



(11)

EP 2 814 742 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

11.01.2017 Bulletin 2017/02

(51) Int Cl.:

B65D 5/42 (2006.01)

(21) Application number: **13714345.9**

(86) International application number:

PCT/IB2013/051238

(22) Date of filing: **15.02.2013**

(87) International publication number:

WO 2013/121389 (22.08.2013 Gazette 2013/34)

(54) **PACKAGE OF GROUPED CONTAINERS FOR PRODUCTS, ESPECIALLY FOR DIAPERS OR SIMILAR**

VERPACKUNGSEINHEIT MIT GRUPPIERT ANGEORNETEN BEHÄLTERN MIT WINDELN UND DERGLEICHEN

CONDITIONNEMENT COMPRENANT DES CONTENANTS GROUPÉS DESTINÉS POUR DES ARTICLES DE TYPE COUCHES-CULOTTES

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

• **HERRERO RONDA, Pablo**
E-08034 Barcelona (ES)

• **JOVÉ MESEGUER, Jordi**
E-08034 Barcelona (ES)

• **PASCUAL GARCÍA, María**
E-08034 Barcelona (ES)

• **PÉREZ SILVO, Juan Carlos**
E-08034 Barcelona (ES)

• **SANS ORRIOLS, Marc**
E-08034 Barcelona (ES)

(30) Priority: **15.02.2012 ES 201230157**
31.10.2012 ES 201231161

(43) Date of publication of application:
24.12.2014 Bulletin 2014/52

(73) Proprietor: **Arbora & Ausonia S.L. Unipersonal**
08034 Barcelona (ES)

(74) Representative: **Heide, Ute**
Procter & Gamble Service GmbH
IP Department
Frankfurter Strasse 145
61476 Kronberg im Taunus (DE)

(72) Inventors:

- **ARTÉ ESCATLLAR, Pere**
E-08034 Barcelona (ES)
- **EGUILUZ AZCONA, Zurine**
E-08034 Barcelona (ES)

(56) References cited:

EP-A1- 2 143 651 WO-A1-2005/110873
DE-B- 1 209 490 US-A- 5 201 413

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 2 814 742 B1

Description

[0001] The present invention relates to a package of grouped containers for products, especially for diapers or similar.

Background of the Invention

[0002] Currently, known baby diaper containers consist of a more or less compact container or plastic bag containing a predetermined number of diapers inside. The size of the container, in addition to the number of diapers it contains varies depending on the absorption range of the diaper itself, with the absorption level and volume of the diaper being larger, the larger the weight of the baby for which it is designed.

[0003] Some known diaper containers present a higher capacity in terms of the number of units included, which provides a financial saving for the buyer. However, these higher-capacity containers have the drawback of presenting a larger weight and volume, said container occasionally being inconvenient to carry or store, particularly if having to take the container outside of the home.

[0004] Therefore, modular package systems have been developed (WO 2005/110873 A1), whereby a dual container package in accordance with the preamble of claim 1 is disclosed by US 5 201 413 A.

Description of the invention

[0005] The object of the package of grouped containers for products, especially diapers or similar of the present invention is to resolve the drawbacks presented by the diaper containers known in the state of the art, by providing a package that is capable of being separated into at least two containers in a practical and simple way for the buyer and without affecting the process of reading the product codes on the part of the employee at the cash register of the commercial establishment, whether the buyer purchases a single container or the complete package.

[0006] The package of grouped containers for products, especially for diapers or similar, object of the present invention, is of the type that comprises a set of preferably two individual containers, wherein the total sum of the products distributed in the containers within the package matches the number of products of a conventional container of equal capacity and similar size as the package, and is characterised in that said package comprises at least one joining label for two contiguous containers, provided with a perforated tear line located in the space between the two containers, capable of being torn to separate said containers, and an identification code of the package arranged on said tear line, capable of becoming illegible in the event of said label being torn, and in that the package is configured in such a way that it is capable of simultaneously hiding an identification code for each individual container, in such a way that

according to a first option the package can be purchased whole by a user with the joining label intact, leaving only the package identification code visible, and according to a second option the package can be separated by a user in order to purchase an individual container, after tearing the joining label of the two containers and consequently breaking the package identification code, leaving only the respective code of the extracted container legible.

[0007] In this way, a more versatile package is obtained since it can be purchased whole or separated into at least two individual containers in a simple manner on the part of the buyer. At the same time, any error on the part of the employee at the cash register of the commercial establishment is avoided, since only one identification code can be read.

[0008] According to the invention, the package is configured in such a way that it also includes a holding strip joined to both containers in a removable manner, capable of simultaneously hiding the identification code of each individual container when the containers remain joined by means of the joining label.

[0009] Therefore, if the buyer wishes to purchase the whole package, the holding strip will be hiding the codes of the individual containers leaving only the package identification code visible, and alternatively in the event of purchasing an individual container, it will only be possible to read the container code upon removing the holding strip, since the package code will have been broken by having previously torn the joining label of both containers along the perforated line.

[0010] The holding strip comprises on its internal face two lateral zones provided with a removable adhesive, and a central zone not provided with adhesive intended to partially embrace both containers.

[0011] According to an embodiment of the invention, the package is configured in such a way that the identification code of each individual container is arranged on the rear face of the container itself, the contiguous containers being assembled with their respective rear faces facing each other, capable of simultaneously hiding both identification codes of the containers when the package is formed and the containers remain joined by means of the joining label.

[0012] Therefore, if the buyer wishes to purchase the whole package, the containers themselves in facing each other by their rear faces will be hiding the codes of said individual containers leaving only the package identification code visible, and alternatively in the event of purchasing an individual container, it will only be possible to read the container code when the rear face of the container is uncovered, because the package code will have been broken after previously tearing the joining label of the two containers along the perforated line.

[0013] In this way, the fact that the two containers are facing each other by their rear faces, hiding respective identification codes of the individual containers, makes it possible to obtain a structurally simpler package since the holding strip is dispensed with.

[0014] According to one variant, the package comprises two joining labels situated respectively on each side of both containers, and arranged in parallel at the same height.

[0015] According to another variant, the package comprises two joining labels situated respectively on each side of both containers, and arranged in a crossed manner at a different height in order to improve the strength of the package.

[0016] Advantageously, only one of the two joining labels includes the package identification code, irrespective of the side or height where said joining label is located.

