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Containing Box Structure

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(71) Applicant(s)
L & F Plastics Co., Ltd

(72) Inventor(s)
Hsu, Mu-Chuan

(74) Agent / Attorney
A.P.T. Patent and Trade Mark Attorneys, PO Box 833, BLACKWOOD, SA, 5051

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ABSTRACT

A containing box structure includes containing boxes provided for containing objects, a protrusion formed at a predetermined section around the periphery of an opening formed at the top of each containing box, a hollow receiving section extended downwardly from the periphery of the opening of each containing box and engaged with the respective protrusion of the adjacent containing box, so that when the containing boxes are stacked with each other, the positions of the containing boxes are limited, and a multiple of containing boxes can be stacked on one another while preventing the opening at the top of the containing box from being compressed, expanded outwardly and deformed.

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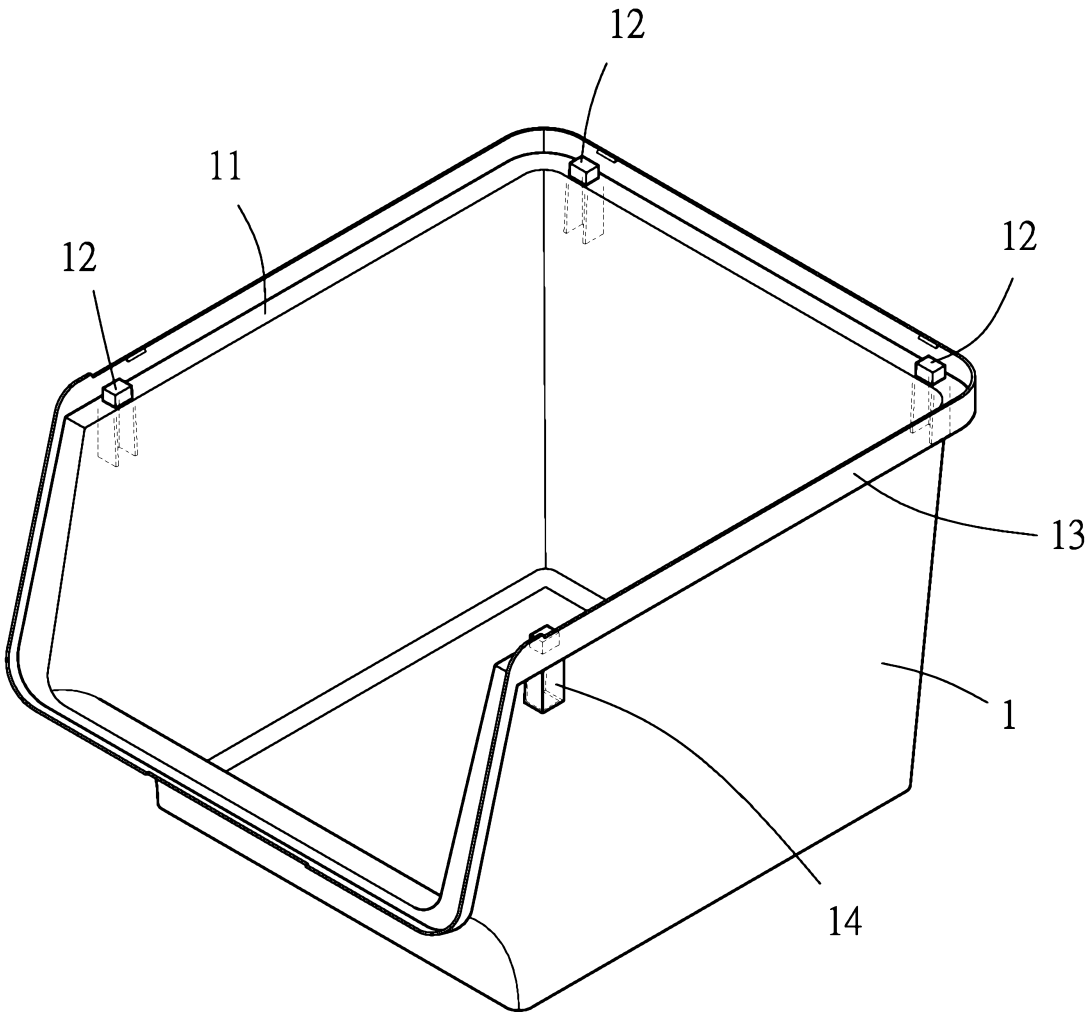

