



(11) **EP 2 460 741 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
06.06.2012 Bulletin 2012/23

(51) Int Cl.:
B65D 85/60 (2006.01) B65D 77/04 (2006.01)

(21) Application number: **10804073.4**

(86) International application number:
PCT/JP2010/004607

(22) Date of filing: **15.07.2010**

(87) International publication number:
WO 2011/013320 (03.02.2011 Gazette 2011/05)

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO SE SI SK SM TR**

• **OGAKI, Mitsuko**
Saitama-shi
Saitama 336-0027 (JP)

(30) Priority: **27.07.2009 JP 2009174223**

(71) Applicant: **Lotte Co., Ltd.**
Tokyo 160-0023 (JP)

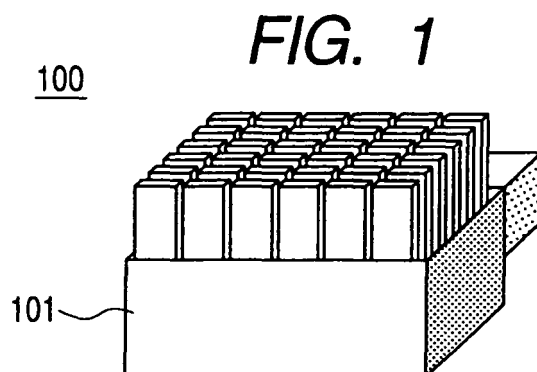
(74) Representative: **Blodig, Wolfgang**
Wächtershäuser & Hartz
Patentanwaltspartnerschaft
Ottostrasse 4
80333 München (DE)

(72) Inventors:
• **ONOGI, Atsushi**
Saitama-shi
Saitama 336-0027 (JP)

(54) **PACKAGE AND METHOD FOR PRODUCING SAME**

(57) Disclosed is a food package wherein plate-shaped food is contained in a compact manner, and from which the plate-shaped food can be easily removed and readily consumed even if one hand is otherwise occupied, etc. Further disclosed is a method for producing the food package. The main package packages each plate-shaped food by means of a packaging sheet, which comprises a pull-out section, a fixed section, and a weak section

therebetween, and which can be unsealed by severing said weak section and pulling out said pull-out section. A plurality of said packaged plate-shaped foods are fixed and connected by a connecting mounting sheet at said fixed section, forming an integrated plate-shaped food unit, and a plurality of said plate-shaped food units are housed and fastened in a container. The disclosed production method comprises stacking plate-shaped food units into bundles, which are fastened to the container.



Description

[Technical Field]

[0001] The present invention relates to a package capable of containing many pieces of plate-like food products such as gum and chocolate, and a method of manufacturing the package.

[Background Art]

[0002] Conventionally, for plate-like food products such as gum and chocolate, there has been used a package in which the plate-like food products are wrapped individually with a wrapping sheet and arranged in a packaging container to contain the food products.

[0003] As a packaging method for facilitating dispensing of those wrapped food products, for example, a package as disclosed in Patent Literature 1 is provided.

[0004] However, the plate-like food products are generally contained in a small packaging container that provides portability, and therefore it is difficult to contain many pieces of food products together so that the food products may be consumed among many people simultaneously.

[0005] Further, as another package for facilitating dispensing of the plate-like food products, Patent Literature 2 discloses a packaging container for containing the plate-like food products in an upright posture, and Patent Literature 3 discloses a method of manufacturing the above-mentioned packaging container.

[0006] However, those packages have such a stepped structure that the height of the back row is larger than that of the front row. Therefore, particularly in a case where the plate-like food products are arranged in two steps or more to produce a package having a large capacity, a useless space is generated because of the increase in height of the second and other succeeding steps. This results in unnecessary increase in cost and size of the package. Further, the shape of the container is limited to a rectangular parallelepiped shape, which is a shape of an external box. Therefore, the degree of freedom is poor in the method of containing many pieces of plate-like food products.

[0007] Meanwhile, as a packaging container for containing many pieces of food products together, there is used a package in the form of containing gum pellets in a container. With this structure, the gum pellets are consumable among many people.

[0008] However, when the structure as described above is applied to the case of plate-like food products, the food products may be damaged when the food products are shaken inside. Further, when a hand enters the container, the hand may come into contact with other gum pellets, and hence hygienic problems cannot be resolved. In addition, since an opening portion of the container narrows so as to prevent the gum pellets from falling out of the container, particularly in such a case where

only a small amount of gum pellets remain in the vicinity of the bottom of the container, there is a problem in that a desired gum pellet is hard to dispense.

5 [Citation List]

[Patent Literature]

[0009]

10

PTL 1: Japanese Utility Model Application Laid-Open No. H07-11569

PTL 2: Japanese Patent No. 3955355

PTL 3: Japanese Patent No. 3955356

15

[Summary of Invention]

[Technical Problem]

20

[0010] It is an object of the present invention to provide a food package, in which many pieces of plate-like food products are compactly contained in containers in various forms without damage to the plate-like food products, and from which the plate-like food products can easily be dispensed so that the plate-like food products are consumable in a simple and hygienic manner, and to provide a method of manufacturing the food package.

25

[Solution to Problem]

30

[0011] In view of the above-mentioned problems, the present invention includes the following features:

[0012] First, the present invention relates to a package for a plate-like food product such as chewing gum and chocolate including:

35

a wrapping sheet for wrapping the plate-like food product, the wrapping sheet including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, the wrapping sheet being openable when the fragile portion is cut and the pull-out portion is pulled;

40

a coupling base sheet placed at the fixed portions of a plurality of the wrapped plate-like food products aligned in proximity in a width direction thereof, for coupling and fixing the plurality of the wrapped plate-like food products to form an integrated plate-like food unit; and

45

a container, to which a plurality of the integrated plate-like food units are firmly fixed.

