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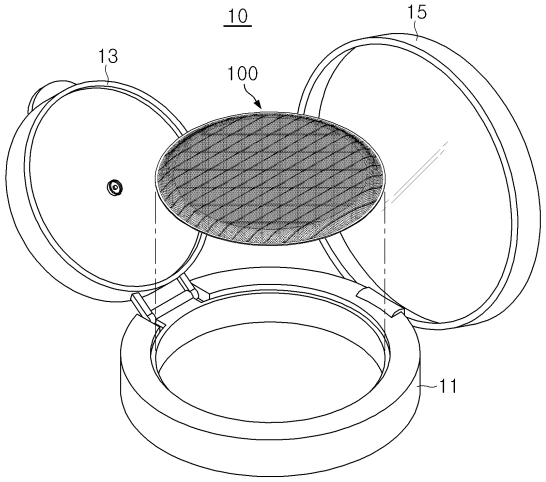
(54) LIQUID COSMETIC MATERIAL IMPREGNATION COSMETIC PRODUCT HAVING THREE-DIMENSIONAL FABRIC IMPREGNATION MATERIAL

(57) The present invention relates to a cosmetic product for impregnating a liquid cosmetic material by using a three-dimensional fabric as an impregnation material. The impregnation material in the present invention comprises: a first surface region including a first surface and a second surface for impregnating a liquid cosmetic material, and having a first weaving pattern; a second surface region having a second weaving pattern; and a vertical layer structure defined as a pillar region formed by a plurality of Z yarns for connecting the first surface region and the second surface region between the first surface region and the second surface region, wherein the circumference of the impregnation material has an edge portion at which the vertical layer structure is compressed. According to the present invention, provided is an impregnation material for liquid cosmetic material impregnation, the material facilitating the formation of a surface pattern while implementing a high impregnation ratio.

FIG. 1



EP 3 620 077 A1

Description

[Technical Field]

[0001] The present invention relates to a cosmetic product, and more particularly, to a cosmetic product impregnated with a liquid cosmetic material.

[Background Art]

[0002] Cosmetic materials are present in various forms such as solids and liquids, and it is common to use a liquid cosmetic material in a state in which the liquid cosmetic material is stored in a flexible container such as a tube in order to easily discharge the liquid cosmetic material while preventing a leakage of the liquid cosmetic material.

[0003] Meanwhile, a cosmetic product is used, in which an impregnation material such as polyurethane foam is impregnated with a liquid cosmetic material having comparatively low or high viscosity and fluidity, and the polyurethane foam is pressed by using a tool such as a puff to discharge the cosmetic material with the puff coated with the cosmetic material.

[0004] Such porous foam requires a separate process of forming a special pattern on an exposed surface of the porous foam in order to impart an aesthetic appearance when using the cosmetic product. For example, in a case in which the pattern on the surface is formed by using a heating and pressing method, shapes and sizes of pores in the foam are changed, which causes a problem in that channels through which the cosmetic material flows are inadvertently damaged.

[0005] In addition, because the channels in the porous foam are formed by small pores, it is difficult to inject the cosmetic material when impregnating the porous foam with the cosmetic material.

[Disclosure]

[Technical Problem]

[0006] In order to solve the problems in the related art, an object of the present invention is to provide a cosmetic product having an impregnation material made of a three-dimensional fabric.

[0007] In addition, another object of the present invention is to provide a cosmetic product having an impregnation material which is implements a high impregnation rate and makes it easy to form a surface pattern.

[0008] In addition, still another object of the present invention is to provide a cosmetic product having an impregnation material which allows a cosmetic material to be quickly injected when impregnating the impregnation material.

[0009] In addition, yet another object of the present invention is to provide an external appearance structure of a fabric impregnation material which is suitable to be mounted on a cosmetic product.

[Technical Solution]

[0010] To achieve the technical objects, the present invention provides a cosmetic product including: a cosmetic material container main body; and a three-dimensional fabric which is mounted in the container main body and has a first surface and a second surface so as to be impregnated with a liquid cosmetic material, in which the three-dimensional fabric has a vertically layered structure including: a first surface region having a first woven pattern; a second surface region having a second woven pattern; and a pillar region which is formed between the first surface region and the second surface region by multiple Z-yarns that connect the first surface region and the second surface region.

[0011] In addition, the present invention provides a cosmetic product including: a cosmetic material container main body; and a three-dimensional fabric impregnation material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material and has a first surface and a second surface, in which the three-dimensional fabric impregnation material includes a vertically layered structure including: a first surface region having a first woven pattern; a second surface region having a second woven pattern; and a pillar region which is formed between the first surface region and the second surface region by multiple Z-yarns that connect the first surface region and the second surface region, and a circumference of the impregnation material has a rim portion at which the vertically layered structure is compressed.

[0012] In the present invention, the first surface or the second surface of the impregnation material may have a shape convex outward. In addition, one of the first surface and the second surface may be a substantially flat surface. In this case, the impregnation material may be mounted in the container main body such that one of the first and second surfaces which is a substantially flat surface is exposed upward.

[0013] In the present invention, a distance between the first surface and the second surface may be decreased toward the rim portion of the three-dimensional fabric impregnation material.

[0014] In the present invention, the multiple Z-yarns may traverse the pillar region between the first surface region and the second surface region, and traversing angles of the multiple Z-yarns may range from 0 to 60 degrees.

[0015] In addition, the first woven pattern may be formed to have weaving density that locally varies, and for example, the first woven pattern may include a densely woven portion which has dense weaving density, and one or more opening hole portions which are not woven.

[0016] In addition, the present invention provides a cosmetic product including: a cosmetic material container main body; a three-dimensional fabric impregnation

material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material, includes a first surface and a second surface, and has a rim portion provided around an outer circumference of the three-dimensional fabric impregnation material; and an impregnation material fixing member which is configured to fix the three-dimensional fabric impregnation material to the container main body.

[0017] In addition, the present invention provides a cosmetic product including: a cosmetic material container main body; a three-dimensional fabric impregnation material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material, includes a first surface and a second surface, and has a rim portion provided around an outer circumference of the three-dimensional fabric impregnation material; and an impregnation material fixing member which is configured to fix the three-dimensional fabric impregnation material to the container main body, in which the rim portion is fixed to the container main body by the impregnation material fixing member.

[0018] In addition, to achieve another technical object, the present invention provides a three-dimensional fabric impregnation material which has a first surface and a second surface and is impregnated with a liquid cosmetic material, the three-dimensional fabric impregnation material including: a vertically layered structure which includes: a first surface region having a first woven pattern; a second surface region having a second woven pattern; and a pillar region which is formed between the first surface region and the second surface region by multiple Z-yarns that connect the first surface region and the second surface region, in which a circumference of the impregnation material has a rim portion at which the vertically layered structure is compressed.

[Advantageous Effects]

[0019] According to the present invention, it is possible to provide the cosmetic product having the impregnation material made of a three-dimensional fabric.

[0020] In addition, the cosmetic product having the three-dimensional fabric according to the present invention implements a high impregnation rate and makes it easy to form a surface pattern.

[0021] In addition, it is possible to provide the cosmetic product having the impregnation material which allows the liquid cosmetic material to be quickly injected when being impregnated with the liquid cosmetic material because the surface pattern such as the opening hole portion is appropriately designed, and allows the liquid cosmetic material to be smoothly discharged when a user uses the cosmetic product.

[0022] In addition, the impregnation material according to the present invention has a rim portion, such that the impregnation material has an external appearance structure suitable to be mounted on the cosmetic product.

[0023] In addition, according to the present invention, it is possible to inhibit the occurrence of scraps or debris when cutting out the fabric impregnation material, and to inhibit feeling of irritation caused by discharged scraps or debris when a user uses the cosmetic product.

[Description of Drawings]

[0024]

FIG. 1 is a view schematically illustrating a cosmetic product according to an exemplary embodiment of the present invention.

FIG. 2 is a view schematically illustrating an external appearance of a three-dimensional fabric impregnation material according to the exemplary embodiment of the present invention.

FIG. 3 is a view schematically illustrating a cosmetic product according to another exemplary embodiment of the present invention.

FIG. 4 is a cross-sectional view schematically illustrating a vertically layered structure, while focusing on a central portion of the three-dimensional fabric impregnation material in FIG. 2.

FIG. 5 is a view illustratively illustrating various external appearance shapes of the three-dimensional fabric impregnation material according to the exemplary embodiment of the present invention.

FIG. 6 is a view schematically illustrating a three-dimensional fabric impregnation material according to another exemplary embodiment of the present invention.

FIG. 7 is a view schematically illustrating a three-dimensional fabric impregnation material according to still another exemplary embodiment of the present invention.

