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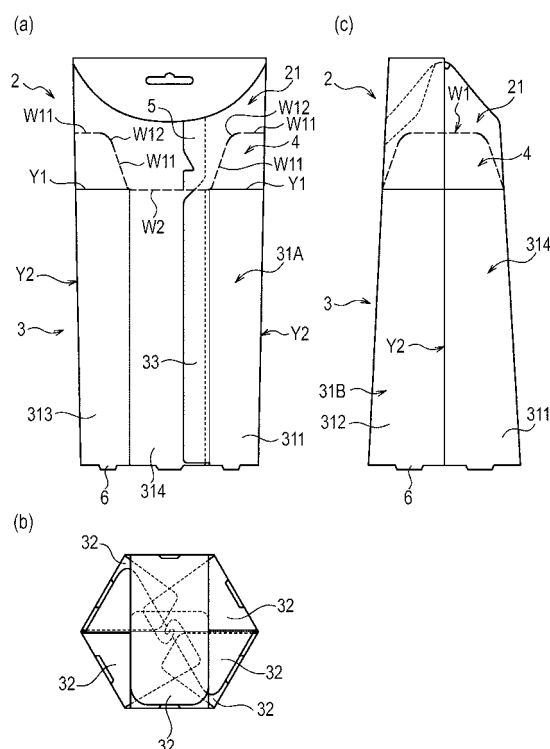
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(54) **PACKING CASE**

(57) Disclosed is a cylindrical packing case (1) extending in the upper-lower direction, comprising an upper unit (2), a lower unit (3) provided with a front side surface (31B) and a rear side surface (31A) in the circumferential direction, a pair of convex folding units (4) upwardly extending from the front side surface (31B) and the rear side surface (31A) of the lower unit (3), wherein a first weak line (W1) is provided along a first boundary (B1) between the upper unit (2) and the convex folding unit (4), a second weak line (W2) is provided along a second boundary (B2) in the circumferential direction between the upper unit (2) and the lower unit (3), a first folding ruled line (Y1) is provided in the circumferential direction between the convex folding unit (4) and the lower unit (3), and a second folding ruled line (Y2) extending in the upper-lower direction (D1) continuing from between the front side surface (31B) and the rear side surface (31A) of the lower unit (3), is provided in the convex folding unit (4).

FIG. 2



## Description

### TECHNICAL FIELD

[0001] The present invention relates to a packaging case that stores a product, and particularly relates to a packaging case that stores a cleaning tool such as a handy mop.

### BACKGROUND ART

[0002] Conventionally, a cleaning tool having a dust suction portion and a hand grip is known as a cleaning tool for removing dust, etc. from inside a room, a car or the like.

[0003] The cleaning tool is normally sold with packaged in a packaging case in which a synthetic resin sheet is assembled in a hollow rectangular solid shape.

[0004] After purchasing the cleaning tool, the consumer takes out the cleaning tool from the packaging case and uses it to remove dust, etc. from inside a room, a car or the like. Generally, the consumer disposes of the packaging case as is after taking out the cleaning tool.

### CITATION LIST

### PATENT LITERATURE

#### [0005]

PTL 1: Japanese Patent Application Publication No. 2005-230576

PTL 2: Japanese Patent Application No. 2009-120879

### SUMMARY OF INVENTION

[0006] Because the consumer can use the cleaning tool not just once but several times, the cleaning tool that has been used once needs to be placed, for example, on top of household furniture to be stored.

[0007] There is, however, a problem that the cleaning tool that has been used once becomes dirty due to the adherence of dust, etc., in the dust suction portion, and therefore, if the cleaning tool is placed on top of furniture, for example, the furniture becomes dirty, and besides, the appearance of the room is spoiled.

[0008] Furthermore, as described above, because the packaging case is disposed of as is after the cleaning tool has been taken out, the problem of exertion of a high load on the environment occurs.

[0009] Thus, the present invention has been achieved in view of the aforementioned problem, and an object thereof is to provide a packaging case that can be used not only at the time of displaying or selling a product but also be used as a case for storing the product.

[0010] A first feature of the present invention is summarized as a cylindrical packaging case extending in a

vertical direction, comprising: an upper portion; a lower portion in which a front side surface and a rear side surface are provided in a circumferential direction; and a pair of convex folding-back portions extending out in an upper direction from the front side surface and the rear side surface of the lower portion, wherein a first weakened line is provided along a first boundary line between the upper portion and the convex folding-back portions, a second weakened line is provided along a second boundary line in the circumferential direction between the upper portion and the lower portion, a first folding ruled line is provided in the circumferential direction between the convex folding-back portions and the lower portion, and second folding ruled lines extending continuously in a vertical direction from between the front side surface and the rear side surface of the lower portion are provided inside the convex folding-back portions.

[0011] As described above, according to the present invention it is possible to provide a packaging case that can be used not only at the time of displaying or selling a product but also be used as a case for storing the product.

### BRIEF DESCRIPTION OF DRAWINGS

#### [0012]

[Fig. 1] Fig. 1 is a perspective view of a packaging case according to a first embodiment of the present invention.

[Fig. 2] Fig. 2 (a) through Fig. 2 (c) are a front view, a bottom view, and a side view of the packaging case, respectively, according to the first embodiment of the present invention.

[Fig. 3] Fig. 3 is an exploded view of the packaging case according to the first embodiment of the present invention.

[Fig. 4] Fig. 4 is a perspective view when an upper portion of the packaging case according to the first embodiment of the present invention is separated.

[Fig. 5] Fig. 5 is a perspective view when a cleaning tool is stored after separating the upper portion of the packaging case according to the first embodiment of the present invention.

[Fig. 6] Fig. 6 is an exploded view of a packaging case according to a second embodiment of the present invention.

[Fig. 7] Fig. 7 is an exploded view of a packaging case according to a third embodiment of the present invention.

### DESCRIPTION OF EMBODIMENTS

(First embodiment of the present invention)

[0013] With reference to Fig. 1 through Fig. 5, a packaging case 1 according to a first embodiment of the present invention will be described.