50

[0013] Second, the present invention relates to a package for a plate-like food product such as chewing gum and chocolate including:

55

a wrapping sheet for wrapping the plate-like food product, the wrapping sheet including a pull-out portion, a fixed portion, and a fragile portion formed be-

tween the pull-out portion and the fixed portion, the wrapping sheet being openable when the fragile portion is cut and the pull-out portion is pulled;
 a coupling base sheet placed at the fixed portions of a plurality of the wrapped plate-like food products aligned in proximity in a width direction thereof, for coupling and fixing the plurality of the wrapped plate-like food products to form an integrated plate-like food unit;
 a bundled unit formed of a plurality of the integrated plate-like food units bundled together; and
 a container, to which the bundled unit is firmly fixed.

[0014] Third, the present invention relates to a method of manufacturing a package, including:

- (i) an individual wrapping step of individually wrapping a plurality of plate-like food products with wrapping sheets each including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, each of the wrapping sheets being openable when the fragile portion is cut and the pull-out portion is pulled;
- (ii) an aligning step of aligning the plurality of individually wrapped plate-like food products in proximity in a width direction thereof;
- (iii) a unit forming step of forming a plate-like food unit by placing and fixing a coupling base sheet on at least one surface of the fixed portion of the each of the wrapping sheets of the plurality of aligned plate-like food products;
- (iv) a stacking step of stacking the plate-like food units in a thickness direction thereof; and
- (v) a fixing step of fixing the stacked plate-like food units to a container.

[0015] Fourth, the present invention relates to a method of manufacturing a package, including:

- (i) an individual wrapping step of individually wrapping a plurality of plate-like food products with wrapping sheets each including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, each of the wrapping sheets being openable when the fragile portion is cut and the pull-out portion is pulled;
- (ii) an aligning step of aligning the plurality of individually wrapped plate-like food products in proximity in a width direction thereof;
- (iii) a unit forming step of forming a plate-like food unit by placing and fixing a coupling base sheet on at least one surface of the fixed portion of the each of the wrapping sheets of the plurality of aligned plate-like food products;
- (iv) a stacking step of stacking the plate-like food units in a thickness direction thereof;
- (v) a bundling step of bundling the stacked plate-like food units; and

- (vi) a fixing step of fixing the bundled plate-like food units to a container.

[Advantageous Effects of Invention]

[0016] According to the packaging container of the present invention, many pieces of plate-like food products can be contained compactly and collectively, and in addition, can be contained in containers in various forms.

[0017] At this time, the plate-like food units are formed, and they are aligned and firmly fixed to the container. Thus, many pieces of plate-like food products can be contained together in a state in which their positions are stabilized, and consequently there is no risk of damage due to the shake inside.

[0018] Further, since the fragile portion is provided in the wrapper of the plate-like food product, by pinching and pulling one end of the wrapper, the fragile portion is cut, with the result that the plate-like food product can be dispensed in a state in which a part of the wrapper at the other end portion is detached. Therefore, there is no need to peel the wrapper of the dispensed plate-like food product, and the plate-like food product is consumable in a simple manner.

[0019] In addition, the plate-like food product can be brought into the mouth in a state in which the hand does not come into direct contact with the portion to be brought into the mouth. Thus, there are less hygienic problems even in a case where the plate-like food products in the same package are consumed by many people simultaneously.

[Brief Description of Drawings]

[0020]

[Fig. 1]

Fig. 1 is a perspective view illustrating a package according to an embodiment of the present invention.

[Fig. 2]

Fig. 2 is a perspective view illustrating an example of a plate-like food product wrapped with a wrapping sheet.

[Fig. 3]

Fig. 3 is a perspective view illustrating an example of an integrated plate-like food unit, which is obtained by firmly fixing and coupling a plurality of plate-like food products to each other.

[Fig. 4]

FIG. 4 is a perspective view illustrating the package according to the embodiment of the present invention, which is contained in a cylindrical container.

[Fig. 5]

Fig. 5 is a perspective view illustrating an example of a bundled unit, which is obtained by bundling a plurality of plate-like food units.

[Fig. 6]

Fig. 6 is a process diagram illustrating a process of manufacturing a package according to the embodiment of the present invention.

[Fig. 7]

Fig. 7 is a process diagram illustrating a process of manufacturing a package according to another embodiment of the present invention.

[Description of Embodiments]

[0021] A first embodiment of the present invention relates to a package for plate-like food products such as chewing gum and chocolate.

[0022] Fig. 1 is a perspective view illustrating a package 100 according to this embodiment.

In this embodiment, plate-like food products wrapped with wrapping sheets are coupled and fixed by a coupling base sheet to form a plate-like food unit. Further, a plurality of plate-like food units are firmly fixed to a container 101 to form the package 100.

[0023] The wrapping sheet of the present invention is not particularly limited. There may be used a wrapping sheet made of any one of paper, plastics such as polypropylene, and metals such as aluminum, which are capable of wrapping the plate-like food product such as chewing gum and chocolate, or a wrapping sheet obtained by laminating at least two kinds of the materials described above.

[0024] The wrapping using the wrapping sheet according to the present invention also includes, for example, encapsulation of the plate-like food product into a thin, plastic casing.

[0025] Referring to Fig. 2, in a plate-like food product 200 wrapped with the wrapping sheet, at a position in a longitudinal direction of the wrapping sheet, for example, a position slightly closer to one end of the plate-like food product 200 relative to a center thereof, a perforation serving as a fragile portion 202 is linearly formed along a width direction of the plate-like food product 200. By cutting the wrapping sheet along the perforation, a fixed portion 203 situated on the one end side and a pull-out portion 204 situated on the other end side can be separated from each other.

[0026] The fragile portion 202 is not limited to the perforation as long as the fragile portion 202 is cut through application of a tensile force between both end portions of the wrapping sheet, and it may have a shape of a groove, a hollow void, or the like in accordance with the material, thickness, sectional shape, and the like of the wrapping sheet. Thus, for example, in the above-mentioned case where the plate-like food product is encapsulated into a plastic casing, the fragile portion 202 can be formed by providing a groove, a hollow void, or the like in the casing.

