

(12) **UK Patent Application** (19) **GB** (11) **2471378** (13) **A**

(43) Date of A Publication

29.12.2010

(21) Application No: **1010373.7**
(22) Date of Filing: **21.06.2010**
(30) Priority Data:
(31) **0911014** (32) **25.06.2009** (33) **GB**

(51) INT CL:
B65D 5/32 (2006.01) **B65D 5/64** (2006.01)
(56) Documents Cited:
GB 1214995 A **FR 002878828 A1**
US 4657176 A **US 3410475 A**
US 2900122 A **US 2284959 A**

(71) Applicant(s):
DS Smith Packaging Limited
(Incorporated in the United Kingdom)
Hurdon Road, LAUNCESTON, Cornwall, PL15 9HN,
United Kingdom

(72) Inventor(s):
Roger Joseph Wonnacott

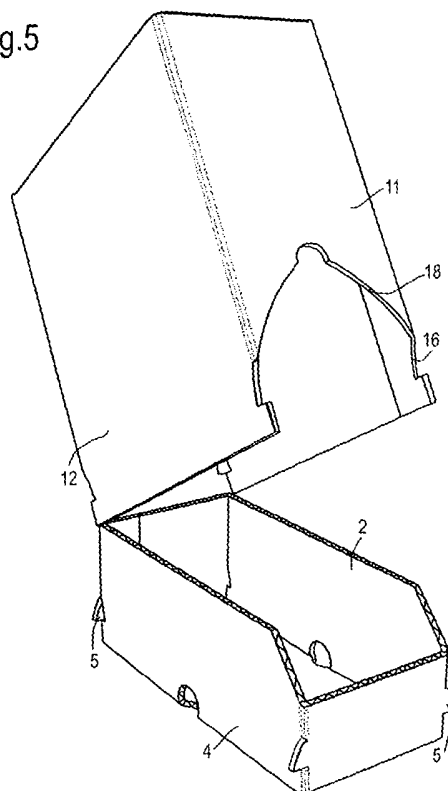
(74) Agent and/or Address for Service:
Bromhead Johnson
19 Buckingham Street, LONDON, WC2N 6EF,
United Kingdom

(58) Field of Search:
INT CL **B65D**
Other: **Online: EPODOC, WPI**

(54) Title of the Invention: **Blanks for a packaging carton**
Abstract Title: **Carton with lid having interlocking tabs and apertures**

(57) A set of two blanks of stiff but foldable board material for forming a packaging carton. A tray blank has a series of panels 1, 2, 3, 4 for forming vertical panels of a tray joined at crease lines. At least two cut-outs are formed, one on each of the crease lines, to form a projection 5 co-planar with the panel 1, 3 adjacent to that from which the projection is cut out. A lid blank has a series of panels 11, 12, 13, 14 for forming vertical panels of a lid joined at crease lines. Apertures 16 are formed in at least two of said crease lines for fitting over the projections 5 and securing the lid to the tray. A line of perforations (fig 3, ref 18) may define a tear off portion of the lid.

