



US 20050076435A1

(19) **United States**(12) **Patent Application Publication****Kim et al.**(10) **Pub. No.: US 2005/0076435 A1**(43) **Pub. Date: Apr. 14, 2005**(54) **HEALTH BEDDING****Publication Classification**

(76) Inventors: **Young-Jun Kim**, Los Angeles, CA  
(US); **Il-Hyung Kim**, Seoul (KR);  
**Won-Ki Kim**, Seoul (KR)

(51) **Int. Cl.<sup>7</sup>** ..... **A47C 31/00**  
(52) **U.S. Cl.** ..... **5/1**

Correspondence Address:

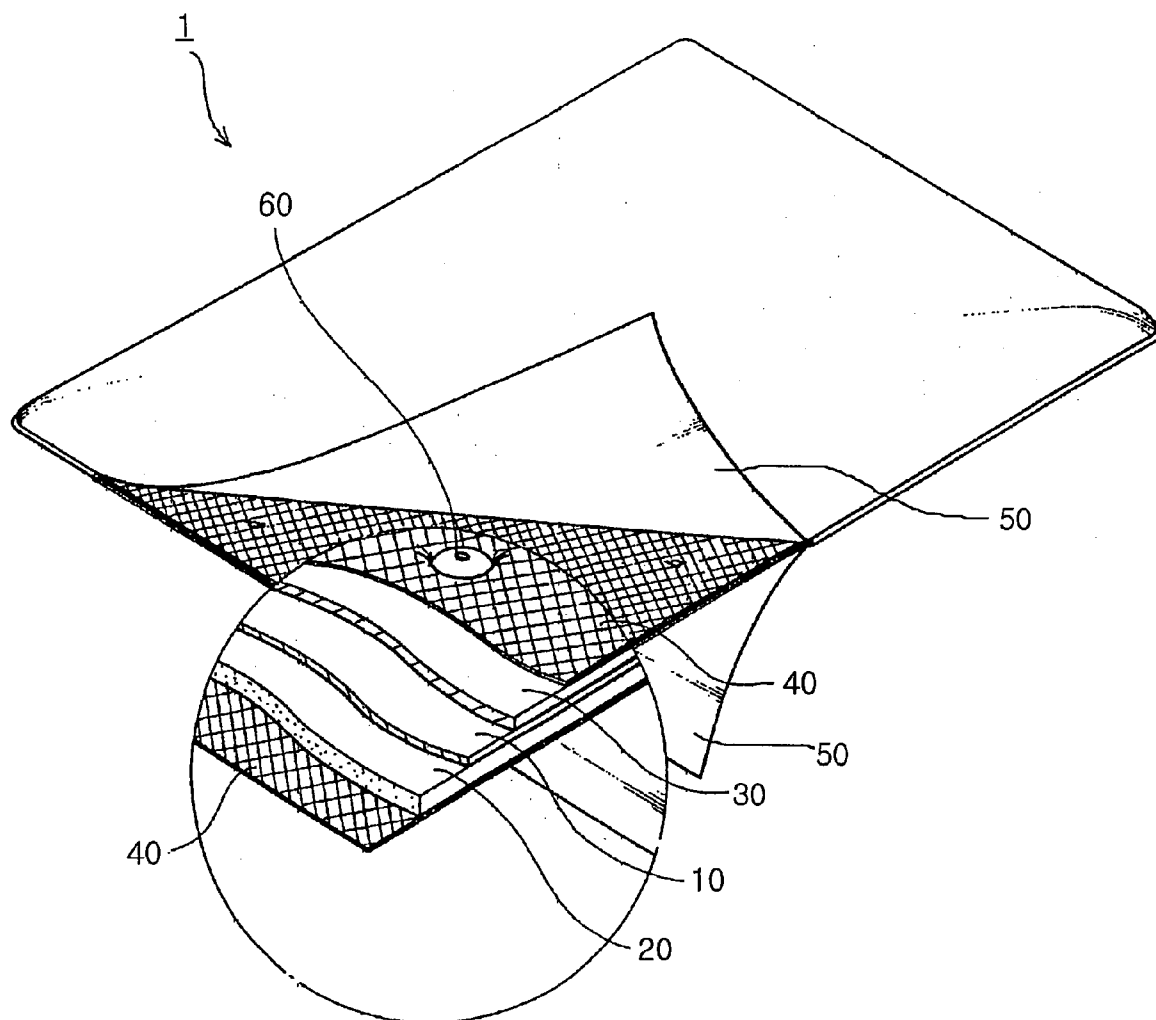
**Kent E Baldauf****700 Koppers Building****436 Seventh Avenue****Pittsburgh, PA 15219-1818 (US)**(57) **ABSTRACT**(21) Appl. No.: **10/500,231**(22) PCT Filed: **Dec. 24, 2002**(86) PCT No.: **PCT/KR02/02426**(30) **Foreign Application Priority Data**

Dec. 28, 2001 (KR) ..... 20-2001-0040561

Aug. 1, 2002 (KR) ..... 20-2002-0023078

Dec. 11, 2002 (KR) ..... 20-2002-0036973

Provided is a health bedding beneficial to the human body. The health bedding comprises inner filling materials formed of stacked padding layers of talc-, magma stone- and chitosan-containing fibers, inner and outer sheaths wrapping the filling materials and a functional attachment made of jade, ceramic and magnet to the inner sheath. The health bedding comprises a plurality of layers which radiate a large amount of anions and far infrared rays and have antibacterial properties and a deodorizing function so as to promote metabolism of the human body, thereby serving especially beneficial functions to the human body.