[0027] Referring to Fig. 3, the wrapped plate-like food products 200 are aligned in proximity in the width direction thereof, and the surfaces of the fixed portions 203 of the respective wrapping sheets of the plate-like food

products 200 are firmly fixed to a rectangular coupling base sheet 305 in a continuous manner along the aligned plate-like food products 200. As a result, the plate-like food products 200 are coupled to each other to form an integrated plate-like food unit 300.

[0028] The firm fixing may be performed on both the upper and lower surfaces of each fixed portion 203 or any one surface thereof in accordance with required fixing strength and the like.

[0029] As the coupling base sheet 305, for example, paper, a plastic film, metal foil, or a composite sheet made of at least two kinds of the materials described above may be used. For example, aluminum band paper obtained by laminating aluminum foil and paper is preferred because the aluminum band paper has a high shape memory property due to rigidity of the aluminum foil and thus facilitates the handling thereof in the manufacturing process, and due to the aluminum's high thermal conductivity, it facilitates heat transfer from a heater for adhesion to a hot melt adhesive in the manufacture.

[0030] In the example of the figure, both end portions of the coupling base sheet 305, which are firmly fixed in a continuous manner to both surfaces of the fixed portions 203 of the respective wrapping sheets, extend outward beyond both ends of the coupled plate-like food products 200 in the width direction.

[0031] Such configuration allows the respective wrapping sheets being held more securely by the coupling base sheet 305 by folding inward the extended portions, to thereby facilitate the handling of the plate-like food unit 300 in manufacturing steps. Thus, in a case where such reinforcement is unnecessary, for example, with the use of cardboard or the like for the coupling base sheet 305, the above-mentioned extended portions can be omitted.

[0032] A plurality of the above-mentioned plate-like food units 300 are aligned, and firmly fixed to the container 101 with an adhesive, ultrasonic sealing, or the like. Thus, the package 100 is formed.

[0033] As the container 101, there may be used a premolded container having an arbitrary shape such as a rectangular parallelepiped or cylindrical shape as well as a shape of a square, pentagonal, or other polygonal column. The container 101 may further include an external lid having a hinge or a fittable lid.

[0034] In this case, the package 100 having an arbitrary shape can be formed by changing the number of the plate-like food products 200 to be included for one plate-like food unit 300 or the number of the plate-like food units 300 to be firmly fixed to the container 101.

[0035] For example, as in a case of using a cylindrical container illustrated in Fig. 4, there may be employed a method of containing the plate-like food products 200, in which the plurality of plate-like food units 300 are arranged in a plurality of rows in parallel to the width direction of each plate-like food product 200.

[0036] In order to facilitate dispensing of the plate-like food product 200, it is desired that the pull-out portion 204 of the wrapped plate-like food product 200 projects

by at least 1 cm upward from the edge of the container 101.

[0037] The material of the container 101 is not particularly limited, and paper, plastics, resins, metals, or the like may be used.

[0038] In the present invention, the number of the plate-like food products 200 for one plate-like food unit 300 and the number of the plate-like food units 300 for one package 100 may be determined arbitrarily. Therefore, various shapes of the container 101 and various arrangement methods for the plate-like food products 200 in the package 100 may be employed. Note that the numbers of the plate-like food products 200 do not need to be identical among all the plate-like food units 300 to be included in the single package 100. The plurality of plate-like food units 300 to be aligned may have different numbers of the plate-like food products 200 depending on the shape of the package 100 to be obtained as a final product and the shape of the packaging container 101.

[0039] Consequently, in this package 100, the respective plate-like food products 200 can be packed in the container 101 with no clearance inside, and hence no unnecessary space is generated in the container 101. Therefore, the cost for the material of the package can be reduced as well.

[0040] Since the plate-like food products 200 are fixed by the coupling base sheet 305 and the container 101, the plate-like food products 200 are not damaged due to the shake in the container. Thus, the plate-like food products 200 can stably be contained irrespective of the number of the plate-like food products 200 for one plate-like food unit 300 and the number of the plate-like food units 300 for one package 100. With this structure, even in a particular situation where the number of the plate-like food products 200 becomes smaller, the remaining plate-like food products 200 can easily be pulled out.

[0041] When the number of the plate-like food units 300 for one package 100 is reduced, the package 100 can be thinned, and hence portability is increased. On the other hand, when the number of the plate-like food products 200 for one plate-like food unit 300 or the number of the plate-like food units 300 for one package 100 is increased, the plate-like food products 200 can be contained in a container 101 having a large bottom area, and hence the package 100 can stably be placed on a desk, in a car, or the like.

[0042] By pinching and pulling the pull-out portion 204 of the wrapping sheet, the wrapping sheet is cut at the fragile portion 202, with the result that the plate-like food product can be dispensed in a state in which the plate-like food product 200 is exposed at its upper portion. The plate-like food product 200 can easily be dispensed and consumed in a hygienic manner by picking up the plate-like food product 200 in this state with fingers or clutching in a mouth directly. Thus, even in such a case where a consumer has his/her hand busy, the food product can easily be dispensed and consumed by clutching the food product in his/her mouth directly. Further, since each

plate-like food product 200 is individually wrapped, there arises no hygienic problem due to the hand coming into contact with the food product while dispensing the food product.

[0043] A second embodiment of the present invention relates to a package in the form in which, in the above-mentioned first embodiment, the plurality of plate-like food units 300 are bundled to form a bundled unit and the bundled unit is firmly fixed to the container.

[0044] Referring to Fig. 5, a bundled unit 400 is obtained by bundling a plurality of the above-mentioned plate-like food units 300 aligned in proximity in a thickness direction of the plate-like food product 200 included in the plate-like food unit 300. As long as the shape of the bundled unit 400 is stable after the bundling, any bundling method and any shape after the bundling may be employed.