FIG. 1

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Regulation 3.2

AUSTRALIA
Patents Act 1990

INNOVATION SPECIFICATION FOR AN INVENTION ENTITLED

Invention title: Containing Box Structure

Name of Applicant: L&F Plastics, Co., Ltd

Address for Service: A.P.T. Patent and Trade Mark Attorneys
PO Box 833
Blackwood, S.A. 5051

The invention is described in the following statement:

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CONTAINING BOX STRUCTURE

FIELD OF THE INVENTION

[0001] The present invention relates to a containing box structure, in particular to the containing box structure includes containing boxes provided for containing objects, a protrusion formed at a predetermined section around the periphery of an opening formed at the top of each containing box, a hollow receiving section extended downwardly from the periphery of the opening of each containing box and engaged with the respective protrusion of the adjacent containing box, so that when the containing boxes are stacked with each other, the positions of the containing boxes are limited, and a multiple of containing boxes can be stacked on one another while preventing the opening at the top of the containing box from being compressed, expanded outwardly and deformed.

BACKGROUND OF THE INVENTION

[0002] At present, many types of containing boxes are available for containing various different objects, and plastic boxes with the features of light weight and easy portability are the common ones. A conventional containing box is a box basically made of an appropriate plastic material and integrally formed to provide predetermined storage volume and shape, and an outwardly folded n-shaped flange is formed at the periphery of an opening at the top of the box and provided for being covered with an appropriate tightness by a lid after the object is contained in the containing box.

[0003] The aforementioned conventional containing box provides a convenient way of containing objects, but the whole box must be made of soft plastic material in order to provide an appropriate resistance to pressure, so that when several boxes are stacked on one another, the opening at the top of the stacked plastic containing box will be spread open, and the openings of other containing boxes below will be compressed and deformed.

[0004] The present invention overcomes the aforementioned drawback of the conventional containing box by providing a containing box structure comprising a plurality of containing boxes whose openings are maintained at a normal status when the containing boxes are stacked on one another, so that the

openings are prevented from being spread open.

SUMMARY OF THE INVENTION

[0005] In the conventional containing box for containing objects, the opening of a lower containing box is pressed by gravitation force and expanded outwardly when the containing boxes are stacked on one another. Therefore, the present invention provides a containing box structure comprising a plurality of containing boxes provided for containing different objects, a protrusion formed at a predetermined section around the periphery of an opening formed at the top of each containing box, a hollow receiving section extended downwardly from the periphery of the opening of each containing box and engaged with the respective protrusion of the adjacent containing box, so that when the containing boxes are stacked with each other, the positions of the containing boxes are limited, and a multiple of containing boxes can be stacked on one another while preventing the opening at the top of the containing box from being compressed, expanded outwardly and deformed.

[0006] Therefore, it is a primary objective of the present invention to provide a containing box structure comprising a plurality of containing boxes provided for containing objects and stacked on one another, and preventing an opening formed at the top of each containing box from being compressed and deformed by gravitational force by providing a plurality of protrusions formed at a plurality of predetermined sections around the periphery of the opening at the top of the containing box, and a segment of a hollow receiving section of the containing box configured to be corresponsive to the respective protrusion of and extended downwardly from the periphery of the opening; such that when the containing boxes are stacked, each receiving section at a facing-down position near an upper containing box may enter into a respective protrusion near a lower containing box, such that the upper and lower containing boxes have an exact position limit to prevent the top of an opening of the lower containing box from being compressed, outwardly expanded, and deformed while the upper containing box is being stacked onto the lower containing box.

[0007] The secondary objective of the present invention is to provide a containing box structure having a protrusion formed at the periphery of an

opening at the top of a containing box, and the protrusion has a height slightly greater than 1/2 of an outer-layer position or aligned precisely with the outer-layer position.