**[0014]** As illustrated in Fig. 1, the packaging case 1 according to the present embodiment is a cylindrical packaging case extending in a vertical direction D1, and has an upper portion 2 having a side surface 21, and a lower portion 3 in which a front side surface 31B and a rear side surface 31A are provided in a circumferential direction D2.

**[0015]** For example, the upper portion 2 is formed in the shape of a bottomed cylinder having a top surface that closes an upper end portion of the side surface 21, and the side surface 21 provided in a near perpendicular direction with respect to the top surface.

**[0016]** Furthermore, as illustrated in Fig. 2 (a) through Fig. 2 (c), the lower portion 3 is formed in the shape of a bottomed cylinder having a bottom surface that closes a lower end portion of the side surfaces including the front side surface 31B (that is, a side surface 312), and the rear side surface 31A (that is, side surfaces 311, 313, and 314), and a side surface including the front side surface 31B and the rear side surface 31A (that is, the side surfaces 311 through 314) set up in a near perpendicular direction with respect to the bottom surface.

**[0017]** As illustrated in Fig. 2 (c), the bottom surface of the lower portion 3 is formed in a near hexagonal shape in a plan view, for example. The bottom surface of the lower portion 3 is not limited to a near hexagonal shape in a plan view, but may be formed in a near polygonal shape in a plan view, such as a near quadrilateral shape in a plan view, or a near circular shape in a plan view, or a near elliptical shape in a plan view.

**[0018]** As illustrated in Fig. 2 (c) and Fig. 3, the bottom surface is formed by combining together flaps 32 for forming the bottom surface, which extend from the front side surface 31B and the rear side surface 31A (that is, the side surfaces 311 through 314).

**[0019]** Furthermore, in the lower portion 3, a pair of convex folding-back portions 4 extending out in the upper direction side from the front side surface 31B and the rear side surface 31A (that is, the side surfaces 311 through 314) are provided.

**[0020]** A first weakened line W1 is provided along a first boundary line B1 between the upper portion 2 and the convex folding-back portions 4, and a second weakened line W2 is provided along a second boundary line B2 in the circumferential direction D2 between the upper portion 2 and the lower portion 3.

**[0021]** For example, in the present embodiment, the "weakened lines" are lines that enable the separation of the upper portion 2 in the packaging case 1, and may be perforated lines, or micro perforated lines (perforated lines with the length of a perforation and the length of a non-perforated portion being in the range of approximately 0.3 mm to 0.8 mm, respectively), or even fragile lines formed by weakening the sheet material through the laser processing, and the like.

**[0022]** The upper portion 2 and the convex folding-back portions 4 may not be connected in at least a part of the first weakened line W1.

**[0023]** Specifically, the first weakened line W1 includes straight weakened lines W11 and curved weakened lines W12, and the upper portion 2 and the convex folding-back portions 4 may not be connected in at least a part of the curved weakened lines W12. For example, a cutting line that completely passes through the sheet material in the thickness direction of may be provided in at least a part of the curved weakened lines W12 (for example, at a position corresponding to an angular portion of the convex folding-back portions 4).

**[0024]** Furthermore, in the lower portion 3, a plurality of convex rising portions 6 extending out in a lower direction from the front side surface 31B and the rear side surface 31A (that is, the side surfaces 311 through 314) are provided. The plurality of convex rising portions 6 are provided at equal intervals. According to the configuration, the effect of stable rise of the packaging case 1 is achieved.

**[0025]** Furthermore, in the upper portion 2, a finger grip portion 5 is provided along a part of the first weakened line W1 and the second weakened line W2. Furthermore, a hole 10 is provided in the upper end portion of the side surface 21 of the upper portion 2 in order to suspend the packaging case 1 from the product display shelves.

**[0026]** Furthermore, the packaging case 1 is covered with a paper sleeve. The sleeve covers at least a part on the outer side of the packaging case 1, and a locking mechanism is provided in at least one or more places in the sleeve such that the packaging case 1 does not move from its position during product transport or during display over the counter.

**[0027]** A claw shape is provided in the sleeve, and a cut for inserting the sleeve is provided in the packaging case 1. By pushing in the claw shape in to the cut, the packaging case 1 and the sleeve are configured to be locked.

**[0028]** Fig. 3 is an exploded view of the sheet material used to form the packaging case 1. The sheet material is particularly not limited, and a conventional well-known material can be used. Polyolefins such as polypropylene and polyethylene, synthetic resin sheets such as polyethylene terephthalate, thick paper, synthetic paper, and laminated sheets thereof can be used as the sheet material. The thickness of the sheet is not particularly limited, and preferably is in the range of approximately 0.2 mm to 1.0 mm.

**[0029]** As illustrated in Fig. 3, a first folding ruled line Y1 is provided in the circumferential direction D2 between the convex folding-back portions 4 and the lower portion 3, and second folding ruled lines Y2 extending continuously in the vertical direction D1 from between the front side surface 31B and the rear side surface 31A of the lower portion 3 are provided inside the convex folding-back portions 4.

**[0030]** The second folding ruled lines Y2 are provided across the upper portion 2, the convex folding-back portions 4, and the lower portion 3.

**[0031]** In the present embodiment, the "folding ruled

line" implies a line formed to enable shaping of the sheet material to facilitate its folding. The folding ruled line may be, for example, a pressed line formed by pressing the sheet material in the thickness direction, or a half-cut line formed by cutting the sheet material in an almost V shape in the thickness direction.

**[0032]** In the sheet material illustrated in Fig. 3, after pasting a tab for sticking 33, which extends towards a side of the side surface 311, to a side of the side surface 314, while folding the side surfaces 21, and 311 through 314 along the second folding ruled lines Y2, the flaps 32 for forming the bottom surface are combined together to form the packaging case 1.

**[0033]** As illustrated in Fig. 1, at the time of displaying or selling the product, the product is configured to be stored inside the upper portion 2 and the lower portion 3. In the example illustrated in Fig. 1, a cleaning tool X having a hand grip X1 and a dust suction portion X2 is configured to be stored inside the upper portion 2 and the lower portion 3.