[0045] A paperboard for bundling, which is formed of a bottom surface and four side surfaces and is formed in advance into an enclosure shape, can be used as a bundling member 406, and the respective plate-like food units can be adhered with an adhesive or the like, so that the respective plate-like food units 300 can be bundled. In this case, the bundling is performed for the purpose of preventing distortion in shape of the plate-like food units 300 due to a pressure in a thickness direction of the container 101, which is generated during the plurality of plate-like food units 300 are arranged and contained in the container 101. As long as this purpose is achieved, for example, there may be employed bundling to be performed by simply looping paper, tape, or the like around the coupling base sheets 305 so as to surround an outer periphery of the plurality of the plate-like food units 300, or by direct coupling of the adjacent coupling base sheets 305 with pressure-sensitive adhesive tape. The material of the bundling member 406 is not particularly limited. In order to facilitate dispensing of the plate-like food product 200, it is desired that, under the bundled state, the pull-out portion 204 of the wrapped plate-like food product 200 projects by at least 1 cm upward from the bundling member 406.

[0046] Also in this embodiment, similarly to the above-mentioned first embodiment, the bundled unit 400 can be contained in the container 101 having an arbitrary shape and thus the package 100 having an arbitrary shape can be formed, by changing the number of the plate-like food units 300 for one bundled unit 400, the number of the plate-like food products 200 for one plate-like food unit 300, or the arrangement method for the plate-like food units 300 in the bundled unit 400.

[0047] Since the plate-like food products 200 are further fixed by the bundling member 406 in addition to the coupling base sheet 305 and the container 101, the plate-like food products 200 can be contained in the container 101 more stably.

[0048] A third embodiment of the present invention relates to a method of manufacturing the package 100 according to the first embodiment.

[0049] Referring to Fig. 6, the method of manufacturing the package 100 according to this embodiment includes the following procedure.

(i) Individual wrapping step (Section (a) of Fig. 6)

[0050] The plurality of plate-like food products are each wrapped with the wrapping sheet.

[0051] When the wrapping is completed, the fragile portion 202 can be linearly formed around the plate-like food product 200. With such a configuration, when dispensing the plate-like food product 200 from the package 100, the wrapping sheet can be cut along the fragile portion 202 so that the fixed portion 203 situated at one end of the wrapped plate-like food product 200 and the pull-out portion 204 situated at the other end portion thereof can be separated from each other. Therefore, it is preferred that the perforation be formed in advance in the wrapping sheet before the wrapping.

[0052] The wrapping procedure is not particularly limited. For example, the wrapping sheet is folded on one side thereof to cover the half of the plate-like food product on one side in the width direction thereof, then both end portions of the wrapping sheet in the longitudinal direction thereof are folded, and finally the wrapping sheet is folded on the other side thereof. In this manner, the wrapping is completed. Note that, as illustrated in Fig. 2, it is preferred for sightly appearance that corner portions of the folds of the wrapping sheet, which are formed on an outer side of both the ends of the plate-like food product 200 in the longitudinal direction when the wrapping sheet is folded on the one side, be folded obliquely inward so that the corner portions are invisible from outside.

[0053] Further, for example, there may be employed a wrapping procedure in which an outer periphery of the plate-like food product is wrapped in a lateral direction and both the end portions of the wrapping sheet in the longitudinal direction thereof are folded.

[0054] The plate-like food product can be encapsulated into a plastic casing. In this case, the fragile portion 202 of the casing can be formed before the encapsulation, or alternatively, a groove or a hollow void may be formed after the encapsulation.

(ii) Aligning step (Section (b) of FIG. 6)

[0055] A predetermined number of the individually wrapped plate-like food products 200 for one unit are aligned in proximity in the width direction thereof. The number of the plate-like food products 200 for one unit may be set arbitrarily depending on the shape and size of the package to be obtained as a final product.

(iii) Unit forming step (Section (c) of FIG. 6)

[0056] The coupling base sheet 305 is placed in a continuous manner on the upper surfaces of the fixed portions 203 of the respective wrapping sheets of the plate-

like food products 200 aligned in proximity, and it is firmly fixed with an adhesive or the like. As a result, the plate-like food unit 300 is formed.

[0057] A single rectangular coupling base sheet 305 is brought into abutment in a continuous manner against the respective plate-like food products 200 aligned in proximity at the upper and lower surfaces of the fixed portions 203 of the respective wrapping sheets of the plate-like food products 200, under a state in which the coupling base sheet 305 is bent along its center line in the longitudinal direction. Then, the coupling base sheet 305 is firmly fixed with a hot melt adhesive or the like. As a result, the plate-like food unit 300 is formed, in which the upper and lower surfaces of each wrapping sheet are covered by the coupling base sheet 305 at a portion in the longitudinal direction on the fixed portion 203 side, which reaches to substantially half the length of the wrapping sheet. The firm fixing may be performed on both the upper and lower surfaces of each fixed portion 203 or any one surface thereof in accordance with required fixing strength and the like.

[0058] Further, both end portions of the coupling base sheet 305 firmly fixed in a continuous manner to both surfaces of the fixed portions 203 of the respective wrapping sheets are caused to extend outward beyond both ends of the coupled plate-like food products 200 in the width direction. The extended portions may be folded inward to hold the respective wrapping sheets more securely by the coupling base sheet 305.

(iv) Stacking step (Section (d) of FIG. 6)

[0059] The plurality of plate-like food units 300 are stacked in such a manner that all the pull-out portions 204 of the plate-like food products 200 included in the respective plate-like food units 300 are oriented in the same direction. The stacking continues until a predetermined number of the plate-like food units 300 for one package are stacked.

[0060] The number of stacked layers and the method of stacking the layers may be determined arbitrarily depending on the shape of the package to be obtained as a final product and the shape of the packaging container. Further, the numbers of the plate-like food products 200 to be included in the respective plate-like food units 300 do not need to be identical among all the layers. Different numbers of the plate-like food products 200 may be included in the plate-like food units 300 in the respective layers depending on the shape of the package to be obtained as a final product and the shape of the packaging container.

[0061] In this case, in order to prevent the stack of the plate-like food units 300 from collapsing in the subsequent step, the plate-like food units 300 may temporarily be bundled by a method of looping a wrapping sheet along the stacking direction.