[0008] The tertiary objective of the present invention is to provide a containing box structure having a hollow receiving section extended downwardly from the periphery of an opening of a containing box, and the hollow receiving section has a depth greater than the depth of a protrusion at the top of the opening, so that an upper containing box and a lower containing box can be engaged stably with each other when the containing boxes are stacked on one another.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a perspective view of a containing box of the present invention;

[0010] FIG. 2 is a top view of view of a containing box of the present invention;

[0011] FIG. 3 is a sectional view of Section 3-3 of FIG. 2;

[0012] FIG. 3A is a blowup view of Position A of FIG. 3;

[0013] FIG. 4 is a schematic view of a plurality of containing boxes of the present invention before being stacked;

[0014] FIG. 5 is a side view of a plurality of containing boxes of the present invention after being stacked;

[0015] FIG. 5A is a blowup sectional view of Position A of FIG. 5; and

[0016] FIG. 5B is a blowup sectional view of Position B of FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] With reference to FIG. 1 for a containing box structure in accordance with the present invention, the containing box structure comprises a plurality of containing boxes 1 stacked on one another and provided for containing different objects, and each containing box 1 has an opening formed at the top of the containing box 1, and the containing box structure prevents the opening from being compressed or deformed by gravitational force by a design of a plurality of protrusions 12 containing box 1 formed at a predetermined section

around the periphery 11 of the opening, wherein each protrusion 12 has a height slightly greater than 1/2 of an outer-layer position 13 or aligned precisely with the outer-layer position 13 (as shown in FIG. 3A), and a segment of a hollow receiving section 14 is extended downwardly from the periphery 11 of the opening of the containing box 1 and configured to be corresponsive to each protrusion 12 (as shown in FIGS. 2 and 3), and each segment of the receiving section 14 has a depth greater than the depth of the protrusion 12 at the periphery 11 of the opening (as shown in FIG. 3A).

[0018] When the aforementioned containing boxes 1 are not in use, and they are stacked on one another for storage (as shown in FIG. 4), the hollow receiving section 14 extended downwardly from the periphery 11 of the opening of each containing box 1 can be engaged stably with the respective protrusion 12 of the adjacent containing box 1 (as shown in FIGS. 5, 5A, and 5B), so that the positions of the containing boxes 1 are limited when the containing boxes 1 are stacked on one another, so as to achieve the effect of preventing the opening at the top of a lower containing box 1 from being compressed, outwardly extended or deformed when the containing boxes 1 are stacked. In the meantime, an appropriate interval is maintained between the containing boxes 1, so that users may take the containing boxes 1 out by a light force when needed.

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What is Claimed is:

1. A containing box structure, comprising a plurality of containing boxes provided for containing objects and stacked on one another, and preventing an opening formed at the top of each containing box from being compressed and deformed by gravitational force by providing a plurality of protrusions formed at a plurality of predetermined sections around the periphery of the opening at the top of the containing box, and a segment of a hollow receiving section of the containing box configured to be corresponsive to the respective protrusion of and extended downwardly from the periphery of the opening; such that when the containing boxes are stacked, each receiving section at a facing-down position near an upper containing box may enter into a respective protrusion near a lower containing box, such that the upper and lower containing boxes have an exact position limit to prevent the top of an opening of the lower containing box from being compressed, outwardly expanded, and deformed while the upper containing box is being stacked onto the lower containing box.

2. The containing box structure of claim 1, wherein each protrusion formed at the periphery of the opening at the top of the containing box has a height slightly greater than 1/2 of an outer layer position or precisely aligned with the outer layer position.

3. The containing box structure of claim 1, wherein each hollow receiving section extended downwardly from the periphery of the opening of the containing box has a depth greater than the depth of the protrusion at the top of the opening to maintain a stable engagement between the upper and lower containing boxes when the upper containing box is stacked onto the lower containing box, and an appropriate interval is maintained between the upper and lower containing boxes, so that the containing boxes can be taken out by a light force when needed.

