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(72) Inventors:
• **Inoue, Koki**
Tokyo 174-8630 (JP)
• **Kobayashi, Kotaku**
Tokyo 174-8630 (JP)

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(74) Representative: **Haley, Stephen**
Gill Jennings & Every LLP
The Broadgate Tower
20 Primrose Street
London EC2A 2ES (GB)

(71) Applicant: **Tanita Corporation**
Tokyo 174-8630 (JP)

(54) **Package**

(57) Two edge cut portions extending in parallel with a take-out direction are provided in the vicinity of a side of the lower plate where the right flap is provided. The weight scale is taken out by placing the package with a take-out side faced upward, pulling out the tongue strips, opening the right side plate and the right flap, and bending the lower plate along the bending line. An assembled state is illustrated in Fig. 3. Fig. 3 is a bottom view of the package with the right side surface facing the far side of the drawing.

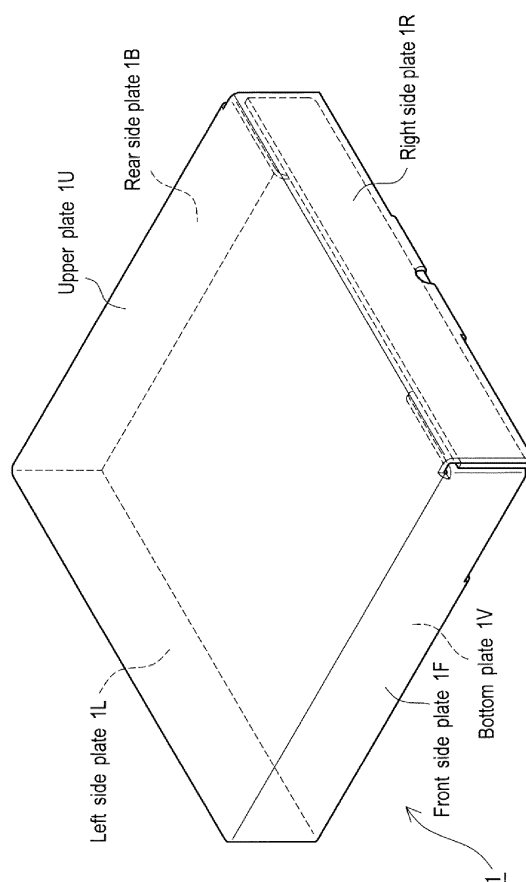


FIG. 1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a package.

2. Related Art

[0002] In the related art, a package is used for packaging a product. For example, see JP- A- 2002- 12225.

[0003] However, the package in the related art has a problem that it is difficult to take out the product.

SUMMARY

[0004] In view of such a problem, it is an object of the invention to provide a package capable of solving the above-described problem.

[0005] There is provided a package configured to package a commodity product, comprising a upper plate, a lower plate and four side plates, including a take-out side plate, and allow the commodity product to be taken out from a surface of the take-out side plate, wherein at least two edge cut portions extending inward are formed on the upper plate or the lower plate provided with a take-out flap bent inward of the take-out side plate.

[0006] Preferably, one of the four side plates other than the take- out side plate is contacted and fitted with a flap that has an approximately same size as the one of the four side plates.

[0007] Preferably, the take- out flap is provided with an insertion margin.

[0008] There is also provided a protection material configured to protect a commodity product by covering the commodity product stored in a package formed with two edge cut portions extending in parallel with a take-out direction on a upper plate or a lower plate provided with a take-out flap bent inward of a take-out side plate on one side surface, comprising: a finger hook portion.

[0009] Preferably, the protection material according to the Claim 4, comprising a push- in portion provided on a take- out flap unit positioned on the take- out side plate of the package when stored in the package so as to increase the thickness on upper side of the finger hook portion.

[0010] Preferably, the package according to Claims 1, wherein the take- out flap is provided with the insertion margin, and the value of the length of the insertion margin / the length of the take- out flap is 0.05 to 1.

[0011] Preferably, the protection material according to the Claim 4, wherein the protection material has a rectangular shape in plan view in a developed state, is divided in substantially three equivalent parts, and includes a bottom surface in a center portion, an inner surface in one end portion and an upper surface in the other end portion, and the upper surface is provided with a stopper

at an end portion thereof, an engaging portion is provided at a distal end of the stopper, and an engaged portion with which the engaging portion is engageable is provided on the inner surface.

5 [0012] According to the invention, since a depression or the like is provided, the product can be taken out easily.

BRIEF DESCRIPTION OF THE DRAWINGS

10 [0013]

Fig. 1 is a perspective view illustrating a package of an embodiment of the invention;

Fig. 2 is a developed drawing of the package illustrated in Fig. 1;

Fig. 3 is a bottom view of the package illustrated in Fig. 1;

Fig. 4 is a perspective view illustrating a state of taking out a protection material from the package illustrated in Fig. 1;

Fig. 5 is a developed drawing of the protection material illustrated in Fig. 4;

Fig. 6 is an enlarged front view of a finger hook portion of the protection material illustrated in Fig. 4;

Fig. 7 is a conceptual diagram of formation of a push-in portion shown in Fig. 6;

Fig. 8 is a perspective view taken along the line X-X in Fig. 6;

Fig. 9 is a perspective view taken along the line X-X in Fig. 6;

Fig. 10 is a front view illustrating another embodiment of the invention;

Fig. 11 is an operation side view illustrating a state of use of the package illustrated in Fig. 10;

Fig. 12 is a plan photograph showing a result of drop test;

Fig. 13 is a front view illustrating another embodiment of the invention;

Fig. 14 is a front view illustrating another embodiment of the invention;

Fig. 15 is a front view illustrating another embodiment of the invention;

Fig. 16 is a front view of a protection material according to another embodiment of the invention;

Fig. 17 is a bottom view of the protection material illustrated in Fig. 16;

Fig. 18 is a bottom view of the protection material illustrated in Fig. 16;

Fig. 19 is a side view of the protection material illustrated in Fig. 16;

Fig. 20 is a side view of the protection material illustrated in Fig. 16; and

Fig. 21 is a drawing of a result of a drop test of the package according to another embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0014] Referring now to the drawings, an embodiment of the invention will be described.

[0015] A package 1 illustrated in Fig. 1 is a member configured to package a product such as a weight scale or the like (not illustrated), and is formed of a cardboard. The package 1 has a parallelepiped shape having a substantially square upper plate 1U and a lower plate 1V, and sides surrounded by a front side plate 1F, a rear side plate 1B, a left side plate 1L, and a right side plate (take-out side plate) 1R. The package 1 is configured to allow the weight scale to be taken out from a right side surface.

[0016] Fig. 2 illustrates a shape of the package 1 when developed. An upper surface and a lower surface are illustrated in Fig. 2. The upper plate 1U, the front side plate 1F, and the lower plate 1V continues and the left side plate 1L, the rear side plate 1B, and the right side plate 1R are formed around the upper plate 1U. The rear side plate 1B is provided with lug strips 1e1 and 1e2. The front side plate 1F is provided with lug strips 1e3 and 1e4. A left flap 1LF, a rear flap 1BF, and a right flap (take-out flap) 1RF are formed around the lower plate 1V.

[0017] The left side plate 1L and the right side plate 1R are each formed with an insertion strip 1i. Each of the insertion strip 1i is formed with a tongue insertion slit 1ts. The left flap 1LF and the right flap 1RF each are formed with an insertion slit 1is, and a tongue strip 1T.

[0018] Two edge cut portions 1C extending in parallel with the take-out direction are provided in the vicinity of a side of the lower plate 1V where the right flap 1RF is provided. A bending line 11 is formed between distal ends of the edge cut portions 1C.

[0019] When assembling, the rear side plate 1B and the rear flap 1BF are contacted and bonded in a first step so that the rear flap 1BF comes inside. Subsequently, the insertion strips 1i are inserted into the insertion slits 1is of the bent left flap 1LF and the bent right flap 1RF while bending the left side plate 1L and the right side plate 1R, and then the tongue strips 1T are inserted into the tongue insertion slits 1ts. With the procedure described above, the package 1 is assembled. A state in which the package 1 is assembled is illustrated in Fig. 3. Fig. 3 is a bottom view of the package 1 with the right side surface facing the far side of the drawing.

[0020] The weight scale is taken out by placing the package 1 with a take-out side (right side in the embodiment) faced upward, pulling out the tongue strips 1T, opening the right side plate 1R and the right flap 1RF, and bending the lower plate 1V along the bending line 11. Then, a protection material 2 whose upper portion is exposed is pulled upward with having fingers thereon as illustrated in Fig. 4.

[0021] The protection material 2 is configured to cover the weight scale to protect the weight scale in case of falling or the like, and is formed of a cardboard. As illustrated in Fig. 5, a finger hook portion 2a is formed by being cut out. A take-out flap unit 2F includes an upper

part 2Fa, a middle part 2Fb, and a lower part 2Fc. The upper part 2Fa is formed with a tongue strip 2Fat. The lower part 2Fc is formed with a notch 2Fcd.

[0022] The take-out flap unit 2F is provided with a push-in portion 2b as illustrated in Fig. 6. The push-in portion 2b is bent so that the middle part 2Fb is contacted with the inside of the lower part 2Fc in a state of protecting the weight scale, and the upper part 2Fa is bent so as to be contacted with the outside thereof as illustrated in Fig. 7. The upper part 2Fa is fixed by inserting the tongue strip 2Fat into a gap between the lower part 2Fc and the middle part 2Fb from the notch 2Fcd.

[0023] When a finger is inserted into the finger hook portion 2a as illustrated in Fig. 8, the push-in portion 2b rotates about a center of rotation at a center of the lower part 2Fc in the thickness direction by friction of contact with the middle part 2Fb, and is allowed to be pulled upward as illustrated in Fig. 9.

[0024] According to the embodiment, since the edge cut portion 1C is provided, a bottom surface may be opened and, consequently, so that the protection material 2 can be taken out easily. The edge cut portion 1C only has to be cut at an edge in forms of slit, notch, and cut.

[0025] Since the push-in portion 2b is provided, the protection material 2 can be pulled out from the package 1 easily.

[0026] In JP- A- 2002- 12225, an irregularity may be created by a portion contacted with an edge of a portion corresponding to the bottom surface of the embodiment. In contrast, according to this embodiment, since the portions to be contacted and bonded are the rear side plate 1B and the rear flap 1BF, no irregularity is created on the bottom surface. Therefore, the commodity product is not inclined, and hence taking out of the commodity product is facilitated.