(v) Fixing step (Section (e) of FIG. 6)

[0062] The stack of the plurality of plate-like food units 300 is fixed to the container 101 with an adhesive, ultrasonic sealing, or the like.

[0063] Through the above-mentioned steps, the package 100 containing the plate-like food products 200 can be produced. According to this embodiment, since the process is simple, the package 100 can be realized at low cost. In addition, the individual plate-like food products 200 can be wrapped reliably and contained efficiently irrespective of the desired size and shape of the package 100.

[0064] A fourth embodiment of the present invention relates to a method of manufacturing the package 100 according to the above-mentioned second embodiment.

[0065] This embodiment is different from the above-mentioned third embodiment in that the fixing step in Section (e) includes a bundling step (e-1) of bundling the stack of the plurality of plate-like food units 300 before firmly fixing the plate-like food units 300 to the container 101, and a fixing step (e-2) of firmly fixing the bundled unit 400, which is obtained through the bundling, to the container 101. Hereinafter, referring to Fig. 7, the difference from the third embodiment is described.

(v) Bundling step (Section (e-1) of Fig. 7)

[0066] The stack of the plurality of plate-like food units 300 is bundled to form the bundled unit 400 in accordance with the shape at the time when the bundled unit 400 is fixed to the container 101.

[0067] The bundling method may be determined arbitrarily depending on the desired shape of the package 100 and the shape of the container 101. For example, the following method may be employed. That is, the bundling member 406 can be formed into a tray shape, and the stack of the plate-like food units 300 can be fitted into the bundling member 406. Then, bottom surfaces of the stack of the plate-like food units 300 and the bundling member 406 are adhered to each other with a hot melt adhesive or the like, or alternatively, the adjacent coupling base sheets 305 of the respective plate-like food units 300 are simply adhered to each other with a hot melt adhesive or the like. Further, the coupling base sheets 305 of the stack of the plate-like food units 300 may be bundled by binding along the outer periphery thereof with the use of a bundling sheet, a bundling string, or the like.

(vi) Fixing step (Section (e-2) of FIG. 7)

[0068] The bundled unit 400 is fixed to the container 101 with an adhesive, ultrasonic sealing, or the like.

[0069] Through the above-mentioned steps, similarly to the third embodiment, the package 100 can be produced at low cost. Further, in the package 100 thus produced, the individual plate-like food products 200 can be

wrapped and contained efficiently irrespective of the desired size and shape of the package.

[Examples]

5

[0070] Hereinafter, an example of the present invention is described, but the present invention is not limited to the following example.

10

[Example 1]

Production of chewing gum package

15

[0071] A method of manufacturing a chewing gum package 100 according to Example 1 is described in an order of steps thereof.

(i) Individual wrapping step

20

[0072] Band-like gum to be supplied (448L×3.3W×3.4T (mm)) was prepared, and it was sheared to produce plate-like chewing gum pieces (43.0L×12.0W×3.4T (mm)). The produced plate-like gum pieces were wrapped with wrapping sheets, which were successively supplied by an automatic splicer for inner packaging and each had a perforation formed perpendicularly to a longitudinal direction thereof in a portion spaced away from one end portion by 22.5 mm in the longitudinal direction. Then, as illustrated in Fig. 2, each wrapping sheet was folded for inner packaging.

25

30

(ii) Aligning step

35

[0073] Six individually wrapped plate-like chewing gum pieces were set in proximity in a width direction thereof, and aligned so that the respective perforations were arranged in line with each other.

(iii) Unit forming step

40

45

[0074] A single rectangular coupling base sheet 305, which was successively supplied by an automatic splicer for band paper, was brought into contact with bottom surfaces of the respective wrapping sheets on the fixed portion 203 side, which were used for the six plate-like chewing gum pieces aligned in proximity. The coupling base sheet 305 was brought into abutment in a continuous manner against the respective six plate-like chewing gum pieces under a state in which the coupling base sheet 305 was bent along its center line in the longitudinal direction. Then, the coupling base sheet 305 was firmly fixed with a hot melt adhesive or the like. As a result, a plate-like food unit 300 was formed, in which the upper and lower surfaces of each wrapping sheet of the plate-like chewing gum piece were covered by the coupling base sheet 305 at a portion in the longitudinal direction on the fixed portion 203 side, which reached substantially half the length of the wrapping sheet.

50

55

(iv) Stacking step

[0075] The plate-like food units 300 thus formed were aligned and stacked in such a manner that the pull-out portions 204 were oriented in the same direction. As a result, a set of plate-like food units stacked in twelve layers was formed.

(v) Bundling step

[0076] Under a state in which the shape of the set of plate-like food units was maintained, the coupling base sheets 305 were looped with pressure-sensitive adhesive tape, and thus the set of plate-like food units was bundled. Further, a paperboard for bundling, which was formed of a bottom surface and four side surfaces and which was formed in advance into an enclosure shape, was separately prepared as a bundling member 406. Then, a bottom surface of the bundling member 406 and the set of plate-like food units on the coupling base sheet 305 side were adhered to each other with a hot melt adhesive.

(vi) Fixing step

[0077] A molded plastic container 101 having a hinge and formed into a cubic shape was separately prepared, and a bundled unit 400 was firmly fixed to a bottom surface thereof with a hot melt adhesive.

[0078] In the completed chewing gum package 100, the plate-like chewing gum pieces were stably packed with no clearance inside. Further, each plate-like chewing gum piece was easily dispensed with one hand and consumed in a hygienic manner.

While the present invention has been described with reference to exemplary embodiments, it is to be understood that the invention is not limited to the disclosed exemplary embodiments. The scope of the following claims is to be accorded the broadest interpretation so as to encompass all such modifications and equivalent structures and functions.

[Reference Signs List]

[0079]

- 100 package
- 101 container
- 200 plate-like food product
- 202 fragile portion
- 203 fixed portion
- 204 pull-out portion
- 300 plate-like food unit
- 305 coupling base sheet
- 400 bundled unit
- 406 bundling member

[0080] This application claims the benefit of Japanese

Patent Application No. 2009-174223, filed July 27, 2009, which is hereby incorporated by reference herein in its entirety.