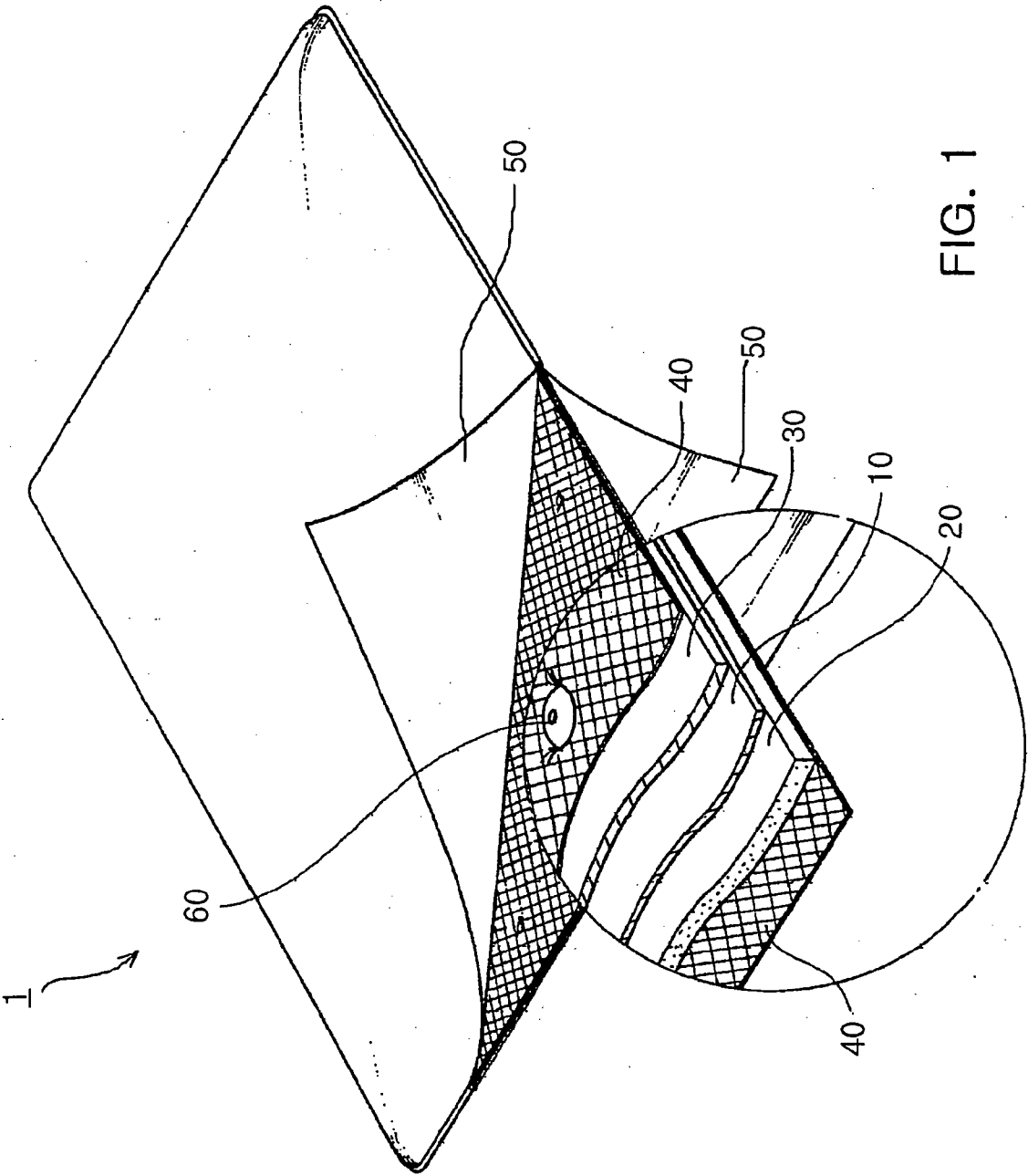


FIG. 1

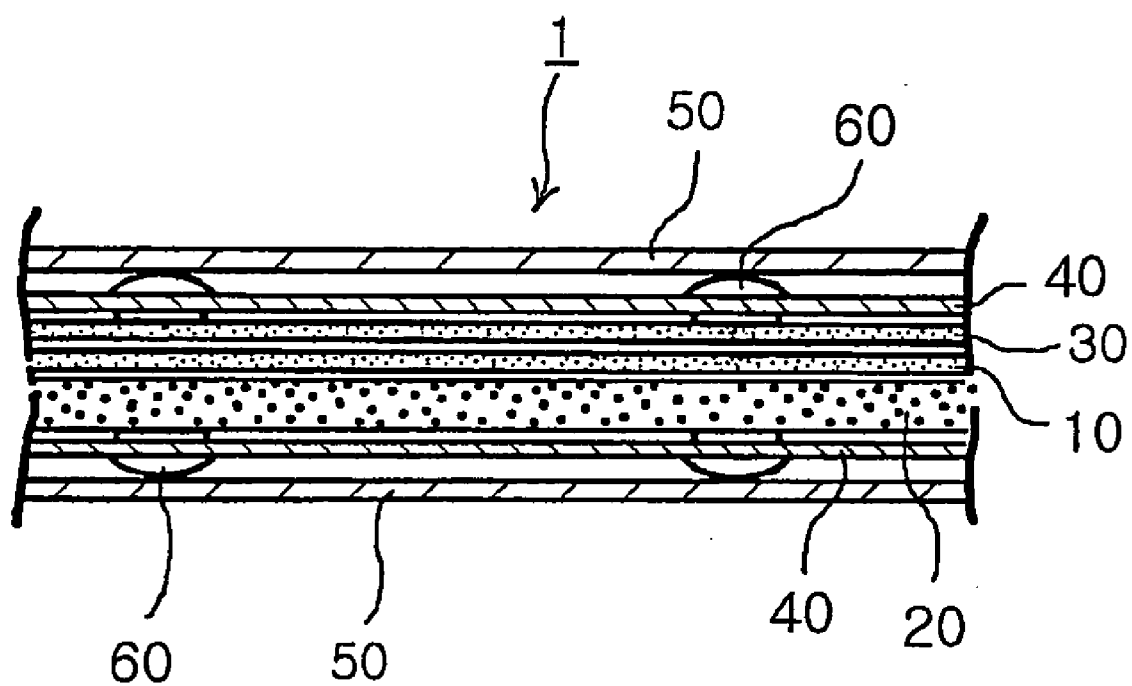


FIG. 2

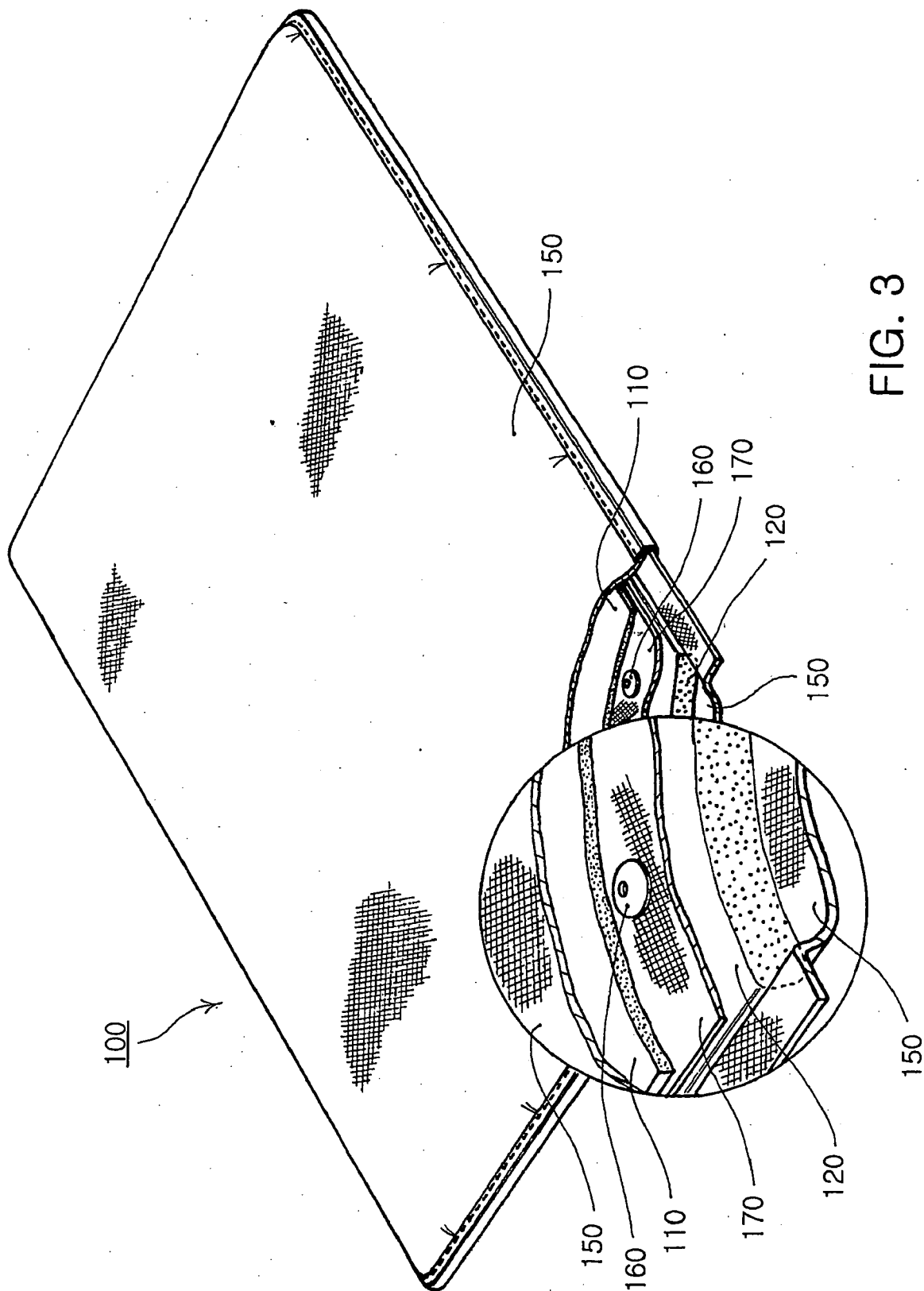


FIG. 3

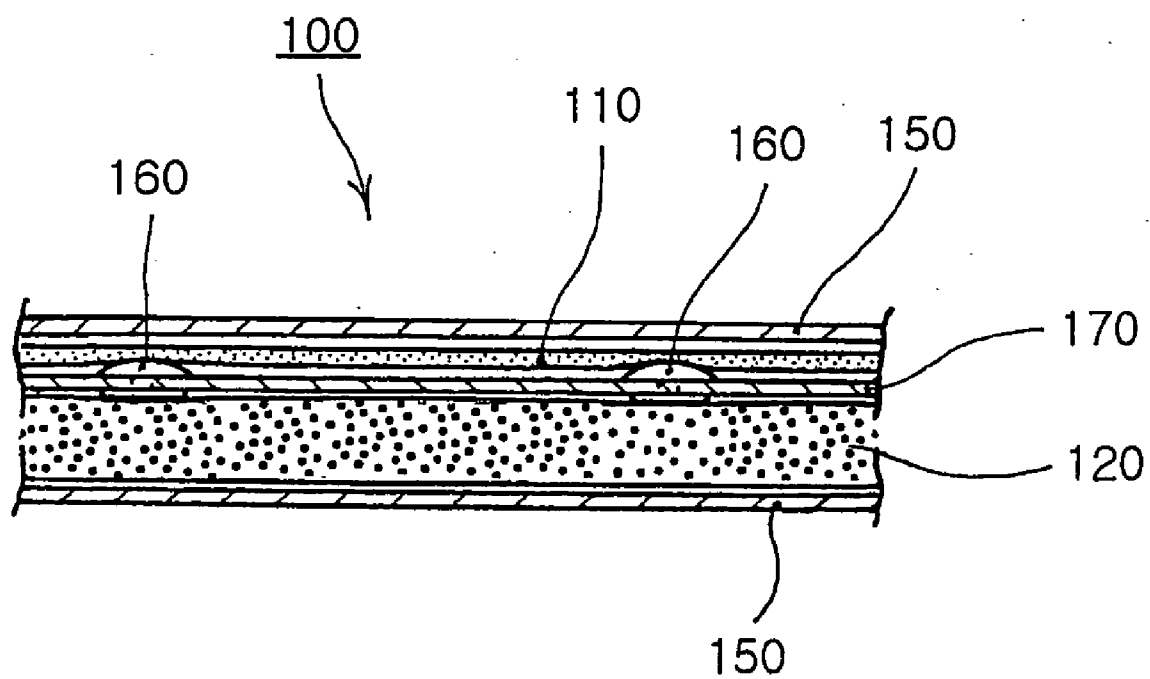