[0027] As illustrated in Fig. 10 and Fig. 11, an insertion margin may be provided on the take-out flap unit 2F. In this configuration, by the insertion margin inserted between an inner surface of a package 1' and the protection material 2, such an event that the edge cut portion 1C is opened due to falling or the like and thus the commodity product is broken may be prevented. The number of the insertion margins may be either one as illustrated in Fig. 10 or plural.

[0028] As a result of a drop test, when an insertion margin was not provided, a liquid crystal portion of the weight scale was broken as illustrated in Fig. 12.

[0029] As illustrated in Fig. 13, a place where an edge cut portion 11C is provided is not limited to an edge of the plate.

[0030] The edge cut portion of the invention does not have to be parallel to the direction of taking out the product. What is essential is that the edge is cut inward of the bottom plate so as to expose the protection material. Fig. 14 illustrates an example. The edge cut portion 11C is not limited to be straight, but may be curved or broken into a polygonal line as appropriate.

[0031] The shapes and materials of the package and the protection material are not limited to the embodiment, and other shapes suitable for implementing the invention are also included.

[0032] As illustrated in Fig. 15, the number of tongue strips 1T' and 1T' may be either two or more. In this case, the edge cut portions are opened and hence breakage of the commodity product is further prevented in case of falling. This configuration is beneficial for commodity products having a large surface area.

[0033] Although the finger hook portion is fixed to the notch as described above, it may be provided by bonding the finger hook portion thereto. A configuration in which the upper part is not provided and only the middle part is contacted with the inside of the lower part is also applicable.

[0034] The protection material may have a shape as illustrated in Fig. 16. As illustrated in Fig. 16, a protection material 2' is formed into a rectangular shape in plan view in a state of being developed, is divided into substantially three equal parts, and includes a bottom surface in a center portion, an inner surface in one end portion (lower portion in the drawing) and an upper surface in the other end portion (upper portion in the drawing). A stopper is provided at the end portion of the upper surface. A hook-shaped engaging portion is provided at a distal end of the stopper. An engaged portion which can be engaged with the engaging portion in a state of being assembled is provided on the inner surface.

[0035] The protection material 2' is assembled by bending the inner surface first, placing the product on the inner surface, and bending the upper surface to cover the product. The stopper is bent in the direction vertical to the paper surface of the drawing and is inserted into the notch, whereby the engaging portion is engaged with the engaged portion. The engaged portion is a notch extending from the bottom surface to the inner surface. Since the length of the notch in the inner surface portion is shorter than that of the bottom surface, the engaging portion engages the inner surface. The state before the engagement is illustrated in fig. 17 and Fig. 19 and the state of the engagement is illustrated in Fig. 18 and Fig. 20.

[0036] Although the number of the stoppers is one in the embodiment, the invention is not limited thereto, and any numbers suitable for implementing the invention are applicable.

[0037] Preferably, the insertion margin is provided on the take-out flap, and the value of the length of the insertion margin in the short side direction/the length of the take-out flap in the short side direction is 0.05 to 1. It is because the number of times of opening of the take-out flap is decreased by half when the ratio described above is 0.05 and higher from the result of experiment shown in Fig. 21. Since the take-out flap cannot be opened when the above-described ratio is one or higher, an upper limit is defined as 1.

Claims

1. A package (1, 1') configured to package a commodity product, comprising an upper plate (1U), a lower plate (1V) and four side plates (1B, 1F, 1L, 1R) including a take-out side plate (1R), and allow the commodity product to be taken out from a surface of the take-out side plate (1R), wherein at least two edge cut portions (1C, 11C) extending inward are formed on the upper plate (1U) or the lower plate (1V) provided with a take-out flap (1RF) bent inward of the take-out side plate (1R).
2. The package (1, 1') according to the Claim 1, wherein one of the four side plates (1B, 1F, 1L, 1R) other than the take-out side plate (1R) is contacted and fitted with a flap (1BF) that has an approximately same size as the one of the four side plates (1B, 1F, 1L, 1R).
3. The package (1, 1') according to the Claim 1 or 2, wherein the take-out flap (1RF) is provided with an insertion margin.
4. A protection material (2, 2') configured to protect a commodity product by covering the commodity product stored in a package (1, 1') formed with two edge cut portions (1C, 11C) extending in parallel with a take-out direction on an upper plate (1U) or a lower plate (1V) provided with a take-out flap (1RF) bent inward of a take-out side plate (1R) on one side surface, comprising:
a finger hook portion (2a).
5. The protection material (2, 2') according to the Claim 4, comprising a push-in portion (2b) provided on a take-out flap unit (2F) to be positioned on the take-out side plate (1R) of the package (1, 1') when stored in the package (1, 1') so as to increase the thickness on upper side of the finger hook portion (2a).
6. The package (1, 1') according to any one of Claims 1 to 3, wherein the take-out flap (1RF) is provided with the insertion margin, and the value of the length of the insertion margin / the length of the take-out flap (1RF) is 0.05 to 1.
7. The protection material (2, 2') according to the Claim 4, wherein the protection material (2, 2') has a rectangular shape in plan view in a developed state, is divided in substantially three equivalent parts, and includes a bottom surface in a center portion, an inner surface in one end portion and an upper surface in the other end portion, and the upper surface is provided with a stopper at an end portion thereof, an engaging portion is provided

at a distal end of the stopper, and an engaged portion with which the engaging portion is engageable is provided on the inner surface.

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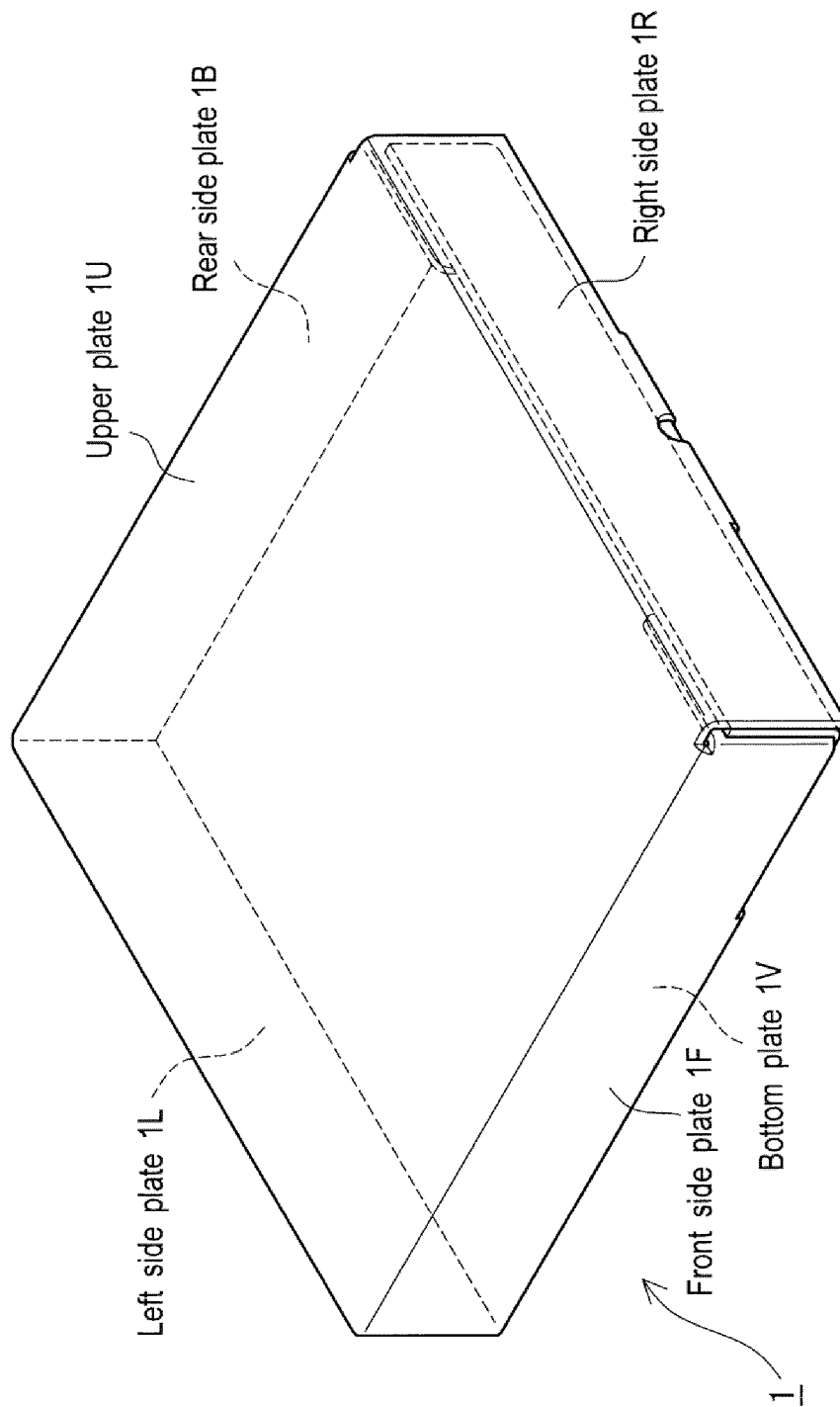


