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(54) **Container**

(57) The container of the present invention is provided with a box body 1 having front and rear walls 4 and 5, left and right walls 6, and a bottom wall 7; a lid 2 continuous with the rear wall 5; and an insertion part 3 continuous with the front edge of the lid 2. A plurality of finger application parts 20 is integrally connected to the front edge of the lid 2 at at least one second connecting portion of the lid. With the insertion part 3 inserted in the inner face of the front wall 4, the finger application parts 20 protrude frontward from the front wall 4, so by applying fingertips to the finger application parts 20, it is possible to conveniently insert or remove the insertion part 3 and open or close the lid 2.

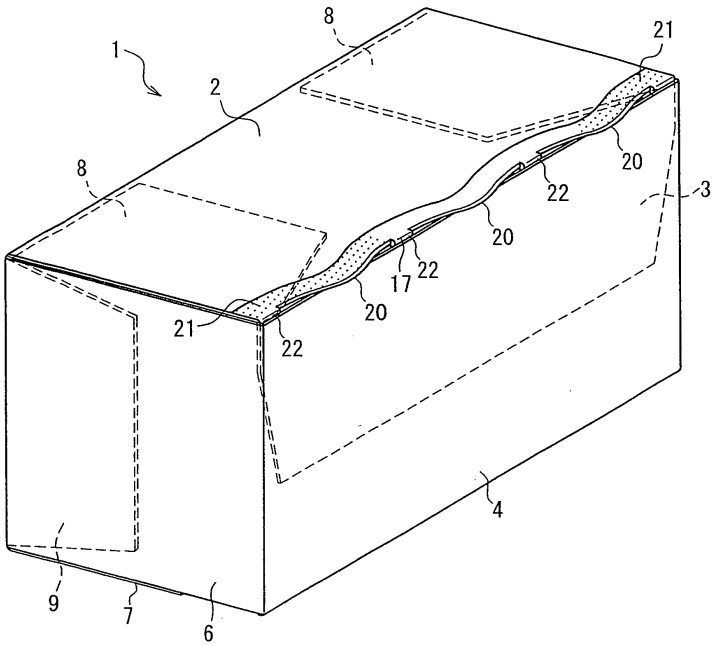

FIG. 3

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Description

[0001] This invention relates to a four-sided box-like container formed with paper or plastic sheet material. The container of this invention contains, for example, a plurality of button-shaped batteries that have been individually packaged.

[0002] Some number of configurations have been proposed for, in a container provided with a box body, a lid body that swings to open or close a top opening of the box body, and an insertion part that is continuous with the front edge of the lid body, simplifying insertion/removal of the insertion part and opening/closing of the lid body (JP 2003-327229A, JP 2003-291943A). In JP 2003-327229A, an inverse V-shaped finger groove is formed in the insertion part, and moreover a semicircular cutout portion facing the finger groove is formed in the upper edge of the front wall of the box body. Also, in JP 2003-21943A, instead of that finger groove, a fold that is easily deformed inward is formed in the insertion part.

[0003] When the lid body of an ordinary container is completely closed, it may take time and effort to identify whether the front edge or the rear edge of the lid body is the edge from which the lid opens. In particular, in the case of a small container that contains a plurality of small products, the container may be formed from thin material, and in a dim environment, it becomes difficult to ascertain the edge from which the lid body opens.

[0004] Also, when the front edge of the lid sinks in from the opening face of the box body, it may become difficult to pull out the insertion part, so that it takes time and effort to open the lid body.

[0005] Thus, according to the containers disclosed in JP 2003-327229A and JP 2003-291943A as described above, in which a finger groove or the like is added to the insertion part and also a cutout portion is provided in the upper edge of the front wall of the box body, it is possible to identify the edge from which the lid opens by sight or by feel, and in addition, it is possible to simplify insertion/removal of the insertion part and opening/closing of the lid body. However, convenience is lacking because when performing insertion/removal of the insertion part, it is necessary for fingertips to be applied to a specific location where the finger groove or cutout portion is formed. Also, in a container in which simply a finger groove and cutout portion are formed, when external force is applied to the lid body of the container, because the front edge of the lid body sinks in from the opening face of the box body, problems easily occur such as taking time and effort to open the lid or deformation of a product contained in the box body.

[0006] Also, the containers according to the related art can be easily imitated because there are no external characteristics. Thus, when the exterior of the container or the package design of an individual product is imitated, it is difficult to distinguish between an authentic product and an imitation product, so the end user is likely to confuse one for the other. In particular, in a product market that depends as much on imports as manufactured goods, imitation products are often exhibited and sold in public, and thus there is a strong desire for way to prevent product imitation.

[0007] It is an object of the present invention to provide a container with which it is possible to identify the edge from which the lid opens by sight or by feel, and in addition, it is possible to simply perform insertion/removal of the insertion part and opening/closing of the lid. It is a further object of the present invention to provide a container provided with a characteristic structure suggesting difficulty of imitation.

[0008] According to an embodiment of the present invention, a container is provided with a box body having a front wall, a rear wall, a left wall, a right wall, and a bottom wall; a lid formed in a state continuous with the rear wall, the lid opening and closing the top face of the box body; and an insertion part continuous with the front edge of the lid; the container being characterized in that a finger application part is formed by a break line that protrudes in the direction of the insertion part, the finger application part being formed in a fold line portion between the lid and the insertion part, and with the insertion part inserted in the inner face of the front wall, the finger application part protrudes frontward from the front wall.

[0009] As used herein, the term break line forming the finger application part identifies a line of separation between the front edge of the finger application part and a portion of the insertion part. The break line may be manufactured, for example, by cutting, punching, breaking and other methods.

