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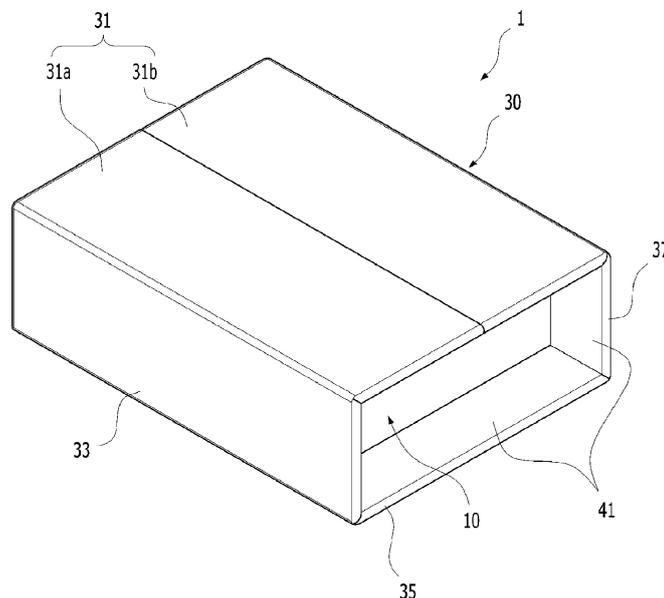
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(54) **PACKAGING CASE**

(57) The present invention relates to a packaging case comprising: an inner case having at least three sidewalls for packaging products; and an outer case having support pieces supporting the pair of inner case sidewalls, which face each other, so as to prevent the move-

ment of the inner case, encompassing the remaining region, which excludes the inner case sidewalls supported by the support pieces, and accommodating and packaging the inner case, wherein the support pieces are foldably provided to the outer case.

FIG. 1



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Description**TECHNICAL FIELD**

[0001] The present invention relates to a packaging case. More particularly, the present invention relates to a packaging case, in which an inner case for packaging a product is fixed inside an outer case to accommodate and package the product.

BACKGROUND ART

[0002] Generally, in order to prevent a product from being scratched or damaged, the product is packaged by a packaging case.

[0003] However, a conventional packaging case has an integrated structure, so that the packaging case is likely to be damaged by an action of throwing the packaging case during transport or by an external force.

[0004] Particularly in post offices or parcel delivery service companies transporting and handling various kinds of packaging cases, in some cases, the packaging case may be frequently thrown so as to reduce a transport time when the packaging case is loaded into a loading box, thus leading to a damage to the packaging case and consequently causing the packaged product to be frequently exposed or damaged.

[0005] Therefore, there is an urgent need for development of a packaging case that is not easily damaged by an external force during transport.

DISCLOSURE**TECHNICAL PROBLEM**

[0006] The present invention has been made in an effort to solve the above-described problems associated with related art. An object of the present invention is to provide a packaging case, which adopts a dual structure having an inner case and an outer case, thus absorbing shocks exerted on a product that is accommodated and packaged in the inner case, allowing the inner case to be reliably fixed, and preventing the packaged product from being exposed and damaged.

TECHNICAL SOLUTION

[0007] In order to accomplish the above object, the present invention provides a packaging case including an inner case having at least three sidewalls for packaging a product; and an outer case having support pieces supporting a pair of inner case sidewalls, which face each other, so as to prevent a movement of the inner case, surrounding a remaining region excluding the inner case sidewalls supported by the support pieces, and accommodating and packaging the inner case, wherein the support pieces may be foldably provided to the outer case.

[0008] Each of the support pieces may support at least

a periphery of an associated sidewall.

[0009] The inner case may have a shape of a square pillar that is open at both sides thereof.

[0010] Any one of the four sidewalls of the inner case may include a first overlapping portion and a second overlapping portion that may be cut to partially overlap each other, and the first overlapping portion and the second overlapping portion may be attached to each other by an adhesive or tape, or a cut-out portion that may be partially cut may be foldably formed on a surface of the first overlapping portion and a free end of the second overlapping portion may be fitted into the cut-out portion.