FIG. 1

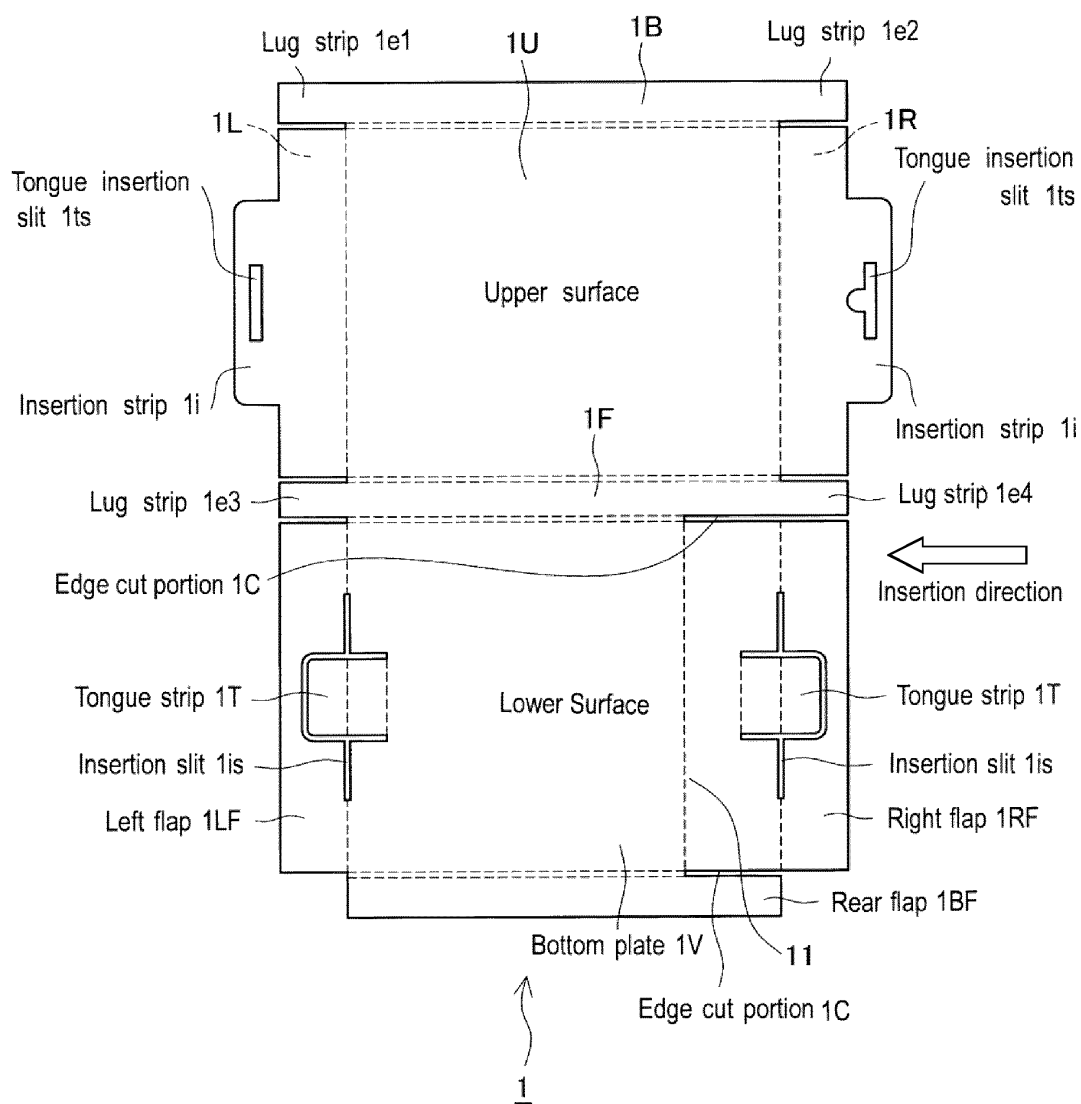


FIG. 2

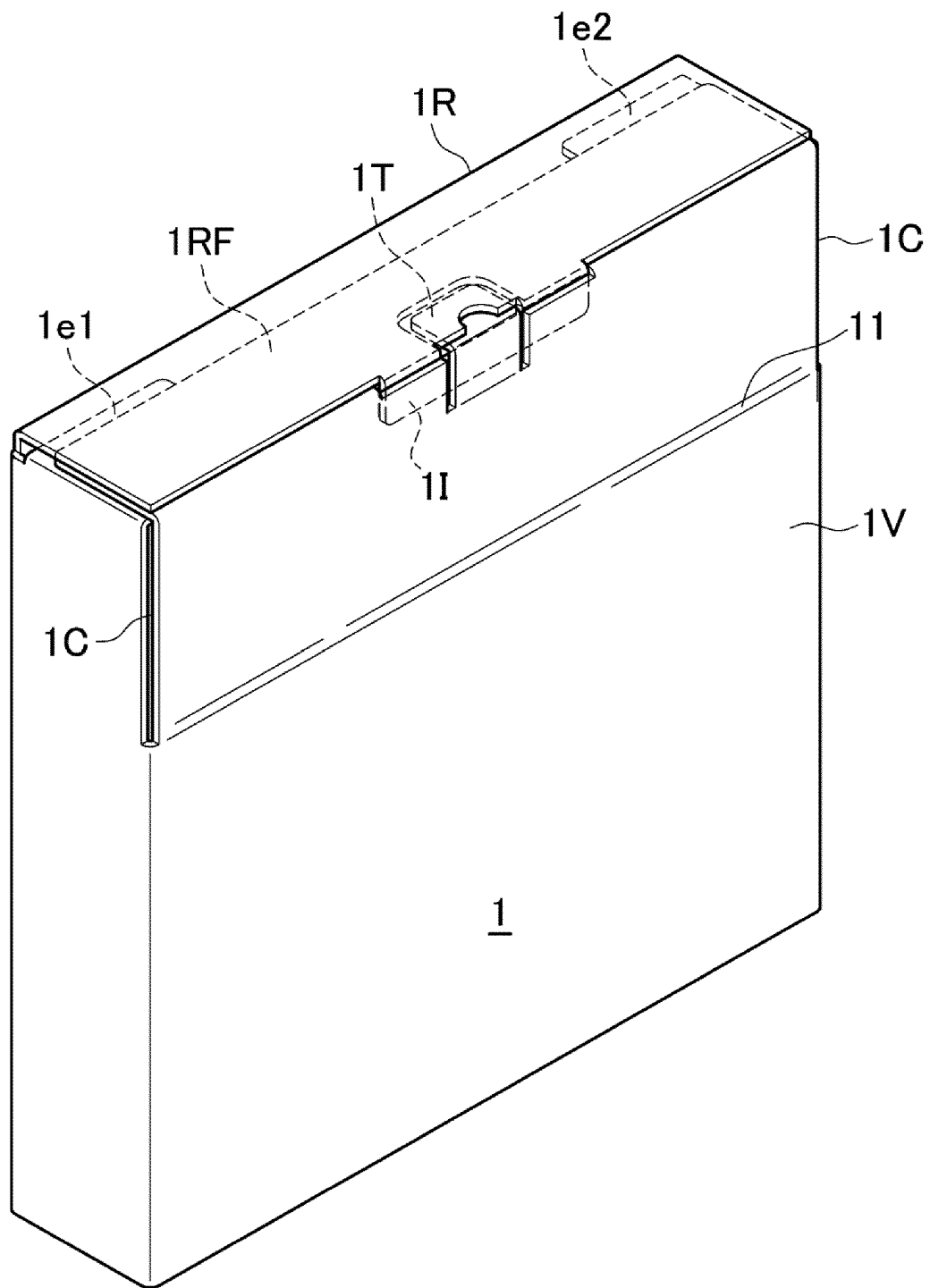


FIG. 3

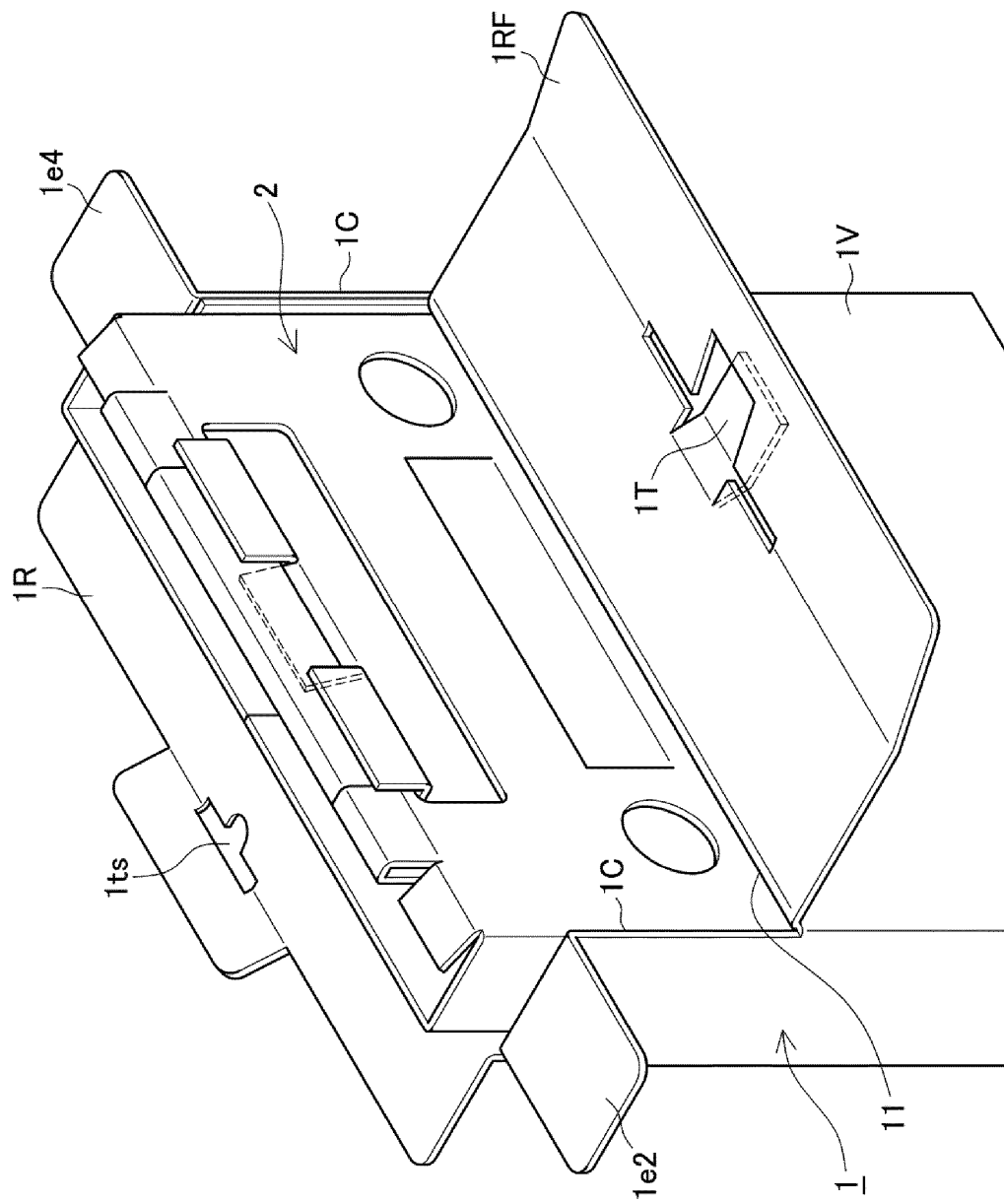


FIG. 4

