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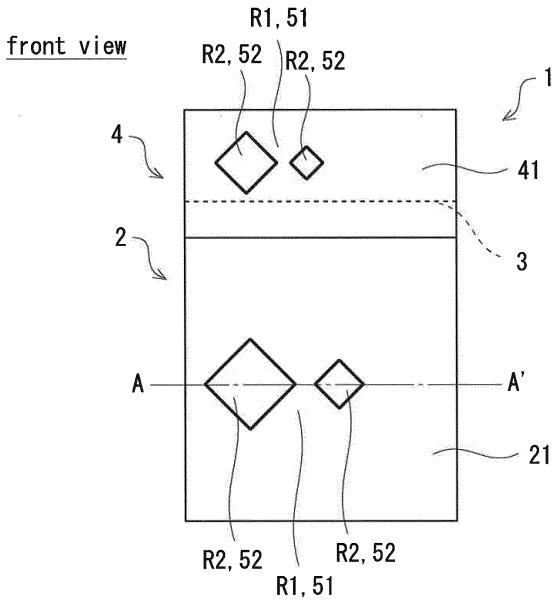
(54) PACKAGE FOR TOBACCO PRODUCTS

(57) There is provided a package for a tobacco product, to which a design can be added with a simple constitution without being based on ink. The package for the tobacco product is a package which houses the tobacco product inside. A surface at an outermost layer of the package includes a first region that is formed of a transparent varnish stacked on an outer surface of a base material of the package and a second region that is arranged adjacent to the first region and is formed of a base material-exposed portion where the base material of the package is exposed to an outside or a transparent varnish stacked on the outer surface of the base material. A boundary position between the first region and the second region is identifiable based only on a difference in presence or absence of a transparent varnish or a difference in property between the transparent varnishes.

FIG. 2



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Description

Technical Field

[0001] The present invention relates to a package for a tobacco product.

Background Art

[0002] Tobacco products, such as cigarettes, are generally wrapped into packages of a predetermined number of tobacco products. A package formed of a sheet of inner wrapping paper of, e.g., paper coated with aluminum foil and a sheet of outer wrapping paper covering the sheet of inner wrapping paper is well-known as such a package and is called an individual package. As a sheet of outer wrapping paper, a so-called soft pack or soft package made of thin paper or a so-called hard pack, hard package, or box which is formed by assembling a paperboard into a box is known.

[0003] Information on a tobacco product, such as a product name and an ingredient amount, is generally printed on an outer surface of a package for a tobacco product. Many packages have a design composed of characters, a picture, and the like, information, and the like printed on a surface using color ink in order to, for example, enhance distinguishability from a different tobacco product or encourage the willingness of buyers to buy and have visual effects.

[0004]

[Patent document 1] National Publication of International Patent Application No. 2006-504590

Summary of Invention

Technical Problem

[0005] As described above, many packages for a tobacco product obtain visual effects through addition of a design using ink. Heavy use of ink may invite an increase in manufacturing cost and ink soil that is adhesion of ink to guides of a wrapping machine.

[0006] The present invention has been made in view of the above-described circumstances, and has as its object to provide a package for a tobacco product, to which a design can be added with a simple constitution without being based on ink.

Solution to Problem

[0007] In order to solve the above-described problems, according to the present invention, a package for a tobacco product is constructed such that a first region that is formed of a transparent varnish and a second region that is formed of a base material-exposed portion where a base material of the package is exposed to an outside or a transparent varnish stacked on an outer surface of the base material are arranged adjacent to each other on a surface at an outermost layer in the package for the tobacco product and such that a boundary position between the first region and the second region is identifiable based only on a difference in presence or absence of a transparent varnish or a difference in property between the transparent varnishes.

[0008] More specifically, the present invention provides a package that houses a tobacco product inside, wherein a surface at an outermost layer of the package includes a first region that is formed of a transparent varnish stacked on an outer surface of a base material of the package and a second region that is arranged adjacent to the first region and is formed of a base material-exposed portion where the base material of the package is exposed to an outside or a transparent varnish stacked on the outer surface of the base material, and a boundary position between the first region and the second region is identifiable based only on a difference in presence or absence of a transparent varnish or a difference in property between the transparent varnishes. The above-described constitution allows addition of a design to the package for the tobacco product without reliance on design addition using color ink and with a simple constitution and enhancement of identifiability of the package. The boundary position between the first region and the second region may be identifiable based only on a difference in a predetermined property that affects vision between the transparent varnishes.

[0009] The transparent varnish in the first region may have a first gloss value, and the transparent varnish in the second region may have a second gloss value that is different from the first gloss value and allows identification of the boundary position with the first region by a difference from the first gloss value. As described above, making the gloss values of the transparent varnishes forming surfaces in the first region and in the second region different allows a consumer to identify the boundary position between the first region and the second region. Note that, in this case, the

difference between the first gloss value and the second gloss value is preferably not less than 15 from the viewpoint of allowing the consumer to identify the boundary position between the first region and the second region.

[0010] The transparent varnish in the first region may have a first haze value, and the transparent varnish in the second region may have a second haze value that is different from the first haze value and allows identification of the boundary position with the first region by a difference from the first haze value. As described above, making the haze values of the transparent varnishes forming the surfaces in the first region and in the second region different allows the consumer to identify the boundary position between the first region and the second region. Note that, in this case, the difference between the first haze value and the second haze value is preferably not less than 5% and not more than 100% from the viewpoint of allowing the consumer to identify the boundary position between the first region and the second region.

[0011] Surface heights in the first region and in the second region may be equal to each other. A difference in surface height between the first region and the second region may be not more than 5 μm. Setting the difference in surface height between the first region and the second region to be not less than 0 μm and not more than 5 μm as described above produces the effects below. For example, a package is generally formed by folding a sheet-like blank. By eliminating or reducing a level difference between the first region and the second region, sheet-like blanks can be inhibited from being bulky at the time of packing and distributing the blanks. That is, cost of distribution of blanks can be reduced by making a gap between vertically stacked blanks as small as possible at the time of housing blanks in a packing box for blanks.

[0012] Many of wrapping machines which wrap tobacco products while folding a blank sequentially transport blanks using a roller device and a sucking device. Reducing a level difference between the first region and the second region as described above allows enhancement of blank transport stability in a wrapping process for a package and facilitates stable blank folding in a folding step. Reducing the level difference between the first region and the second region also makes it possible to inhibit the amount used of transparent varnish to be applied to the base material in the first region or the second region from becoming excessive and reduce manufacturing cost of packages.

[0013] A colored region that is colored may be formed on a part of the outer surface of the base material, and the boundary position between the first region and the second region and a boundary position between the colored region and an uncolored region around the colored region in the base material may be shifted. This allows visual identification of the boundary position between the first region and the second region based only on a difference in presence or absence of a transparent varnish between the first region and the second region or a difference in property between the transparent varnishes. That is, a design can be easily added to the package for the tobacco product without being based on ink.

[0014] A whole of the outer surface of the base material may not be colored. The above-described constitution makes it possible to inhibit guides of a wrapping machine from being soiled with ink even in, for example, a case where a package comes into contact with the guides at the time of manufacture of packages. Use of no ink on the outer surface of the base material in the package allows a reduction in the manufacturing cost of packages.

[0015] Outer surfaces of parts corresponding to the first region and the second region of the base material may be colored with a single ink. According to the present invention, the boundary position between the first region and the second region can be identified without being based on ink even in a case where the outer surfaces of the parts corresponding to the first region and the second region are colored with the single ink as described above.

[0016] A surface of the base material may be unevenly processed, and the boundary position between the first region and the second region and a boundary position between a recessed unit and a projecting unit in the base material may be shifted in plan view. The above-described constitution allows visual identification of the boundary position between the first region and the second region based only on a difference in presence or absence of a transparent varnish between the first region and the second region or a difference in property between the transparent varnishes. That is, a design can be easily added to the package for the tobacco product without being based on ink.

[0017] Note that the means for solving the problems according to the present invention can be combined as far as possible.

Advantageous Effects of Invention

[0018] The present invention allows provision of a package for a tobacco product, to which a design can be added with a simple constitution without being based on ink.

Brief Description of the Drawings

[0019]

[Fig. 1] Fig. 1 is an external view illustrating a package according to a first embodiment.
[Fig. 2] Fig. 2 is a front view of the package according to the first embodiment.

[Fig. 3] Fig. 3 is a view illustrating a blank for forming the package according to the first embodiment.
[Fig. 4] Fig. 4 is a cross-sectional view on arrow A-A' illustrated in Fig. 2.
[Fig. 5] Fig. 5 is a view illustrating the cross-section structure of a package according to a reference example.
[Fig. 6] Fig. 6 is a view illustrating the cross-section structure of a package according to a first modification of the embodiment.
[Fig. 7] Fig. 7 is a view illustrating the cross-section structure of a package according to a second modification of the embodiment.
[Fig. 8] Fig. 8 is a front view of a package according to a third modification of the embodiment.
[Fig. 9] Fig. 9 is a front view of a package according to a second embodiment.
[Fig. 10] Fig. 10 is a front view of a package according to a third embodiment.
[Fig. 11] Fig. 11 is a front view of a package according to a fourth embodiment.
[Fig. 12] Fig. 12 is a cross-sectional view on arrow B-B' illustrated in Fig. 11.
[Fig. 13] Fig. 13 is a front view of a package according to a fifth embodiment.