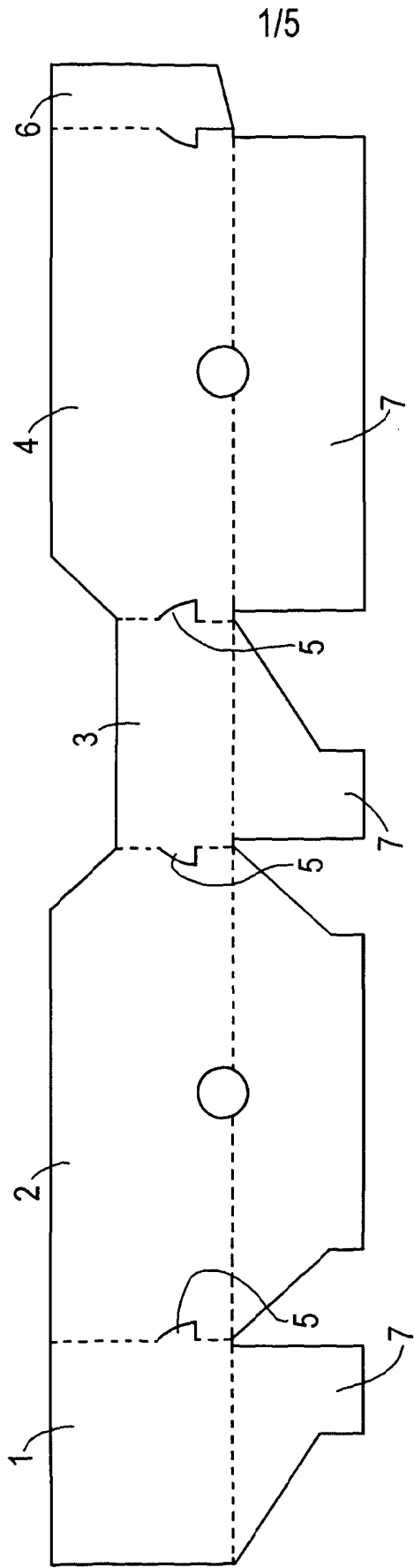
Fig.5



GB 2471378 A

330910

Fig.1



23 09 10

