



US 20210009307A1

(19) **United States**(12) **Patent Application Publication**
HYUN(10) **Pub. No.: US 2021/0009307 A1**(43) **Pub. Date: Jan. 14, 2021**(54) **ECO FRIENDLY TAPELESS PACKAGING BOX**(52) **U.S. Cl.**CPC **B65D 5/0254** (2013.01); **B65D 5/665** (2013.01); **B65D 5/5004** (2013.01)(71) Applicant: **Yong Wook HYUN**, Seongnam-si (KR)(72) Inventor: **Yong Wook HYUN**, Seongnam-si (KR)(21) Appl. No.: **16/661,808**(22) Filed: **Oct. 23, 2019**(30) **Foreign Application Priority Data**

Jul. 12, 2019 (KR) 10-2019-0084782

Publication Classification(51) **Int. Cl.****B65D 5/02** (2006.01)**B65D 5/50** (2006.01)**B65D 5/66** (2006.01)(57) **ABSTRACT**

Disclosed is an eco friendly tapeless packaging box. The eco friendly tapeless packaging box includes: a box body in which one side portion is opened; a cover part covering an opened area of the box body; and a block portion provided in the box body and supporting the cover part, in which the cover part is divided into two areas and fitted and coupled to each other and includes a cover coupling portion which is fitted and coupled to a coupling hole provided at a wall portion of the box body.