[0017] Preferably, the joining label comprises on its outer face an opaque central zone provided for printing said package identification code, and also, optionally, other additional information.

[0018] Advantageously, the joining label comprises on its internal face two lateral zones provided with glue for adhesion to respective contiguous containers, and a central zone not provided with glue where the perforated tear line is located.

[0019] Optionally, the joining label comprises a notch in at least one end of the perforated line designed to facilitate tearing.

[0020] Preferably, the package identification code and the code of the corresponding individual containers are barcodes, capable of being read respectively by means of an optical reader belonging to the cash register of a commercial establishment.

[0021] Preferably, the products contained in the package are distributed equally in each container.

Brief description of the drawings

[0022] In order to facilitate the description of what is set out above, drawings are attached which, schematically and by means of a non-limiting example, represent some practical cases of embodiment of the package of grouped containers for products, especially diapers or similar of the invention, wherein:

figure 1 is a schematic view in perspective of a package that includes two grouped containers of baby diapers according to a first embodiment of the present invention;

figure 2 is a schematic view in perspective of the package of figure 1 separated into two unitary containers, after tearing the joining label between the containers;

figure 3 is a schematic view of the outer face of the joining label;

figure 4 is a schematic view of the inner face of the joining label;

figure 5 is a schematic view of the internal face of the holding strip;

figures 6 and 7 are schematic views in right and left perspective of a package according to a second embodiment of the invention which contains two grouped containers of a reduced height;

figure 8 is a schematic view in perspective of the package shown in figures 6 and 7 separated into two unitary containers, after tearing the joining labels between the containers;

figures 9 and 10 are schematic views in right and left perspective respectively of the package according to the second embodiment of the invention which contains two grouped containers of a considerable height; and

figure 11 is a schematic view in perspective of the package shown in figures 9 and 10 separated into two unitary containers, after tearing the joining labels between the containers.

25 Description of preferred embodiments

[0023] As can be appreciated from figures 1 and 2, the package 1 comprises a set of two individual containers 2 that contain baby diapers, in such a way that the sum total of the diapers distributed in the containers 2 within the package 1 matches the number of diapers in a conventional container of equal capacity and similar dimensions as the package 1.

[0024] Said package 1 comprises a joining label 3 of both contiguous containers 2, provided with a perforated tear line 4 located in the space between both containers 2, capable of being torn to separate said containers 2, and an identification code 5 of the package 1 disposed on said perforated line 4, capable of becoming illegible in the event of said label 3 being torn.

[0025] According to a first embodiment of the invention shown in figures 1 and 2, the package 1 also comprises a holding strip 6 joined to both containers 2 in a removable manner, capable of simultaneously hiding an identification code 7 of each individual container 2.

[0026] In this way, according to a first option shown in figure 1, the package 1 can be purchased whole by a buyer with the joining label 3 and holding strip 6 intact, leaving only the identification code 5 of the package 1 visible, and according to a second option shown in figure 2, the package 1 can be separated by a buyer to purchase one individual container 2, after tearing the joining label 3 of both containers 2 and consequently breaking the identification code 5 of the package 1 and after removing said holding strip 6, leaving only the respective code 7 of the extracted container 2 legible.

[0027] A more versatile package 1 is obtained since it can be purchased whole or separated into two individual

containers 2 in a simple manner on the part of the buyer. At the same time, any error on the part of the employee at the cash register of the commercial establishment is avoided, since thanks to the joining label 3 and the holding strip 6 only one identification code 5 or 7 can be read.

[0028] Therefore, if the buyer purchases the whole package 1, the holding strip 6 will be hiding the codes 7 of the individual containers 2 leaving only the identification code 5 of package 1 visible (see figure 1), and alternatively in the event of purchasing an individual container 2, it will only be possible to read code 7 of the container 2 upon removing the holding strip 6, since code 5 of package 1 will have been broken after previously tearing the joining label 3 of both containers 2 along the perforated line 4 (see figure 2).

[0029] In reference to figure 3, the label 3 comprises on its outer face an opaque central zone 8 provided for the printing of said identification code 5 of the package 1, and also optionally other additional information, and a transparent perimeter zone 9.

[0030] As can be appreciated from figure 4, the label 3 comprises on its internal face two lateral zones 10 provided with glue for adhesion to respective contiguous containers 2, and a central zone 11 not provided with glue where the perforated tear line 4 is located. It should be noted that said central zone 11 also would be provided with glue. In any case, the label 3 can be adhered to the containers 2 in a removable or permanent manner.

[0031] Also, the label 3 comprises a notch 12 at both ends of the perforated line 4 intended to facilitate tearing, although it also would be produced without said notch.

[0032] As can be observed in figure 5, the holding strip 6 comprises on its internal face two lateral zones 13 provided with a removable adhesive, although it also would be a permanent adhesive, and a central zone 14 not provided with adhesive intended to partially embrace both containers 2.

[0033] Preferably, the identification code 5 of the package 1 and the code 7 of the corresponding individual containers 2 are barcodes, capable of being read respectively by means of an optical reader belonging to the cash register of a commercial establishment.

[0034] In this case, the products contained in the package 1 are distributed equally in each container 2. In the illustrated example, the complete package 1 comprises double the products of each separate container 2. Thanks to the fact that the identification code 5 of the package 1 is different to the code 7 of each individual container 2, it is possible to associate different prices to the package 1 and to the container 2, which allows the complete package 1 to be offered at a cheaper price, with a lower cost per container unit, than if the two containers 2 are purchased separately.

[0035] A second embodiment of the invention is shown in figures 6 to 11, wherein a package 1' is shown, which comprises the same elements as described with numerical references 2 to 12, excluding the holding strip 6.

[0036] In this second embodiment, the package 1' is configured in such a way that the identification code 7 of each individual container 2 is disposed on the rear face 2a of the container itself 2, the contiguous containers 2 being assembled with their respective rear faces 2a facing each other, capable of simultaneously hiding both identification codes 7 of the containers 2 when the package 1' is formed.

[0037] In this way, according to a first option shown in figures 6 and 7, the package 1' can be purchased whole by a user with the joining label 3 intact, leaving only the identification code 5 of the package 1' visible, and according to a second option shown in figure 8, the package 1' can be separated by a user to purchase one individual container 2, after tearing the joining label 3 of both containers 2 and consequently breaking the identification code 5 of the package 1', leaving only the respective identification code 7 of the extracted container 2 legible.