[0010] According to another embodiment of the present invention, a container includes a box body having a front wall, a rear wall, a left wall, a right wall, a bottom wall and a lid integrally connected to the rear wall such that the lid may open and close the top face of the box body; wherein an insertion part is integrally connected to a front edge of the lid at at least two first connecting portions of the lid, wherein, when the box body is closed, the insertion part is placed inside the box and contacting an inner face of the front wall; and wherein a finger application part is integrally connected to the front edge of the lid at at least one second connecting portion of the lid, wherein, when the box body is closed, the finger application part protrudes from the front wall and may contact an upper edge of the front wall.

[0011] As used herein, the term fold line means a line in a sheet material along which a rigidity of the sheet material is weakened such that bending of the sheet preferably results in folding of the sheet along the fold line. For example, a thickness of the sheet material in a region of the fold line may be smaller as compared to regions outside of the fold line. A fold line may be manufactured, for example, by pressing of the sheet material along a continuous or broken line, introducing perforations disposed along a line and other methods.

[0012] Embodiments of the present invention will be illustrated below with reference to the accompanying

drawings, in which:

FIG. 1 is a plan view of the container of the present invention;

FIG. 2A is a cross-sectional view taken along line I-I in FIG. 1;

FIG. 2B is an enlarged view of a portion 2B of FIG. 2A;

FIG. 3 is a perspective view of the container of the present invention;

FIG. 4 is an unfolded view of the container of the present invention;

FIG. 5 is a side view that shows an example of an operation to open a lid according to the present invention;

FIG. 6A is an unfolded view of only relevant portions showing a modified example of a finger application part according to the present invention;

FIG. 6B is an unfolded view of only relevant portions showing another modified example of a finger application part according to the present invention;

FIG. 6C-1 is an unfolded view of only relevant portions showing another modified example of a finger application part according to the present invention;

FIG. 6C-2 is a cross-sectional view showing relevant portions when the finger application part in FIG. 6C-1 has been assembled; and

FIG. 6D is an unfolded view of only relevant portions showing another modified example of a finger application part according to the present invention.

[0013] The container of the present invention is provided with a box body 1 having a front wall 4, a rear wall 5, left and right walls 6, and a bottom wall 7; a lid 2 that is formed in a state continuous with the rear wall 5 and swings to open or close a top opening of the box body 1; and an insertion part 3 that is continuous with the front edge of the lid 2. The insertion part may be integrally connected to the front edge of the lid at plural first connecting portions referred to also as bridging portions 22 below. The bridging portions 22 may include fold lines 17.

[0014] At least one finger application part 20 is continuous with the lid. The finger application part 20 may be integrally connected to the lid at at least one second connecting portion. The at least one second connecting portion connecting the lid and the finger application part 20 is preferably free of any fold lines.

[0015] A front edge of the finger application part 20 is defined by a break line 18 that protrudes in the direction of the insertion part 3. Thus, when the insertion part 3 has been inserted into the inner face of the front wall 4, the finger application part 20 is caused to protrude frontward from the front wall 4.

[0016] Thereby, the finger application 20 part is integrally connected to the front edge of the lid 2 at a second connecting portion, wherein, when the box body is closed, the finger application part 20 protrudes from the front wall 4 and may contact an upper edge of the front wall 4. In particular, the upper edge of the front wall 4 may extend along a straight line in a region where contact between the upper edge and the finger application part 20 is possible.

[0017] In embodiments of this invention, in a container provided with the box body 1, the lid 2, and the insertion part 3, the finger application part 20 is formed in the fold line portion 17 between the lid 2 and the insertion part 3, and when the insertion part 3 has been inserted in the inner face of the front wall 4, the finger application part 20 can protrude frontward from the front wall 4, so it is possible to easily identify the edge from which the lid 2 opens by only glancing at the finger application part 20, or identifying the position where the finger application part 20 is formed by feel. Also, when opening the lid 2, it is possible to apply fingertips to the finger application part 20, which protrudes frontward from the front wall 4, to pull out the insertion part 3, so it is possible to reliably and conveniently open the lid 2. Further, in a state with the insertion part 3 inserted in the inner face of the front wall 4, the finger application part 20 contacts the upper edge of the front wall 4, so that the finger application part 20 is supported by the front wall 4, and thus even when external force is applied to the lid 2, the front edge of the lid 2 is prevented from sinking in from the opening face of the box body 1, so that it is possible to always fixedly maintain the exterior of the container.

[0018] The break line 18, for example, is preferably formed in a curved shape, causing the central portion of the finger application part 20 to protrude frontward from the front wall 4. By forming the break line 18 in a curved shape to cause the central portion of the finger application part 20 to protrude frontward from the front wall 4, when the box body is closed, the size of the overhang is gradually reduced from the central portion toward the left-right cut start position, so that it is possible to improve the structural strength (bending strength) of the finger application part 20. Thus, for example, in comparison to causing the finger application part to overhang in a four-sided shape longer in the widthwise direction, it is possible to more reliably open the lid 2 while preventing sharp bends in the finger application part 20, and in addition, it is possible to prevent the finger application part 20 from bending sharply when it hits another object.

[0019] It is preferable that in the fold line portion 17, a plurality of the break lines 18 and bridging portions 22 are alternately formed, and finger application parts 20 are formed intermittently, and it is also preferable that the finger application parts 20 and bridging portions 22 are formed across the entire region of the fold line portion 17. By alternately forming a plurality of the break lines 18 and bridging portions 22 in the fold line portion 17, it is possible to apply fingertips to a desired finger application part 20 to pull out the insertion part 3, so in comparison to a case in which a finger application part 20 is formed in only the center portion of the fold line portion 17, the lid 2 can be more conveniently opened.

[0020] Also, with the characteristic shape of the intermittent finger application parts 20, there is the advantage that it is possible to more simply identify the edge from which the lid 2 opens.