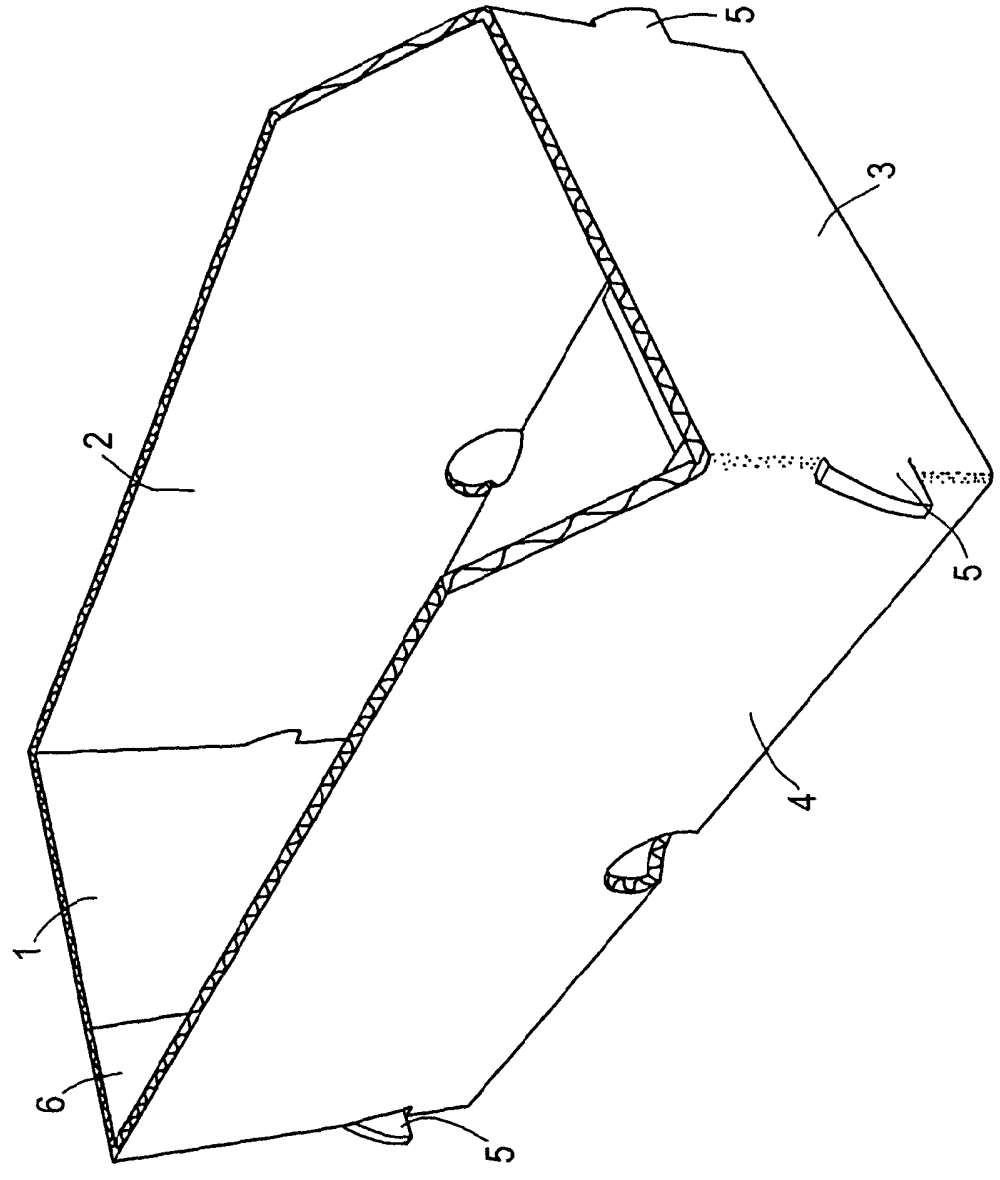


Fig.2

23 09 10

Fig.3

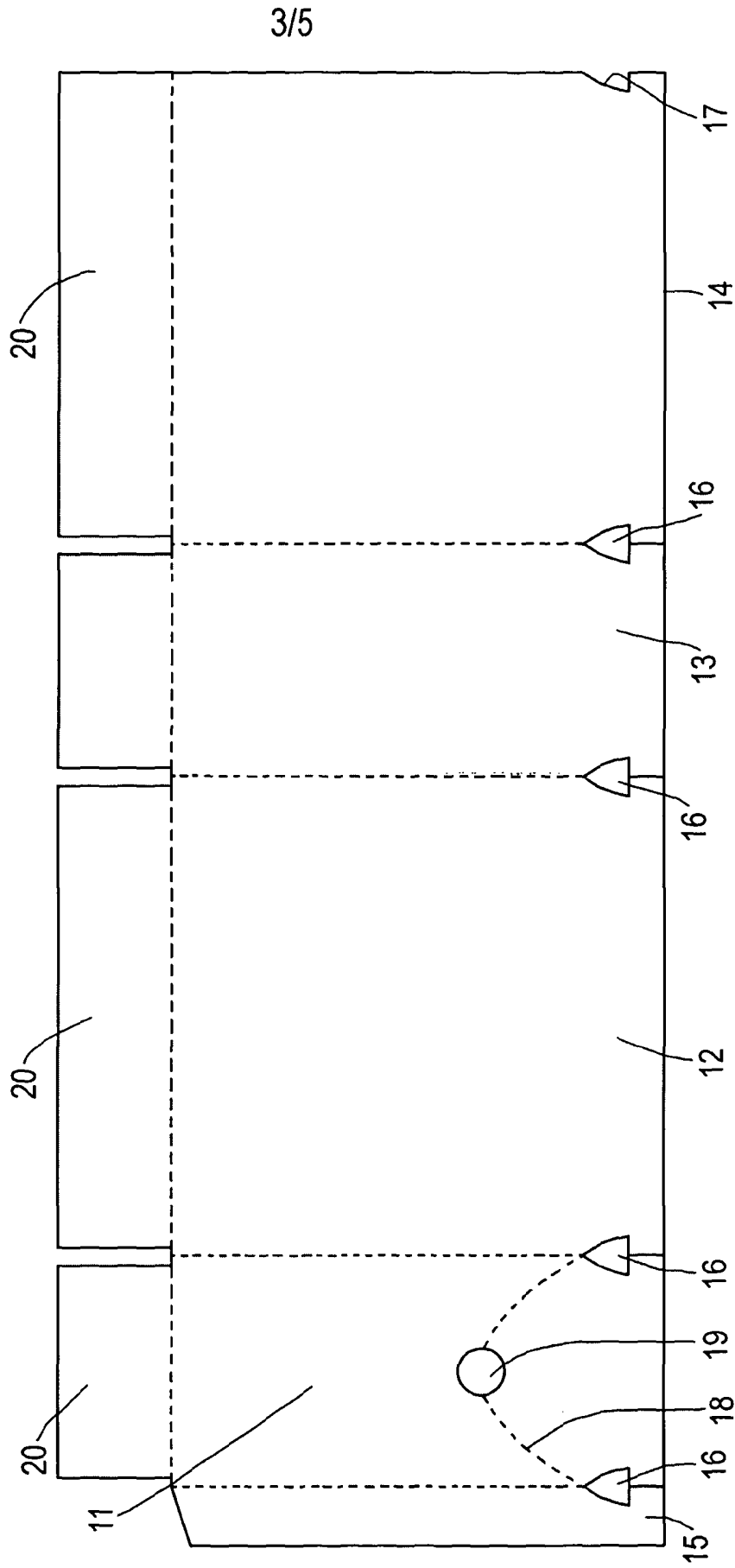