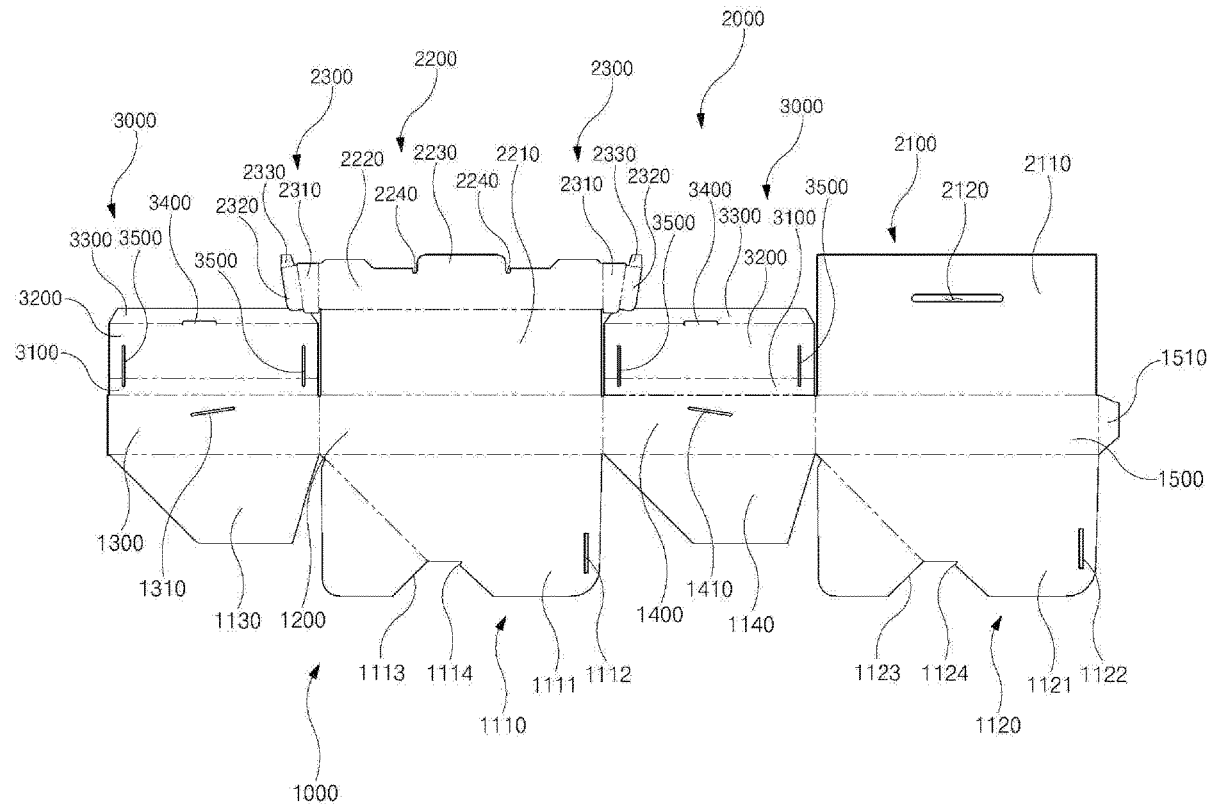


FIG. 1

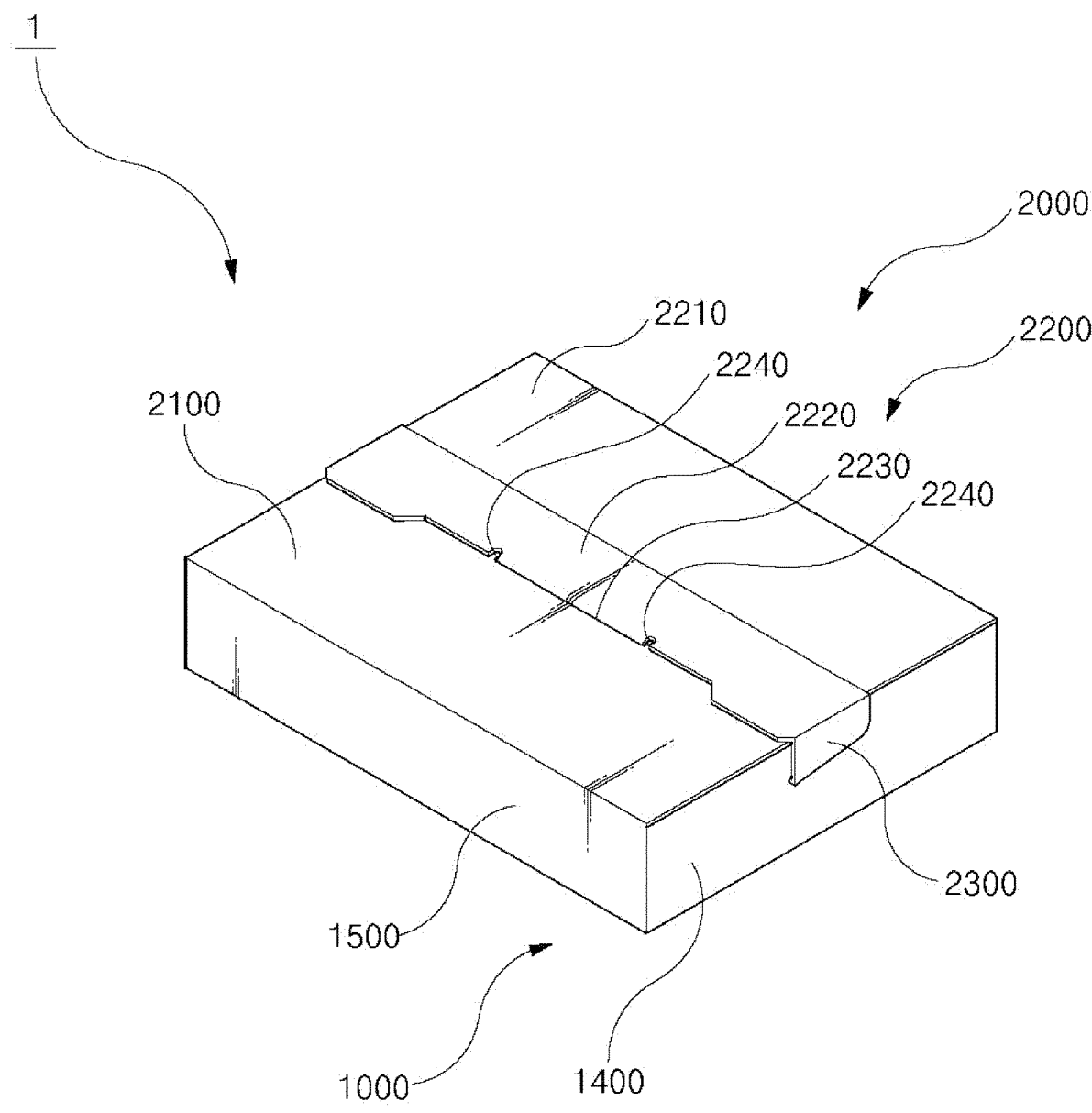


FIG. 2

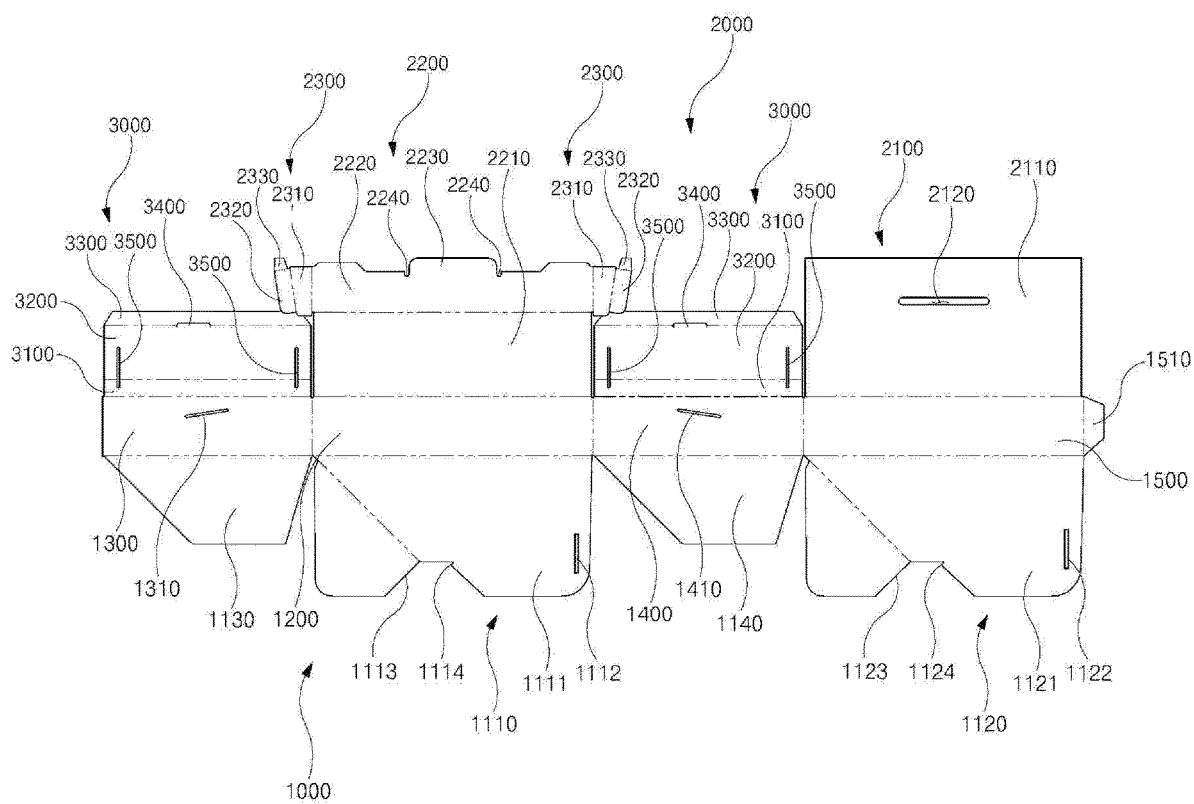


FIG. 3

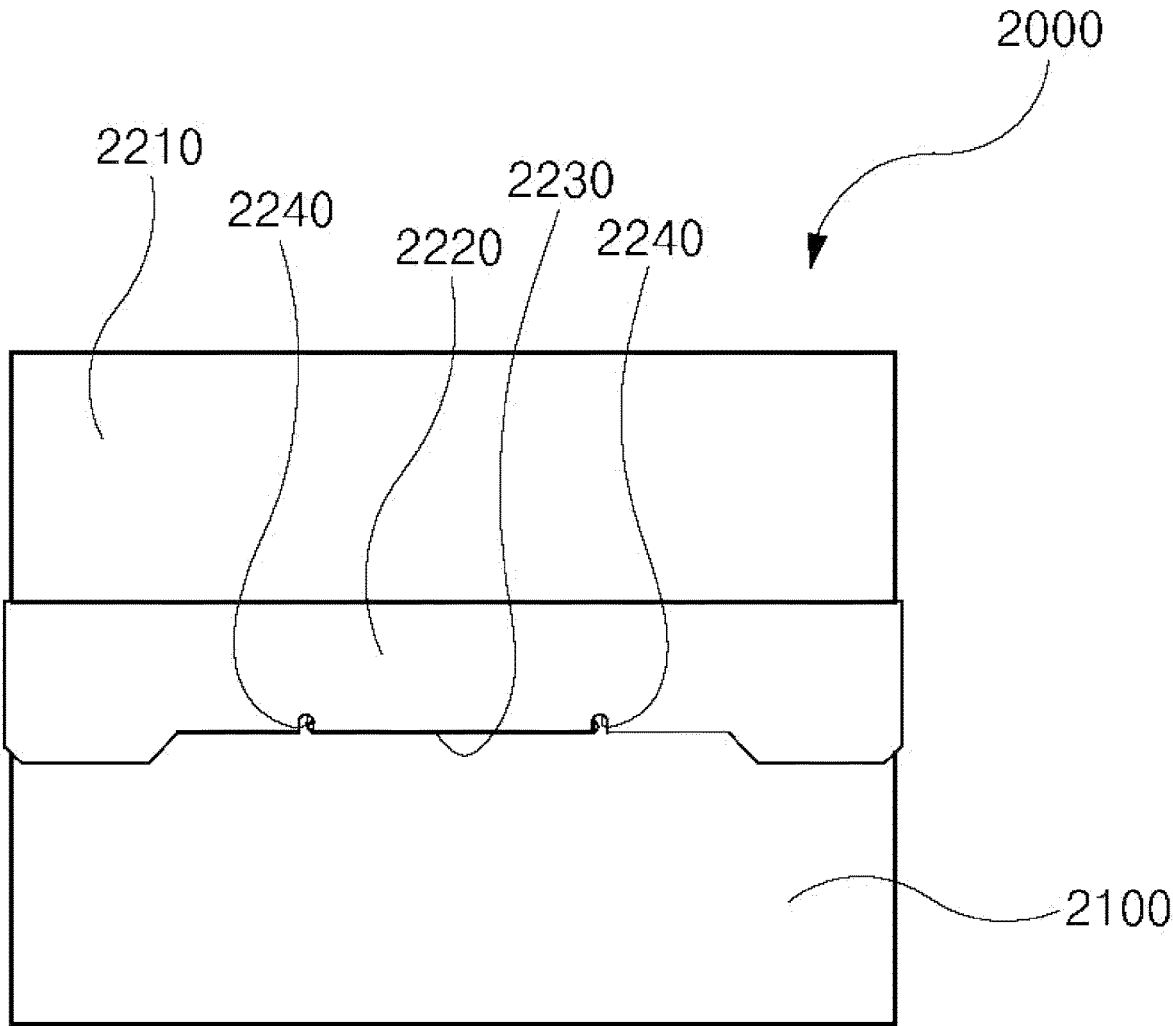


FIG. 4

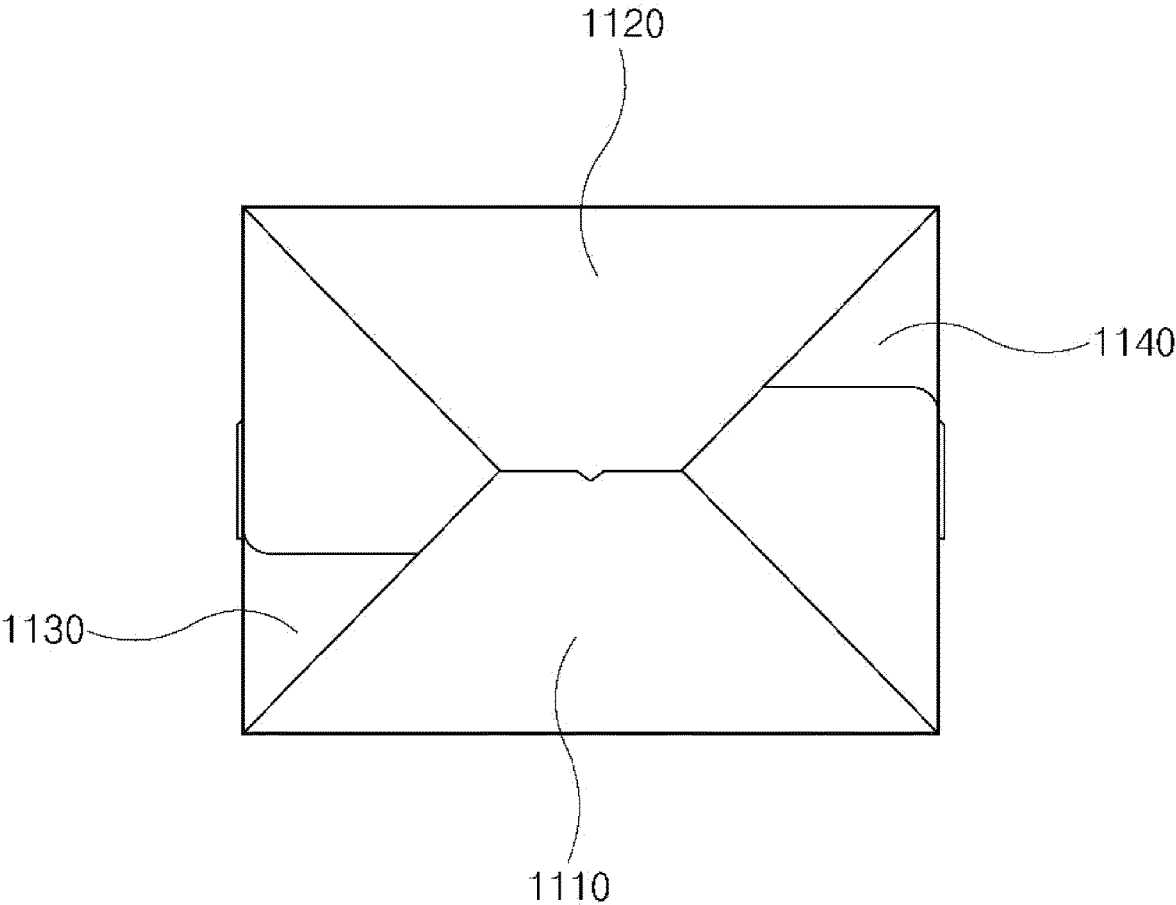


FIG. 5

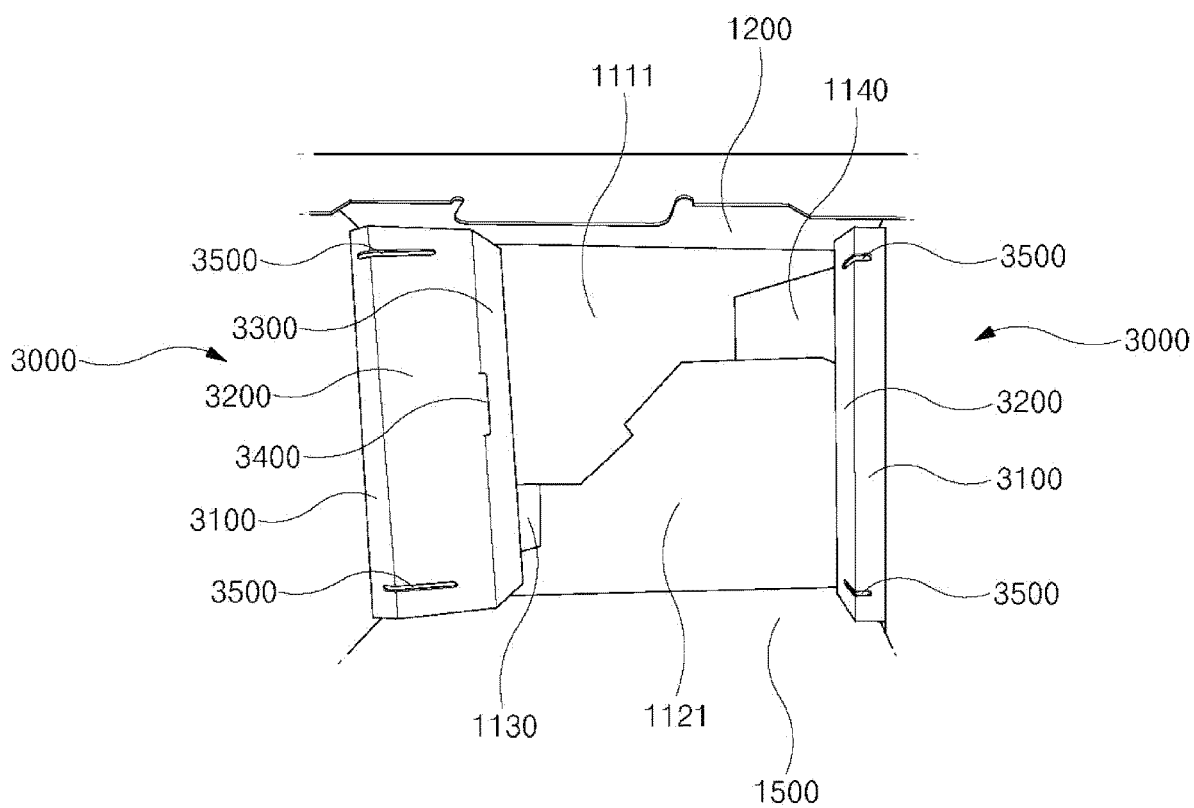


FIG. 6

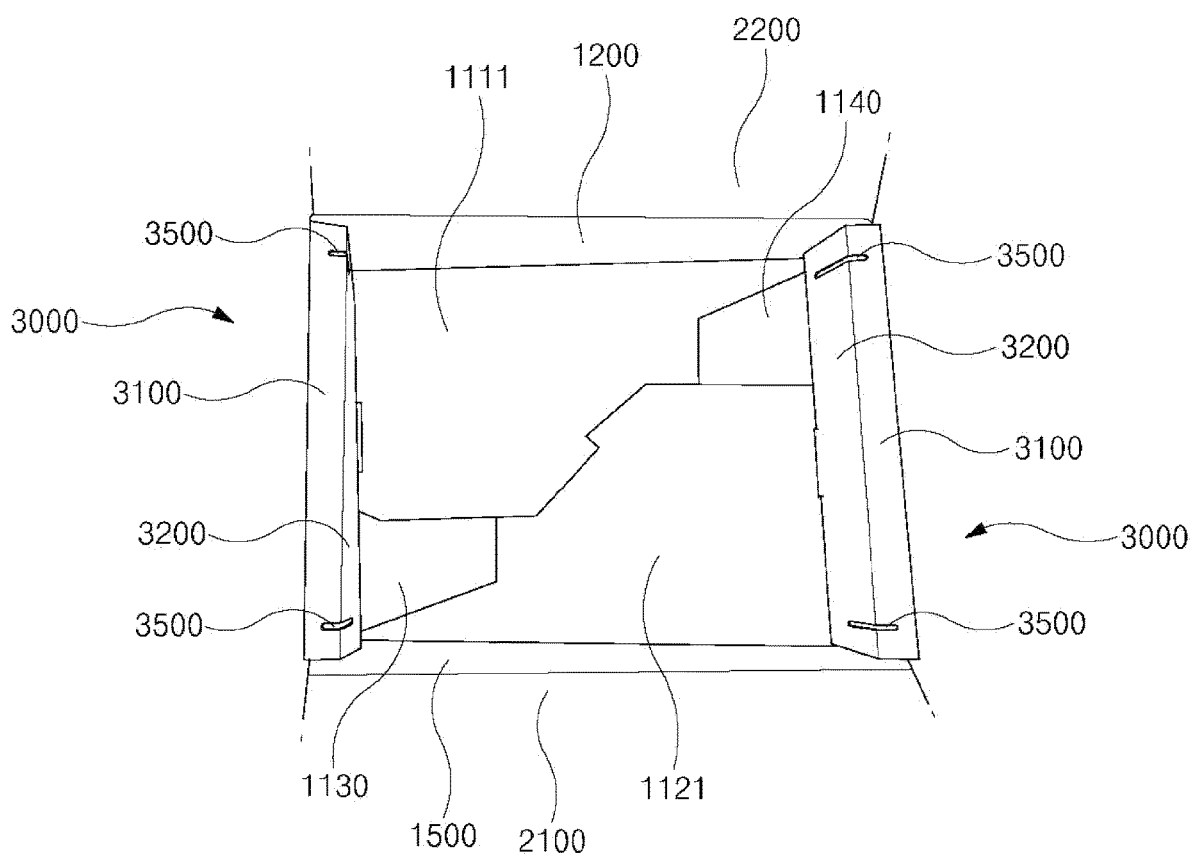