FIG. 8 is an illustrative cross-sectional view illustrating a vertically layered structure at a central portion of the three-dimensional fabric impregnation material in FIG. 5.

FIG. 9 is a cross-sectional view illustrating a vertically layered structure at a central portion of the three-dimensional fabric impregnation material according to still another exemplary embodiment of the present invention.

FIG. 10 is a schematic view for explaining a method of manufacturing the three-dimensional fabric impregnation material according to the exemplary embodiment of the present invention.

FIG. 11 is a schematic view for explaining a method of manufacturing the three-dimensional fabric impregnation material according to another exemplary embodiment of the present invention.

FIG. 12 is a view illustrating another example of the cosmetic product including the impregnation material according to the exemplary embodiment of the present invention.

FIGS. 13A and 13B are captured photographs of cut-out impregnation materials, in which FIG. 13A is the

captured photograph of the impregnation material cut out without a rim portion, and FIG. 13B is the captured photograph of the impregnation material having a rim portion.

FIGS. 14A and 14B are captured photographs of cosmetic products manufactured by using three-dimensional fabric foam in FIG. 11.

[Best Mode]

[0025] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the drawings.

[0026] FIG. 1 is a view schematically illustrating a cosmetic product according to an exemplary embodiment of the present invention.

[0027] As illustrated, a cosmetic product 10 has a container main body 11 configured to accommodate a liquid cosmetic material. The container main body 11 accommodates a three-dimensional fabric impregnation material 100 impregnated with the liquid cosmetic material. The cosmetic product may include an inner lid 13 and/or an outer lid 15 in order to prevent leakage of the liquid cosmetic material from the fabric impregnation material 100. In addition, although not illustrated, a fixing member configured to fix the three-dimensional fabric impregnation material may be further provided in order to prevent withdrawal of the three-dimensional woven fabric impregnation material. The fixing member will be described separately below.

[0028] FIGS. 2A and 2B are a perspective view and a front view, respectively, schematically illustrating an external appearance of the fabric impregnation material according to the exemplary embodiment of the present invention.

[0029] Referring to FIG. 2, the fabric impregnation material 100 has a first surface 110 and a second surface 120. The first surface 110 and the second surface 120 of the fabric impregnation material 100 have an upward convex shape and a downward convex shape, respectively. Meanwhile, a height of the fabric impregnation material 100 is decreased from a central portion toward an outer side, and a rim of the fabric impregnation material 100 is compressed, such that a rim portion 130 having a rim shape is formed in a state in which the first surface 110 and the second surface 120 are substantially laminated. FIG. 3 is a view schematically illustrating a cosmetic product according to another exemplary embodiment of the present invention.

[0030] Referring to FIG. 3, unlike FIGS. 1 and 2, the fabric impregnation material 100 of the cosmetic product 10 has no rim portion of a rim shape at an outer periphery thereof, and the first surface and the second surface are formed as flat surfaces.

[0031] FIG. 4 is a cross-sectional view schematically illustrating a cross-sectional structure, while focusing on a central portion of the three-dimensional fabric impregnation material in FIG. 2. Meanwhile, since the fabric impregnation material 100 in FIG. 3 has no rim portion, the outer peripheral portion as well as the central portion has the cross-sectional structure in FIG. 3.

[0032] In the present invention, the three-dimensional fabric impregnation material 120 may be woven by using a series of filaments including warp yarns, filling yarns, and Z-yarns. In the present invention, the number of filaments used to weave the three-dimensional woven fabric impregnation material is not particularly limited.

[0033] Referring to FIG. 3, the three-dimensional fabric impregnation material 100 has the first surface 110 and the second surface 120 which are substantially flat.

[0034] In addition, the three-dimensional fabric impregnation material 100 is vertically layered and includes a surface structure, which includes a first surface region S1 including the first surface and having a predetermined thickness and a second surface region S2 including the second surface and having a predetermined thickness, and a pillar region P between the two surface regions. In the drawing, the first surface region S1 and the second surface region S2 are illustrated as having a woven fabric pattern having a single layer, but the present invention is not limited thereto, and each of the surface regions may have two or more layers. In addition, FIG. 2 illustrates the three-dimensional fabric impregnation material woven by using three filaments, but the three-dimensional fabric impregnation material may be woven by using three or more filaments, for example, five, seven, or any number of filaments.

[0035] In FIG. 4, each of the first surface region S1 and the second surface region S2 has a predetermined thickness and has a woven pattern made by weaving with a warp yarn 130, a filling yarn 140, and a Z-yarn 150.

[0036] In the drawing, relative sizes such as lengths or thicknesses of the warp yarn 130, the filling yarn 140, and the Z-yarn 150 are defined for convenience of illustration, and the warp yarn 130, the filling yarn 140, and the Z-yarn 150 are not scaled to actual sizes. In addition, in the drawing, each of the warp yarn, the filling yarn, and the Z-yarn is illustrated as having a single fiber filament, but each of the warp yarn, the filling yarn, and the Z-yarn may be implemented by a bundle of filaments made by twisting fine fibers. In addition, a weaving method for forming the woven pattern is schematically illustrated in the drawing, and various possible weaving methods may be applied to form the woven pattern according to the present invention.

[0037] Referring back to FIG. 4, the Z-yarn 250 extends between the first surface region S1 and the second surface region S2 while connecting the first surface region and the second surface region, thereby forming a pillar region P. As an example, the pillar region P may be implemented only by the Z-yarn without using the warp yarn or the filling yarn.

[0038] In the present invention, the multiple Z-yarns may traverse the pillar region P while having a predetermined angle with respect to a normal line to the surface region.

[0039] The pillar region P provides an accommodation space for accommodating the liquid cosmetic material and supports the surface structure including the first surface region S1 and the second surface region S2. Particularly, the Z-yarn for forming the pillar region P is implemented by the filaments having appropriate rigidity and/or elasticity, such that the Z-yarn may have restoring force against deformation caused by a pressure within a predetermined range applied to the first surface region S1 and the second surface region S2. In addition, the Z-yarn may be made by using the filament having a thickness different from a thickness of the filament of the warp yarn 240 and the filling yarn 250 in the first and second surface regions S1 and S2. For example, the Z-yarn may have a larger thickness (denier) than the warp yarn and the filling yarn in order to ensure higher supporting force. In addition, some or the entirety of the filaments used for three-dimensional weaving may be implemented as filaments made by twisting superfine fibers in order to improve a contact property when a user touches the filaments.

[0040] In the present invention, the liquid cosmetic material is mainly absorbed into the pillar region P even though a part of the liquid cosmetic material is absorbed into the surface regions, and the impregnation amount is determined depending on a thickness of the yarn, density of the yarn, and a thickness of the pillar region. Considering that the thickness of the surface region is very small, the thickness of the pillar region P may be practically and substantially equal to a depth of the accommodation space of the container main body. In the present invention, the thickness of the pillar region may be 5 to 30 mm, and more particularly, 5 to 15 mm. In addition, the thickness of the pillar region P needs to be much larger than the thickness of each of the surface regions S1 and S2, and the thickness of the pillar region P may be at least five to ten or more times the thickness of the surface region S1 or S2.

[0041] In FIG. 4, the first surface region S1 and the second surface region S2 are illustrated as having substantially the same weaving density, but the first surface region S1 and the second surface region S2 may have different weaving density.

[0042] In addition, in the present invention, the weaving density may locally vary even in one of the surface regions S1 and S2, or a predetermined woven pattern may be formed by using filaments having different colors or by applying different weaving methods, and as a result, a surface pattern of the impregnation material may be formed. Here, the weaving density may be defined as the number of strands of the warp yarn, the filling yarn, and the Z-yarn per unit area in the first surface or the second surface.

[0043] In the illustrated exemplary embodiment, the filaments of the Z-yarn in the pillar region P are illustrated as vertically extending straight, but the filament of the Z-yarn may of course be formed in a shape curved by a self-weight, external force, or artificial force. In addition, the multiple filaments of the Z-yarns for forming the pillar region P are illustrated as extending in substantially parallel with each other, but the multiple filaments of the Z-yarns may extend while intersecting each other.

[0044] FIG. 5 is a view illustrating various shapes of the three-dimensional fabric impregnation material according to the exemplary embodiment of the present invention when viewed from the front side.

[0045] First, referring to FIG. 5A, the three-dimensional fabric impregnation material 100 includes the first surface 110 which is substantially flat, and the second surface 120 which has a central portion that protrudes convexly downward. The three-dimensional fabric impregnation material 100 includes the rim portion 130 which is formed around an outer circumference of the impregnation material and compressed to the extent to which the first surface 110 and the second surface 120 are almost in contact with each other. In the rim portion 130, the pillar region P illustrated in FIG. 4 is compressed and collapsed, such that the pillar region P is considered as occupying substantially no space. In the present invention, the rim portion 130 may continuously extend around the circumference of the impregnation material, but the present invention is not limited thereto, and the rim portion 130 may extend intermittently around the circumference of the impregnation material.