[0021] When adopting the high dimension of the front wall 4 of the box body 1 as a reference dimension, it is preferable that an insertion dimension D of the insertion part 3 is set greater than a value of half the reference dimension. When the insertion dimension D of the insertion part 3 is set greater than a value of half the reference dimension, it is possible to have large frictional resistance between the insertion part 3 and the front wall 4 when opening the lid 2, and in addition, it is possible for the distance until the insertion part 3 is completely pulled out to be large, and moreover it is possible to hold the insertion part 3 by pressing against it with a product contained in the box body 1. Thus, it is possible to reliably prevent the lid 2 from opening due to external vibration or the like. Also, because it is not necessary to separately provide a structure that prevents the lid 2 from opening, the structure of a blank sheet can be simplified to that extent.

[0022] It is preferable to provide a printed indicator 21 along the edge of the finger application part 20 emphasizing that the lid opens from that edge. When the printed indicator 21 is provided along the edge of the finger application part 20, the shape of the finger application part 20 differs from other portions, and in addition, it is possible to emphasize with the printed indicator 21 as well that the edge of the finger application part 20 is the edge from which the lid opens. Thus, by merely glancing at the finger application part 20 and the printed indicator 21, it is possible to more simply identify the edge from which the lid 2 opens.

[0023] It is possible to provide side flaps 8 that are continuous with the respective left and right walls 6 of the box body 1. By providing the side flaps 8, when the lid is closed, the lid 2 can be supported by the side flaps 8, and thus the lid 2 can be stably fixed. Also, it is possible to form perforations 16 for separation in the fold line portions of the lid 2 and along the fold line portions of the left and right side flaps 8. When perforations 16 for separation are formed in the fold line portions of the lid 2 and along the fold line portions of the left and right side flaps 8, by cutting away the lid 2 and the side flaps 8 along the perforations 16 as necessary, it is possible to open the entire top face of the box body 1, and display and search for a product contained in the box. In addition, it is possible to increase the willingness of a consumer to make a purchase.

[0024] Next is a description of an example of the present invention with reference to the appended drawings.

[0025] FIGS. 1 to 5 show an example of a container according to the present invention. In FIGS. 1 and 3, the container is formed using cardboard with a thickness of 0.4 mm as material, and is provided with a box body 1 that is long in the lateral direction and whose top face is open, a lid 2 that swings to open or close the top face opening of the box body 1, and an insertion part 3 that is continuous with the front edge of the lid 2. The inside of the box body 1 contains 10 individually packaged button-shaped batteries B arranged in a straight line adjacent to each other in the direction of thickness of the batteries. The button-shaped batteries B are packaged with blister wrapping in which a dish-like wrapping cover formed in a vacuum has been fixed by gluing to one face of a paper base. In this example, the left-right width x up-down height x depth of the box body 1 in a finished state are respectively 60 mm x 25 mm x 25 mm.

[0026] The box body 1 is provided with a front wall 4 and a rear wall 5 that are elongated and longer in the lateral direction, square-shaped left and right walls 6; a bottom wall 7, a pair of left and right trapezoidal side flaps 8 that are continuous with the top edge of the left and right walls 6, and a connecting flap 9 that is continuous with one side of the rear wall 5 (see FIGS. 3 and 4). The bottom wall 7 is configured with a front bottom wall 11 that is continuous with the lower edge of the front wall 4, a rear bottom wall 12 that is continuous with the lower edge of the rear wall 5, and left and right bottom walls 13 that are continuous with the lower edge of the left and right walls 6. The bottom wall 7 is configured with a so-called lock bottom structure, by inserting the front and rear bottom walls 11 and 12 and the left and right bottom walls 13 to engage with each other.

[0027] As shown in the unfolded view in FIG. 4, the walls 4, 5, 6, and 9 that constitute the box body 1, and the walls 11, 12, and 13 that constitute the bottom wall 7, are respectively divided with fold lines 15 patterned on a blank sheet. The lid 2 and the rear wall 5, and the side flaps 8 and the left and right walls 6, are respectively divided with perforations 16 for separation formed along the respective fold lines. When the perforations 16 are formed in this manner, the lid 2 and the side flaps 8 can, as necessary, be easily broken and removed from the rear wall 5 and the left and right walls 6 to open the entire top face of the box body 1.

[0028] In order to be able to more conveniently insert/remove the insertion part 3 or open/close the lid 2 while clearly identifying the edge from which the lid 2 opens, three finger application parts 20 are provided by intermittently forming break lines 18 (see FIG. 4) that protrude in the direction of the insertion part 3 at three locations

of the fold line portion 17 between the lid 2 and the insertion part 3. Further, printed indicators 21 are provided along the edge of the finger application part 20 emphasizing that the lid opens from that edge. The dotted portions in FIGS. 1, 3, and 4 are the printed indicators 21.

[0029] The break lines 18 described above are configured from a gently curved line used as the cut-in start position of the fold line portions 17. The bridging portions 22 that connect the lid 2 and the insertion part 3 are formed between adjacent break lines 18 and at both side ends of the fold line portions 17. By alternately forming a plurality of the break lines 18 and the bridging portions 22 across the entire region of the fold line portions 17 in this manner, finger application parts 20 are intermittently provided in a wave-like shape, as shown in FIG. 4. The printed indicators 21 are formed in a continuous wave-like band of vermilion or red, so as to be more conspicuous than other portions. The left-right width of a bridging portion 22 sandwiched by finger application parts 20 is about 2.5 mm, and the left-right width of the bridging portions 22 positioned at both side ends of fold line portions 17 is about 3 mm.

[0030] With a blank sheet in an unfolded state, first the connecting flap 9 is pasted to the left wall 6 to form a four-sided cylinder. Next, the box body 1 is completed by inserting the front and rear bottom walls 11 and 12 and the left and right bottom walls 13 to engage with each other, thus assembling the bottom wall 7. Next, packaging work is completed by storing individually packaged button-shaped batteries B inside the box body 1 in this state and folding the side flaps 8 inside the box body 1, and then further folding in the lid 2 and inserting the insertion part 3 into the inner face of the front wall 4. If necessary, a paper seal is pasted to adjacent portions of the lid 2 and the front wall 4.