**[0034]** As illustrated in Fig. 1, the cleaning tool X is fixed inside the packaging case 1 with a fixing mount 11. The fixing mount 11 is configured by a coat paper or a synthetic resin sheet, and the dust suction portion X2 and the hand grip X2 are configured to be set on the fixing mount 11.

**[0035]** The front side surface 31B of the lower portion 3 includes a single curved surface (side surface 312), and a pressing ruled line is not provided inside the front side surface 31B of the lower portion 3. According to the configuration, the product packaged in the packaging case 1 can be easily seen from outside.

**[0036]** Furthermore, as illustrated in Fig. 4, after separating the upper portion 2 of the packaging case 1, the consumer folds back the convex folding-back portions 4 towards the inside or the outside of the lower portion 3, along the first folding ruled line Y1 or the second folding ruled lines Y2, and as a result, as illustrated in Fig. 5, the cleaning tool X that has been used once can be stored inside the lower portion 3.

**[0037]** According to the packaging case 1 of the present embodiment, separating the upper portion 2 along the first weakened line W1 and the second weakened line W2, and then folding back the convex folding-back portions 4 towards the inside or the outside of the lower portion 3, along the first folding ruled line Y1 or the second folding ruled lines Y2 enables the formation of a storage sheet for the cleaning tool X.

**[0038]** Furthermore, according to the packaging case 1 of the present embodiment, by pulling up the finger grip portion 5 provided in the upper portion 2, the consumer can separate the upper portion 2 easily.

**[0039]** Furthermore, according to the packaging case 1 of the present embodiment, by processing the curved weakened line W12 that is at the position corresponding to the shoulder portion of the convex folding-back portions 4 as the cutting line, the consumer can easily separate the upper portion 2.

**[0040]** According to the packaging case 1 of the present embodiment, by separating the upper portion 2 and then folding back the convex folding-back portions 4 towards the outside of the lower portion 3, along the first folding ruled line Y1 or the second folding ruled lines Y2, the aperture portion of the lower portion 3 can be maintained in a stable state.

(Second embodiment)

**[0041]** With reference to Fig. 6, the packaging case 1 according to a second embodiment of the present invention will be described. The packaging case 1 according to the present embodiment will be described while focusing on the differences from the packaging case 1 according to the aforementioned first embodiment.

**[0042]** As illustrated in Fig. 6, in the packaging case 1 according to the present embodiment, a plurality of folding ruled lines Y20 are provided, along the vertical direction D1, on both sides of the second folding ruled lines Y2, in the circumferential direction D2, extending continuously in the vertical direction D1 from between the front side surface 31B and the rear side surface 31A of the lower portion 3 are provided inside the convex folding-back portions 4. As illustrated in Fig. 6, a part of the folding ruled lines Y20 may not necessarily be in a straight shape.

(Third embodiment)

**[0043]** With reference to Fig. 7, the packaging case 1 according to a third embodiment of the present invention will be described. The packaging case 1 according to the present embodiment will be described while focusing on the differences from the packaging case 1 according to the aforementioned first embodiment.

**[0044]** As illustrated in Fig. 7, in the packaging case 1 according to the present embodiment, a plurality of folding ruled lines Y21 are provided along the vertical direction D1 in all the side surfaces 311 through 314 of the lower portion 3.

**[0045]** That is, in the packaging case 1 according to the present embodiment, the folding ruled lines Y21 are provided even in the front side surface 31B (side surface 312) of the lower portion 3.

**[0046]** In the present embodiment, an example in which the packaging case 1 is used when the front side surface 31B and the rear side surface 31A are in a risen state along the vertical direction is explained, however, the packaging case 1 according to the present embodiment may also be used in a state where the front side surface 31B and the rear side surface 31A are arranged along the horizontal direction.

**[0047]** Thus, the present invention has been explained in detail by using the above-described embodiments; however, it is obvious that for persons skilled in the art, the present invention is not limited to the embodiments explained herein. The present invention can be imple-

mented as corrected and modified modes without departing from the gist and the scope of the present invention defined by the claims. Therefore, the description of the specification is intended for explaining the example only and does not impose any limited meaning to the present invention.

**[0048]** In addition, the entire content of Japanese Patent Application No. 2010-089072 (filed on April 7, 2010) is incorporated in the present specification by reference.

#### INDUSTRIAL APPLICABILITY\

**[0049]** As described above, according to the present invention it is possible to provide a packaging case that can be used not only at the time of displaying or selling a product but also be used as a case for storing the product.

#### REFERENCE SIGNS LIST

##### **[0050]**

- 1 ... Packaging case
- 2 ... Upper portion
- 3 ... Lower portion
- 4A, 4B ... Convex folding-back portion
- 5 ... Finger grip portion
- 6 ... Convex rising portion
- 12 ... Side surface of the upper portion
- 31A ... Rear side surface of the lower portion
- 31B ... Front side surface of the lower portion
- 311, 312, 313, 314 ... Side surface of the lower portion
- 32 ... Flap for forming the bottom surface
- 33 ... Tab for sticking
- B1, B2 ... Boundary line
- W1, W11, W12, W2, W3 ... Weakened line
- Y1, Y2 ... Folding ruled line

#### Claims

1. A cylindrical packaging case extending in a vertical direction, comprising:

- an upper portion;
- a lower portion in which a front side surface and a rear side surface are provided in a circumferential direction; and
- a pair of convex folding-back portions extending out in an upper direction from the front side surface and the rear side surface of the lower portion, wherein
- a first weakened line is provided along a first boundary line between the upper portion and the convex folding-back portions,
- a second weakened line is provided along a second boundary line in the circumferential direc-

tion between the upper portion and the lower portion,

a first folding ruled line is provided in the circumferential direction between the convex folding-back portions and the lower portion, and second folding ruled lines extending continuously in a vertical direction from between the front side surface and the rear side surface of the lower portion are provided inside the convex folding-back portions.

