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(54) **BOX FOR PACKAGING AND METHOD OF REMOVING ADHESIVE FROM SUCH A BOX**

VERPACKUNGSSCHACHTEL UND VERFAHREN ZUM ENTFERNEN EINES KLEBEBANDS VON
EINER SOLCHEN SCHACHTEL

BOÎTE D'EMBALLAGE ET MÉTHODE POUR ENLEVER UN ADHÉSIF DE CETTE BOÎTE

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EP 2 688 807 B1

Description

Field of the Invention

[0001] The present invention relates to a box for packaging and to methods of removing adhesive tape from the box.

Background of the Invention

[0002] The reference in this specification to any prior publication (or information derived from it), or to any matter which is known, is not, and should not be taken as an acknowledgment or admission or any form of suggestion that that prior publication (or information derived from it) or known matter forms part of the common general knowledge in the field of endeavour to which this specification relates.

[0003] Boxes for packaging typically include an aperture for inserting and removing goods, and one or more panels that may be secured over the aperture using adhesive tape. When removing goods from such boxes, the adhesive tape is usually cut using a knife to allow the panels to be opened, thereby providing access to the box. This results in delays due to time wasted in searching for a knife, risk of injury due to accidental cuts from using the knife, and potential damage to the packaged goods if the knife is inserted too deeply into the adhesive tape. Attempts at opening the box without a knife can be frustrating, time consuming and is often not possible. Furthermore, if the box is to be recycled the adhesive tape must first be removed, adding further operating costs to the recycling process.

[0004] Japanese Application No. 08083310 describes a box with an easily breakable auxiliary flap surrounded by perforations. When adhesive tape is applied to the box, it is stuck to the auxiliary flap. Separation of the auxiliary flap from the box by use of the perforations results in the end of the adhesive tape being removed together with the auxiliary flap. The adhesive tape is then peeled off by pulling the auxiliary flap. However, removal of the adhesive tape results in a hole in the side of the box, which makes the box unsuitable for reuse.

[0005] US Application No. 11/233,502 describes a box with at least one perforated access panel in at least one end portion of a corrugated packaging box. The panel includes a punch-in section and a tear-away section. A length of tape is applied to seal the box, and an end of the tape resides at least partially over the tear-away section. By pushing in the punch-in section the tear-away section becomes accessible. If an individual pulls on the tear-away section, both the tear-away section and the tape are torn from the box. However, in removing the tape the punch-in section and tear-away section are also removed from the box. This leaves a hole in the side of the box, making it unsuitable for reuse.

[0006] Accordingly, there is a need to provide a box for packaging which allows removal of the adhesive tape

used to seal the box, and which is suitable for reuse.

[0007] GB2342914A discloses a container formed from a blank e.g. of cardboard has two cooperating closure panels which are sealable closed along a junction line therebetween by a strip of adhesive tape one of whose ends extends on to an adjacent panel. The panel is formed with a cut to enable a user to access the under side of the end of the tape and thus grip the same to strip it off. The cut is substantially in line with the junction line and preferably separates two parts having upper edges bounded by an arcuate cut.

[0008] JP2003072748A discloses a packaging box made of paper. The box includes two sets of opposite side plates, bottom plate forming flaps connected with lower ends of the side plates, and upper lid forming flaps connected with upper ends of the side plates. The upper lid forming flaps connected with the upper ends of one of sets of the side plates among the two sets of the side plates are first folded, and subsequently the flaps connected with the upper ends of the other set of the side plates are folded, thereby forming an upper lid. A sealing tape is glued along a butted portion of the flaps connected with the upper ends of the other set of side plates to allow the upper lid to be closed. A U-shaped cut is formed in the vicinity of the widthwise center of the side plate in the vicinity of the upper end of at least one of the side plates of the set of the side plates, and in addition a crease is formed at the upper end of the cut.

[0009] GB2388837A discloses packaging formed from foldable sheet material, of the kind having a closure flap securable by applied adhesive tape, comprises a pull-out portion lying along the line of application of the adhesive tape, aiding separation of the tape from the packaging for opening. The pull-out portion may comprise an aperture over which the tape is applied or a removable tab, preferably defined by a line of weakness, to which the tape is adhered. An aperture, push-out-flap or punch-out region may be provided adjacent the tab. The pull-out portion preferably receives an end of the tape.

[0010] JPH03100118U and JPH06006229U each disclose examples of boxes formed from corrugated paper including a flap defined by perforations which can be folded to expose an edge of tape sealing the box, for removal of the tape.

[0011] GB2194935A discloses a container in the form of a cardboard box for envelopes whhaving abutting hinged lid panels closed by self adhesive tape which extends over a removable portion of container wall bounded by perforations. To open the box, the portion is pushed inwardly, to provide access to the side of the tape adhering to the box. The tape is then gripped manually in the aperture produced by the inwardly pushed portion, and the tape is then pulled from the box to release the lid panels.

[0012] US6047882A discloses a method of making a box blank, the blank, and the resulting box are disclosed. The box contains a tab for simplifying the opening of the box once it is taped shut in the usual manner. The tab

contains an adhesive upper portion and a non-adhesive lower portion. When the box is taped shut, the tape covers a portion of the tab. The tab is pulled up, releasing the adhesive portion of the tab and the adhered tape. By further pulling, the entire tape may be removed. The tab may be opened and closed repeatedly. A part of the adhesive portion of the tab may be scored and treated with a more adherent adhesive to provide tampering detection. The side of the box may be scored or scored and cut to form a tab. The adhesive sealing tape covers a portion of the tab. The tab may be pushed in to allow grasping and removal of the tape or the tab may be pulled out to allow removal of the tape. Holes are placed on the side of the box and are partially covered by tape, allowing grasping of the end of the tape and removal of the tape by pulling.

Summary of the Invention

[0013] In a first broad form, the present invention seeks to provide a box for packaging as defined in claim 1 and the dependent claims.

Brief Description of the Drawings

[0014] An example of the present invention will now be described with reference to the accompanying drawings, in which:

- Figure 1 is a plan view of a die cut of a first example box for packaging;
- Figure 2 is a plan view of a die cut of a second example box for packaging;
- Figure 3 is a plan view of a die cut of a third example box for packaging;
- Figure 4 is a plan view of a die cut of a fourth example box for packaging;
- Figure 5 is a plan view of a die cut of a fifth example box for packaging;
- Figure 6 is a plan view of a die cut of a sixth example box for packaging;
- Figure 7 is a perspective view of the first example box for packaging, when assembled;
- Figure 8 is a perspective view of the first example box for packaging, when assembled and to which adhesive tape is affixed to the securing panels to secure the aperture closed;
- Figure 9 is a perspective view of the fifth example box for packaging, when assembled and to which adhesive tape is affixed to the securing panels to secure the aperture closed;
- Figure 10 is a perspective view of a seventh example box for packaging, to which adhesive tape is affixed to the securing panels to secure the aperture closed; and
- Figure 11 is a perspective view of an eighth example box for packaging, to which adhesive tape is affixed to a single securing panel to secure the aperture

closed.

Detailed Description of the Preferred Examples

- [0015] Examples of a box for packaging will now be described with reference to Figures 1 to 11. Some of these examples may show embodiments which do not fall within the scope of the invention as defined claim 1.
- [0016] The box (1) for packaging includes a number of wall panels arranged to provide an aperture (2) for packing or unpacking the box (1). One or more securing panels (4) are typically coupled to the wall panels to operatively secure the aperture (2) closed using adhesive tape (10). At least one of the wall panels (6) has a flap (8) that is configured to hingeably open to thereby assist in removing the adhesive tape (10) from the one or more securing panels (4).
- [0017] When sealing the box (1), the one or more securing panels (4) are folded so that they close the aperture (2). Following this, adhesive tape (10) is applied so that the tape at least partially traverses the flap (8), and contacts the one or more securing panels (4) to secure the aperture (2) closed. When the user wishes to open the box (1), the flap (8) is hingeably opened, for example by applying a force to the flap (8) thereby pushing the flap (8) into the box (1), which at least partially separates the adhesive tape (10) at this location. This allows the adhesive tape (10) to be grasped by the user and then pulled, thereby removing the adhesive tape (10) from the flap and hence the box (1), whilst leaving the flap attached to the box (1). If after this initial use the user wishes to reuse the box (1), the flap (8) may be pushed back into alignment with the wall panel (6), so that the box (1) may be fully resealed and reused.
- [0018] Further example features will now be described in further detail.
- [0019] Figures 1 to 6 represent six example die cuts of a box (1) for packaging. Boxes may be assembled from the die cut by joining end panel (12) with the end of a wall panel (14), thereby forming a rectangle. For example, adhesives or staples may be used to join the end panel (12) with the end of the wall panel (14), although any other suitable joining method may be used.
- [0020] The box (1) may be in a flattened form, as shown in Figure 1 to 6, or may be fully or partially assembled, as shown in Figure 7 to 11.
- [0021] The aperture (2) is an opening in the box (1), through which goods may be packed or unpacked. For example, when boxes are assembled from any of the six example die cuts shown in Figures 1 to 6, two apertures (2) are formed. The aperture (2) may be of any suitable shape, such as rectangular (as in Figures 1 to 7), square, circular, or oval. The example box (1) illustrated in Figure 10 has a circular aperture that has been secured with two securing panels (4).
- [0022] The box (1) also includes one or more securing panels (4) adapted to operatively secure the aperture (2) closed using adhesive tape (10). The securing panels (4)

are configured to close the aperture (2) when folded into position. Contacting the adhesive tape (10) with the securing panels (4) then secures the aperture (2) closed. The aperture (2) may be secured closed using only one securing panel (4), as illustrated in Figure 11. Alternatively, two securing panels (4) may be used to secure the aperture (2) closed, as illustrated in Figures 1 to 10. More than two securing panels (4) may also be used.