[0038] Consequently, if the buyer purchases the whole package 1', the containers 2 themselves, in facing each other by their rear faces 2a will be hiding the codes 7 of said individual containers 2 leaving only the identification code 5 of the package 1' visible, and alternatively in the event of purchasing an individual container 2, it will only be possible to read the code 7 of the container 2 as the rear face 2a of the container 2 is left uncovered, since code 5 of the package 1' will have been broken by previously tearing the joining label 3 of both containers 2 along the perforated line 4.

[0039] In this way, the fact that the containers 2 are facing each other by their rear faces 2a hiding the respective identification codes 7 of the individual containers 2, allows a structurally simpler package 1' to be obtained since the holding strip 6 is dispensed with.

[0040] According to one variant, as can be appreciated from figures 6 to 8, the package 1' comprises two joining labels 3 situated respectively on each side of both containers 2, and arranged in parallel at the same height.

[0041] According to another variant, as can be appreciated from figures 9 to 11, the package 1' comprises two joining labels 3 situated respectively on each side of both containers 2, and arranged in a crossed manner at a different height to improve the strength of the package 1'.

[0042] It is important to note that only one of the two joining labels 3 includes the identification code 5 of the package 1', irrespective of the side or height where said joining label 3 is located.

[0043] Despite the fact that reference has been made to specific embodiments of the invention, it is obvious to a person skilled in the art that the package of grouped containers described is capable of numerous variations and modifications, and that all mentioned details can be replaced by other technical equivalents, without abandoning the scope of protection defined by the attached claims.

Claims

1. Package (1,1',1'') of grouped containers (2) for products, especially diapers or similar, comprising a set of two individual containers (2), wherein the sum total of the products distributed in the containers (2) within the package (1,1',1'') matches the number of products in one conventional container of equal capacity and similar dimensions as the package (1,1',1''), wherein said package (1,1',1'') comprises at least one joining label (3) of two contiguous containers (2), provided with a perforated tear line (4) located in the space between both containers (2), capable of being torn to separate said containers (2), and an identification code (5) of the package (1,1',1'') arranged on said perforated line (4), capable of becoming illegible in the event of said label (3) being torn, and in that the package (1,1',1'') is configured in such a way that it is capable of simultaneously hiding an identification code (7) of each individual container (2), in such a way that according to a first option the package (1,1',1'') can be purchased whole by a user with the joining label (3) intact, leaving only the identification code (5) of the package (1,1',1'') visible, and according to a second option the package (1,1',1'') can be separated by a user to purchase an individual container (2), after tearing the joining label (3) of both containers (2) and consequently breaking the identification code (5) of the package (1,1',1''), leaving only the respective code (7) of the extracted container (2) legible, **characterised in that** the package (1) is configured in such a way that it also includes a holding strip (6) joined to both containers (2) in a removable manner, capable of simultaneously hiding the identification code (7) of each individual container (2) when the containers (2) remain joined by means of the joining label (3), and the holding strip (6) comprises on its internal face two lateral zones (13) provided with a removable adhesive, and a central zone (14) not provided with adhesive intended to partially embrace both containers (2).
2. Package (1,1',1''), according to claim 1, wherein the joining label (3) comprises on its outer face an opaque central zone (8) provided for printing said identification code (5) of the package (1,1',1''), and also optionally other additional information.
3. Package (1,1',1''), according to claim 1, wherein the joining label (3) comprises on its internal face two lateral zones (10) provided with glue for adhesion to respective contiguous containers (2), and a central zone (11) not provided with glue where the perforated tear line (4) is located.
4. Package (1,1',1''), according to claim 1, wherein the joining label (3) comprises a notch (12) in at least

one end of the perforated line (4) designed to facilitate tearing.

5. Package (1,1',1''), according to claim 1, wherein the identification code (5) of the package (1,1',1'') and the code (7) of the corresponding individual containers (2) are barcodes, capable of being read respectively by means of an optical reader belonging to the cash register of a commercial establishment.
6. Package (1,1',1''), according to claim 1, wherein the products contained in the package (1,1',1'') are distributed equally in each container (2).

Patentansprüche

1. Verpackung (1,1',1'') von gruppierten Behältern (2) für Produkte, insbesondere Windeln oder dergleichen, umfassend einen Satz von zwei einzelnen Behältern (2), wobei die Gesamtsumme der in den Behältern (2) vertriebenen Produkte innerhalb der Verpackung (1,1',1'') mit der Anzahl von Produkten in einem einzigen herkömmlichen Behälter mit gleichem Fassungsvermögen und ähnlichen Abmessungen wie die Verpackung (1,1',1'') übereinstimmt, wobei die Verpackung (1,1',1'') mindestens ein Verbindungsetikett (3) von zwei benachbarten Behältern (2) umfasst, das mit einer in dem Raum zwischen beiden Behältern (2) angeordneten perforierten Aufreißlinie (4) versehen ist, die aufgerissen werden kann, um die Behälter (2) zu trennen, und einen auf der perforierten Linie (4) angeordneten Identifizierungscode (5) der Verpackung (1,1',1''), der unlesbar werden kann, falls das Etikett (3) aufgerissen wird, und wobei die Verpackung (1,1',1'') derart konfiguriert ist, dass sie in der Lage ist, gleichzeitig einen Identifizierungscode (7) jedes einzelnen Behälters (2) derart zu verbergen, dass gemäß einer ersten Option die Verpackung (1,1',1'') von einem Benutzer ganz mit intaktem Verbindungsetikett (3) gekauft werden kann, wobei nur der Identifizierungscode (5) der Verpackung (1,1',1'') sichtbar ist, und gemäß einer zweiten Option die Verpackung (1,1',1'') von einem Benutzer getrennt werden kann, um einen einzelnen Behälter (2) zu kaufen, nachdem er das Verbindungsetikett (3) beider Behälter (2) aufgerissen und somit den Identifizierungscode (5) der Verpackung (1,1',1'') zerrissen hat, so dass nur der jeweilige Code (7) des entnommenen Behälters (2) lesbar ist, **dadurch gekennzeichnet, dass** die Verpackung (1) derart konfiguriert ist, dass sie auch einen mit beiden Behältern (2) entfernbar verbundenen Haltestreifen (6) umfasst, der in der Lage ist, gleichzeitig den Identifizierungscode (7) jedes einzelnen Behälters (2) zu verbergen, wenn die Behälter (2) durch das Verbindungsetikett (3) verbunden bleiben, und der Haltestreifen (6) an seiner Innenfläche zwei

seitliche Zonen (13) umfasst, die mit einem entfernbaren Klebstoff versehen sind, und eine nicht mit Klebstoff versehene zentrale Zone (14), die dazu bestimmt ist, beide Behälter (2) teilweise zu umschließen.