Claims**1.** A package for a plate-like food product, wherein:

each of plate-like food product is wrapped in a wrapping sheet, the wrapping sheet including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, the wrapping sheet being openable when the fragile portion is cut and the pull-out portion is pulled;
a plurality of the wrapped plate-like food products are aligned in proximity in a width direction thereof, for coupling and fixing the plurality of the wrapped plate-like food products to form an integrated plate-like food unit; and
a plurality of the plate-like food units are firmly fixed to a container.

2. A package for a plate-like food product, wherein:

each of plate-like food product is wrapped in a wrapping sheet, the wrapping sheet including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, the wrapping sheet being openable when the fragile portion is cut and the pull-out portion is pulled;
a plurality of the wrapped plate-like food products are aligned in proximity in a width direction thereof, for coupling and fixing the plurality of the wrapped plate-like food products to form an integrated plate-like food unit;
a plurality of the plate-like food units are bundled together; and
the bundled unit is firmly fixed to a container.

3. A package according to claim 2, wherein, in the bundled unit, the integrated plate-like food units are aligned in proximity in a thickness direction thereof.**4.** A package according to claim 2 or 3, wherein the plurality of the integrated plate-like food units are bundled by a bundling member, and the pull-out portions of the wrapped plate-like food products in a bundled state project by at least 1 cm from the bundling member.**5.** A package according to any one of claims 1 to 4, wherein the fragile portion comprises a perforation formed in the wrapping sheet.**6.** A package according to any one of claims 1 to 4,

wherein the wrapping comprises encapsulation of the plate-like food product into a thin plastic casing.

7. A package according to claim 6, wherein the fragile portion comprises a groove or a hollow void provided in the thin, plastic casing. 5
8. A package according to any one of claims 1 to 7, wherein the container comprises a container having a rectangular parallelepiped shape. 10
9. A package according to any one of claims 1 to 7, wherein the container comprises a container having a cylindrical shape. 15
10. A package according to any one of claims 1 to 7, wherein the container comprises a container having a polygonal columnar shape. 20
11. A method of manufacturing a package, comprising: 20

(i) an individual wrapping step of individually wrapping a plurality of plate-like food products with wrapping sheets each including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, each of the wrapping sheets being openable when the fragile portion is cut and the pull-out portion is pulled; 25

(ii) an aligning step of aligning the plurality of individually wrapped plate-like food products in proximity in a width direction thereof; 30

(iii) a unit forming step of forming a plate-like food unit by placing and fixing a coupling base sheet on at least one surface of the fixed portion of the each of the wrapping sheets of the plurality of aligned plate-like food products; 35

(iv) a stacking step of stacking the plate-like food units in a thickness direction thereof; and 40

(v) a fixing step of fixing the stacked plate-like food units to a container.

12. A method of manufacturing a package, comprising:

(i) an individual wrapping step of individually wrapping a plurality of plate-like food products with wrapping sheets each including a pull-out portion, a fixed portion, and a fragile portion formed between the pull-out portion and the fixed portion, each of the wrapping sheets being openable when the fragile portion is cut and the pull-out portion is pulled; 45

(ii) an aligning step of aligning the plurality of individually wrapped plate-like food products in proximity in a width direction thereof; 50

(iii) a unit forming step of forming a plate-like food unit by placing and fixing a coupling base sheet on at least one surface of the fixed portion 55

of the each of the wrapping sheets of the plurality of aligned plate-like food products;

(iv) a stacking step of stacking the plate-like food units in a thickness direction thereof;

(v) a bundling step of bundling the stacked plate-like food units; and

(vi) a fixing step of fixing the bundled plate-like food units to a container.

13. A method of manufacturing a package according to claim 11 or 12, further comprising forming a perforation in the each of the wrapping sheets in advance.