FIG. 4

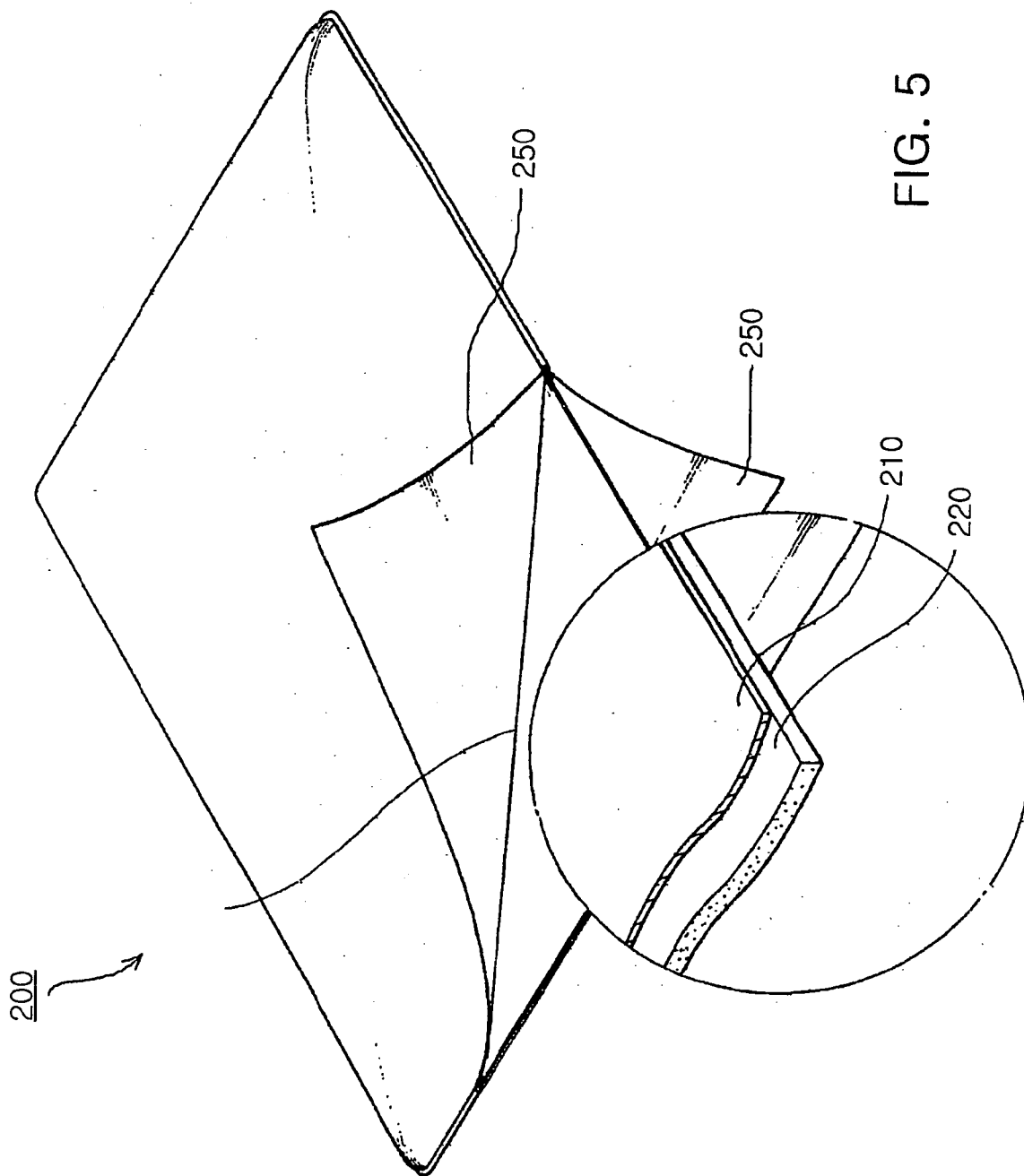


FIG. 5

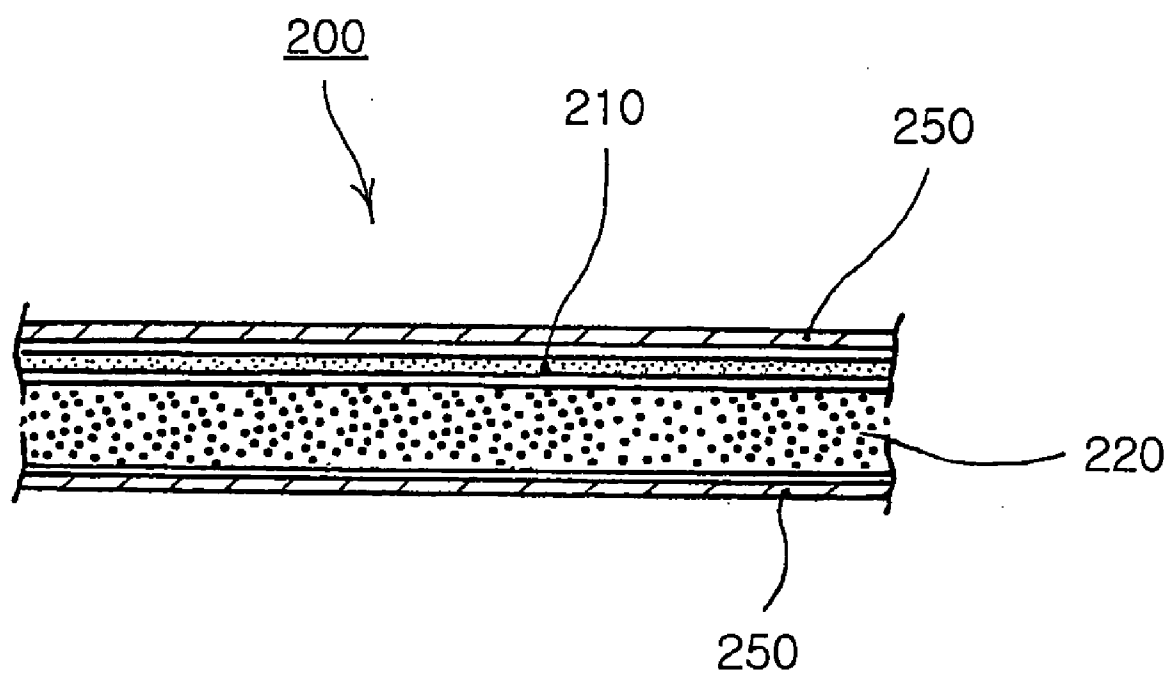


FIG. 6

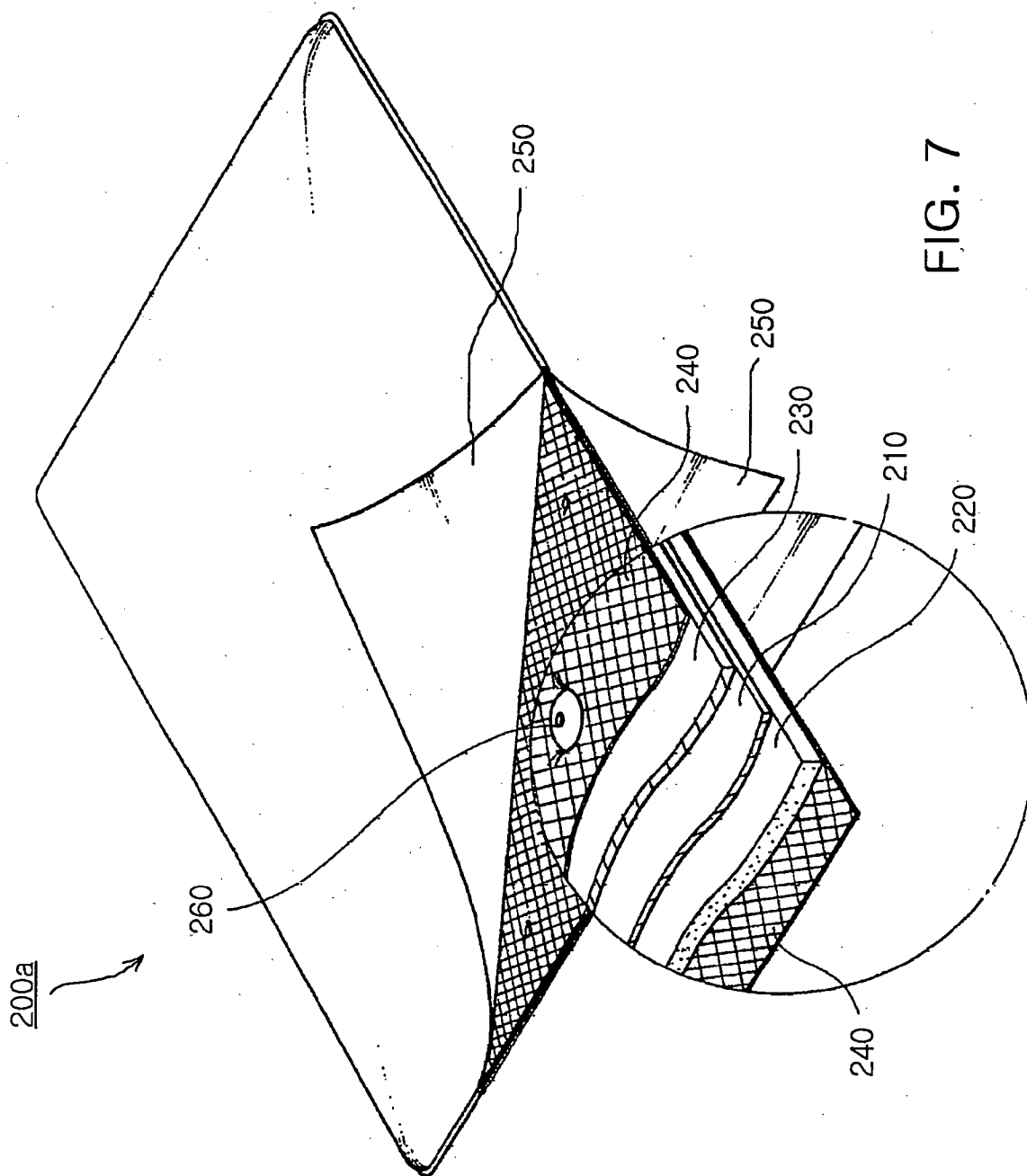


FIG. 7



