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(54) **Box for containing items**

Behälter zur Aufbewahrung von Artikeln

Boîte destinée à contenir des articles

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Description

[0001] The present invention relates to a box or case for containing items and in particular elongated items such as bottles or the like.

[0002] Boxes are currently known which are used for example to accommodate bottles and are obtained starting from a flat structure made of cardboard which is die-cut and on which respective portions are provided which are designed to provide the lower wall or bottom wall, the side walls and the upper closure wall.

[0003] The free flaps of the portions designed to provide the side walls are mutually glued so as to provide a closed and flattened structure.

[0004] In many cases, both the lower wall and the upper wall are constituted by flaps which are connected to the side walls by means of respective folding lines and are designed to be superimposed and glued.

[0005] A particular type of box is the one that can be associated detachably, on the bottom, with a structure which defines typically three lower accommodation seats for respective bottles or other items to be arranged so that their longitudinal axis is parallel to the bottom of the box, case or packaging.

[0006] Finally, respective elements, which also can be folded toward the inside of the box, are connected above the upper edge of the box to opposite sides and in turn cooperate to define three upper accommodation seats for respective bottles or other items arranged so as to correspond to the three lower accommodation seats.

[0007] The document FR 1252223 discloses a box according to the preamble of claim 1.

[0008] Such types of box or case, while being widely used at present, are however not devoid of drawbacks.

[0009] In particular, it is necessary to manage two or three distinct elements during production and during storage/shipping.

[0010] Moreover, the assembly of the boxes is in any case slow and laborious, since it is necessary to insert each time the structure that defines the three lower accommodation seats and, in some cases, also the structure that defines the three upper accommodation seats.

[0011] The aim of the present invention is to provide a single box for containing items, such as for example bottles, that is capable of eliminating the drawbacks noted above.

[0012] Within this aim, an important object of the present invention is to provide a box for containing items that has a very simple structure and has a competitive production cost, so that its use is advantageous also from an economic standpoint.

[0013] This aim, as well as these and other objects that will become better apparent hereinafter, are achieved by a box according to claim 1.

[0014] Further characteristics and advantages of the invention will become better apparent from the description of some preferred but not exclusive embodiments of a box with improved closure according to the present

invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a first embodiment of a box or case according to the invention in the fully open condition;

Figure 2 is another perspective view of the first embodiment of the box according to the invention, in which the plate-like body is folded inwardly;

Figure 3 is a perspective view of the first embodiment of the box according to the invention, in which the lateral bands are folded toward the inside of the box; Figure 4 is a perspective view of a second embodiment of a box according to the invention in the fully open condition;

Figure 5 is again a perspective view of the second embodiment of the box according to the invention, in which the plate-like body is folded inwardly;

Figure 6 is a perspective view of the second embodiment of the box according to the invention, in which the lateral bands are folded toward the inside of the box;

Figure 7 is a perspective view of a third embodiment of a box according to the invention in the fully open condition;

Figure 8 is an again a perspective view of the third embodiment of the box according to the invention, in which the plate-like body is folded inwardly and glued to the box;

Figure 9 is a perspective view of the third embodiment of the box according to the invention, in which the lateral bands are folded toward the inside of the box.

[0015] In the exemplary embodiments that follow, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other exemplary embodiments.

[0016] With reference to the figures, a box for containing items, such as bottles or the like, is generally designated by the reference numeral 1 and comprises a tubular structure 2, which has a rectangular (or square) transverse cross-section and defines four lateral walls 2c.

[0017] The tubular structure 2 is closed at a first end 2a by a bottom wall 3, which is constituted typically by four mutually interlocked or glued lower flaps, and defines, at the second end 2b that is opposite the first end 2a, an access inlet 4, which can be closed by means of a closure device 5 that is connected to at least one first edge 20 of the access inlet 4.

[0018] The closure device 5 conveniently has an insertion tab 5a which can be inserted within a slot 5b provided on a side wall 2c or at an edge that is opposite with respect to the first edge 20.

[0019] In greater detail, at least a second edge 21 of the access inlet 4 arranged laterally with respect to the first edge 20 is connected to a respective lateral band 30

that has at least a notch 30a that is parallel to the second edge 21.

[0020] The lateral band or bands 30 can be folded, advantageously, by way of folding lines, toward the bottom wall 3 of the box 1 in order to define at least two upper accommodation seats 40 which are arranged so that their longitudinal axis 104 is parallel to the bottom wall 3 of the box 1.

[0021] In particular, the upper accommodation seats 40 are arranged in a spaced position with respect to the bottom wall 3.

[0022] According to the present invention, the box 1 comprises a plate-like body 6 which is connected to a connecting portion defined on the tubular structure 2.

[0023] The plate-like body 6 can be folded toward the inside of said box 1 and has at least a first group of notches 50 designed to provide a respective side wall 50a for spacing from the bottom wall 3 in order to define at least two lower accommodation seats 51 which are arranged so as to be parallel and correspond to the at least two upper accommodation seats 40.

[0024] Advantageously, as shown in Figures 1 to 6 related to the first and second embodiments, the connecting portion comprises a third edge 23 of the access inlet 4 which is arranged opposite the first edge 20 and accordingly the plate-like body is provided in a single piece with the other elements that constitute the box 1.

[0025] However, as shown in Figures 7 to 9, the plate-like body 6 might not be provided in a single piece and thus be connected by means of a respective folding line to the third edge 23 of the access inlet 4, but the plate-like body can be associated stably, for example by gluing, to a side wall 2c of the tubular structure 2.

[0026] In this manner it is possible to use a closure device 5 which has, as shown, two mutually opposite closure portions.

[0027] Conveniently, the box 1 comprises two mutually opposite lateral bands 30 which are connected to respective second edges 21 which are mutually opposite.

[0028] With reference to a preferred embodiment, each lateral band 30 has two mutually opposite notches 30a for defining three upper accommodation seats 40.

[0029] Likewise, the plate-like body 6 has at least two groups of notches 50 which are designed to provide a respective side wall 50a for spacing from the bottom wall 3 in order to define three lower accommodation seats 51.

[0030] In greater detail, the plate-like body 6 can comprise a connecting band 6a which lies between the third edge 23 and a group of notches 50.

[0031] A first group of notches 50, and particularly the one arranged toward the third edge 23, comprises a U-shaped notch in which the concavity is directed away with respect to the third edge 23.

[0032] The optional other group of notches 50 comprises a pair of mutually spaced notches which extend from the edge that is opposite the third edge 23 and at right angles thereto.

[0033] As regards the manner of providing a box 1 ac-

cording to the invention, it can be obtained from a die-cut plate-like body which has a longitudinal band provided with folding portions and designed to define the side walls 2c of the box 1.

[0034] The longitudinal band has the respective longitudinal ends which can be mutually connected to provide a closed structure that is adapted to pass, on command, between a collapsed closure condition and an extended open condition in which it defines a tubular structure 2 which has a rectangular transverse cross-section.