[0023] The box (1) also includes one or more wall panels (6). The example illustrated in Figure 10 includes a single cylindrical wall panel. On the other hand, four wall panels (6) are present in the examples illustrated in Figures 1 to 9 and 11. However, boxes of other shapes may have any number of wall panels (6).

[0024] At least one of the wall panels (6) includes a flap (8) which is configured to hingeably open. As used herein, the term "flap" applies to any hingeable portion, which is typically integrally formed as part of a wall panel (6). The term "hingeably open" applies to any arrangement in which the flap is able to fold or otherwise move out of alignment with the wall panel (6), for example through deformation of part of the wall panel (6). The flap (8) hingeably opens along a fold in the wall panel (6).

[0025] In various examples, the box (1) may include one wall panel (6) with at least one flap (8), two wall panels (6) with at least one flap (8), or three or four wall panels (6) with at least one flap (8). The examples illustrated in Figures 1 to 5 all include two wall panels (6) with at least one flap (8). However, and as illustrated in Figure 6, all of the wall panels (6) may include at least one flap (8). In the example illustrated in Figure 6, it is intended for a first length of adhesive tape (10) to be applied along the join formed between the securing panels (4) when they are folded to close the aperture (2), as well as a second length of adhesive tape (10) to be applied perpendicular to this join.

[0026] In a further example, the box (1) may be configured so that the adhesive tape (10) is not to be applied along a join formed between two or more securing panels (4) when they are folded to close the aperture (2). Instead the box (1) may be configured so that a length of adhesive tape (10) is to be applied, for example, perpendicular to the join.

[0027] In one example, the wall panel (6) includes a perforated region (16) that is configured to divide when hingeably opening the flap (8) of the wall panel (6). Dividing the perforated region (16) allows the flap (8) to be hingeably opened. However, in other examples at least some of the boundaries of the flap (8) may be pre-cut. The term "perforated region" relates to a portion of the wall panel (6) which includes a number of perforations, especially in a line, which may be divided to thereby allow the flap (8) to open.

[0028] The perforated region (16) may be configured to divide in various configurations, and some of these are illustrated in the Figures. For example, the perforated region (16) may be configured to divide along a curved line, as illustrated in Figure 2. Advantageously, if the per-

forated region (16) divides along a curved line it is believed that this minimises any compromise to the structural integrity of the box (1) when the flap (8) is hingeably opened, as the curved shape limits bending and folding under sideways pressure, which could potentially crush the box (1) and its contents.

[0029] In another example, the perforated region (16) may be configured to divide along one or more substantially straight lines. Figure 3 illustrates an example box (1) in which the perforated region (16) is configured to divide along three substantially straight lines.

[0030] In various examples, the hinge of the flap (8) may be situated between the perforated region (16) and the nearest edge of the wall panel (6), or the perforated region (16) may be situated between the hinge of the flap (8) and the nearest edge of the wall panel (6). The examples of Figures 2 and 3 illustrate both configurations.

[0031] Any perforated regions (16) are especially distanced from junctions of panels in the box (1), for example the junction between wall panel (6) and securing panel (4), so as to not compromise the structural integrity at these locations.

[0032] The wall panel (6) may also include two or more flaps (8), especially two flaps (8) that are configured to hingeably open such that when adhesive tape is applied to the securing panels (4) to secure the aperture (2) closed, the tape at least partially traverses the two or more flaps (8).

[0033] According to the invention, the wall panel (6) includes two flaps (8) that are configured to hingeably open, wherein the two flaps (8) share a perforated region (16) that is configured to divide when opening the two flaps (8). The two flaps (8) are especially configured to hingeably open parallel to each other. Figures 1 and 4-11 illustrate examples of such configurations.

[0034] In these configurations, there are three perforated regions (16) that are configured to each divide when hingeably opening the two flaps (8). These examples all include two perforated regions (16a, 16b) that are configured to divide along a curved line, and one perforated region (16c) that is configured to divide along a substantially straight line. In the examples illustrated in Figures 1 and 5-11, the two perforated regions (16a, 16b) together define a convex shape. However, in the example illustrated in Figure 4, the two perforated regions (16a, 16b) together define a concave shape.

[0035] When there are two or more perforated regions (16), they may be configured to divide along any combination of curved, jagged, or substantially straight lines.

[0036] The box (1) also may be configured so that when a length of adhesive tape (10) is applied to the one or more securing panels (4) to secure the aperture (2) closed, only one end of the adhesive tape (10) at least partially traverses one or more of the flaps (8). Figures 1-4 and 6 illustrate such configurations. In another example, the box (1) may be configured so that when the adhesive tape (10) is applied to the one or more securing panels (4) to secure the aperture (2) closed, both ends

of the adhesive tape (10) at least partially traverse one or more flaps (8), as illustrated in Figure 5, allowing the tape to be removed from either end or both ends.

[0037] In another example, the box (1) includes two apertures (2) for packing or unpacking the box (1) and at least two securing panels (4) adapted to operatively secure each aperture (2) closed using adhesive tape (10), and wherein at least one wall panel (6) includes at least two flaps (8) that are configured to hingeably open to thereby assist in removing the adhesive tape (10) from the at least two securing panels (4). An example of this configuration is illustrated in Figure 5.

[0038] In a further example, the box (1) includes two apertures (2) for packing or unpacking the box (1) and at least two securing panels (4) adapted to operatively secure each aperture (2) closed using adhesive tape (10), and wherein at least two wall panels (6) each include at least one flap (8) that is configured to hingeably open to thereby assist in removing the adhesive tape (10) from the at least two securing panels (4). Examples of this configuration are illustrated in Figures 1 to 6.

[0039] It will be appreciated that the above described arrangements allow the tape to be removed from the securing panels used to secure each of the apertures (2), which in turn allows the box to be returned to a flat pack arrangement, for example to allow a box to be easily stored or transported after use.

[0040] The presence of a flap (8) that is configured to hingeably open, especially when the flap (8) opens along a fold in the wall panel (6) (such as when the box (1) is formed from cardboard), results in a number of advantages. In particular, such configurations may only require minimal changes to existing processes for the manufacture of boxes and may not require any additional materials to be incorporated into the existing design. This is especially the case when the box (1) is formed from cardboard. Furthermore, this allows the flap (8) to be realigned with the wall panel (6), and held in position, for example using tape, allowing the box to be reused.

[0041] The box (1) may also include a reinforcer (18) around the flap (8) that hingeably opens, thereby improving the structural integrity of the box (1). The reinforcer (18) may, for example, be in the form of a member positioned on a wall panel (6) so that it abuts one or more perforated regions (16), as shown in Figure 2. In some examples, the reinforcer (18) may be solid or, for example, formed from folded cardboard. The reinforcer (18) may be formed integrally with the remainder of the box (1), or it may be affixed to the remainder of the box (1), for example with staples or adhesive. The reinforcer (18) may assist in maintaining the structural integrity of the box (1), or it may be used to reinforce the wall panel (6) such that when the flap (8) is hingeably opened a handhold for lifting the box (1) is provided.

[0042] The box (1) includes adhesive tape (10), and the adhesive tape (10) is especially in contact with at least one securing panel (4) to secure at least one aperture (2) closed. In one example, the adhesive tape (10)

traverses at least one of the flaps (8), as illustrated in Figures 8 to 11. In this example, the tape is positioned so that it remains affixed to the wall panel (6) when at least one of the flaps (8) is hingeably opened. This assists to separate the adhesive tape (10) from the wall panel (6), which then allows the user to grasp the separated adhesive tape (10) and pull the adhesive tape (10) from the box (1).

[0043] The type of adhesive tape (10) selected for use depends upon the material from which the box (1) is formed. The adhesive tape (10) must bind strongly enough to secure the aperture (2) closed by contacting the at least one securing panel (4), whilst not binding so strongly that the adhesive tape cannot be removed without destroying the box (1). For example, if the box (1) is made from metal a stronger adhesive tape (10) may be used than if, for example, the box (1) is made from cardboard. In one example, the adhesive tape (10) is especially packaging tape or masking tape, although any other suitable tape may be used.

[0044] The box (1) may also be formed from various materials, such as metal, plastic or a cellulosic material such as wood, paper or cardboard. In one example, the box (1) is formed from cardboard.

Claims

1. A box (1) for packaging, the box (1) including:

- (i) an aperture (2) for packing or unpacking the box (1);
- (ii) one or more securing panels (4) adapted to operatively secure the aperture (2) closed;
- (iii) adhesive tape (10) in contact with the one or more securing panels (4) to secure the at least one aperture (2) closed; and
- (iv) a wall panel (6), wherein the adhesive tape (10) traverses two flaps (8) of the wall panel (6), the two flaps (8) being configured to hingeably open parallel to each other to thereby assist in removing the adhesive tape (10) from the one or more securing panels (4),

wherein the wall panel (6) includes three perforated regions (16a, 16b, 16c) that are configured to each divide when hingeably opening the two flaps (8) along any combination of curved, jagged, or substantially straight lines, the two flaps (8) share one of the perforated regions (16c), **characterised in that** the two flaps hingeably open along parallel folds in the wall panel, wherein the adhesive tape (10) is aligned perpendicular to the parallel folds.