FIG. 1

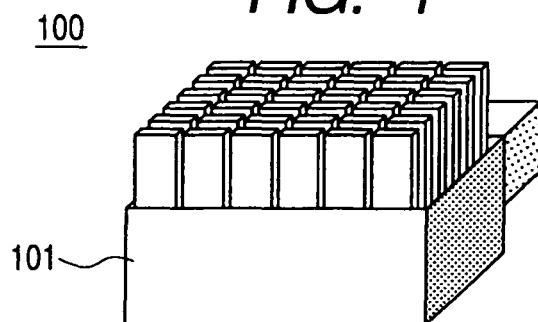


FIG. 2

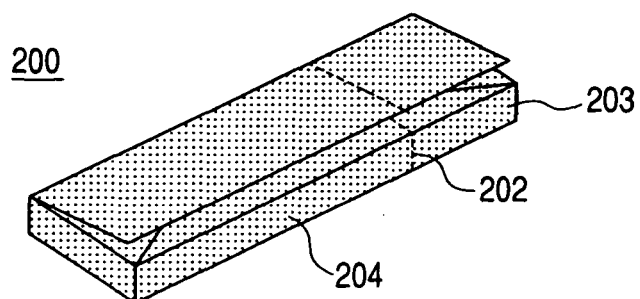


FIG. 3

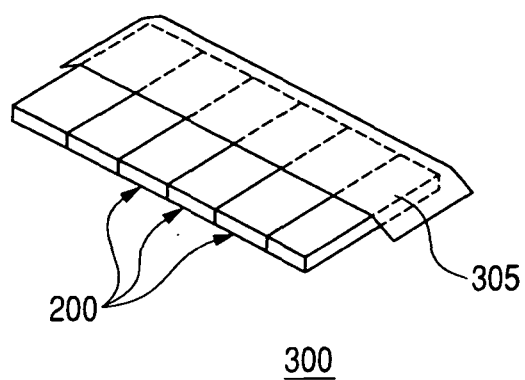


FIG. 4

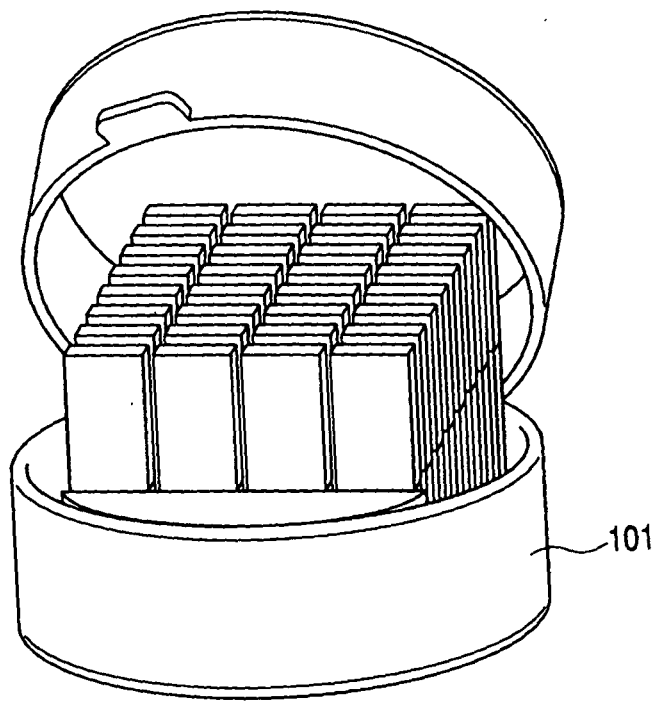


FIG. 5

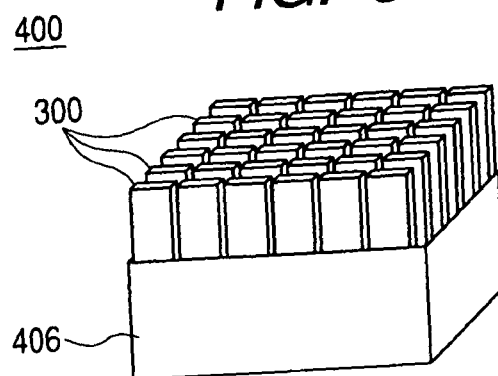
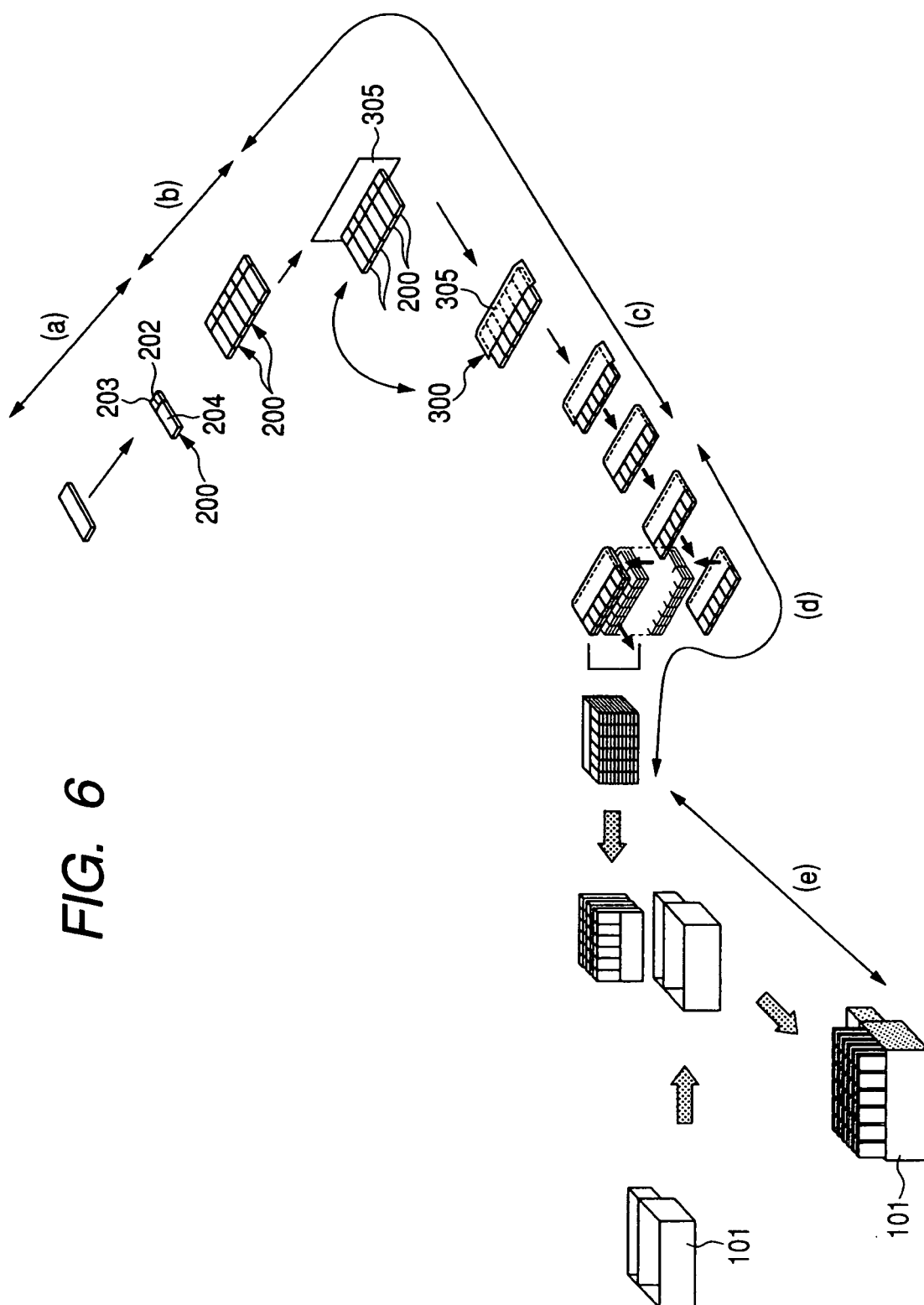
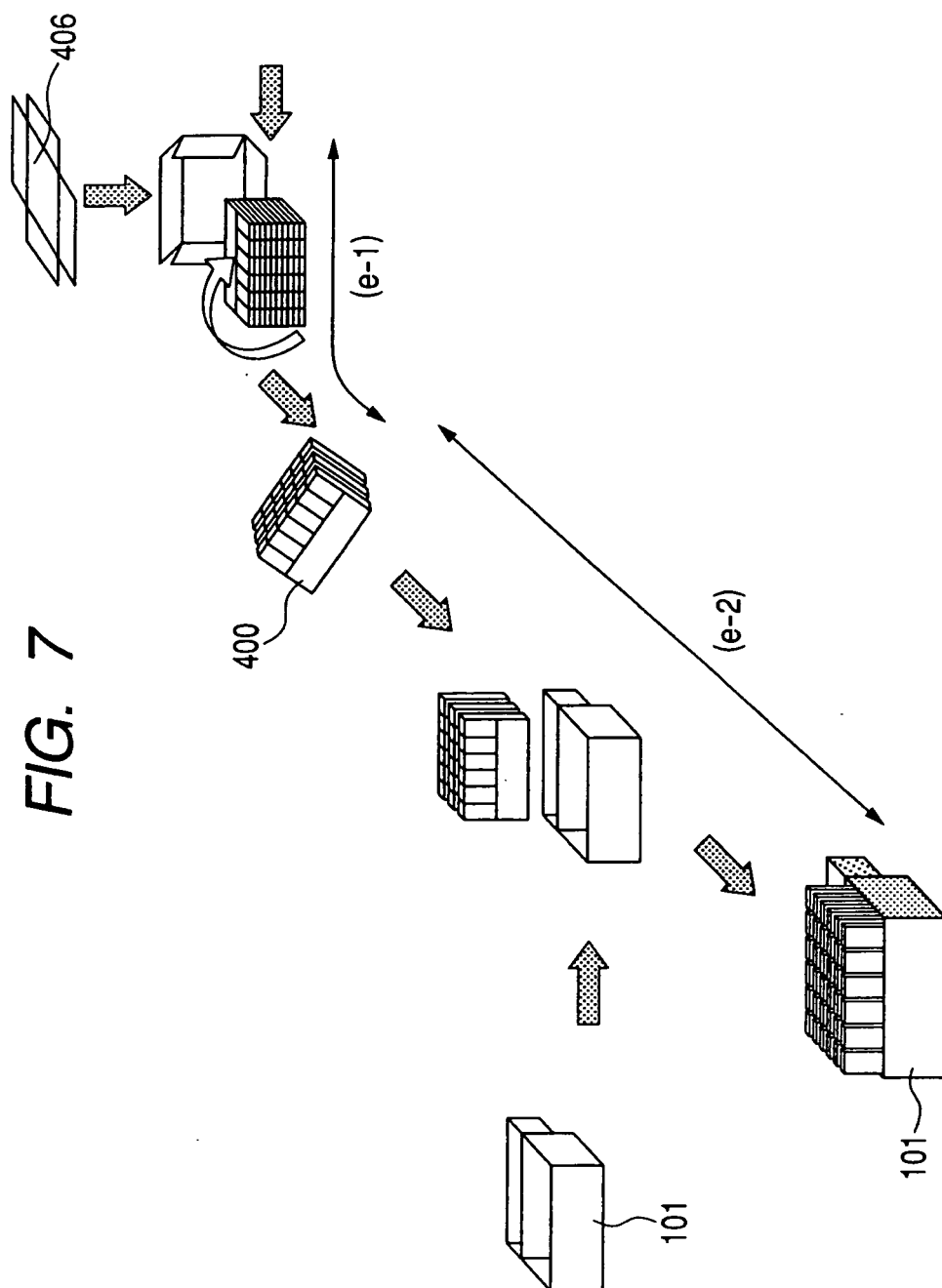