2. Verpackung (1,1',1") nach Anspruch 1, wobei das Verbindungsetikett (3) an seiner Außenfläche eine undurchsichtige zentrale Zone (8) umfasst, die bereitgestellt ist, um den Identifizierungscode (5) der Verpackung (1,1',1") und wahlweise auch andere zusätzliche Informationen zu drucken.
3. Verpackung (1,1',1") nach Anspruch 1, wobei das Verbindungsetikett (3) an seiner Innenfläche zwei seitliche Zonen (10) umfasst, die mit Klebstoff zum Kleben an jeweiligen benachbarten Behältern (2) versehen sind, und eine nicht mit Klebstoff versehene zentrale Zone (11), wo die perforierte Aufreißlinie (4) angeordnet ist.
4. Verpackung (1,1',1") nach Anspruch 1, wobei das Verbindungsetikett (3) eine Kerbe (12) in mindestens einem Ende der perforierten Linie (4) umfasst, die dazu bestimmt ist, das Aufreißen zu erleichtern.
5. Verpackung (1,1',1") nach Anspruch 1, wobei der Identifizierungscode (5) der Verpackung (1,1',1") und der Code (7) der entsprechenden einzelnen Behälter (2) Strichcodes sind, die jeweils mittels eines optischen Lesers, der zur Registrierkasse einer kommerziellen Einrichtung gehört, gelesen werden können.
6. Verpackung (1,1',1") nach Anspruch 1, wobei die in der Verpackung (1,1',1") enthaltenen Produkte zu gleichen Teilen in jedem Behälter (2) vertrieben werden.

Revendications

1. Emballage (1,1',1") de conteneurs groupés (2) pour des produits, notamment des couches ou analogues, comprenant un ensemble de deux conteneurs individuels (2), dans lequel la somme totale des produits répartis dans les conteneurs (2) à l'intérieur de l'emballage (1,1',1") correspond au nombre de produits dans un conteneur classique de capacité égale et de dimensions similaires à celles de l'emballage (1,1',1"), dans lequel ledit emballage (1,1',1") comprend au moins une étiquette de jonction (3) de deux conteneurs contigus (2), prévue avec une ligne de déchirure perforée (4) située dans l'espace entre les deux conteneurs (2), susceptible d'être déchirée pour séparer lesdits conteneurs (2), et un code d'identification (5) de l'emballage (1,1',1") agencé sur ladite ligne perforée (4), susceptible de devenir

illisible au cas où ladite étiquette (3) serait déchirée et en ce que l'emballage (1,1',1") est conçu d'une manière telle qu'il est susceptible de cacher simultanément un code d'identification (7) de chaque conteneur individuel (2), de sorte que, conformément à une première option, l'emballage (1,1',1") puisse être acheté entier par un utilisateur, avec l'étiquette de jonction (3) intacte, laissant uniquement le code d'identification (5) de l'emballage (1,1',1") visible et, conformément à une seconde option, l'emballage (1,1',1") puisse être séparé par un utilisateur pour acheter un conteneur individuel (2), après avoir déchiré l'étiquette de jonction (3) des deux conteneurs (2) et par conséquent avoir rompu le code d'identification (5) de l'emballage (1,1',1"), laissant seulement le code respectif (7) du conteneur extrait (2) lisible, **caractérisé en ce que** l'emballage (1) est conçu d'une manière telle qu'il comprend également une bande de maintien (6) jointe aux deux conteneurs (2) de manière détachable, susceptible de cacher simultanément le code d'identification (7) de chaque conteneur individuel (2) lorsque les conteneurs (2) restent joints au moyen de l'étiquette de jonction (3) et la bande de maintien (6) comprend sur sa face interne deux zones latérales (13) dotées d'un adhésif détachable et une zone centrale (14) exempte d'adhésif, prévue pour enserrer partiellement les deux conteneurs (2).

2. Emballage (1,1',1") selon la revendication 1, dans lequel l'étiquette de jonction (3) comprend sur sa face externe une zone centrale opaque (8) prévue pour l'impression dudit code d'identification (5) de l'emballage (1,1',1") et également, facultativement, d'autres informations supplémentaires.
3. Emballage (1,1',1") selon la revendication 1, dans lequel l'étiquette de jonction (3) comprend sur sa face interne deux zones latérales (10) dotées de colle pour l'adhérence à des conteneurs contigus respectifs (2) et une zone centrale (11) exempte de colle, où est située la ligne de déchirure perforée (4).
4. Emballage (1,1',1") selon la revendication 1, dans lequel l'étiquette de jonction (3) comprend une encoche (12) dans au moins une extrémité de la ligne perforée (4) conçue pour faciliter la déchirure.
5. Emballage (1,1',1") selon la revendication 1, dans lequel le code d'identification (5) de l'emballage (1,1',1") et le code (7) des conteneurs individuels correspondants (2) sont des codes-barres, susceptibles d'être lus, respectivement, au moyen d'un lecteur optique appartenant à la caisse enregistreuse d'un établissement commercial.
6. Emballage (1,1',1") selon la revendication 1, dans lequel les produits contenus dans l'emballage

(1,1',1'') sont répartis de manière égale dans chaque conteneur (2).