[0011] The pair of sidewalls of the inner case supported by the support pieces may come into close contact with the packaged product to support the product.

ADVANTAGEOUS EFFECTS

[0012] According to the present invention, a packaging case adopts a dual structure having an inner case and an outer case, and firmly supports the inner case using the outer case, thus absorbing shocks exerted on a product that is accommodated and packaged in the inner case, allowing the inner case to be reliably fixed, and preventing the packaged product from being exposed and damaged.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

FIG. 1 is a perspective view illustrating a packaging case according to an embodiment of the present invention;

FIG. 2 is a development view illustrating an inner case of FIG. 1;

FIG. 3 is a development view illustrating an outer case of FIG. 1; and

FIGS. 4 to 7 are views sequentially illustrating a process of packaging the packaging case according to an embodiment of the present invention.

BEST MODE FOR THE INVENTION

[0014] Exemplary embodiments of the present invention will be described below in more detail with reference to the accompanying drawings.

[0015] FIGS. 1 to 3 illustrate a packaging case according to an embodiment of the present invention. As illustrated in the drawings, the packaging case 1 according to the embodiment of the present invention includes an inner case 10 and an outer case 30.

[0016] The inner case 10 serves to package a product. In this embodiment, the inner case 10 has the shape of a square pillar that is open at both sides thereof.

[0017] As illustrated in FIG. 2, four inner folding lines 21 are formed on a surface of the inner case 10 to form four inner sidewalls 11, 13, 15 and 17. The four inner

folding lines 21 are formed at intervals in a longitudinal direction of the inner case 10.

[0018] Among the four inner sidewalls 11, 13, 15 and 17, one inner sidewall 11 includes a first overlapping portion 11a and a second overlapping portion 11b that are cut to partially overlap each other.

[0019] Meanwhile, a pair of cut-out portions 25, which is partially cut into the shape of a triangular cross-section to be foldable, is formed at intervals on a surface of the first overlapping portion 11a. A free end of the second overlapping portion 11b is fitted into each cut-out portion 25, so that the first overlapping portion 11a and the second overlapping portion 11b constitute the same inner sidewall 11.

[0020] Although the cut-out portion 25 is shown in this embodiment as being partially cut into the triangular cross-sectional shape, the cut-out portion 25 may be partially cut into any one of circular, elliptical and polygonal cross-sectional shapes without being limited to the triangular cross-sectional shape.

[0021] Moreover, the first overlapping portion 11a and the second overlapping portion 11b are shown in this embodiment as being coupled to each other in a fitting method using the cut-out portions 25. However, the first overlapping portion 11a and the second overlapping portion 11b may be attached to each other by an adhesive or tape without being limited to fitting.

[0022] Although not shown in the drawings, in the inner case 10 of the packaging case 1 according to the present invention, facing edges of the first overlapping portion 11a and the second overlapping portion 11b may be attached to each other by the adhesive such as hot melt, or the first overlapping portion 11a and the second overlapping portion 11b may be attached to each other by the tape, instead of overlapping the first overlapping portion 11a and the second overlapping portion 11b.

[0023] The outer case 30 serves to accommodate and package the inner case 10. In this embodiment, the outer case 30 has the shape of a square pillar that is open at both sides thereof. The outer case 30 includes support pieces 41 that support the pair of facing inner sidewalls 13 and 17 of the inner case 10 to prevent an undesired movement of the inner case 10.

[0024] As illustrated in FIG. 3, four transverse folding lines 45 for forming four outer sidewalls 31, 33, 35 and 37 and two longitudinal folding lines 47 for forming the support pieces 41 are formed on the surface of the outer case 30. The four transverse folding lines 45 are formed at intervals in a longitudinal direction of the outer case 30, and the two longitudinal folding lines 47 are formed at intervals to be perpendicular to the transverse folding lines 45.

[0025] Meanwhile, the four transverse folding lines 45 are formed to be spaced apart from each other in a size corresponding to transverse and longitudinal sides of the pair of inner sidewalls 13 and 17 supported by the support pieces 41 of the inner case 10.

