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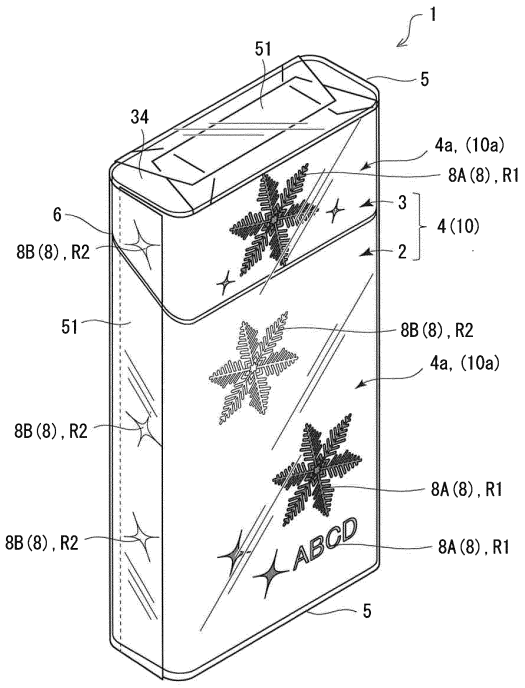
(54) CIGARETTE PACKAGE AND BLANK CONSTITUTING OUTER PACKAGING MEMBER THEREOF

(57) An art for giving a visual effect to a tobacco package housing tobacco products by a different method from a conventional method is provided. The tobacco package includes an outer wrapping body in which tobacco products are wrapped, and a polyolefin fiber containing unit that composes at least a part of the outer wrapping body, and has a polyolefin fiber layer containing polyolefin fibers, and transparentizing treatment by heating is applied to a specific region in the polyolefin fiber containing unit.

FIG. 1



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Description

Technical Field

[0001] The present invention relates to a tobacco package and a blank forming an outer wrapping body of the tobacco package.

Background Art

[0002] In general, a tobacco package that houses tobacco products is formed by intermediate wrapping paper with which the tobacco products are wrapped, and outer wrapping paper with which the intermediate wrapping paper is covered. This kind of tobacco package is referred to as so-called individual packaging, and as the outer wrapping paper, outer wrapping paper that is formed of thin paper and is referred to as a so-called soft package, outer wrapping paper that is referred to as a so-called hard package and is formed by fabricating a paper board into a box shape, and the like are known (refer to Patent document 1, for example).

[0003] Further, it is widely practiced to add a design by a combination of the name of a product, a trademark, a figure, colors and the like to the outer surface of a tobacco package to give a visual effect, with an objective of differentiating the product from other products, and increasing willingness to buy of purchasers and the like, for example.

[0004] [Patent document 1] National Publication of International Patent Application No. 2006-504590

Summary of Invention

Technical Problem

[0005] However, when the visual effect is tried to be obtained by relying on design printing onto the tobacco package outer surface, there is a problem of easily leading to manufacturing cost of the package.

[0006] The present invention is made in the light of the problem like this, and an object of the present invention is to provide an art for giving a visual effect to a tobacco package that houses tobacco products by a different method from the conventional method.

Solution to Problem

[0007] In order to solve the above described problem, in a tobacco package according to the present invention, polyolefin fibers contained in a polyolefin fiber containing unit is transparentized by heating a specific region in the polyolefin fiber containing unit of an outer wrapping body in which a tobacco product is wrapped.

[0008] In more detail, the tobacco package according to the present invention includes an outer wrapping body in which a tobacco product is wrapped, and a polyolefin fiber containing unit that composes at least a part of the outer wrapping body, and has a polyolefin fiber layer containing polyolefin fibers, wherein transparentizing treatment by heating is applied to a specific region in the polyolefin fiber containing unit. Further, the present invention can be also grasped as a blank that forms the outer wrapping body of a tobacco package. That is, the present invention is a blank that forms the outer wrapping body of a tobacco package in which a tobacco product is wrapped, includes a polyolefin fiber containing unit that composes at least a part of the blank, and has a polyolefin fiber layer containing polyolefin fibers, wherein transparentizing treatment by heating is applied to a specific region in the polyolefin fiber containing unit.

[0009] According to the tobacco package and the blank forming the wrapping body according to the present invention, a feeling of transparency is given by the specific region (hereunder, also referred to as a "transparentization region") of the polyolefin fiber containing unit being heated, so that a different outer appearance from another region (hereunder, also referred to as a "non-transparentization region") to which the transparentizing treatment is not applied is given. Thereby, a visual effect can be given to the tobacco package by a different method from a conventional method. Further, according to the present invention, feel and texture that are different from feel and texture of the conventional tobacco packages can be given. Further, when recessing and raising work (for example, embossing work) is applied to the outer wrapping body in which a tobacco product is wrapped and the blank thereof, ink crack, paper cracking or the like may occur, but according to the present invention, a risk of occurrence of the ink crack, paper cracking or the like can be reduced.

[0010] Here, the polyolefin fiber containing unit may have the polyolefin fiber layer on an outermost layer. According to this, a feeling of transparency can be more preferably given to the transparentization region of the polyolefin fiber containing unit. Further, in the transparentizing treatment, the specific region in the polyolefin fiber containing unit may be heated while being pressurized. According to this, the transparentizing treatment can be applied more efficiently. Further, the polyolefin fiber layer may contain 5% by weight or more and 40% by weight or less of the polyolefin fibers. Thereby, it becomes possible to make it difficult to generate paper dust at the time of manufacturing the outer wrapping body, while visibility of transparentization in the specific region in which the outer wrapping body is heated is enhanced. Further, the polyolefin fiber layer may contain 15% by weight or more and 25% by weight or less of the polyolefin fibers. According to this, printability can be favorably ensured while it is made possible to see a color on an inner surface side of the outer wrapping body through from an outer side.

[0011] Here, in the polyolefin fiber containing unit, a recessed and raised design unit in which recessing and raising work is applied may be provided on an outer surface of the polyolefin fiber containing unit, and the specific

region to which the transparentizing treatment is applied may be associated with the recessed and raised design unit. By doing like this, a visual effect by comparison of the transparentization region and the non-transparentization region of the outer wrapping body can be made far more remarkable.

[0012] Here, an inner surface of the polyolefin fiber containing unit may have a different color from an outer surface of the polyolefin fiber containing unit. By doing like this, in the transparentization region to which the transparentizing treatment is applied, the visual effect of the color given to the inner surface of the outer wrapping body being seen through onto the front surface side of the outer wrapping body is obtained, and therefore, power to appeal to consumers can be more enhanced. The inner surface of the polyolefin fiber containing unit may be colored in ink of a different color from the outer surface. Further, on the inner surface of the polyolefin fiber containing unit, a sheet material having a different color from the outer surface may be pasted.

[0013] Further, the outer wrapping body may be covered with a transparent film that seals the outer wrapping body, and at least a part of a non-transparentization region to which the transparentizing treatment is not applied in the polyolefin fiber containing unit may be vertically laid on a heat seal unit of the transparent film. Here, the heat seal unit is generally formed by melting the sealant that is coated on the inner surface of the transparent film by heating the end portions of the transparent film by superposing the end portions of the transparent film, and bonding the end portions of the transparent film to each other. Sealing of the outer wrapping body is generally performed in a state in which a tobacco product is packed (housed) inside the outer wrapping body, and if in heating treatment at the time of forming the heat seal unit, a heating temperature becomes higher than a set temperature for some reason, or the heating temperature is continued for a longer time period than a set time period, it may affect quality of the tobacco product.

[0014] In relation to this, at least a part of the non-transparentization region in the polyolefin fiber containing unit is disposed to be vertically laid on the heat seal unit of the transparent film, whereby if transparentization of the polyolefin fiber layer (polyolefin fibers) is confirmed in the non-transparentization region, it may be judged that there is a possibility that heating at the time of forming the heat seal unit is not performed as set. That is, presence or absence of product abnormality can be inspected by using an outer appearance of the outer wrapping body, that is, presence or absence of transparentization of the non-transparentization region in the sealing process of the outer wrapping body.

[0015] Further, a recessed and raised design unit in which recessing and raising work is applied to an outer surface may be provided in at least a part of a region where the non-transparentization region and the heat seal unit are vertically laid on each other, in the polyolefin fiber containing unit. By doing like this, presence or absence of product abnormality can be easily judged by confirming whether or not the recessed and raised design unit that is associated with the non-transparentization region is transparentized.

[0016] Further, in the polyolefin fiber containing unit, an inner surface in at least a part of a region where the non-transparentization region and the heat seal unit are vertically laid on each other may have a different color from an outer surface. By doing like this, presence or absence of product abnormality can be easily judged by confirming whether or not a spot where the color which is applied onto the inner surface of the outer wrapping body is seen through on the outer surface is present in the non-transparentization region to which the transparentizing treatment is not applied.