[0046] Next, referring to FIG. 5B, the first surface 110 and the second surface 120 of the three-dimensional fabric impregnation material 100 have lens shapes that protrude upward and downward, respectively, the thickness of the impregnation material is gradually decreased toward a rim of the impregnation material, thereby forming the rim portion 130.

[0047] In the present invention, the rim portion 130 may have an appropriate width w. In the exemplary embodiment of the present invention, coupling force between the first surface and the second surface at the rim portion 130 may be determined depending on the width of the rim portion 130. The impregnation material having the rim portion having a large width provides high coupling force, such that the shape of the impregnation material may be structurally and stably maintained. In addition, as described below, in consideration of an arrangement structure in the cosmetic product, the impregnation material may be designed to have a width required to allow the impregnation material to be disposed in the container of the cosmetic product in a state in which the impregnation material cannot be moved. Meanwhile, the above-mentioned arrangement of the impregnation material may contribute to preventing leakage of the liquid cosmetic material with which the impregnation material is impregnated or which is present in a separated state in the container. As an example, in the present invention, the width of the rim portion of the impregnation material may be 0.5 mm or more, and particularly, 1 to 3 mm.

[Mode for Invention]

[0048] FIG. 6 is a view schematically illustrating a three-dimensional fabric impregnation material according to another exemplary embodiment of the present invention.

[0049] As illustrated in FIGS. 6A and 6B, a three-dimensional fabric has a surface structure in which weaving density varies locally. A three-dimensional fabric impregnation material 200 includes a first surface 210 and a second surface 220 opposite to the first surface 210, and the first surface 210 and the second surface 220 of the fabric impregnation material 200 have, at central portions thereof, shapes convex upward and downward, respectively. Meanwhile, a height of the fabric impregnation material 200 is gradually decreased toward the rim, and the first surface 210 and the second surface 220 are in close contact with each other at the rim of the fabric impregnation material 200, such that a rim portion 230 is formed to extend around an outer circumference of the fabric impregnation material 200.

[0050] Unlike the three-dimensional fabric impregnation material described with reference to FIG. 2, multiple opening hole portions A are formed in the first surface 210 of the impregnation material 200 illustrated in FIG. 6. The opening hole portions A may be repeatedly arranged periodically or irregularly in the surface of the three-dimensional fabric. In addition, the opening hole portions A formed in the first surface are illustrated as being present to be spaced apart from one another, but at least some of the opening hole portions A may be continuously connected to one another.

[0051] FIG. 7 is a view schematically illustrating a fabric impregnation material according to still another exemplary embodiment of the present invention.

[0052] Unlike FIG. 6, a fabric impregnation material 100 illustrated in FIG. 7 has no rim portion having a rim shape formed at an outer periphery thereof, and a first surface and a second surface are formed as flat surfaces.

[0053] FIG. 8 is an illustrative cross-sectional view illustrating a vertically layered structure at a central portion of the three-dimensional fabric impregnation material in FIG. 5. The description will be made below while focusing on the fabric impregnation material illustrated in FIG. 6, but the impregnation material illustrated in FIG. 7 has the same vertically layered structure at the outer periphery as well as the central portion.

[0054] Referring to FIG. 8, the three-dimensional fabric is vertically layered and includes the surface structure which includes the first surface region S1 and the second surface region S2, and the pillar region P which is provided between the first surface region S1 and the second surface region S2.

[0055] The first surface region S1 has a woven pattern woven by using a warp yarn 230, a filling yarn 240, and a Z-yarn 250. The woven pattern of the first surface region S1 may have a region in which weaving density locally varies, and as an example, the woven pattern may have a densely woven portion D which has dense weaving density, and opening hole portions A which are defined as non-woven portions. In contrast, the second surface region S2 is woven averagely with uniform density and has no opening hole portion.

[0056] In the present exemplary embodiment, the opening hole portion A may serve as a channel which opens the first surface 210 to make it easy to inject and/or discharge the cosmetic material. That is, the opening hole portion A makes it easy to fill the pillar region P with the liquid cosmetic material. Meanwhile, the opening hole portion A allows the cosmetic material, which fills the three-dimensional fabric impregnation material, to be easily discharged when the three-dimensional fabric impregnation material is pressed.

[0057] In the present invention, it is possible to implement a surface pattern having an aesthetic appearance by appropriately combining shapes, sizes, arrangement positions, and/or the number of opening hole portions A.

[0058] In addition, in the present invention, average weaving density of the densely woven portion D of the first surface region S1 may be designed to be higher than average weaving density of the second surface region S2. That is, when comparing the densely woven portion D, the opening hole portion A, and the second surface region, the respective regions are different in average weaving density from one another. That is, regarding the average weaving density of the surface, the relationship "Densely Woven Portion > Second Surface > Opening Hole Portion" may be defined.

[0059] In addition, in the present exemplary embodiment, the entire first surface region S 1 and the entire second surface region S2 may of course be set to be equal to or different from each other in average weaving density.

[0060] Meanwhile, as illustrated in FIG. 8, in the present invention, the multiple Z-yarns extend while traversing the pillar region P at predetermined angles. In this case, a traversing angle of the Z-yarn from the first surface region or the second surface region may be defined as an angle formed between a normal line to the surface of the surface region and the extension direction of the Z-yarn. In the present invention, the multiple Z-yarns may have various traversing angles. Particularly, the traversing angles of the multiple Z-yarns may range from 0 to 60 degrees.

[0061] The three-dimensional fabric impregnation material 200 according to the present invention, which has been described above with reference to FIGS. 6 to 8, may be accommodated in the container main body of the cosmetic product in various manners. The impregnation material may be accommodated in the container main body of the cosmetic product so that the first surface 210 formed with the opening hole portions A becomes a bottom surface of the impregnation material. On the contrary, the impregnation material may be accommodated in the container main body so that the first surface becomes an exposed surface of the impregnation material. The

former case is advantageous in that the cosmetic material is not excessively discharged from the three-dimensional fabric impregnation material 200.

[0062] FIG. 9 is a cross-sectional view illustrating a vertically layered structure at a central portion of the three-dimensional fabric impregnation material according to still another exemplary embodiment of the present invention.

[0063] Referring to FIG. 9, like the above-mentioned three-dimensional fabric impregnation material, the three-dimensional fabric according to the present exemplary embodiment is vertically layered and includes the surface structure which includes the first surface region S1 including the first surface 210 and the second surface region S2 including the second surface, and the pillar region P which is provided between the first surface region S1 and the second surface region S2.

[0064] Unlike FIG. 8, in the exemplary embodiment illustrated in FIG. 9, the first surface region S1 and the second surface region S2 have opening hole portions A1 and A2, respectively. The opening hole portions A1 and A2 of the first and second surface regions S1 and S2 may be formed at positions that vertically face one another, but may also be formed at positions that are staggered as illustrated.

[0065] In addition, in FIG. 9, the opening hole portion A1 of the first surface region S1 and the opening hole portion A2 of the second surface region S2 may be equal to or different from each other in sizes of the opening hole portions defined to have average diameters. The size of the opening hole portion may be associated with injection and discharge of the liquid cosmetic material having viscosity. For example, the opening hole portion having a large size makes it easy to inject the liquid cosmetic material, and the opening hole portion having a small size makes it easy to inhibit an inadvertent discharge of the liquid cosmetic material. Therefore, for example, the opening hole portions having small sizes are arranged on the first surface, and the opening hole portions having relatively large sizes are arranged on the second surface, such that the second surface may be used to make it easy to inject the liquid cosmetic material, and the first surface may be used to prevent a liquid leakage of the liquid cosmetic material.

[0066] In addition, the opening hole portions A1 and A2 of the first and second surfaces may be different in number. The multiple opening hole portions A1 and A2 having small average diameters are advantageous in uniformly discharging the liquid cosmetic material from the surface.

[0067] In the present invention, the above-mentioned three-dimensional fabric impregnation material may be manufactured by cutting out a three-dimensional raw fabric manufactured by three-dimensional weaving to a size of the container main body, and then forming the rim portion at the rim thereof. Hereinafter, an example of a method of forming the rim portions 130 and 230 of the three-dimensional impregnation materials will be described with reference to FIG. 8.

[0068] FIG. 10 is a schematic view for explaining a method of manufacturing the three-dimensional fabric impregnation material according to the exemplary embodiment of the present invention.