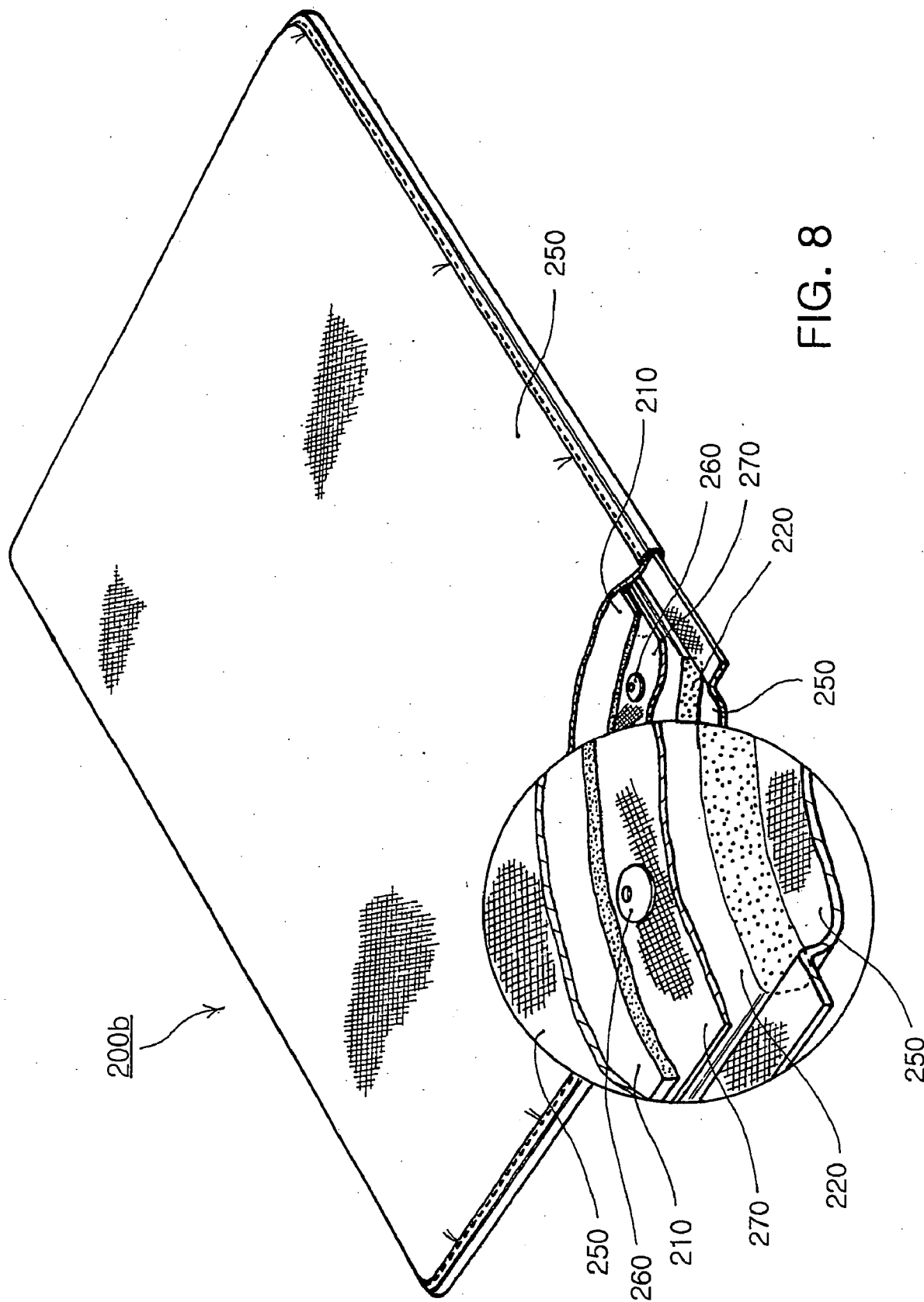


FIG. 8

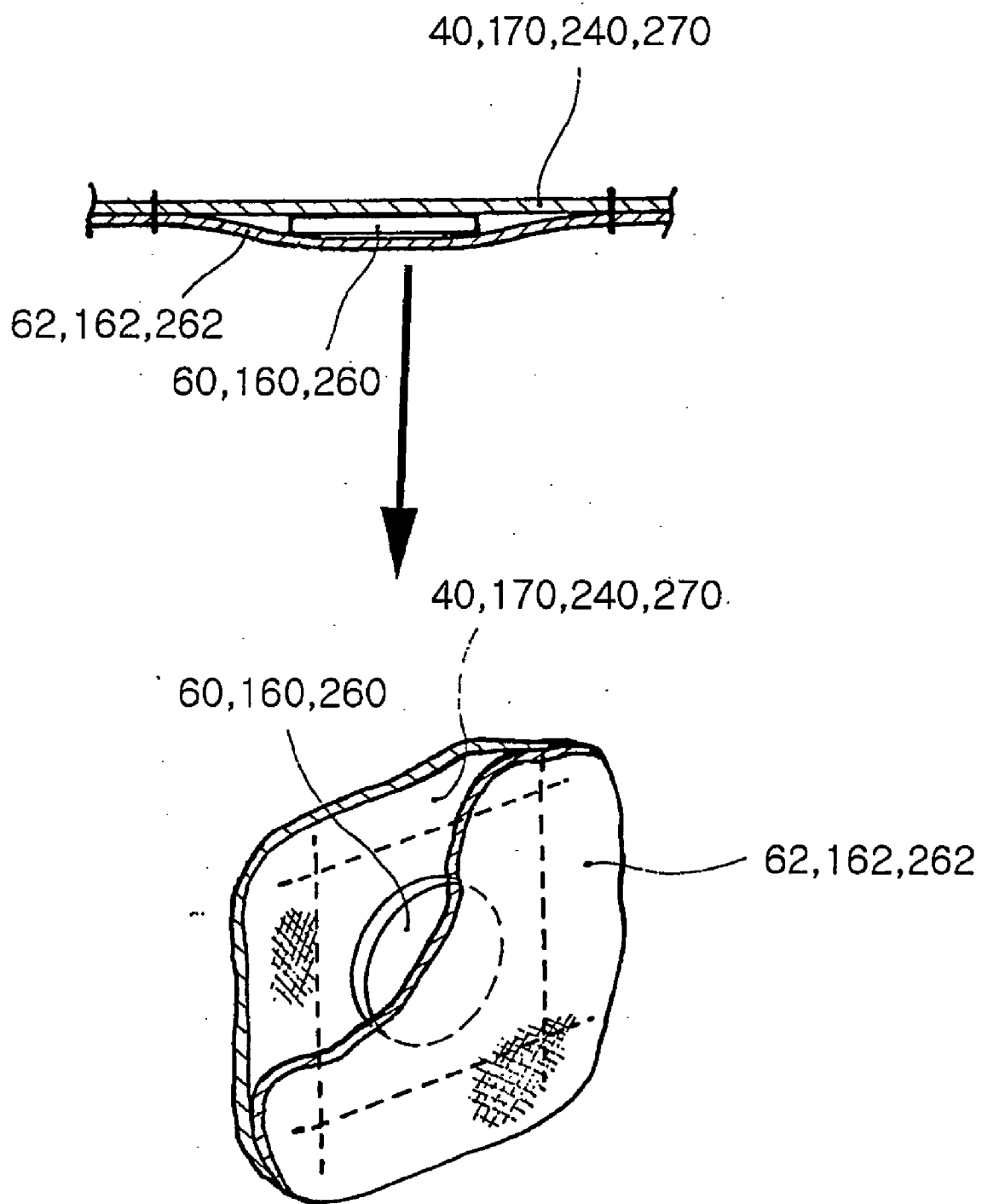


FIG. 9a

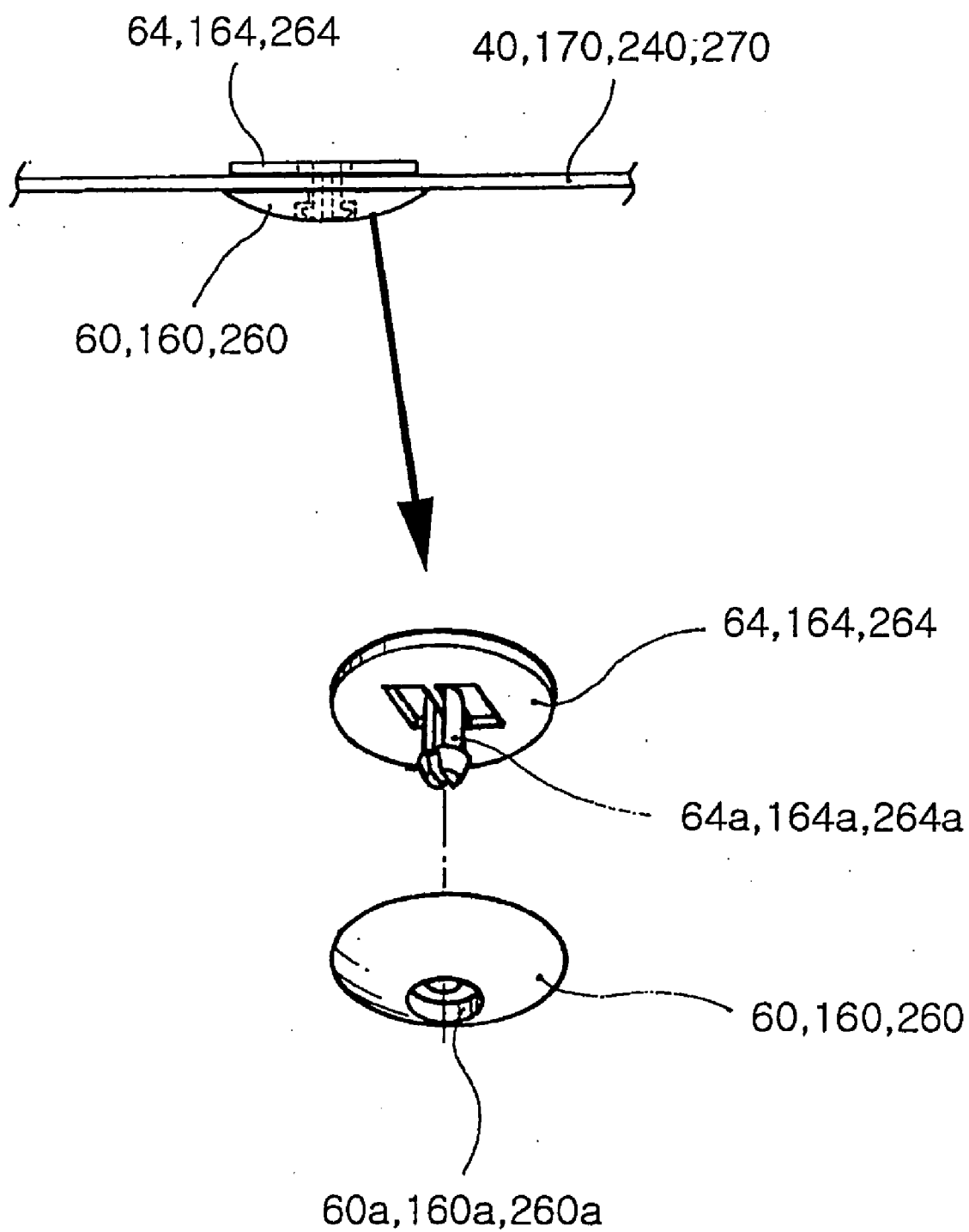


FIG. 9b

## HEALTH BEDDING

### TECHNICAL FIELD

[0001] The present invention relates to a health bedding. In particular, the health bedding of the invention comprises a plurality of layers which radiate a large amount of anions and far infrared rays and have antibacterial properties and a deodorizing function so as to promote metabolism of the human body, thereby serving especially beneficial functions to the human body.