Description of Embodiment

[0020] Embodiments of the present invention will be described below with reference to the drawings. Unless otherwise specified, the technical scope of the invention is not limited to the dimensions, the materials, the shapes, the relative arrangement, and the like of components described in the embodiments.

<First Embodiment>

[0021] Fig. 1 is an external view illustrating a package 1 according to a first embodiment. The package 1 is a cigarette package which houses a cigarette as an example of a tobacco product. The package 1 includes a housing main body unit 2 and a lid unit 4 which is rotatably coupled to the housing main body unit 2 via a hinge 3. Fig. 1 is a perspective view of the package 1 with the lid unit 4 closed, as viewed from a back surface side. The package 1 has almost the shape of a rectangular parallelepiped as an outer shape when an object to be wrapped is wrapped. Fig. 2 illustrates a front view of the package 1 according to the first embodiment.

[0022] The package 1 is a box-shaped packaging container called a hard package and houses cigarettes inside the housing main body unit 2. The housing main body unit 2 has a front wall 21, a rear wall 22, one pair of side walls 23, and a bottom wall 24 and is a case having a shape obtained by obliquely notching an upper end side of the rectangular parallelepiped shape. The lid unit 4 has a front wall 41, a rear wall 42, one pair of side walls 43, and a top wall 44, and a lower edge of the rear wall 42 in the lid unit 4 and an upper edge of the rear wall 22 in the housing main body unit 2 are coupled by the hinge 3.

[0023] Fig. 3 is a view illustrating a blank 10 for forming the package 1 according to the first embodiment. The package 1 is formed by assembling the blank 10 that is obtained by stamping a paper material, such as cardboard or manila board, into a predetermined size and a predetermined shape. A broken line illustrated in Fig. 4 indicates a fold line (ruled line). The package 1 is assembled by, for example, a wrapping machine (not illustrated). The package 1 can be assembled by folding the blank 10 along fold lines and bonding proper places together. Note that reference numeral 11 illustrated in Fig. 3 denotes a housing main body unit formation region which serves as the housing main body unit 2 of the package 1 after the blank 10 is assembled. Reference numeral 12 denotes a lid unit formation region which serves as the lid unit 4 of the package 1 after the blank 10 is assembled.

[0024] Next, the cross-section structure of the package 1 will be described. Fig. 4 is a cross-sectional view on arrow A-A' illustrated in Fig. 2. In the example illustrated in Fig. 2, a second region R2 is formed as a region having a diamond shape, and a part not including the second regions R2 is formed as a first region R1. In other words, the first region R1 is formed as a region surrounding the second regions R2. Note that the shapes of the first region R1 and the second region R2 are not limited to particular shapes and can be appropriately changed. For example, the shape of each of the first region R1 and the second region R2 may be the shape of a brand logo or the shape of a geometric pattern, such as the moon or the sun, or a decorative picture which has the motif of an animal, a plant, or the like. One of the first region R1 and the second region R2 may not be surrounded by the other.

[0025] As illustrated in Fig. 4, the cross-section structure (layer structure) of the first region R1 in the package 1 is composed of a base material 50 as an innermost layer and a first varnished layer 51 as an outermost layer. The first varnished layer 51 is stacked on the base material 50 such that an outer surface 50a of the base material 50 is coated. Note that, in the present embodiment, a paper base material, such as cardboard or manila board, which is used as the material for the blank 10 is adopted for the base material 50. The base material 50 is not limited to a paper base material, and one of various materials, such as plastic and film laminate, can be used. The thickness of the base material 50 is not particularly limited.

[0026] An inner surface 50b of the base material 50 is a surface which faces a housing space for housing cigarettes

after the package 1 is assembled. An ink layer, at which a design including a character, a figure, and the like is printed using color ink or the like is not formed on the base material 50 of the package 1 according to the present embodiment. That is, a design using color ink is not added to the package 1. In the first region R1 of the package 1 having the above-described cross-section structure, a surface at an outermost layer of the package 1 is formed by the first varnished layer 51.

[0027] In contrast, the cross-section structure of the second region R2 in the package 1 is composed of the base material 50 as an innermost layer, the first varnished layer 51 as an intermediate layer, and a second varnished layer 52 as an outermost layer. The first varnished layer 51 and the second varnished layer 52 are stacked in that order on the outer surface 50a of the base material 50. In the second region R2 of the package 1 having the above-described cross-section structure, the surface at the outermost layer of the package 1 is formed by the second varnished layer 52.

[0028] The first varnished layer 51 and the second varnished layer 52 will be described. The first varnished layer 51 and the second varnished layer 52 are both formed of transparent varnish. In the present embodiment, a transparent varnish for the first varnished layer 51 and a transparent varnish for the second varnished layer 52 are different in property from each other. More specifically, the transparent varnishes are different in gloss value from each other. The term "transparent varnish" here refers to a so-called uncolored varnish and is defined as a varnish containing no pigment, no dye, no metal powder, no glass powder, and no mica. Note that, for example, a varnish containing a resin which itself has a color is treated as one corresponding to a transparent varnish in the present specification as long as the varnish contains no pigment, no dye, no metal powder, no glass powder, and no mica. In the present specification, an ink containing at least one of a pigment, a dye, metal powder, glass powder, and mica is defined as a color ink. Although the first varnished layer 51 and the second varnished layer 52 stipulated in the above-described manner are not particularly limited, transparent overprint varnishes (hereinafter referred to as "OP varnishes") different in gloss value from each other may be used. In the following description, the transparent varnish forming the first varnished layer 51 is called a "first transparent varnish," and the transparent varnish forming the second varnished layer 52 is called a "second transparent varnish." Note that, in the present embodiment, a boundary position between the first region R1 and the second region R2 is made identifiable by making properties which affect vision, such as a gloss value and a haze value, of the transparent varnishes different in the first varnished layer 51 and in the second varnished layer 52, as will be described later. A varnish, to which an additive, such as a matting agent, is added to change a gloss value or a haze value, also corresponds to a transparent varnish as long as the varnish contains no pigment, no dye, no metal powder, no glass powder, and no mica.

[0029] Application of the first varnished layer 51 and the second varnished layer 52 to the base material 50 of the package 1 (the blank 10) can be performed by appropriately using a known method, such as offset printing or gravure printing. Since the first varnished layer 51 and the second varnished layer 52 are both formed of transparent varnish, for example, the first transparent varnish forming the first varnished layer 51 may be first solidly applied to the whole outer surface 50a of the base material 50, and the second transparent varnish forming the second varnished layer 52 may be then applied using a plate with a design corresponding to the second varnished layer 52 on the first varnished layer 51.

[0030] As an example of a combination of the first varnished layer 51 and the second varnished layer 52 different in glass value from each other, two types of transparent varnishes selected from among a matte varnish, a normal varnish, and a gloss varnish can be given. In the present embodiment, the package 1 is constructed such that the boundary position between the first region R1 and the second region R2 arranged adjacent to each other in plan view of the outer surface at the outermost layer in the package 1 is visually recognized using only a difference in a property between the respective transparent varnishes in the first region R1 and in the second region R2 (a difference in gloss value between the first region R1 and the second region R2 here). In the following description, a gloss value of the first varnished layer 51 is called a "first gloss value" while a gloss value of the second varnished layer 52 is called a "second gloss value." In the present embodiment, the second gloss value of the second varnished layer 52 is different from the first gloss value of the first varnished layer 51 and is defined as a gloss value which allows identification of the boundary position between the first region R1 and the second region R2 by a gloss difference (a difference in gloss value) from the first gloss value.

[0031] Note that "allowing identification of the boundary position between the first region R1 and the second region R2" means allowing a viewer of the package 1 to visually recognize the boundary position between the first region R1 and the second region R2. In a reference example illustrated in Fig. 5, after an ink-colored portion 53 as a colored region, to which a design is added by applying ink to the base material 50, is formed, the first varnished layer 51 and the second varnished layer 52 are sequentially stacked. Note that an uncolored region where the outer surface 50a of the base material 50 is not colored is formed around the ink-colored portion 53. In the reference example illustrated in Fig. 5, an outline (outer shape) of the second varnished layer 52 coincides with an outline (outer shape) of the ink-colored portion 53 in plan view (the outlines overlap vertically). In other words, a boundary position between the first region R1 and the second region R2 and a boundary position between the ink-colored portion 53 and the uncolored region around the ink-colored portion 53 coincide with each other in plan view (overlap vertically), and the reference example is an aspect in which the second varnished layer 52 harmonizes with the design added by the ink-colored portion 53. The aspect, in which the second varnished layer 52 is laid and arranged on the ink-colored portion 53 contributes to identification of

the boundary position between the first region R1 and the second region R2 and does not allow identification of the boundary position between the first region R1 and the second region R2 based only on a difference in property between the first varnished layer 51 and the second varnished layer 52. Thus, the package 1 according to the present embodiment can be distinguished from the reference example illustrated in Fig. 5 in that the package 1 allows identification of the boundary position between the first region R1 and the second region R2 only by a difference in property between the first varnished layer 51 and the second varnished layer 52.

[0032] The package 1 for a tobacco product according to the present embodiment allows visual identification of the boundary position between the first region R1 and the second region R2 not based on color ink as described above, but based only on a difference in property between the first varnished layer 51 and the second varnished layer 52 or, more specifically, a difference in gloss value. It is thus possible to add a design to the package 1 for a tobacco product without reliance on design addition using color ink and with a simple constitution and enhance identifiability of the package 1.