[0035] The first end 2a of the tubular structure 2 is connected to a plurality of bottom elements which are connected to the first end 2a through first folding lines and are intended to provide, in the extended open condition, the bottom wall 3 of the box 1.

[0036] The second end 2b of the tubular structure 2 is connected, by means of respective second folding lines, to the closure device 5, to at least one lateral band 30 and to at least one plate-like body 6.

[0037] The use of a box for containing items according to the invention is evident from what has been described above.

[0038] All the characteristics of the invention indicated above as advantageous, convenient and the like, may also be omitted or be replaced with equivalents.

[0039] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0040] In practice it has been found that the invention has achieved, in all the embodiments, its intended aim and objects.

[0041] In practice, the materials used, as well as the contingent shapes and dimensions, may be an according to requirements.

[0042] All the details may further be replaced with other technically equivalent elements.

[0043] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A box (1) for containing items, comprising a tubular structure (2), having a rectangular transverse cross-section, which defines four side walls (2c) and is closed at a first end (2a) by a bottom wall (3) and defines, at the second end (2b), which is opposite to said first end (2a), an access inlet (4) which can be closed by means of a closure device (5) which is connected to at least one first edge (20) of said access inlet (4), at least one second edge (21) arranged laterally with respect to said first edge (20) being connected to a respective lateral band (30) which

- has at least one notch (30a) which is parallel to said second edge (21), said at least one lateral band (30) being foldable toward the bottom wall (3) of said box (1) to define at least two upper accommodation seats (40) which are arranged with their longitudinal axis (104) parallel to the bottom wall (3) of said box (1) and in a spaced position from said bottom wall (3), said box being **characterized in that** it comprises a plate-like body (6) which is connected to a connecting portion of said tubular structure (2) and can be folded toward the inside of said box (1), said plate-like body (6) having at least a first group of notches (50) designed to provide a respective lateral wall (50a) for spacing from said bottom wall (3) in order to define at least two lower accommodation seats (51) which are arranged so as to be parallel and correspond to said at least two upper accommodation seats (40).
2. The box (1) according to claim 1, **characterized in that** said connecting portion comprises a third edge (23) of said access inlet (4) which is arranged opposite with respect to said first edge (20).
 3. The box (1) according to one or more of the preceding claims, **characterized in that** it comprises two mutually opposite lateral bands (30) which are connected to respective second edges which are arranged so as to be mutually opposite.
 4. The box (1) according to one or more of the preceding claims, **characterized in that** said at least one lateral band (30) has two mutually opposite notches (30a) in order to define three upper accommodation seats (40), and **in that** said plate-like body (6) has at least two groups of notches (50) designed to provide a respective lateral wall (50a) for spacing from said bottom wall (3) in order to define three lower accommodation seats (51).
 5. The box (1) according to one or more of the preceding claims, **characterized in that** said plate-like body (6) comprises a connecting band (6a), which is extended between said third edge (23) and said at least one group of notches (50).
 6. The box (1) according to one or more of the preceding claims, **characterized in that** said at least one group of notches (50) comprises a U-shaped notch in which the concavity is directed away from said third edge (23).
 7. The box (1) according to one or more of the preceding claims, **characterized in that** said at least one group of notches (50) comprises a pair of notches that extend from the edge that is opposite to said third edge (23) and at right angles thereto.
 8. The box (1) according to one or more of the preceding claims, **characterized in that** it comprises a die-cut plate-like body which has a longitudinal band provided with folding portions and designed to define the side walls of said box (1), said longitudinal band having the respective longitudinal ends that can be mutually connected to provide a closed structure which is adapted to pass, on command, between a collapsed closed condition and an extended open condition, in which it defines a tubular structure having a rectangular transverse cross-section, said first end of said tubular structure (2) being connected to a plurality of bottom elements which are connected to said first end (2a) by means of first folding lines and are designed to provide, in said extended open condition, said bottom wall (3) of said box (1), the second end (2b) of said tubular structure (2) being connected, by respective second folding lines, to said closure device (5), to said at least one lateral band (30) and to said at least one plate-like body (6).
 9. The box (1) according to one or more of the preceding claims, **characterized in that** said items are selected from the group that comprises bottles, agricultural products, spray cans, flasks and the like.
 10. The box (1) according to one or more of the preceding claims, **characterized in that** said plate-like body (6) can be associated stably, by automated or manual adhesive bonding, with a side wall (2c) of the tubular structure (2).

Patentansprüche

1. Behälter (1) zur Aufbewahrung von Gegenständen, umfassend eine Röhrenstruktur (2), die einen rechteckigen transversalen Querschnitt aufweist, welche vier Seitenwände (2c) definiert und an einem ersten Ende (2a) durch eine Bodenwand (3) geschlossen ist und an dem zweiten Ende (2b), welches dem ersten Ende (2a) gegenüberliegt, einen Zugangseingang (4) definiert, welcher mittels einer Verschlussvorrichtung (5), welche mit zumindest einer ersten Kante (20) des Zugangseinganges (4) verbunden ist, geschlossen werden kann, zumindest einer zweiten Kante (21), die seitlich hinsichtlich der ersten Kante (20) angeordnet ist, die mit dem entsprechenden seitlichen Band (30) verbunden ist, welches zumindest einen Einschnitt (30a) aufweist, welcher parallel zu der zweiten Kante (21) verläuft, wobei zumindest ein seitliches Band (30) in Richtung der Bodenwand (3) des Behälters (1) faltbar ist, um zumindest zwei obere Verstauplätze (40) zu definieren, welche mit ihren longitudinalen Achsen (104) parallel zu der Bodenwand (3) des Behälters (1) und in beabstandeter Position von der Bodenwand (3) angeordnet sind, wobei der Behälter **dadurch ge-**