### BACKGROUND ART

[0002] As well known, various bacteria inhabit in, the surrounding environment where people live. In particular, fibers in use for clothes or bedding provide amicable environments for inhabitation of bacteria and so on which are externally introduced to the fibers owing to waste products such as sweat which are secreted from the body of a user. As a result, microorganism multiplied in the fibers decomposes organic substances, thereby giving out a bad smell, damaging the fibers and inducing a fatal disease to the user.

[0003] In particular, if a bedding is contaminated with bacteria, there is every probability that a user of the bedding is exposed to a disease since the bedding directly contacts with the skin of the user for a long time while the user sleeps.

[0004] Recently, as people are paying gradually more attention to health, they use various health materials, i.e., materials beneficial to the health such as jade, ceramics and magnets. These materials radiate far infrared rays or anions, have antibacterial properties, and promote blood circulation and metabolism, thereby promoting health.

[0005] People wear these materials which are generally provided in the form of a necklace or bracelet, buried in a hard mattress, or attached to fabrics in various techniques. Up to the present, however, the above health materials have not been directly applied to fibers of the bedding.

### DISCLOSURE OF THE INVENTION

[0006] The present invention has been made to solve the foregoing problems of the prior art and it is therefore an object of the present invention to provide a health bedding beneficial to the human body which comprises specific materials for radiating a large amount of anions and far infrared rays, activating organism and promoting metabolism such as blood circulation so as to boost the health of the human body.

[0007] According to an aspect of the invention for realizing the above object, it is provided a health bedding comprising: a talc-containing padding layer made of talc-containing polyester fibers; a magma stone-containing padding layer made of magma stone-containing polyester fibers; a chitosan-containing padding layer made of chitosan-treated natural fibers; an inner sheath made of knitted or woven fabrics and wrapping the talc-containing padding layer, the magma stone-containing padding layer and the chitosan-containing padding layer; and an outer sheath made of knitted or woven fabrics for wrapping the inner sheath, wherein the chitosan-, talc- and magma stone-containing padding layers are stacked on one another.

[0008] According to another aspect of the invention for realizing the above object, it is provided a health bedding

comprising: a talc-containing padding layer made of talc-containing polyester fibers; a magma stone-containing padding layer made of magma stone-containing polyester fibers; a chitosan-treated knitted/woven fabric layer which is at least surface treated with chitosan; a sheath made of knitted or woven fabrics for wrapping the talc-containing padding layer, the magma stone-containing padding layer and the chitosan-treated knitted/woven fabric layer; and an attachment fixedly attached to the chitosan-treated knitted/woven fabric layer, the attachment being formed of one selected from a group including jade, ceramics and magnet or molded out of plastic containing at least one selected from the group.

[0009] According to yet another aspect of the invention for realizing the above object, it is provided a health bedding comprising: a talc-containing padding layer made of talc-containing polyester fibers; a magma stone-containing padding layer made of magma stone-containing polyester fibers; a first sheath made of knitted or woven fabrics for wrapping the talc-containing padding layer and the magma stone-containing padding layer; wherein at least one of the padding layers is applied with liquid bio-ceramics at the surface thereof.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The above and other objects, features and advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

[0011] FIG. 1 is a partially broken perspective view of a health bedding according to a first embodiment of the invention, which is magnified in part;

[0012] FIG. 2 is a sectional view of the health bedding according to the first embodiment of the invention;

[0013] FIG. 3 is a partially broken perspective view of a health bedding according to a second embodiment of the invention, which is magnified in part;

[0014] FIG. 4 is a sectional view of the health bedding according to the second embodiment of the invention;

[0015] FIG. 5 is a partially broken perspective view of a health bedding according to a third embodiment of the invention, which is magnified in part;

[0016] FIG. 6 is a sectional view of the health bedding according to the third embodiment of the invention;

[0017] FIG. 7 is a partially broken perspective view of a variation of the health bedding according to the third embodiment of the invention, which is magnified in part;

[0018] FIG. 8 is a partially broken perspective view of another variation of the health bedding according to the third embodiment of the invention, which is magnified in part; and

[0019] FIGS. 9a and 9b are detailed views illustrating an attachment attached to any of health beddings according to various embodiments of the invention.

### BEST MODE FOR CARRYING OUT THE INVENTION

[0020] The following detailed description will present preferred embodiments of the invention in reference to the accompanying drawings.

[0021] An article such as a quilt, a pillow and a cushion available for bedding generally includes a sewn lining which is filled with an inner filling material such as wool, natural cotton, e.g., cotton fabric, sponge, duck down and other cushioning material and a sheath made of fabrics for wrapping the lining. The present invention is proposed to provide filling materials, which are filled into the lining, in the form of several layers of padding which contains health materials.

[0022] FIG. 1 is a partially broken perspective view of a health bedding 1 according to a first embodiment of the invention, which is magnified in part, and FIG. 2 is a sectional view of FIG. 1. The health bedding 1 of the invention is devised to have several layers 10, 20 and 30 which are wrapped in inner and outer sheaths 40 and 50. The layers 10, 20 and 30 contain or are surface treated with health materials.

[0023] That is, the health bedding 1 according to the first embodiment of the invention has filling materials formed by stacking the layers 10, 20 and 30. The first layer 10 is a talc-containing padding layer, and manufactured by finely pulverizing talc, mixing talc powder into polyester resin, melt-spinning talc-containing polyester resin into a talc-containing polyester filament fiber, cutting the talc-containing polyester filament fiber into a certain length of staple fibers, and carding the staple fibers into a padding layer. The second layer 20 is a magma stone-containing padding layer, and manufactured by mixing magma stone powder into polyester resin, melt-spinning a mixture of magma stone powder and polyester resin into a magma stone-containing polyester filament fiber, cutting the filament fiber into a certain length of staple fibers, and then carding the staple fibers into a padding layer. The third layer 30 is in the form of a chitosan-containing padding layer, and manufactured by treating chitosan solution on natural fibers such as raw wool or cotton and carding the chitosan-treated natural fibers.