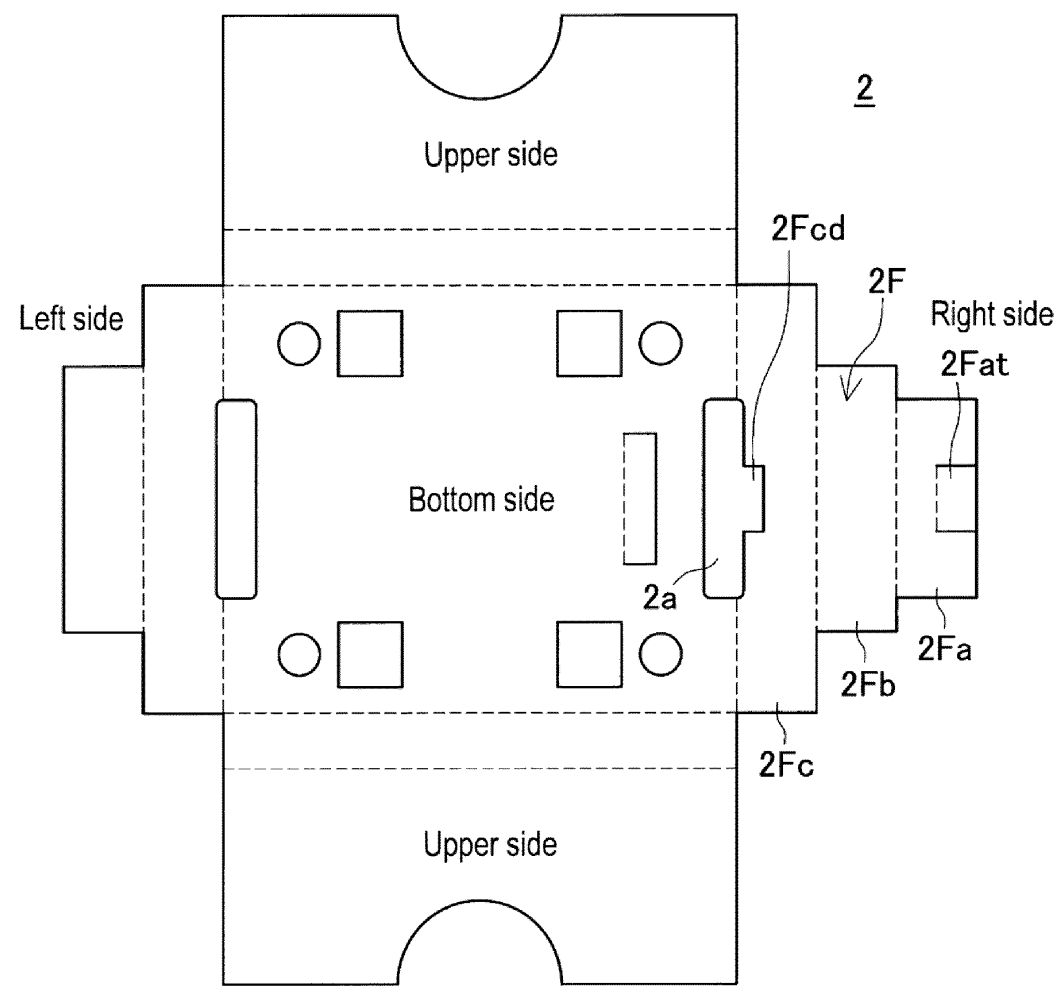


FIG. 5

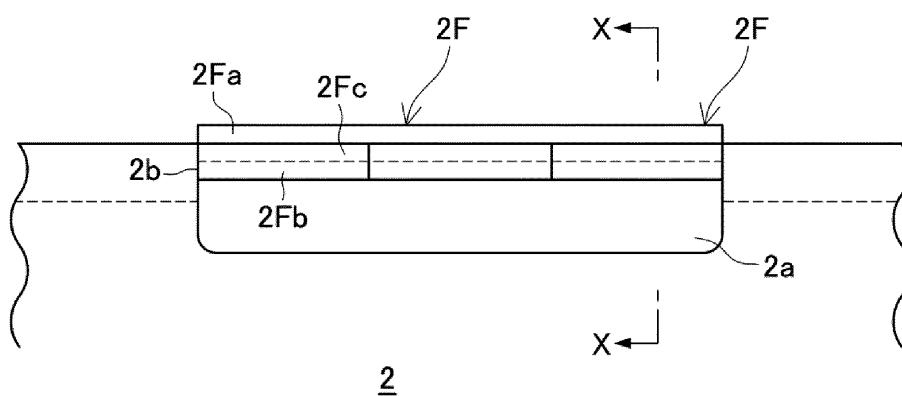


FIG. 6

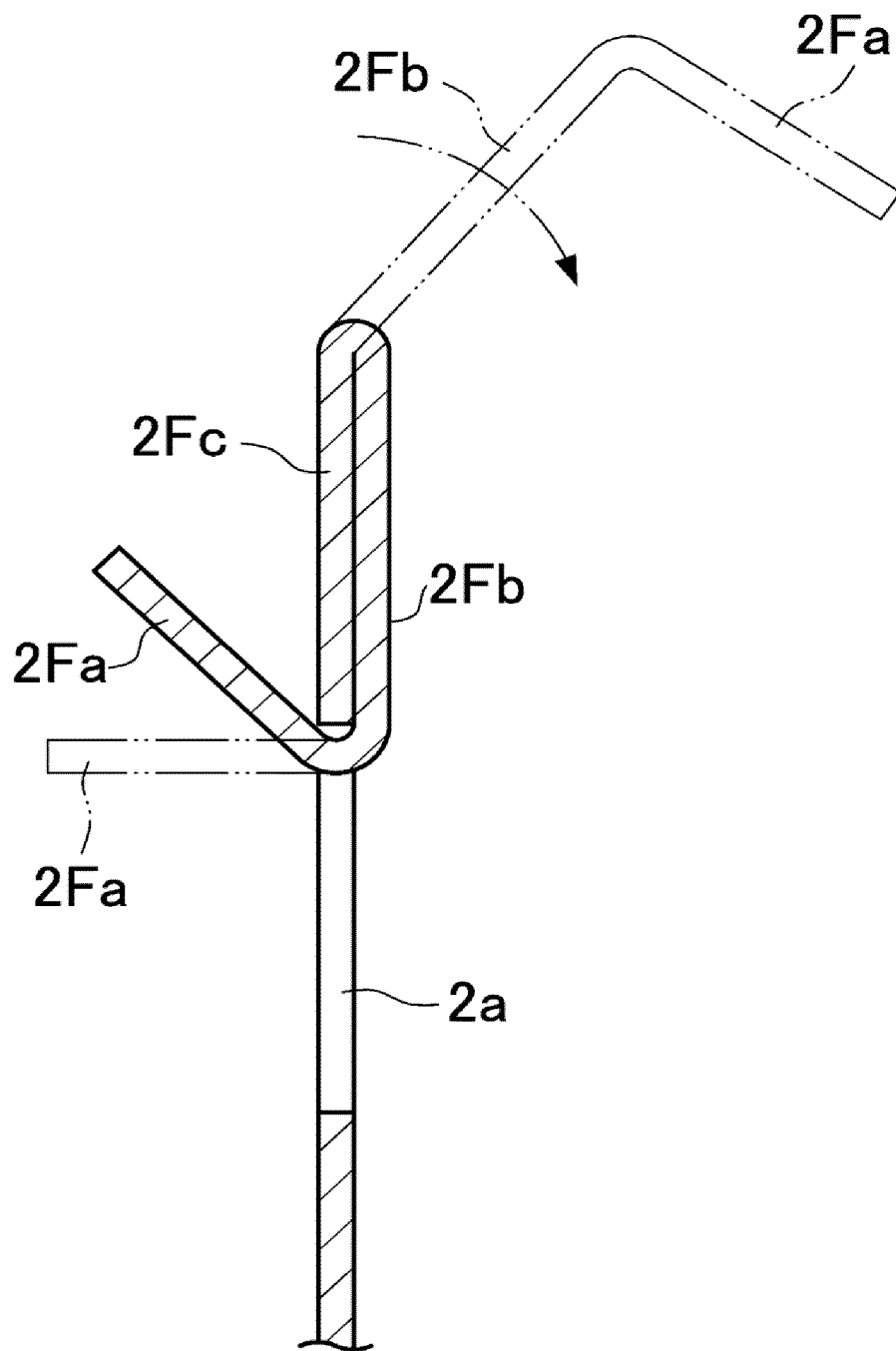


FIG. 7

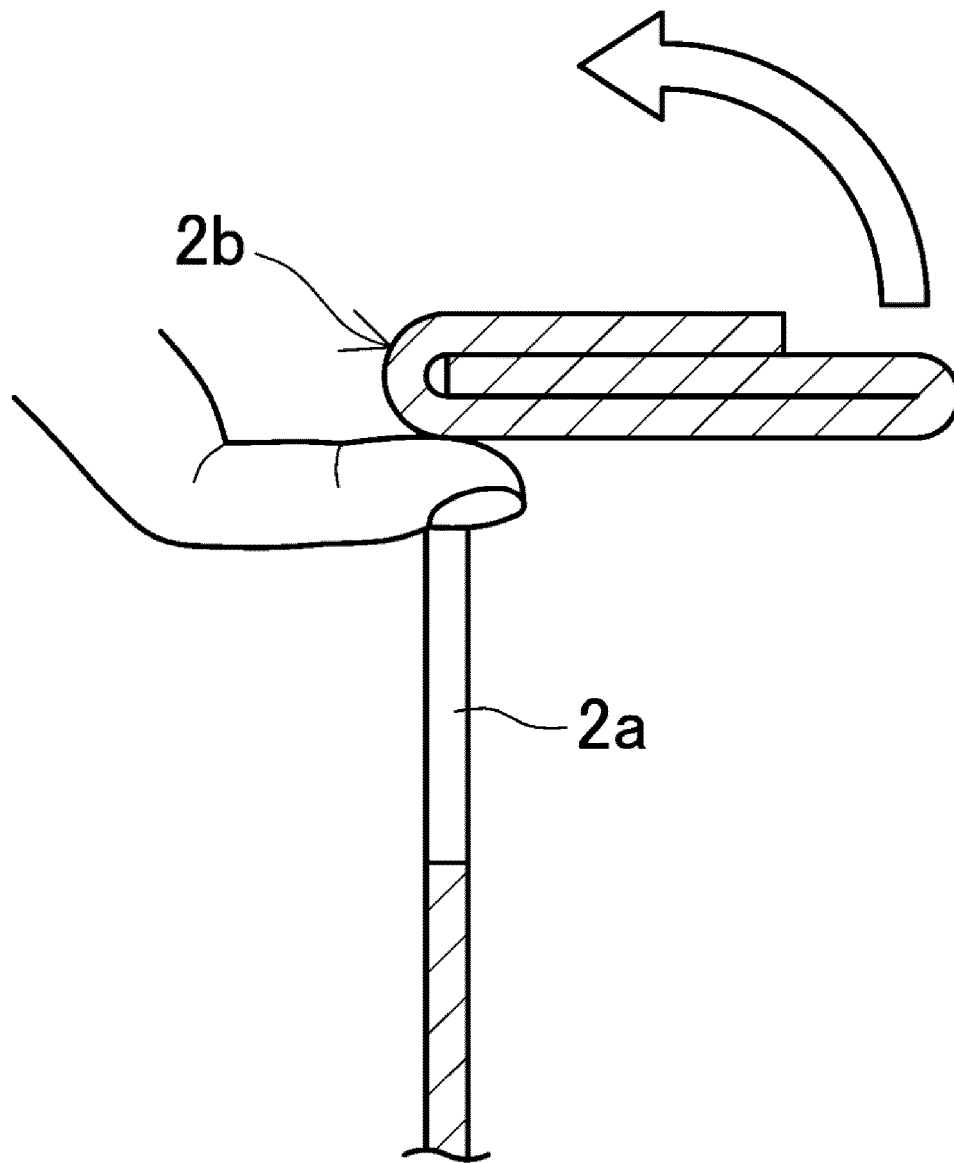