[0033] Since tobacco products are wrapped at high speed by a wrapping machine, the fact is that a clearance between guides of the wrapping machine and the blank 10 to serve as a package is relatively small. For this reason, a package is likely to come into contact with the guides in a process of wrapping tobacco products. If attempts are made to obtain visual effects by a conventional method that adds a design using color ink, ink soil that is adhesion of ink to guides of a wrapping machine is likely to become obvious. In contrast, in the package 1 according to the present embodiment, the whole outer surface in the base material 50 of the package 1 is not colored. With this constitution, when guides of a wrapping machine which manufactures the package 1 come into contact with the blank 10 at the time of folding the blank 10 by the wrapping machine, the contact is in no danger of inviting ink soil that is adhesion of color ink to the guides. Additionally, disuse of color ink allows a reduction in the manufacturing cost of the package 1.

[0034] Note that an aspect in which the first varnished layer 51 is formed as a layer underlying the second varnished layer 52 in the second region R2 by forming the first varnished layer 51 all over the base material 50 for the package 1 has been described as an example in the present embodiment. As in a modification illustrated in Fig. 6, the first varnished layer 51 in the second region R2 may be omitted, and the second varnished layer 52 may be stacked directly on the base material 50. Fig. 6 illustrates the cross-section structure of a package according to a first modification. That is, a surface at an outermost layer in the package 1 includes the first region R1 and the second region R2 that are arranged adjacent to each other, and a second gloss value of a second transparent varnish in the second region R2 may be set as a gloss value which allows identification of a boundary position between the first region R1 and the second region R2 by a gloss difference from a first gloss value of a first transparent varnish in the first region R1. Fig. 7 illustrates the cross-section structure of a package according to a second modification. As illustrated in Fig. 7, end portions of the first varnished layer 51 and the second varnished layer 52 may be made to overlap vertically at a boundary portion between the first region R1 and the second region R2. Reference character R3 in Fig. 7 denotes a lapping region which is formed by the first varnished layer 51 and the second varnished layer 52 overlapping with each other. The width of the lapping region R3 is not particularly limited in Fig. 7. For example, an aspect in which the width is set to about 0.05 mm to 1 mm is given as an example. As in the aspect illustrated in Fig. 7, arrangement of the lapping region R3, in which transparent varnishes different in gloss value from each other are stacked, in the boundary portion between the first region R1 and the second region R2 makes a difference in gloss value between the first region R1 and the second region R2 more outstanding and allows easier identification of the a boundary position between the regions. Note that although the second varnished layer 52 is stacked on the first varnished layer 51 in the lapping region R3 in the example illustrated in Fig. 7, the first varnished layer 51 may be stacked on the second varnished layer 52.

[0035] Fig. 8 is a front view of a package according to a third modification of the embodiment. The modification illustrated in Fig. 8 is an aspect in which either one of the first region R1 and the second region R2 at an outermost layer of the package 1 (the blank 10) is not surrounded by the other. As described above, the first region R1 and the second region R2 may be adjacent to each other, and one of the regions may not be surrounded by the other.

<Examples>

[0036] The present invention will be more specifically described using examples. The present invention is not limited to descriptions of the examples below as long as the present invention does not depart from the spirit thereof.

(Examples 1 to 3)

[0037] Samples obtained by applying commercial transparent varnishes to commercially available sheets of white base paper (as which sheets of wood free paper having whiteness of 80 to 90% were used in Examples 1 to 3) were prepared. A 60° specular gloss value of each sample was measured using a commercial portable glossmeter.

[0038] Note that a varnish generally contains a resin component, a solvent, an additive, and the like. Types of varnishes include an oil-based varnish, a water-based varnish, and a UV varnish. Examples of a resin component contained in an oil-based varnish include soluble nitrocellulose and ketone resins. Examples of a solvent include ethyl nitrate and IPA

(isopropyl alcohol). Examples of an additive include waxes and matting agents (and, optionally, antifoaming agents). Examples of a resin component contained in a water-based varnish include water-based acrylic resins. Examples of a solvent include ethanol, IPA, and water. Examples of an additive include waxes and matting agents (and, optionally, antifoaming agents). Examples of a resin component contained in a UV varnish include acrylate monomers/oligomers and acrylic resins. Examples of a solvent include ethyl acetate and IPA. Examples of an additive include waxes and matting agents (and, optionally, antifoaming agents). Note that, of the above-described ingredients, soluble nitrocellulose is associated mainly with thermal resistance of a varnish, a ketone resin is associated with glossiness of a varnish, a water-based acrylic resin is associated with glossiness and thermal resistance of a varnish, an acrylate monomer/oligomer is associated with glossiness and thermal resistance of a varnish, an acrylic resin is associated with transparency and adhesiveness of a varnish, a wax is associated with abrasion resistance and slipperiness of a varnish, and a matting agent is associated with glossiness of a varnish.

[0039] The application of the respective transparent varnishes to the sheets of base paper was performed using a commercial automatic desktop gravure proofer and a solid plate (Helio 175 lines/inch). At the time of printing of each transparent varnish, the varnish was diluted using a diluting solvent with a 7:3 compounding ratio between IPA and water and was adjusted such that the number of seconds for viscosity measurement by a Zahn cup (viscosity cup) #3 was 16 sec. As the transparent varnishes to be applied to the sheets of base paper, a normal transparent varnish was used in Example 1, a gloss transparent varnish was used in Example 2, and a matte transparent varnish was used in Example 3.

[0040] Note that a gloss value in Example 2 (the gloss transparent varnish) is adjusted to be larger (higher) than a gloss value in Example 1 (the normal transparent varnish) as a reference and that a gloss value in Example 3 (the matte transparent varnish) is adjusted to be smaller (lower) than the gloss value in Example 1 (the normal transparent varnish). Adjustment of a gloss value can be performed by, for example, changing a compounding ratio between a resin component and a matting agent contained in a varnish. For example, a gloss value of a varnish can be made larger by increasing a compounding ratio of a resin component contained in the varnish. For example, the gloss value of the varnish can be made smaller by increasing a compounding ratio of a matting agent contained in the varnish.

(Examples 4 to 6)

[0041] Examples 4 to 6 are the same as Examples 1 to 3 except that sheets of blue base paper (obtained by solidly applying blue (cyan) ink to the whole surfaces of the sheets of wood free paper having the whiteness of 80 to 90% used in Examples 1 to 3) were used as sheets of base paper, to which transparent varnishes are to be applied, instead of sheets of white base paper.

[Measurement of Gloss Value]

[0042] Table 1 illustrates a result of measuring a 60° specular gloss value of each sample using a portable glossmeter (the micro-TRI-gloss μ (product name) from Toyo Seiki Seisaku-sho, Ltd.) in Examples 1 to 6. In each example, gloss values were measured at 5 points of the sample, and an average value of the gloss values is illustrated in Table 1.

[Table 1]

	Base paper	Type of varnish	Part number	Gloss value
Example 1	white	normal	G310 OP varnish	34.0
Example 2	white	gloss	G350 OP varnish	52.0
Example 3	white	matte	G370 matte OP varnish	6.3
Example 4	blue	normal	G310 OP varnish	44.0
Example 5	blue	gloss	G350 OP varnish	61.3
Example 6	blue	matte	G370 matte OP varnish	8.2

(Sensory Evaluation)

[0043] The samples according to Examples 1 to 3 were arranged adjacent to one another, and sensory evaluation regarding a difference in appearance among the transparent varnishes of the samples was performed. As a result of comparison between the sample (the normal transparent varnish) according to Example 1 and the sample (the gloss transparent varnish) according to Example 2, a difference in a measured value (an average value) of a gloss value between which was 18.0, a difference in appearance between the two transparent varnishes was found. As a result of

comparison between the sample (the normal transparent varnish) according to Example 1 and the sample (the transparent matte varnish) according to Example 3, a difference in a measured value (an average value) of a gloss value between which was 25.7, a difference in appearance of a transparent varnish was more noticeable than that in the comparison between Examples 1 and 2.

[0044] Similarly, sensory evaluation regarding a difference in appearance among transparent varnishes of respective samples according to Examples 4 to 6 was performed for the samples, as with Examples 1 to 3. As a result of comparison between the sample (a normal transparent varnish) according to Example 4 and the sample (a gloss transparent varnish) according to Example 5, a difference in a measured value (an average value) of a gloss value between which was 17.3, a difference in appearance between the two transparent varnishes could be found. As a result of comparison between the sample (the normal transparent varnish) according to Example 4 and the sample (a transparent matte varnish) according to Example 6, a difference in a measured value (an average value) of a gloss value between which was 35.8, a difference in appearance of a transparent varnish was more noticeable than that in the comparison between Examples 4 and 5 and that in the comparison between Examples 1 and 3.

[0045] From the foregoing, in the package 1, a difference between the gloss value of the first varnished layer 51 that forms the outermost layer in the first region R1 and the gloss value of the second varnished layer 52 that forms the outermost layer in the second region R2 is preferably not less than 15, more preferably not less than 25 and particularly preferably not less than 35. Setting the difference between the gloss value of the first varnished layer 51 and the gloss value of the second varnished layer 52 in the above-described manner allows a viewer of the package 1 to visually recognize (identify) the boundary position between the first region R1 and the second region R2 only by a difference in property between the first varnished layer 51 and the second varnished layer 52 without reliance on design addition using color ink. Note that a gloss difference between the first varnished layer 51 and the second varnished layer 52 is preferably larger from the viewpoint of making the first and second varnished layers 51 and 52 different in appearance and that an upper limit for the gloss difference between the first varnished layer 51 and the second varnished layer 52 is not particularly limited. In a case using a paper base material, an aspect in which the gloss difference between the first varnished layer 51 and the second varnished layer 52 is not more than 100 is given as an example. Note that preferable upper limits for the gloss difference between the first varnished layer 51 and the second varnished layer 52 may vary with the type of base material.