[0026] The two longitudinal folding lines 47 are formed,

respectively, inside both longitudinal sides of the surface of the outer case 30 in a size corresponding to a depth to which the inner case 10 is accommodated from an end of the outer case 30. By folding the surface of the outer case 30 along the longitudinal folding lines 47, the support pieces 41 are formed, which support the pair of facing inner sidewalls 13 and 17 of the inner case 10 to prevent an undesired movement of the inner case 10.

[0027] Among the four outer sidewalls 31, 33, 35 and 37, one outer sidewall 31 is cut into two equal parts, a first panel 31a and a second panel 31b. The first panel 31a and the second panel 31b may be attached at facing edges thereof to each other by the adhesive such as the hot melt, or may be attached to the inner case 10 by the adhesive such as the hot melt, or may be attached to each other by the tape.

[0028] Thus, the packaging case 1 according to the present invention is configured such that the inner case 10 is disposed between the pair of longitudinal folding lines 47. The outer case 30 surrounds the pair of inner sidewalls 11 and 15 of the inner case 10 that are not supported by the support pieces 41 and both openings of the inner case 10, and accommodates the inner case 10.

[0029] A process of packaging a product using the packaging case 1 according to the present invention configured as described above will be described below.

[0030] First, as illustrated in FIGS. 2 and 3, a spread cardboard for the inner case 10 corresponding to the size of the product to be packaged and a spread cardboard for the outer case 30 corresponding to the size of the inner case 10 are prepared.

[0031] Next, the product to be packaged is put on the spread cardboard for the inner case 10, and the inner case 10 is folded along each inner folding line 21, and the free end of the second overlapping portion 11b is fitted into the cut-out portion 25 of the first overlapping portion 11a, so that the packaging of the inner case 10 is completed.

[0032] Further, as illustrated in FIG. 4, the outer case 30 is folded inwards along the longitudinal folding line 47, so that the support piece 41 is formed on the outer case 30.

[0033] Subsequently, as illustrated in FIG. 5, the inner case 10 is positioned on the surface of the outer case 30 so that the pair of facing inner sidewalls 13 and 17 of the inner case 10 comes into close contact with the pair of support pieces 41.

[0034] As illustrated in FIGS. 6 and 7, sequentially, the outer case 30 is folded along each transverse folding line 45, so that the inner case 10 is accommodated in the outer case 30 to surround the pair of inner sidewalls 11 and 15 of the inner case 10 that are not supported by the support pieces 41 and both openings of the inner case 10.

[0035] In this regard, the inner case 10 is accommodated to a depth corresponding to a width of the support piece 41 of the outer case 30 from an end of the outer case 30.

[0036] Subsequently, when the first panel 31a and the second panel 31b are attached to each other by the adhesive such as the hot melt, as illustrated in FIG. 1, the pair of sidewalls of the inner case 10 exposed through the openings of the outer case 30 is firmly fixed by the support pieces 41 of the outer case 30. Thus, the packaging case 1 according to the present invention is completed.

[0037] As such, according to the present invention, the packaging case adopts a dual structure having the inner case and the outer case, and firmly supports the inner case using the outer case, thus absorbing shocks exerted on the product that is accommodated and packaged in the inner case, allowing the inner case to be reliably fixed, and preventing the packaged product from being exposed and damaged.

[0038] Although the support pieces of the outer case are shown in the above-described embodiment as being supported along four sides of the sidewalls of the inner case, the support pieces may be supported along at least one side of the sidewalls of the inner case without being limited thereto. Further, in the above-described embodiment, the inner case has four inner sidewalls. However, the inner case may have three or five or more inner sidewalls without being limited thereto.

[0039] Furthermore, the inner case is prepared in a size corresponding to the size of the product to be packaged and then is used to package the product, thus preventing the packaged product from being shaken during the transport of the packaging case, and reducing a damage to a package. At this time, the pair of inner sidewalls of the inner case supported by the support pieces may come into close contact with the product to be packaged to support the product.