2. The box (1) according to claim 1, wherein at least one of the perforated regions (16a, 16b, 16c) is configured to divide along a curved line.

3. The box (1) according to any one of claims 1 to 2, wherein two of the perforated regions (16a, 16b) are configured to divide along a curved line and one of the perforated regions (16c) is configured to divide along a substantially straight line. 5
4. The box (1) according to any one of claims 1 to 3, wherein the box (1) includes a second wall panel (6) including two second flaps (8) that are configured to hingeably open. 10
5. The box (1) according to any one of claims 1 to 4, wherein the box (1) includes a second aperture (2) for packing or unpacking the box (1) and at least two second securing panels (4) adapted to operatively secure the second aperture (2) closed using second adhesive tape (10), and wherein the wall panel (6) includes at least two second flaps (8) that are configured to hingeably open to thereby assist in removing the second adhesive tape (10) from the at least two second securing panels (4). 15 20
6. The box (1) according to any one of claims 1 to 4, wherein the box (1) includes a second aperture (2) for packing or unpacking the box (1) and at least two second securing panels (4) adapted to operatively secure the second aperture (2) closed using second adhesive tape (10), and wherein a second wall panel (6) includes at least two second flaps (8) that are configured to hingeably open to thereby assist in removing the second adhesive tape (10) from the second securing panels (4). 25 30
7. The box (1) according to claim 6, wherein the wall panel (6) and the second wall panel (6) are provided on opposing ends of the box (1). 35
8. The box (1) according to any one of the claims 1 to 7, wherein each flap (8) includes a hinge. 40
9. The box (1) according to any one of the claims 1 to 8, wherein each flap (8) remains attached to the box (1) after the adhesive tape (10) is removed. 45
10. The box (1) according to claim 1, wherein the box (1) is reusable. 50
11. The box (1) according to any one of claims 1 to 10, wherein the box (1) is formed from at least one of:
cellulosic material; and,
cardboard. 50
12. A method of removing adhesive tape (10) from a box (1) according to any one of claims 1 to 11, wherein the method includes: 55
(i) hingeably opening the two flaps (8) of the wall

panel (6), thereby at least partially separating the adhesive tape (10) from the wall panel (6);
(ii) grasping the at least partially separated adhesive tape (10); and
(iii) pulling the grasped adhesive tape (10), thereby removing the adhesive tape (10) from the box (1).

10 Patentansprüche

1. Schachtel (1) zum Verpacken, wobei die Schachtel (1) enthält:
(i) eine Öffnung (2) zum Packen oder Entpacken der Schachtel (1);
(ii) eine oder mehrere Verschlussplatten (4) angepasst zum wirksamen Verschließen der geschlossenen Öffnung (2);
(iii) Klebeband (10), im Kontakt mit der einen oder mehreren Verschlussplatten (4), um die zumindest eine verschlossene Öffnung (2) im verschlossenen Zustand zu sichern; und
(iv) eine Wandplatte (6), wobei das Klebeband (10) über zwei Klappen (8) der Wandplatte (6) läuft, wobei die zwei Klappen (8) konfiguriert sind, um schwenkbar, parallel zueinander zu öffnen und hierdurch bei der Entfernung des Klebebandes (10) von der einen oder mehreren Verschlussplatten (4) zu unterstützen,
wobei die Wandplatte (6) drei perforierte Gebiete (16a, 16b, 16c) enthält, die so konfiguriert sind, dass jede sich auftrennt, wenn die Klappen (8) schwenkbar geöffnet werden entlang jeder Kombination von gebogenen, gezackten oder im Wesentlichen geraden Linien, die zwei Klappen (8) teilen sich eines der perforierten Gebiete (16c), **dadurch gekennzeichnet, dass** die zwei Klappen schwenkbar entlang von parallelen Falten in der Wandplatte öffnen, wobei das Klebeband (10) senkrecht zu den parallelen Falten ausgerichtet ist. 15 20 25 30 35 40 45 50
2. Schachtel (1) nach Anspruch 1, wobei mindestens eines der perforierten Gebiete (16a, 16b, 16c) konfiguriert ist, um sich entlang einer gebogenen Linie aufzutrennen. 55
3. Schachtel (1) nach einem der Ansprüche 1 bis 2, wobei zwei der perforierten Gebiete (16a, 16b) konfiguriert sind, um sich entlang einer gebogenen Linie aufzutrennen und eines der perforierten Gebiete (16c) konfiguriert ist, um sich entlang einer im Wesentlichen geraden Linie aufzutrennen. 60
4. Schachtel (1) nach einem der Ansprüche 1 bis 3, wobei die Schachtel (1) eine zweite Wandplatte (6) enthält, enthaltend zwei zweite Klappen (8), die kon-

figuriert sind, um schwenkbar zu öffnen.

5. Schachtel (1) nach einem der Ansprüche 1 bis 4, wobei die Schachtel (1) eine zweite Öffnung (2) zum Packen und Entpacken der Schachtel (1) enthält und mindestens zwei zweite Verschlussplatten (4) angepasst, um wirksam, die zweite Öffnung (2) zu verschließen, die unter Verwendung eines weiteren Klebebandes (10) verschlossen ist, und wobei die Wandplatte (6) mindestens zwei zweite Klappen (8) enthält, die konfiguriert sind, um sich schwenkbar zu öffnen, um hierbei bei der Entfernung des zweiten Klebebandes (10) von den mindestens zwei Verschlussplatten (4) zu helfen.

6. Schachtel (1) nach einem der Ansprüche 1 bis 4, wobei die Schachtel (1) eine zweite Öffnung (2) enthält zum Packen und Entpacken der Schachtel (1) und mindestens zwei zweite Verschlussplatten (4) angepasst, um wirksam die zweite Öffnung (2) zu verschließen, die unter Verwendung eines zweiten Klebebandes (10) verschlossen ist, und wobei die zweite Wandplatte (6) mindestens zwei zweite Klappen (8) enthält, die konfiguriert sind, um schwenkbar zu öffnen, um hierbei bei der Entfernung des zweiten Klebebandes (10) von den zweiten Verschlussplatten (4) zu helfen.

7. Schachtel (1) nach Anspruch 6, wobei die Wandplatte (6) und die zweite Wandplatte (6) an entgegengesetzten Enden der Schachtel (1) bereitgestellt sind.

8. Schachtel (1) nach einem der Ansprüche 1 bis 7, wobei jede Klappe (8) ein Gelenk enthält.

9. Schachtel (1) nach einem der Ansprüche 1 bis 8, wobei jede Klappe (8) an der Schachtel (1) befestigt bleibt, nachdem das Klebeband (10) entfernt ist.

10. Schachtel (1) nach Anspruch 1, wobei die Schachtel (1) wiederverwendbar ist.

11. Schachtel (1) nach einem der Ansprüche 1 bis 10, wobei die Schachtel (1) gebildet wird aus mindestens einem von:

zellulosehaltigem Material; und,
Pappe.

12. Verfahren zur Entfernung vom Klebeband (10) von einer Schachtel (1) nach einem der Ansprüche 1 bis 11, wobei das Verfahren beinhaltet:

(i) schwenkbares Öffnen der zwei Klappen (8) der Wandplatte (6), dadurch mindestens teilweise das Klebeband (10) von der Wandplatte (6) abtrennend;

(ii) Ergreifen des zumindest teilweise abgetrennten Klebebandes (10); und
(iii) Ziehen des ergriffenen Klebebandes (10), dadurch das Klebeband (10) von der Schachtel (1) entfernend.

Revendications

1. Boîte d'emballage (1), la boîte (1) comprenant :

(i) une ouverture (2) pour remplir ou vider la boîte (1) ;
(ii) un ou plusieurs panneaux de fixation (4) adaptés pour maintenir en service l'ouverture (2) fermée ;
(iii) un ruban adhésif (10) en contact avec les un ou plusieurs panneaux de fixation (4) pour maintenir la au moins une ouverture (2) fermée ; et
(iv) un panneau de paroi (6), dans laquelle le ruban adhésif (10) traverse deux volets (8) du panneau de paroi (6), les deux volets (8) étant configurés pour s'ouvrir par articulation parallèlement l'un à l'autre afin d'aider de la sorte à retirer le ruban adhésif (10) des un ou plusieurs panneaux de fixation (4),

dans laquelle le panneau de paroi (6) comprend trois régions perforées (16a, 16b, 16c) qui sont configurées pour se diviser chacune lors de l'ouverture par articulation des deux volets (8) le long d'une combinaison de lignes incurvées, dentelées ou sensiblement droites, les deux volets (18) se partageant l'une des régions perforées (16c), **caractérisée en ce que** les deux volets s'ouvrent par articulation le long de plis parallèles dans le panneau de paroi, dans laquelle le ruban adhésif (10) est aligné perpendiculairement aux plis parallèles.

2. Boîte (1) selon la revendication 1, dans laquelle au moins l'une des régions perforées (16a, 16b, 16c) est configurée pour se diviser le long d'une ligne incurvée.