[0046] The package 1 according to the present embodiment is constructed such that the boundary position between the first region R1 and the second region R2 is identifiable only by a difference in a predetermined property which affects vision between the first varnished layer 51 forming the outermost layer in the first region R1 and the second varnished layer 52 forming the outermost layer in the second region R2. The present invention is not limited to a gloss value as long as the above-described boundary position is identifiable only by a difference in property between the transparent varnishes. For example, haze values of the respective transparent varnishes forming the outermost layers in the first region R1 and in the second region R2 may be made different to identify the boundary position between the first region R1 and the second region R2. Note that the term haze value ("heizuchi" in Japanese) may be referred to as "hezuchi" or "kumorido" in Japanese. A haze value of a transparent varnish is an example of the predetermined property that affects vision, like a gloss value. In the present embodiment, the boundary position between the first region R1 and the second region R2 may be identified based on a difference in haze value between the transparent varnishes. Such an aspect also falls in the category of an aspect in which the boundary position between the first region R1 and the second region R2 is identified only by a difference in property between the first varnished layer 51 and the second varnished layer 52.

[0047] Transparent varnishes different in gloss value from each other are generally different in haze value. In the present embodiment as well, the first varnished layer 51 (the first transparent varnish) and the second varnished layer 52 (the second transparent varnish) are different from each other both in gloss value and in haze value. The haze values of the first varnished layer 51 (the first transparent varnish) and the second varnished layer 52 (the second transparent varnish) are called a "first haze value" and a "second haze value," respectively. In the present embodiment, the second haze value is set as a haze value which allows identification of the boundary position between the first region R1 and the second region R2 by a difference from the first haze value. In the package according to the present embodiment, identification of the boundary position between the first region R1 and the second region R2 may be based only on a difference in gloss value between the first varnished layer 51 and the second varnished layer 52, may be based only on a difference in haze value, or may be based on both a difference in gloss value and a difference in haze value.

[0048] In the present embodiment, the haze values of the first transparent varnish used for the first varnished layer 51 and the second transparent varnish used for the second varnished layer 52 are properties representing transparency of the first transparent varnish and the second transparent varnish, and a lower value means higher transparency. The haze values can be measured by preparing samples obtained by applying the first transparent varnish and the second transparent varnish to transparent films and calculating the ratio of diffused light to total light transmitted (a haze value = scattered light/total light transmitted $\times$ 100 (%)) when each sample is irradiated with a light beam in conformity with JIS K 7105 and JIS K 7136. By this method, respective unique haze values of the first transparent varnish and the

second transparent varnish can be measured.

[0049] Note that a difference between the haze value (hereinafter referred to as a "first haze value") of the first transparent varnish forming the first varnished layer 51 in the first region R1 and the haze value (hereinafter referred to as a "second haze value") of the second transparent varnish forming the second varnished layer 52 in the second region R2 is preferably not less than 5% and not more than 100%. Setting the difference between the first haze value and the second haze value to fall within the above-described range allows a consumer to easily identify the boundary position between the first region R1 and the second region R2 based on a difference between the first haze value and the second haze value.

<Second Embodiment>

[0050] A package 1A according to a second embodiment will be described. Fig. 9 is a front view of the package 1A according to the second embodiment. Reference character 53A in Fig. 9 denotes an ink-colored portion which is provided in the package 1A. The ink-colored portion 53A is formed by applying color ink to an outer surface 50a of a base material 50, and the ink-colored portions 53A alone add a design to the package 1A. A first region R1 and a second region R2 illustrated in Fig. 9 are as described above with reference to Fig. 4. Note that a first varnished layer 51 and a second varnished layer 52 are sequentially stacked on the outer surface of the base material, on which the ink-colored portion 53A is formed. Note that, as illustrated in Fig. 9, the ink-colored portion 53A is formed on a part of the outer surface 50a in the base material 50 and corresponds to a colored region in the present invention.

[0051] As illustrated in Fig. 9, the present embodiment has an aspect in which a boundary position between the first region R1 and the second region R2 is shifted from a boundary position between an outline (outer shape) of the ink-colored portion 53A, i.e., the ink-colored portion 53A and an uncolored region present around the ink-colored portion 53A. Additionally, the second region R2 does not overlap vertically with the ink-colored portion 53A. The package 1A with the above-described constitution allows a consumer to identify the boundary position between the first region R1 and the second region R2 not based on the ink-colored portion 53A as described above, but based only on a difference between properties (predetermined properties which affect vision), such as gloss values or haze values of the first varnished layer 51 in the first region R1 and the second varnished layer 52 in the second region R2, of the first varnished layer 51 and the second varnished layer 52.

<Third Embodiment>

[0052] Fig. 10 is a front view of a package 1B according to a third embodiment. The package 1B includes an ink-colored portion 53B which is similar to the ink-colored portion 53A of the package 1A according to the second embodiment. The package 1B is different from the package 1A according to the second embodiment in that a second region R2 and the ink-colored portion 53B overlap partially. The above-described aspect is also an aspect in which a boundary position between a first region R1 and the second region R2 is shifted from a boundary position between an outline (outer shape) of the ink-colored portion 53B, i.e., the ink-colored portion 53B and an uncolored region present around the ink-colored portion 53B. This allows a consumer to identify the boundary position between the first region R1 and the second region R2 not based on the ink-colored portion 53B as described above, but based only on a difference between properties (predetermined properties which affect vision), such as gloss values or haze values of the first varnished layer 51 and the second varnished layer 52, of the first varnished layer 51 and the second varnished layer 52. That is, identifiability of the package 1B can be enhanced by adding a design to the package 1B with a simple constitution without reliance on design addition using color ink.

<Fourth Embodiment>

[0053] Fig. 11 is a front view of a package 1C according to a fourth embodiment. In the embodiments described thus far, the first varnished layer 51 is solidly applied so as to cover the whole of the base material 50. In the package 1C, the first varnished layer 51 is not formed. Fig. 12 is a cross-sectional view on arrow B-B' illustrated in Fig. 11. The cross-section structure of a first region R1' and a second region R2' of the package 1C according to the fourth embodiment will be described with reference to Fig. 12. The first region R1' in the package 1C is a region where an outer surface 50a of a base material 50 is exposed to the outside and corresponds to a base material-exposed portion in the present invention. In the second region R2' in the package 1C, a transparent varnished layer 52 is formed by applying a transparent varnish to the outer surface 50a of the base material 50. The transparent varnished layer 52 forms an outermost layer in the second region R2' in the package 1C.

[0054] Examples of the transparent varnish constituting the transparent varnished layer 52 include a matte varnish, a normal varnish, and a gloss varnish which contain no pigment, no dye, no metal powder, no glass powder, and no mica and are transparent. A gloss value of the transparent varnished layer 52 is different from a gloss value of the base

material-exposed portion in the first region R1' and is set as a gloss value which allows identification of a boundary position between the first region R1' and the second region R2' by a difference from the gloss value of the base material-exposed portion. That is, the package 1C according to the present embodiment is constructed such that the boundary position between the first region R1' and the second region R2' is identifiable only by a difference in presence or absence of a transparent varnish (a transparent varnish is not formed on a base material outer surface corresponding to the first region R1', and a transparent varnish is formed only on a base material outer surface corresponding to the second region R2'). In the present embodiment, the gloss value of the base material-exposed portion constituting an outermost layer in the first region R1' corresponds to a first gloss value while the gloss value of the transparent varnished layer 52 constituting the outermost layer in the second region R2' corresponds to a second gloss value. In the present embodiment, a gloss difference between the transparent varnished layer 52 and the base material-exposed portion is preferably not less than 15 from the viewpoint of allowing visual recognition (identification) of the boundary position between the first region R1' and the second region R2' by the gloss difference between the transparent varnished layer 52 and the base material-exposed portion, more preferably not less than 25 and particularly preferably not less than 35. This constitution allows a consumer to identify the boundary position between the first region R1' and the second region R2' that form a surface at an outermost layer of the package 1C only by a difference in the presence or absence of a transparent varnish between the first region R1' and the second region R2'. In other words, the package 1C allows identification of the boundary position between the first region R1' and the second region R2' by the gloss difference between the transparent varnished layer 52 and the base material-exposed portion in the package 1C in the first region R1' and in the second region R2'. As a result, a design can be added to the package 1C with a simple constitution without reliance on design addition using color ink.