Claims

1. A packaging case comprising:
 - an inner case having at least three sidewalls for packaging a product; and
 - an outer case having support pieces supporting a pair of inner case sidewalls, which face each other, so as to prevent a movement of the inner case, surrounding a remaining region excluding the inner case sidewalls supported by the support pieces, and accommodating and packaging the inner case, wherein the support pieces are foldably provided to the outer case.
2. The packaging case of claim 1, wherein each of the support pieces supports at least a periphery of an associated sidewall.
3. The packaging case of claim 1, wherein the inner case has a shape of a square pillar that is open at

both sides thereof.

4. The packaging case of claim 3, wherein any one of the four sidewalls of the inner case comprises a first overlapping portion and a second overlapping portion that are cut to partially overlap each other, the first overlapping portion and the second overlapping portion are attached to each other by an adhesive or tape, or a cut-out portion that is partially cut is foldably formed on a surface of the first overlapping portion and a free end of the second overlapping portion is fitted into the cut-out portion.
5. The packaging case of claim 1, wherein the pair of sidewalls of the inner case supported by the support pieces comes into close contact with the packaged product to support the product.

FIG. 1

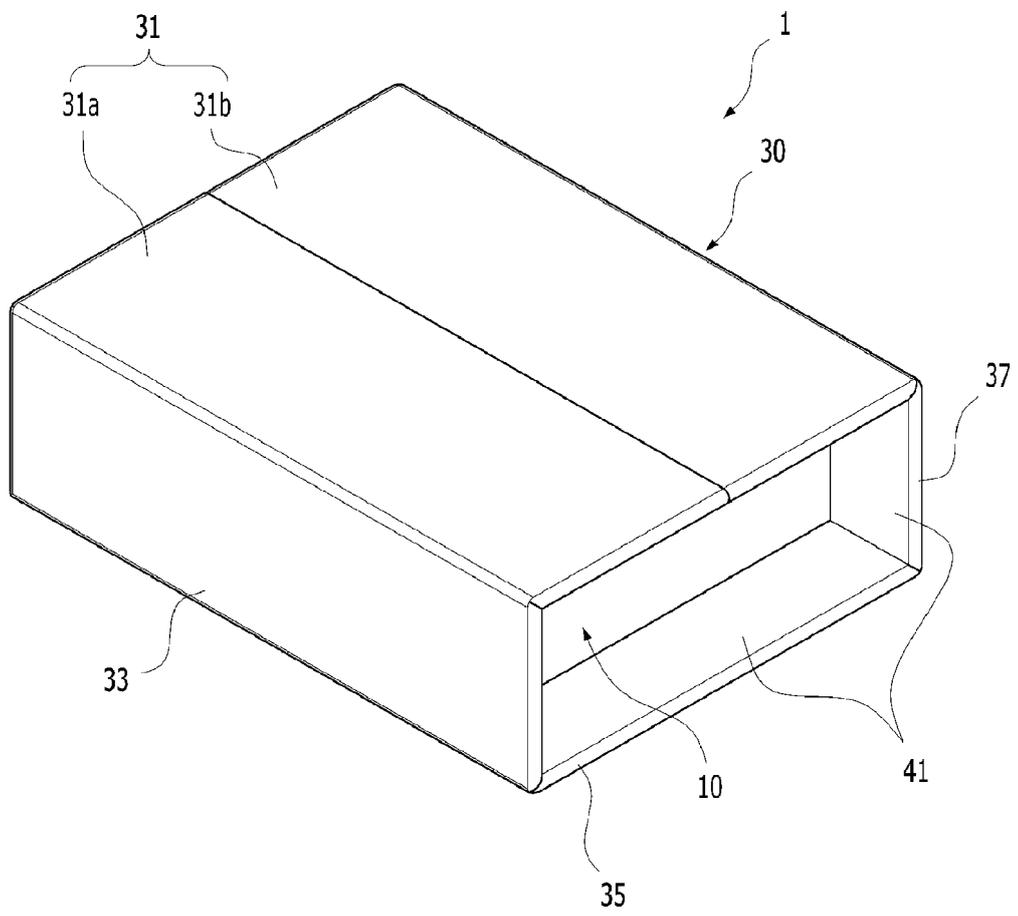


FIG. 2

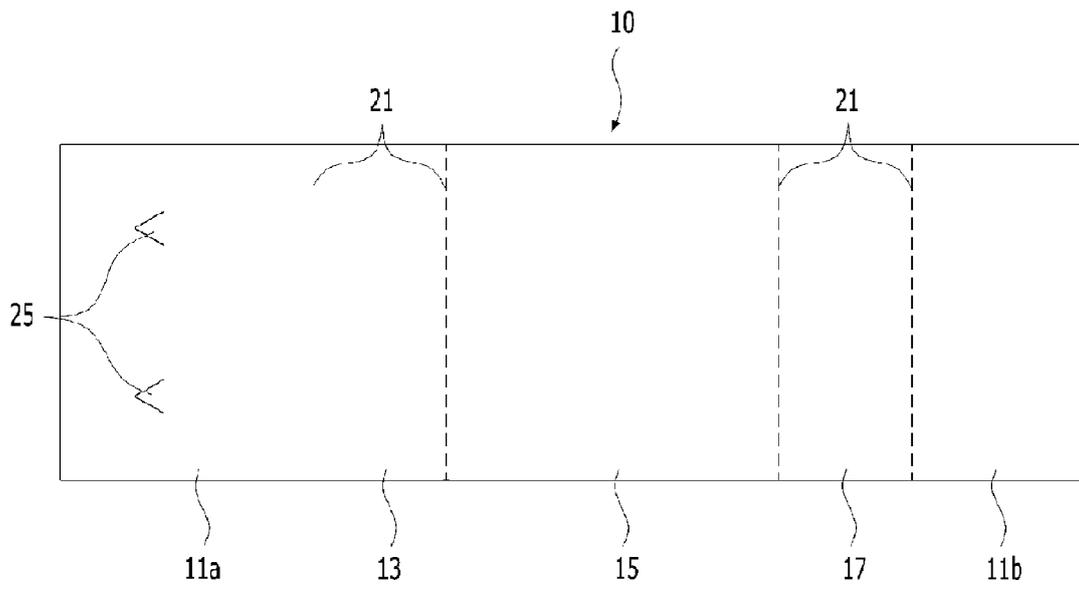


FIG. 5

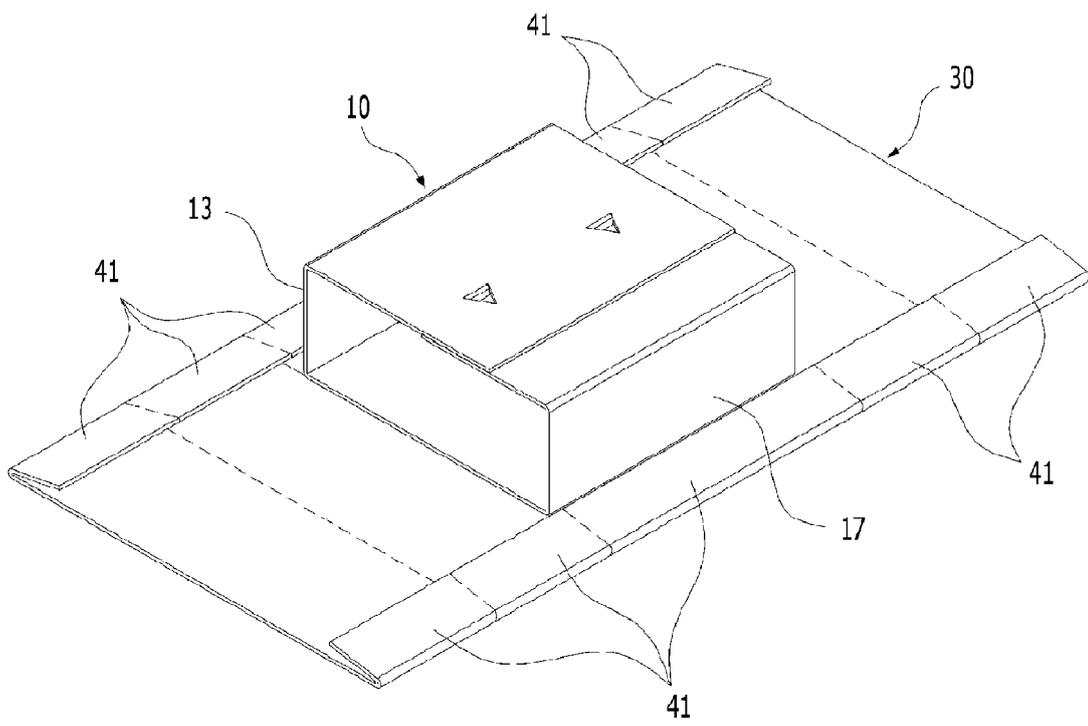


FIG. 6

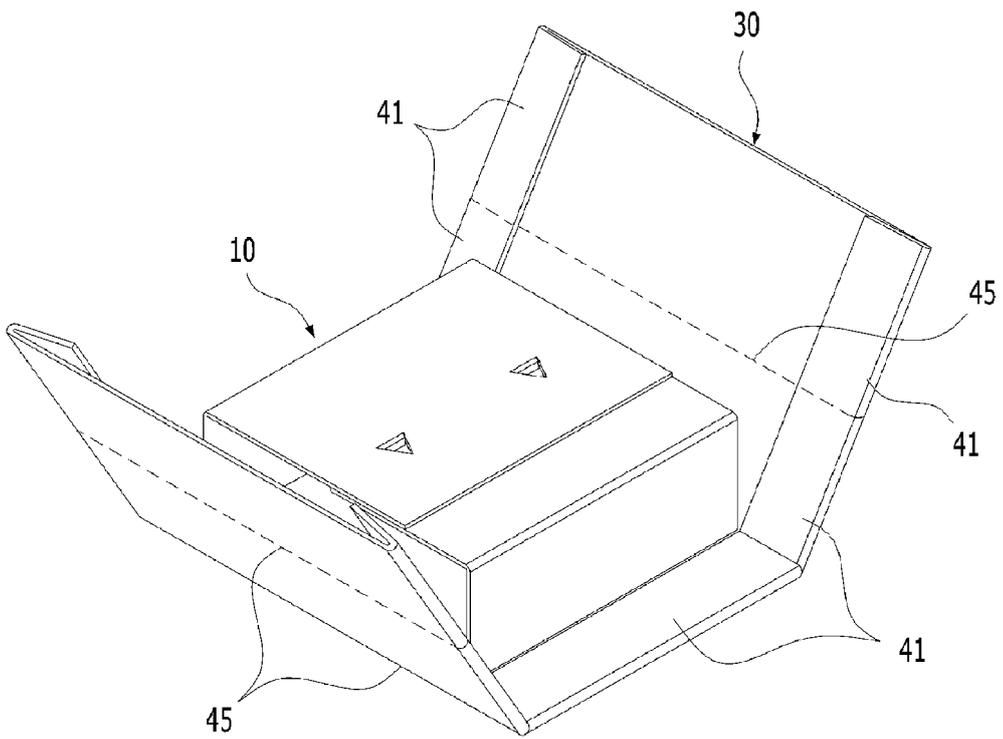
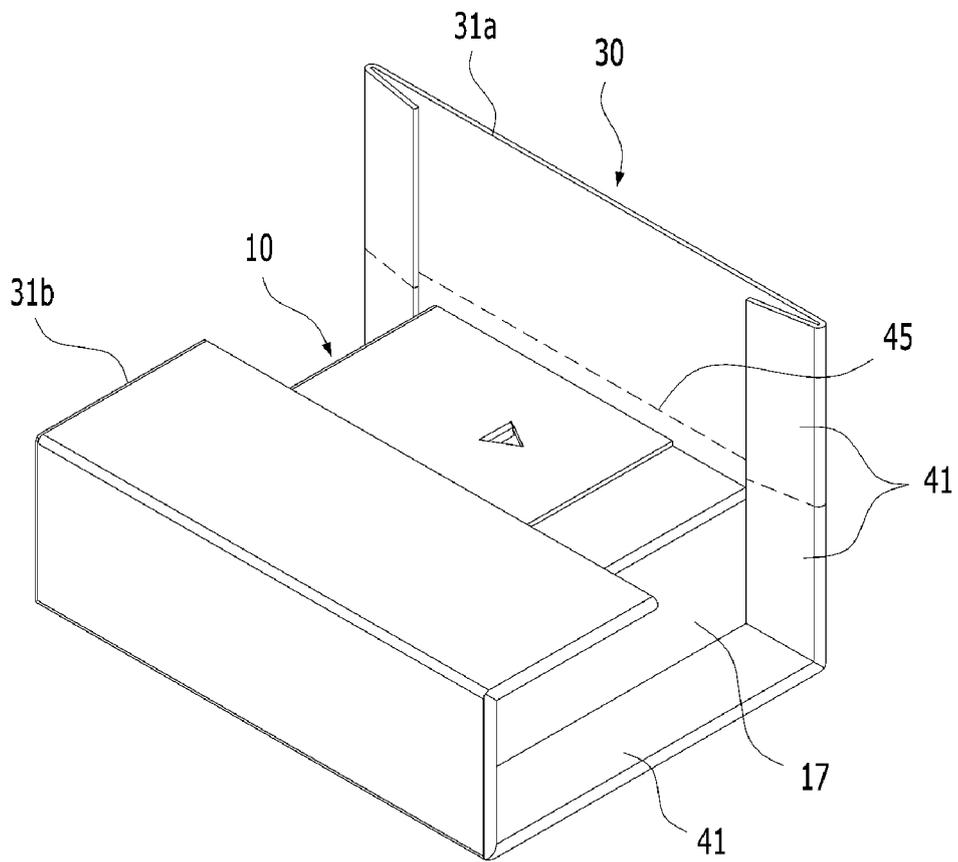