[0017] As the tobacco products to be housed in the tobacco package according to the present invention, for example, cigarettes (filter cigarettes, plain cigarettes (without filters)), cigars (rolls of dried tobacco leaves), cigarillos, snus, snuff, chewing tobacco, electronic cigarettes and the like are exemplified.

[0018] Further, means for solving the problem in the present invention can be adopted by being combined as far as possible.

Advantageous Effects of Invention

[0019] According to the present invention, it becomes possible to provide the art for giving the visual effect to the tobacco package that houses tobacco products by the different method from the conventional method.

Brief Description of the Drawings

[0020]

[Fig. 1] Fig. 1 is a perspective view of a tobacco package according to an embodiment.

[Fig. 2] Fig. 2 is a view illustrating an outer wrapping body according to the embodiment. (a) illustrates a front view, (b) illustrates a side view, and (c) illustrates a rear view.

[Fig. 3] Fig. 3 is a view illustrating a front surface of a blank according to the embodiment.

[Fig. 4] Fig. 4 is a view illustrating a back surface of the blank according to the embodiment.

[Fig. 5] Fig. 5 is a view illustrating a structure of the blank according to the embodiment.

[Fig. 6] Fig. 6 is a view explaining transparentizing treatment that heats a specific region of the blank according to the embodiment.

[Fig. 7] Fig. 7 is a perspective view of a tobacco package according to a modification example.

Description of Embodiment

[0021] Here, an embodiment of a tobacco package according to the present invention will be described based

on the drawings. Dimensions, materials, shapes, relative dispositions and the like of components described in the present embodiment are not intended to limit the technical scope of the invention to only the dimensions, materials, shapes, relative dispositions and the like, unless otherwise specified specially.

[0022] Fig. 1 is a perspective view of a tobacco package 1 according to the embodiment. Fig. 1 is the perspective view of the package 1 before opening, seen from a front side. The tobacco package 1 is a so-called hinge-lid package, and has tobacco products packed inside. In the present embodiment, a case of housing cigarettes in the tobacco package 1 as an example of the tobacco products will be illustratively described.

[0023] The tobacco package 1 includes an outer wrapping body 4 formed by a housing body 2 and a lid body 3, and a transparent film 5 that seals the outer wrapping body 4. The housing body 2 and the lid body 3 are integrally connected via a hinge 6, and the lid body 3 is openable and closable around the hinge 6.

[0024] The outer wrapping body 4 has an outer shape formed into a rectangular parallelepiped shape in a state in which the lid body 3 is closed to the housing body 2. Inside the housing body 2, an inner wrapping body in which cigarettes are wrapped with inner wrapping paper is housed, for example. The inner wrapping paper is formed from a material having moisture retentiveness, aroma retentiveness and the like, and paper on which an aluminum film is vapor-deposited or laminated is mainly used. In the present description, detailed composition and illustration in the drawings of the inner wrapping body will be omitted.

[0025] The transparent film 5 is provided with a tear tape (not illustrated) for opening the transparent film 5, by pulling a tip end portion of the tear tape, the transparent film 5 is torn up, and the tobacco package 1 can be opened. The transparent film 5 is a thin and transparent film, and is formed from a material such as a polypropylene, a cellophane, and a polyethylene terephthalate, for example. Note that as the material of the transparent film 5, materials other than the materials cited above may be used. Further, reference numeral 51 illustrated in Fig. 1 denotes a heat seal unit in which end portions of the transparent film 5 are bonded. The heat seal unit refers to a part in which the transparent films 5 are fused by heat. In general, an adhesive layer (a sealant) is formed on an inner surface of the transparent film 5. When the outer wrapping body 4 is sealed, the sheet-shaped transparent film 5 is folded along an outer surface of the outer wrapping body 4, and heating and pressurizing are performed in a state in which the end portions of the transparent film 5 are superposed on each other. Thereby, the sealant in wrap end portions of the transparent film 5 melts, and the lap end portions are bonded to each other. As a result, the outer wrapping body 4 is sealed by the transparent film 5. In the present embodiment, the heat seal units 51 are formed in parts that correspond to a top surface, a bottom surface and side surfaces of the outer wrapping body 4, in the transparent film 5 that covers the outer wrapping body 4.

[0026] Fig. 2 illustrates (a) a front view, (b) a side view and (c) a rear view of the outer wrapping body 4 according to the tobacco package 1 after opening. Note that in the present description, a surface where the hinge 6 is provided will be explained as a rear surface side, and an opposite side to the rear surface side will be explained as a front side. In the drawing, reference numeral 21 denotes a "front wall" of the housing body 2, reference numeral 22 denotes a "rear wall" of the housing body 2, and reference numeral 23 denotes a "side wall" of the housing body 2. Note that the housing body 2 has a bottom wall 24 that is connected to lower ends of the front wall 21, the rear wall 22 and the left and right side walls 23. Further, in Fig. 2, reference numeral 31 denotes a "front wall" of the lid body 3, reference numeral 32 denotes a "rear wall" of the lid body 3, and reference numeral 33 denotes a "side wall" of the lid body 3. The lid body 3 has a top wall 34 that is connected to upper ends of the front wall 31, the rear wall 32 and the left and right side walls 33.

[0027] Next, a blank 10 that forms the outer wrapping body 4 will be described by using Fig. 3 and Fig. 4. Fig. 3 is a view illustrating a front surface 10a of the blank 10 according to the embodiment. Fig. 4 is a view illustrating a back surface 10b of the blank 10 according to the embodiment. Thin lines in Fig. 3 and Fig. 4 represent folding lines of the blank 10, and thick lines represent cutting-plane lines of the blank 10. The blank 10 is obtained by cutting a sheet-shaped base paper sheet by blanking work or the like. The base paper sheet can be formed by a paper material such as a manila board or a card-board, for example, but is not limited to this. The folding lines on the blank 10 are sites for folding the blank 10 at a time of assembling the blank 10, and indentations to be the folding lines are formed, for example, when the blank 10 is cut from the base paper sheet by blanking work or the like.

[0028] The blank 10 has a shape of the developed outer wrapping body 4. Reference numeral and symbol 10c in Fig. 3 and Fig. 4 denotes a "housing body zone" to be the housing body 2 after assembly of the blank 10, and reference numeral and symbol 10d denotes a "lid body zone" to be the lid body 3 after assembly of the blank 10. Here, the housing body zone 10c of the blank 10 is folded along the folding line, and appropriate spots are bonded, whereby the housing body 2 of the outer wrapping body 4 is formed. Further, the lid body zone 10d of the blank 10 is folded along the folding line, and appropriate spots are bonded, whereby the lid body 3 of the outer wrapping body 4 is formed. Note that when the outer wrapping body 4 is assembled by the blank 10, an outer surface 4a of the outer wrapping body 4 is formed by the front surface 10a of the blank 10, and an inner surface of the outer wrapping body 4 is formed by the back surface 10b of the blank 10.

[0029] The base paper sheet of the blank 10 is formed of a polyolefin fiber layer (polyolefin synthetic pulp) con-

taining polyolefin fibers. In a manufacture process of the blank 10 (the base paper sheet), the back surface of the blank 10 (the base paper sheet) is coated with a coloring agent of a predetermined second color different from a first color that is a color of the base paper. In the present description, the coloring agent is a general term of additives for coloring a paper material, such as a dye and a pigment.

[0030] In the present embodiment, in the blank 10 (the base paper sheet), different colors are given to the front surface and the back surface in the manufacturing (papermaking) process. Hereunder, a case of using the base paper of white (the first color) for the blank 10, and painting the back surface in ink of pink as the second color will be described as an example. Thereby, the blank 10 in which the front surface 10a has the "white color" (here, the "white color" is the color of the base paper itself), and the back surface 10b has the "pink color" (here, the "pink color" is the color of the ink that is painted on the back surface 10b) is obtained. Note that a combination of the first color and the second color in the blank 10 is not limited to the above described combination.

[0031] Here, the polyolefin fibers that are contained in the polyolefin fiber layer of the blank 10 (base paper sheet) is thermoplastic synthetic fibers, and change in quality by heating. More specifically, the polyolefin fibers of the polyolefin fiber layer is transparentized (is given a feeling of transparency) by being heated. In the present embodiment, the polyolefin fiber containing unit 7 composes a whole of the blank 10. However, the polyolefin fiber containing unit 7 having the polyolefin fiber layer which contains polyolefin fibers on the outermost layer can compose at least a part (that is, a part or all) of the blank 10. Further, in the present embodiment, as illustrated in Fig. 5, a case of composing the polyolefin fiber containing unit 7 as a monolayer structure by the polyolefin fiber layer 71 is described as an example, but the polyolefin fiber containing unit 7 may be of a multilayered structure, and in that case, the polyolefin fiber layer 71 can be disposed on the outermost layer. Thereby, transparentization of the polyolefin fiber layer 71 can be visually recognized more remarkably, and transparentization of the polyolefin fibers can be visually recognized more effectively.