FIG. 7

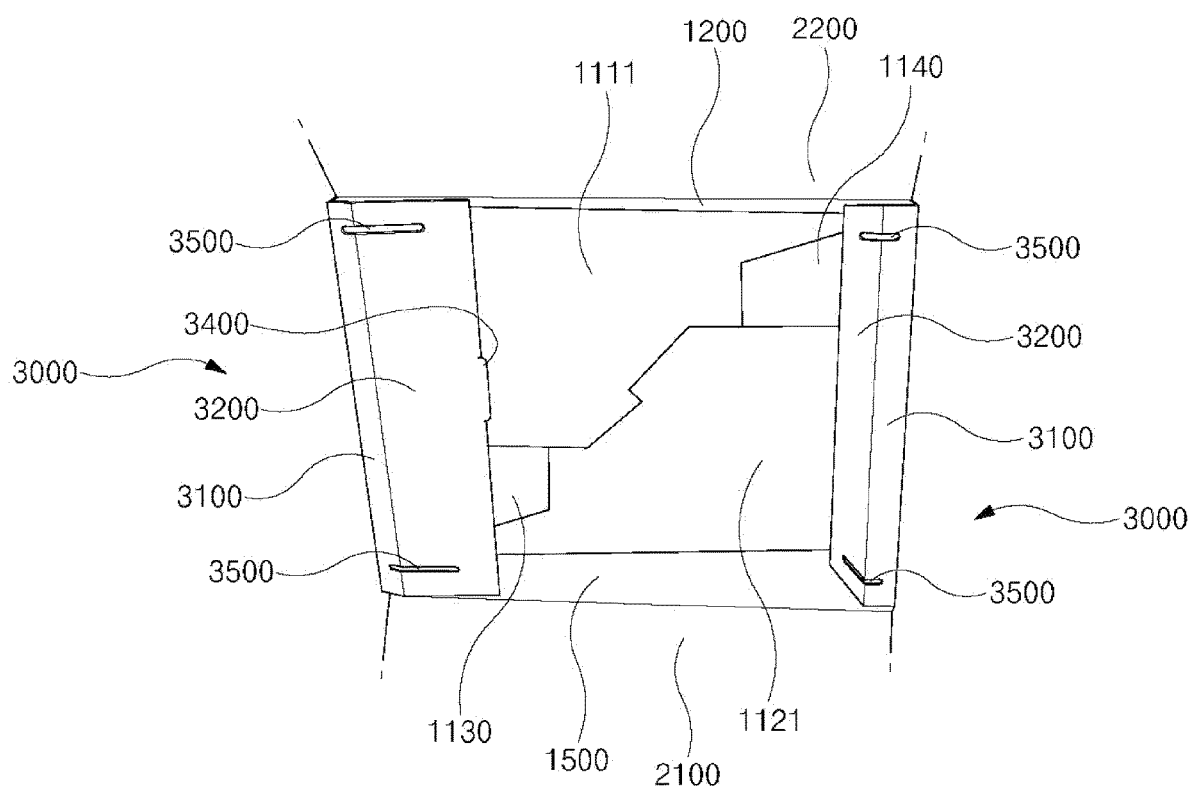


FIG. 8

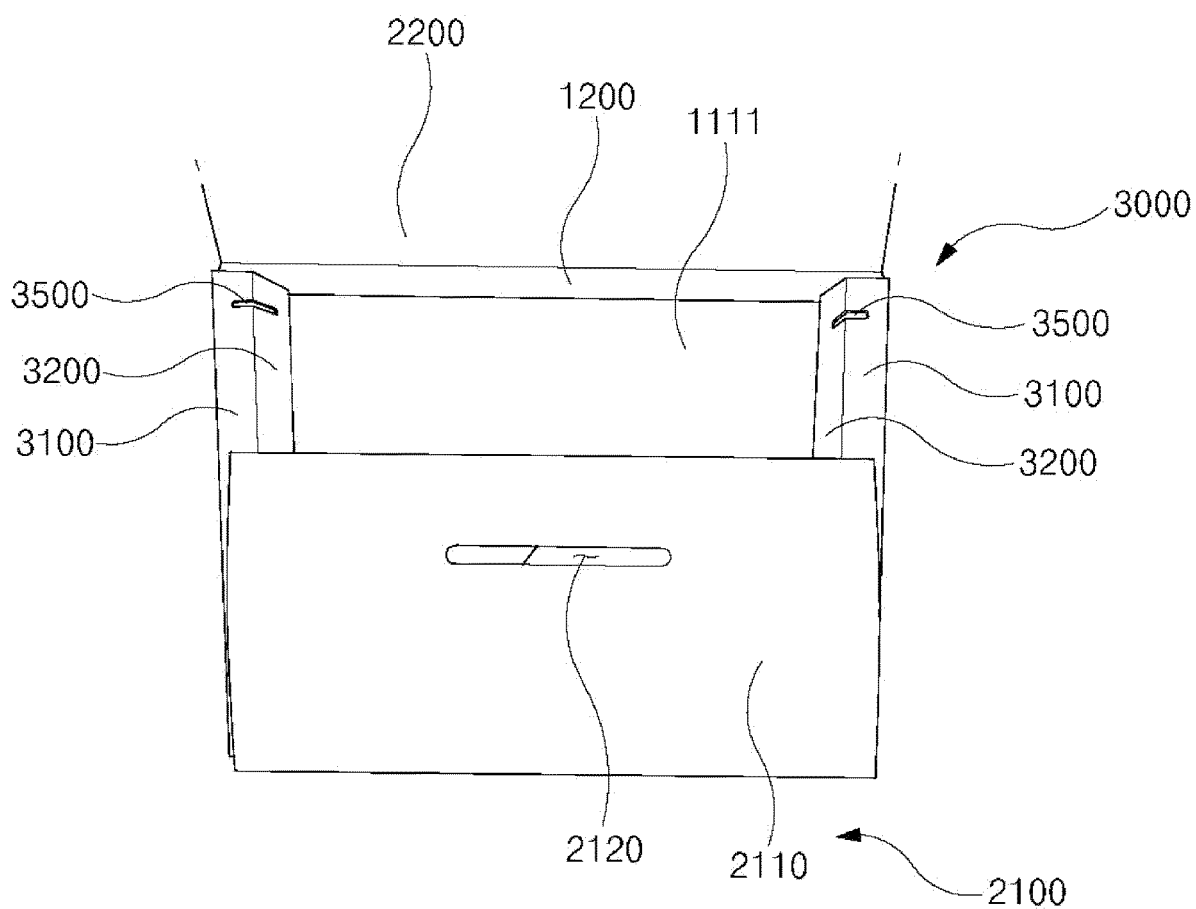


FIG. 9

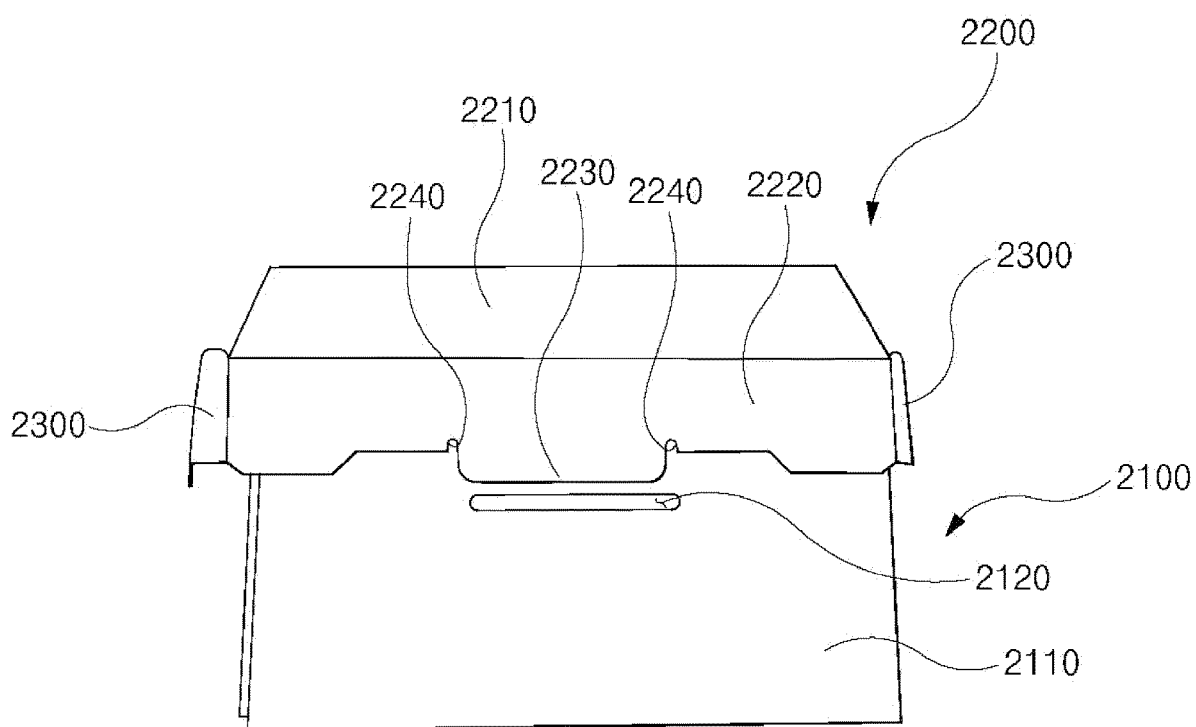


FIG. 10

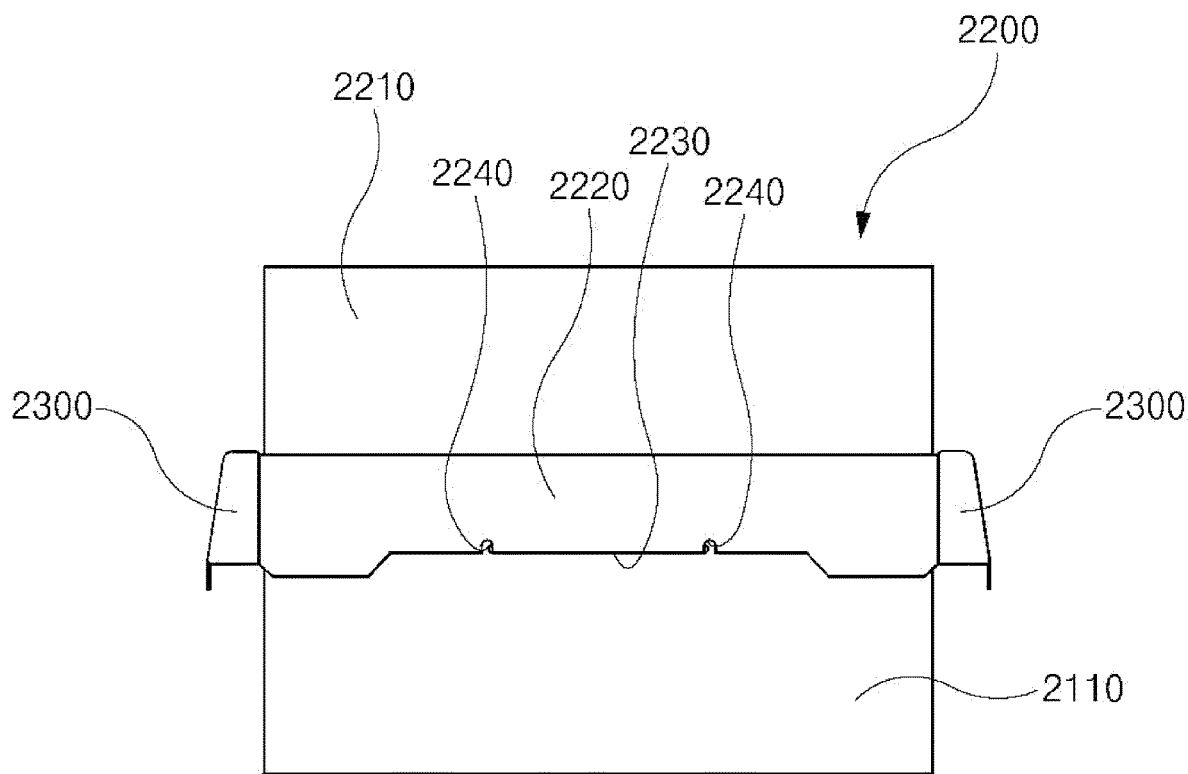


FIG. 11

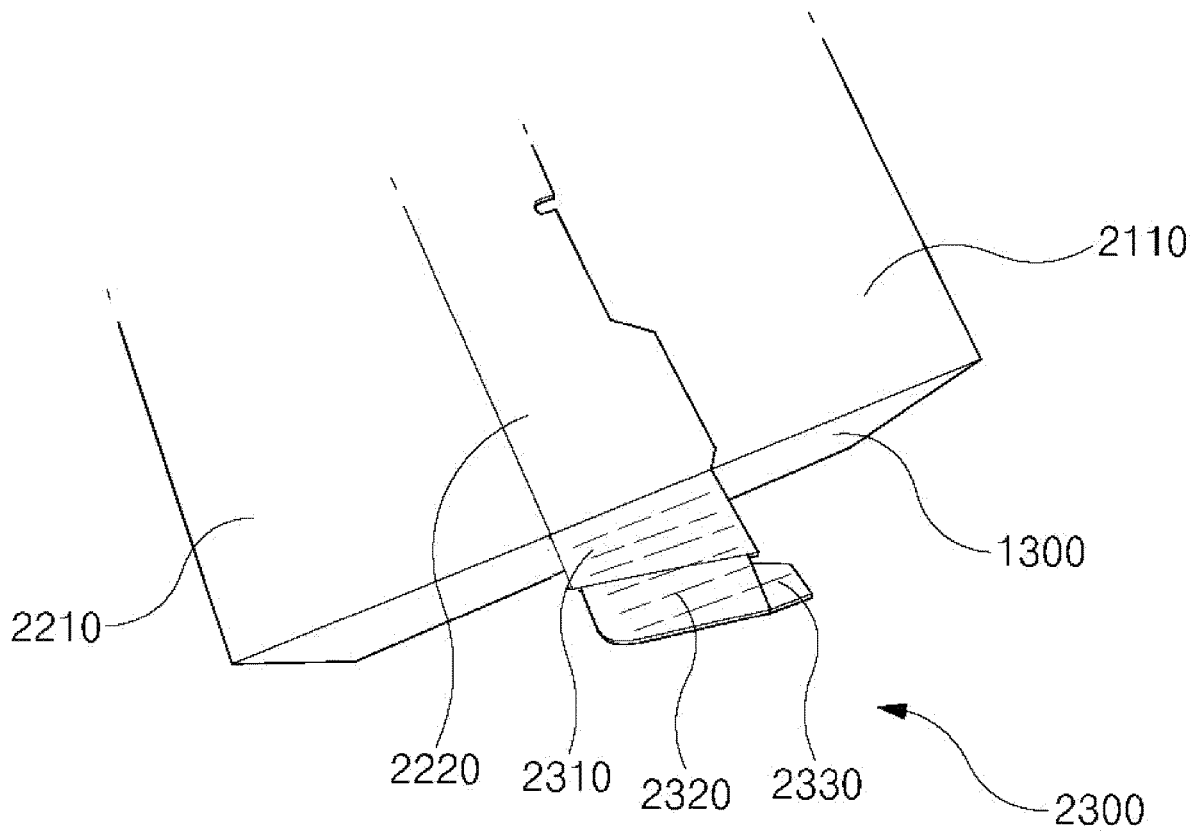


FIG. 12

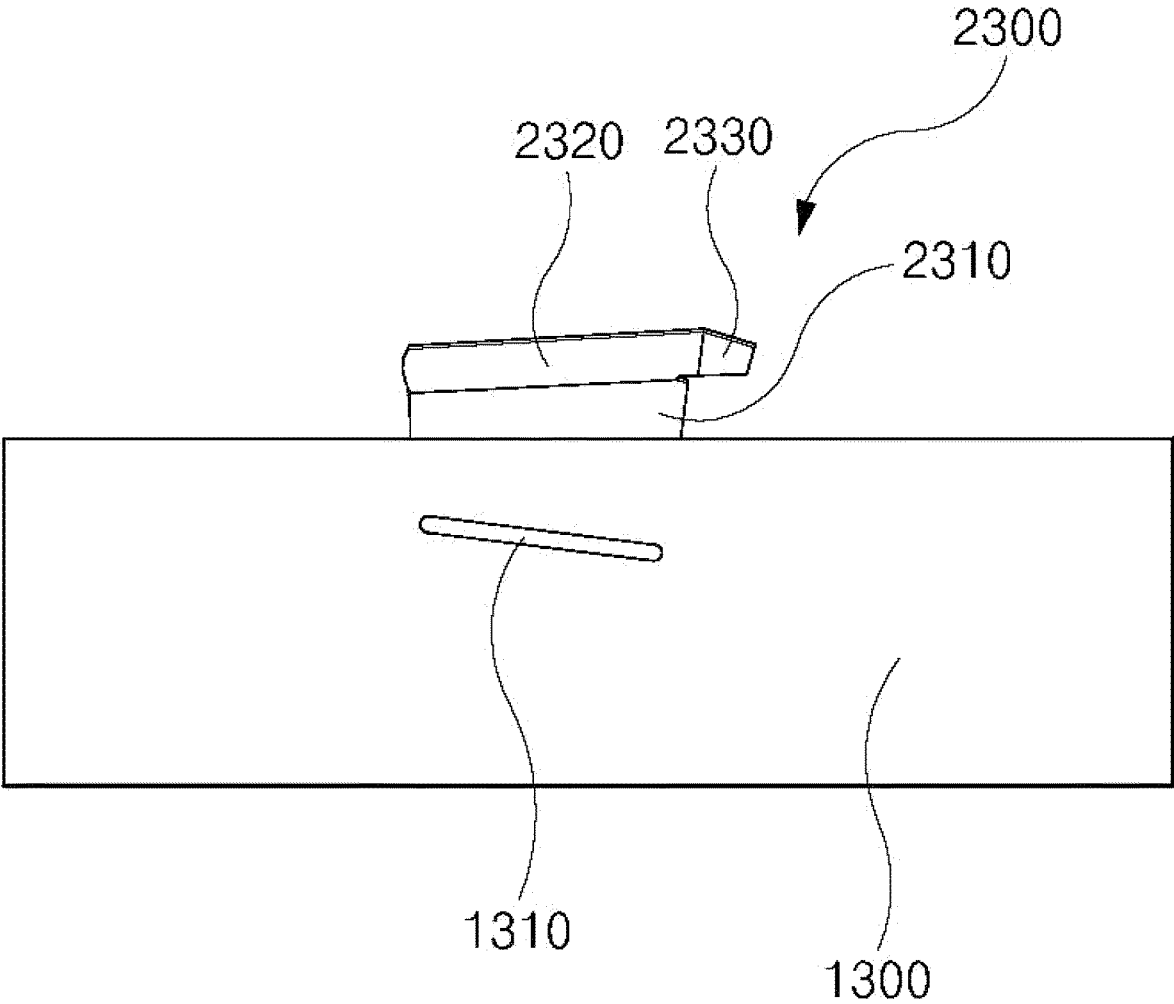