Fig.4

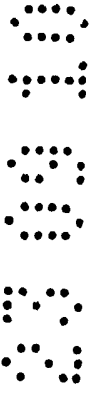
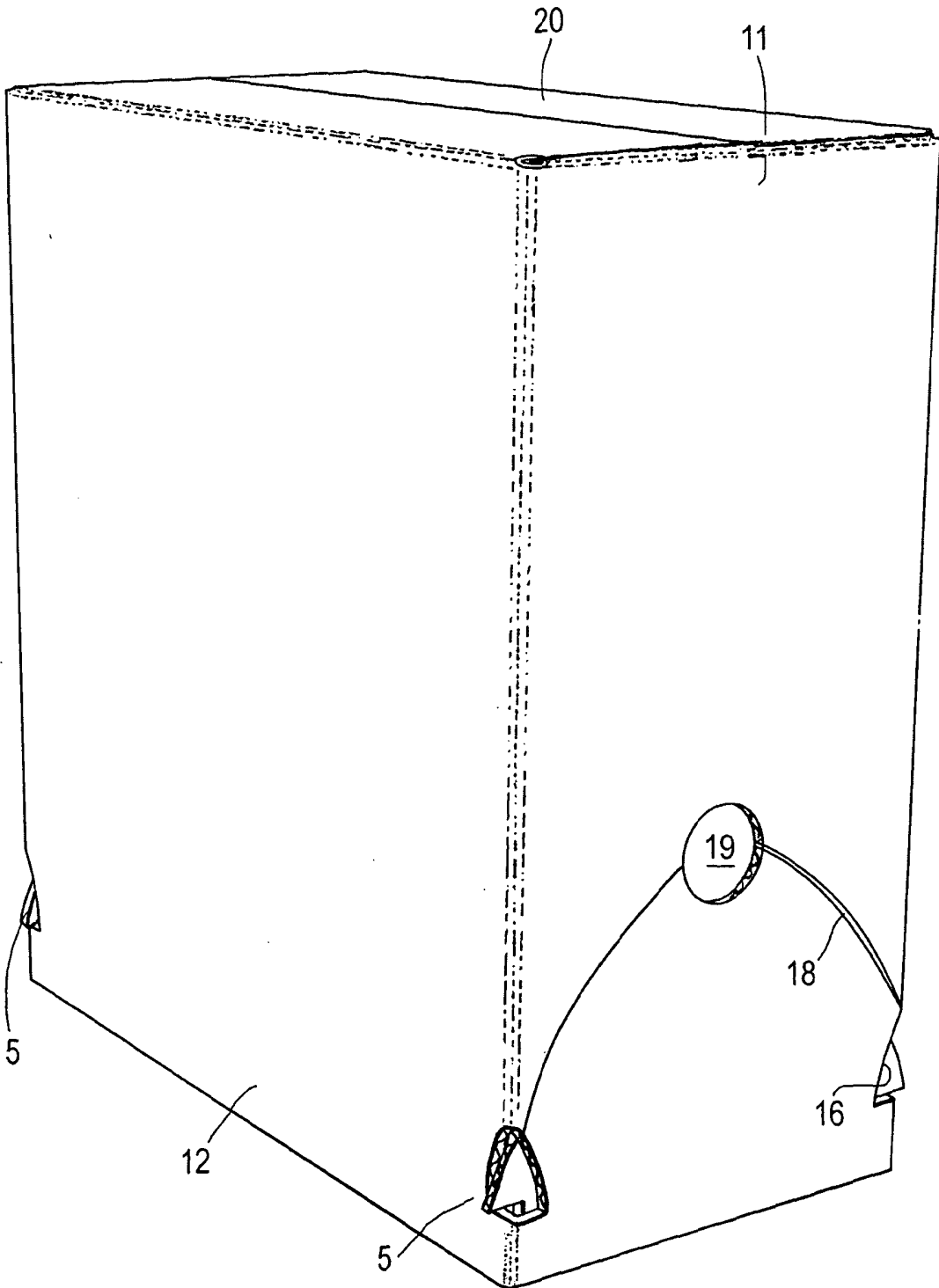