5

10

15

20

25

30

35

40

45

50

55

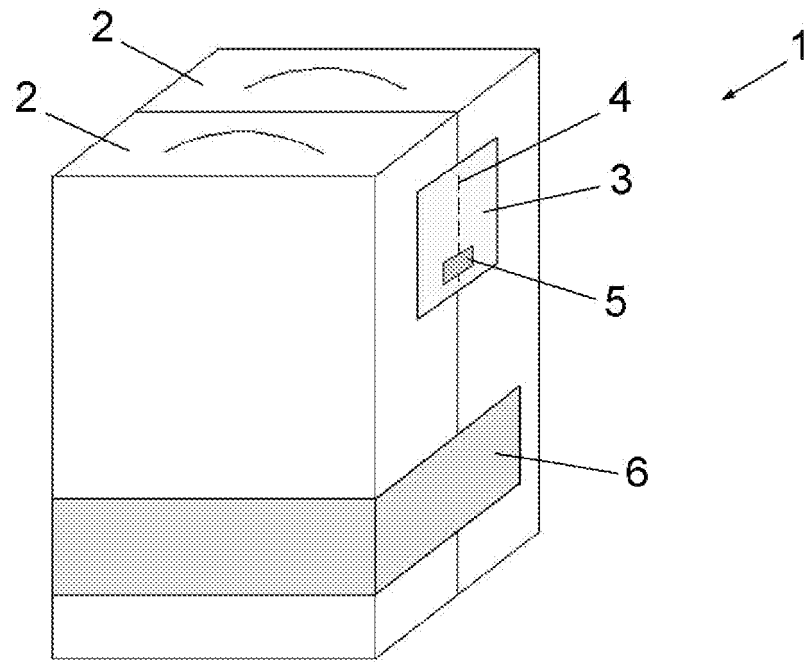


FIG. 1

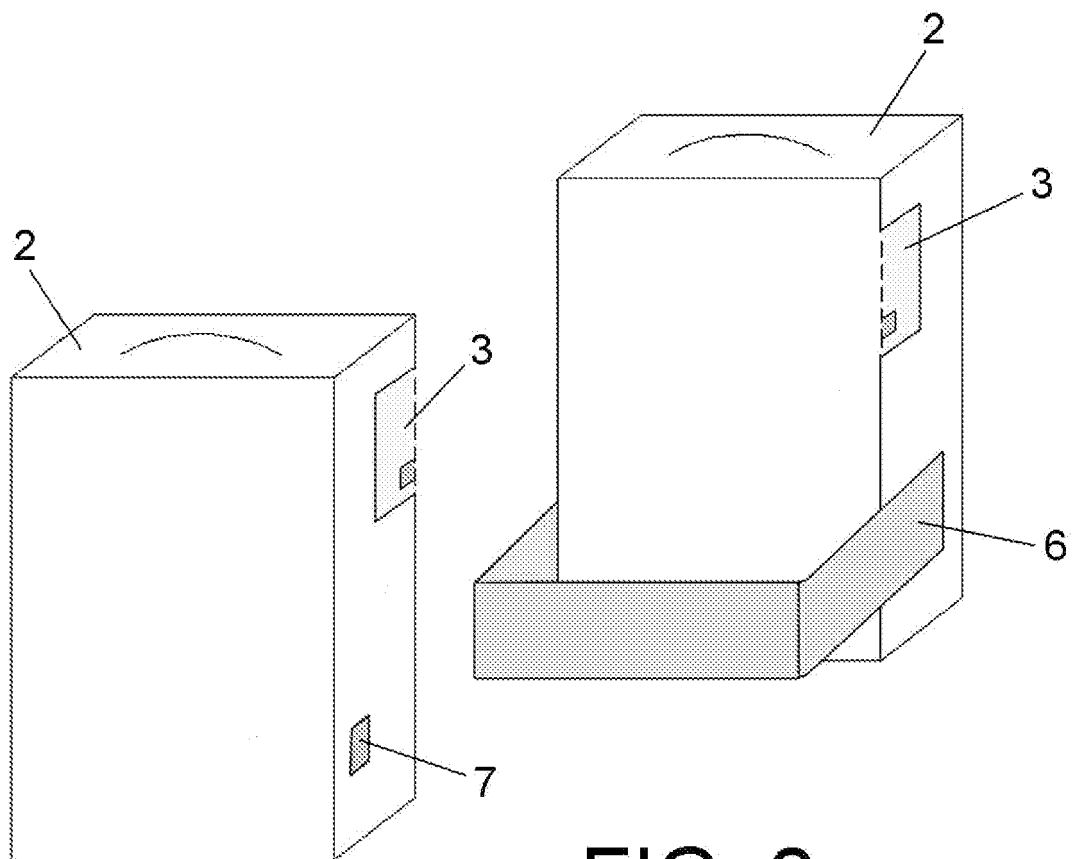


FIG. 2

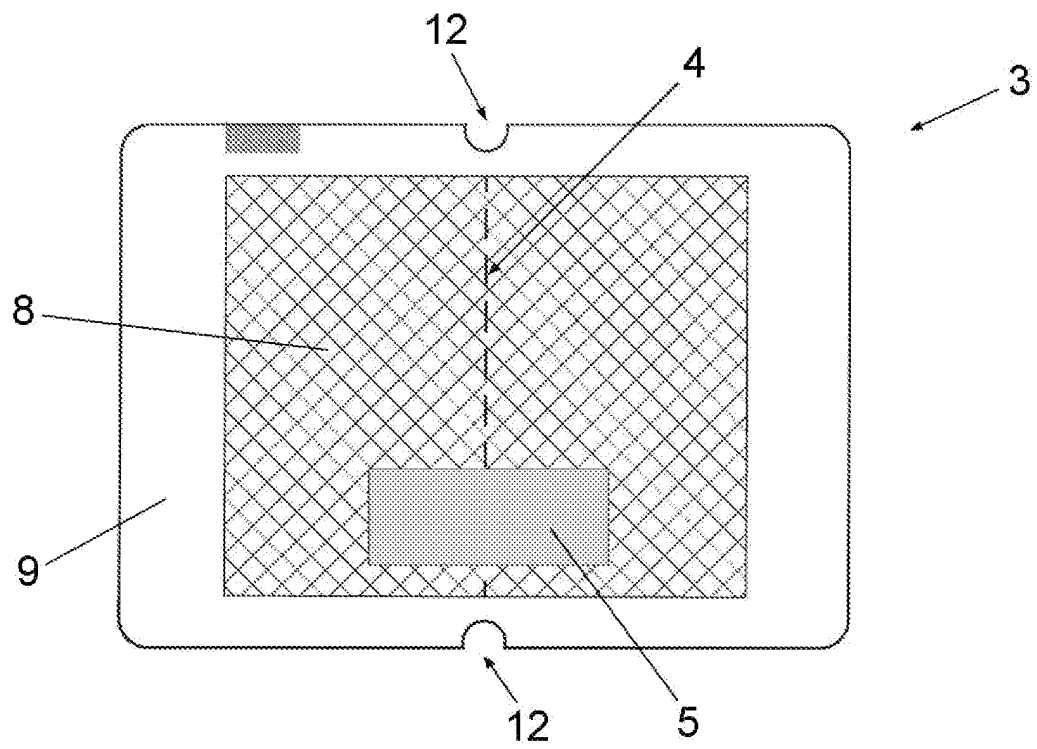


