 39 is shown broken through and the closure partially opened along a perforation line 40 inclined relative the corner 38 and along a folding denotation 41, (Fig. 2) cross-wise the closure. This folding denotation is terminated in a perforation 42 at the opposite folding box side corresponding to the perforation 40. By this inclination of perforations, it becomes possible to open the closure 43 an angle larger than 90° relative the plane of the folding box mouth. It is also intended to maintain the side walls 44 of the closure 43 inside the folding box walls for providing a pouring spout function as mentioned at the introduction.

The punch out region 37 may for instance, be continued by a weakening denotation 45 if the total removal of the closure is desired.

In Fig. 1 the self-latching function of the reclosable closure is obtained by tearing away a subflap 16c, whereafter the remaining remote flap latches against the joint flaps 33, 35.

In Fig. 5 the sideflaps 33 and 35a are somewhat modified and latchable against a short flap 16c.

Although specific embodiments of the invention have been described, it is realized that modifications and alternatives are possible within the scope of the accompanying claims.

Claims

1. A package, comprising a folding box consisting of four side wall panels (10, 11, 12, 13) a joint panel (14) and a bottom and a top closure (14', 15', 16', 17'; 14, 15, 16, 17), said top closure being arranged for forming an overlapping lid (43) having a collar and comprising end flaps integral with the side wall panels, one (15) of said flaps being larger than the folding box mouth and integral with a side wall via two sub panels (27, 28), the one (28) distal relative the side wall defining the collar height, characterized in that said end flap (15) is provided with a tearing and folding denotation (39, 37, 40, 41, 42) extending from the region of at least one folding box corner (38) and having a first portion (37) generally parallel to the top closure, at the collar height defining distance from the plane thereof, and a second portion (40, 41, 42) following to the first one and extending cross-wise the top closure up to a free edge of the end flap (15) for forming a reclosable closure (43) that exposes a folding box cross-section less than the total cross-section area.

2. Package as in claim 1, characterized in that said first portion (37) of the tearing and folding denotation comprises a punched out section terminated by a short bridge of material (39) acting as an initial breaking through portion in a direction towards the said corner.

3. Package as in claim 2, characterized in that the second end portion of the cut-out section

merges into a tearing denotation (40) in the collar inclined towards said corner.

4. Package as in claim 3, characterized in that the opposite side of the collar has a corresponding inclined tearing denotation (42).

5. Package as in claim 4, characterized in that said inclined tearing denotation cooperates with a folding denotation acting as a hinge (41) for the closure.

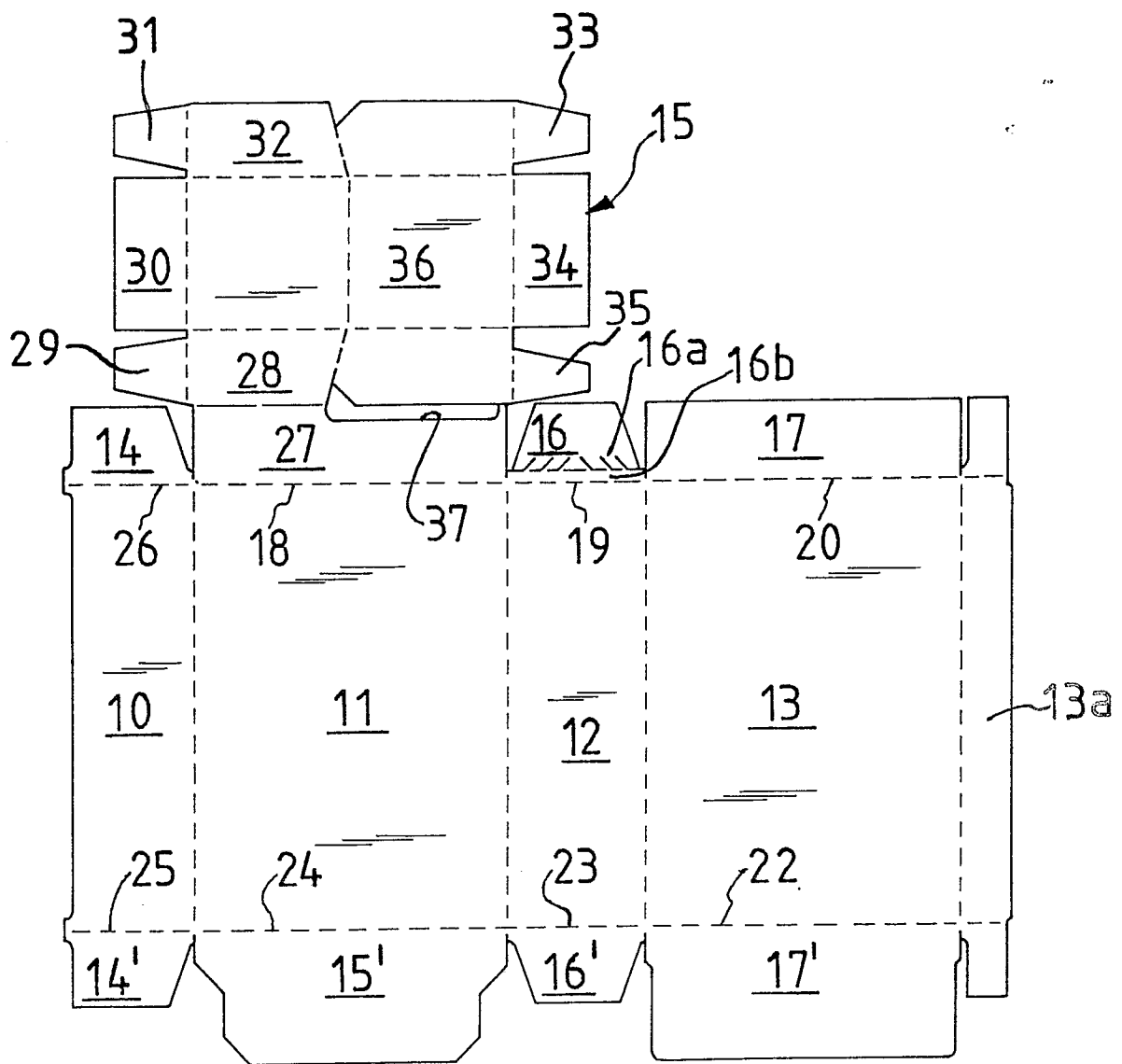
6. Package as in claim 5, characterized in that the part of the collar opposite to the hinge is designed for providing a latching function together with an end flap.