- kennzeichnet ist, daß** er einen plattenähnlichen Körper (6) umfaßt, welcher mit einem Verbindungsabschnitt der Röhrenstruktur (2) verbunden ist und nach innen des Behälters (1) gefaltet werden kann, wobei der plattenähnliche Körper (6) zumindest eine erste Gruppe von Einschnitten (50) aufweist, die gestaltet sind, um eine entsprechende seitliche Wand (50a) zur Beabstandung von der Bodenwand (3) zu schaffen, um zumindest zwei untere Verstauplätze (51) zu definieren, welche angeordnet sind, um parallel und korrespondierend zu den zwei oberen Verstauplätzen (40) zu sein.
2. Behälter (1) gemäß Anspruch 1, **dadurch gekennzeichnet, daß** der Verbindungsabschnitt eine dritte Kante (23) des Zugangeinganges (4) umfaßt, welcher gegenüber hinsichtlich der ersten Kante (20) angeordnet ist.
 3. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** er zwei gegenseitig gegenüberliegende seitliche Bänder (30) umfaßt, welche mit den entsprechenden zweiten Kanten verbunden sind, welche angeordnet sind, um gegenseitig gegenüberliegend zu sein.
 4. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** zumindest ein seitliches Band (30) zwei gegenseitig gegenüberliegende Einschnitte (30a) aufweist, um drei obere Verstauplätze (40) zu definieren, und daß der plattenähnliche Körper (6) zumindest zwei Gruppen von Einschnitten (50) aufweist, die gestaltet sind, um eine entsprechende seitliche Wand (50a) zur Beabstandung von der Bodenwand (3) zu schaffen, um drei untere Verstauplätze (51) zu definieren.
 5. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** der plattenähnliche Körper (6) ein verbindendes Band (6a) umfaßt, welches sich zwischen der dritten Kante (23) und der zumindest einen Gruppe von Einschnitten (50) erstreckt.
 6. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** zumindest eine Gruppe von Einschnitten (50) einen U-förmigen Einschnitt umfaßt, in welchem die Wölbung von der dritten Kante (23) weggerichtet ist.
 7. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** die zumindest eine Gruppe von Einschnitten (50) ein Paar von Einschnitten aufweist, das sich von der Kante, die der dritten Kante (23) gegenüber-
- liegt, und unter einem rechten Winkel dazu erstreckt.
8. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** er einen gestanzten plattenähnlichen Körper umfaßt, welcher ein longitudinales Band aufweist, das mit Faltab schnitten ausgestattet ist und gestaltet ist, um die Seitenwände des Behälters (1) zu definieren, wobei das longitudinale Band die entsprechenden longitudinalen Enden aufweist, die gegenseitig verbunden werden können, um eine geschlossene Struktur zu schaffen, welche dazu ausgelegt ist, auf Anweisung zwischen einem geschlossenen und einem erweiterten offenen Zustand zu gehen, in welchem er eine Röhrenstruktur definiert, welche einen rechteckigen transversalen Querschnitt aufweist, wobei das erste Ende der Röhrenstruktur (2) mit einer Vielzahl von Bodenelementen verbunden ist, welche mit dem ersten Ende (2a) mittels erster Faltlinien verbunden sind, und welche dazu gestaltet sind, in dem erweiterten offenen Zustand die Bodenwand (3) des Behälters (1) zu schaffen, wobei das zweite Ende (2b) der Röhrenstruktur (2) durch entsprechende zweite Faltlinien mit der Verschlussvorrichtung (5), dem zumindest einen seitlichen Band (30) und dem zumindest einen plattenähnlichen Körper (6) verbunden ist.
 9. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** die Gegenstände aus einer Gruppe gewählt sind, die Flaschen, landwirtschaftliche Produkte, Sprühdosen, Flakons und ähnliches umfaßt.
 10. Behälter (1) gemäß einem oder mehreren der voranstehenden Ansprüche, **dadurch gekennzeichnet, daß** der plattenähnliche Körper (6) stabil durch eine automatisierte oder händische Klebeverbindung mit einer Seitenwand (2c) der Röhrenstruktur (2) verbunden werden kann.

Revendications

1. Boîte (1) destinée à contenir des articles, comprenant une structure tubulaire (2), ayant une section transversale rectangulaire, qui définit quatre parois latérales (2c) et est fermée à une première extrémité (2a) par une paroi de fond (3) et définit, à la seconde extrémité (2b), qui est opposée à ladite première extrémité (2a), une entrée d'accès (4) qui peut être fermée au moyen d'un dispositif de fermeture (5) qui est relié à au moins un premier bord (20) de ladite entrée d'accès (4), au moins un deuxième bord (21) disposé latéralement par rapport audit premier bord (20) étant relié à une bande latérale respective (30) qui présente au moins une encoche (30a) qui est parallèle audit deuxième bord (21), ladite au moins

une bande latérale (30) étant repliable vers la paroi de fond (3) de ladite boîte (1) pour définir au moins deux sièges de logement supérieur (40) qui sont disposés avec leur axe longitudinal (104) parallèle à la paroi de fond (3) de ladite boîte (1) et dans une position espacée de ladite paroi de fond (3), ladite boîte étant **caractérisée en ce qu'elle** comporte un corps en forme de plaque (6) qui est relié à une partie de connexion de ladite structure tubulaire (2) et peut être plié vers l'intérieur de ladite boîte (1), ledit corps en forme de plaque (6) ayant au moins un premier groupe d'encoches (50) conçu pour fournir une paroi latérale respective (50a) pour l'espacement de ladite paroi de fond (3) de manière à définir au moins deux sièges de logement inférieur (51) qui sont agencés de manière à être parallèles et correspondent auxdits au moins deux sièges de logement supérieur (40).

2. Boîte (1) selon la revendication 1, **caractérisée en ce que** ladite partie de connexion comporte un troisième bord (23) de ladite entrée d'accès (4) qui est disposé à l'opposé par rapport audit premier bord (20).

3. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce qu'elle** comporte deux bandes latérales mutuellement opposées (30) qui sont reliées aux deuxièmes bords respectifs lesquels sont disposés de manière à être mutuellement opposés.

4. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ladite au moins une bande latérale (30) présente deux encoches mutuellement opposées (30a) afin de définir trois sièges de logement supérieur (40), et **en ce que** ledit corps en forme de plaque (6) présente au moins deux groupes d'encoches (50) destinés à fournir une paroi latérale respective (50a) pour l'espacement de ladite paroi de fond (3) de manière à définir trois sièges de logement inférieur (51).

5. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ledit corps en forme de plaque (6) comprend une bande de liaison (6a), qui se prolonge entre ledit troisième bord (23) et ledit au moins un groupe d'encoches (50).

6. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ledit au moins un groupe d'encoches (50) comprend une encoche en forme de U dont la concavité est orientée à l'écart dudit troisième bord (23).