FIG. 3

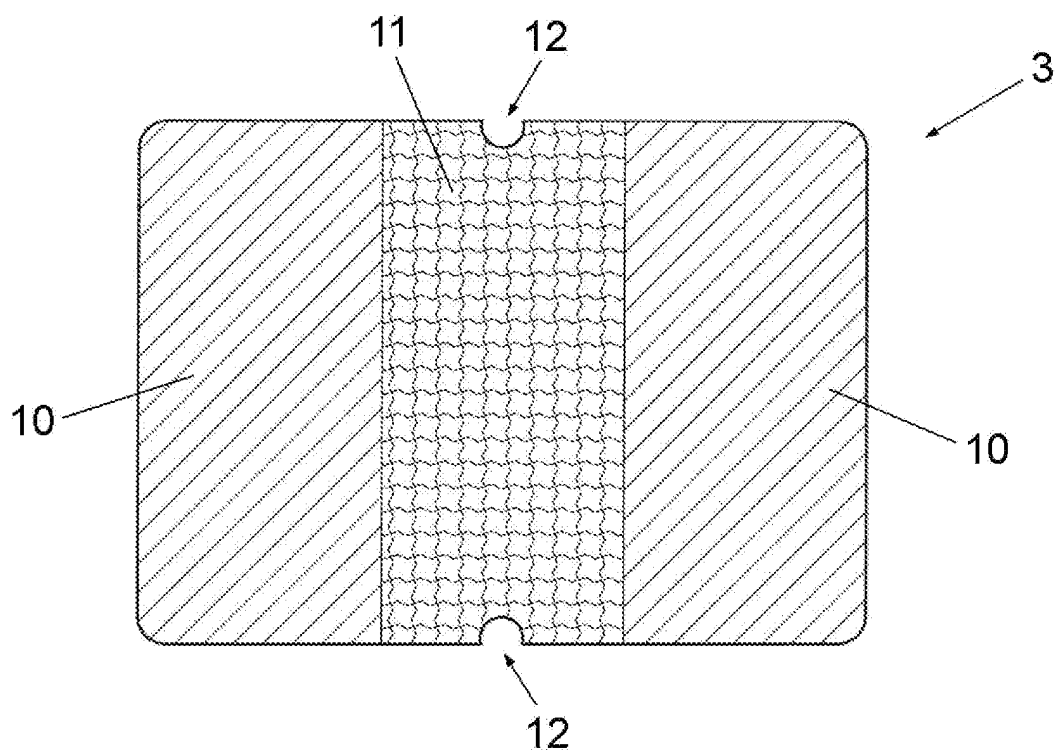


FIG. 4

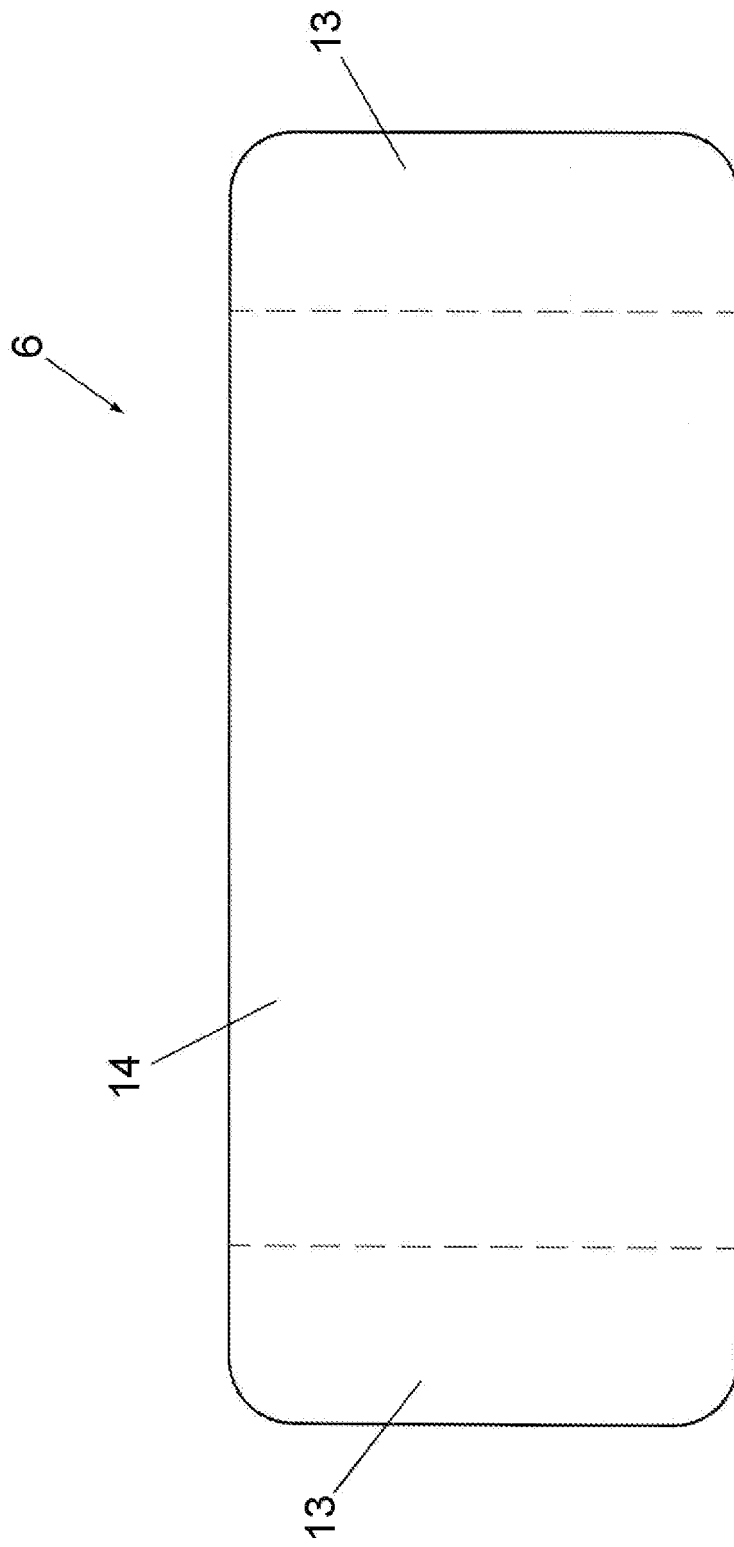


FIG. 5

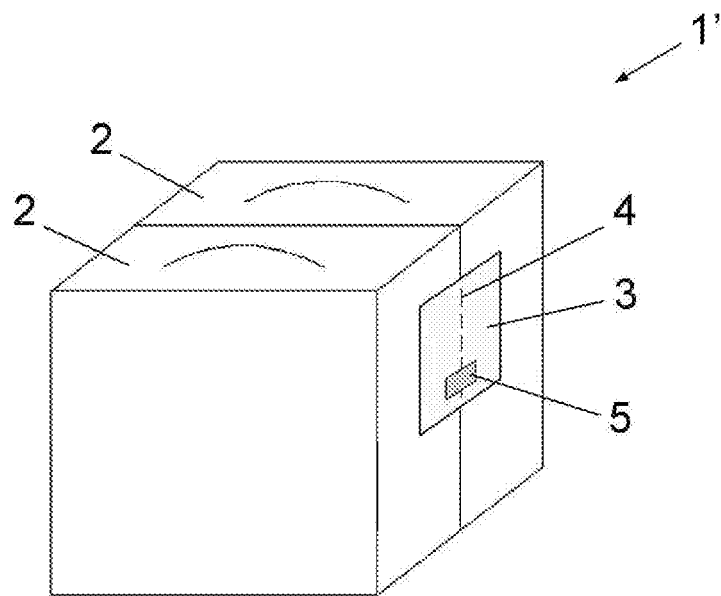


FIG. 6