<Fifth Embodiment>

[0055] Fig. 13 is a front view of a package 1D according to a fifth embodiment. The package 1D is different from the packages according to the embodiments described thus far in that a base material 50 is unevenly processed. Reference numeral 60 in Fig. 13 denotes a projecting unit obtained by convexly raising a base material of the package 1D outward by embossing. The package 1D is formed such that a part not including the projecting units 60 is formed as a recessed unit relatively recessed from the projecting unit 60. The package 1D according to the present embodiment is equal to one obtained by replacing the ink-colored portion 53B in the package 1B according to the third embodiment with the projecting unit 60. As illustrated in Fig. 13, in the package 1D, a second region R2 and the projecting unit 60 overlap partially. The above-described aspect is also an aspect in which a boundary position between a first region R1 and the second region R2 is shifted from a boundary position between an outline (outer shape) of the projecting unit 60, i.e., the projecting unit 60 and an uncolored region present around the projecting unit 60. This allows a consumer to identify the boundary position between the first region R1 and the second region R2 not based on the projecting unit 60 as described above, but based only on a difference between properties (predetermined properties which affect vision), such as gloss values or haze values of a first varnished layer 51 and a second varnished layer 52, of the first varnished layer 51 and the second varnished layer 52. Note that the projecting unit 60 may be arranged such that the projecting unit 60 does not overlap with one of the first region R1 and the second region R2 at all and such that the projecting unit 60 overlaps with all or part of the other of the first region R1 and the second region R2.

[0056] Various changes or improvements can be made to the above-described embodiments or the embodiments can be combined. For example, although each of the embodiments is applied to a hard package which houses cigarettes, the present invention is not limited to this. For example, the present invention may be applied to a sheet of outer packaging paper of a so-called soft package instead of a hard package. An individual package, such as a hard package or a soft package, is generally in circulation in a state sealed with a film material. Individual packages often circulate in a state where a plurality of (e.g., 10) individual packages as described above are collectively packed into an intermediate package called a carton or a parcel. In the present specification, a film material, with which an individual package housing tobacco products, such as a hard package or a soft package, is sealed, or an intermediate packaging box, into which a plurality of individual packages are collectively packed, such as a carton, also corresponds to a package for a tobacco product. For this reason, the present invention may be applied to a film material for sealing an individual package or an intermediate package for collectively packing a plurality of individual packages, such as a carton or a parcel. A cigarette has been described as an example of a tobacco product in each of the embodiments described thus far. The present invention, however, may be applied to, for example, a package which wraps a cigar, a cigarillo, an electronic cigarette, or the like.

Reference Signs List

[0057]

1, 1A, 1B, 1C, 1D	package
2	housing main body unit
3	hinge
4	lid unit
50	base material
51	first varnished layer
52	second varnished layer
R1, R1'	first region
R2, R2'	second region

Claims

1. A package for a tobacco product, the package housing the tobacco product inside,
wherein a surface at an outermost layer of the package includes
a first region that is formed of a transparent varnish stacked on an outer surface of a base material of the package and a second region that is arranged adjacent to the first region and is formed of a base material-exposed portion where the base material of the package is exposed to an outside or a transparent varnish stacked on the outer surface of the base material, and
a boundary position between the first region and the second region is identifiable based only on a difference in presence or absence of a transparent varnish or a difference in property between the transparent varnishes.

2. The package for the tobacco product, according to Claim 1, wherein the boundary position between the first region and the second region is identifiable based only on a difference in a predetermined property that affects vision between the transparent varnishes.

3. The package for the tobacco product, according to Claim 1 or 2, wherein
the transparent varnish in the first region has a first gloss value, and
the transparent varnish in the second region has a second gloss value that is different from the first gloss value and allows identification of the boundary position with the first region by a difference from the first gloss value.

4. The package for the tobacco product, according to Claim 3, wherein the difference between the first gloss value and the second gloss value is not less than 15.

5. The package for the tobacco product, according to Claim 1 or 2, wherein
the transparent varnish in the first region has a first haze value, and
the transparent varnish in the second region has a second haze value that is different from the first haze value and allows identification of the boundary position with the first region by a difference from the first haze value.

6. The package for the tobacco product, according to Claim 5, wherein the difference between the first haze value and the second haze value is not less than 5% and not more than 100%.

7. The package for the tobacco product, according to any one of Claims 3 to 6, wherein surface heights in the first region and in the second region are equal to each other.

8. The package for the tobacco product, according to any one of Claims 3 to 6, wherein a difference in surface height between the first region and the second region is not more than 5 μm.

9. The package for the tobacco product, according to any one of Claims 1 to 8, wherein
a colored region that is colored is formed on a part of the outer surface of the base material, and
the boundary position between the first region and the second region and a boundary position between the colored region and an uncolored region around the colored region in the base material are shifted in plan view.

10. The package for the tobacco product, according to any one of Claims 1 to 8, wherein a whole of the outer surface of the base material is not colored.

11. The package for the tobacco product, according to any one of Claims 1 to 8, wherein outer surfaces of parts corresponding to the first region and the second region of the base material are colored with a single ink.

12. The package for the tobacco product, according to any one of Claims 1 to 11, wherein
a surface of the base material is unevenly processed, and
the boundary position between the first region and the second region and a boundary position between a recessed unit and a projecting unit in the base material are shifted in plan view.