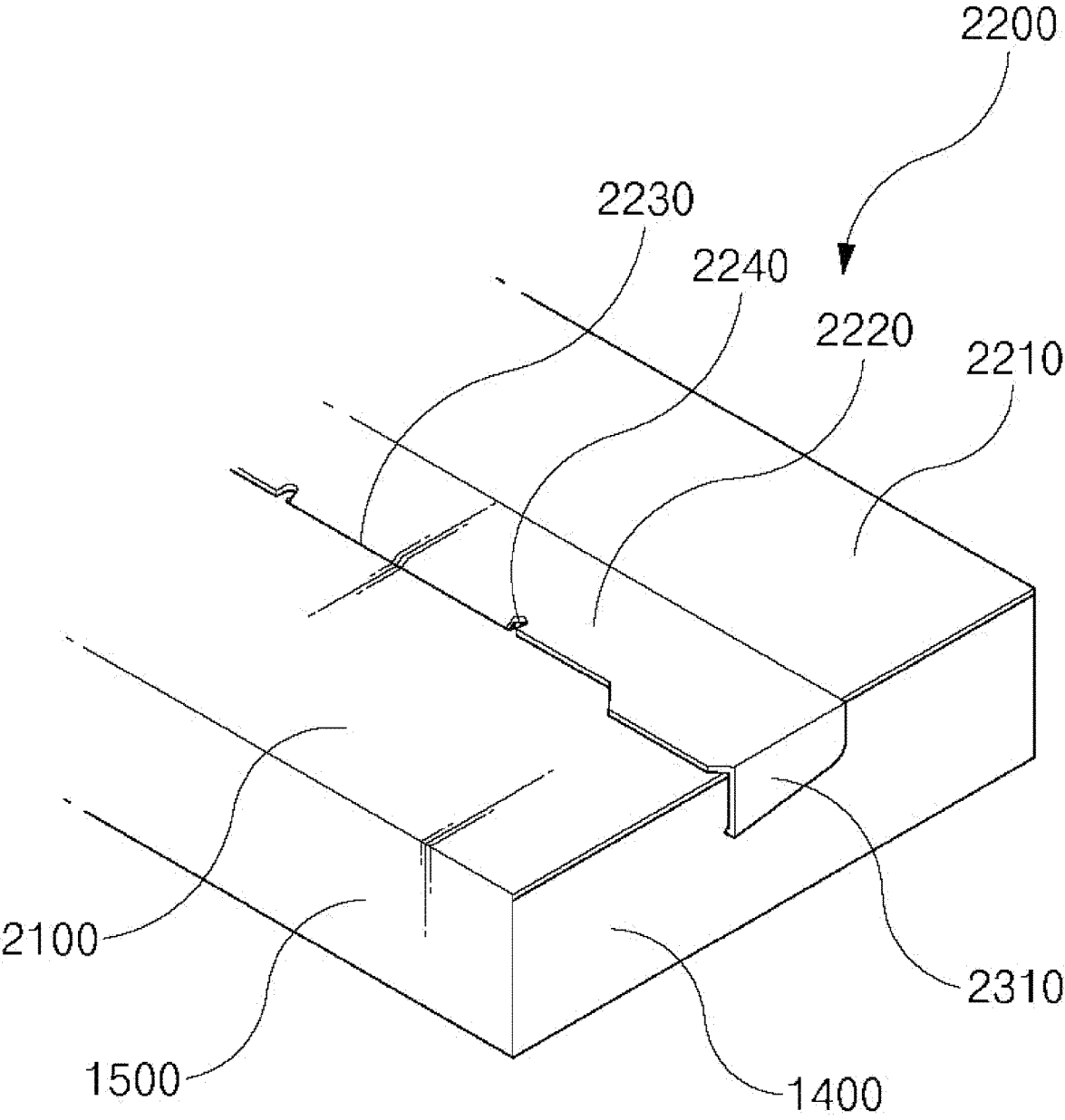


FIG. 13



ECO FRIENDLY TAPELESS PACKAGING BOX

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the priority of Korean Patent Application No. 10-2019-0084782 filed on Jul. 12, 2019, in the Korean Intellectual Property Office, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates to a curing device, and more particularly, to a curing device for curing a curing target using light energy and heat energy.

Description of the Related Art

[0003] A box for packing an article for a parcel service is generally made in a rectangular box shape and the article is put together with a buffer or the like if necessary.