2. The packaging case according to claim 1, wherein the upper portion and the convex folding-back portions are not connected in at least a part of the first weakened line.
3. The packaging case according to claim 2, wherein the first weakened line comprises straight weakened lines and curved weakened lines, and the upper portion and the convex folding-back portions are not connected in at least a part of the curved weakened lines.
4. The packaging case according to claim 1, wherein in the upper portion, a finger grip portion is provided along a part of the first weakened line and the second weakened line.
5. The packaging case according to claim 1, wherein the front side surface of the lower portion comprises a single curved surface.
6. The packaging case according to claim 1, wherein in the lower portion, a plurality of convex rising portions extending out in a lower direction from the front side surface and the rear side surface of the lower portion are provided, and the plurality of convex rising portions are provided at equal intervals.
7. The packaging case according to claim 1, wherein when the upper portion is separated, and the convex folding-back portions are folded back towards the inside or the outside of the lower portion along the first folding ruled line and the second folding ruled lines, a cleaning tool having a hand grip and a dust suction portion is configured to be stored inside the lower portion.

FIG. 1

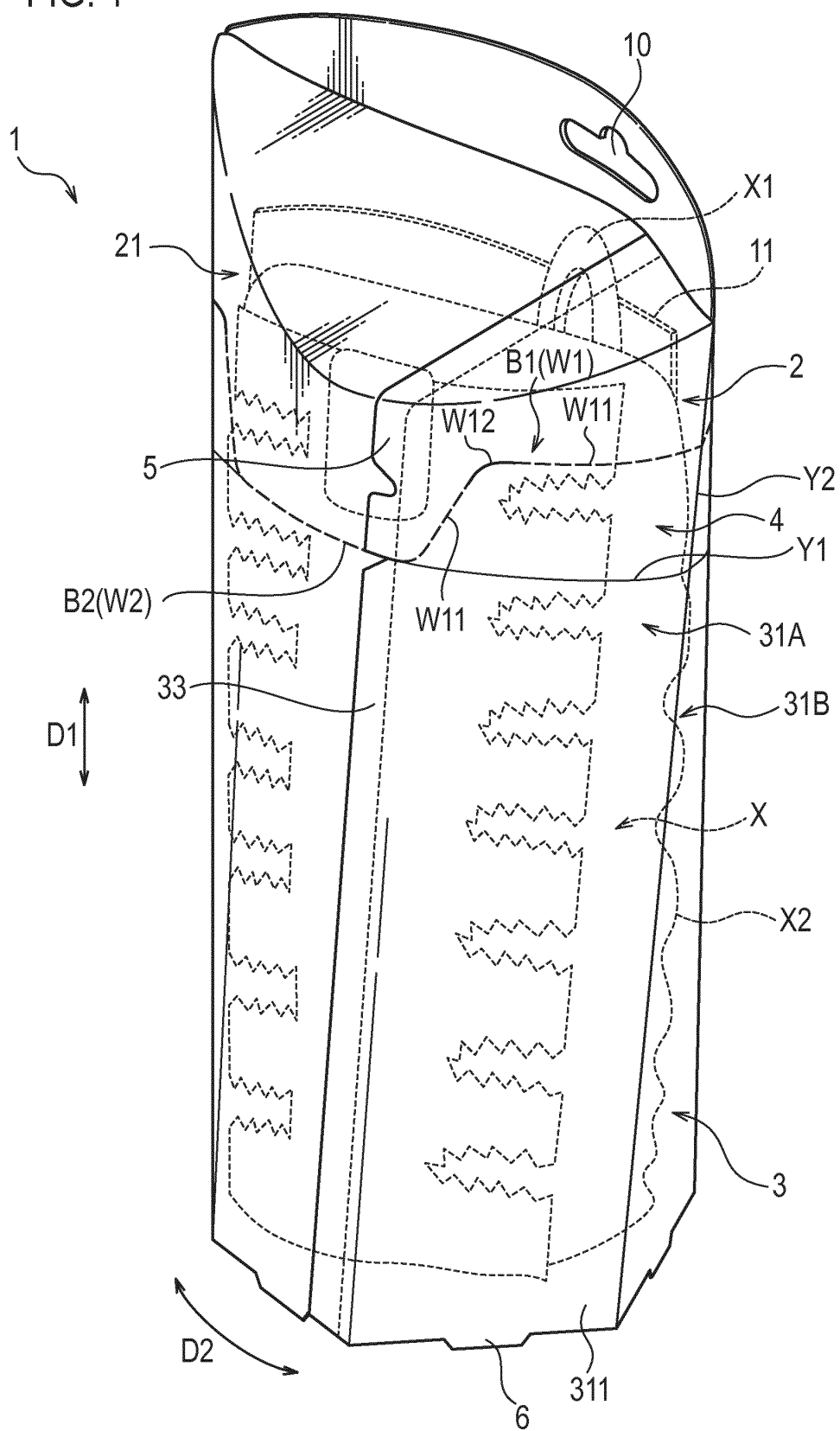


FIG. 2

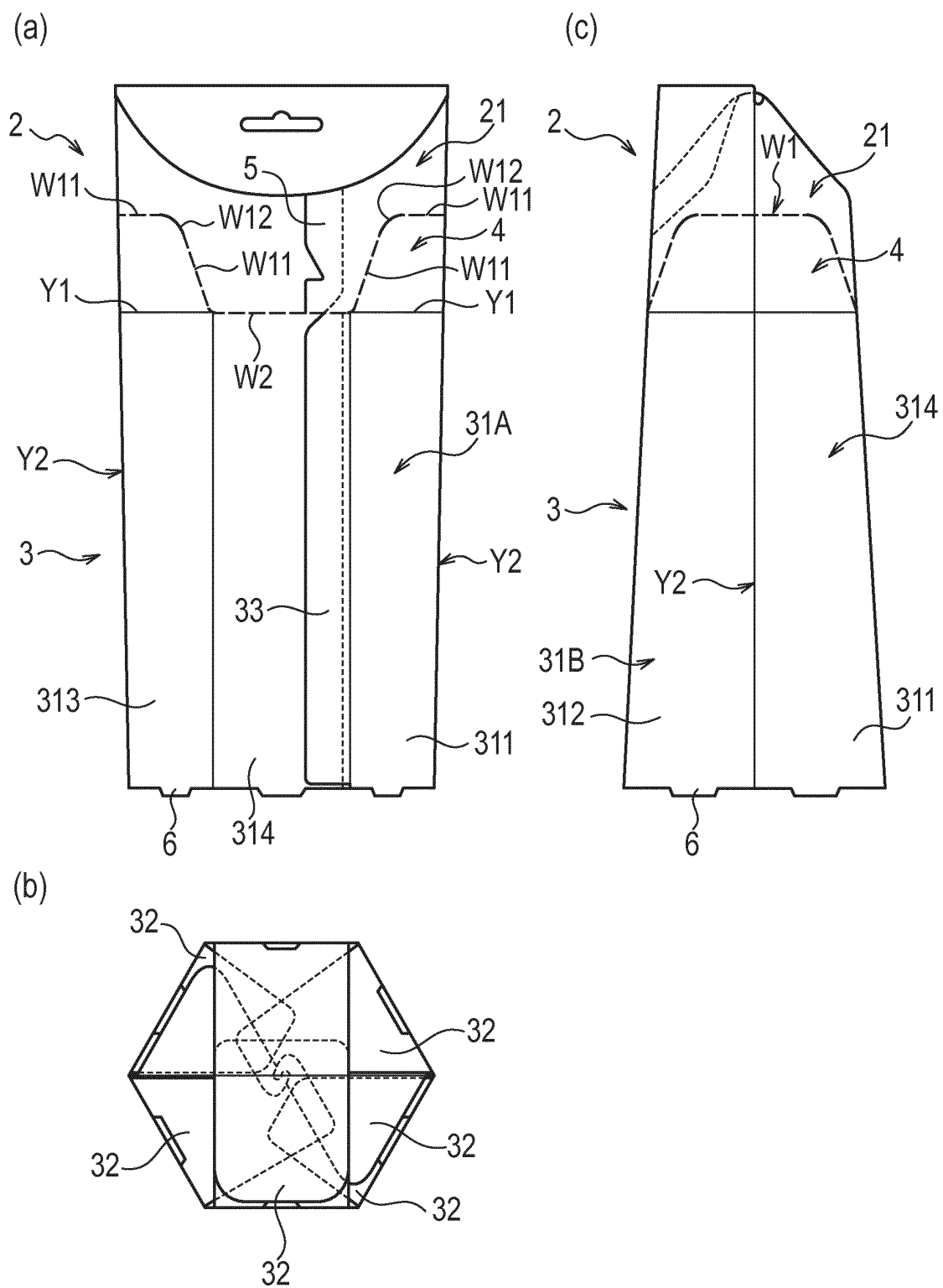


FIG. 3

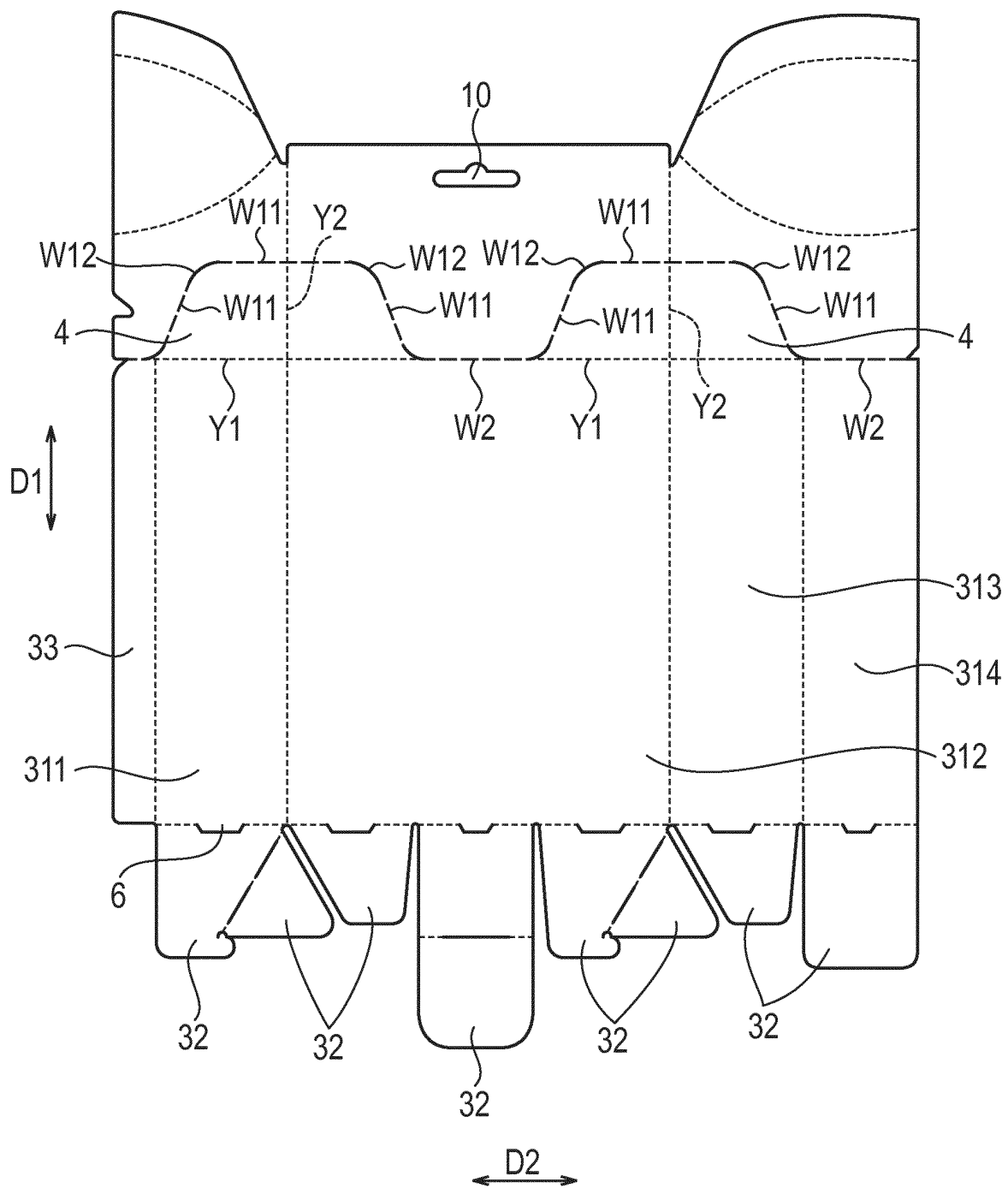




FIG. 4

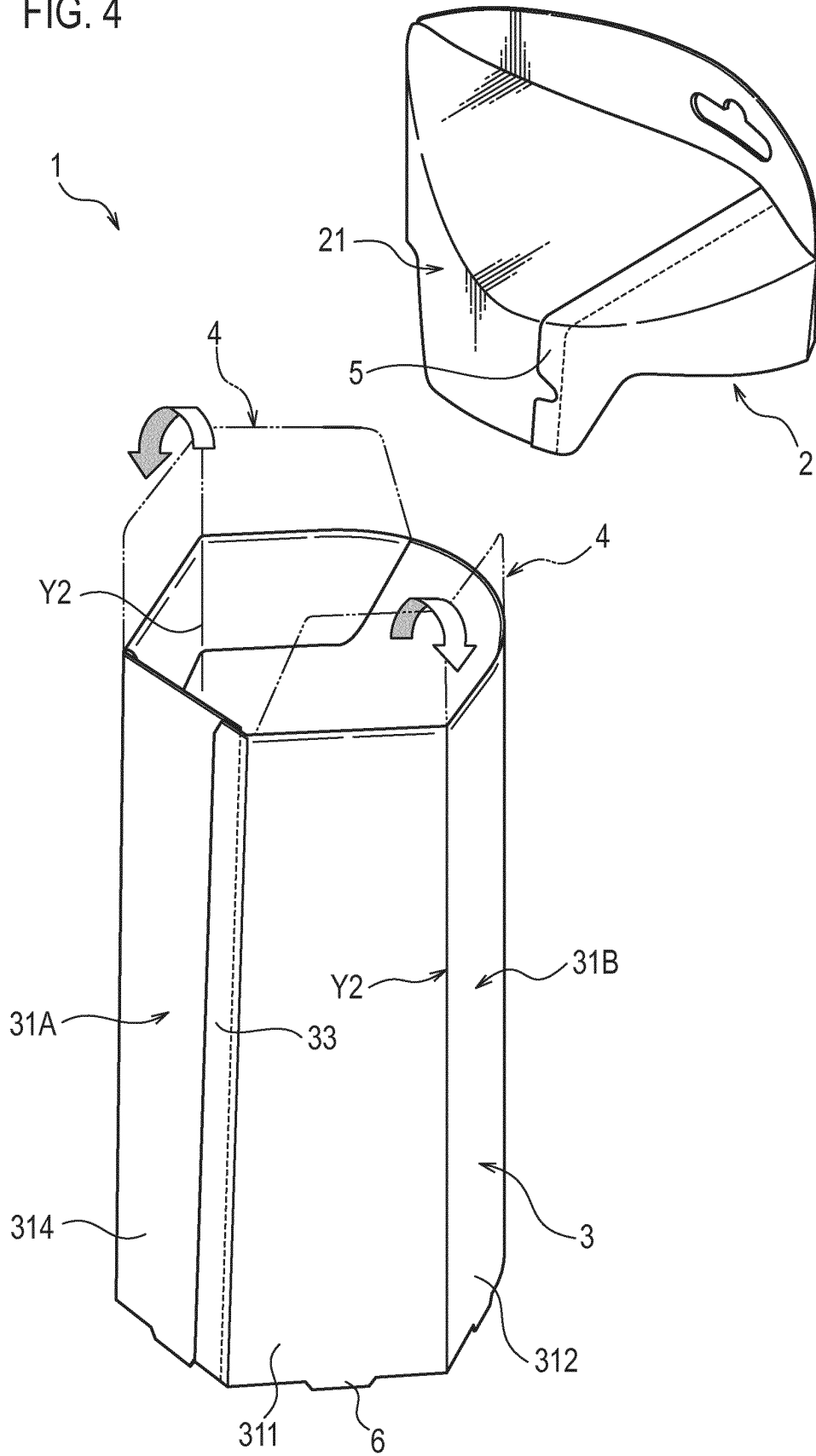


FIG. 5

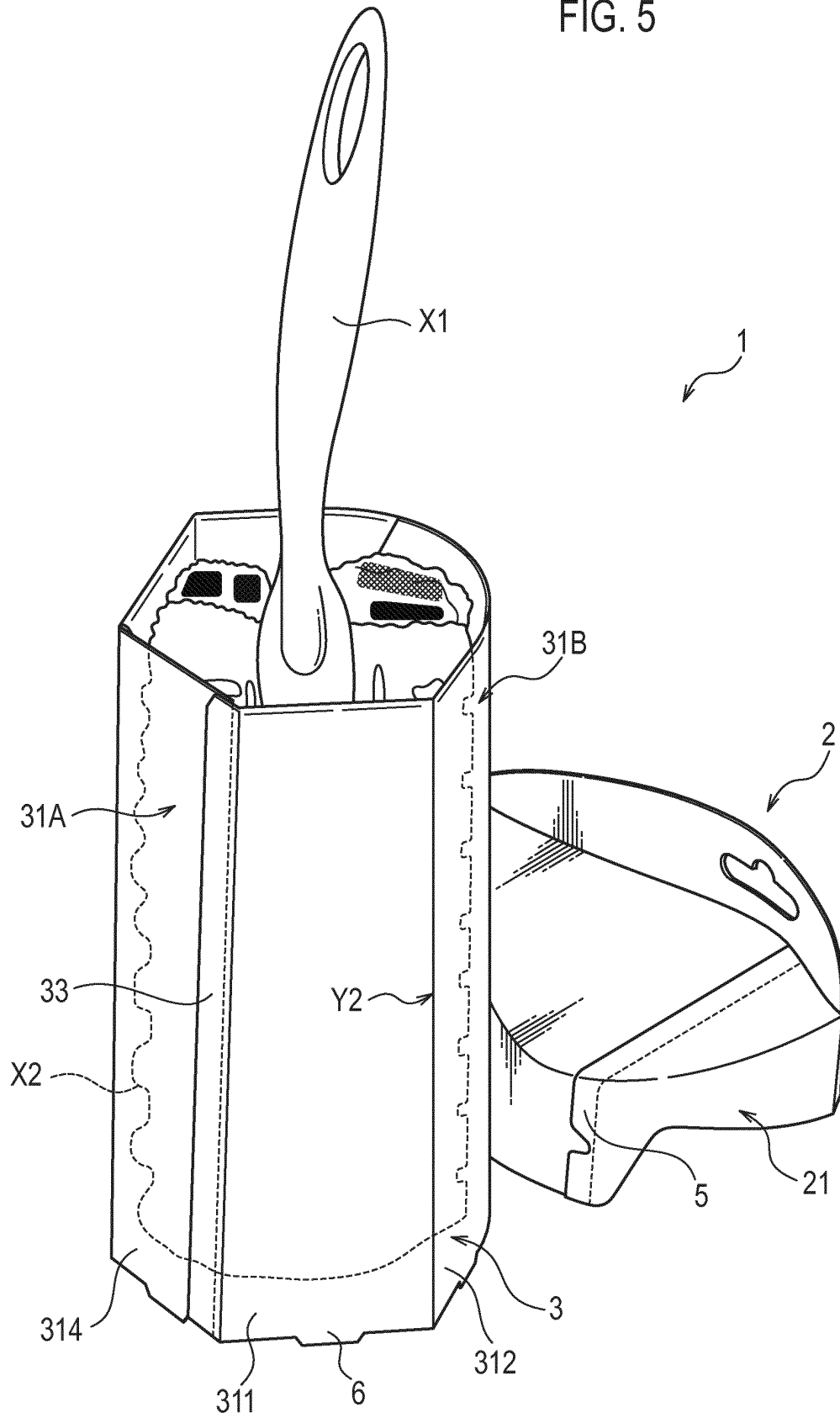


FIG. 6

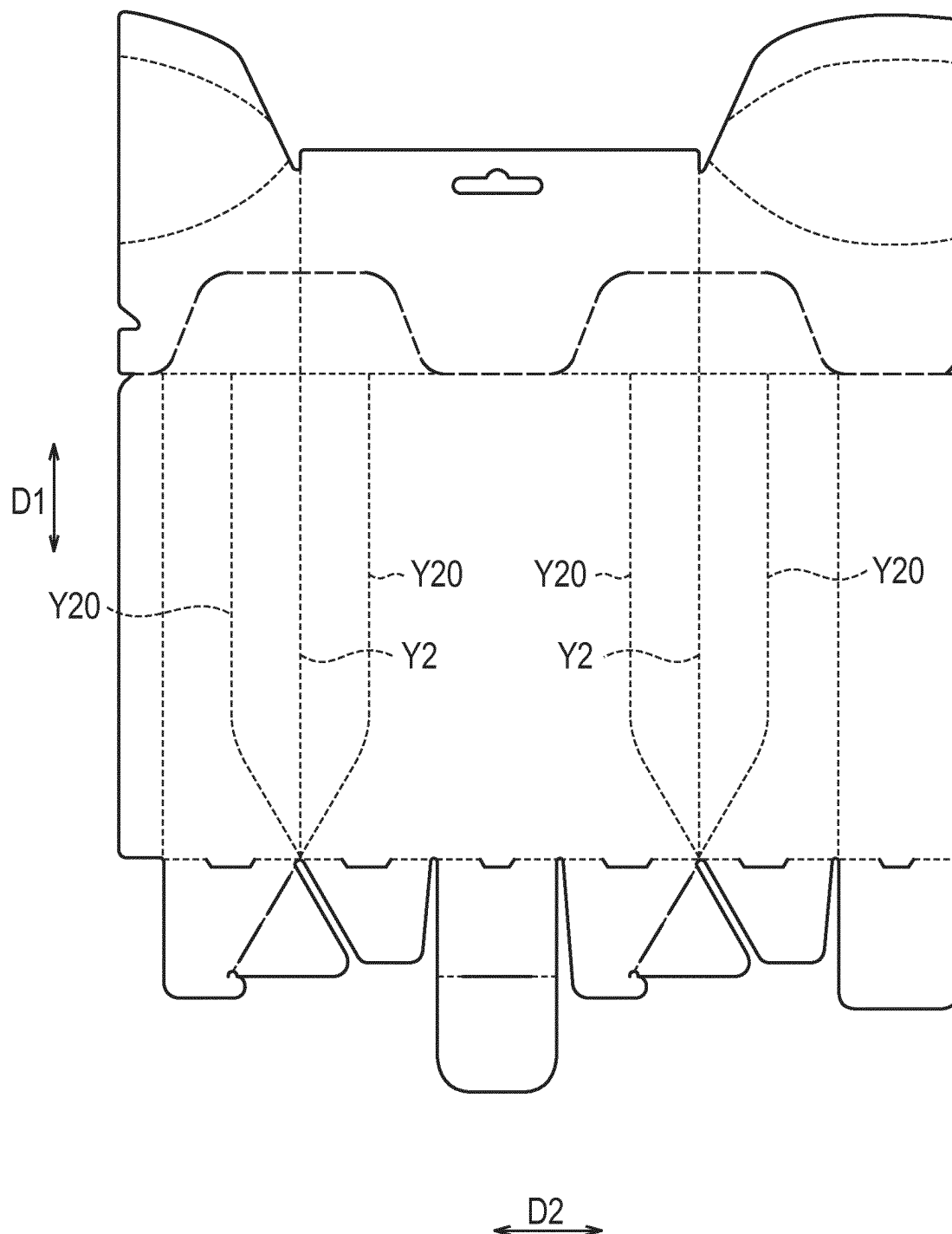
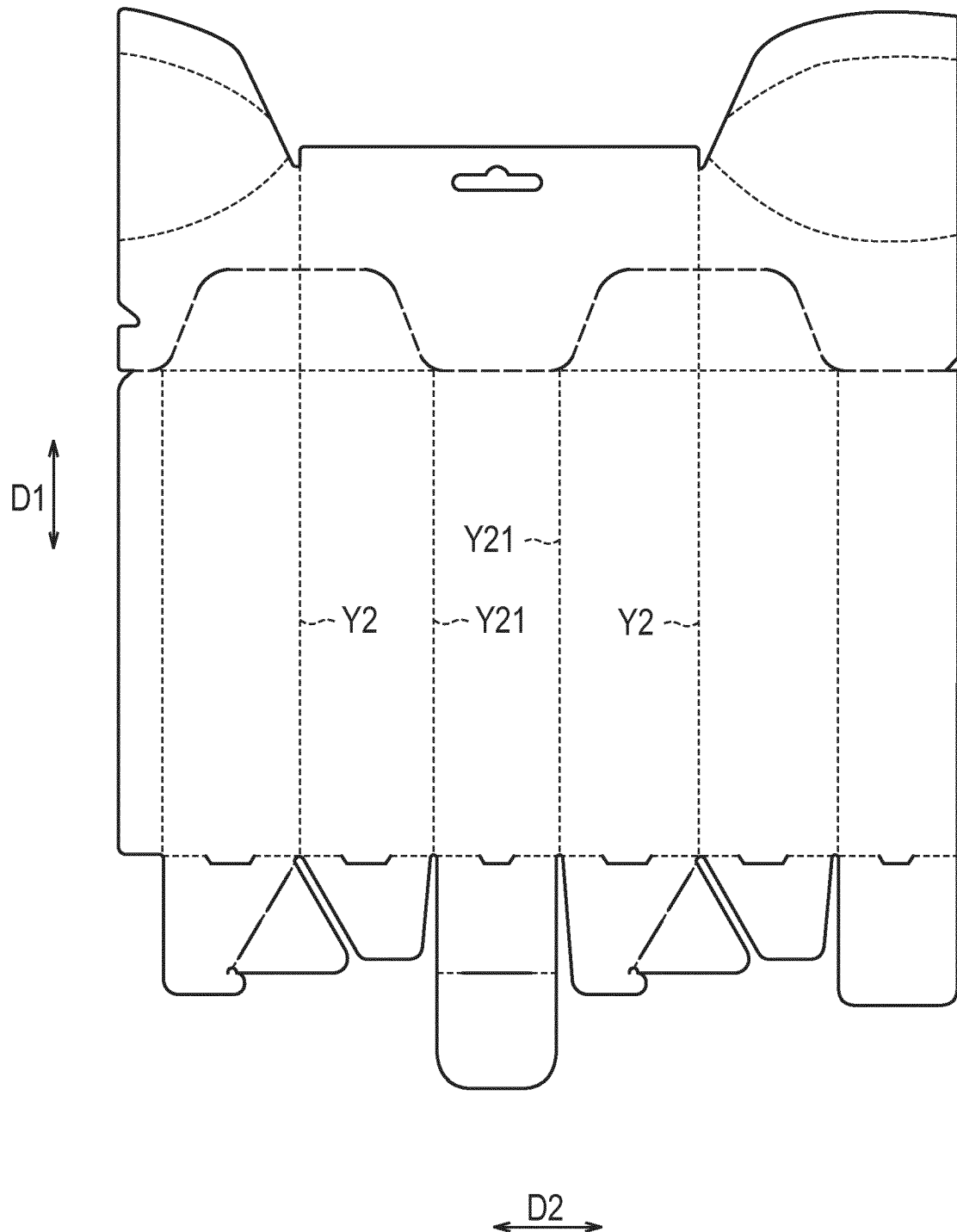