[0031] With the container configured as described above, when the insertion part 3 has been inserted into the inner face of the front wall 4 of the box body 1, the central portion of the finger application parts 20 protrudes or projects frontward from the front wall 4 by an amount E, as shown in FIG. 2B. Accordingly, when the lid 2 is opened, by applying the fingertips to any of the three finger application parts 20 as shown in FIG. 5 and pulling the insertion part 3 out from the front wall 4, it is possible to easily open the lid 2. The finger application parts 20 make contact with the top edge of the front wall 4, and thus also serve the role of preventing the insertion part 3 from being pushed into the inner face of the front wall 4 more than necessary. In this example, the protrusion dimension E of the finger application part 20 from the front wall 4 is 2 mm, and the width of the protruding portion is 8 mm.

[0032] Although it is easier to apply the fingertips as the value of the protrusion dimension E increases, when a group of the containers is packed in a larger cardboard box for transport, there is a risk that the finger application parts 20 will become a nuisance or be bent. It is preferable that the protrusion dimension E in practical use is in a range of 1 to 5 mm, although the protrusion dimension E is also determined by the size of the box body 1. In particular, the amount E can be in other suitable ranges, such as from 2 to 5 mm, 3 to 5 mm, 2 to 4 mm, or 2 to 3 mm. Further, the amount E can be defined in terms of a thickness of the front wall. In practice, it is preferable that the amount E is in a range from 1.5 to 5.0 times the thickness of the front wall. In particular, the amount E can be in other suitable ranges, such as 1.5 to 4.0 times, 1.5 to 3.0 times, 3.0 to 5.0 times, or 3.0 to 4.0 times the thickness of the front wall. Also, it may be preferable that the width of the protruding portion is not less than 5 mm. The maximum value of the width dimension of the protruding portion is the left-right width dimension of the box body 1.

[0033] As shown in FIG. 3, in a state with the top face opening of the box body 1 closed with the lid 2, the finger application parts 20 are intermittent in a wave-like shape in the front edge of the lid 2, and thus have a more distinguished exterior than other parts. Further, the vermilion or red printed indicators 21 are formed along the edge of the wave-shaped finger application parts 20, such that the wave-like shape is more conspicuous than other portions. Thus, whatever attitude the container is placed in, by merely glancing at the finger application parts 20 and the printed indicators 21, it is possible to simply identify the edge from which the lid 2 opens, and it is also possible to clearly identify the intermittent finger application parts 20 by feel.

[0034] A conventional container is regulated such that cut-ins are placed at both ends of the fold line portion of the insertion part, and a hand-hold portion is provided in the adjacent portion of the side flaps and the insertion part, so that with the insertion part inserted in the inner face of the front wall of the box body, the hand-hold portion engages with the cut-ins on both ends of the fold line portion to prevent the lid from opening (a conventional lid-opening prevention structure). On the other hand, in the present example, instead of the conventional lid-opening prevention structure, due to increasing the insertion dimension D of the insertion part 3 it is possible to increase the frictional resistance between the insertion part 3 and the front wall 4 when opening the lid 2, and in addition it is possible to increase the distance until the insertion part 3 is completely pulled out, and moreover it is possible to hold the insertion part 3 by pressing against it with a product contained in the box body 1. Thus, it is possible to conveniently remove/insert the insertion part 3 or open/close the lid 2 while preventing the lid 2 from unnecessarily opening due to external vibration or the like. Specifically, the insertion dimension D of the insertion part 3 is 15 mm, and is set to be greater than a value of half the height dimension of the front wall 4 (12.5 mm).

[0035] When the lid 2 after opening and the side flaps 8 are each removed along the perforations 16, it is possible to open the entire top face of the box body 1 to expose the button-shaped batteries B stored in the box so that they can be viewed. Depending on the circumstances, it is possible to remove the insertion part 3 along

the break lines 18 and bridging portions 22, so that the lid 2 is left in a state in which it can be opened and closed more easily.

[0036] The finger application parts 20 can be modified as shown in FIGS. 6A to 6D. In FIG. 6A, the finger application parts 20 are formed in a trapezoidal shape longer in the lateral direction by a linear break line 18. In FIG. 6B, the cut-in position of the break line 18 starts at a position protruded from the fold line portion 17 in the direction of the lid 2. In FIG. 6C-1, the finger application parts 20 are formed with a double wall by bending a midway portion of the paper side surrounded by the break line 18 towards the inner face of the lid 2, thus improving the bending strength of the finger application parts 20. FIG. 6C-2 is a cross-sectional view of relevant portions when the finger application parts 20 in FIG. 6C-1 have been assembled. In FIG. 6D, the break line 18 is formed in the shape of a concave arc, thus maximizing the protrusion dimension of both ends of the finger application parts 20.

[0037] In addition to the above example, the container of the present invention can contain individually wrapped goods or components other than button-shaped batteries. The container 1 can also be formed in the shape of a cube. It is not necessary for the vertical cross-sectional shape of the box body 1 to be square or rectangular; for example, a tetragonal shape may also be used in which, when the lid 2 is closed, the lid 2 is sloped to either the front or the rear. The box body 1 may have an unfolded shape that differs from the unfolded shape described in the above example. The structure of the bottom wall is not required to be a lock bottom structure; other structures may also be used. The container of this invention is preferably applied to a relatively small container with a length of not more than 20 cm on a side. The material used to form the container of this invention may be cardboard (including recycled paper), or plastic sheet such as polypropylene, polyethylene, polyvinyl chloride, or polyethylene terephthalate. The cardboard and the plastic sheet are preferably self-maintaining sheet material with a thickness of not more than 1 mm.