[0004] There is a folded and finished cardboard box made of corrugated paper or cardboard synthetic resin, which is widely used as a box for packaging. A type in which both a bottom and a top are taped and finished with a box tape is the simplest and does not require a separate special cutting process, and as a result, the type is widely used for packaging mass-produced products.

[0005] However, such a box has a disadvantage in that a separate bonding process and/or taping operation should be performed on upper and lower surfaces twice. In order to overcome such a disadvantage, various prefabricated boxes are proposed in the related art.

[0006] In the one-sided prefabricated packaging box in the related art, a separate bonding process or taping operation is required to complete the upper surface, and thus, there is a disadvantage in that associated costs such as cost and manpower are increased.

[0007] In recent years, the number of examples of businesses operating through Internet shopping malls has increased and the number of small and medium-sized businesses and individual businesses dealing with small parcels has increased.

[0008] Therefore, the need for a structure of a packaging box that can reduce the cost required for packaging while at the same time satisfying a desired rigid packaging strength without a separate taping operation is increasing.

[0009] In addition, even in large-scale production lines, there is a need for improvement measures to finish packaging by simply bending without the need for separate taping and stapling processes.

[0010] The above-described technical configuration is a background technique for assisting the understanding of the present invention, and does not mean a conventional technology widely known in the art to which the present invention belongs.

SUMMARY OF THE INVENTION

[0011] Accordingly, the present invention has been made in an effort to provide an eco friendly tapeless packaging box which may be combined even without a taping operation and secure a desired packaging strength.

[0012] An exemplary embodiment of the present invention provides an eco friendly tapeless packaging box including: a box body in which one side portion is opened; a cover part covering an opened area of the box body; and a block portion provided in the box body and supporting the cover part, in which the cover part is divided into two areas and fitted and coupled to each other and includes a cover coupling portion which is fitted and coupled to a coupling hole provided at a wall portion of the box body.

[0013] The cover part may include a first cover part provided in the box body and having a first cover coupling hole, a second cover part provided in the box body of an area facing the first cover part and having an insertion coupling plate fitted and coupled the first cover coupling hole, and the cover coupling portion provided in the second cover part and fitted and coupled to the coupling hole.

[0014] The cover coupling portion may include a base cover coupling plate extending on an edge of the second cover portion and bent and contacting a side wall of the box body, a fixation plate extending on the base cover coupling plate and inserted into the coupling hole, and a separation preventing plate provided at one side portion of the fixation plate and inserted into the coupling hole like the fixation plate to prevent the fixation plate from being separated.

[0015] The base cover coupling plate may have a trapezoidal shape in which an area contacting the edge of the second cover part is provided as a straight line and an area facing the area provided as the straight line is provided to be inclined.

[0016] The fixation plate may be provided in a parallelogram shape in which a facing side contacting the base cover coupling plate is provided to be inclined and has a pair of inclined facing sides.

[0017] The coupling hole may be provided to be inclined on a left wall and a right wall.

[0018] The second cover part may include a second cover plate extending toward a first cover plate of the first cover part from a rear wall of the box body, a second cover coupling plate extending to bent on the second cover plate and covering the first cover plate, and the insertion coupling plate extending on the second cover coupling plate and fitted and coupled to the first cover coupling hole.

[0019] The second cover part may further include a fitting cutout portion provided at an area contacting the insertion coupling plate and the second cover coupling plate.

[0020] The block portion may include a first block plate extending on the side wall of the box body and bent vertically to the side wall, a second block plate extending on an end portion of the first block plate and vertically bent and having a lower end portion supported on a bottom portion of the box body, a third block plate extending on the end portion of the second block plate and bent to the side wall and contacting the bottom portion of the box body, and a block fixation plate provided at an area contacting the second block plate and the third block plate and fitted and coupled to a coupling hole provided at the bottom portion of the box body.

[0021] The block portion may further include a block portion hole provided to be in communication with the first block plate and the second block plate and inserted with a reinforcement plate.

[0022] Further, another exemplary embodiment of the present invention provides an eco friendly tapeless packaging box including: a box body in which one side portion is

opened; and a cover part covering an opened area of the box body, in which the cover part includes a cover coupling portion fitted and coupled to a coupling hole provided at a wall portion of a box body.

[0023] According to exemplary embodiments of the present invention, first, since a cover part is divided into two areas to be fitted and coupled to each other, and a cover coupling portion of the cover part is fitted to a coupling hole provided in a wall of a box body, the box can be combined without a separate taping or stapling operation.

[0024] Second, since the cover part divided into two areas which are fitted and coupled to each other is supported by a block portion and coupled to a wall portion of a box body by the cover coupling portion, coupling stability of the cover part and extinction coefficient of the cover part which is divided and fitted and coupled can be structurally reinforced.

[0025] Third, when the cover part divided into a first cover part and a second cover part, which are fitted and coupled to each other, a second cover coupling plate of the second cover part is provided to be bent from a second cover plate, thereby conveniently coupling an insertion coupling plate to a first cover coupling hole.

[0026] Fourth, when the insertion coupling plate is fitted and coupled to the first cover coupling hole to a fitting cut portion provided at extinction coefficient where the insertion coupling plate of the second cover part and the second cover coupling plate contact each other, the insertion coupling plate and the first cover coupling hole are engaged to each other to maintain coupling force between the insertion coupling plate and the first cover coupling hole.

[0027] Fifth, a fixation plate of the cover coupling portion is provided in a parallelogram shape having a pair of inclined facing surfaces and a coupling hole provided on a side wall of the box body is provided to be inclined, thereby conveniently fitting and coupling the cover coupling portion.

[0028] Sixth, since a separation prevention plate of the cover coupling portion is inserted into and suspended and supported on the coupling hole provided to be inclined on the side wall of a main body of a box so that the cover coupling portion is not easily separated when the cover coupling portion is coupled to the coupling hole.

[0029] Seventh, the box body can be more stably protected from external impact by a pair of block portions provided inside the box body.

BRIEF DESCRIPTION OF THE DRAWINGS

[0030] The above and other aspects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

[0031] FIG. 1 is a perspective view schematically illustrating an eco friendly tapeless packaging box according to an exemplary embodiment of the present invention;

[0032] FIG. 2 is an exploded view of FIG. 1;

[0033] FIG. 3 is a plan view of FIG. 1;

[0034] FIG. 4 is a bottom view of FIG. 1;

[0035] FIG. 5 is a diagram illustrating that a cover part and one block portion of a pair of block portions illustrated in FIG. 1 are separated from a box body;

[0036] FIG. 6 is a diagram schematically illustrating that a third block plate illustrated in FIG. 5 is bent toward a bottom portion of the box body;

[0037] FIG. 7 is a diagram schematically illustrating that a second block plate separated from FIG. 6 is bent and coupled to a first coupling hole;

[0038] FIG. 8 is a diagram schematically illustrating that a cover part illustrated in FIG. 7 is bent to contact an upper surface portion of a pair of block portions;

[0039] FIG. 9 is a diagram schematically illustrating that a second cover part illustrated in FIG. 8 is located above the first cover part and a second cover coupling plate is bent toward a first cover coupling hole;

[0040] FIG. 10 is a diagram schematically illustrating that an insertion coupling plate illustrated in FIG. 9 is coupled to the first coupling hole;

[0041] FIG. 11 is a diagram schematically illustrating that the cover coupling portion illustrated in FIG. 10 is unfolded.

[0042] FIG. 12 is a diagram schematically illustrating that a left coupling hole to which the cover coupling portion illustrated in FIG. 11 is provided on a left wall; and

[0043] FIG. 13 is a diagram schematically illustrating that the cover coupling portion of the exemplary embodiment is coupled to a right wall.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0044] In order to sufficiently appreciate the present invention, operational advantages of the present invention, objects achieved by exemplary embodiments the present invention, accompanying drawings illustrating the exemplary embodiments of the present invention and contents disclosed in the accompanying drawings should be referred.

[0045] Hereinafter, by describing a preferred exemplary embodiment of the present invention with reference to the accompanying drawings, the present invention will be described in detail. Like reference numerals illustrated in the respective drawings designate like members.

[0046] FIG. 1 is a perspective view schematically illustrating an eco friendly tapeless packaging box according to an exemplary embodiment of the present invention, FIG. 2 is an exploded view of FIG. 1, FIG. 3 is a plan view of FIG. 1, FIG. 4 is a bottom view of FIG. 1, FIG. 5 is a diagram illustrating that a cover part and one block portion of a pair of block portions illustrated in FIG. 1 are separated from a box body, FIG. 6 is a diagram schematically illustrating that a third block plate illustrated in FIG. 5 is bent toward a bottom portion of the box body, and FIG. 7 is a diagram schematically illustrating that a second block plate separated from FIG. 6 is bent and coupled to a first coupling hole.

[0047] Further, FIG. 8 is a diagram schematically illustrating that a cover part illustrated in FIG. 7 is bent to contact an upper surface portion of a pair of block portions, FIG. 9 is a diagram schematically illustrating that a second cover part illustrated in FIG. 8 is located above the first cover part and a second cover coupling plate is bent toward a first cover coupling hole, FIG. 10 is a diagram schematically illustrating that an insertion coupling plate illustrated in FIG. 9 is coupled to the first coupling hole, FIG. 11 is a diagram schematically illustrating that the cover coupling portion illustrated in FIG. 10 is unfolded, FIG. 12 is a diagram schematically illustrating that a left coupling hole to which the cover coupling portion illustrated in FIG. 11 is provided on a left wall, and FIG. 13 is a diagram schematically illustrating that the cover coupling portion of the exemplary embodiment is coupled to a right wall.

[0048] As illustrated in the drawings, the eco friendly tapeless packaging box 1 according to the embodiment includes a box body 1000, a cover part 2000 covering an opened area of the box body 1000, and a block portion 3000 provided in the box body 1000 and supporting the cover part 2000.