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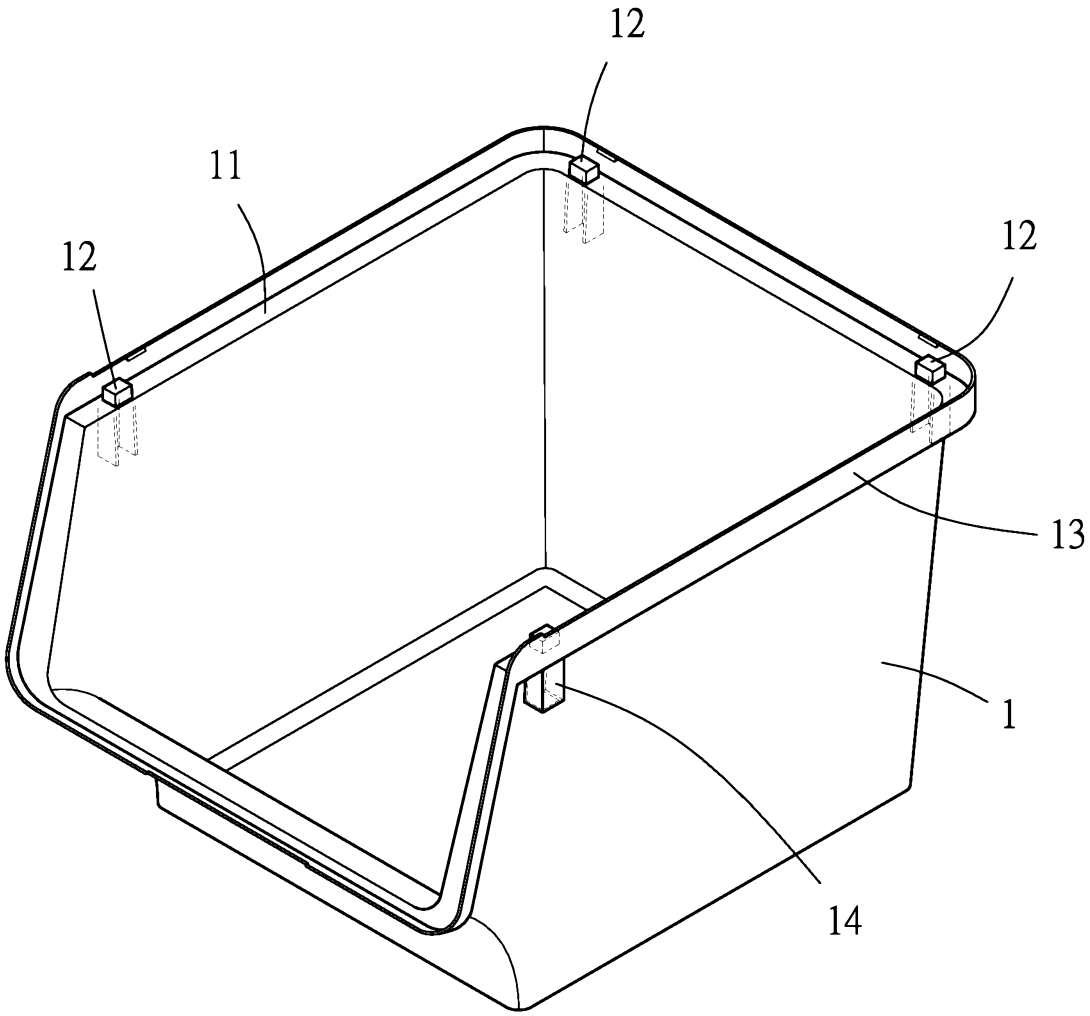