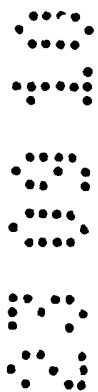
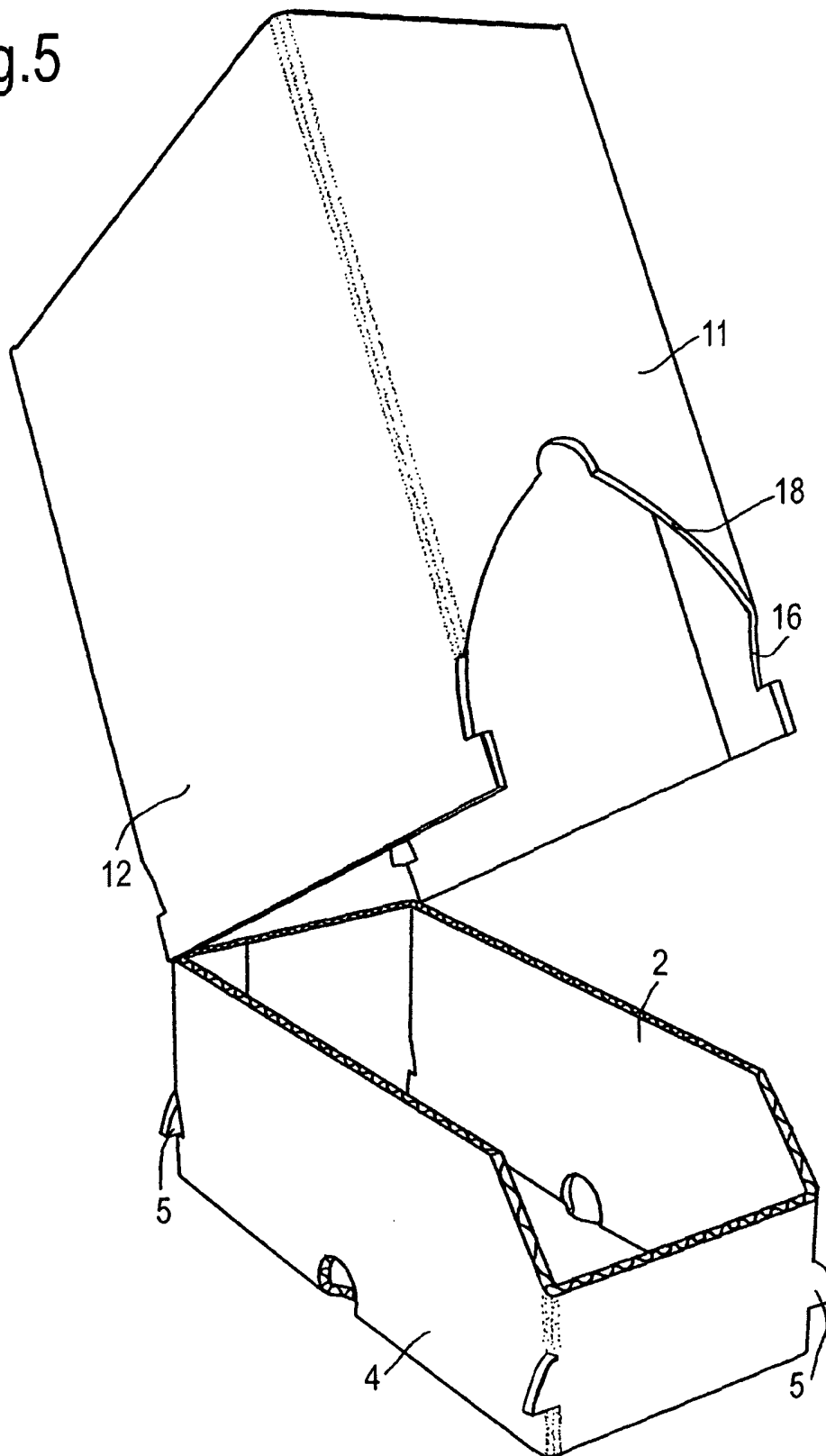