Claims

1. A container including a box body (1) having a front wall (4), a rear wall (5), a left wall (6), a right wall (6), a bottom wall (7) and a lid (2) integrally connected to the rear wall (5) such that the lid (2) may open and close the top face of the box body (1);
   wherein an insertion part (3) is integrally connected to a front edge of the lid (2) at at least two first connecting portions (22) of the lid (2), wherein, when the box body (1) is closed, the insertion part (3) is placed inside the box and contacting an inner face of the front wall (4); and
   wherein a finger application part (20) is integrally connected to the front edge of the lid (2) at at least one second connecting portion of the lid (2), wherein, when the box body (1) is closed, the finger application part (20) protrudes from the front wall (4) and may contact an upper edge of the front wall (4).

2. The container according to claim 1, wherein, when the box body (1) is closed, the finger application part (20) may contact a portion of the upper edge of the front wall (4) extending parallel to the lid (2).

3. The container according to claim 1 or 2, wherein the first (22) and second connecting portions are alternately formed along a front edge of the lid (2).

4. The container according to one of claims 1 to 3, wherein the at least two first connecting portions (22) include a fold line (17).

5. The container according to one of claims 1 to 4, wherein the at least one second connecting portions is free of any fold line.

6. The container according to one of claims 1 to 5, wherein the lid (2), the insertion portion (3) and the finger application part (20) are integrally formed from one single sheet material.

7. The container according to one of claims 1 to 6, wherein, when the height dimension of the front wall (4) is used as a reference dimension, an insertion dimension D of the insertion part (3) is set larger than a value of half the reference dimension.

8. The container according to one of claims 1 to 7, wherein along the edge of the finger application part (20), a printed indicator (21) is provided emphasizing that the lid (2) opens from that edge.

9. The container according to one of claims 1 to 8, wherein side flaps (8) are integrally connected to the left wall (6) and the right wall (6), respectively, wherein a fold line is formed between the side flap (8) and the respective side wall (6), and wherein the fold line between the side flap (8) and the respective side wall (6) includes perforations (16) for separation of the side flap (8) from the side wall (6) and/or wherein a fold line between the lid (2) and the rear wall (5) includes perforations for separation of the lid (2) from the rear wall (5).

10. The container according to one of claims 1 to 9, wherein the finger application part (20) is formed with a double wall.