3. Boîte (1) selon l'une quelconque des revendications 1 à 2, dans laquelle deux des régions perforées (16a, 16b) sont configurées pour se diviser le long d'une ligne incurvée et l'une des régions perforées (16c) est configurée pour se diviser le long d'une ligne sensiblement droite.

4. Boîte (1) selon l'une quelconque des revendications 1 à 3, dans laquelle la boîte (1) comprend un second panneau de paroi (6) comprenant deux seconds volets (8) qui sont configurés pour s'ouvrir par articulation.

5. Boîte (1) selon l'une quelconque des revendications

- 1 à 4, dans laquelle la boîte (1) comprend une seconde ouverture (2) pour remplir ou vider la boîte (1) et au moins deux seconds panneaux de fixation (4) adaptés pour maintenir en service la seconde ouverture (2) fermée en utilisant un second ruban adhésif (10), et dans laquelle le panneau de paroi (6) comprend au moins deux seconds volets (8) qui sont configurés pour s'ouvrir par articulation afin d'aider, de cette façon, à retirer le second ruban adhésif (10) des au moins deux seconds panneaux de fixation (4). 5 10
6. Boîte (1) selon l'une quelconque des revendications 1 à 4, dans laquelle la boîte (1) comprend une seconde ouverture (2) pour remplir ou vider la boîte (1) et au moins deux seconds panneaux de fixation (4) adaptés pour maintenir en service la seconde ouverture (2) fermée en utilisant le second ruban adhésif (10), et dans laquelle un second panneau de paroi (6) comprend au moins deux seconds volets (8) qui sont configurés pour s'ouvrir par articulation afin d'aider, de cette façon, à retirer le second ruban adhésif des seconds panneaux de fixation (4). 15 20
7. Boîte (1) selon la revendication 6, dans laquelle le panneau de paroi (6) et le second panneau de paroi (6) sont situés sur les extrémités opposées de la boîte (1). 25
8. Boîte (1) selon l'une quelconque des revendications 1 à 7, dans laquelle chaque volet (8) comprend une charnière. 30
9. Boîte (1) selon l'une quelconque des revendications 1 à 8, dans laquelle chaque volet (8) reste fixé à la boîte (1) une fois que le ruban adhésif (10) est retiré. 35
10. Boîte (1) selon la revendication 1, dans laquelle la boîte (1) est réutilisable. 40
11. Boîte (1) selon l'une quelconque des revendications 1 à 10, dans laquelle la boîte (1) est formée d'au moins l'un des matériaux suivants: 45
- un matériau cellulosique; et
du carton. 45
12. Procédé de retrait d'un ruban adhésif (10) d'une boîte (1) selon l'une quelconque des revendications 1 à 11, dans lequel le procédé comprend: 50
- (i) l'ouverture par articulation des deux volets (8) du panneau de paroi (6), de façon à séparer au moins en partie le ruban adhésif (10) du panneau de paroi (6); 55
- (ii) la saisie du ruban adhésif au moins en partie séparé (10); et
- (iii) a traction sur le ruban adhésif saisi (10), re-

tirant de cette façon le ruban adhésif (10) de la boîte (1).

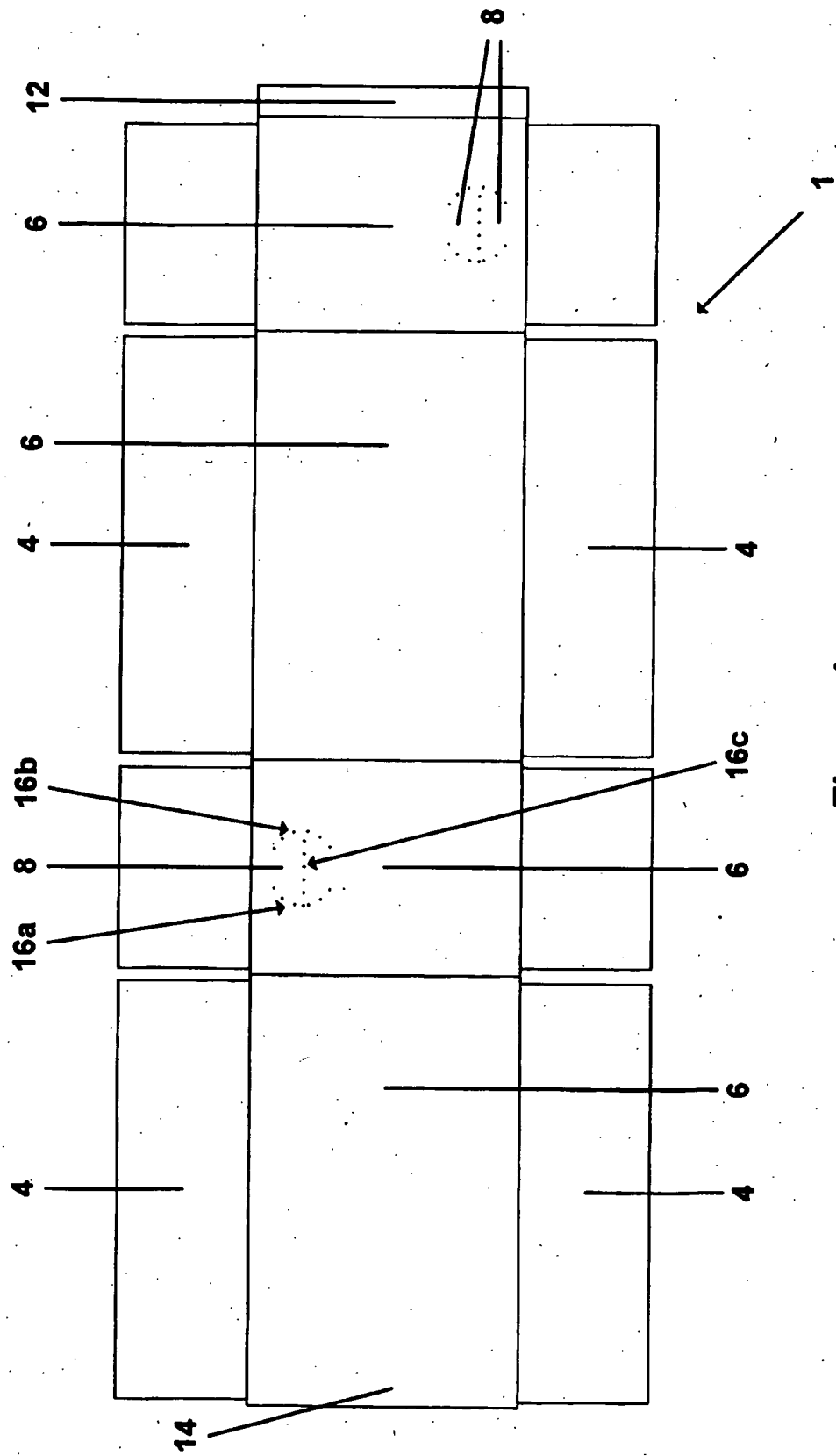
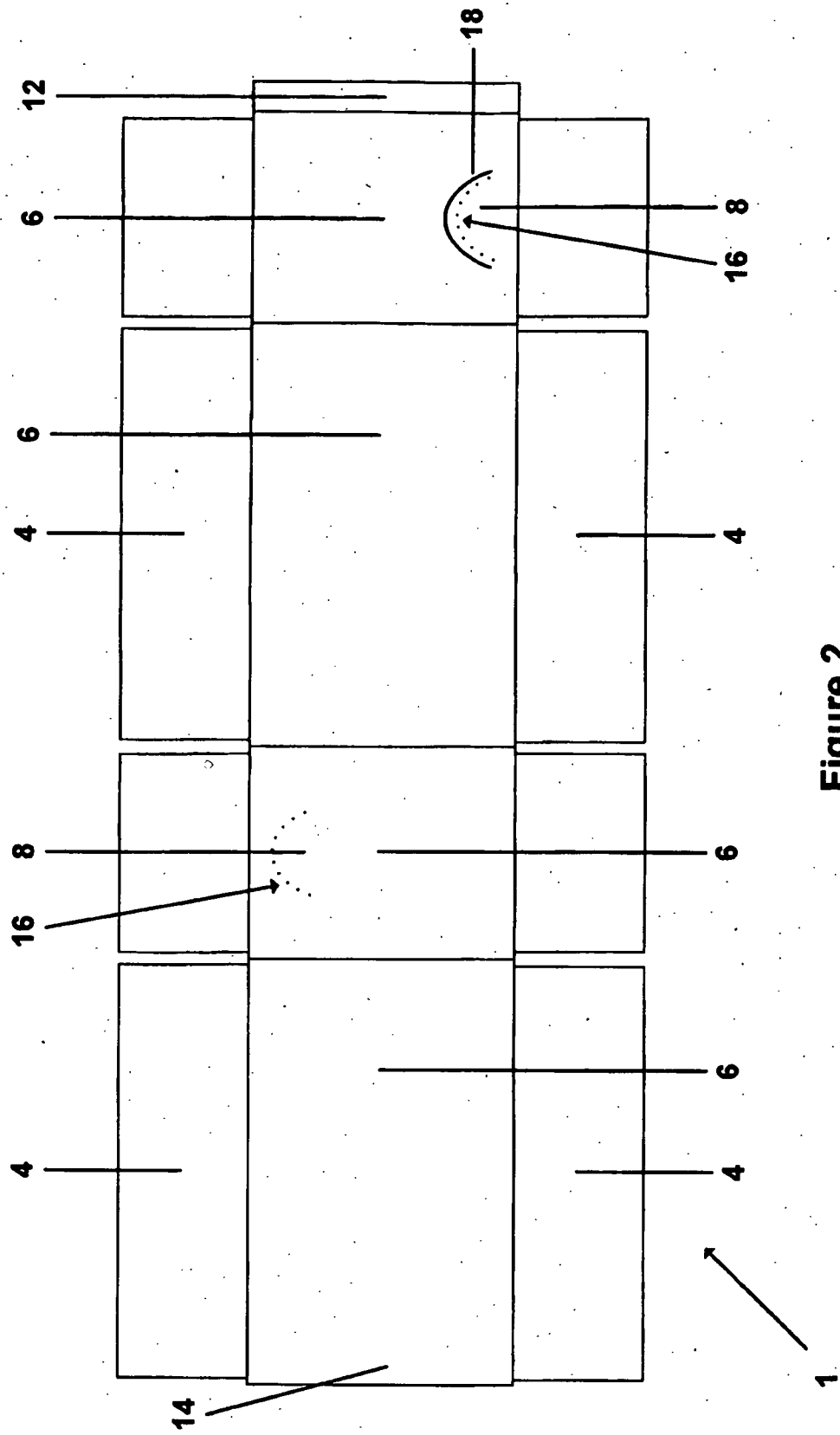