FIG. 7



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2015/011950

5	A. CLASSIFICATION OF SUBJECT MATTER <i>B65D 81/02(2006.01)i, B65D 75/06(2006.01)i</i> According to International Patent Classification (IPC) or to both national classification and IPC	
10	B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B65D 81/02; B65D 5/26; B65D 5/36; B65D 5/32; B65D 85/60; B65D 25/10; B65D 75/36; B65D 5/38; B65D 75/06 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean Utility models and applications for Utility models: IPC as above Japanese Utility models and applications for Utility models: IPC as above	
15	Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS (KIPO internal) & Keywords: packing case, inner case, outer case, support piece, folding, cutting part and insertion coupling	
20	C. DOCUMENTS CONSIDERED TO BE RELEVANT	
25	Category*	Citation of document, with indication, where appropriate, of the relevant passages
30	A	KR 20-0328139 Y1 (LOTTE CONFECTIONERY CO., LTD.) 26 September 2003 See claims 1-4 and figures 1-5.
35	A	JP 2008-528395 A (QUANTUM HI-TECH. RESEARCH) 31 July 2008 See paragraph [0018] and figures 1-6.
40	A	KR 20-0359459 Y1 (CHOI, Deok Whan) 21 August 2004 See claims 1-7 and figures 1-7.
45	A	KR 10-2011-0031828 A (BEONE CNR CO., LTD.) 29 March 2011 See paragraphs [0007]-[0017] and figures 1-6.
50	A	KR 20-0455187 Y1 (WOO SHIN PACKAGE & PRINTING CO., LTD.) 23 August 2011 See paragraphs [0015]-[0018] and figures 1-7.
55	<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.	
	* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family
	Date of the actual completion of the international search	Date of mailing of the international search report
	18 FEBRUARY 2016 (18.02.2016)	18 FEBRUARY 2016 (18.02.2016)
	Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 189 Seonsa-ro, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

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