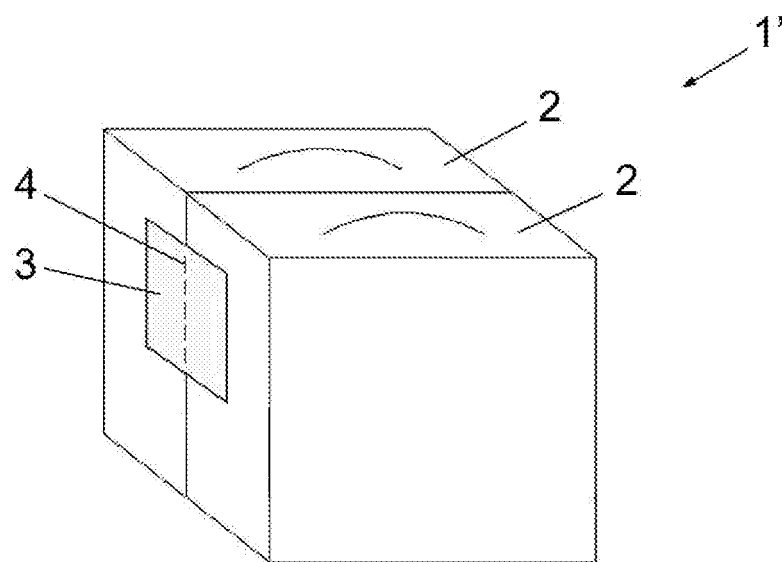


FIG. 7

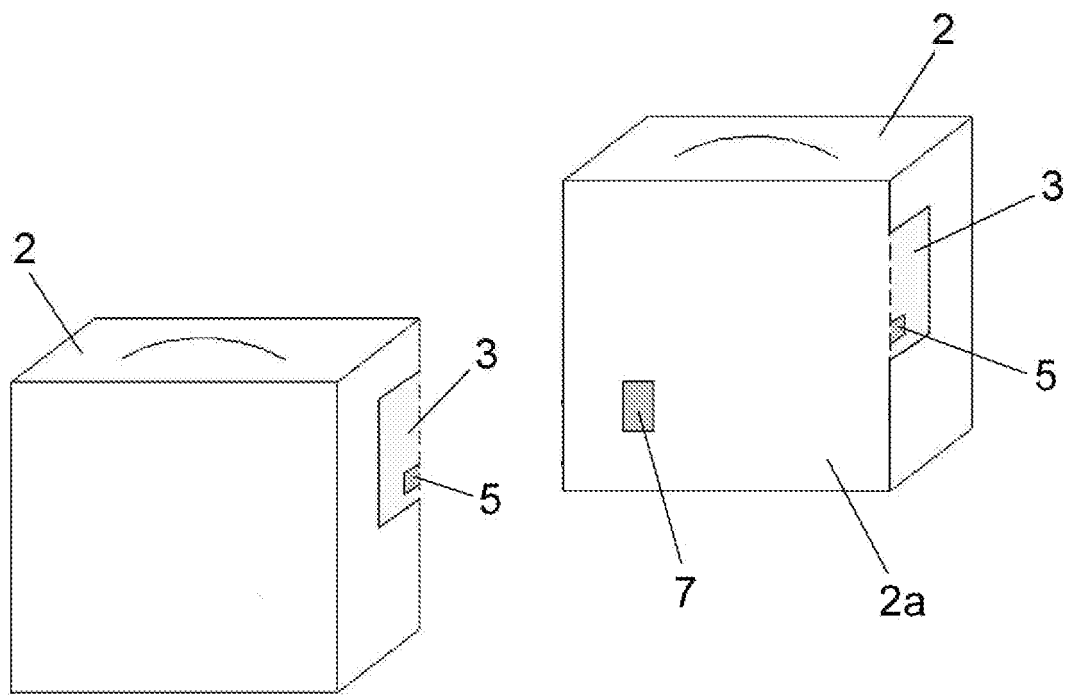


FIG. 8

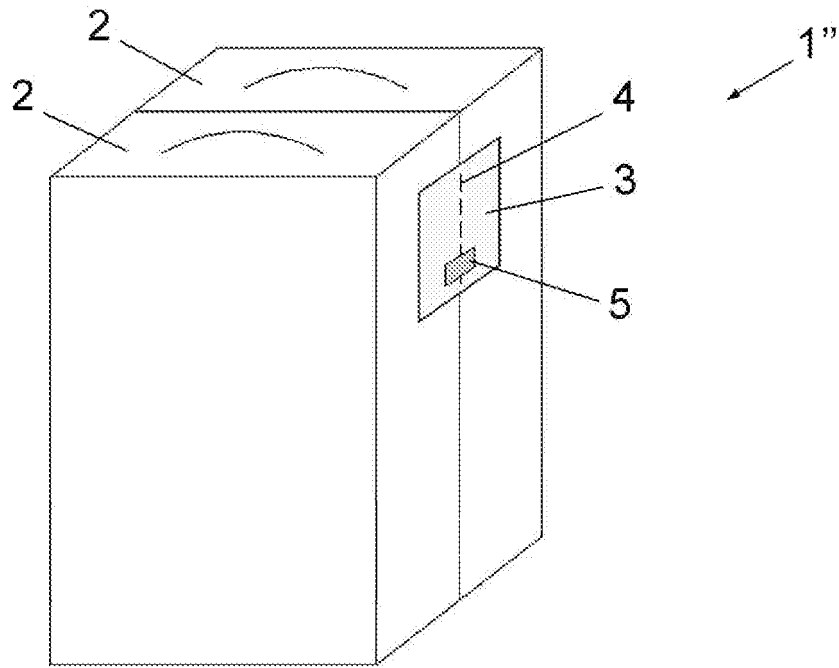


FIG. 9

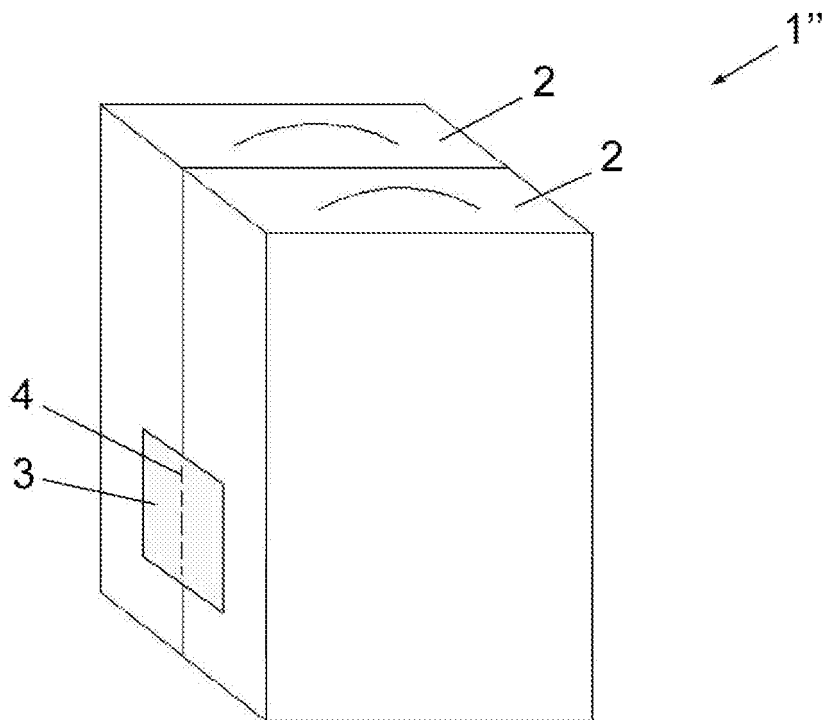