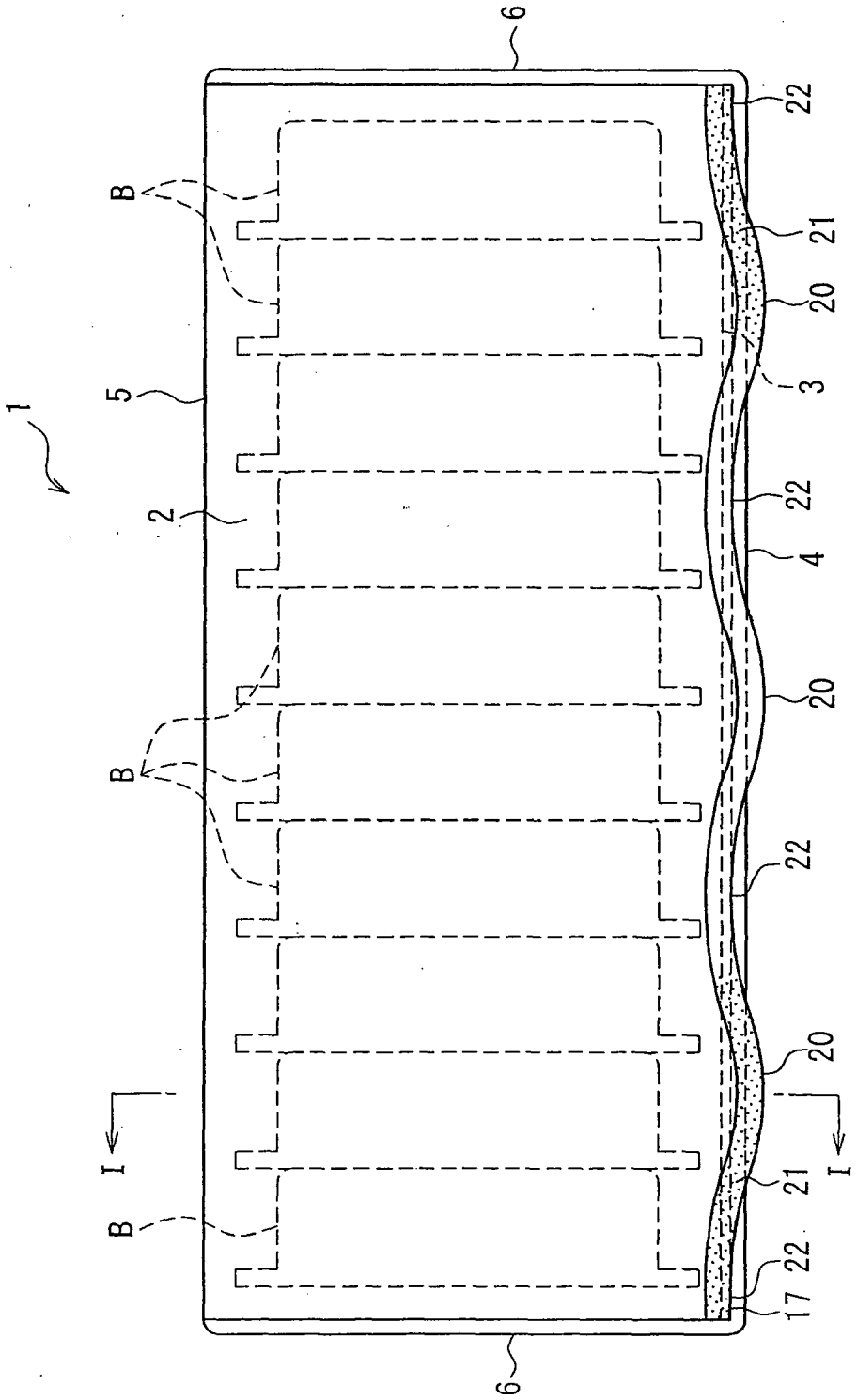


FIG. 1

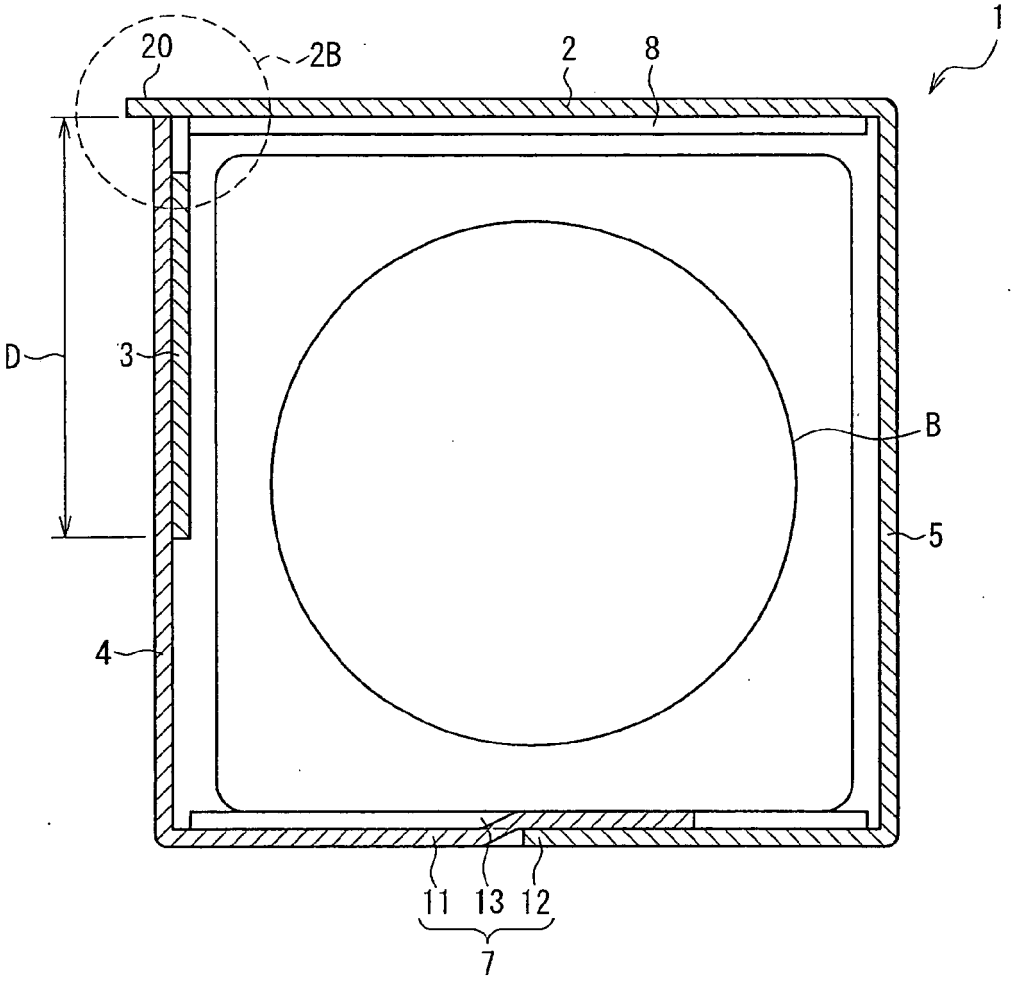
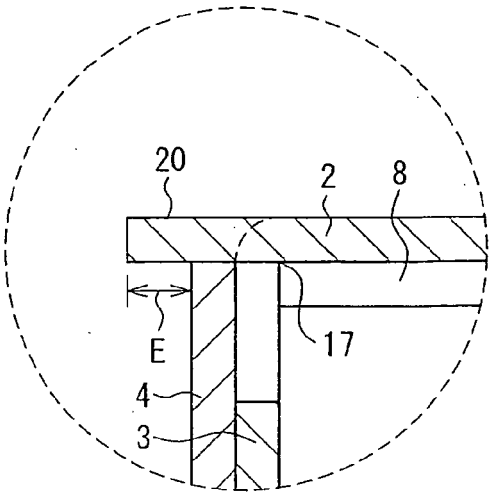