[0049] As illustrated in FIG. 2, the box body 1000 may include a bottom portion 1100, a rear wall 1200 integrally provided with the bottom portion 1100 behind the bottom portion 1100, a left wall 1300 integrally provided with the bottom portion 1100 at a left side of the bottom portion 1100, a right wall 1400 integrally provided with the bottom portion 1100 at a right side of the bottom portion 1100, and a front wall 1500 integrally provided with the bottom portion 1100 in front of the bottom portion 1100.

[0050] In the exemplary embodiment, the box body 1000 may be provided with a corrugated material, and the cover part 2000 and the block portion 3000 may also be provided with the corrugated material.

[0051] As illustrated in FIG. 2, the bottom portion 1100 of the box body 1000 includes a first bottom portion 1110 integrally provided with the rear wall 1200, a second bottom portion 1120 integrally provided with the front wall 1500, a first bottom coupling plate 1130 integrally provided with the left wall 1300, and a second bottom coupling plate 1140 integrally provided with the right wall 1400.

[0052] In the exemplary embodiment, the first bottom portion 1110 and the second bottom portion 1120 may be coupled in a fitting scheme and the first bottom coupling plate 1130 and the second bottom coupling plate 1140 may be inserted and coupled between the first bottom portion 1110 and the second bottom portion 1120.

[0053] As illustrated in FIG. 2, the first bottom portion 1110 includes a first bottom coupling plate 1130 extending integrally with a lower end portion of the rear wall 1200, a first coupling hole 1112 to which a block fixation plate 3400 of the block portion 3000 provided at one side portion of the first bottom coupling plate 1130 and extending on the left wall 1300 is fitted and coupled, a first cutout portion 1113 provided by cutting out the first bottom coupling plate 1130 of an area where the first coupling hole 1112 is provided and fitted and coupled to the second bottom portion 1120, and a first suspend cutout portion 1114 provided by cutting out one side portion of the first cutout portion 1113.

[0054] As illustrated in FIGS. 4 and 5, the first cutout portion 1113 and the second cutout portion 1123 provided at the second bottom portion 1120 are alternately fitted and coupled, and as a result, the first bottom plate 1111 of the first bottom portion 1110 may be fitted and coupled to the second bottom plate 1121 of the second bottom portion 1120.

[0055] The block fixation plate 3400 illustrated in FIG. 6 may be fitted and coupled to the first coupling hole 1112 of the first bottom portion 1110 as illustrated in FIG. 7.

[0056] As illustrated in FIG. 2, the first cutout portion 1113 of the first bottom portion 1110 may have a trapezoidal shape.

[0057] As illustrated in FIG. 2, the first suspend cutout portion 1114 of the first bottom portion 1110 may be provided at one corner of the first bottom plate 1111 of the area where the first cutout portion 1113 is provided. In the exemplary embodiment, when first bottom portion 1110 and the second bottom portion 1120 are coupled to each other, since the first suspend cutout portion 1114 is engaged with the second suspend cutout portion 1124 provided at the

second bottom portion 1120, the coupled first bottom portion 1110 and the second bottom portion 1120 may be prevented from being easily separated.

[0058] As illustrated in FIG. 2, the second bottom portion 1120 includes a second bottom coupling plate 1140 extending integrally with the lower end portion of the front wall 1500, a second coupling hole 1122 to which the block fixation plate 3400 of the block portion 3000 provided at one side portion of the second bottom coupling plate 1140 and extending on the right wall 1400 is fitted and coupled, a second cutout portion 1113 provided by cutting out the second bottom coupling plate 1140 of an area where the second coupling hole 1122 is provided and fitted and coupled to the first bottom portion 1110, and a second suspend cutout portion 1124 provided by cutting out one side portion of the second cutout portion 1123.

[0059] As described above, the second bottom plate 1121 of the second bottom portion 1120 may be fitted and coupled to the first bottom plate 1111 of the first bottom portion 1110.

[0060] The block fixation plate 3400 of the block portion 3000 provided integrally with the right wall 1400 may be fitted and coupled to the second coupling hole 1122 of the second bottom portion 1120.

[0061] As illustrated in FIG. 2, the first cutout portion 1113 of the second bottom portion 1120 may have the trapezoidal shape.

[0062] As illustrated in FIG. 2, the second suspend cutout portion 1124 of the second bottom portion 1120 may be provided at one corner of the second bottom plate of the area where the second cutout portion 1123 is provided.

[0063] As illustrated in FIG. 2, the first bottom coupling plate 1130 may be provided integrally with the lower end portion of the left wall 1300 and as illustrated in FIG. 4, the first bottom coupling plate 1130 may be inserted and coupled between the first bottom portion 1110 and the second bottom portion 1120 at a left area.

[0064] In the exemplary embodiment, as illustrated in FIG. 2, the first bottom plate 1111 may have the trapezoidal shape.

[0065] As illustrated in FIG. 2, the second bottom coupling plate 1140 may be provided integrally with the lower end portion of the right wall 1400 and as illustrated in FIG. 4, the second bottom coupling plate 1140 may be inserted and coupled between the first bottom portion 1110 and the second bottom portion 1120 at a right area.

[0066] In the exemplary embodiment, as illustrated in FIG. 2, the second bottom plate 1121 may have the trapezoidal shape.

[0067] The front wall 1500, the rear wall 1200, the left wall 1300, and the right wall 1400 of the box body 1000 may be provided integrally with each other and an attachment plate 1510 provided on the front wall 1500 is attached to the left wall 1300 to have a quadrangular shape. In the exemplary embodiment, the attachment plate 1510 may be attached to the left wall 1300 by using a coupling means such as an eco friendly adhesive, etc.

[0068] As illustrated in FIG. 2, the left coupling hole 1310 is provided on the left wall 1300 of the box body 1000 and the right coupling hole 1410 is provided on the right wall 1400.

[0069] In the exemplary embodiment, as illustrated in FIG. 2, the left coupling hole 1310 and the right coupling hole 1410 may be provided to be inclined. Specifically, the left coupling hole 1310 may be inclined such that the left

side is high and the right side is low, as illustrated in FIG. 12. In this case, a fixation plate 2320 and a separation release preventing plate 2330 of a cover coupling portion 2300 may be easily inserted and the inserted fixation plate 2320 and the separation preventing plate 2330 may be prevented from being separated.

[0070] Meanwhile, in the exemplary embodiment, as illustrated in FIG. 2, the left coupling hole 1310 and the right coupling hole 1410 may be provided not to be inclined, but to be parallel to each other.

[0071] In addition, in the exemplary embodiment, the box body 1000 may be provided such that an upper portion of the box body 1000 is not opened and a lower portion is opened. In this case, the bottom portion 1100 may be provided at the upper portion of the box body 1000 and the cover part 2000 may be provided at the lower portion of the box body 1000.

[0072] As illustrated in FIG. 9, the cover part 2000 is divided into two areas to cover an opened upper area of the box body 1000 to serve to prevent a stored object accommodated in the box body 1000 from being separated out and protect the stored object from the external shocks.

[0073] In the exemplary embodiment, since the cover part 2000 is divided into two areas to be fitted and coupled to each other and fitted and coupled to a wall portion of the box body 1000, the box may be coupled without a separate taping or stapling operation.

[0074] Further, in the cover part 2000 of the exemplary embodiment, since the area divided into two areas is fitted and coupled to each other and supported by the block portion 3000 and one area is coupled to the wall portion of the main body 1000, coupling stability of the cover part 2000 may be secured and the area of the cover part 2000 which is divided and fitted and coupled may be structurally reinforced.

[0075] As illustrated in FIG. 2, in the exemplary embodiment, the cover part 2000 includes a first cover part 2100 provided integrally with the front wall 1500 at the upper portion of the front wall 1500, a second cover part 2200 provided integrally with the rear wall 1200 at the upper portion of the rear wall 1200, and a cover coupling portion 2300 provided integrally with the second cover part 2200 and coupling the second cover part 2200 to the box body 1000.

[0076] As illustrated in FIG. 2, the first cover part 2100 may be integrally provided on the front wall 1500 of the box body 1000 and as illustrated in FIG. 8, the first cover part 2100 may cover the opened upper area of the box body 1000, for example, by half.

[0077] In the exemplary embodiment, as illustrated in FIG. 2, the first cover part 2100 includes a first cover plate 2110 integrally extending to the upper end portion of the front wall 1500 and a first cover coupling hole 2120 provided at the upper area of the first cover plate 2110 and fitted and coupled to an insertion coupling plate 2230 of the second cover part 2200.

[0078] In the exemplary embodiment, the insertion coupling plate 2230 illustrated in FIG. 9 may be fitted and coupled to the first cover coupling hole 2120 as illustrated in FIG. 10.

[0079] Further, in the exemplary embodiment, both edges of the first cover plate 2110 may be supported on a pair of block portions 3000 illustrated in FIG. 7.

[0080] As illustrated in FIG. 2, the second cover part 2200 includes a second cover plate 2210 provided integrally with the rear wall at the upper portion of the rear wall 1200, a

second cover coupling plate 2220 extending on the second cover plate 2210 to be bent and covering the first cover plate 2110, an insertion coupling plate 2230 extending on the second cover coupling plate 2220 and fitted and coupled to the first cover coupling hole 2120, and a fitted cutout portion 2240 provided at an area contacting the insertion coupling plate 2230 and the second cover coupling plate 2220.

[0081] A total area of the first and second cover plates 2110 and 2220 is provided similarly to the first cover plate 2110 as illustrated in FIG. 2 and when the first cover part 2100 and the second cover part 2200 are coupled to each other, as illustrated in FIG. 10, the second cover coupling plate 2220 and the first cover plate 2110 may overlap with each other and the second cover coupling plate may be stacked on the upper portion of the first cover plate 2110. As a result, a structure in which the first cover plate 2110 and the second cover coupling plate 2220 are stacked at the center portion of the box body 1000 is provided and the insertion coupling plate 2230 is fitted and coupled to the first cover coupling hole 2120 to have a structural strength which is not easily pressed or crushed even though a shock is applied from the outside.