7. Package as in any one or any of the preceding claims, characterized in that the closure has a portion thereof turnable into an unfoldable pouring spout defined by said tearing and folding denotations (37, 40, 41, 42).

8. Package as in any one or any of the preceding claims, characterized in that the folding box is provided with at least one membrane sealed to a set of end flaps.

9. Package as in claim 1, characterized in that the first portion (37) of said tearing and folding denotation has a further portion (45) substantially rectilinear with the first and extending the whole way up to the next folding box corner.

FIG. 1



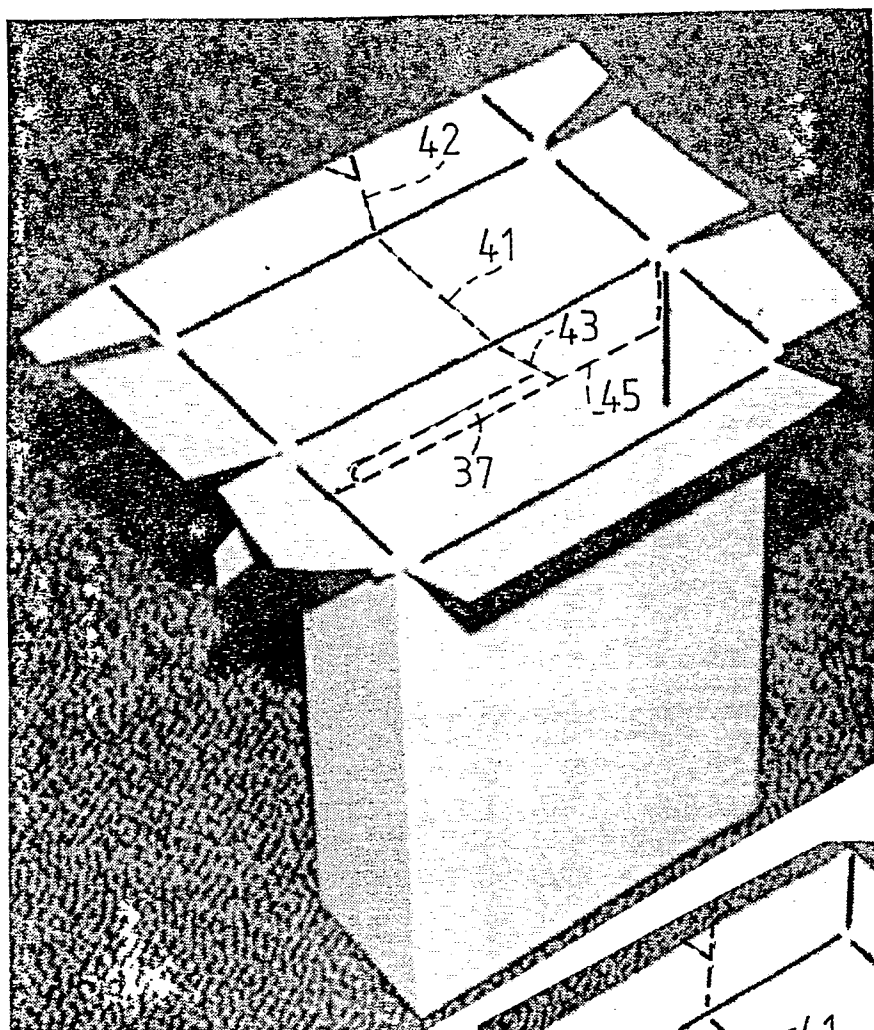


FIG. 2

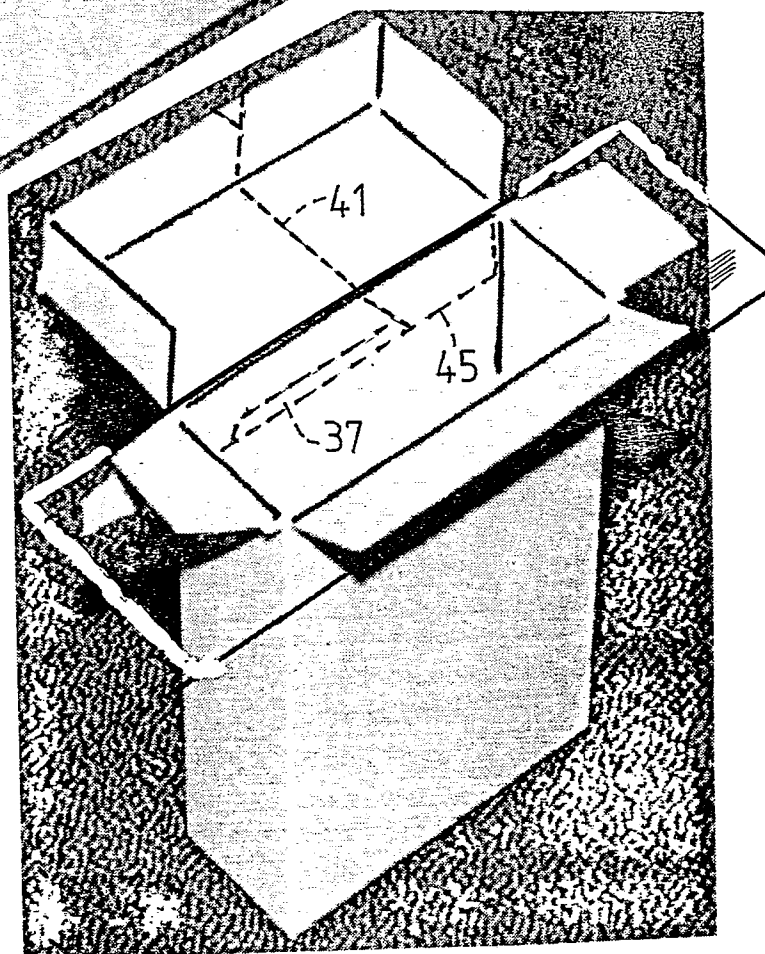


FIG. 3

FIG. 4

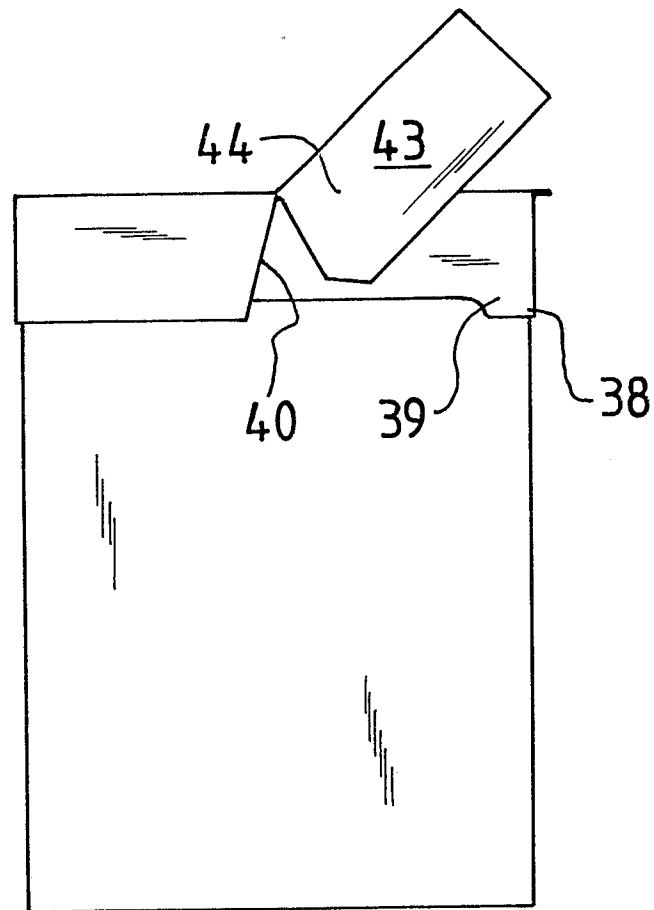


FIG. 5