FIG. 1

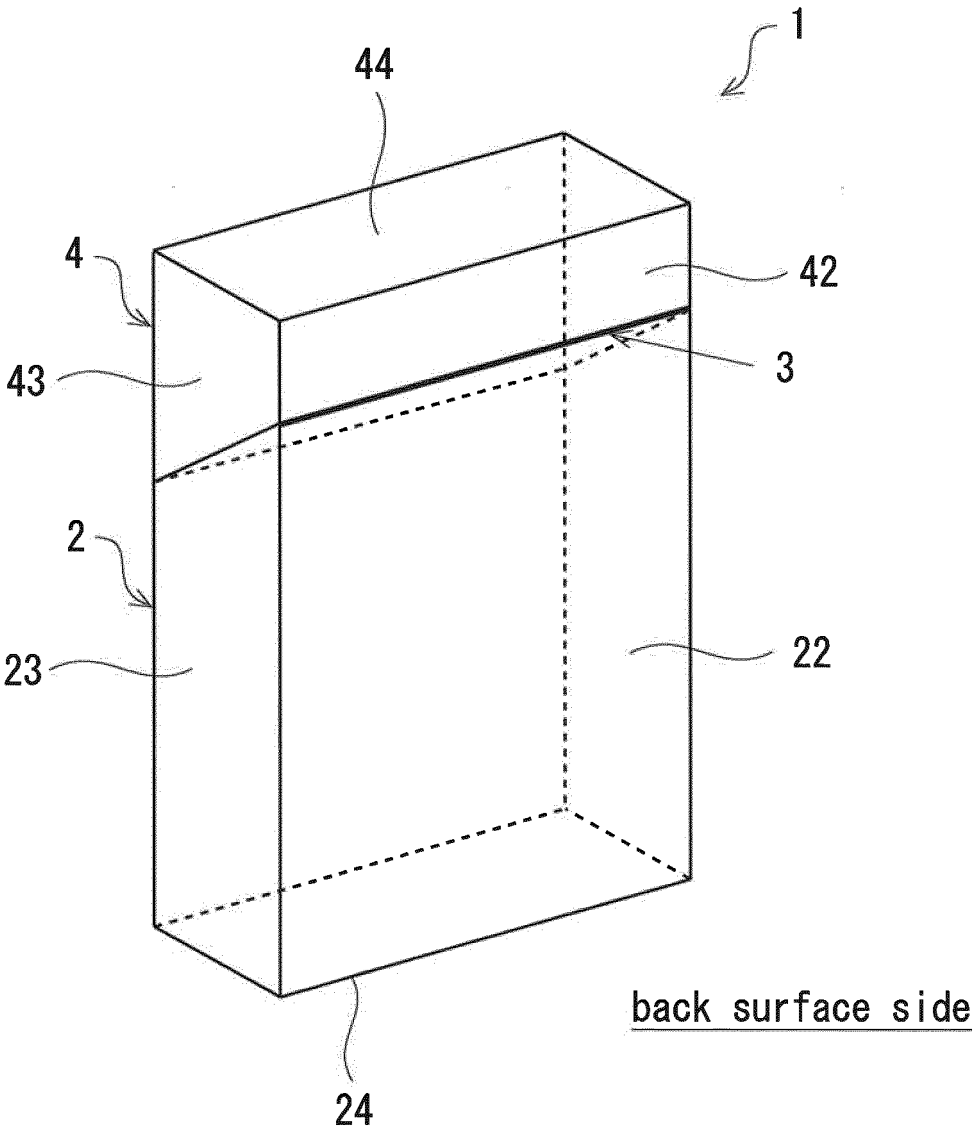


FIG. 2

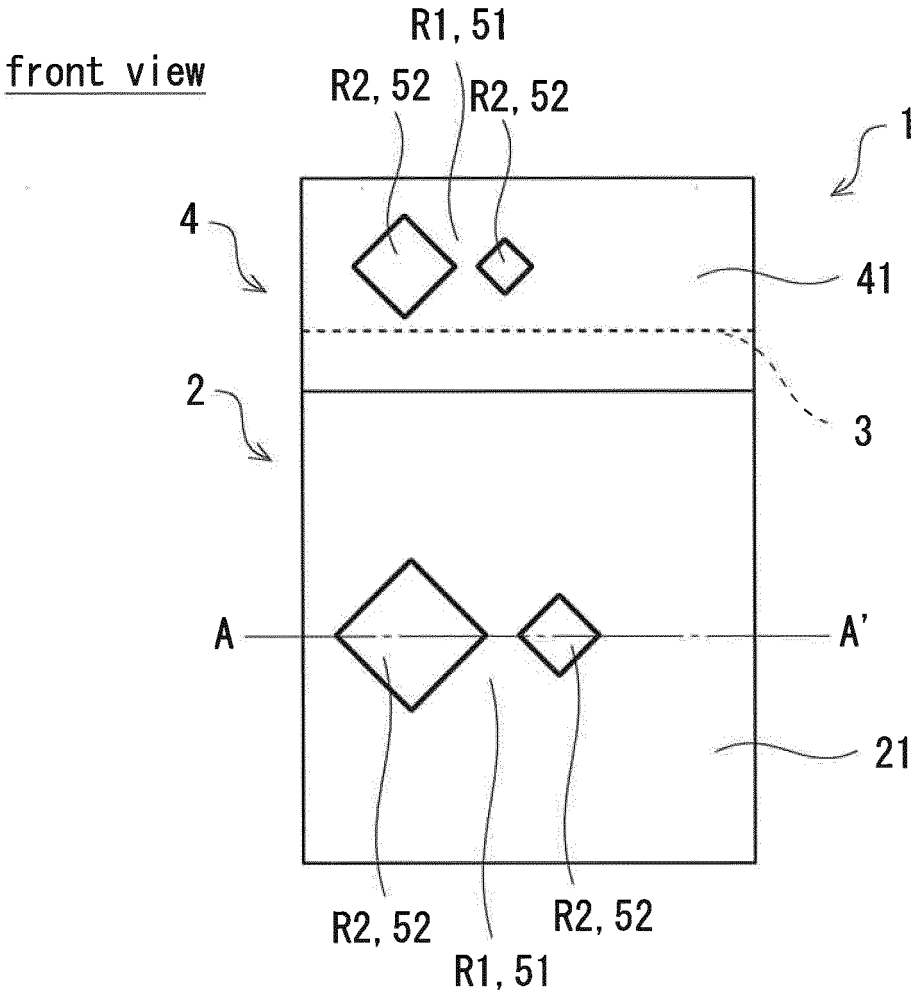


FIG. 3

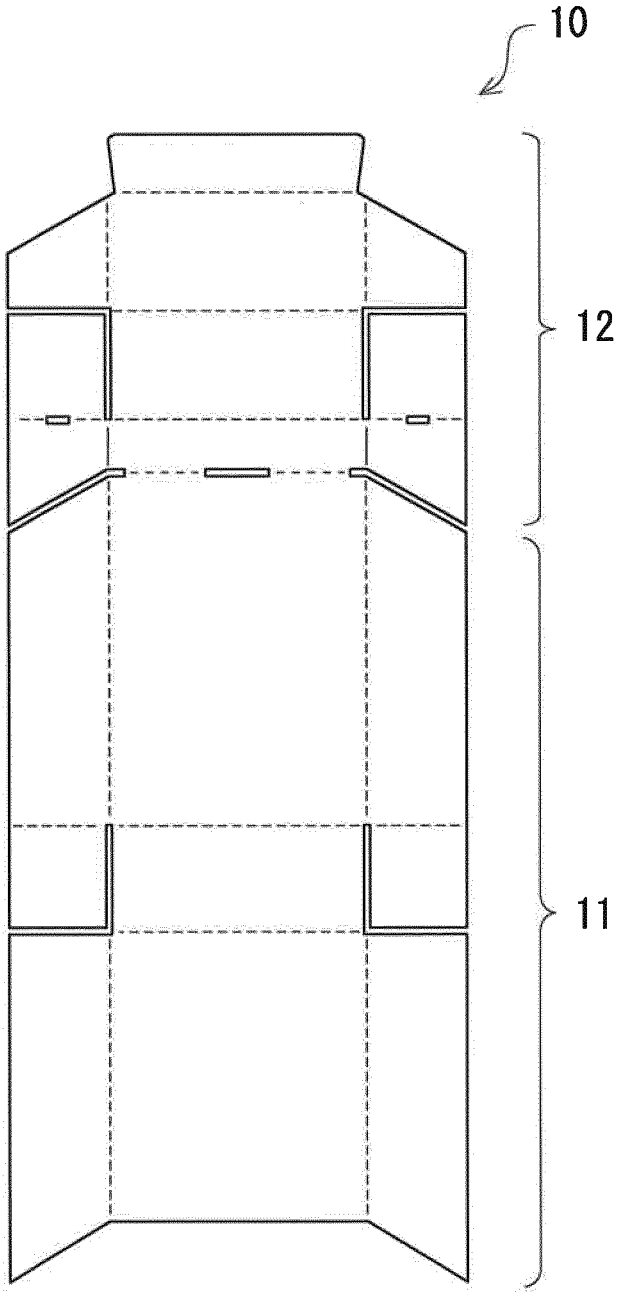


FIG. 4

cross-sectional view on arrow A-A'

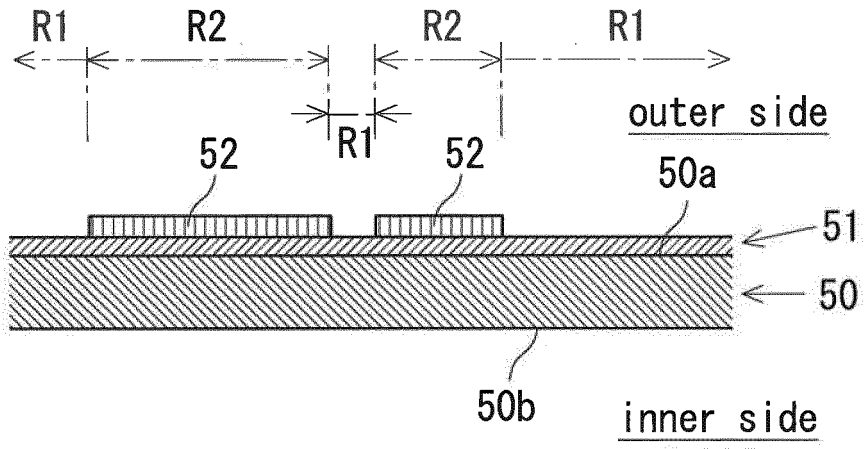


FIG. 5

reference example

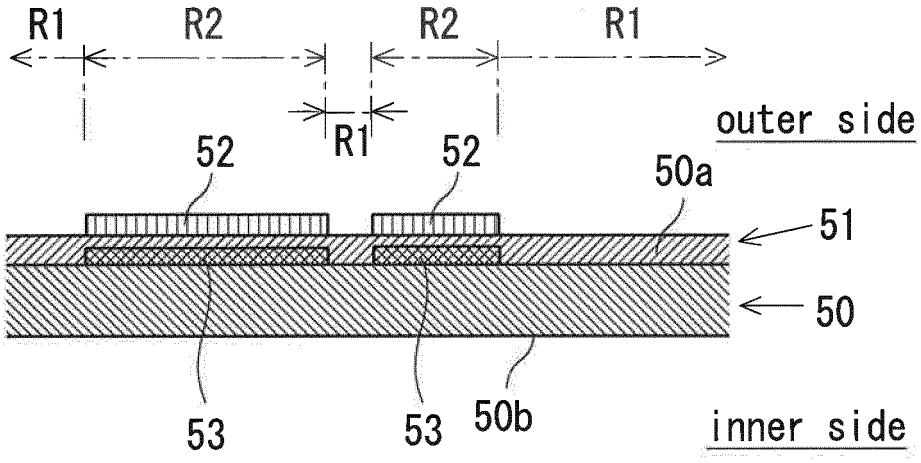


FIG. 6

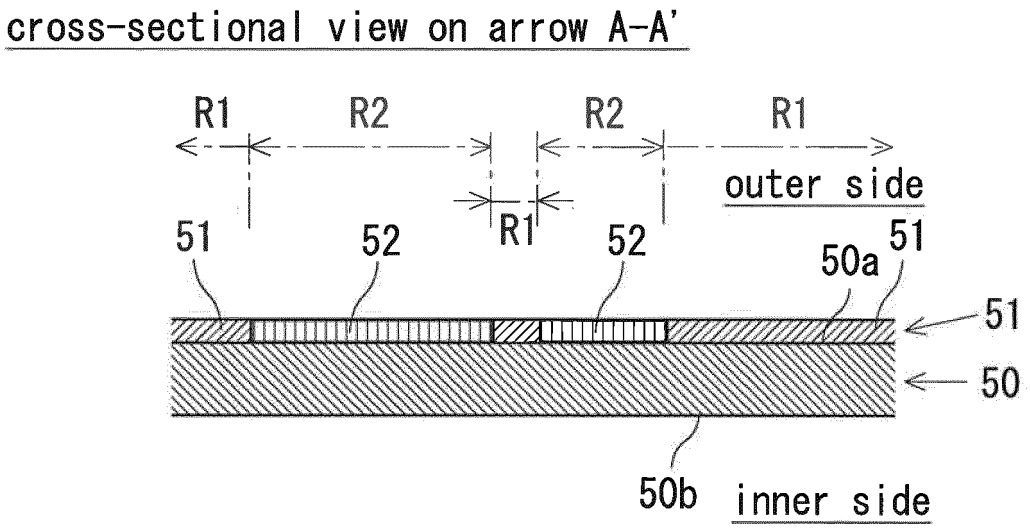

cross-sectional view on arrow A-A'
R1
R2
R2
R1
outer side
R1
51
52
52
50a
51
51
50
50b
inner side