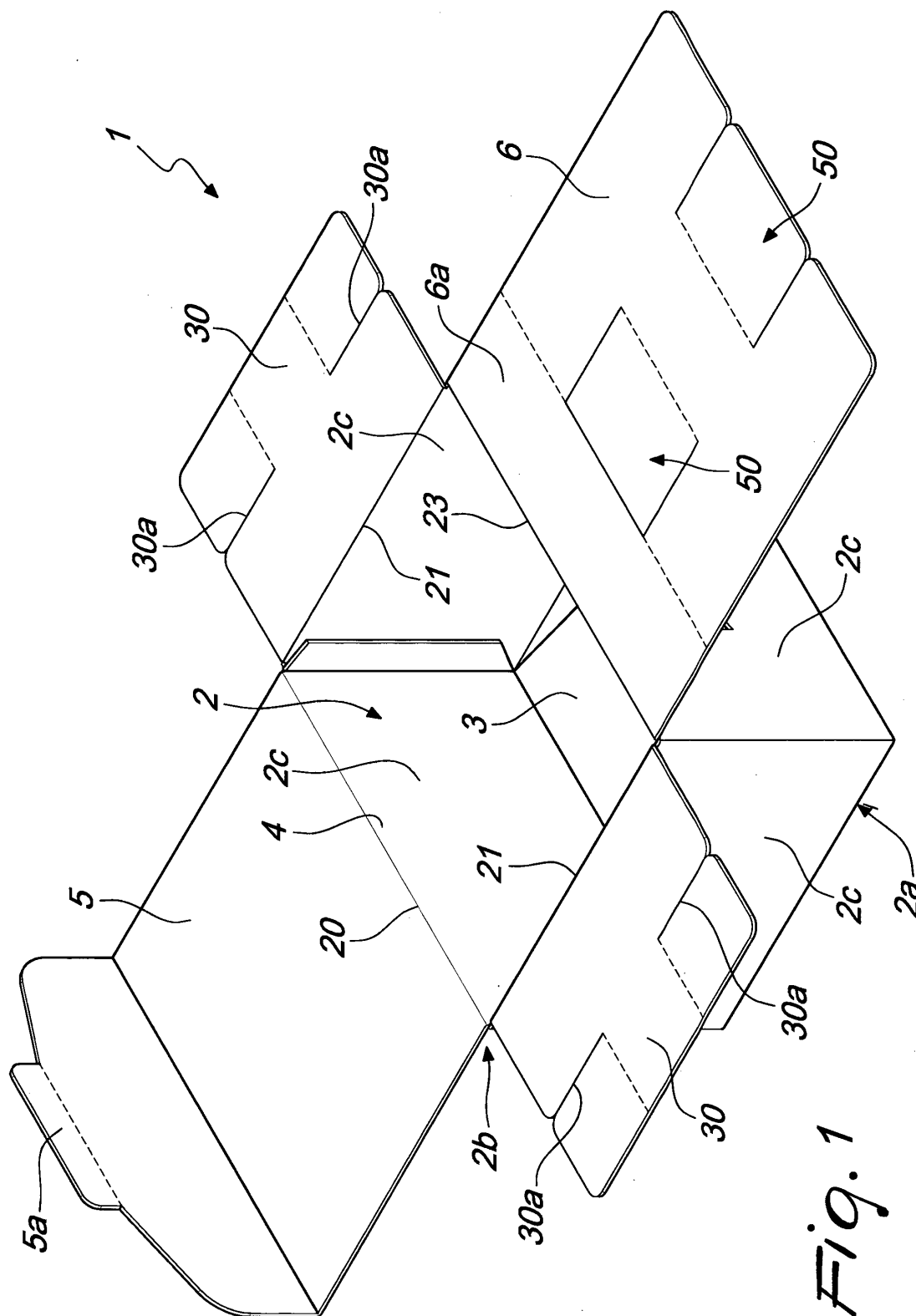
7. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ledit au moins un groupe d'encoches (50) comprend une paire

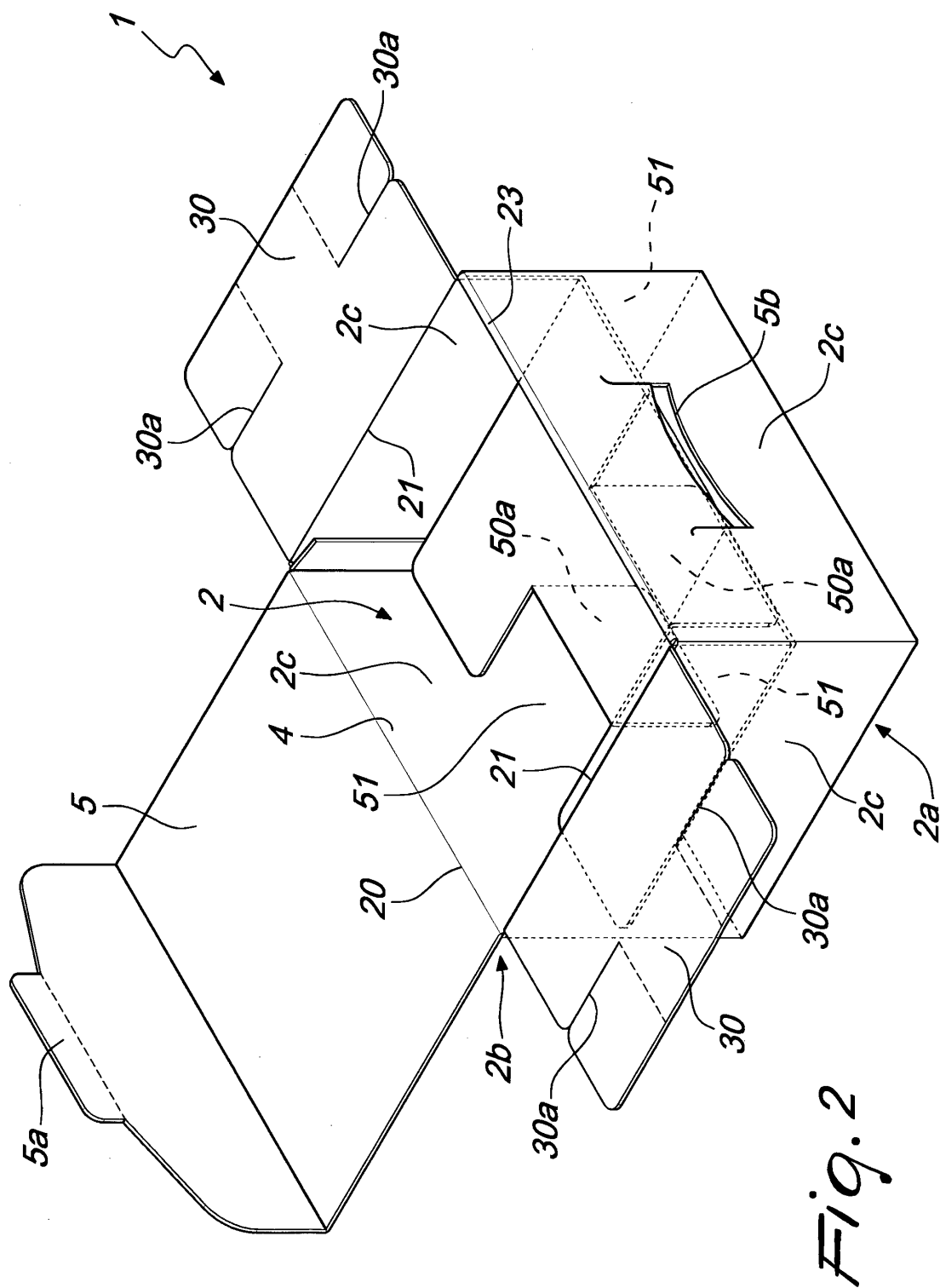
d'encoches qui s'étendent à partir du bord qui est opposé audit troisième bord (23) et à des angles droits correspondants.

5 8. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce qu'elle** comporte un corps en forme de plaque estampée qui présente une bande longitudinale munie de parties de pliage et conçue pour définir les parois latérales de ladite boîte (1), ladite bande longitudinale ayant les extrémités longitudinales respectives qui peuvent être mutuellement reliées pour fournir une structure fermée qui est adaptée pour basculer, sur commande, entre une condition fermée repliée et une condition ouverte étendue, dans laquelle elle définit une structure tubulaire ayant une section transversale rectangulaire, ladite première extrémité de ladite structure tubulaire (2) étant reliée à une pluralité d'éléments de fond qui sont reliés à ladite première extrémité (2a) au moyen de premières lignes de pliage et sont conçus pour fournir, dans ladite condition ouverte étendue, ladite paroi de fond (3) de ladite boîte (1), la seconde extrémité (2b) de ladite structure tubulaire (2) étant reliée, par des secondes lignes de pliage respectives, audit dispositif de fermeture (5), à ladite au moins une bande latérale (30) et audit au moins un corps en forme de plaque (6).

9. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** lesdits éléments sont sélectionnés dans le groupe qui comprend des bouteilles, des produits agricoles, des bombes d'aérosol, des flacons et analogues.

10. Boîte (1) selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ledit corps en forme de plaque (6) peut être associé de façon stable, par collage automatique ou manuel, à une paroi latérale (2c) de la structure tubulaire (2).





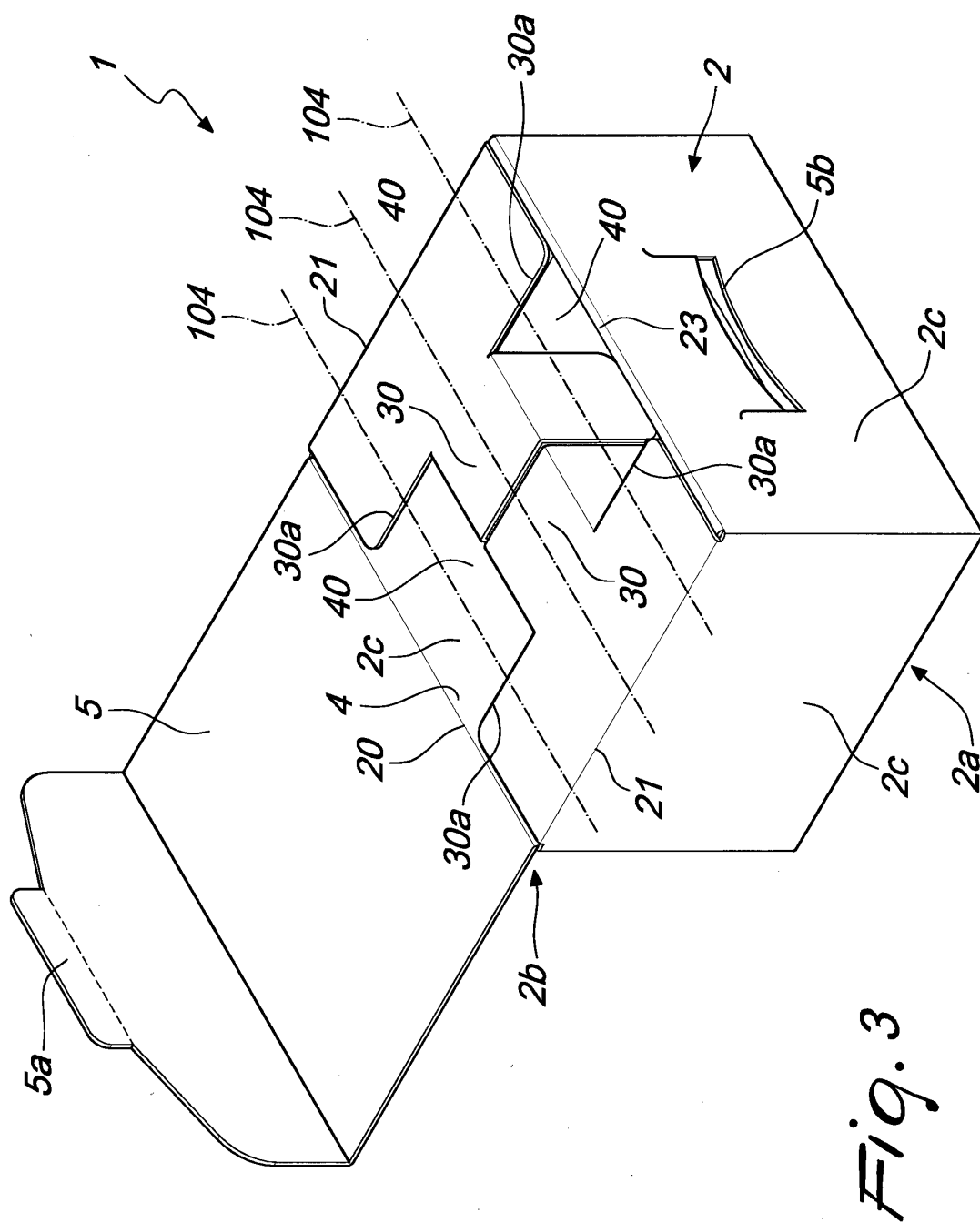


Fig. 3

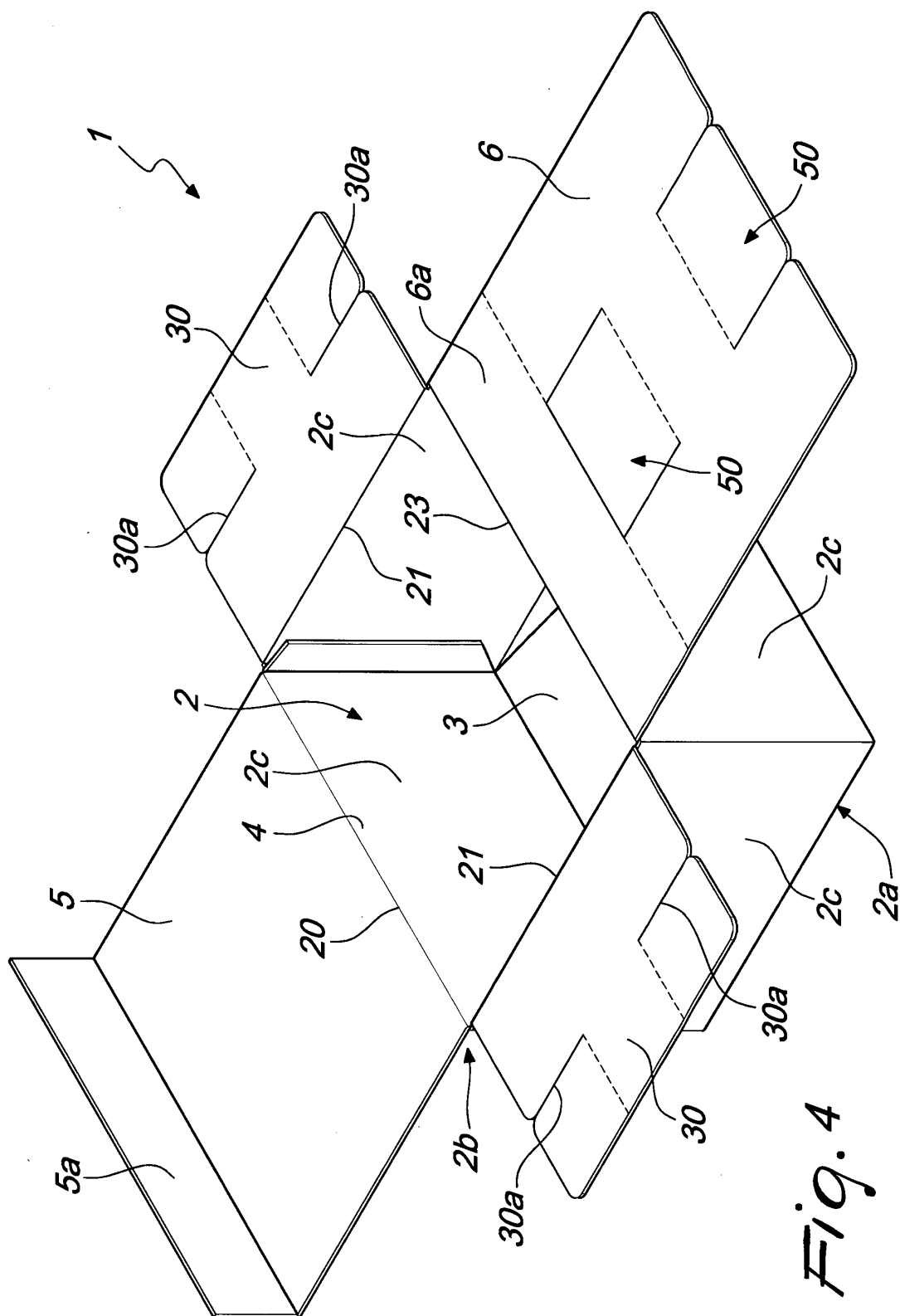


Fig. 4

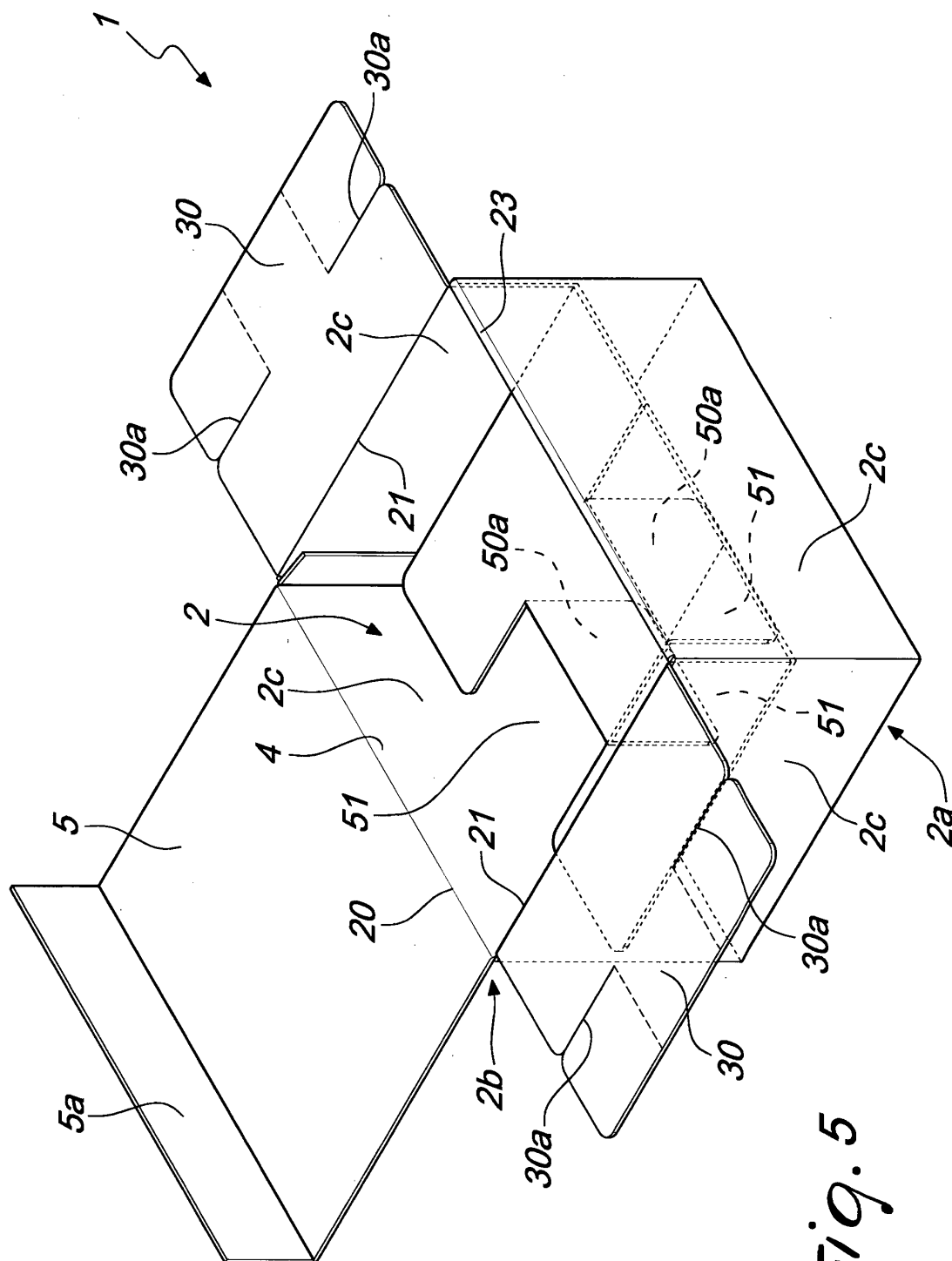
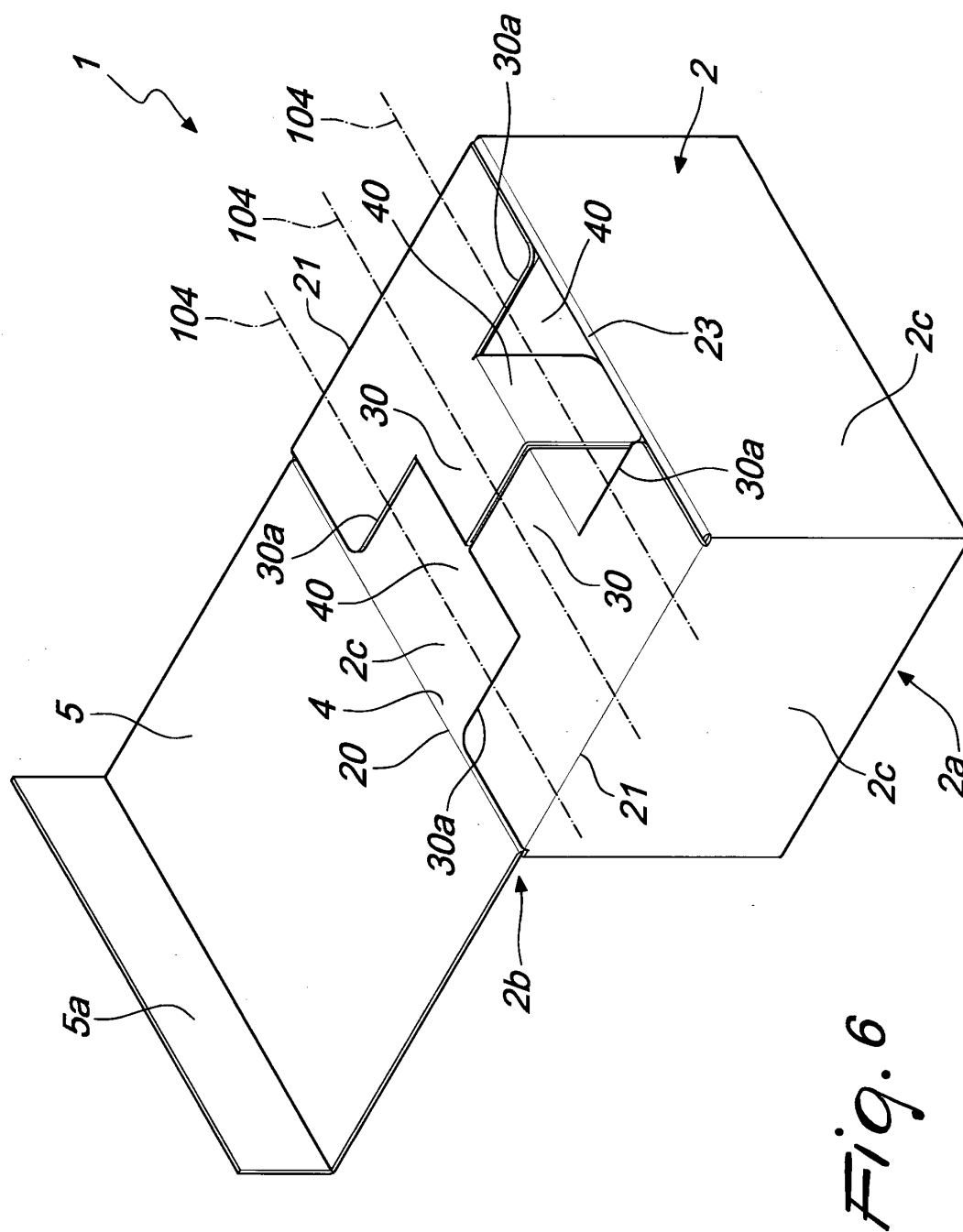