FIG. 1

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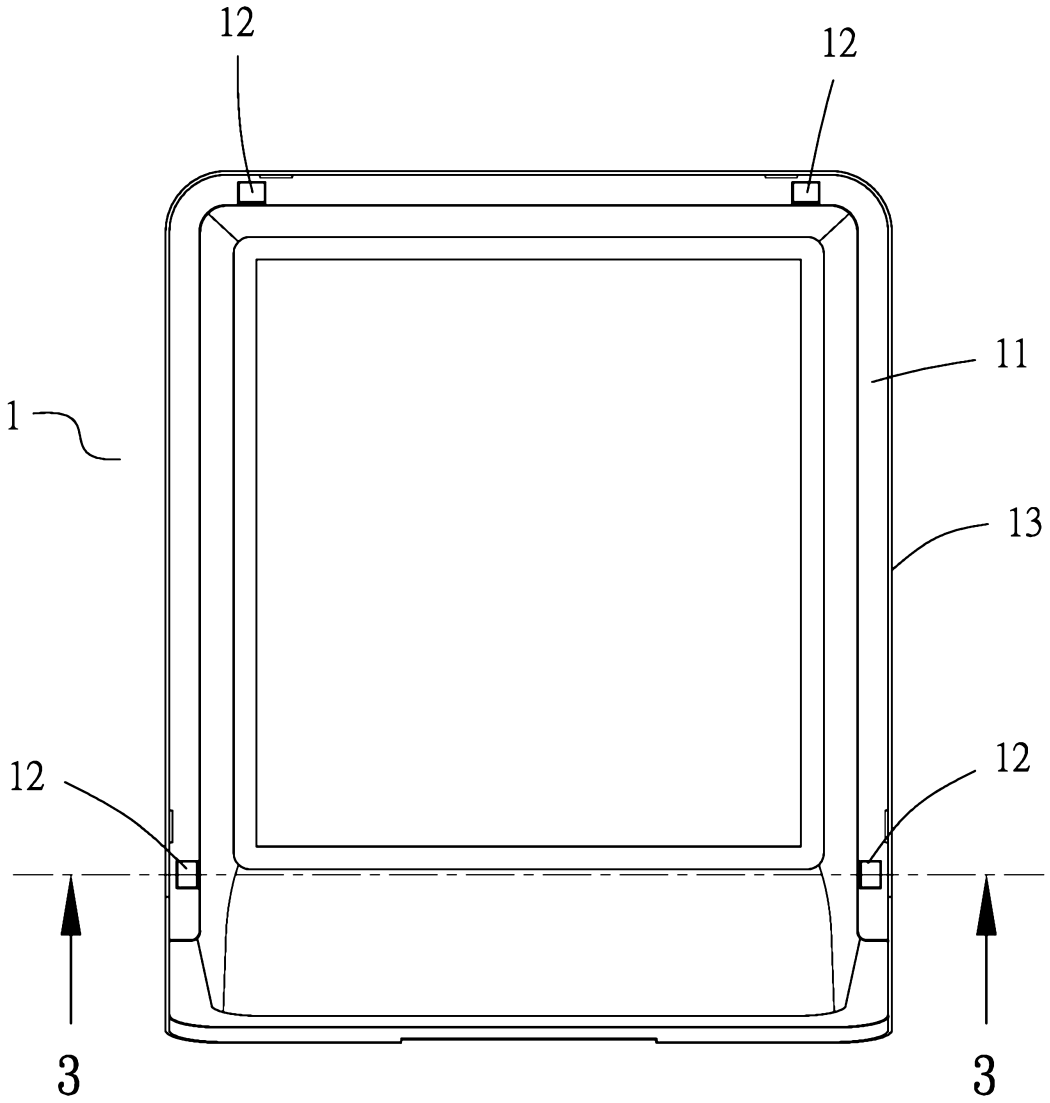

FIG. 2

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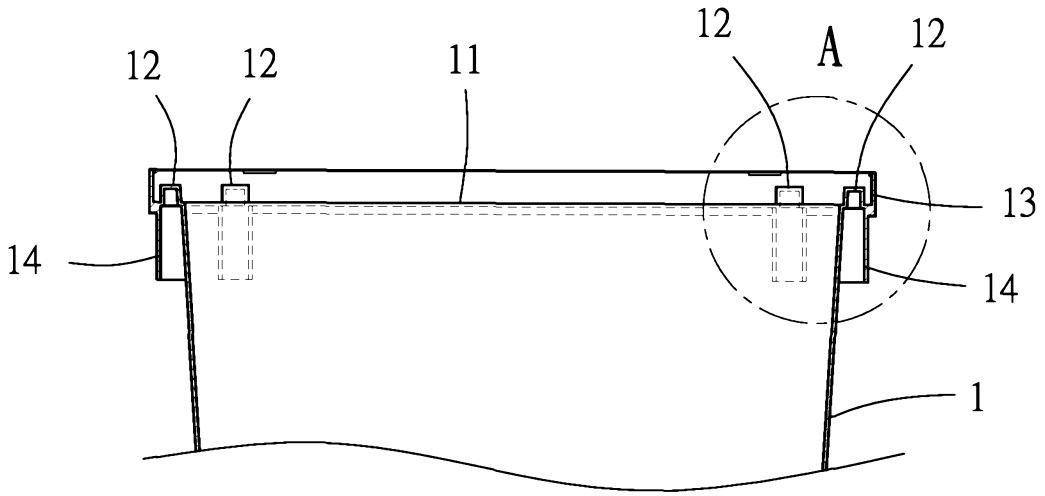