FIG. 7

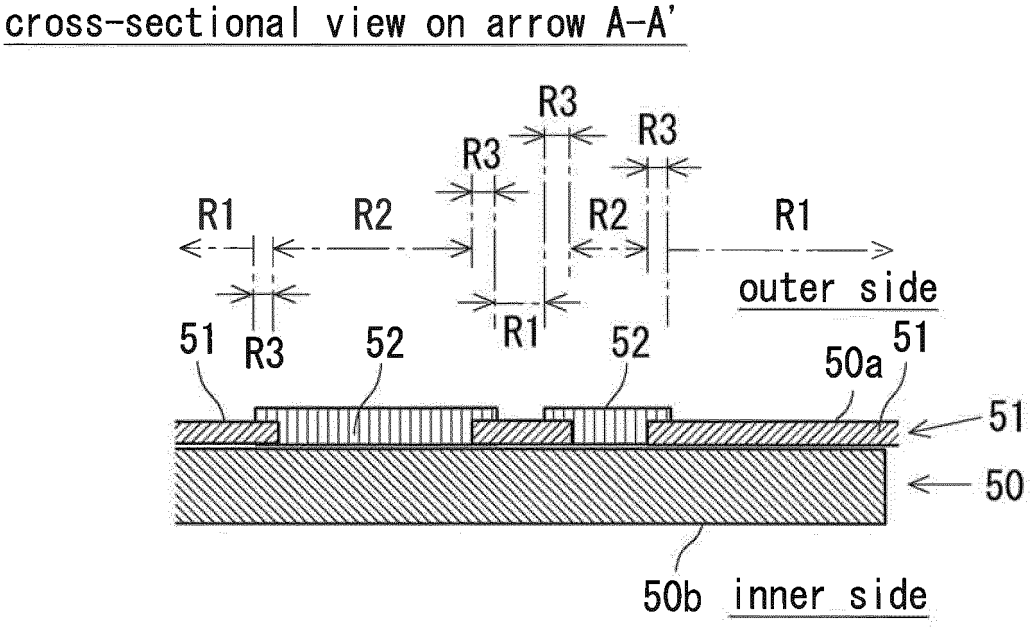

cross-sectional view on arrow A-A'
R3
R3
R3
R1
R2
R2
R1
outer side
R1
51
R3
52
52
50a
51
51
50
50b
inner side