[0032] In the present embodiment, in the polyolefin fiber containing unit 7 of the blank 10, a content of the polyolefin fibers contained in the polyolefin fiber layer 71 is set within a range of 5 to 40% by weight. As a high polymer that is used in the polyolefin synthetic pulp which forms the polyolefin fiber layer 71, for example, a polypropylene, a polyethylene and the like may be used.

[0033] Here, recessing and raising work such as embossing work and debossing work is applied to the front surface 10a of the blank 10. Reference numeral 8 illustrated in Fig. 3 denotes a "recessed and raised design unit" that is formed on the front surface 10a of the blank 10. In the present embodiment, the recessed and raised design unit 8 is formed as a recessed portion that is recessed into a recessed shape as compared with other regions, by embossing work, debossing work or the like. Note that the recessed and raised design unit 8 may be formed as a raised unit that is raised into a raised shape as compared with the other regions. The recessed and raised design unit 8 is formed to give recessed and raised design to the front surface 10a of the blank 10 by recessing and raising work that is made in a shape of a figure, a pattern, a name of a product, a trademark and the like.

[0034] In the blank 10 illustrated in Fig. 3, transparentizing treatment by heating is applied to specific regions of the blank 10. The regions to which transparentizing treatment is applied in the blank 10 are positioned in association with the recessed and raised design units 8. In the blank 10 in the present embodiment, the recessed and raised design units 8 are provided at a plurality of spots on the front surface 10a, and transparentizing treatment is applied to regions corresponding to some of the recessed and raised design units 8 instead of all of the recessed and raised design units 8. Hereunder, in the blank 10, the regions to which the transparentizing treatment is applied will be referred to as "transparentization region R1". Note that regions that correspond to all the recessed and raised design units 8 may be made "the transparentization regions R1" by applying transparentizing treatment to the regions corresponding to all of the plurality of recessed and raised design units 8.

[0035] Fig. 6 is a diagram explaining the transparentizing treatment that heats the specific regions of the blank 10 according to the embodiment. In the present embodiment, the transparentization region R1 of the blank 10 is heated by bringing a heating unit 210 of a heating device 200 into contact with the front surface 10a of the blank 10 in a state where the recessed and raised design units 8 are formed. A heating temperature by the heating device 200 is set at a temperature at which the polyolefin fibers contained in the polyolefin fiber layer 71 (the polyolefin synthetic pulp) can be melted at a time of heating the blank 10. For example, polyolefin fibers are melted at approximately 135°C, and therefore, the heating temperature of the heating device 200 can be set at 135°C, or a temperature that is slightly higher than 135°C. Note that in the transparentizing treatment, the heating unit 210 of the heating device 200 may be brought into contact with the back surface 10b of the blank 10, and the polyolefin fiber layer 71 may be heated from a back surface 10b side, and thereby transparentized. Further, Fig. 5 described above illustrates the blank 10 before the recessed and raised design units 8 are formed on the front surface 10a.

[0036] When the transparentization regions R1 in the blank 10 are heated, the polyolefin fibers in the polyolefin fiber layer 71 are melted, and transparentized. Here, a mechanism at a time of the polyolefin fiber layer 71 being transparentized will be described. The polyolefin synthetic pulp which forms the polyolefin fiber layer 71 is in a state where the polyolefin fibers and pulp fibers are intertwined with one another, and does not look transparent

externally. However, by heating the polyolefin fiber layer 71 in the aforementioned transparentizing treatment, the melted polyolefin fibers are integrated with one another. The polyolefin fibers in the polyolefin fiber layer 71 are integrated with one another in this way, and thereby, light is easily passed through. As a result, the color on the back surface 10b of the blank 10 is passed through, and the color of the back surface 10b can be visually recognized. In the present description, "transparentization" means that light easily passes through the polyolefin fibers that are integrated by the polyolefin fibers contained in the polyolefin fiber layer 71 being melted, and the color on the back surface 10b of the blank 10 can be seen through from a front surface 10a side.

[0037] Note that in the transparentizing treatment according to the present embodiment, the transparentization regions R1 in the polyolefin fiber containing unit 7 are heated while being pressurized. Heating and pressurization are performed to the polyolefin fiber layer 71 corresponding to the transparentization regions R1 at the same time, whereby the polyolefin fibers are more easily integrated. As a result, there is provided an advantage of being able to apply effective transparentizing treatment in a shorter time period. Further, in the present embodiment, the polyolefin fiber layer 71 is disposed on the outermost layer of the polyolefin fiber containing unit 7, but the present invention is not limited to this. However, by disposing the polyolefin fiber layer 71 on the outermost layer of the polyolefin fiber containing unit 7, a feeling of transparency can be more favorably given to the transparentization regions R1 to which the transparentizing treatment is applied, and the color on the back surface 10b of the blank 10 can be far more easily seen through from the front surface 10a side.

[0038] Incidentally, in the polyolefin fiber layer 71 composing the blank 10, the content of the polyolefin fibers is adjusted within the range from 5 to 40% by weight, so that the polyolefin fiber layer 71 does not become completely transparent, and a phenomenon occurs, in which a feeling of transparency is given as compared with regions (hereunder, referred to as "non-transparentization regions R2") to which the transparentizing treatment is not applied. As a result, the blank 10 can obtain a visual effect that the pink (the second color) which is applied onto the back surface 10b side is seen through on the front surface 10a side, in the transparentization regions R1 in the polyolefin fiber containing unit 7. That is, a new visual effect which has not been obtained conventionally is obtained, that parts corresponding to the transparentization regions R1 of the polyolefin fiber containing unit 7, in the front surface 10a, seem as if the parts were colored pink (the second color), although the color of the base paper in the blank 10 is actually white (the first color).

[0039] Accordingly, in the outer wrapping body 4 of the tobacco package 1 that is formed by using the blank 10 according to the present embodiment, as is also illustrated in Fig. 1 and Fig. 2, in the transparentization regions R1 of the blank 10, the pink color (the second color) that is applied onto the inner surface side can be shown through on the outer surface 4a side to be visually recognized, and a difference in appearance from the white color (the first color) presented by the non-transparentization regions R2 to which the transparentizing treatment is not applied can be appealed to consumers. As above, according to the blank 10 and the tobacco package 1 using the blank 10 according to the present embodiment, it becomes possible to give a new visual effect by the method different from the conventional method without relying on design printing onto the package outer surface. Consequently, according to the tobacco package 1 and the blank 10 which forms the outer wrapping body 4 of the tobacco package 1 according to the present embodiment, power to appeal to consumers can be more enhanced as compared with the conventional tobacco package and blank. Further, according to the tobacco package 1 according to the present embodiment, feel and texture that are different from feel and texture of the conventional tobacco packages can be given. Further, when recessing and raising work (for example, embossing work) is applied to the outer wrapping body 4 and the blank 10 of the outer wrapping body 4, ink crack, paper cracking or the like may occur, but according to the tobacco package 1, a risk of the ink crack, paper cracking or the like can be reduced.

[0040] Note that in the present embodiment, in the polyolefin fiber containing unit 7 of the blank 10, the content of the polyolefin fibers contained in the polyolefin fiber layer 71 is set in the range from 5 to 40% by weight, but by setting the content of the polyolefin fibers in the polyolefin fiber layer 71 at 5% by weight or more, consumers visually recognize transparentization of the transparentization regions R1 easily when the consumers see the outer wrapping body 4 of the tobacco package 1. Further, as the content of the polyolefin fibers in the polyolefin fiber layer 71 is increased more, the transparency of the polyolefin fiber layer 71 by applying the transparentizing treatment is enhanced more, but when the content of the polyolefin fibers becomes excessively high, paper dust are easily generated at the time of manufacturing the blank 10, and there is concern that printing is adversely affected. Thus, from a viewpoint of reducing generation of the paper dust at the time of manufacturing the blank 10, it is preferable to set the content of the polyolefin fibers in the polyolefin fiber layer 71 at 40% by weight or less. From the above, from a viewpoint of reducing generation of the paper dust at the time of manufacturing the blank 10 while enhancing visibility of transparentization of the transparentization regions R1 in the outer wrapping body 4, the polyolefin fiber layer 71 preferably contains 5% by weight or more and 40% by weight or less of polyolefin fibers.

[0041] Further, describing the preferable range of the polyolefin fibers in the polyolefin fiber layer 71 in more detail, it is especially preferable to set the content of the polyolefin fibers in the polyolefin fiber layer 71 at 15% by

weight or more, in order to see the color on the back surface 10b in the blank 10 through from the outer surface 10a side. Further, in order to ensure printability in the blank 10 favorably, it is especially preferable to set the content of the polyolefin fibers in the polyolefin fiber layer 71 at 25% by weight or less. From the above, it can be said that the polyolefin fiber layer 71 especially preferably contains 15% by weight or more and 25% by weight or less of polyolefin fibers.