[0069] First, referring to FIG. 10A, upper and lower cutting dies 310 and 320, which correspond to an external shape of an impregnation material to be cut out, are prepared. For example, the cutting die may be a cylindrical die that extends in a circumferential direction. As illustrated in FIG. 8, a cutter 312 and a catching projection 314 are provided at a lower end of the upper die 310.

[0070] When an impregnation material raw fabric 100' is supplied between the illustrated cutting dies 310 and 320, the upper cutting die moves downward to cut the raw fabric. As illustrated in FIG. 8B, this structure may cut the impregnation material raw fabric 100' to a predetermined size and compress the first surface and the second surface at a cut end. The upper die is heated during the cutting process, and thus the catching projection 214 of the upper die heats and presses the impregnation material raw fabric, such that the raw fabric is melted or softened and compressed, thereby forming the rim portion at the corresponding position. In this case, the first surface region, the pillar region, and the second surface region, which define the vertically layered structure, are collapsed and compressed as the raw fabric is heated and pressed. This method may manufacture the three-dimensional fabric impregnation material having the shape illustrated in FIG. 6A.

[0071] Meanwhile, FIG. 11 is a schematic view for explaining a method of manufacturing the three-dimensional fabric impregnation material according to another exemplary embodiment of the present invention.

[0072] The lower die 320 of the upper and lower cutting dies 310 and 320 illustrated in FIG. 11 has a cylindrical shape that corresponds to the upper die, and as a result, the impregnation material may be manufactured such that the cut-out impregnation material has a shape convex upward and downward.

[0073] FIG. 12 is a view illustrating an example of the cosmetic product including the impregnation material according to the exemplary embodiment of the present invention. FIG. 12A is a schematic view illustrating a state in which the cosmetic product is disassembled, and FIG. 12B is a schematic view illustrating a state in which the cosmetic product is assembled.

[0074] Referring to FIG. 12, the three-dimensional fabric impregnation material 100 is accommodated on the container main body 11 configured to accommodate the impregnation material. An impregnation material fixing member 17, which has an opening 19 at a central portion thereof, is mounted on the three-dimensional fabric impregnation material 100 to prevent withdrawal of the fabric impregnation material.

[0075] The above-mentioned rim portion of the impregnation material according to the present invention protects the pillar region in the impregnation material from

the outside, such that it is possible to inhibit a discharge of filament scraps which are produced when cutting out the fabric impregnation material or when using the cosmetic material.

[0076] FIGS. 13A and 13B are captured photographs of cut-out impregnation materials, in which FIG. 13A is the captured photograph of the impregnation material cut out without a rim portion, and FIG. 13B is the captured photograph of the impregnation material having a rim portion.

[0077] First, referring to the photographs at the upper and lower sides in FIG. 13A, it can be seen that three-dimensional fabric foam has different surface structures and has a coarse rim having threads and scraps produced due to the cutting process. However, referring to FIG. 13B, it can be seen that the compressed rim portion is formed along the rim of the impregnation material to be cut out, such that the cut-out impregnation material has a clear rim without causing a break of a filament at a cut portion or producing threads.

[0078] FIGS. 14A and 14B are captured photographs of cosmetic products manufactured by using three-dimensional fabric foam in FIG. 11.

[0079] FIG. 14A illustrates a state in which the impregnation material is accommodated in the container main body such that a woven fabric pattern surface having coarse opening hole portions is exposed upward, and FIG. 14B illustrates a state in which the impregnation material is accommodated in the container main body such that a woven fabric surface having fine opening hole portions is exposed upward.

[0080] While the present invention has been described above with reference to the exemplary embodiments of the present invention, the above-mentioned description is provided just for illustrating the present invention, and the present invention is not limited thereto. It should be considered by those skilled in the art that various modifications may be made without departing from the appended claims and the subject matter of the present invention and these modifications fall into the scope of the present invention.

[Industrial Applicability]

[0081] The present invention may be applied to a cosmetic product impregnated with a liquid cosmetic material.

Claims

1. A cosmetic product comprising:

a cosmetic material container main body; and
a three-dimensional fabric which is mounted in the container main body and has a first surface and a second surface so as to be impregnated with a liquid cosmetic material,
wherein the three-dimensional fabric has a vertically layered structure including:

a first surface region having a first pattern;
a second surface region having a second pattern; and
a pillar region which is formed between the first surface region and the second surface region by Z-yarns that connect the first surface region and the second surface region.

2. A cosmetic product comprising:

a cosmetic material container main body; and
a three-dimensional fabric impregnation material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material and has a first surface and a second surface,
wherein the three-dimensional fabric impregnation material includes a vertically layered structure including:

a first surface region having a first pattern;
a second surface region having a second pattern; and
a pillar region which is formed between the first surface region and the second surface region by Z-yarns that connect the first surface region and the second surface region, and
a circumference of the impregnation material has a rim portion at which the vertically layered structure is compressed.

3. The cosmetic product of claim 1 or 2, wherein the first surface or the second surface has a shape convex outward.

4. The cosmetic product of claim 3, wherein one of the first surface and the second surface is a substantially flat surface.

5. The cosmetic product of claim 2, wherein the first surface or the second surface has a shape convex outward, and a distance between the first surface and the second surface is decreased toward the rim portion of the three-dimensional fabric impregnation material.

6. The cosmetic product of claim 1 or 2, wherein the Z-yarns traverse the pillar region between the first surface region and the second surface region, and traversing angles of the Z-yarns range from 0 to 60 degrees.

7. The cosmetic product of claim 1 or 2, wherein the first pattern is formed to have weaving density that

locally varies.

8. The cosmetic product of claim 6, wherein the first pattern includes: a densely woven portion which has dense weaving density; and one or more opening hole portions which are not woven.

9. A cosmetic product comprising:

a cosmetic material container main body;
a three-dimensional fabric impregnation material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material, includes a first surface and a second surface, and has a rim portion provided around an outer circumference of the three-dimensional fabric impregnation material; and
an impregnation material fixing member which is configured to fix the three-dimensional fabric impregnation material to the container main body.

10. A cosmetic product comprising:

a cosmetic material container main body;
a three-dimensional fabric impregnation material which is mounted in the container main body so as to be impregnated with a liquid cosmetic material, includes a first surface and a second surface, and has a rim portion provided around an outer circumference of the three-dimensional fabric impregnation material; and
an impregnation material fixing member which is configured to fix the three-dimensional fabric impregnation material to the container main body, wherein the rim portion is fixed to the container main body by the impregnation material fixing member.

11. The cosmetic product of claim 9 or 10, wherein the three-dimensional fabric impregnation material includes a vertically layered structure including: a first surface region having a first pattern; a second surface region having a second pattern; and a pillar region which is formed between the first surface region and the second surface region by Z-yarns that connect the first surface region and the second surface region.

12. The cosmetic product of claim 10, wherein the rim portion of the three-dimensional fabric impregnation material is formed by compressing the vertically layered structure.

13. The cosmetic product of claim 9 or 10, wherein one of the first surface and the second surface is a substantially flat surface.

14. The cosmetic product of claim 9 or 10, wherein the first pattern or the second pattern includes: a densely woven portion which has dense weaving density; and one or more opening hole portions which are not woven.

15. A three-dimensional fabric impregnation material which has a first surface and a second surface and is impregnated with a liquid cosmetic material, the three-dimensional fabric impregnation material comprising:
a vertically layered structure which includes:

a first surface region having a first pattern;
a second surface region having a second pattern; and
a pillar region which is formed between the first surface region and the second surface region by Z-yarns that connect the first surface region and the second surface region,
wherein a circumference of the impregnation material has a rim portion at which the vertically layered structure is compressed.