FIG. 2A

FIG. 2B



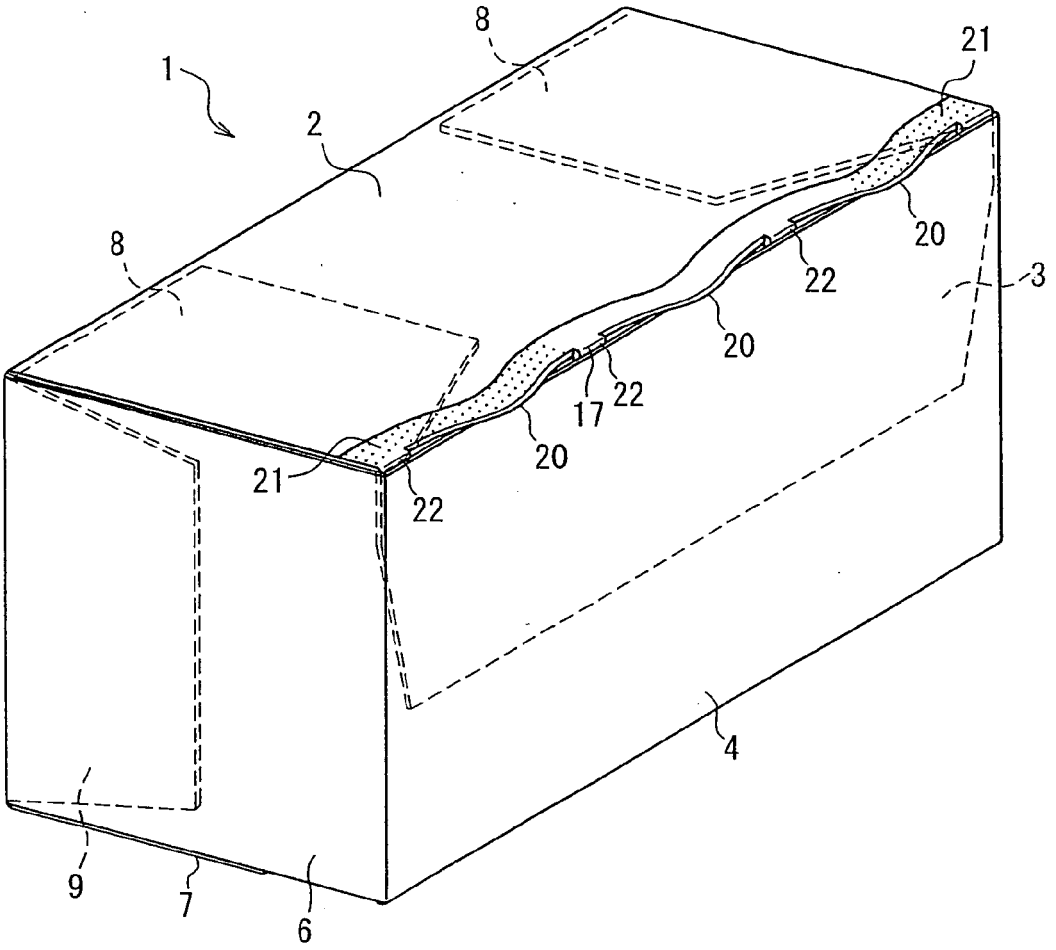


FIG. 3

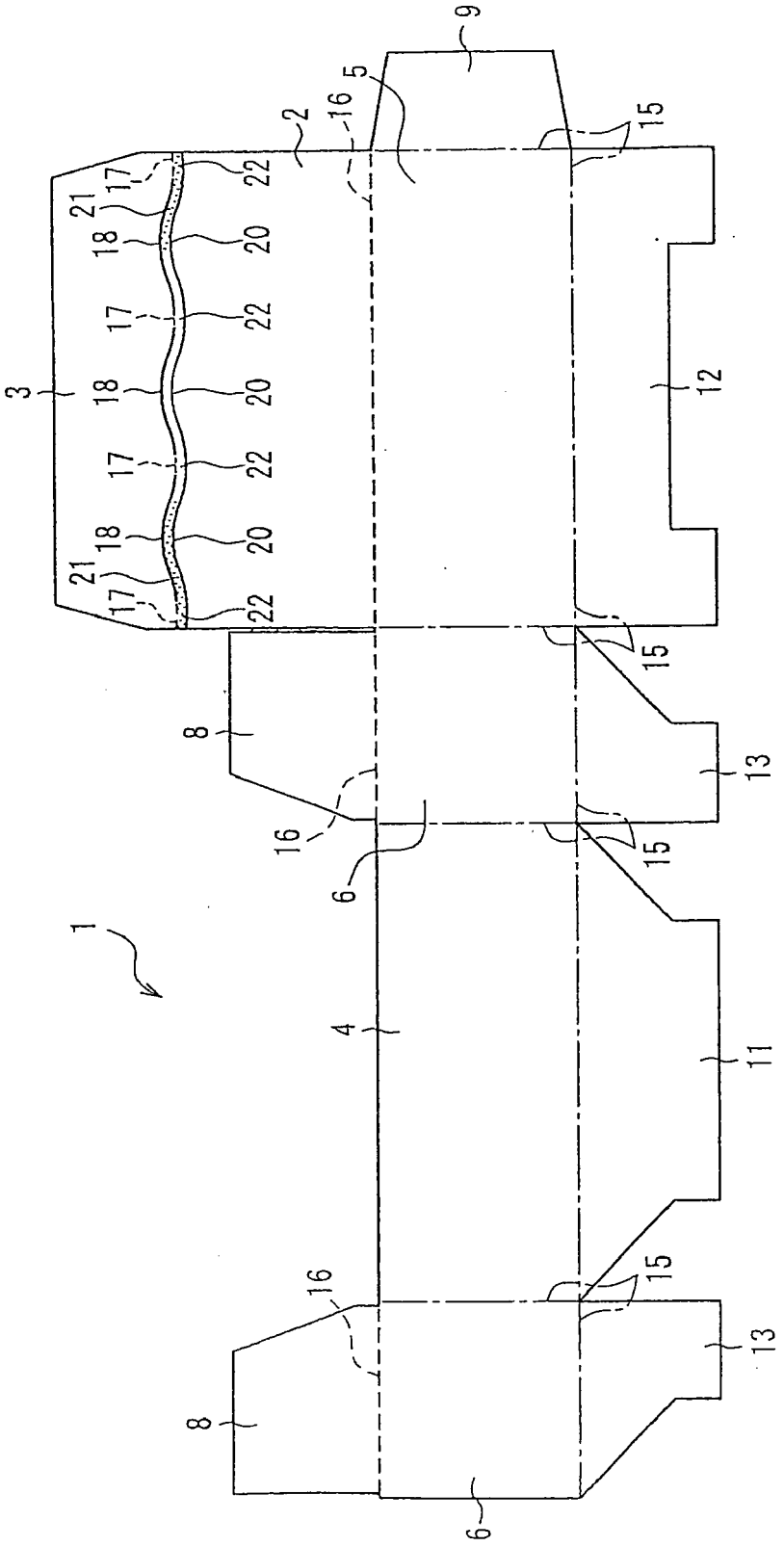


FIG. 4

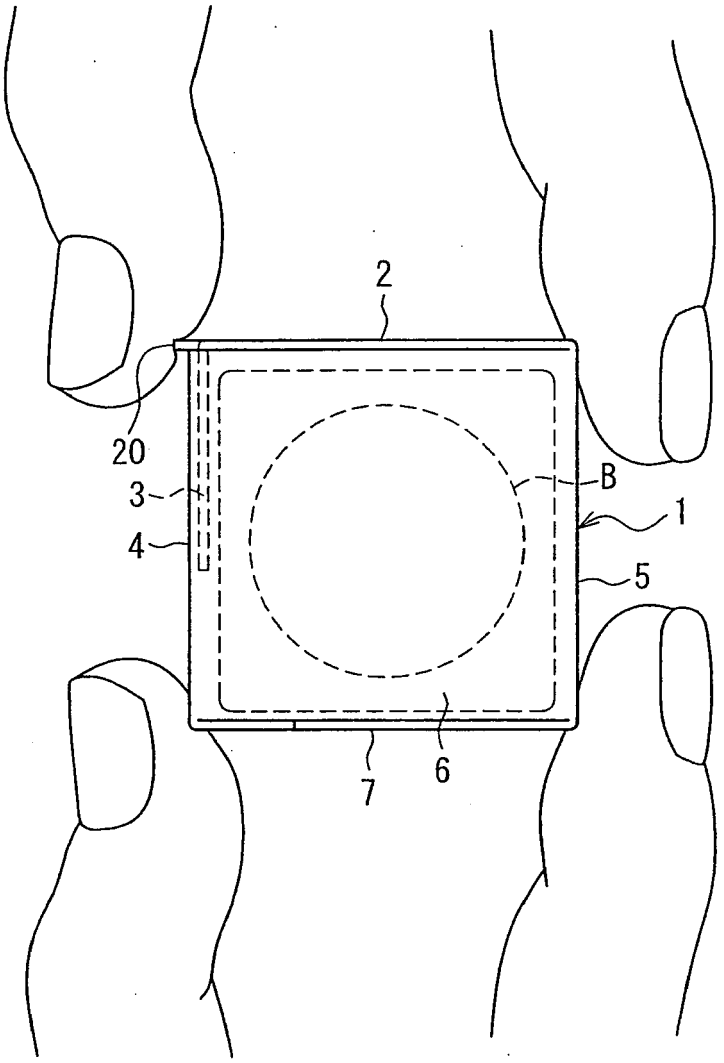


FIG. 5

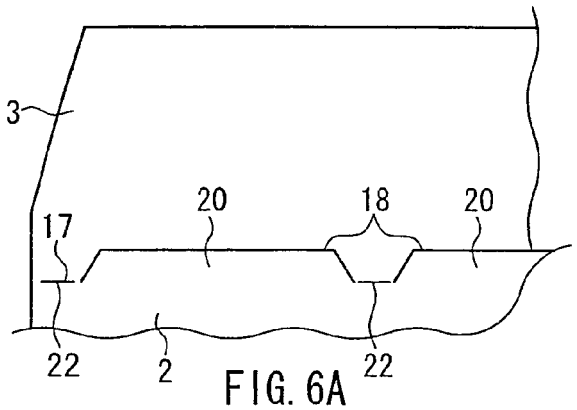


FIG. 6A

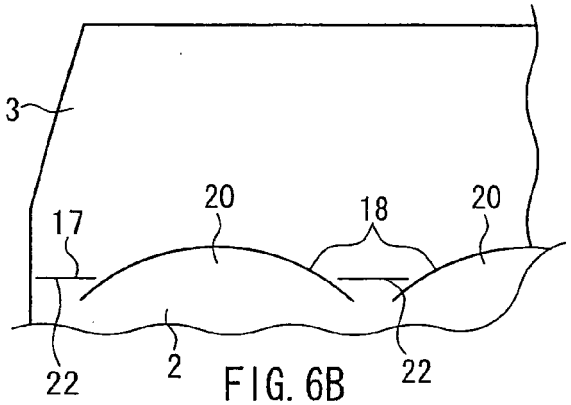


FIG. 6B

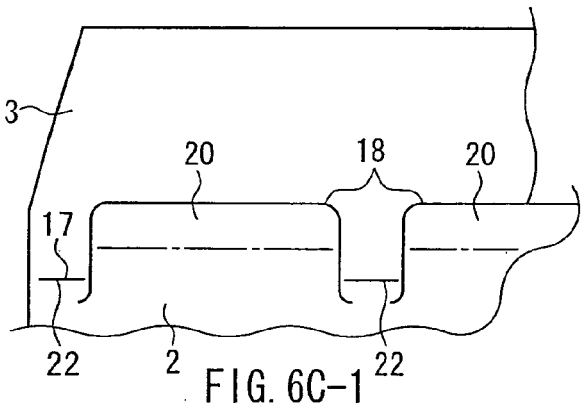


FIG. 6C-1