[0042] Further, in the present embodiment, the transparentization regions of the blank 10, and the outer wrapping body 4 formed by the blank 10 are disposed in association with the recessed and raised design units 8. By doing like this, the recessed and raised design that is given by the recessed and raised design units 8, and the regions in which the polyolefin fiber containing unit 7 is transparentized can be associated with each other. As a result, the visual effect by contrast of the transparentization regions R1 and the non-transparentization regions R2 of the outer wrapping body 4 can be made far more remarkable.

[0043] Here, reference symbol A is written in the recessed and raised design units 8 corresponding to the transparentization regions R1, of the plurality of recessed and raised design units 8 which are formed on the outer surface 4a (the front surface 10a) of the outer wrapping body 4 (the blank 10), and hereunder, the recessed and raised design units 8 corresponding to the transparentization regions R1 will be referred to as "transparentization recessed and raised design units 8A". Reference symbol B is written in the recessed and raised design units 8 corresponding to the non-transparentization regions R2, of the plurality of recessed and raised design units 8, and hereunder, the recessed and raised design units 8 corresponding to the non-transparentization regions R2 will be referred to as "non-transparentization recessed and raised design units 8B" In Fig. 1 to Fig. 3, hatching is applied to the transparentization recessed and raised design units 8A. Hatching is not applied to the non-transparentization recessed and raised design units 8B.

[0044] The non-transparentization recessed and raised design unit 8B and the transparentization recessed and raised design unit 8A are both given the recessed and raised design, but external appearances of both of them differ from each other in a point that the former (the non-transparentization recessed and raised design unit 8B) presents the same white color (the first color) as the non-transparentization region R2, whereas the latter (the transparentization recessed and raised design unit 8A) presents the pink color (the second color) similar to the inner surface (the back surface 10b). In this way, in the outer wrapping body 4 (the blank 10) according to the present embodiment, instead of all of the recessed and raised design units 8 which are provided at the plurality of spots, only some of the recessed and raised design units 8 are formed as the transparentization recessed and raised design units 8A, and the remaining recessed and raised design units 8 are formed as the non-transparentization recessed and raised design units 8B, whereby in the same recessed and raised design units 8, the outer appearances are caused to differ significantly. Thereby, the visual effect that is obtained by the transparentizing treatment to the polyolefin fiber containing unit 7 of the outer wrapping body 4 (the blank 10) can be made more remarkable.

[0045] Incidentally, as illustrated in Fig. 1, the non-transparentization recessed and raised design units 8B to which the transparentizing treatment by heating is not applied are disposed on the side walls 23 of the housing body 2 and the side walls 33 of the lid body 3 in the outer wrapping body 4. Further, in the tobacco package 1, the heat seal units 51 of the transparent film 5 are disposed along the side walls 23 of the housing body 2 and the side walls 33 of the lid body 3. In the present embodiment, at least some of the non-transparentization regions R2 to which transparentizing treatment is not applied, in the polyolefin fiber containing unit 7 in the outer wrapping body 4, are formed to be vertically laid on the heat seal units 51 of the transparent film 5. More specifically, in the polyolefin fiber containing unit 7, in at least some of regions where the non-transparentization regions R2 and the heat seal units 51 are vertically laid on each another, the recessed and raised design units in which recessing and raising work is applied to the outer surface 4a are provided. That is, in the tobacco package 1, the heat seal units 51 of the transparent film 5 are disposed in positions where the heat seal units 51 are vertically laid on the non-transparentization recessed and raised design units 8B that are formed on the side walls 23 and 33 of the outer wrapping body 4.

[0046] Here, the heat seal units 51 of the transparent film 5 are heated to a high temperature by a heat seal machine (not illustrated) for only a relatively short time period so that the sealant is melted and the end portions of the transparent film 5 are bonded to each other. In the present embodiment, the melting temperature of the polyolefin fibers to be used, the heating temperature, the heating time period of the heat seal machine and the like are adjusted so that transparentization of the polyolefin fiber layer 71 in the non-transparentization regions R2 does not occur, within a range where heat seal by the heat seal machine is properly performed. Accordingly, if transparentization of the polyolefin fiber layer 71 in the non-transparentization regions R2 (the non-transparentization recessed and raised design units 8B) occurs at a time point at which heat seal by the heat seal machine is completed, that is, at a time point at which sealing of the outer wrapping body 4 by the transparent film 5 is completed, it means that unintentional transparentization has occurred.

[0047] Thus, if unintentional transparentization of the polyolefin fiber layer 71 in the non-transparentization regions R2 (the non-transparentization recessed and raised design units 8B) occurs, it may be judged that there is a doubt that heat seal is performed under a con-

dition that the heating temperature by the heat seal machine is higher than a set temperature, or a heating time period is longer than a set heating time period for some reason. Note that unintentional transparentization like this can be determined based on the fact that the non-transparentization regions R2 (for example, the non-transparentization recessed and raised design units 8B) in the outer surface 4a do not present the white color (the first color), but presents the pink color (the second color), at a time point at which sealing of the outer wrapping body 4 by the transparent film 5 is completed, for example.

[0048] As above, in the present embodiment, presence or absence of production abnormality can be inspected by using the outer appearance of the outer wrapping body 4, that is, presence or absence of transparentization of the non-transparentization regions R2 in a sealing process of the outer wrapping body 4. That is, the outer wrapping body 4 according to the present embodiment has an advantage of being usable to assist in determination of production abnormality in the process of wrapping the tobacco products, in addition to an effect of being able to give a new visual effect by the method different from the conventional method. In particular, in the present embodiment, the heat seal units 51 of the transparent film 5 are disposed in positions where the heat seal units 51 are vertically laid on the non-transparentization recessed and raised design units 8B of the outer wrapping body 4, and therefore, presence or absence of product abnormality can be easily determined based on whether or not transparentization occurs to the non-transparentization recessed and raised design units 8B. Further, in the outer wrapping body 4 in the present embodiment, the inner surface in at least some of the regions where the non-transparentization regions R2 of the outer wrapping body 4 and the heat seal units 51 are vertically laid on each other is colored in a different color from the outer surface, and therefore, presence or absence of product abnormality can be easily determined by confirming whether or not a spot where the color that is attached to the inner surface of the outer wrapping body 4 is seen through on the outer surface is present in the non-transparentization regions R2.

[0049] Further, in the outer wrapping body 4 (the blank 10) according to the present embodiment, the color which is different from the color on the outer surface 4a is given to the inner surface of the polyolefin fiber containing unit 7. According to this, the difference in the outer appearance between the transparentization region R1 to which transparentization occurs by the transparentizing treatment to the polyolefin fiber containing unit 7 and the non-transparentization region R2 can be made more remarkable, and consumers can recognize the difference far more easily. However, in the present embodiment, the inner surface and the outer surface 4a relating to the polyolefin fiber containing unit 7 do not necessarily have to have different colors. In a case like this, the tobacco package 1 can produce a new visual effect based on the difference in outer appearance between the transparentization region R1 and the non-transparentization region R2, and power to appeal to the consumers can be enhanced.

[0050] In the present embodiment, the front surface 10a of the blank 10 is not colored in ink as described above, but the color different from the front surface 10a is given to the back surface 10b by coloring the back surface 10b in the different color from the color of the base paper, but the present invention is not limited to this. For example, the front surface 10a of the blank 10 may be colored in ink, and the back surface 10b may be colored in a different color from the front surface 10a. For example, there is cited a mode as an example, in which the front surface 10a of the blank 10 is colored red in ink, and the back surface 10b is colored blue in ink. In this case, a visual effect is obtained, that by heating the transparentization region R1 in the blank 10, the front surface 10a looks "blue" that is applied onto the back surface 10b or "purple" in which "red" on the front surface 10a and "blue" on the back surface 10b are mixed, although the front surface 10a in the transparentization region R1 is colored "red".

[0051] Further, in an example illustrated in Fig. 6, the back surface 10b of the blank 10 is a flat surface, but a level difference may be formed in a boundary portion between the recessed and raised design units 8 and surroundings of the recessed and raised design units 8. For example, in the recessed and raised design units 8 of the blank 10, the front surface 10a sides may be recessed as compared with the other regions, and the back surface 10b sides may be raised as compared with the other regions. Conversely, in the recessed and raised design units 8 of the blank 10, the front surface 10a sides may be raised as compared with the other regions, and the back surface 10b sides may be recessed as compared with the other regions.