FIG. 7



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2011/058841

## A. CLASSIFICATION OF SUBJECT MATTER

B65D5/54(2006.01) i, B65D5/44(2006.01) i, B65D75/28(2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D5/00-5/76, B65D75/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2011

Kokai Jitsuyo Shinan Koho 1971-2011 Toroku Jitsuyo Shinan Koho 1994-2011

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2008-056328 A (Kao Corp.), 13 March 2008 (13.03.2008), claim 5; paragraphs [0004] to [0006] (Family: none)	1-7
A	JP 2007-145346 A (Yasuo HIROSE), 14 June 2007 (14.06.2007), entire text; all drawings (Family: none)	1-7
A	JP 2008-114873 A (Dainippon Printing Co., Ltd.), 22 May 2008 (22.05.2008), paragraphs [0012] to [0025]; fig. 1 to 5 (Family: none)	1-7

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

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"&amp;" document member of the same patent family

Date of the actual completion of the international search  
29 June, 2011 (29.06.11)Date of mailing of the international search report  
12 July, 2011 (12.07.11)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2011/058841

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 051551/1984 (Laid-open No. 163214/1985) (Sanyo Electric Co., Ltd.), 30 October 1985 (30.10.1985), page 3, line 4 to page 5, line 10; fig. 1 to 4 (Family: none)	1-7
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 098671/1982 (Laid-open No. 003820/1984) (Dainippon Printing Co., Ltd.), 11 January 1984 (11.01.1984), entire text; all drawings (Family: none)	1-7
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 144771/1985 (Laid-open No. 052157/1987) (Meiji Seika Kaisha, Ltd.), 01 April 1987 (01.04.1987), page 10, line 12 to page 12, line 12; fig. 2 (Family: none)	1-7
A	JP 2002-284153 A (Kao Corp.), 03 October 2002 (03.10.2002), paragraphs [0015], [0019]; fig. 1, 5 (Family: none)	1-7
A	US 5460322 A (THE TRANZONIC COMPANIES), 24 October 1995 (24.10.1995), entire text; all drawings (Family: none)	1-7
A	US 1772625 A (THE KARLE LITHOGRAPHIC CO.), 12 August 1930 (12.08.1930), entire text; all drawings (Family: none)	1-7

Form PCT/ISA/210 (continuation of second sheet) (July 2009)

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- JP 2005230576 A [0005]
- JP 2009120879 A [0005]
- JP 2010089072 A [0048]