FIG. 8

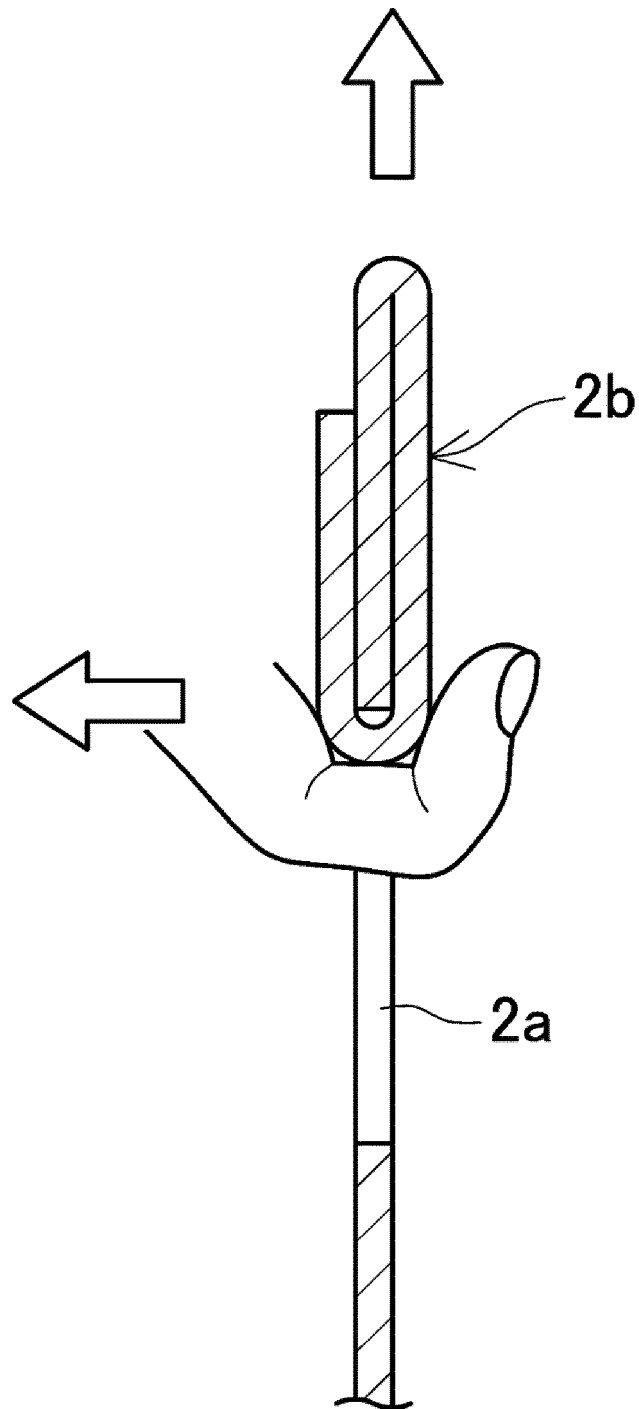


FIG. 9

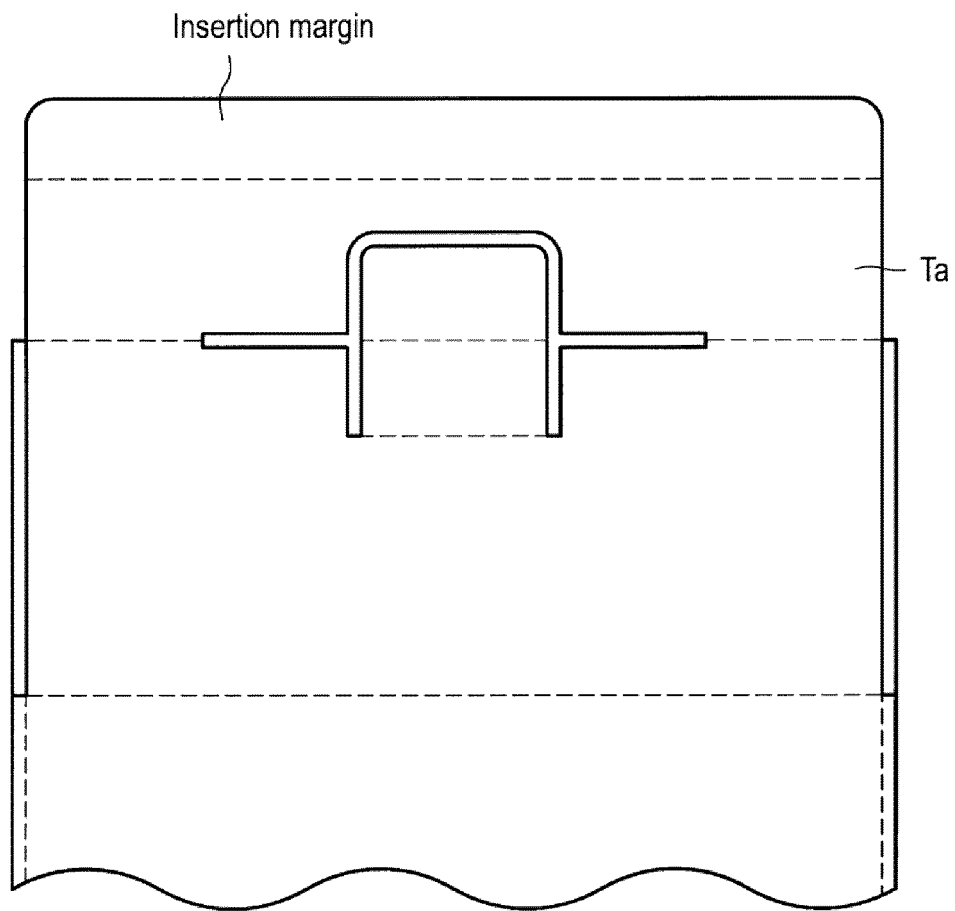


FIG. 10

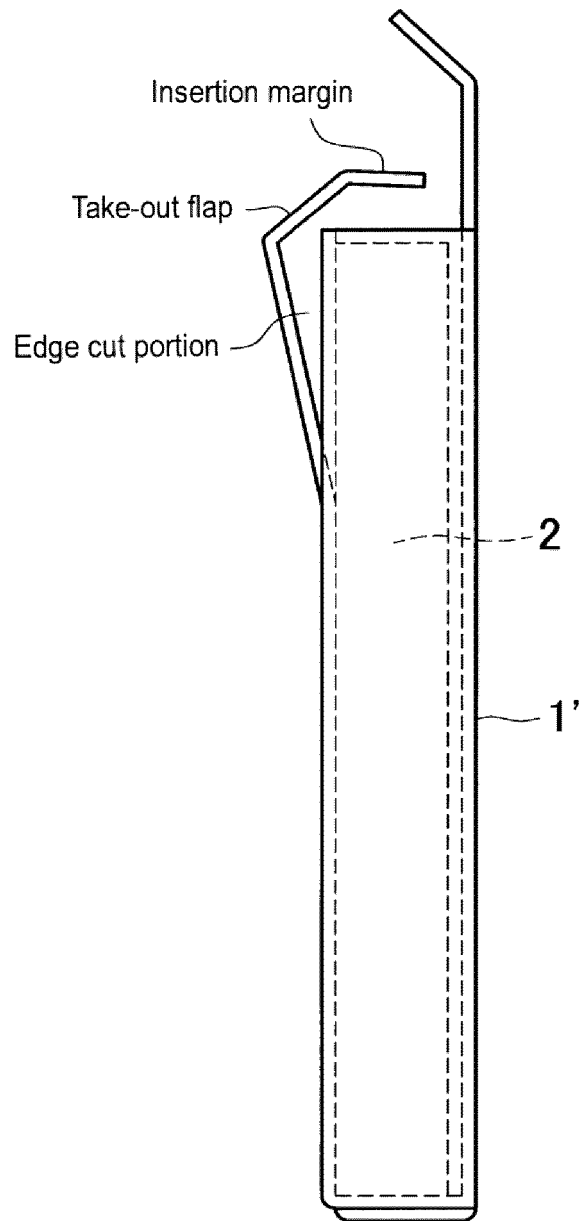


FIG. 11