Fig.5



BLANKS FOR A PACKAGING CARTON

[0001] This invention relates to blanks for a packaging carton and to a packaging carton formed from the blanks.

[0002] It is an aim of the invention to form a two-part carton with a tray and a lid and means for positive engagement therebetween.

[0003] The invention provides a set of two blanks of stiff but foldable board material for forming a packaging carton, namely a tray blank having a series of panels for forming vertical panels of a tray joined at crease lines, at least two cut-outs each being formed on one of said crease lines, to form a projection co-planar with the panel adjacent to that from which the projection is cut out, and a lid blank having a series of panels for forming vertical panels of a lid joined at crease lines, apertures being formed in at least two of said crease lines for fitting over the projections and securing the lid to the tray.

[0004] The tray blank may have four cut-outs, one for forming a projection at each corner of the tray. The cut-outs may be arranged to form projections coplanar with a front panel and a rear panel of the tray. The cut-outs may have a downwardly-widening shape.

[0005] The lid blank may be formed with apertures in crease lines on either side of a front panel thereof. These front apertures may be joined by a line of perforations defining a tear-off part for removal of the lid. A finger hole may be formed in the line of perforations.

[0006] The invention also provides a packaging carton comprising a tray and a lid formed from the set of blanks defined above.

[0007] A particular embodiment of the invention will now be described in more detail, by way of example only, with reference to the accompanying drawings, in which:

[0008] Figure 1 shows a tray blank according to the invention;

[0009] Figure 2 shows a tray formed from the blank of Figure 1;

[0010] Figure 3 shows a lid blank;

[0011] Figure 4 shows a packaging carton formed from the blanks of Figures 1 and 3; and

[0012] Figure 5 shows the carton of Figure 4 in the process of removing the lid.

[0013] Figure 1 shows the inside of a tray blank formed from double-faced corrugated paperboard. In an alternative embodiment, the blank is formed from board with exposed flutes on its inner side to assist in retaining essentially planar objects within the tray.

[0014] The tray blank includes a rear panel 1, a right side panel 2, a front panel 3 and a left side panel 4, joined in a series by fold lines. The front panel 3 is shallower than the other panels, the side panels 2, 4 sloping downwards to the front panel.

[0015] Two projections 5 are cut out from each of the side panels 2, 4, one projection on each of the front and rear fold lines. The projections are located near the bottom of these lines and widen downwardly with a convex curved edge.

[0016] A tab 6 depends from the left side panel 4. Base panels 7 depend from each of the panels 1, 2, 3, 4.