FIG. 6





INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2010/004607

A. CLASSIFICATION OF SUBJECT MATTER

B65D85/60 (2006.01) i, B65D77/04 (2006.01) i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D85/60, B65D77/04

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

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2010
Kokai Jitsuyo Shinan Koho	1971-2010	Toroku Jitsuyo Shinan Koho	1994-2010

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2003/0080020 A1 (Stanley J.KOPECKY), 01 May 2003 (01.05.2003), claims 15, 17; paragraphs [0044] to [0057]; fig. 1 to 2 & CA 2486730 A1 & EP 1478580 A1 & WO 2003/037744 A1	1, 5-11, 13 2-4, 12
Y A	WO 2008/155626 A2 (Sergio MEZZINI), 24 December 2008 (24.12.2008), page 3, line 32 to page 4, line 7; page 6, line 29 to page 7, line 1; page 8, lines 11 to 13; fig. 1, 3, 17, 18 & CN 101784455 A & EP 2162361 A2 & IT BO20070430 A1 & US 2010/0187145 A1	1, 5-11, 13 2-4, 12

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

* Special categories of cited documents:

"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

"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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search
12 October, 2010 (12.10.10)Date of mailing of the international search report
26 October, 2010 (26.10.10)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2010/004607

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 2009/104795 A1 (Lotte Co., Ltd.), 27 August 2009 (27.08.2009), page 11, line 18 to page 17, line 16; fig. 5 to 8 (Family: none)	1, 5-11, 13
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 041637/1971 (Laid-open No. 037883/1972) (Yukichi NUMATA), 26 December 1972 (26.12.1972), page 3, line 5 to page 4, line 11; fig. 1, 3, 5 (Family: none)	1-10
A	JP 11-001221 A (Dainippon Printing Co., Ltd.), 06 January 1999 (06.01.1999), paragraphs [0013] to [0015]; fig. 5 (Family: none)	11-13

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

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- JP H0711569 B [0009]
- JP 3955355 B [0009]
- JP 3955356 B [0009]
- JP 2009174223 A [0080]