FIG. 3

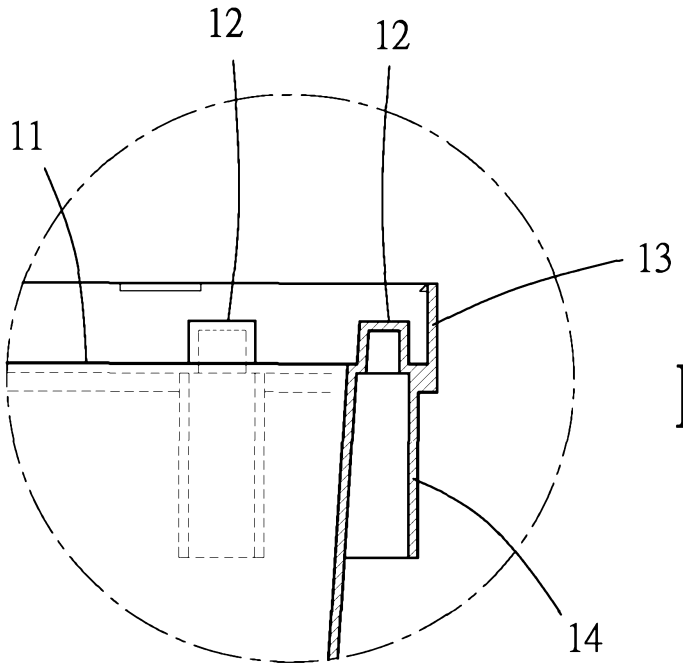

FIG. 3A

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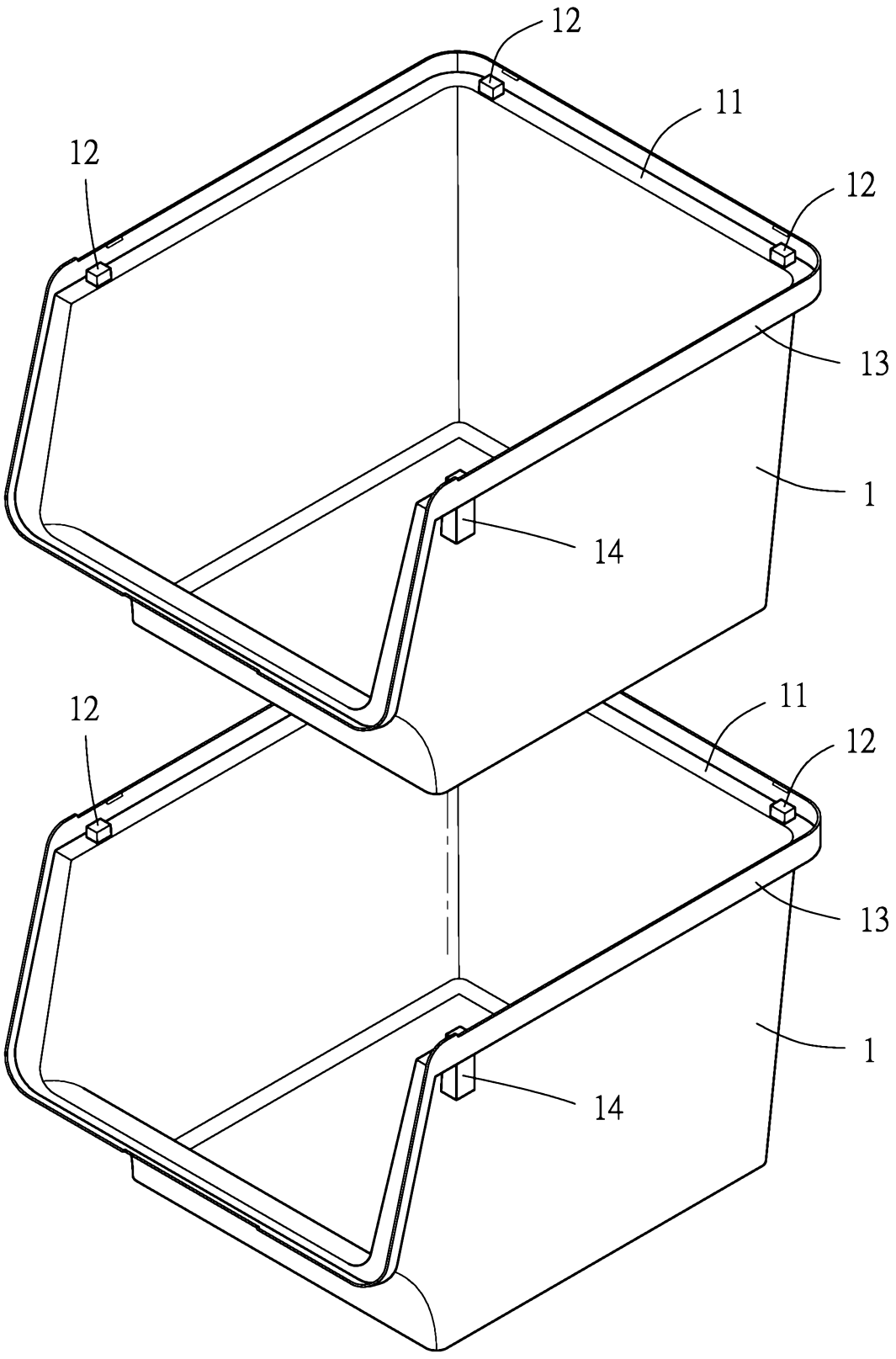