Fig. 5



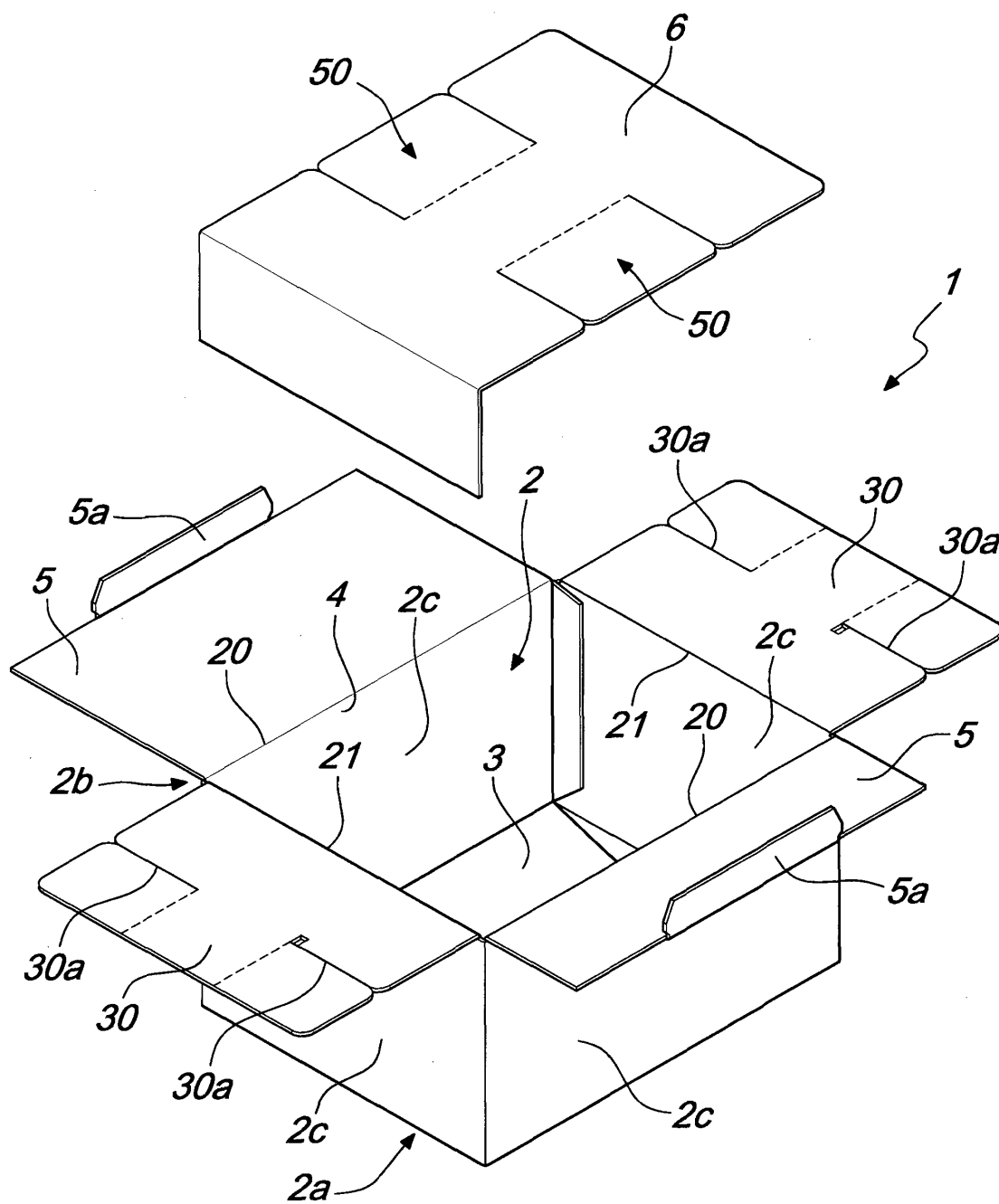


Fig. 7

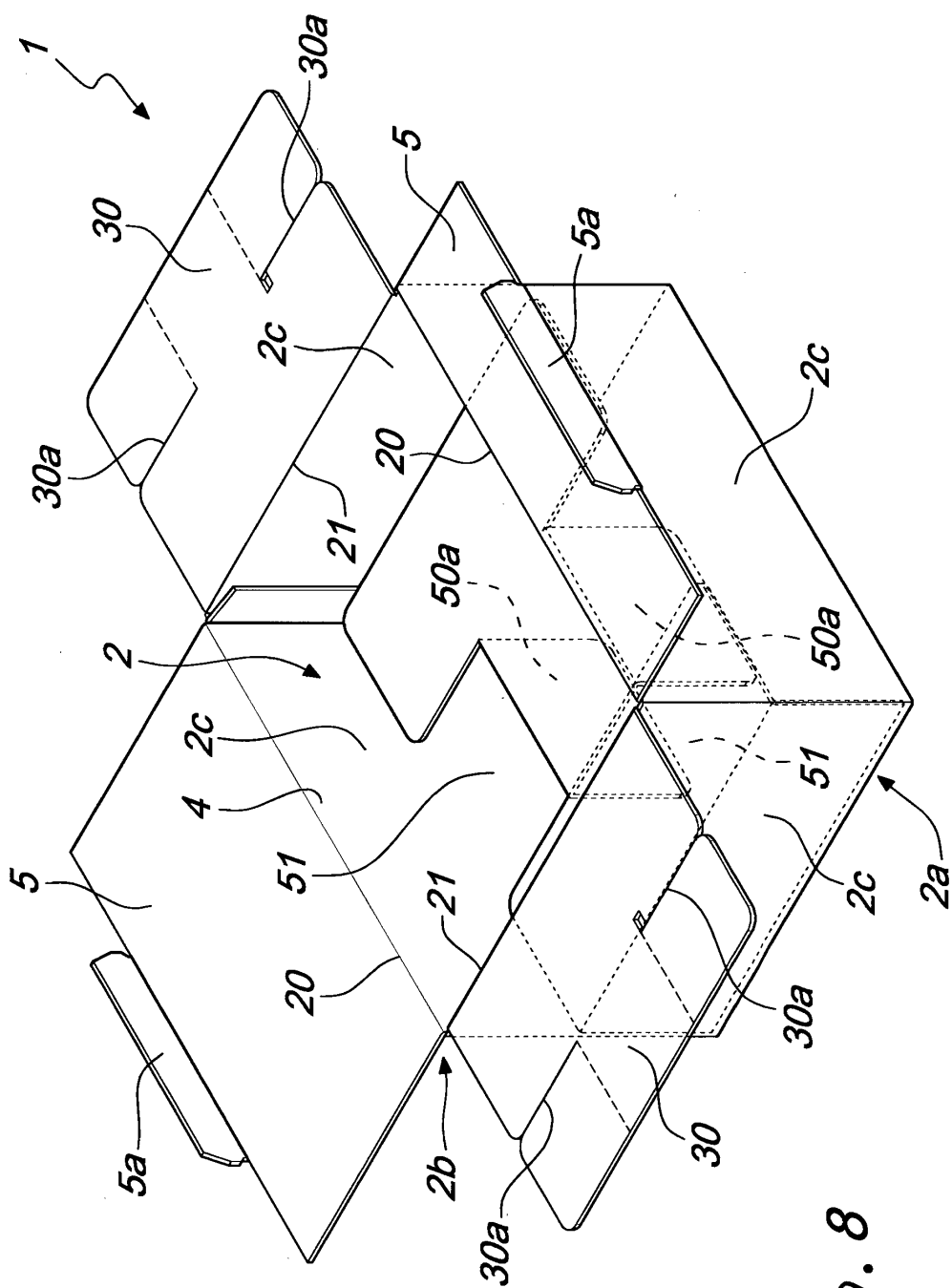


Fig. 8