FIG. 10

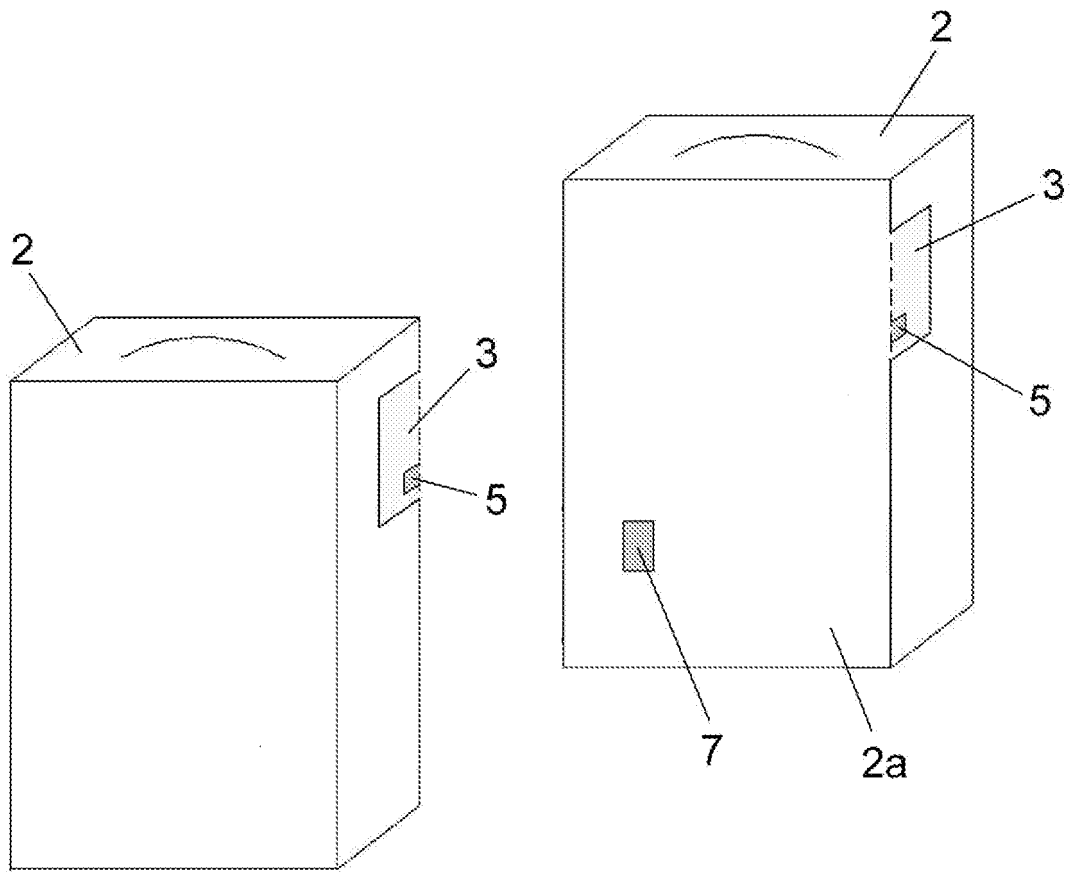


FIG. 11

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2005110873 A1 [0004]
- US 5201413 A [0004]