[0052] Further, in an example illustrated in Fig. 5, the polyolefin fiber containing unit 7 of the blank 10 is composed as a monolayer structure, but may be composed as a multilayered structure by forming the front surface 10a side of the blank 10, which forms the outer surface 4a of the outer wrapping body 4, by the polyolefin fiber layer 71, and pasting another base paper, a film or the like on the polyolefin fiber layer 71. For example, in the manufacturing process of the blank 10 (the base paper sheet), the base paper or the like which is colored in a color different from the color of the polyolefin fiber layer 71 may be pasted on the polyolefin fiber layer 71. In the mode like this, in the transparentization region R1 of the blank 10, transparentization of the polyolefin fiber layer 71 occurs, the color on an underlayer is seen through, and an excellent visual effect can be exhibited. Further, according to the mode like this, an expression that cannot be easily expressed in ink can be given to the outer surface 4a of the outer wrapping body 4. For example, it becomes possible to express a watermark with metallic feeling in the transparentization region R1 by pasting alu-

minum paper or the like on an inner surface of the outer wrapping body 4.

[0053] Further, in the outer wrapping body 4 (the blank 10) according to the present embodiment, the transparentization regions R1 are disposed in association with only the recessed and raised design units 8, but the present invention is not limited to this. For example, the transparentization regions R1 are set to the regions where the recessed and raised design units 8 are not provided, and transparentization of the polyolefin fiber layer 71 relating to the regions may be performed.

[0054] Note that in the present embodiment, the case of performing the transparentizing treatment of the polyolefin fiber layer 71 by heating, by using heating device 200, the specific regions in the front surface 10a of the blank 10 where the recessed and raised design units 8 are formed is described as an example, but the present invention is not limited to this. The polyolefin fiber layer 71 may be transparentized by directly heating the polyolefin fiber layer 71 of the blank 10 by an embossing die when the embossing die formed on a front surface of an embossing roll for forming the recessed and raised design units 8 contacts the front surface 10a of the blank 10, for example. In this case, a step of forming the recessed and raised design units 8 on the front surface 10a of the blank 10 and a step of transparentizing the polyolefin fiber layer 71 in the transparentization regions R1 of the blank 10 can be performed in a same step, and therefore, the number of steps which are needed to manufacture the tobacco package 1 can be reduced. Further, when design is applied onto the front surface of a package by printing, and recessing and raising work is applied to be superposed on the design, there is a possibility of misalignment of the printed design and the recessing and raising work occurs. In relation to this, in the tobacco package 1 according to the present embodiment, the regions in which the pink (the second color) that is applied onto the back surface 10b seems to emerge on the front surface 10a and is seen by performing transparentization of the polyolefin fiber layer 71 are not out of the regions where the recessed and raised design units 8 are formed, and an advantage that misalignment of both of them can never occur is obtained.

[0055] Although the preferable embodiment of the present invention is described thus far, proper changes can be added to the above described embodiment in the range without departing from the gist of the present invention. Fig. 7 is a perspective view of the tobacco package 1 according to a modification example. In the outer wrapping body 4 of the tobacco package 1 in Fig. 1 and Fig. 2, a contour (a boundary line from the non-transparentization region R2) of the transparentization region R1 which is associated with the recessed and raised design unit 8 (the transparentization recessed and raised design unit 8A) matches an outline of the recessed and raised design unit 8 (the transparentization recessed and raised design unit 8A), but the present invention is not limited to this. That is, as the modification example illustrated in Fig. 7, positions of the outline of the transparentization region R1 and the outline of the recessed and raised design unit 8 (the transparentization recessed and raised design unit 8A) may be misaligned, and a mode like this also falls in category in which the transparentization region R1 and the recessed and raised design unit 8 (the transparentization recessed and raised design unit 8A) are associated with each other. Further, in the modification example illustrated in Fig. 7, the outlines of the transparentization regions R1 are positioned outside of the outlines of the recessed and raised design units 8 (the transparentization recessed and raised design units 8A) in such a manner that the transparentization regions R1 cover the recessed and raised design units 8 (the transparentization recessed and raised design units 8A), but the outlines of the transparentization regions R1 may be positioned inside of the outlines of the recessed and raised design units 8 (the transparentization recessed and raised design unit 8A).

[0056] Further, although in the present embodiment, the case of housing cigarettes in the tobacco package 1 is described as an example, other tobacco products such as cigars, cigarillos, snus, snuff, chewing tobacco, and electronic cigarettes may be housed in the package 1. Further, the embodiment and the modification example described above can be carried out by being combined as far as possible.

Reference Signs List

[0057]

1	Tobacco package
2	Housing body
3	Lid body
4	Outer wrapping body
5	Transparent film
6	Hinge
7	Polyolefin fiber containing unit
8	Recessed and raised design unit
8A	Transparentization recessed and raised design unit
8B	Non-transparentization recessed and raised design unit
10	Blank
71	Polyolefin fiber layer
R1	Transparentization region
R2	Non-transparentization region

Claims

1. A tobacco package, comprising:

an outer wrapping body in which a tobacco product is wrapped; and

a polyolefin fiber containing unit that composes at least a part of the outer wrapping body, and

has a polyolefin fiber layer containing polyolefin fibers,
wherein transparentizing treatment by heating is applied to a specific region in the polyolefin fiber containing unit.

2. The tobacco package according to claim 1, wherein the polyolefin fiber containing unit has the polyolefin fiber layer on an outermost layer.

3. The tobacco package according to claim 1 or 2, wherein in the transparentizing treatment, the specific region in the polyolefin fiber containing unit is heated while being pressurized.

4. The tobacco package according to any one of claims 1 to 3,
wherein the polyolefin fiber layer contains 5% by weight or more and 40% by weight or less of the polyolefin fibers.

5. The tobacco package according to claim 4, wherein the polyolefin fiber layer contains 15% by weight or more and 25% by weight or less of the polyolefin fibers.

6. The tobacco package according to any one of claims 1 to 5,
wherein in the polyolefin fiber containing unit, a recessed and raised design unit in which recessing and raising work is applied is provided on an outer surface of the polyolefin fiber containing unit, and the specific region to which the transparentizing treatment is applied is associated with the recessed and raised design unit.

7. The tobacco package according to any one of claims 1 to 6,
wherein an inner surface of the polyolefin fiber containing unit has a different color from an outer surface of the polyolefin fiber containing unit.

8. The tobacco package according to claim 7, wherein the inner surface of the polyolefin fiber containing unit is colored in ink of a different color from the outer surface.

9. The tobacco package according to claim 7, wherein on the inner surface of the polyolefin fiber containing unit, a sheet material having a different color from the outer surface is pasted.

10. The tobacco package according to any one of claims 1 to 9,
wherein the outer wrapping body is covered with a transparent film that seals the outer wrapping body, and
at least a part of a non-transparentization region to which the transparentizing treatment is not applied in the polyolefin fiber containing unit is vertically laid on a heat seal unit of the transparent film.

11. The tobacco package according to claim 10, wherein a recessed and raised design unit in which recessing and raising work is applied to an outer surface is provided in at least a part of a region where the non-transparentization region and the heat seal unit are vertically laid on each other, in the polyolefin fiber containing unit.

12. The tobacco package according to claim 10 or 11, wherein in the polyolefin fiber containing unit, an inner surface in at least a part of a region where the non-transparentization region and the heat seal unit are vertically laid on each other has a different color from an outer surface.

13. A blank forming an outer wrapping body of a tobacco package that is a blank forming an outer wrapping body of a tobacco package in which a tobacco product is wrapped, comprising:

a polyolefin fiber containing unit that composes at least a part of the blank, and has a polyolefin fiber layer containing polyolefin fibers,
wherein transparentizing treatment by heating is applied to a specific region in the polyolefin fiber containing unit.