Figure 1



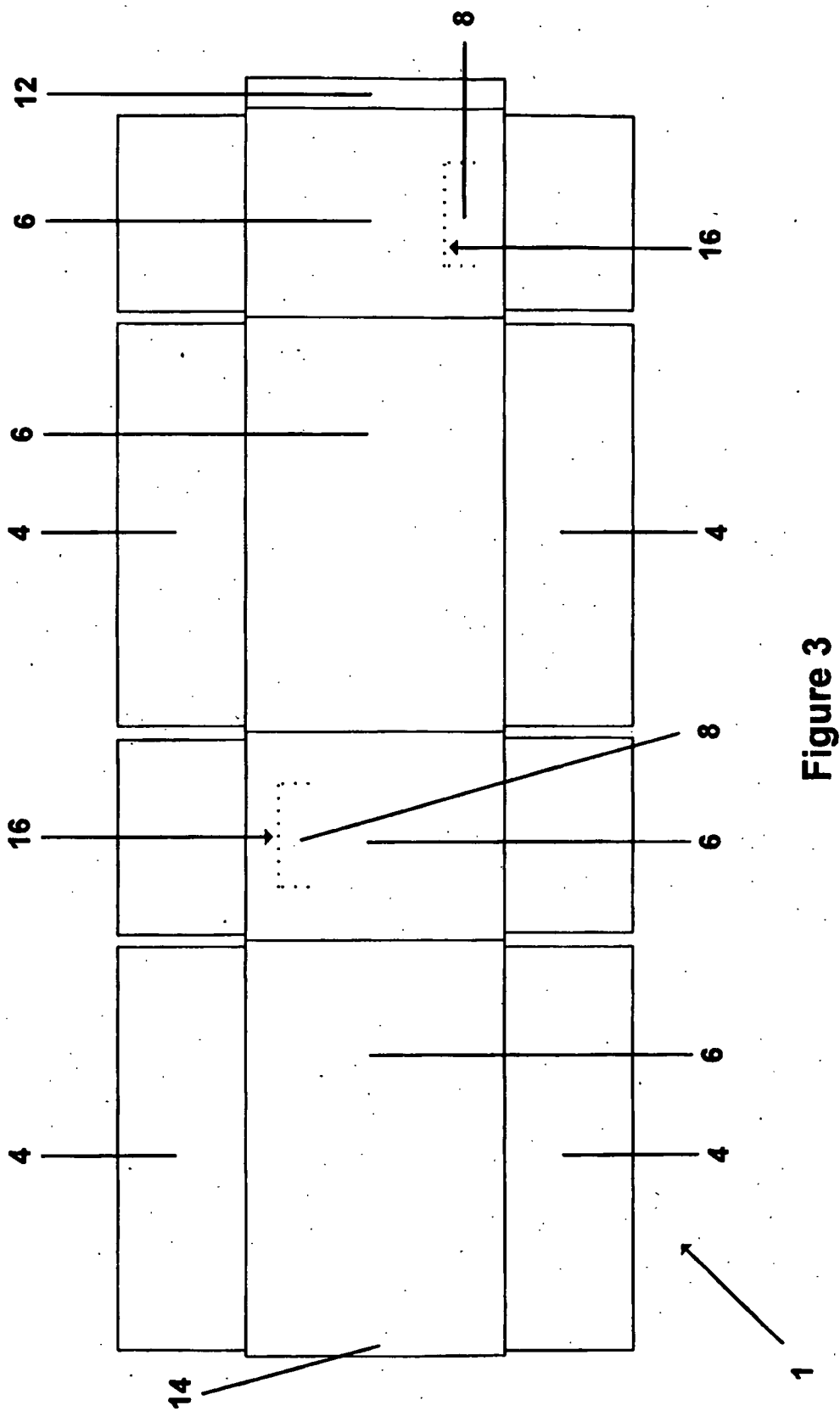


Figure 3

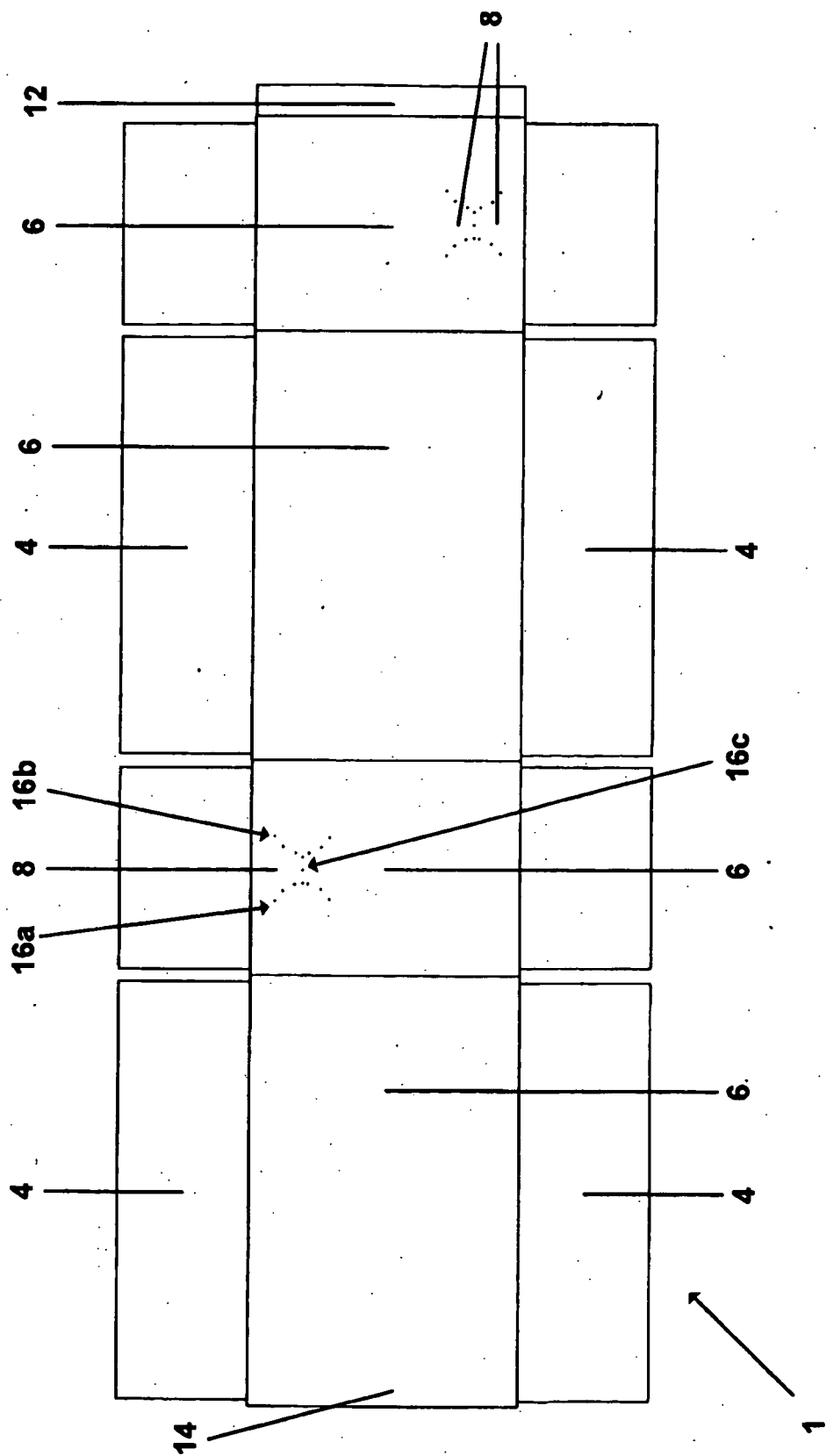


Figure 4

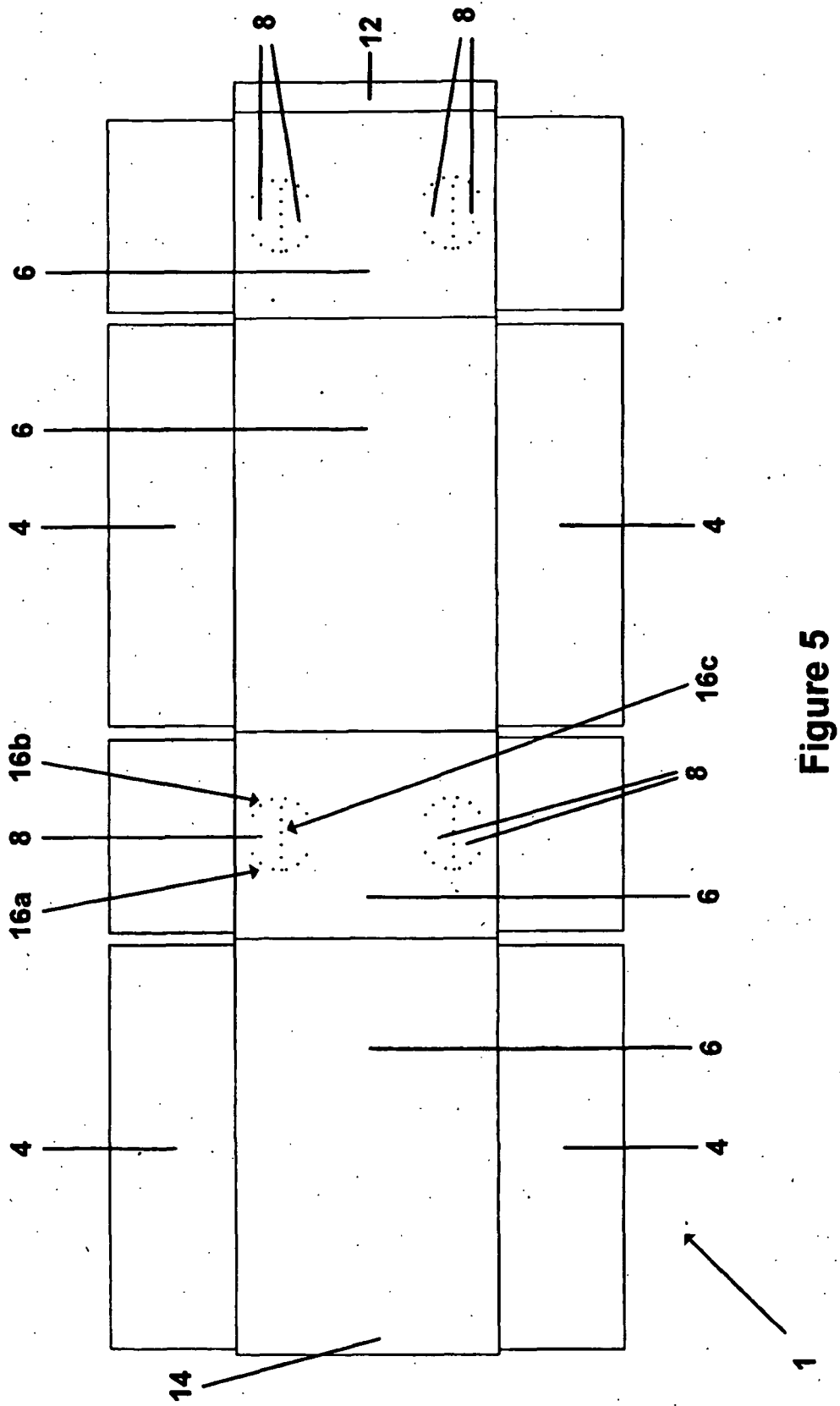