FIG. 1

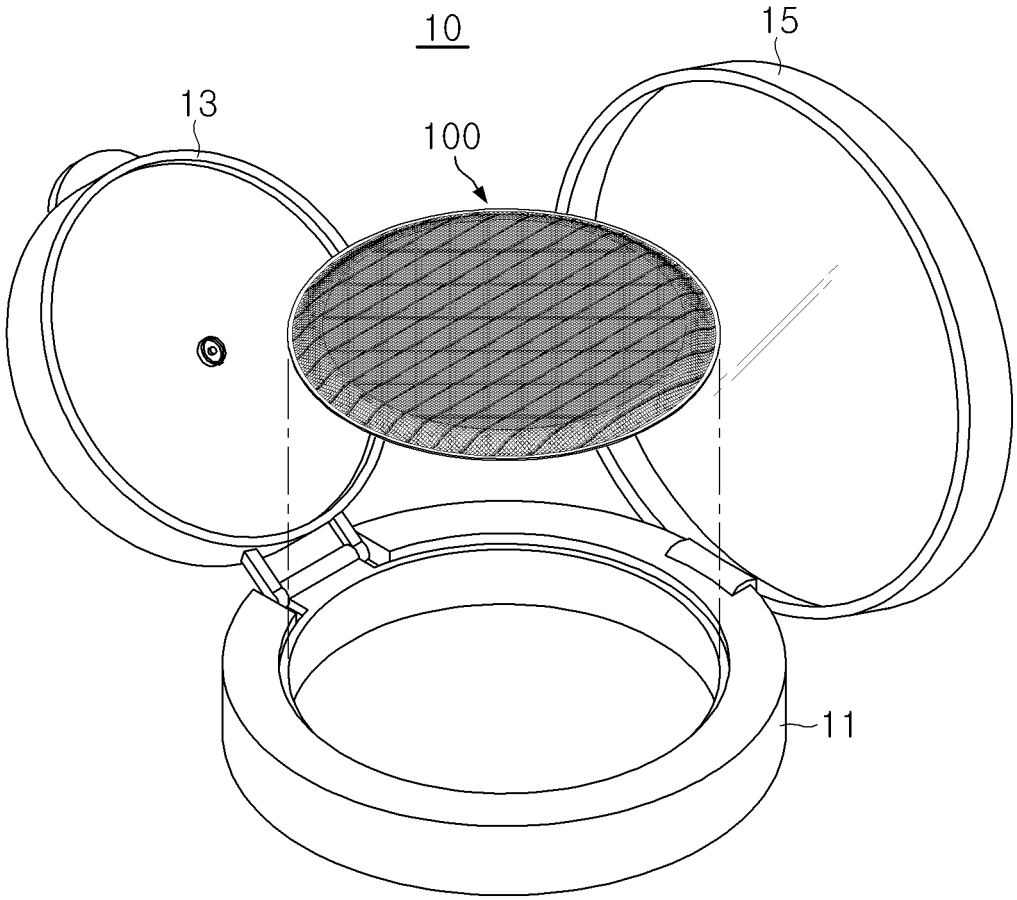


FIG. 2A

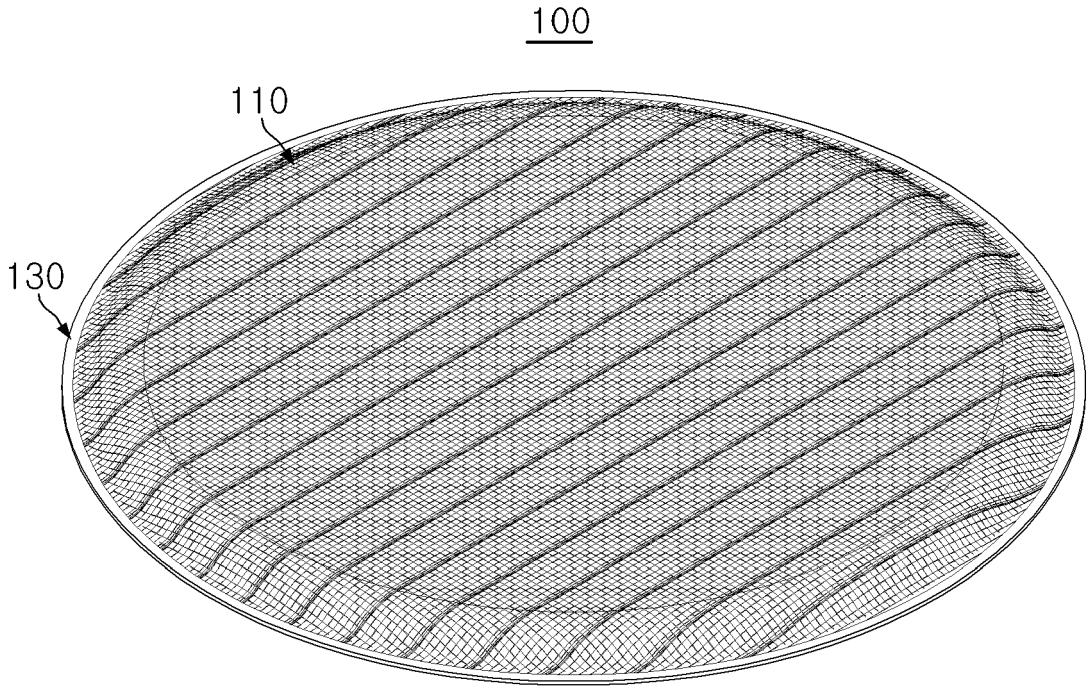


FIG. 2B

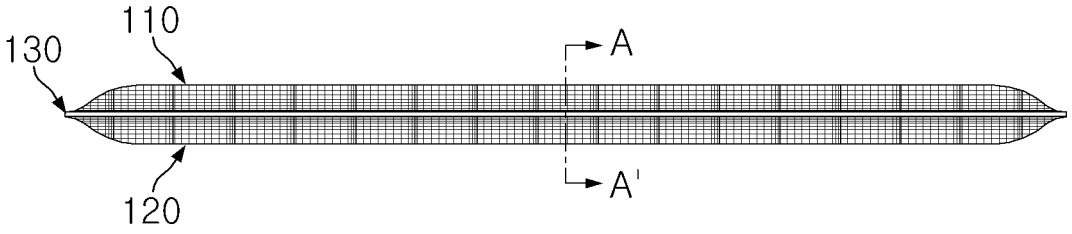


FIG. 3

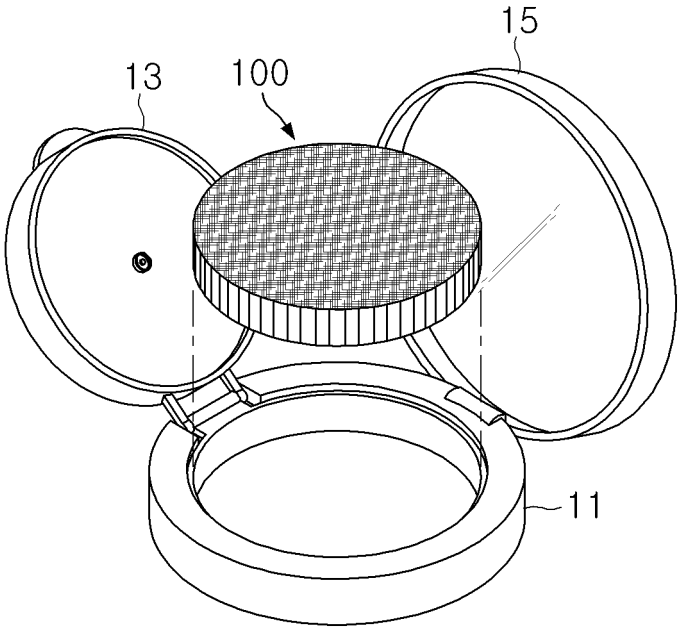


FIG. 4

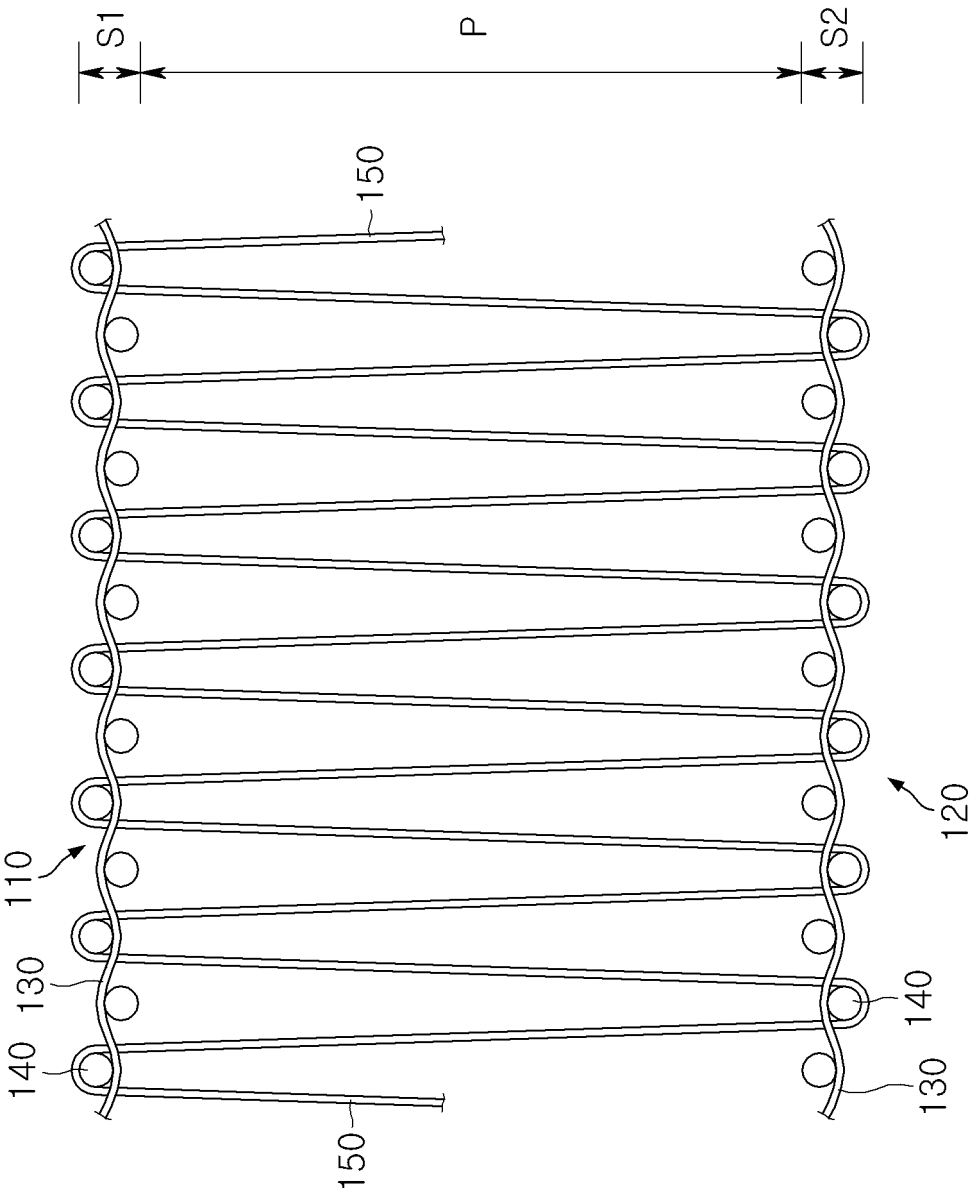


FIG. 5A

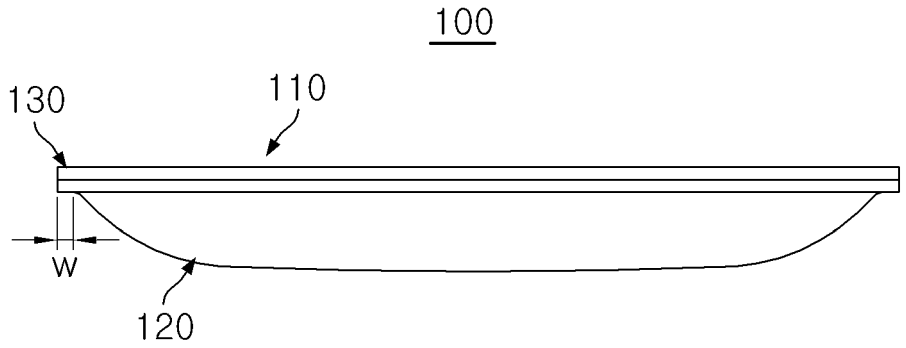


FIG. 5B

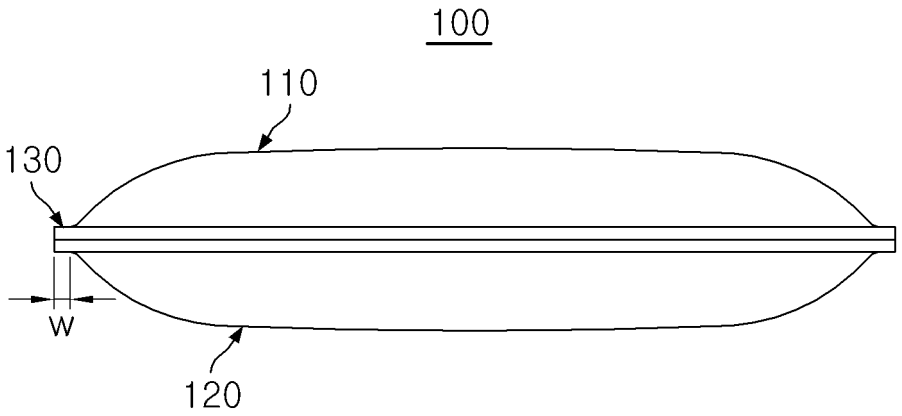


FIG. 6A

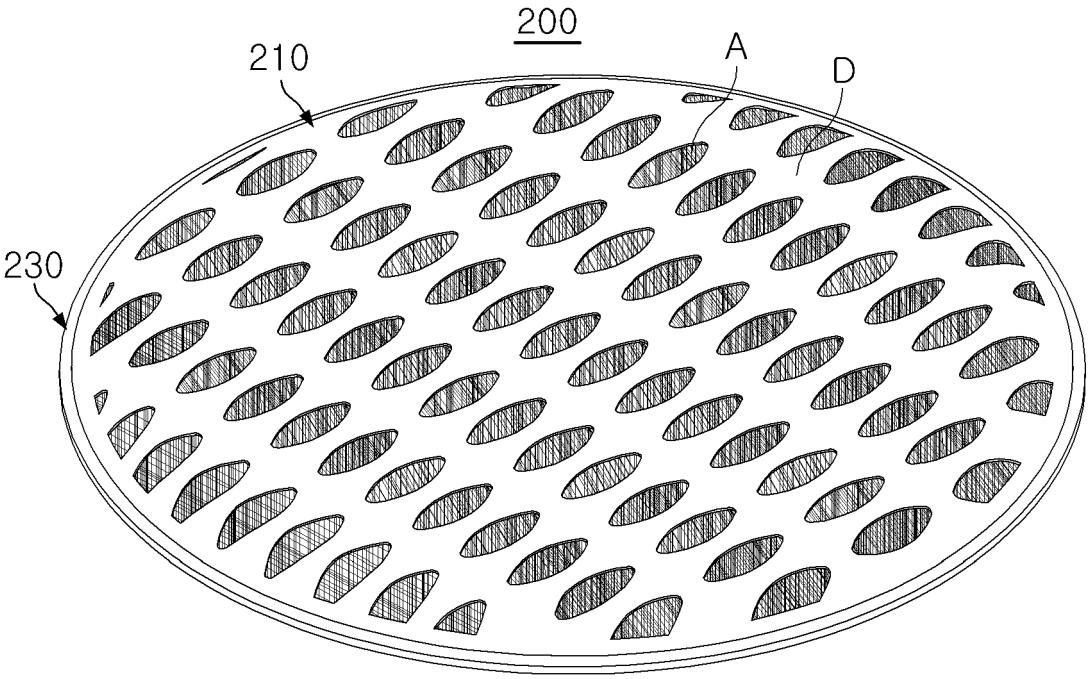


FIG. 6B

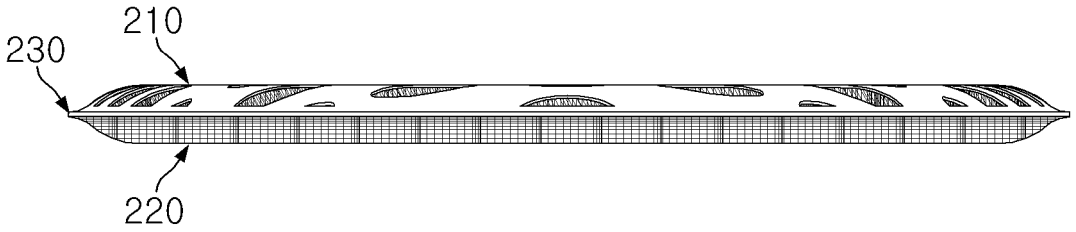


FIG. 7

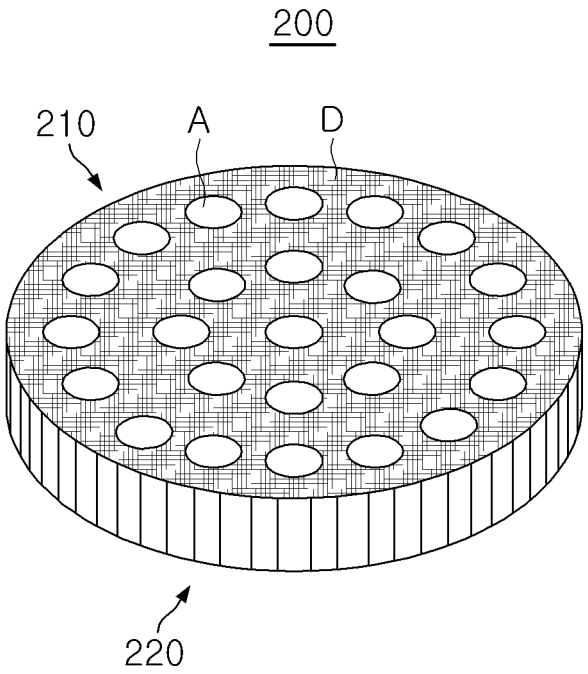


FIG. 8

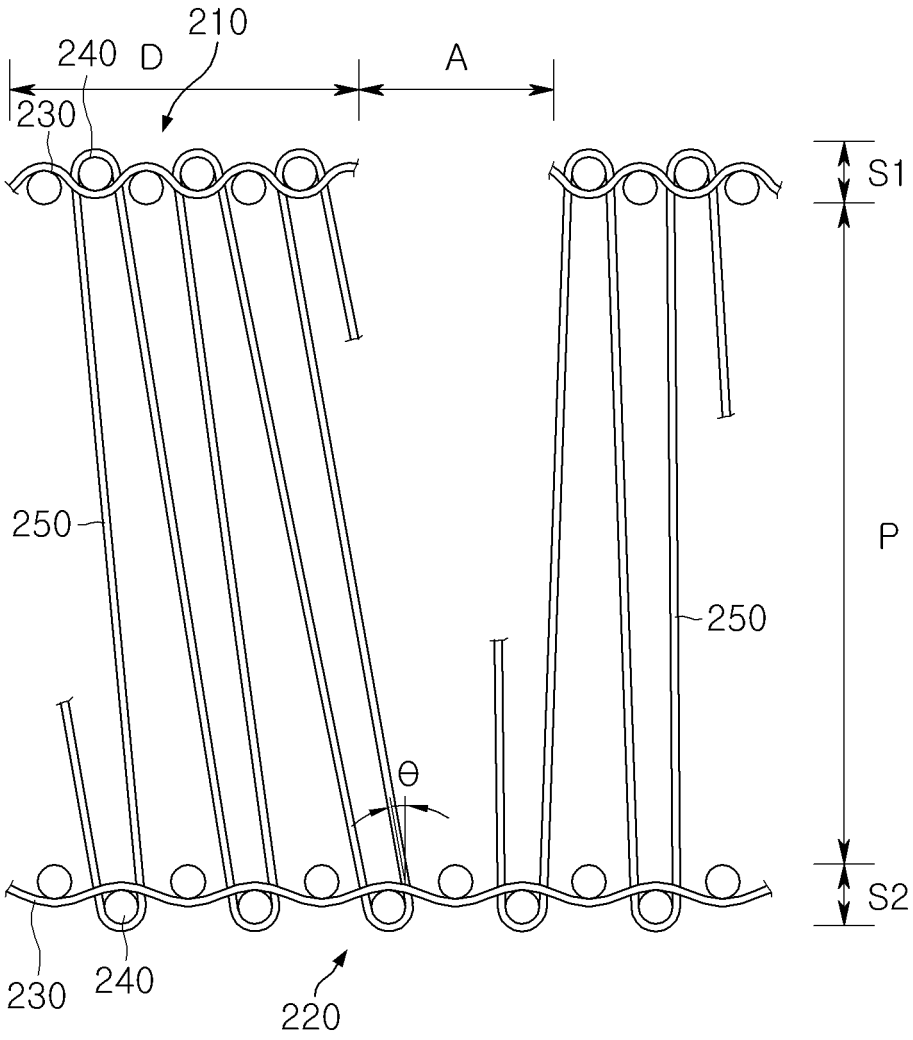


FIG. 9

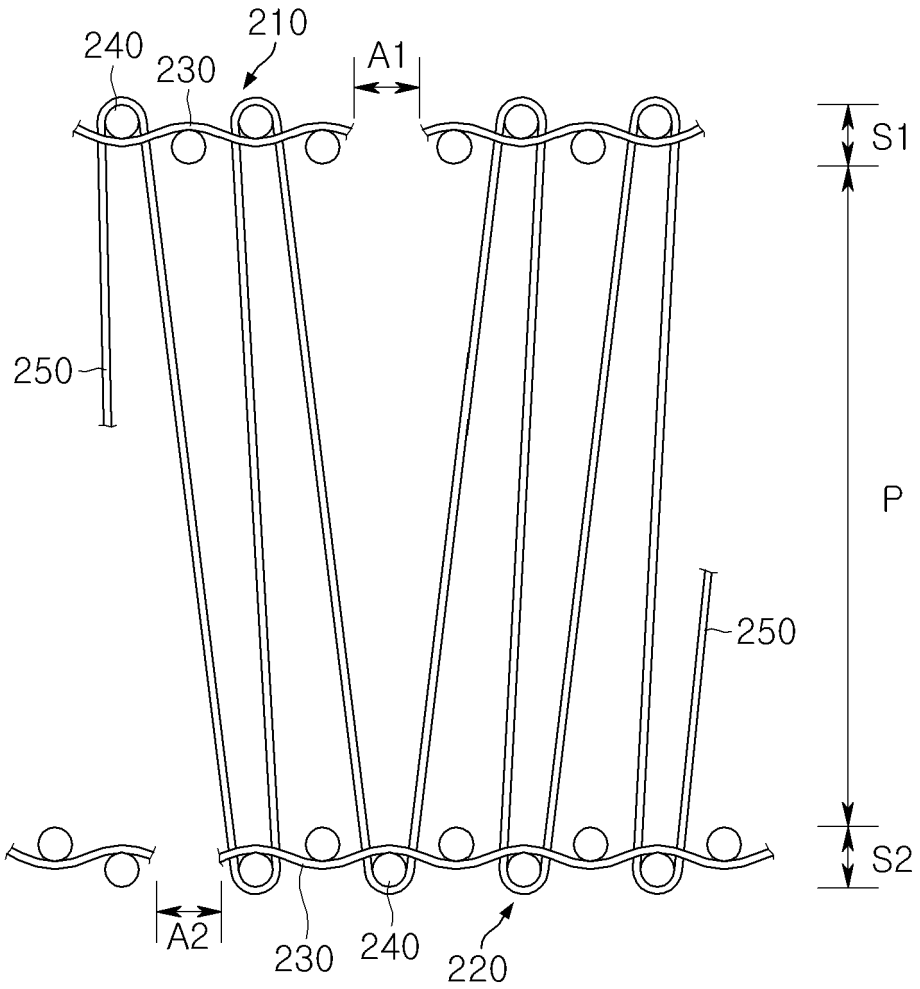