FIG. 1

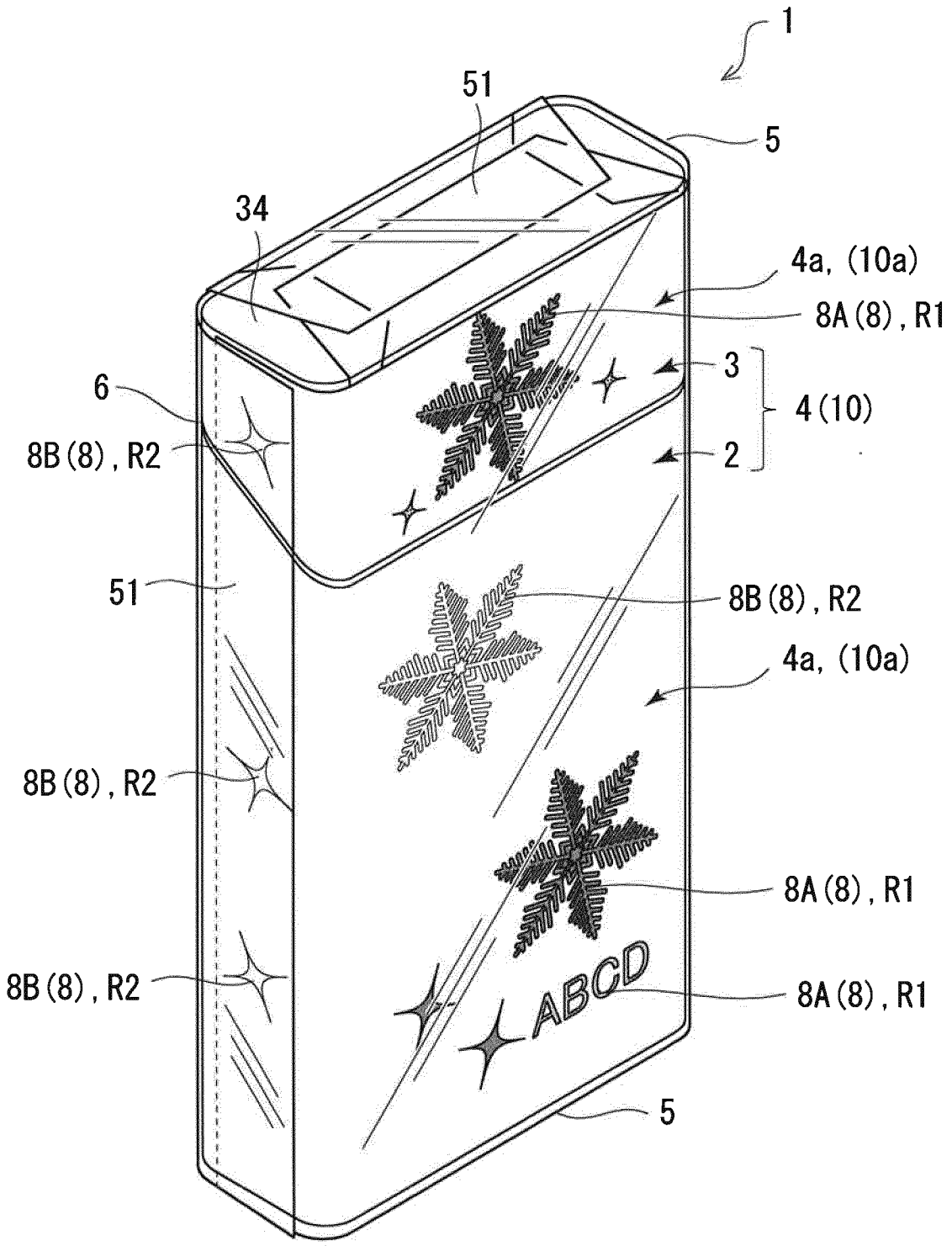

1
51
5
34
4a, (10a)
8A(8), R1
3
4(10)
2
6
8B(8), R2
51
8B(8), R2
4a, (10a)
8B(8), R2
8A(8), R1
8B(8), R2
ABCD
8A(8), R1
5

FIG. 2

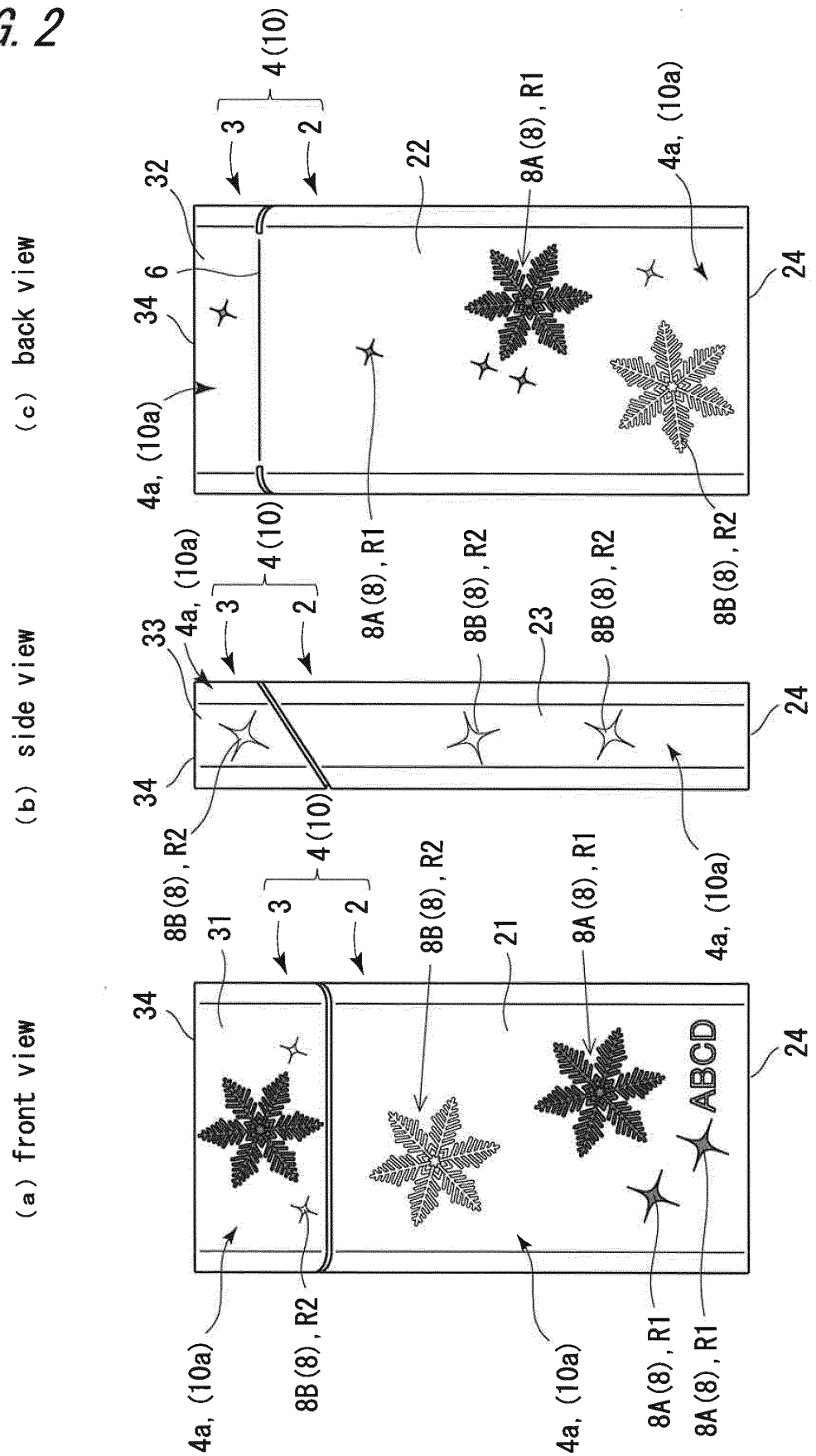

(a) front view
(b) side view
(c) back view
4a, (10a)
8B (8), R2
8A (8), R1
4 (10)
3
2
31
32
33
34
6
21
22
23
24
ABCD