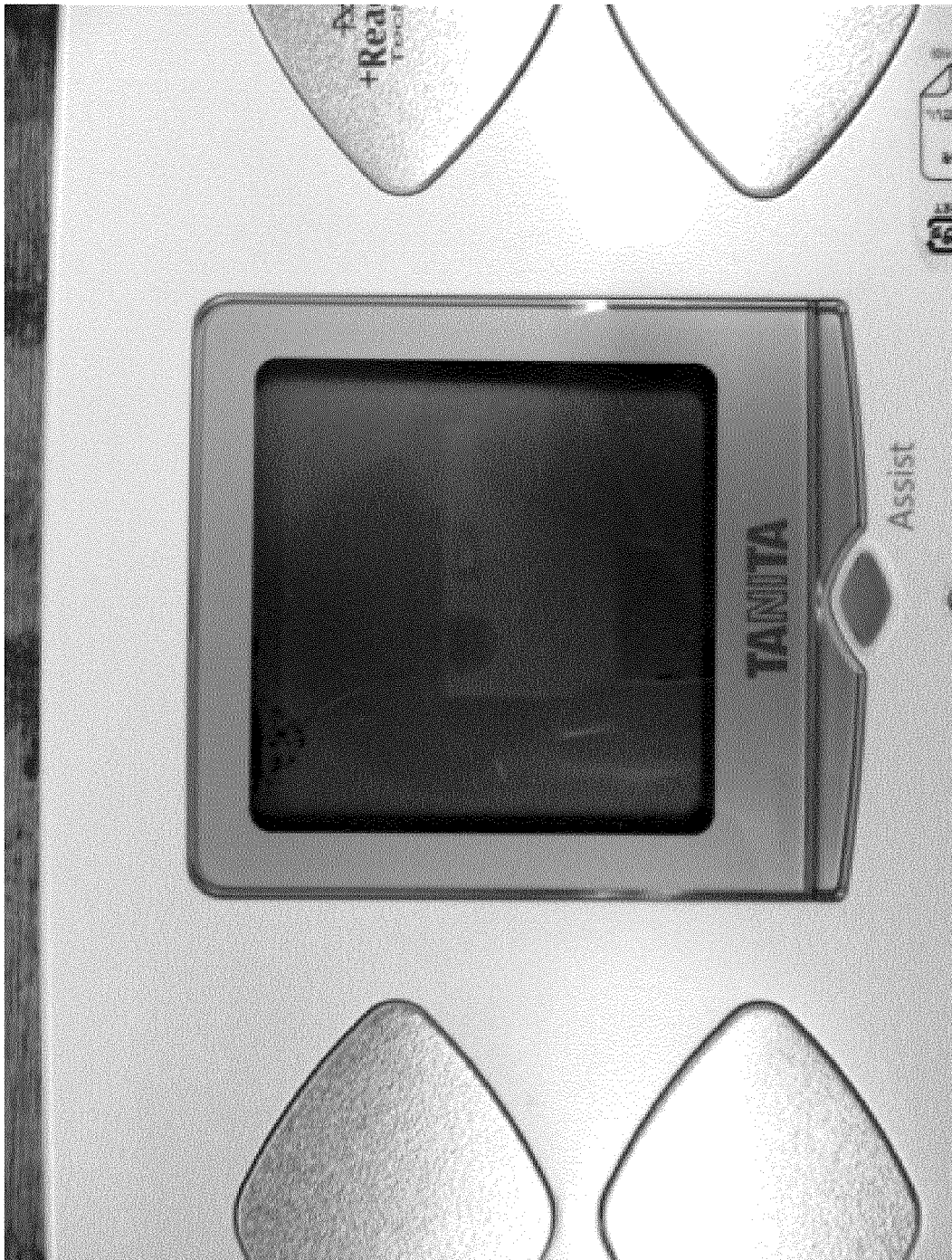


FIG. 12

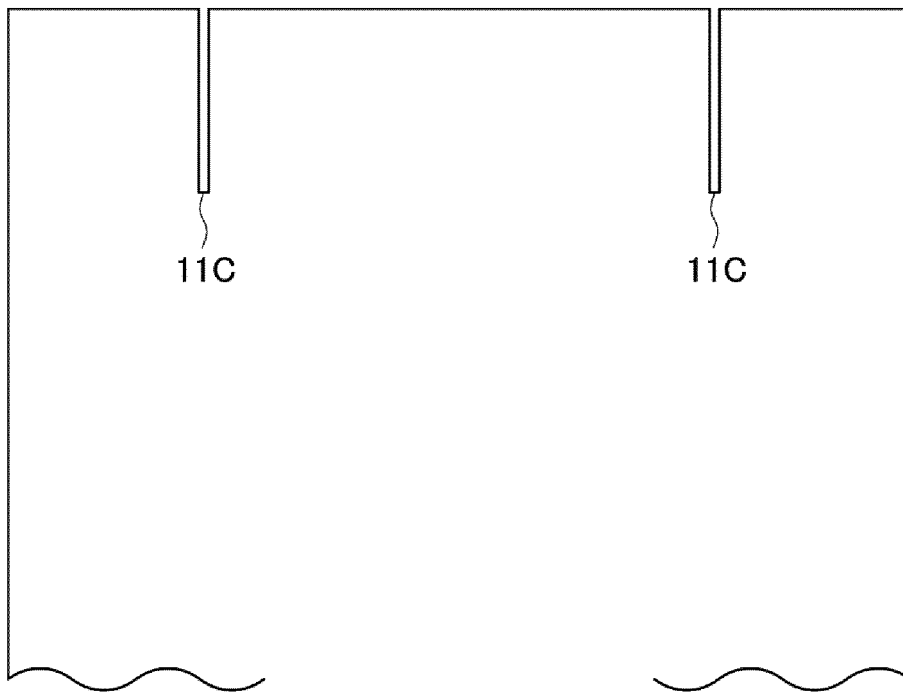


FIG. 13

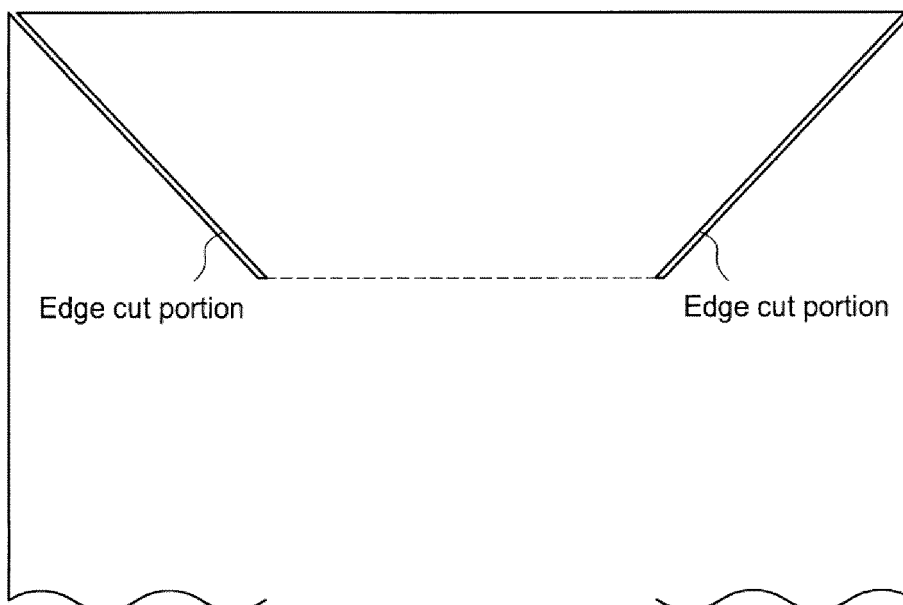


FIG. 14

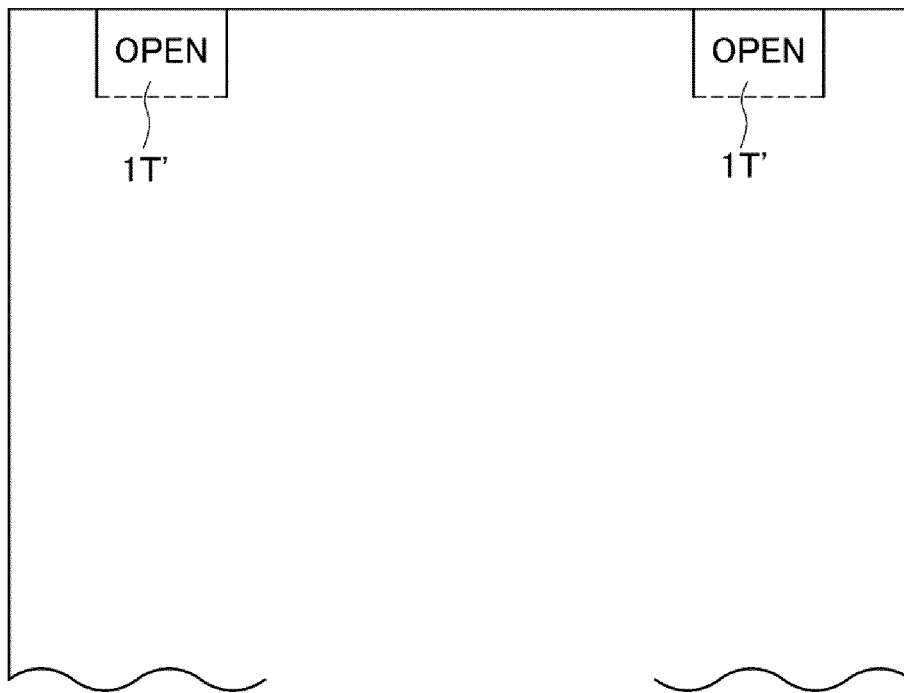