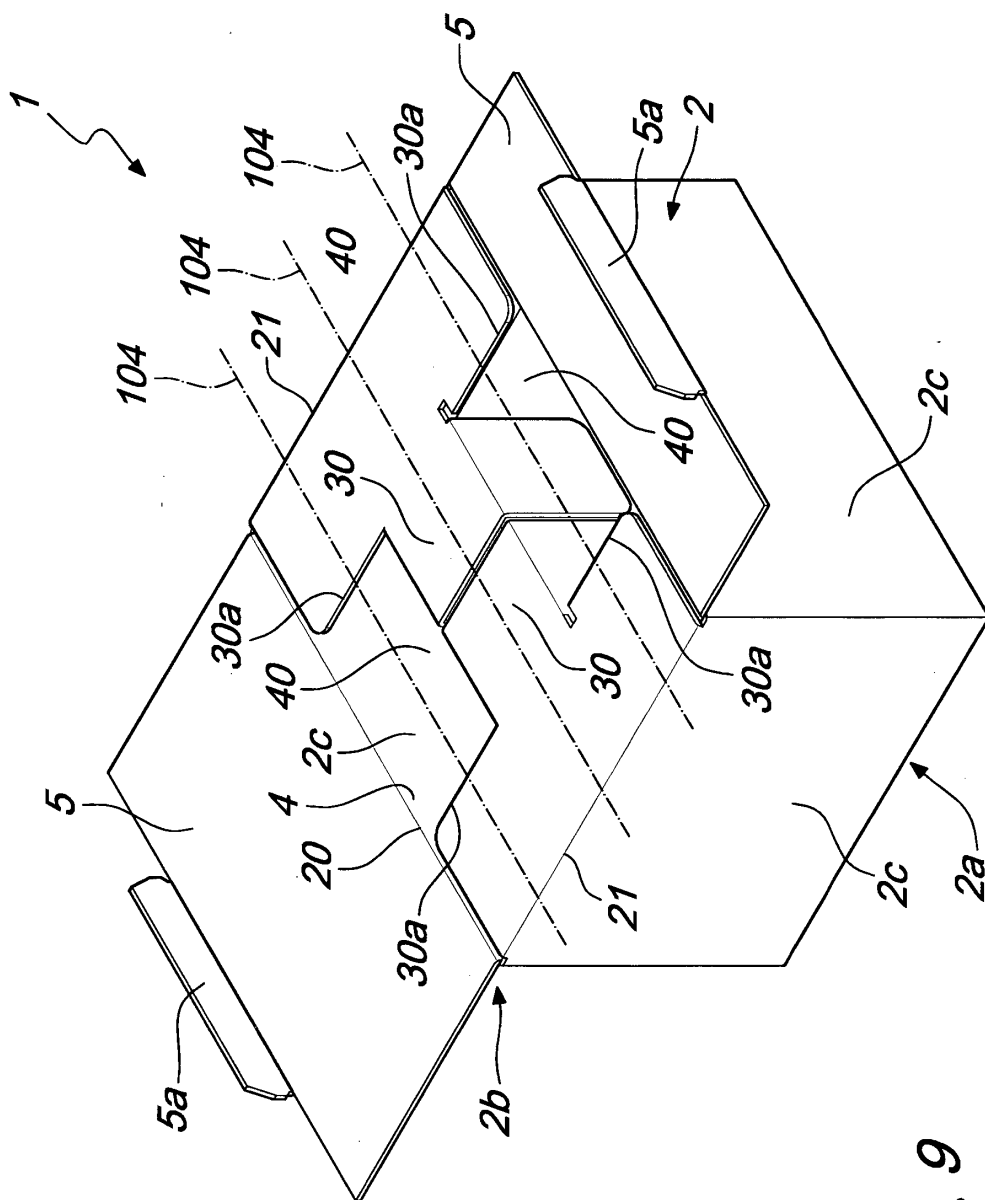


Fig. 9

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- FR 1252223 [0007]