FIG. 3

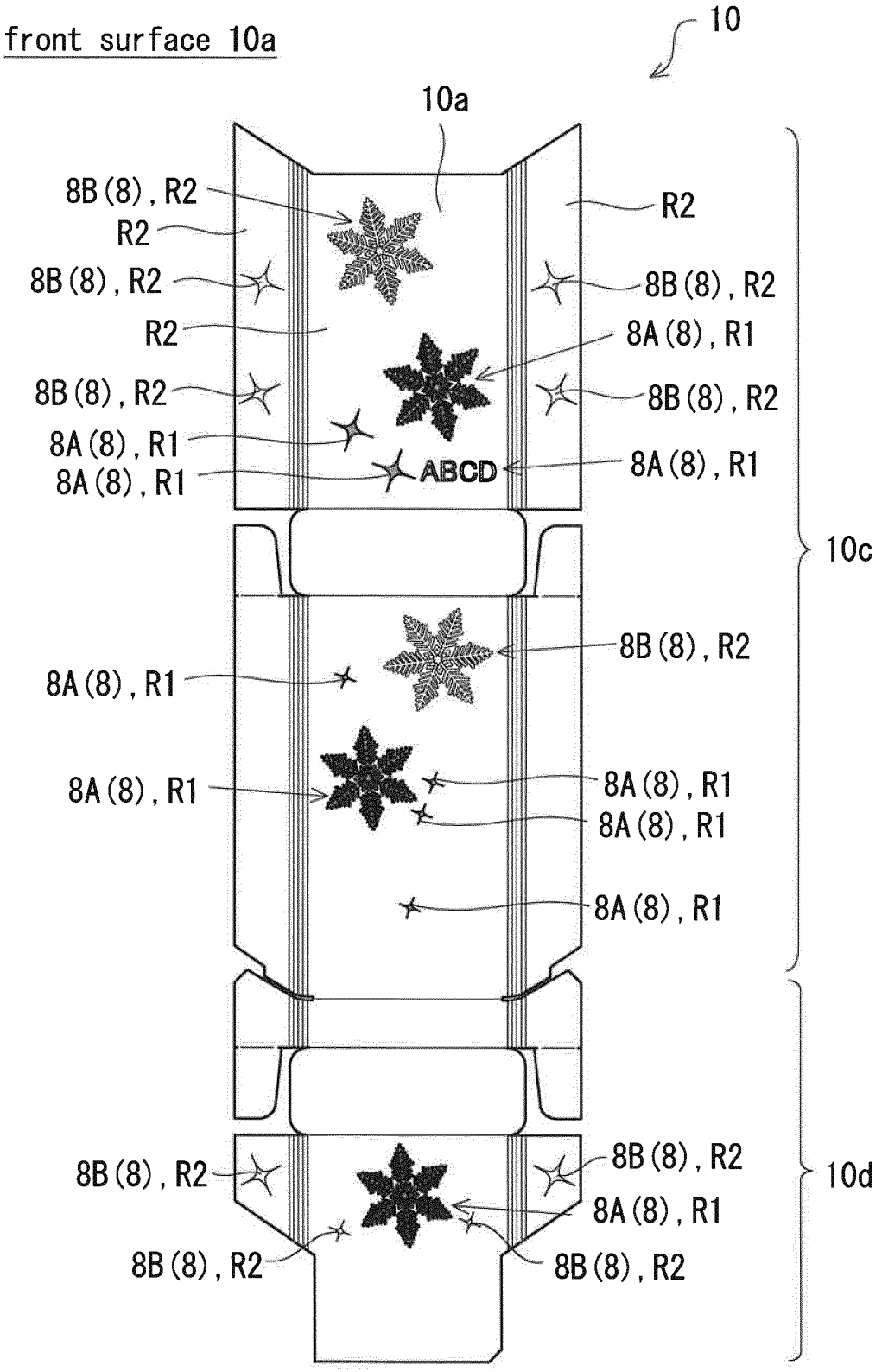

front surface 10a
10
10a
8B (8), R2
R2
8B (8), R2
R2
8B (8), R2
8A (8), R1
8B (8), R2
8A (8), R1
8A (8), R1
ABCD
8A (8), R1
10c
8B (8), R2
8A (8), R1
8A (8), R1
8A (8), R1
8A (8), R1
8A (8), R1
8B (8), R2
8B (8), R2
8A (8), R1
8B (8), R2
8B (8), R2
10d