FIG. 15

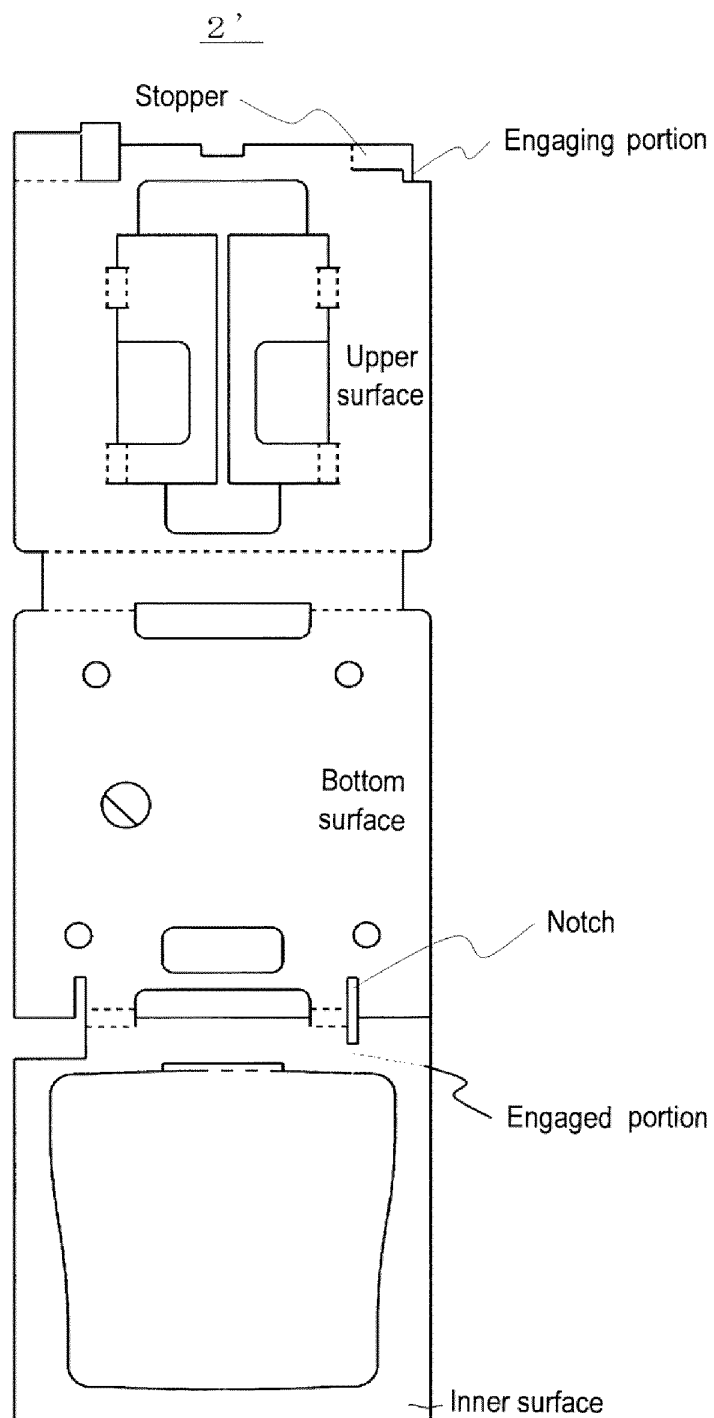


FIG. 16

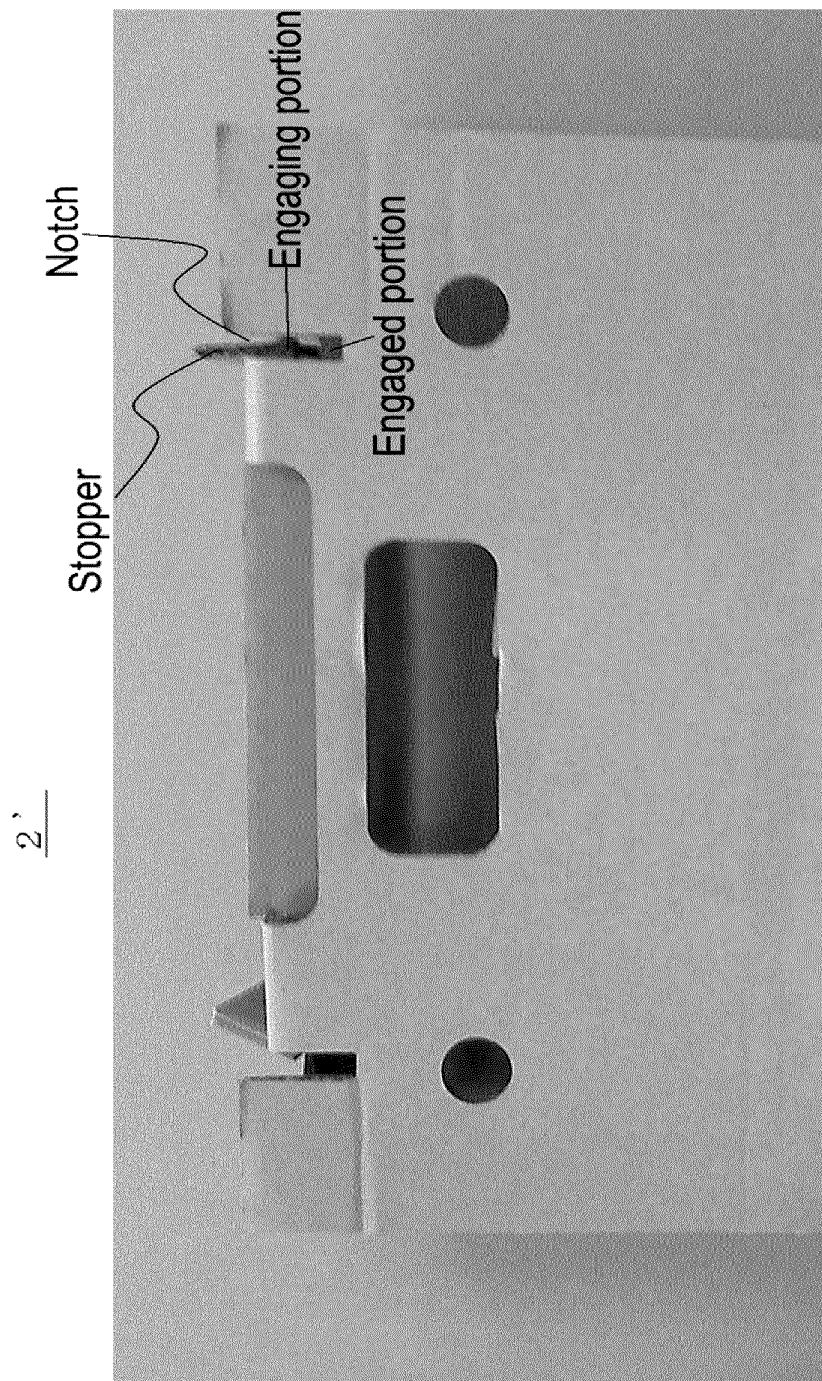


FIG. 17

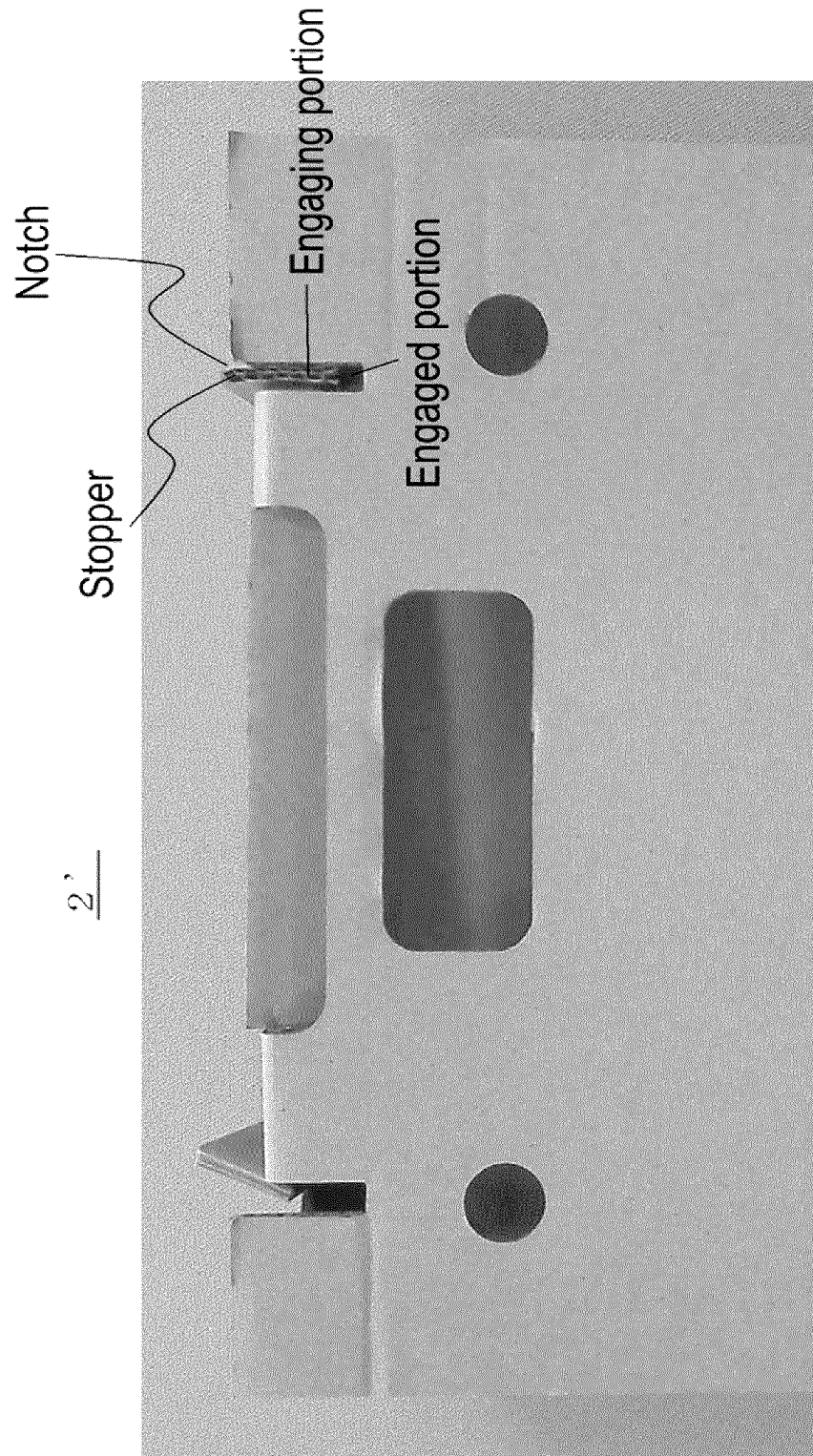


FIG. 18

2'