Figure 5

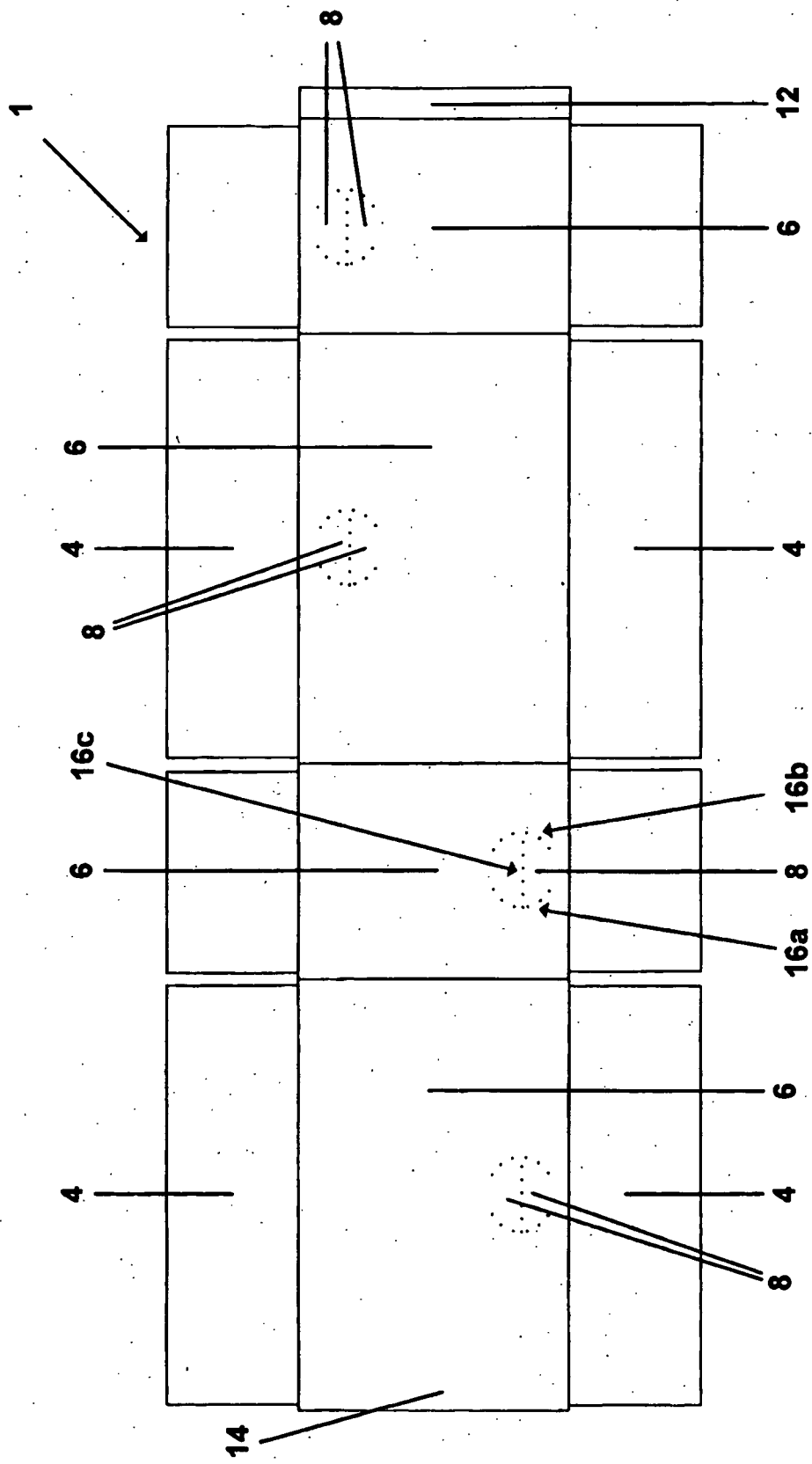


Figure 6

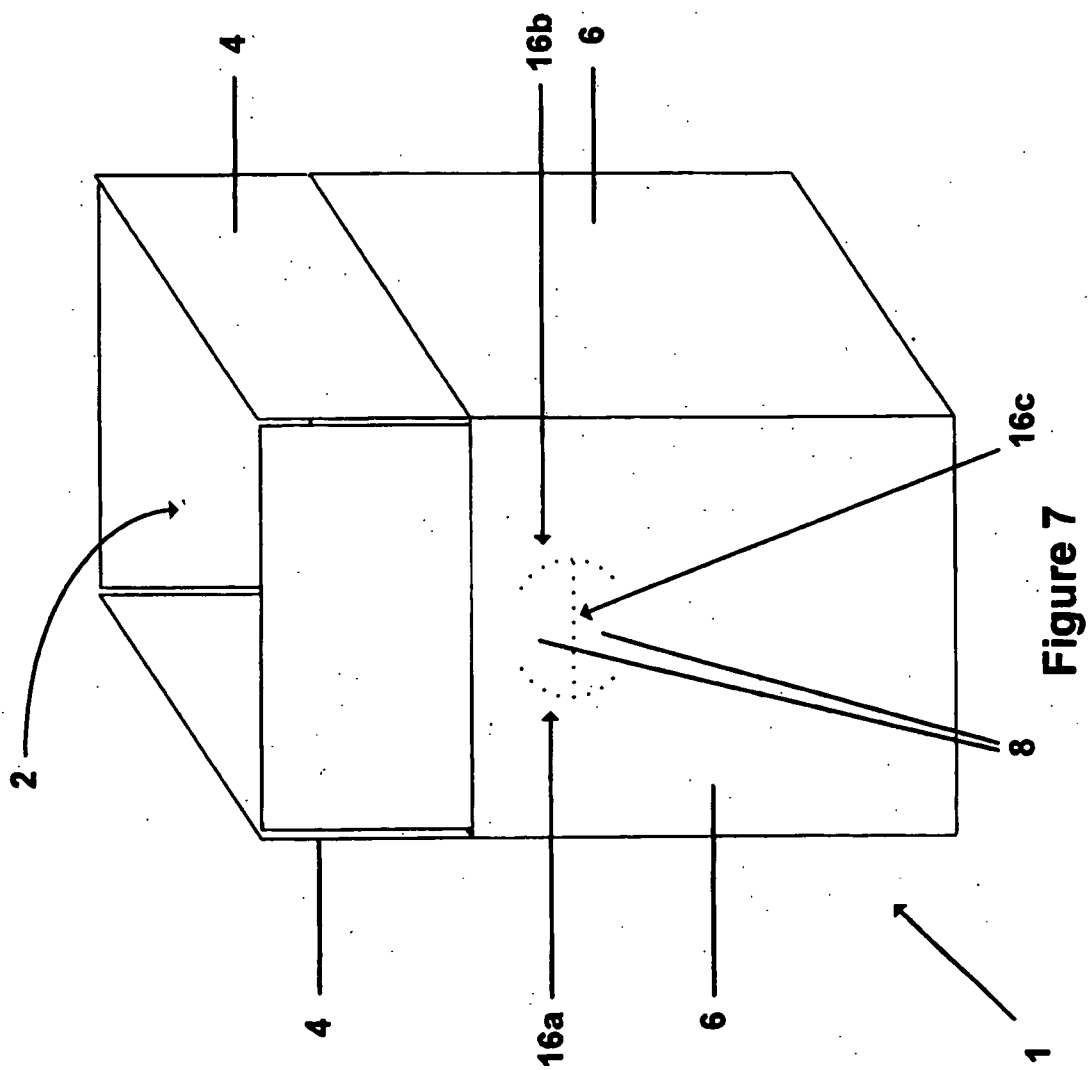
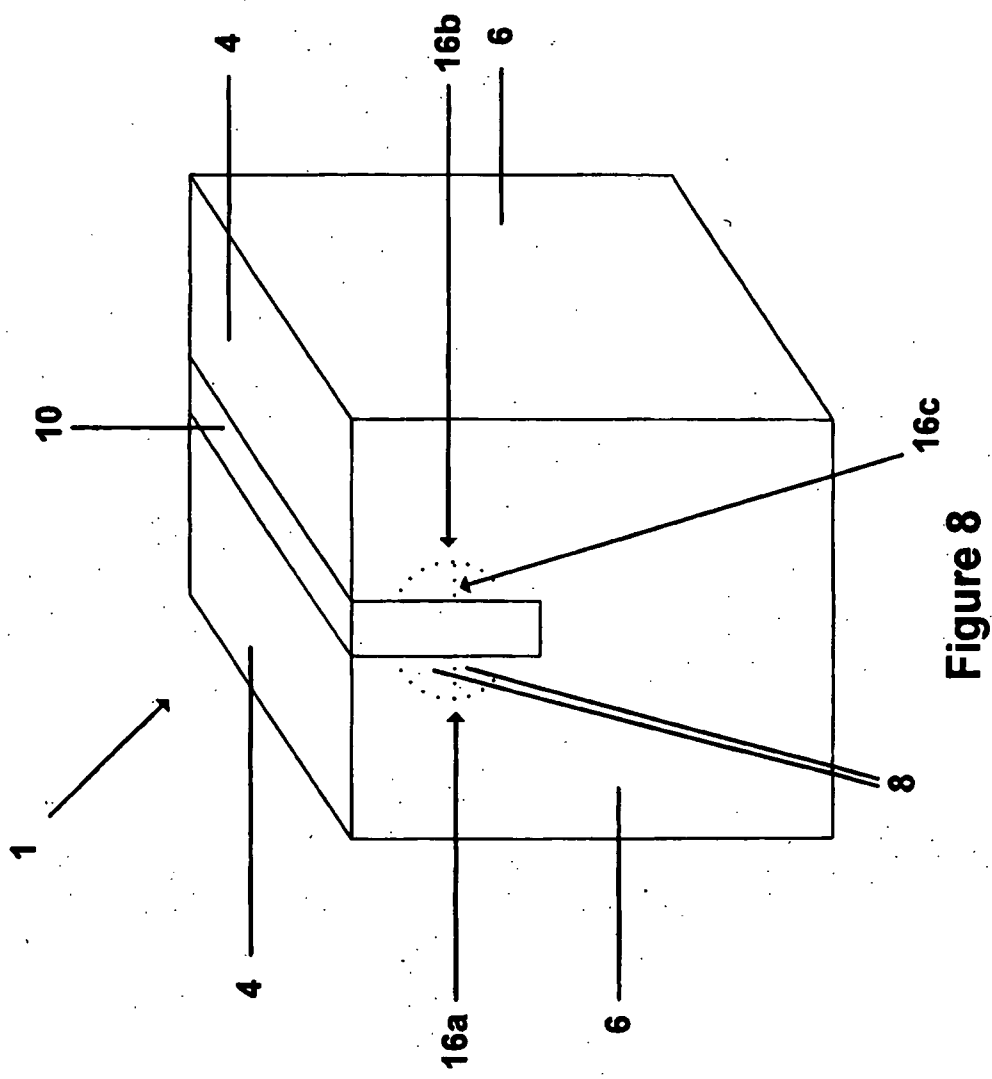