FIG. 4

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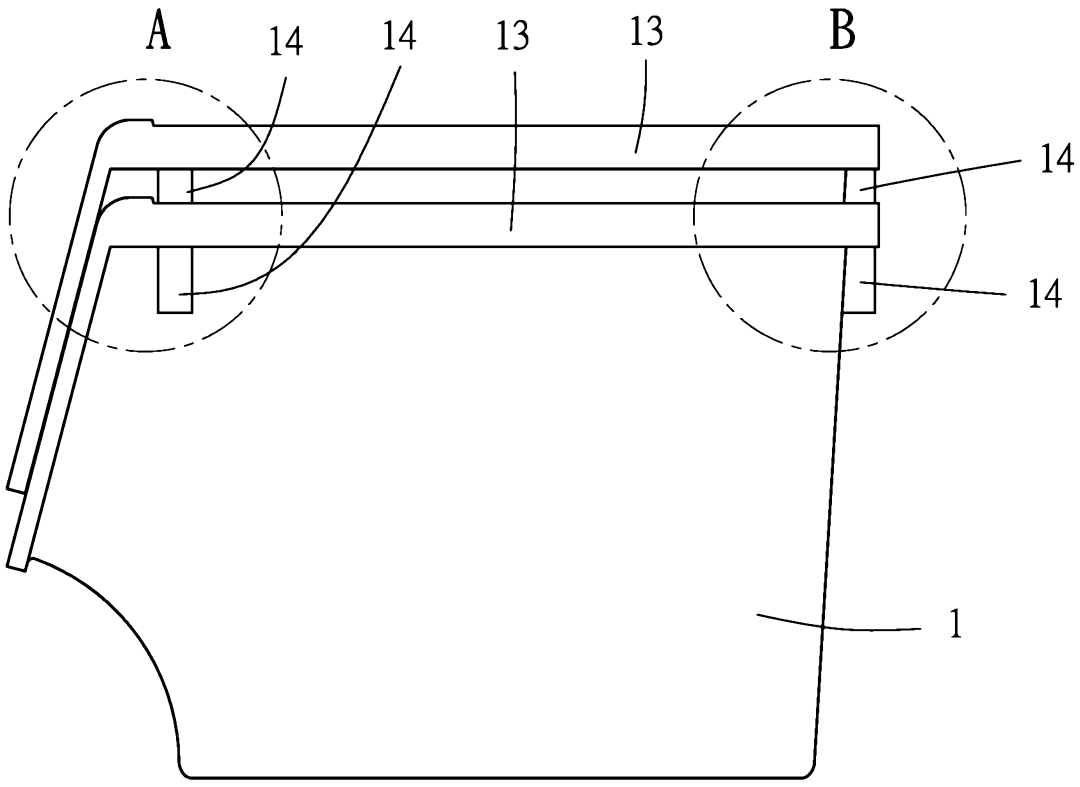