[0017] Figure 2 shows a tray formed by folding the blank of Figure 1, gluing the tab 6 to the rear panel 1 and gluing the base panels 7 together. The projections 5 remain coplanar with the rear and front panels 1, 3 respectively and protrude from the tray.

[0018] Figure 3 shows the inside of a lid blank comprising a front panel 11, a left side panel 12, a rear panel 13 and a right side panel 14, joined in a series by fold lines. A tab 15 depends from the front panel 11.

[0019] Apertures 16 are present in each of the fold lines between the panels 11, 12, 13, 14 and in the fold line between the front panel 11 and the tab 15. The apertures 16 correspond in height to the projections 5 and have curved converging sides and a flat base. A half-aperture 17 is formed in the free edge of the right side panel 14.

[0020] An arched line of perforations 18 is formed in the front panel 11 between its two apertures 16. A finger hole 19 is formed at the apex of the line 18.

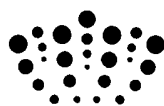
[0021] Top panels 20 extend from each of the panels 11, 12, 13, 14. To form the lid, the panels 11, 12, 13, 14 are folded into a tube and the tab 15 is glued to the right side panel 14, with the half-aperture 17 registering with the aperture 16 in the fold line between the front panel 11 and the tab 15. The top panels 20 are folded downwardly and glued together.

[0022] The assembled lid is then placed over a tray containing articles to form the packaging carton shown in Figure 4. The apertures 16 engage the projections 5 and lock the lid to the tray. The carton can then be placed on a shelf in a store.

[0023] In order to open the carton, the finger hole 19 is grasped and pulled downwardly. The portion of the front panel 11 below the line 18 is severed from the remainder of the panel along the line 18 and between the apertures 16 and the bottom of the panel 18. The lid can then be removed and the tray remains on the shelf, displaying the articles which can be removed therefrom.

CLAIMS

1. A set of two blanks of stiff but foldable board material for forming a packaging carton, namely a tray blank having a series of panels for forming vertical panels of a tray joined at crease lines, at least two cut-outs each being formed on one of said crease lines, to form a projection co-planar with the panel adjacent to that from which the projection is cut out, and a lid blank having a series of panels for forming vertical panels of a lid joined at crease lines, apertures being formed in at least two of said crease lines for fitting over the projections and securing the lid to the tray.
2. A set of blanks according to claim 1, wherein the tray blank has four cut-outs, one for forming a projection at each corner of the tray.
3. A set of blanks according to claim 1 or 2, the cut-outs are arranged to form projections coplanar with a front panel and a rear panel of the tray.
4. A set of blanks according to claim 1, 2 or 3, wherein the cut-outs have a downwardly-widening shape.
5. A set of blanks according to any preceding claim, wherein the lid blank is formed with apertures in crease lines on either side of a front panel thereof.
6. A set of blanks according to claim 5, wherein the apertures are joined by a line of perforations defining a tear-off part for removal of the lid.
7. A set of blanks according to claim 6, wherein a finger hole is formed in the line of perforations.
8. A set of two blanks of stiff but foldable board material for forming a packaging carton, substantially as described herein with reference to the accompanying drawings.
9. A packaging carton comprising a tray and a lid formed from the set of blanks according to any preceding claim.



Application No: GB1010373.7

Examiner: Mr Michael Prior

Claims searched: 1-9

Date of search: 12 October 2010

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-4, 9	US 3410475 A (WAGNER) See whole document
X	1-4, 9	GB 1214995 A (BOWLER) See whole document
A	-	US 2900122 A (STEINER) -
A	-	US 2284959 A (WALDORF) -
A	-	US 4657176 A (MATSUBARA) -
A	-	FR 2878828 A1 (CHABOT) -

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

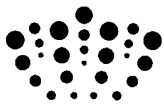
Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

B65D

The following online and other databases have been used in the preparation of this search report

Online: EPODOC, WPI



International Classification:

Subclass	Subgroup	Valid From
B65D	0005/32	01/01/2006
B65D	0005/64	01/01/2006