Figure 7



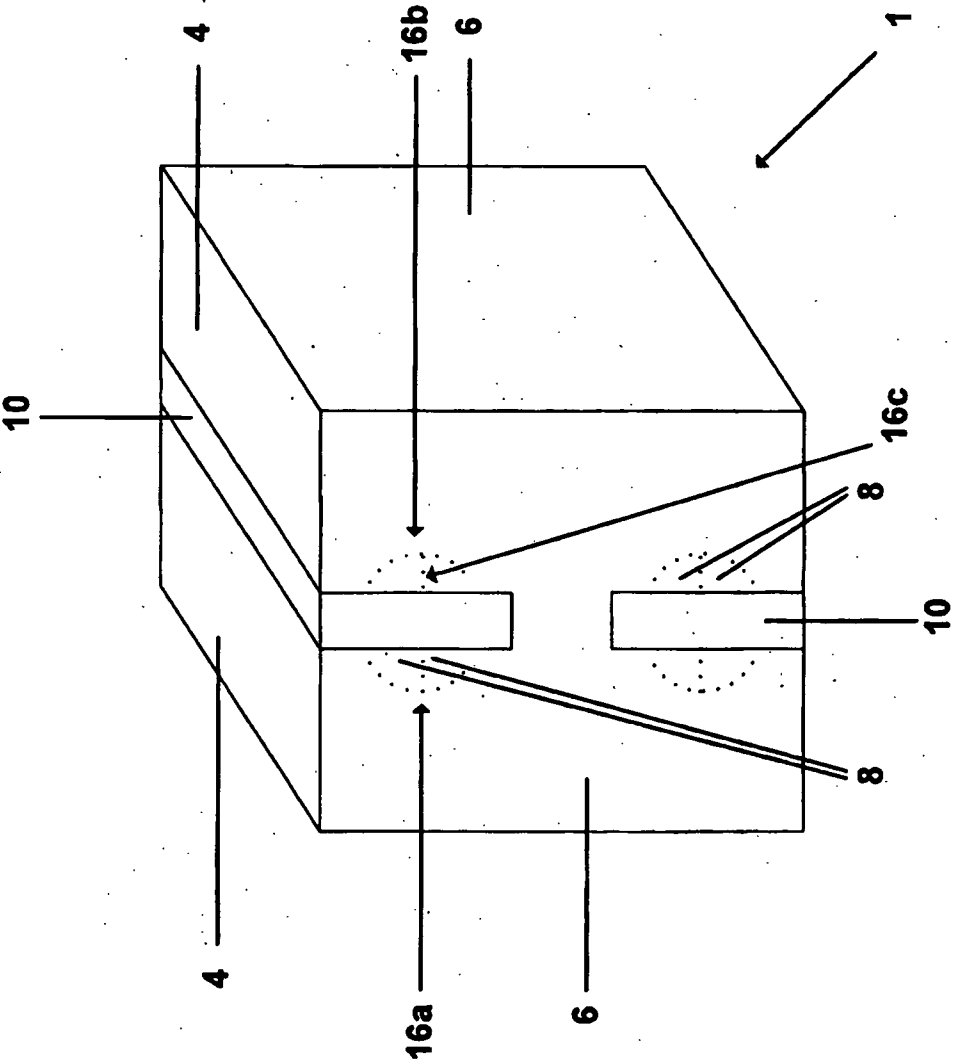


Figure 9

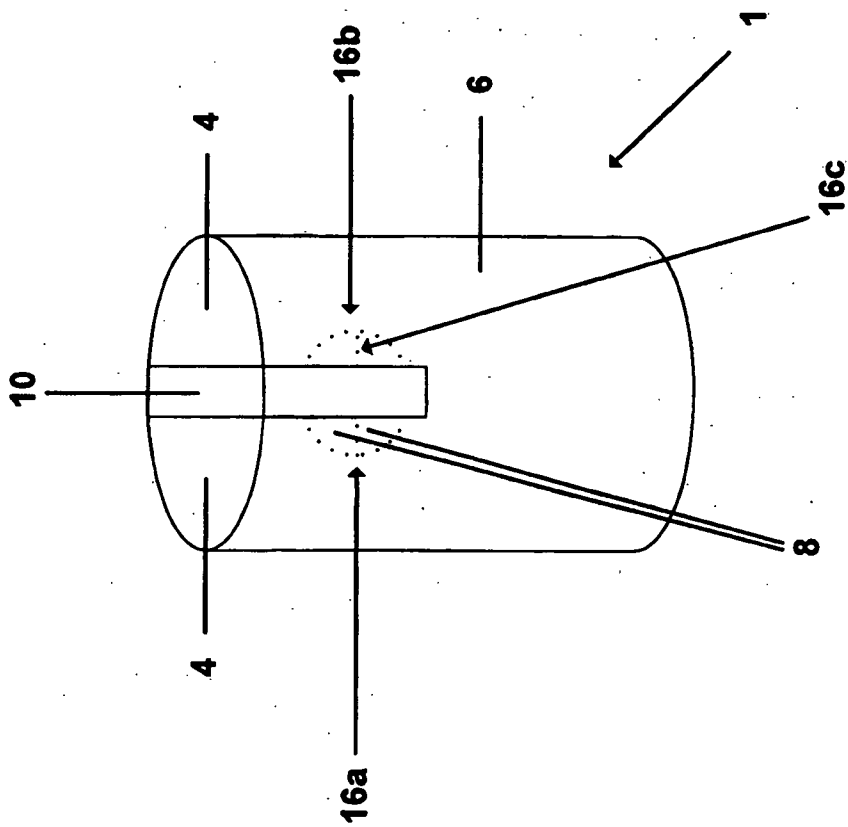


Figure 10

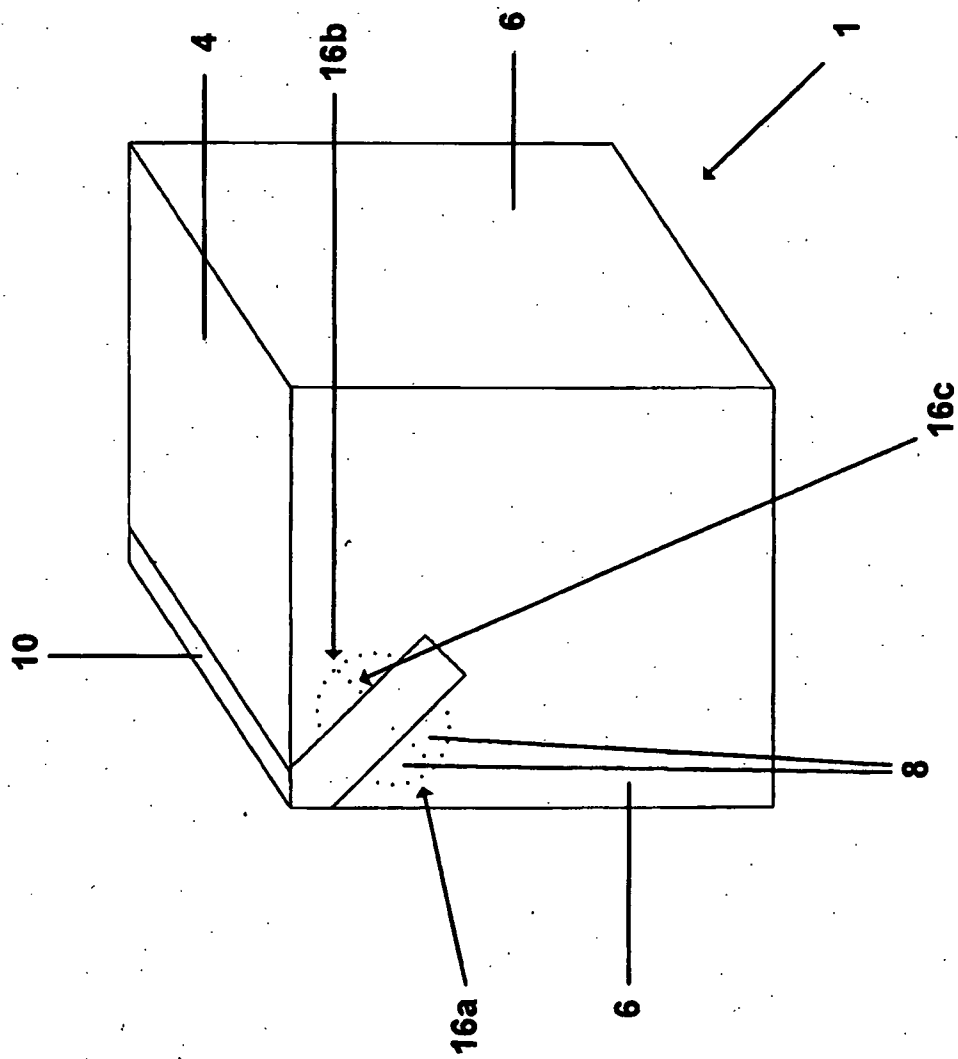


Figure 11

REFERENCES CITED IN THE DESCRIPTION

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Doboz csomagoláshoz és eljárás ragasztószalag eltávolítására a dobozról

SZABADALMI IGÉNYPONTOK



1. Doboz (1) csomagoláshoz, ahol a doboz (1) tartalmaz:

- egy nyílást (2) a doboz (1) kikapolásához és bepakolásához;
- egy vagy több biztosító panelt (4) a lezárt nyílás (2) biztosítására;
- ragasztószalagot (10) érintkezésben az egy vagy több biztosító pannellel (4) a lezárt legalább egy nyílás (2) biztosítására;
- egy fal panelt (6), ahol a ragasztószalag (10) keresztezi a panel (6) két nyúlványát (8), amik úgy vannak kialakítva, hogy csuklósan nyithatók egymással párhuzamosan, hogy segítsék eltávolítani a ragasztószalagot (10) az egy vagy több biztosító panelről;

ahol a fal panel (6) tartalmaz három perforált régiót (16a, 16b, 16c), amik úgy vannak kialakítva, hogy mindegyik megoszlik, amikor a két nyúlvány (8) csuklósan kinyílik görbült, szaggatott vagy lényegében egyenes vonalak bármilyen kombinációja mentén, a két nyúlvány (8) osztozik az egyik perforált régió (16c), **azzal jellemezve**, hogy a két nyúlvány a fal panel párhuzamos hajtásai mentén, ahol a ragasztószalag (10) merőleges a párhuzamos hajtásokra.

2. Az 1. igénypont szerinti doboz (1), **azzal jellemezve**, hogy a perforált régiók (16a, 16b, 16c) legalább egyike egy görbe vonal mentén van felosztva.
3. Az 1. vagy 2. igénypont szerinti doboz (1), **azzal jellemezve**, hogy a perforált régiók (16a, 16b, 16c) közül legalább kettő úgy van kialakítva, hogy egy görbe mentén van felosztva, és a perforált régiók (16c) egyike egy egyenes mentén van felosztva.
4. Az 1 – 3. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy a doboz (1) tartalmaz egy második fal panelt (6), ami tartalmaz két második nyúlványt (8), amik csuklósan kinyílnak.