FIG. 5

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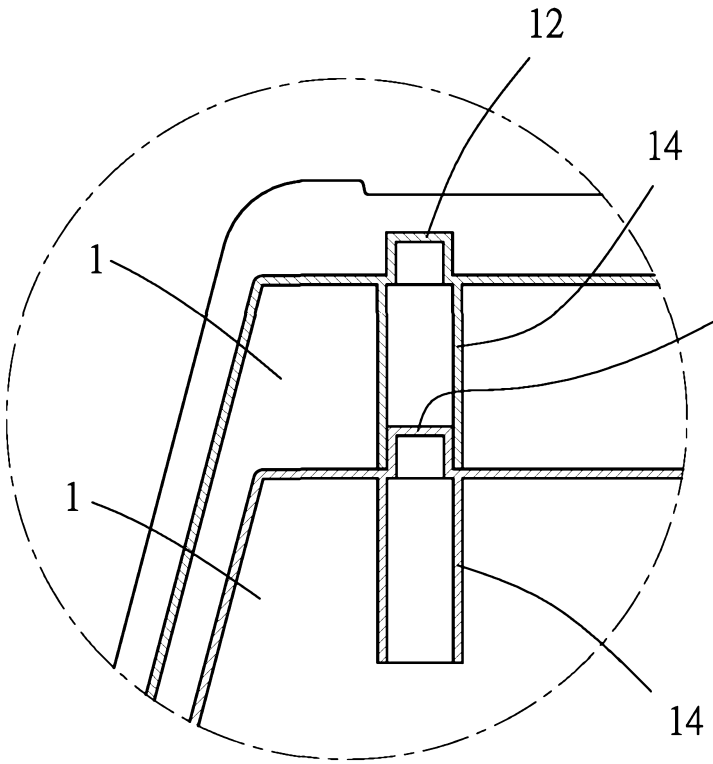

FIG. 5A

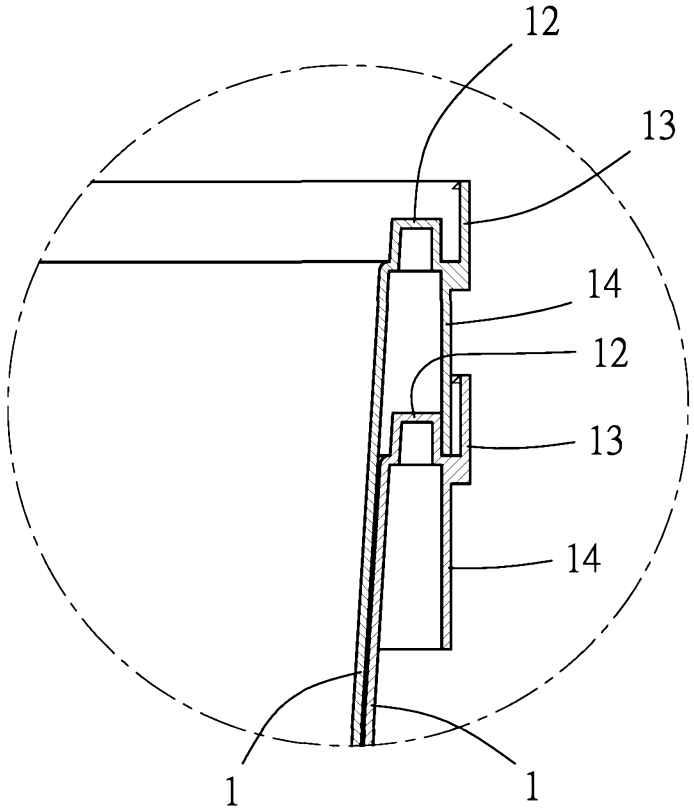

FIG. 5B