FIG. 8

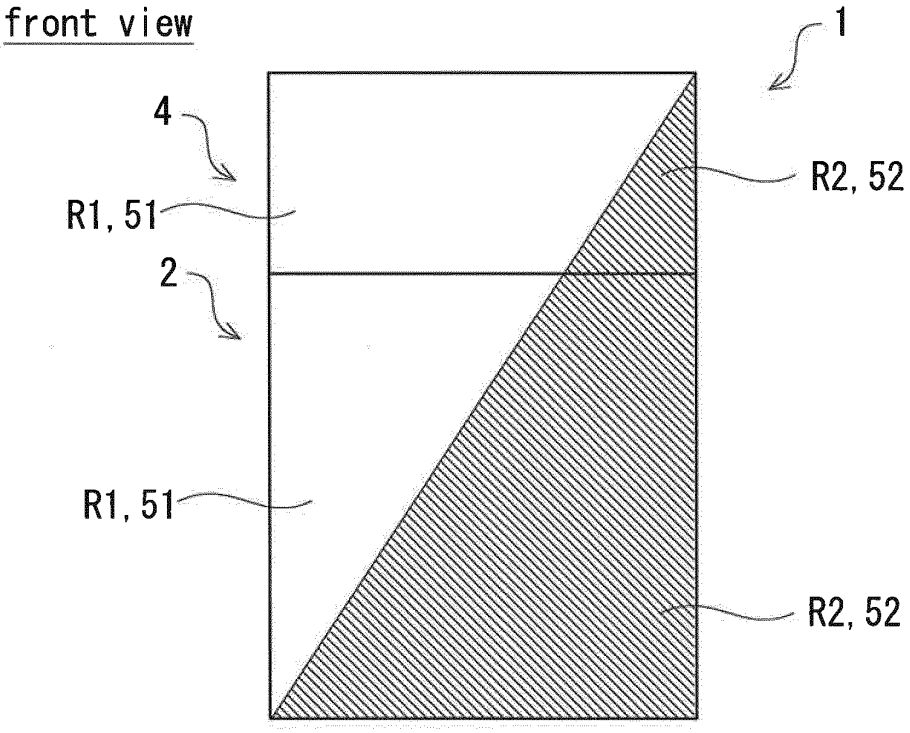

front view
1
4
R1, 51
2
R1, 51
R2, 52
R2, 52

FIG. 9

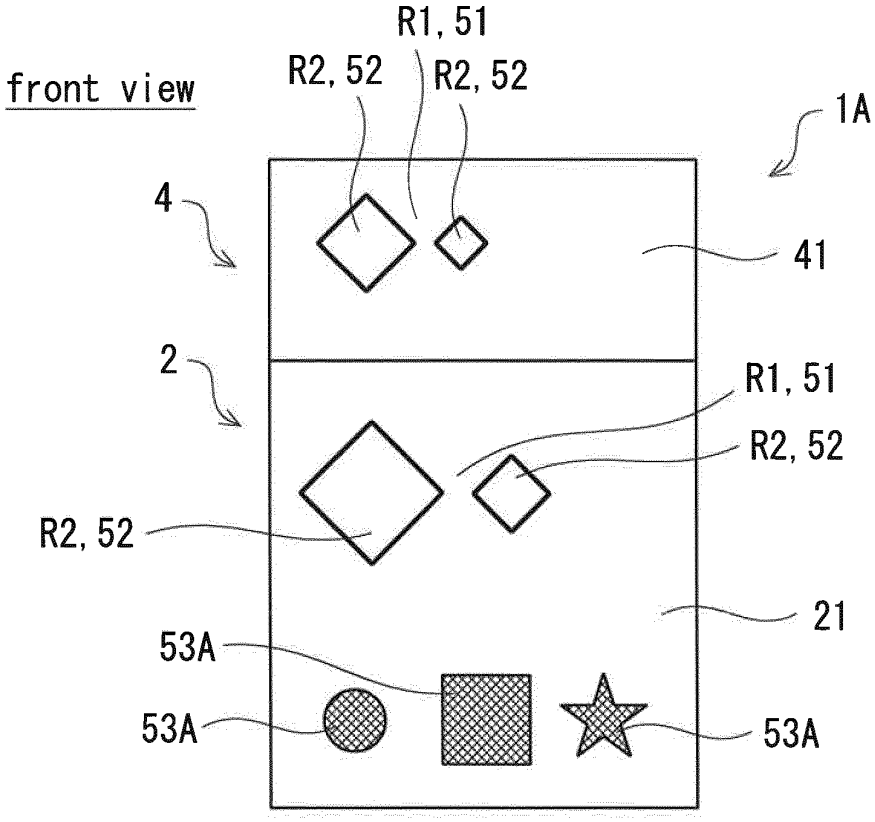

front view
R1, 51
R2, 52
R2, 52
1A
4
41
2
R1, 51
R2, 52
R2, 52
21
53A
53A
53A

FIG. 10

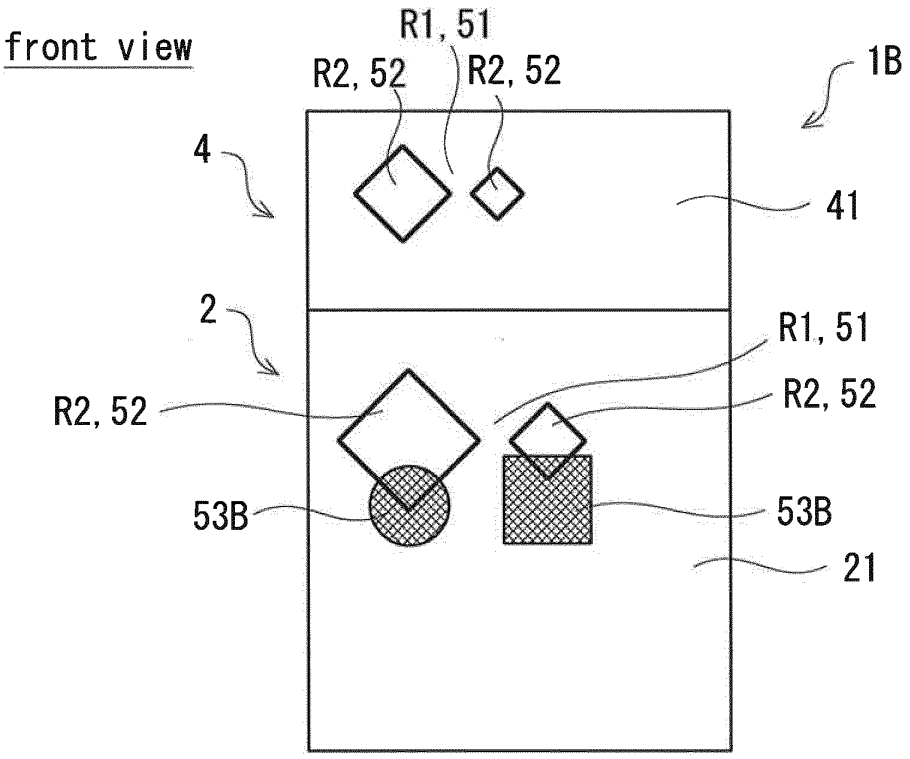

front view
R1, 51
R2, 52
R2, 52
1B
4
41
2
R1, 51
R2, 52
R2, 52
53B
53B
21

FIG. 11

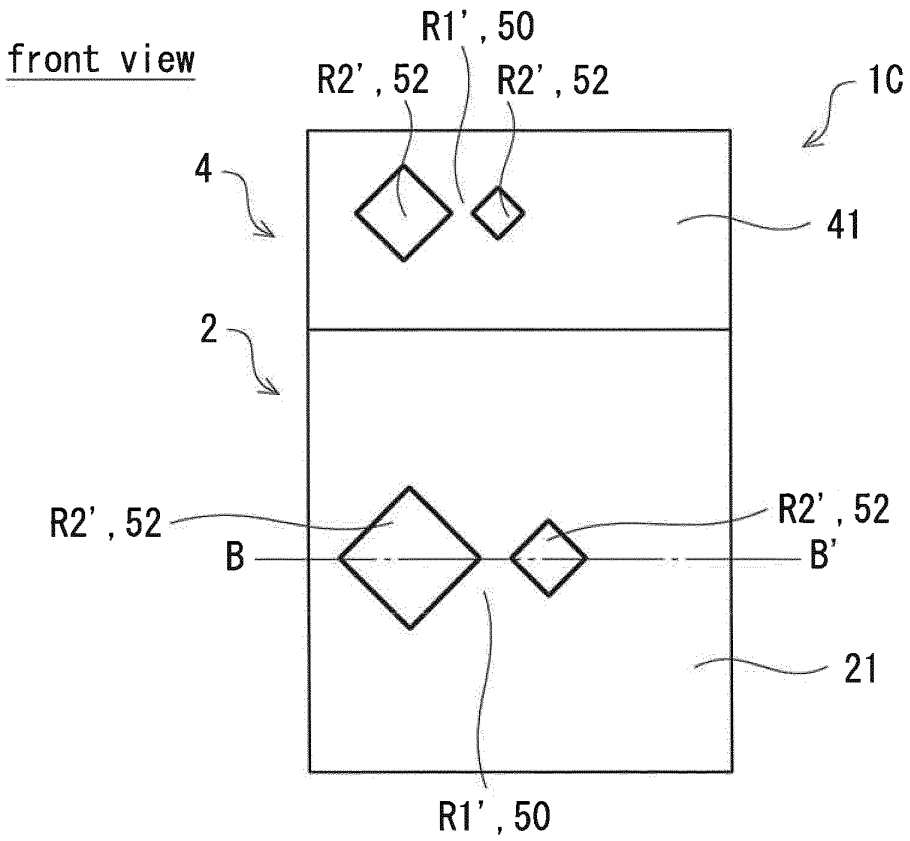

front view
R1', 50
R2', 52
R2', 52
1C
4
41
2
R2', 52
R2', 52
B
B'
21
R1', 50

FIG. 12

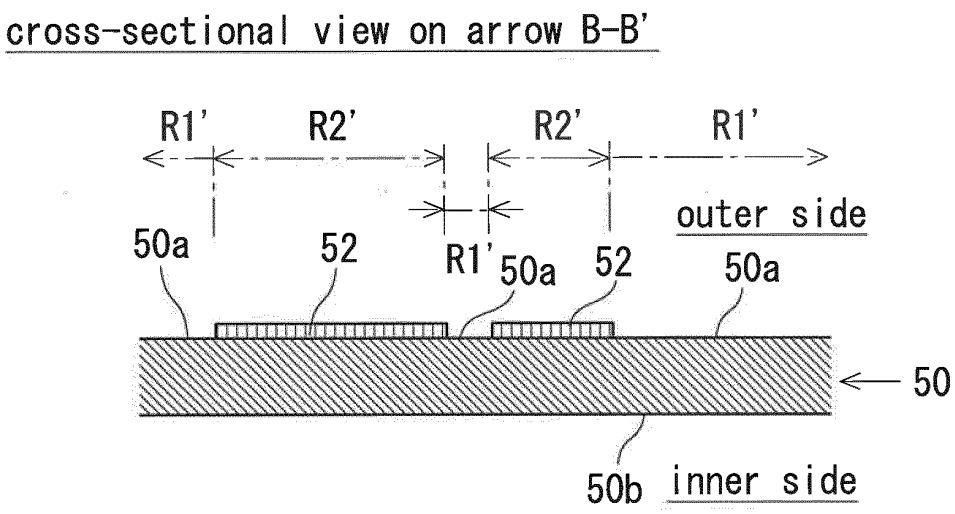
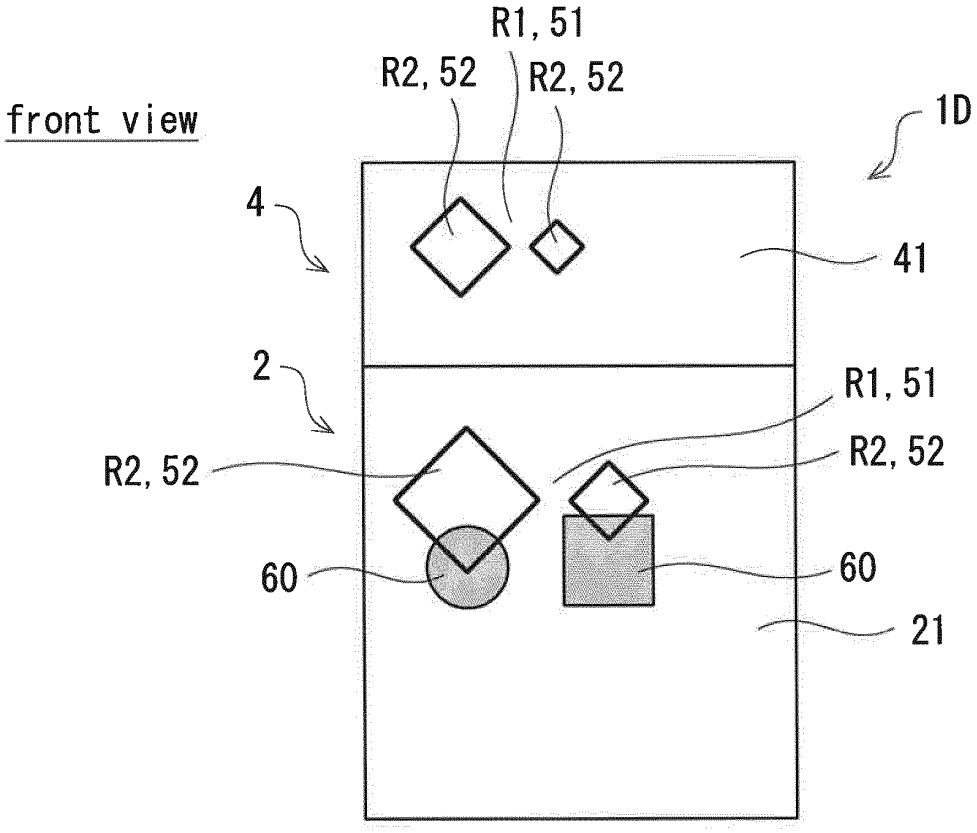

cross-sectional view on arrow B-B'
R1'
R2'
R2'
R1'
outer side
50a
52
R1'
50a
52
50a
50
50b
inner side

FIG. 13


front view
R1, 51
R2, 52
R2, 52
1D
4
41
2
R1, 51
R2, 52
R2, 52
60
60
21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2014/083376

A. CLASSIFICATION OF SUBJECT MATTER
B65D85/10(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)
B65D85/10

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 1996-2015
Kokai Jitsuyo Shinan Koho 1971-2015 Toroku Jitsuyo Shinan Koho 1994-2015

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	WO 2013/027275 A1 (Japan Tobacco Inc.), 28 February 2013 (28.02.2013), entire text; all drawings & TW 201313577 A1	1-5,7-12
Y	JP 2004-174995 A (Toppan Printing Co., Ltd.), 24 June 2004 (24.06.2004), paragraphs [0021] to [0028]; fig. 1, 4 (Family: none)	1-5,7-12
Y	JP 58-209584 A (Toyo Shigyo Printing Co., Ltd.), 06 December 1983 (06.12.1983), entire text; all drawings (Family: none)	1-5,7-12

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

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"&" 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 March 2015 (18.03.15)	31 March 2015 (31.03.15)
Name and mailing address of the ISA/ Japan Patent Office 3-4-3,Kasumigaseki,Chiyoda-ku, Tokyo 100-8915,Japan	Authorized officer Telephone No.

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

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2014/083376

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2012-513344 A (British-American Tobacco (Holdings) Ltd.), 14 June 2012 (14.06.2012), claims; fig. 1 to 25 & US 2010/0155274 A1 & US 2014/0061074 A1 & EP 2376350 A & WO 2010/072482 A1 & AR 74875 A1 & CA 2745250 A1 & KR 10-2011-0096057 A & CN 102264611 A & AU 2009331816 A1 & SG 172006 A1 & NZ 593247 A & RU 2011126454 A	12
A	JP 4905711 B2 (National Printing Bureau), 28 March 2012 (28.03.2012), paragraphs [0037], [0045], [0072]; fig. 1 to 24 (Family: none)	1-12
A	JP 5424266 B2 (National Printing Bureau), 26 February 2014 (26.02.2014), paragraphs [0080] to [0083]; fig. 1 to 29 (Family: none)	1-12
A	JP 3160161 U (Kabushiki Kaisha Silky Act), 17 June 2010 (17.06.2010), entire text; all drawings (Family: none)	1-12
A	WO 2013/042187 A1 (Japan Tobacco Inc.), 28 March 2013 (28.03.2013), entire text; all drawings & EP 2759491 A1 & KR 10-2014-0043841 A & CN 103813967 A	1-12

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2006504590 A **[0004]**