FIG. 4

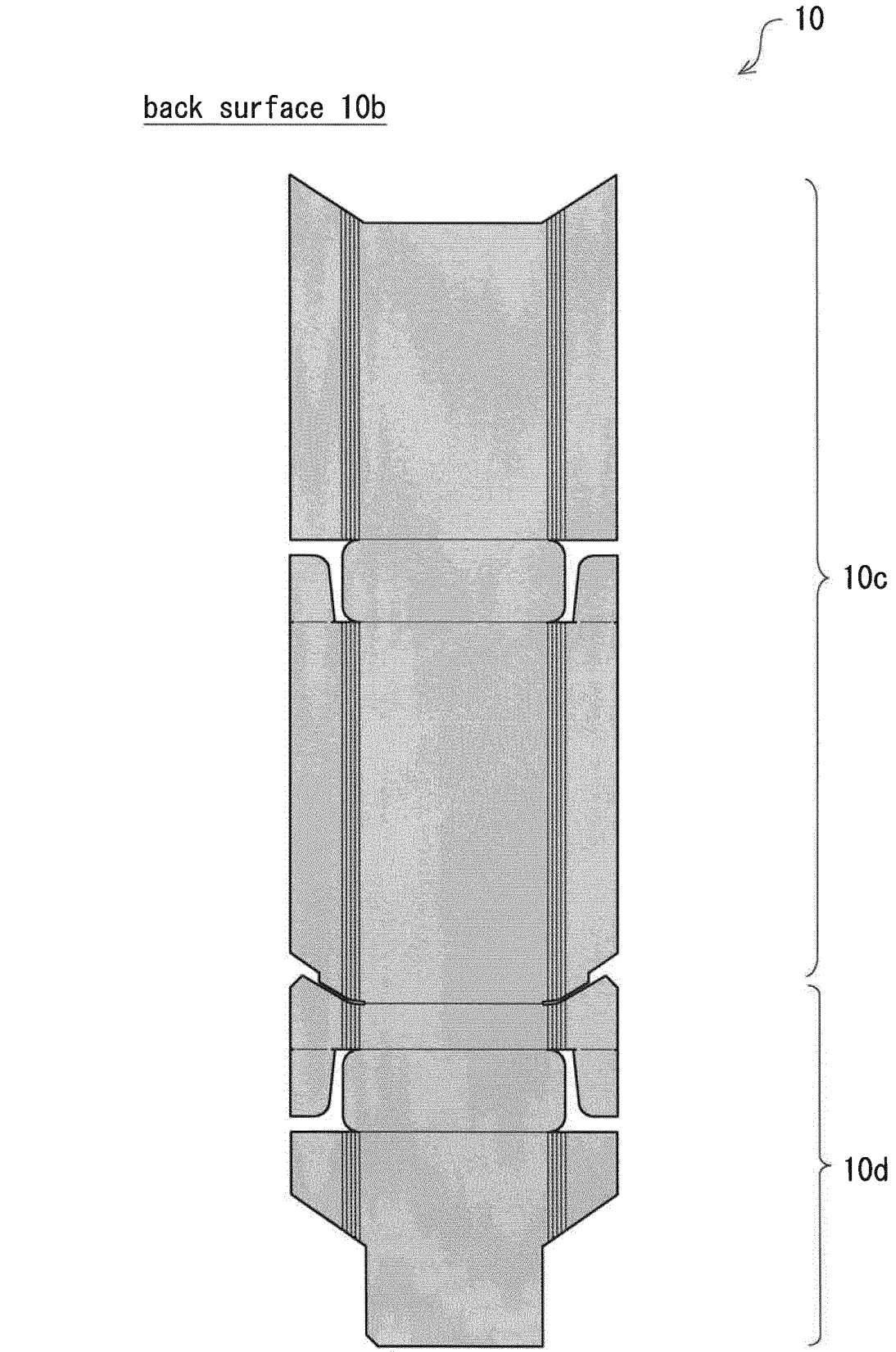


FIG. 5

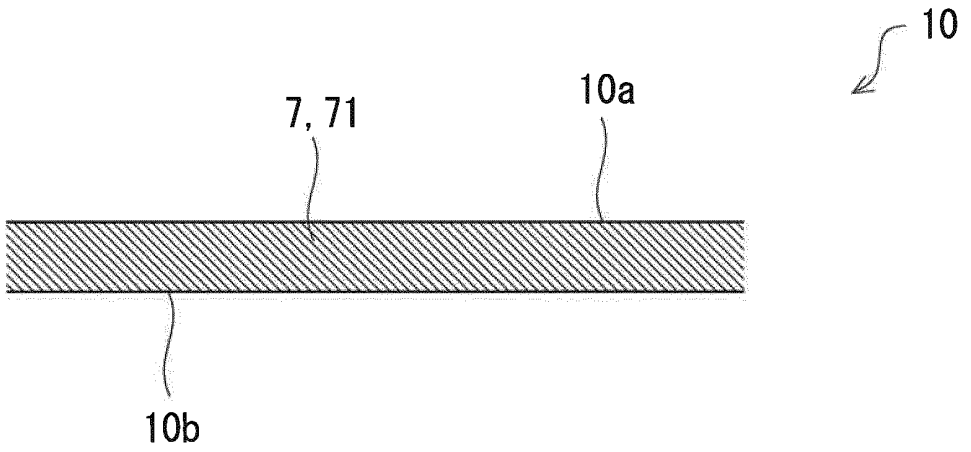

10
10a
7, 71
10b

FIG. 6

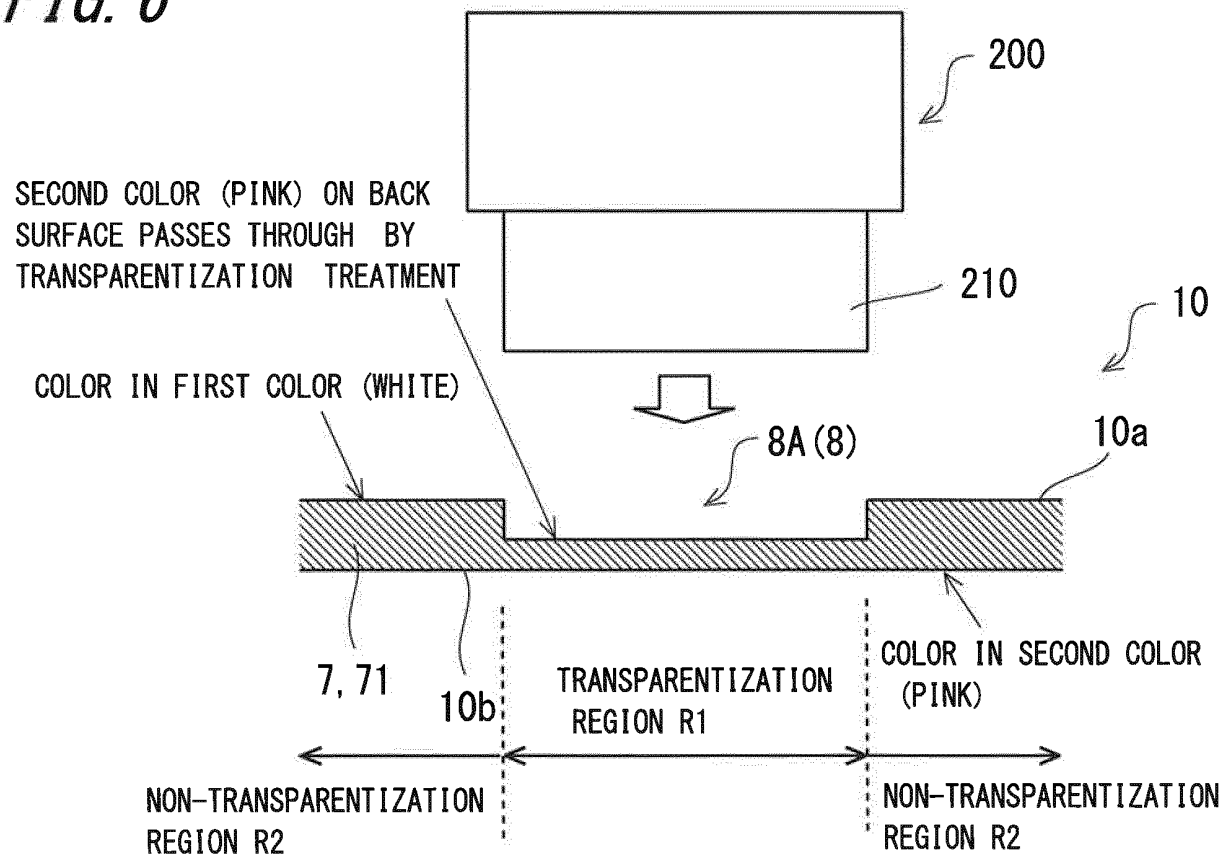
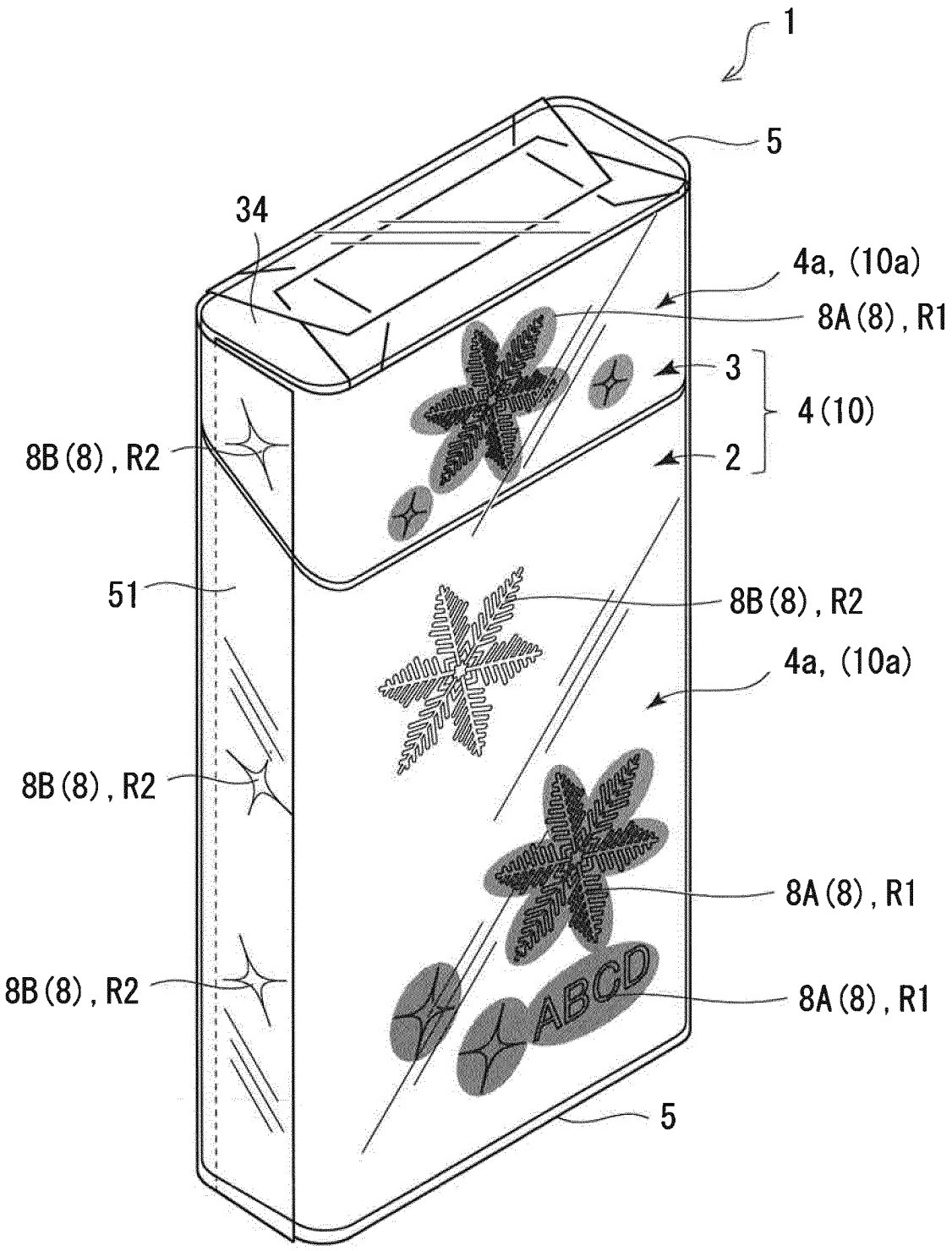

200
SECOND COLOR (PINK) ON BACK SURFACE PASSES THROUGH BY TRANSPARENTIZATION TREATMENT
210
10
COLOR IN FIRST COLOR (WHITE)
8A (8)
10a
7, 71
10b
TRANSPARENTIZATION REGION R1
COLOR IN SECOND COLOR (PINK)
NON-TRANSPARENTIZATION REGION R2
NON-TRANSPARENTIZATION REGION R2

FIG. 7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8A(8), R1
3
4(10)
2
8B(8), R2
51
8B(8), R2
4a, (10a)
8B(8), R2
8A(8), R1
8B(8), R2
ABCD
8A(8), R1
5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2015/083215

A. CLASSIFICATION OF SUBJECT MATTER
B65D85/10(2006.01)i, *B65D5/42*(2006.01)i, *B65D5/66*(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, B65D5/42, B65D5/66, A24F15/12-15/18

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 1996-2016
Kokai Jitsuyo Shinan Koho 1971-2016 Toroku Jitsuyo Shinan Koho 1994-2016

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	JP 2006-56603 A (G.D S.p.A.), 02 March 2006 (02.03.2006), paragraphs [0008] to [0018]; fig. 1 & KR 10-2006-0048999 A	1-10,12-13
Y	JP 50-25048 B1 (Mitsubishi Rayon Co., Ltd.), 20 August 1975 (20.08.1975), column 2, line 22 to column 5, line 9 (Family: none)	1-10,12-13
Y	WO 2013/120897 A1 (BRITISH AMERICAN TABACCO LTD.), 22 August 2013 (22.08.2013), page 9, line 30 to page 10, line 13; fig. 1 to 2 & US 2015/0001109 A1 & GB 2499258 A	10,12

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

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"P" document published prior to the international filing date but later than the priority date claimed
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"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	Date of mailing of the international search report
15 January 2016 (15.01.16)	26 January 2016 (26.01.16)
Name and mailing address of the ISA/ Japan Patent Office 3-4-3,Kasumigaseki,Chiyoda-ku, Tokyo 100-8915,Japan	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2015/083215

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2013-502353 A (R.J. Reynolds Tobacco Co.), 24 January 2013 (24.01.2013), & US 2011/0042249 A1 & WO 2011/022248 A1 & CN 102741133 A	1-13
A	JP 2010-536664 A (BH Visual Co., Ltd.), 02 December 2010 (02.12.2010), & WO 2009/025449 A1 & KR 10-2009-0018325 A	1-13
A	US 2011/0000802 A1 (PHILIP MORRIS USA INC.), 06 January 2011 (06.01.2011), & WO 2011/001200 A1 & FR 2947533 A1 & CN 102470951 A & KR 10-2012-0046214 A	1-13

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