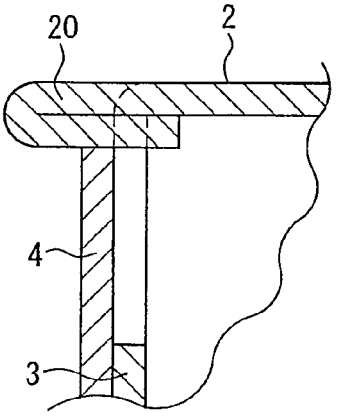


FIG. 6C-2

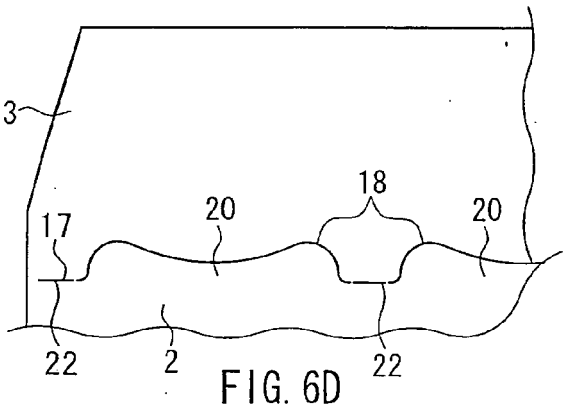


FIG. 6D

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EUROPEAN SEARCH REPORT

Application Number
EP 07 00 1167

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The Hague	26 April 2007	MANS-KAMERBEEK, M

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