[0082] As illustrated in FIG. 9, the second cover coupling plate 2220 is provided on the second cover plate 2210 to be bent to conveniently couple the insertion coupling plate 2230 to the first cover coupling hole 2120.

[0083] As illustrated in FIGS. 2 and 9, a pair of fitted cutout portions 2240 may be provided at an area contacting the insertion coupling plate 2230 and the second cover coupling plate 2220.

[0084] In the exemplary embodiment, the fitted cutout portion 2240 may have a semi-elliptic shape and when the insertion coupling plate 2230 is fitted and coupled to the first cover coupling hole 2120, the insertion coupling plate 2230 and the first cover coupling 2120 are engaged with each other to maintain coupling force between the insertion coupling plate 2230 and the first cover coupling hole 2120.

[0085] As illustrated in FIG. 2, the cover coupling portion 2300 is provided at each of both sides of the second cover coupling plate 2220 to serve to couple the cover part to each of the left wall 1300 and the right wall 1400.

[0086] In the exemplary embodiment, as illustrated in FIG. 2, the cover coupling portion 2300 includes a base cover coupling plate 2310 integrally extending on both edges of the second cover coupling plate 2220 and bent and contacting the left wall 1300 and the right wall 1400, a fixation plate 2320 extending on the base cover coupling plate 2310 and inserted into the coupling hole, and a separation preventing plate 2330 provided at one side portion of the fixation plate 2320 and inserted into the left coupling hole 1310 and the right coupling hole 1410 to prevent the fixation plate 2320 from being separated like the fixation plate 2320.

[0087] As illustrated in FIG. 2, in the base cover coupling plate 2310, an area contacting the edge of the second cover coupling plate 2220 is provided as a straight line and the base cover coupling plate 2310 may have a trapezoidal shape in which an area facing the area provided as the straight line is provided to be inclined.

[0088] In the exemplary embodiment, a texture of the corrugated cardboard provided in the base cover coupling plate 2310 may be provided in a horizontal direction as indicated by dotted lines in FIG. 11.

[0089] Further, in the exemplary embodiment, when the cover coupling portion 2300 is coupled to the left wall 1300 and the right wall 1400, the base cover coupling plate 2310 may be supported in contact with the left wall 1300 and the right wall 1400.

[0090] The fixation plate 2320 may be inserted into the left coupling hole 1310 and the right coupling hole 1410 at the time of coupling the cover coupling portion 2300 to the left wall 1300 and the right wall 1400.

[0091] In the exemplary embodiment, as illustrated in FIG. 11, in the fixation plate 2320, facing sides contacting the base cover coupling plate 2310 are provided to be inclined and the fixation plate 2320 may be provided in a parallelogram shape having a pair of inclined facing sides.

[0092] Further, in the exemplary embodiment, a valley of the corrugated cardboard provided on the fixation plate 2320 is provided in the horizontal direction and the fixation plate 2320 has an inclined parallelogram shape, and as a result, the valley may have an inclined shape on the fixation plate 2320.

[0093] In the exemplary embodiment, as illustrated in FIG. 11, the valley of the corrugated cardboard provided on the fixation plate 2320 and the base cover coupling plate 2310 is provided in the horizontal direction and the fixation plate 2320 and the base cover coupling plate 2310 may be easily bent and the fixation plate 2320 and the base cover coupling plate 2310 may be prevented from being crushed with respect to external force applied in a vertical direction. This may be applied even to the separation preventing plate 2330 as it is.

[0094] As illustrated in FIGS. 2 and 11, the separation preventing plate 2330 is provided at one side portion of the fixation plate 2320 and inserted into the coupling hole like the fixation plate 2320 to prevent the fixation plate 2320 from being separated.

[0095] In the exemplary embodiment, a width of the separation preventing plate 2330 may be provided to be smaller as the separation preventing plate 2330 is farther away from the fixation plate 2320 so as to be easily inserted into each of the left coupling hole 1310 and the right coupling hole 1410, as illustrated in FIG. 11.

[0096] As illustrated in FIG. 2, the block portion 3000 integrally extending on the left wall 1300 and the right wall 1400 to serve to protect the box body 1000 from the external shock and support the first cover part 2100 and the second cover part 2200.

[0097] In the exemplary embodiment, as illustrated in FIG. 2, the block portion 3000 includes a first block plate 3100 extending on each of the left wall 1300 and the right wall 1400 and bent vertically to the left wall 1300 and the right wall 1400, a second block plate 3200 integrally extending on the upper end portion of the first block plate 3100 and vertically bent and having the lower end portion supported on the bottom portion 1100 of the box body 1000, a third block plate 3300 extending on the upper end portion of the second block plate 3200 and bent to the left wall 1300 and the right wall 1400 and contacting the bottom portion 1100 of the box body 1000, a block fixation plate 3400 provided at areas contacting the second block plate 3200 and the third block plate 3300 and fitted and coupled to the coupling hole provided at the bottom portion 1100 of the box body 1000, and a block portion hole 3500 provided to be in communication with the first block plate 3100 and the second block plate 3200 and inserted and coupled with a reinforcement plate.

[0098] As illustrated in FIG. 6, the block fixation plate 3400 may be provided to protrude on a lower center portion of the second block plate 3200 and fitted and coupled to the first coupling hole 1112 illustrated in FIG. 7.

[0099] As illustrated in FIG. 7, the block portion hole 3500 may be provided to be connected to the first block plate 3100 and the second block plate 3200 and the block portion hole 3500 provided on the second block plate 3200 may be provided longer.

[0100] In the exemplary embodiment, the reinforcement or a reinforcement rod may be fitted and coupled to the block portion hole 3500.

[0101] As described in the exemplary embodiment, since the cover part is divided into the first cover part and the second cover part to be fitted and coupled to each other, and a cover coupling portion of the cover part is fitted to a coupling hole provided in a wall of a box body, the box can be combined without a separate taping or stapling operation.

[0102] Further, in the exemplary embodiment, since the first cover part and the second cover part which are fitted and coupled to each other are supported by the block portion and coupled to the wall portion of the box body by the cover coupling portion, coupling stability of the cover part and the area of the cover part which is divided and fitted and coupled can be structurally reinforced.

[0103] As described above, the present invention is not limited to the exemplary embodiments described herein, and it would be apparent to those skilled in the art that various changes and modifications might be made without departing from the spirit and the scope of the present invention. Therefore, it will be determined that the changed examples or modified examples are included in the appended claims of the present invention.

What is claimed is:

1. An eco friendly tapeless packaging box comprising:
 - a box body in which one side portion is opened;
 - a cover part configured to cover an opened area of the box body; and
 - a block portion provided in the box body and supporting the cover part,
 wherein the cover part is divided into two areas and fitted and coupled to each other and includes a cover coupling portion which is fitted and coupled to a coupling hole provided at a wall portion of the box body.
2. The eco friendly packaging box of claim 1, wherein the cover part includes
 - a first cover part provided in the box body and having a first cover coupling hole;
 - a second cover part provided in the box body of an area facing the first cover part and having an insertion coupling plate fitted and coupled the first cover coupling hole; and
 - the cover coupling portion provided in the second cover part and fitted and coupled to the coupling hole.
3. The eco friendly packaging box of claim 1, wherein the cover coupling portion includes
 - a base cover coupling plate extending on an edge of the second cover portion and bent and contacting a side wall of the box body;
 - a fixation plate extending on the base cover coupling plate and inserted into the coupling hole; and

a separation preventing plate provided at one side portion of the fixation plate and inserted into the coupling hole like the fixation plate to prevent the fixation plate from being separated.

4. The eco friendly packaging box of claim 3, wherein the base cover coupling plate has a trapezoidal shape in which an area contacting the edge of the second cover part is provided as a straight line and an area facing the area provided as the straight line is provided to be inclined.

5. The eco friendly packaging box of claim 4, wherein the fixation plate is provided in a parallelogram shape in which a facing side contacting the base cover coupling plate is provided to be inclined and has a pair of inclined facing sides .

6. The eco friendly tapeless packaging box of claim 1 or 5, wherein the coupling hole is provided to be inclined on a left wall and a right wall.

7. The eco friendly packaging box of claim 2, wherein the second cover part includes

a second cover plate extending toward a first cover plate of the first cover part from a rear wall of the box body;
a second cover coupling plate extending to bent on the second cover plate and covering the first cover plate;
and

the insertion coupling plate extending on the second cover coupling plate and fitted and coupled to the first cover coupling hole.

8. The eco friendly packaging box of claim 7, wherein the second cover part further includes a fitting cutout portion

provided at an area contacting the insertion coupling plate and the second cover coupling plate.

9. The eco friendly packaging box of claim 1, wherein the block portion includes

a first block plate extending on the side wall of the box body and bent vertically to the side wall;

a second block plate extending on an end portion of the first block plate and vertically bent and having a lower end portion supported on a bottom portion of the box body;

a third block plate extending on the end portion of the second block plate and bent to the side wall and contacting the bottom portion of the box body; and

a block fixation plate provided at an area contacting the second block plate and the third block plate and fitted and coupled to a coupling hole provided at the bottom portion of the box body.

10. The eco friendly packaging box of claim 9, wherein the block portion further includes a block portion hole provided to be in communication with the first block plate and the second block plate and inserted with a reinforcement plate.

11. An eco friendly tapeless packaging box comprising:
a box body in which one side portion is opened; and
a cover part configured to cover an opened area of the box body,

wherein the cover part includes a cover coupling portion fitted and coupled to a coupling hole provided at a wall portion of a box body.

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