5. Az 1 – 4. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy a doboz (1) tartalmaz egy második nyílást (2) a doboz (1) kikapolásához és bepakolásához és legalább két második biztosító panelt (4) a lezárt második nyílás (2) működésszerű biztosítására egy második ragasztószalaggal (10), és ahol a fal panel (6) tartalmaz legalább két második nyúlványt (8), amik csuklósan kinyílnak és így segítik a második ragasztószalag (10) eltávolítását a legalább két második biztosító panelről (4).
6. Az 1 – 4. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy a doboz (1) tartalmaz egy második nyílást (2) a doboz (1) kikapolásához és bepakolásához és legalább két második biztosító panelt (4) a lezárt második nyílás (2) működésszerű biztosítására egy második ragasztószalaggal (10), és ahol a második fal panel (6) tartalmaz legalább két második nyúlványt (8), amik csuklósan kinyílnak és így segítik a második ragasztószalag (10) eltávolítását a biztosító panelről (4).
7. A 6. igénypont szerinti doboz (1), **azzal jellemezve**, hogy a fal panel (6) és a második fal panel (6) a doboz (1) két végénél van elrendezve.
8. Az 1 – 7. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy mindegyik nyúlvány (8) csuklóval van ellátva.

9. Az 1 – 8. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy mindegyik nyúlvány (8) a dobozhoz (1) marad kapcsolva a ragasztószalag (10) eltávolítása után.
10. Az 1. igénypont szerinti doboz (1), **azzal jellemezve**, hogy a doboz (1) újrafelhasználható.
11. Az 1 – 10. igénypontok bármelyike szerinti doboz (1), **azzal jellemezve**, hogy a doboz (1) az alábbi anyagok közül valamelyikből van előállítva:
- cellulóz és
kartonpapír.
12. Eljárás ragasztószalag (10) eltávolítására az 1 – 11. igénypontok bármelyike szerinti dobozról (1), melynek során:
- csuklósan kihajítjuk a két nyúlványt (8) a fal panelről (6), és ezzel legalább részben leválasztjuk a ragasztószalagot (10) a fal panelről (6);
 - megfogjuk a legalább részben leválasztott ragasztószalagot (10); és
 - húzzuk a megfogott ragasztószalagot (10) és ezzel eltávolítjuk a ragasztószalagot (10) a dobozról (1).