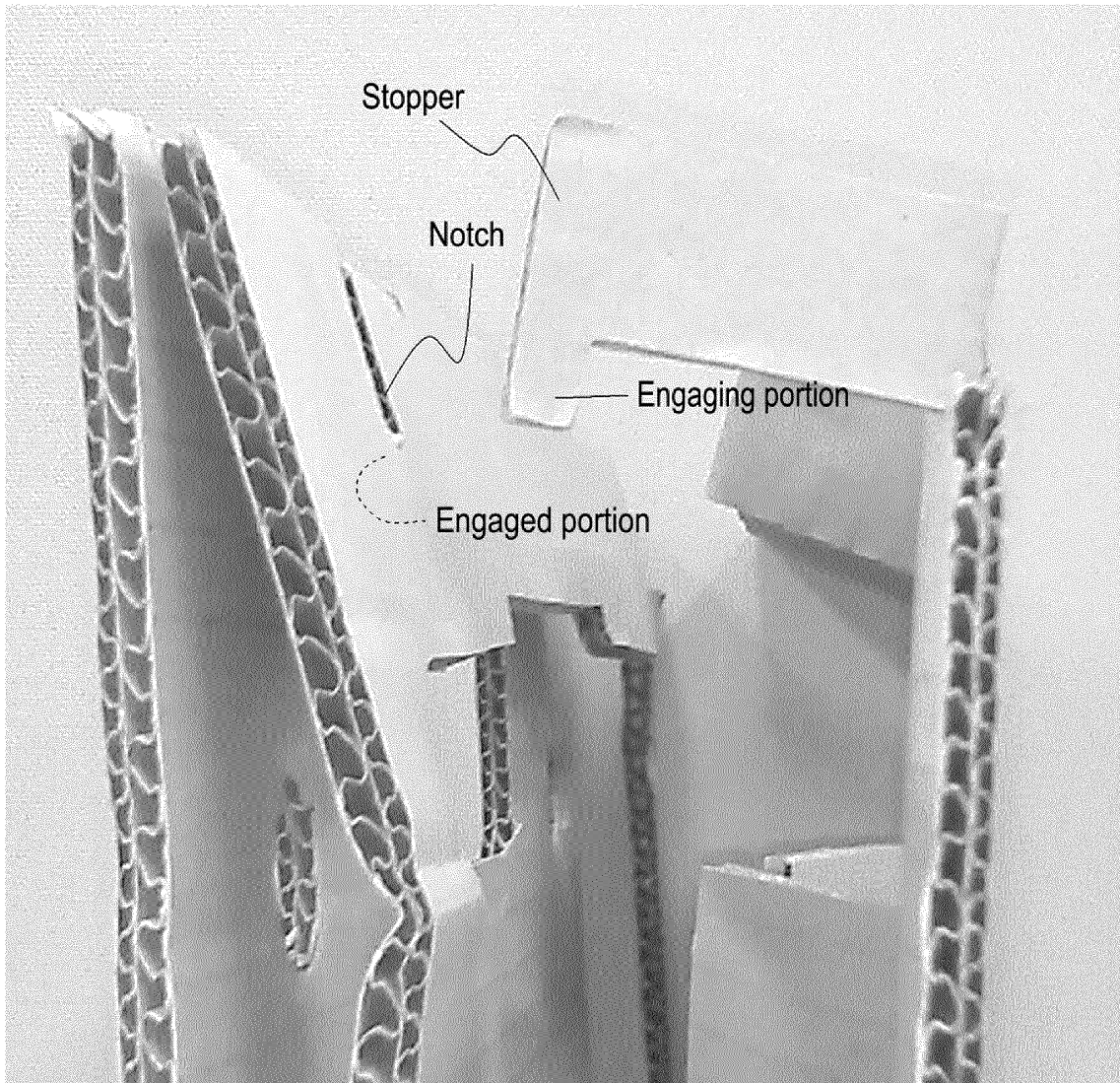


FIG. 19

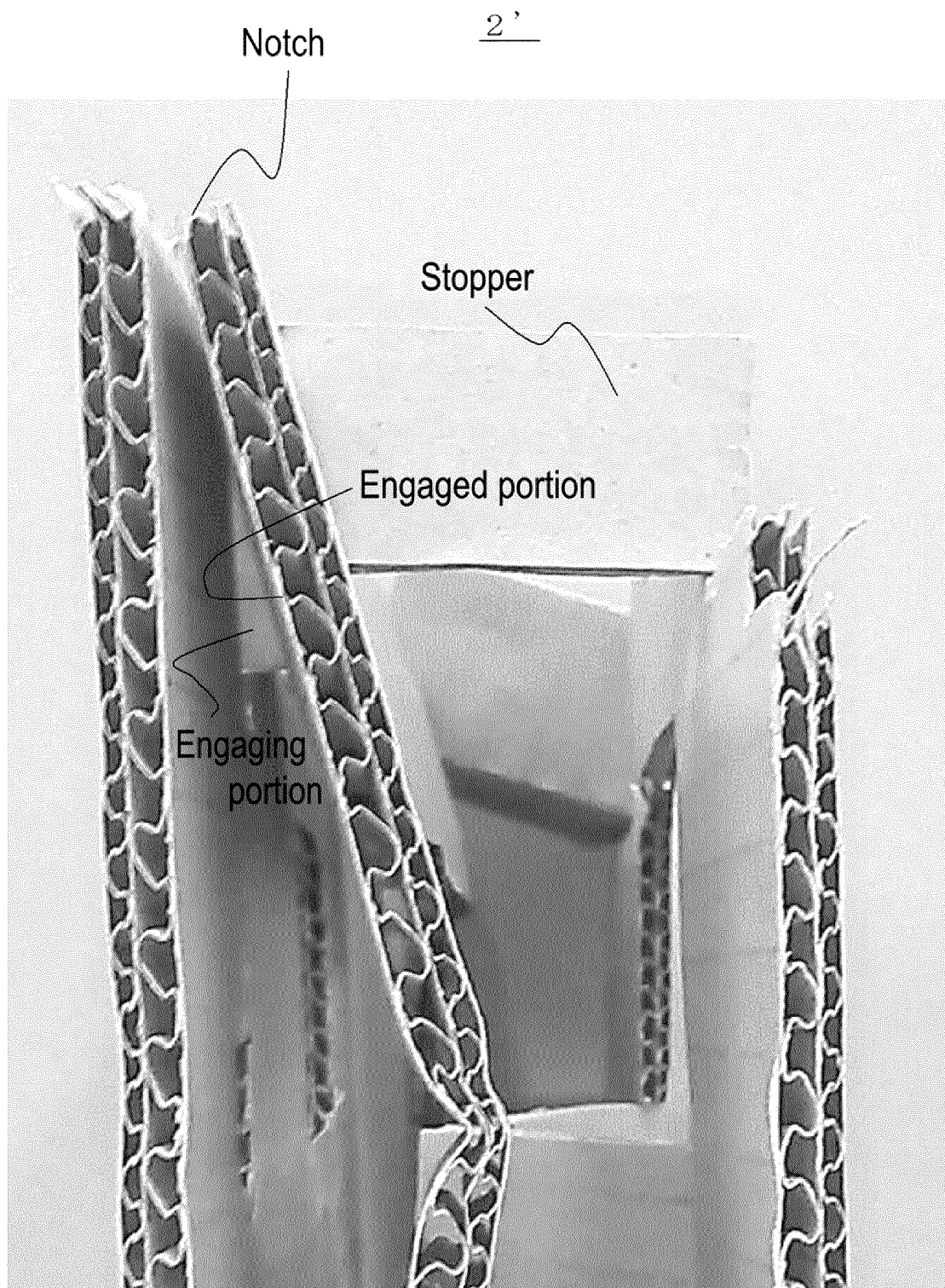


FIG. 20

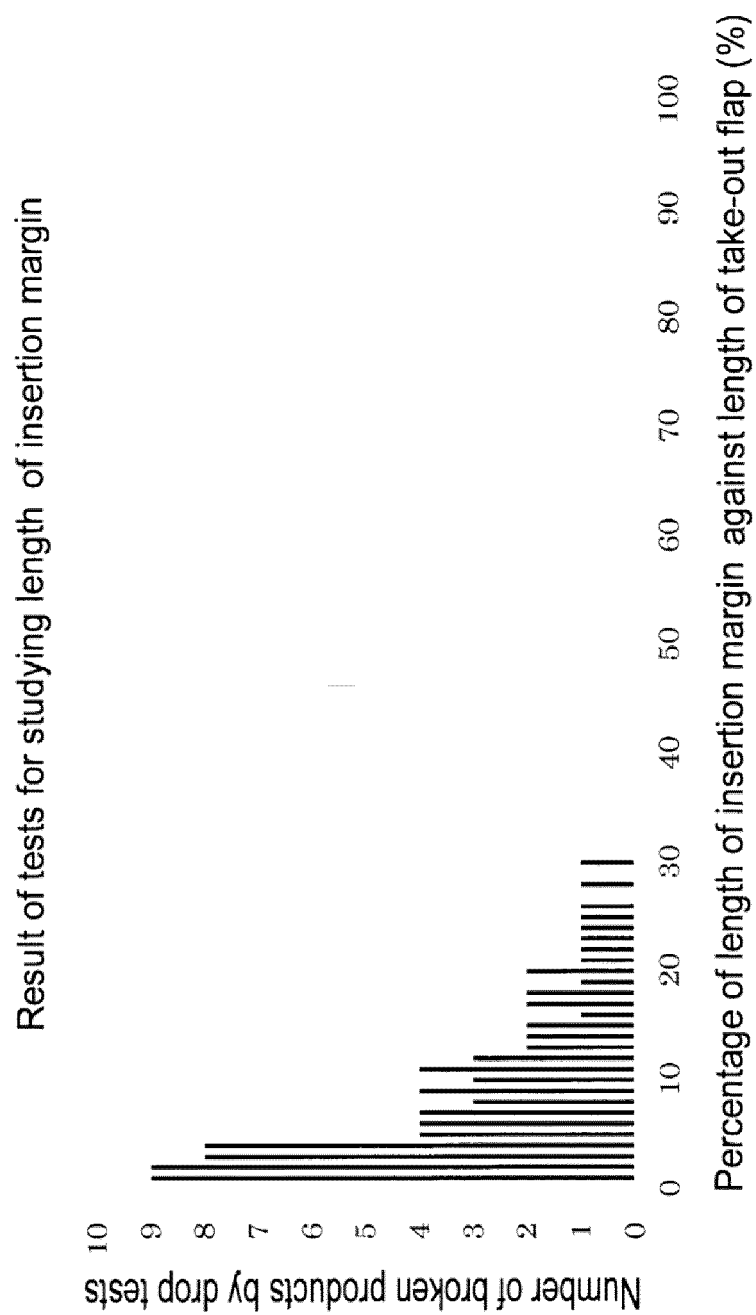


FIG. 21

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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