FIG. 10A

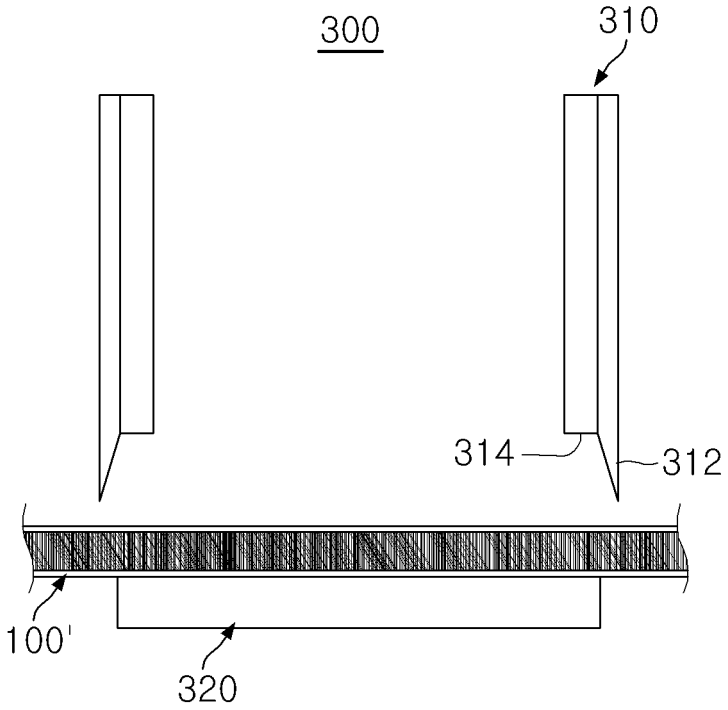


FIG. 10B

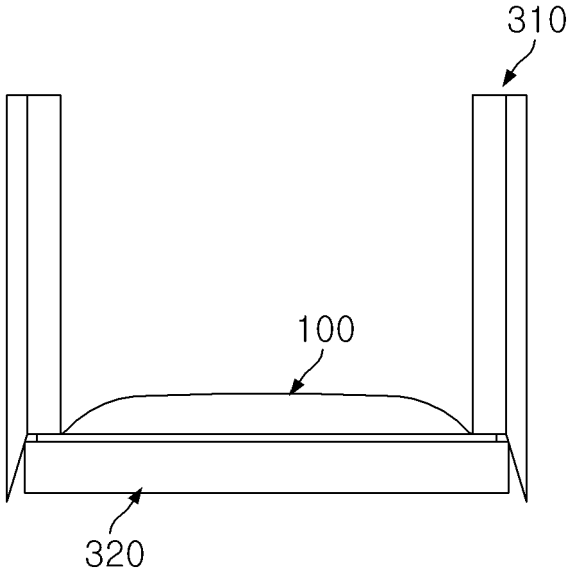


FIG. 11

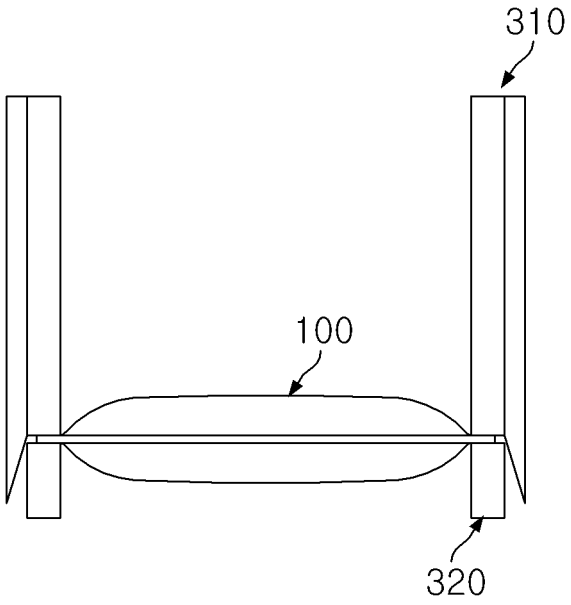


FIG. 12A

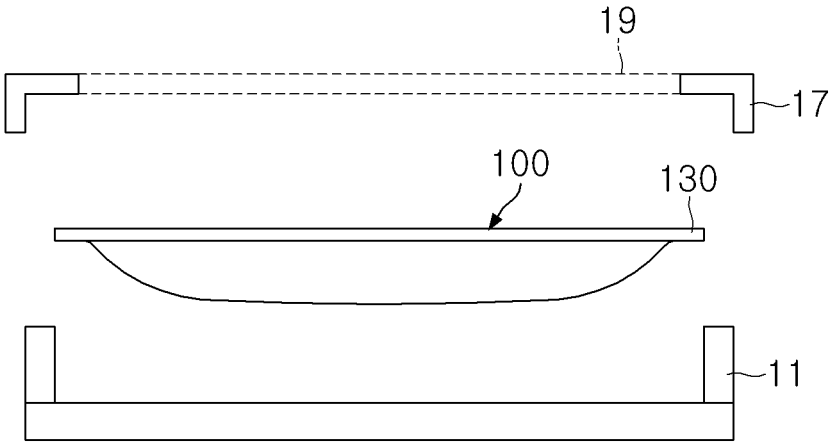


FIG. 12B

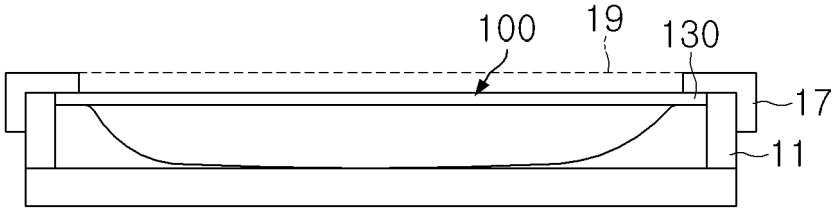


FIG. 13A

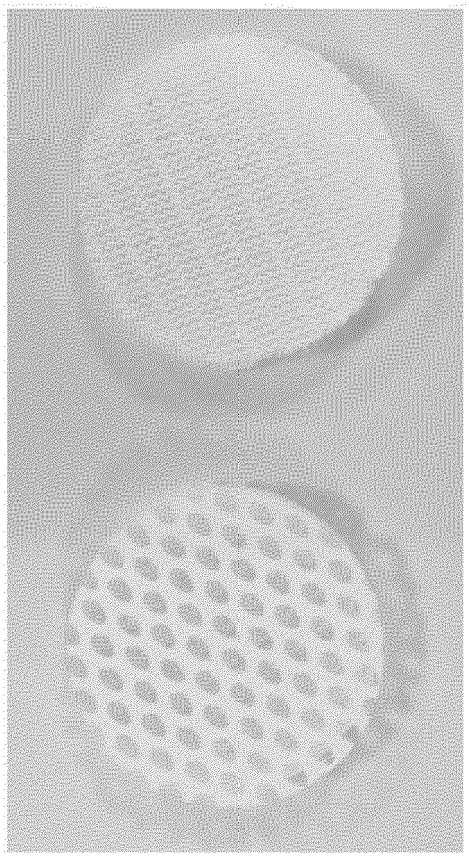


FIG. 13B

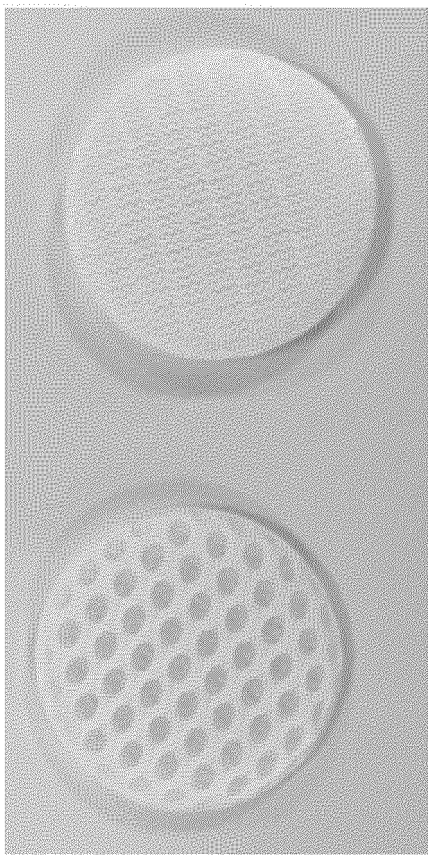


FIG. 14A

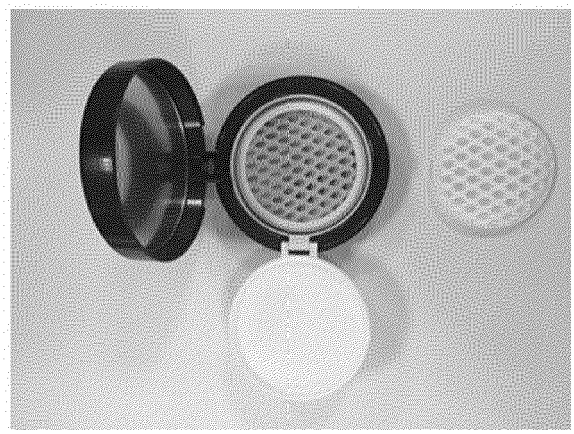
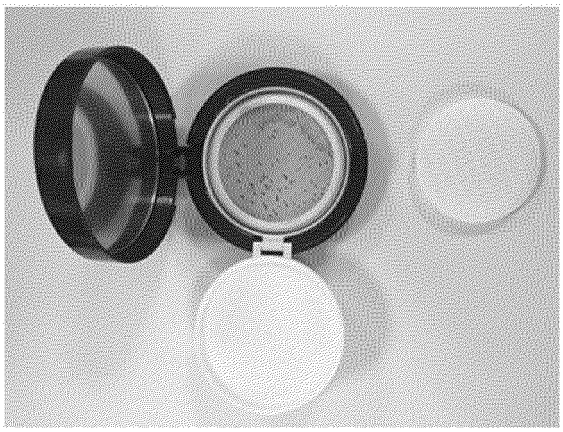


FIG. 14B



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2017/015688

A. CLASSIFICATION OF SUBJECT MATTER

A45D 34/04(2006.01)i, A45D 34/00(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)
A45D 34/04; A45D 33/00; A45D 34/00; A47K 7/02; A45D 40/00; D04B 1/18; D04B 15/36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Utility models and applications for Utility models: IPC as above
Japanese Utility models and applications for Utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS (KIPO internal) & Keywords: impregnation, filling, weaving pattern, vertical layer structure, pillar, fixing hole, cosmetic container

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	KR 10-1686354 B1 (LG HOUSEHOLD & HEALTH CARE LTD.) 13 December 2016 See the entire document.	1-15
A	KR 10-2016-0011512 A (LG HOUSEHOLD & HEALTH CARE LTD.) 01 February 2016 See the entire document.	1-15
A	US 2013-0295812 A1 (LEE, D. E.) 07 November 2013 See the entire document.	1-15

☐ 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
14 MARCH 2018 (14.03.2018)	**20 MARCH 2018 (20.03.2018)**

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Authorized officer

Telephone No.

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

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2017/015688

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