[0024] The layers 10, 20 and 30 of the invention having the above construction are adapted to exert functions of talc, magma stone and chitosan which are contained in the fibers while maintaining unique characteristics of the fibers, and will be described in detail as follows.

[0025] In the inner filling materials of the health bedding 1 according to the first embodiment of the invention, the talc-containing padding layer 10 will be primarily described hereinafter.

[0026] In a spinning process of forming polyester fibers, the talc-containing padding layer 10 is manufactured as follows: First, talc is finely pulverized into powder. Fine talc powder is mixed into a molten raw material of polyester resin. The talc-containing molten polyester resin is spun into a filament yarn. Then, the spun filament yarn is cut to a proper length to obtain staple fibers.

[0027] Since talc is an ore which radiates a large amount of far infrared rays, the polyester fibers containing talc also radiate far infrared rays while showing characteristics of the polyester fibers.

[0028] Now description will be made about the magma stone-containing padding layer 20 of the inner filling materials of the health bedding according to the first embodiment of the invention.

[0029] Magma stone is one of igneous rocks and consists of SiO<sub>2</sub> 80 to 85 wt %, Al<sub>2</sub>O<sub>3</sub> 5 to 10 wt %, K<sub>2</sub>O 2 to 5 wt

%, Na<sub>2</sub>O 2 to 3 wt %, CaO 1 to 2 wt %, Fe<sub>2</sub>O<sub>3</sub> 1 to 2 wt %, MgO 0.5 to 1 wt %, TiO<sub>2</sub> 0.1 to 0.5 wt %, MnO 0.01 to 0.1 wt % and inevitable impurities. Magma stone has excellent characteristics such as absorption and decomposition of noxious substances, a deodorizing function and antibacterial properties based upon its micro-porous structure. Magma stone also flows out affluent minerals and discharges a large amount of anions under various conditions. In particular, magma stone is beneficial to the health of the human being since it has a high emissivity of infrared rays at a wavelength of about 4 to 14  $\mu$ m, which are readily absorbed by the organism and water while promoting the physiology and growth of the human being.

[0030] In reference, cations secrete an excessive amount of serotonin and histamine in the human body to injure the health and deteriorate the ability of aerobic respiration. Unlike the cations, anions accelerate, ionization rate of mineral components in blood to alkaliify blood and thus purify blood and promote electrical exchange of materials in cell membranes, and on the other hand, increase the amount of gamma-globulins functioning as immune components in blood serum to enhance resistance force as well as activate blood and lymph in an autonomic nervous system.

[0031] Therefore, the magma stone-containing padding layer 20 utilizes staple fiber spun from polyester fibers containing magma stone of such beneficial characteristics. In manufacture of the magma stone-containing polyester fibers, magma stone powder is mixed into polyester resin; magma stone-containing polyester resin is melt-spun into a filament yarn; and the filament yarn is drawn and cut.

[0032] In sequence, hereinafter description will be made about the chitosan-containing padding layer 10 of the inner filling materials of the health bedding according to the first embodiment of the invention.

[0033] Chitosan is obtained by deacetylating chitin, which is a natural product found in shells of crabs, shrimps, lobsters, cuttlefish, insects and etc. As known in the art, chitin is non-toxic and biodegradable as well as has somatological characteristics such as bio-friendliness, intercellular cementation, cultivation of biological tissue, antibacterial properties, stanching action, biocompatibility.

[0034] Recently such unique characteristics of chitin and chitosan have been known and thus various attempts are being made to utilize these substances beneficial to human life. According to an example of the current attempts, these substances are made into fibers, and the fibers are applied to specific regions of an article, which contact with the skin, so that the fibers provide antibacterial properties and biocompatibility to the skin.

[0035] That is, the health bedding 1 of the first embodiment utilizes natural cotton, which is manufactured by solving chitosan into a solvent to prepare a chitosan solution, treating the chitosan solution on natural fibers such as wool or cotton fibers to obtain chitosan-treated natural fibers, and then carding the chitosan-treated natural fibers. The chitosan-treated natural fibers and a manufacturing method thereof are disclosed in detail in Korean Laid-Open Patent Application No. 2001-84171, filed on Dec. 24, 2001. For reference, a chitosan-containing spun yarn and a manufacturing method thereof are also specifically disclosed in Korean Laid-Open Patent Application No. 2001-84172, filed on Dec. 24, 2001 by the applicant of the present invention.

[0036] The natural fibers, preferably, wool fibers adopted in the health bedding of the first embodiment have a thickness of about 5 to 10  $\mu\text{m}$  and a length of about 1 to 30 mm. The natural fibers have the bio-friendly characteristics such as antibacterial properties and deodorizing ability while maintaining flexibility and heat insulation ability of the wool fibers.

[0037] Next, as shown in FIGS. 1 and 2, the health bedding 1 according to the first embodiment of the invention includes the talc-containing padding layer 10, the magma stone-containing padding layer 20, the chitosan-containing padding layer 30 and the inner and outer sheaths 40 and 50.

[0038] The inner and outer sheaths 40 and 50 respectively utilize knitted or woven fabrics which are widely used in bedding.

[0039] In addition to the talc-containing padding layer 10, the magma stone-containing padding layer 20 and the chitosan-containing padding layer 30 which constitute the inner filling materials, the inner sheath 40 may alternatively include other health materials such as jade, ceramics and magnet in order to promote blood circulation and metabolism. These health materials such as jade, ceramics and magnet can be directly attached to the inner sheath 40, or via sewing or other attachment means.

[0040] As shown in FIG. 9a, an attachment 60 is prepared directly from rough jade, ceramics or magnet. Alternatively, the attachment 60 may be prepared by integrally molding finely pulverized powder of at least one of jade, ceramics and magnet together with resin and preferably plastic. The attachment 60 is wrapped in a fixing cloth 62, and fixedly attached to the inner sheath 40 by sewing a portion of the cloth 62 around the attachment 60.

[0041] Alternatively, as shown in FIG. 9b, the attachment 60 integrally has a fixing hole 60a, and a fixture 64 has a rib 64a. The rib 64a is inserted into the fixing hole 60a of the attachment 60 and directly fixed to the inner sheath 40 so that the attachment 60 can be fixedly attached to the inner sheath 40.

[0042] The attachment 60 is attached in plurality to the health bedding 1 according to the first embodiment of the invention. Preferably, the attachments 60 are uniformly distributed across the entire inner sheath 40. More preferably, the attachments 60 are concentrically arranged in a portion of the bedding contacting with the chest of a user of the bedding so as to concentrically create healthful effects to the user.

[0043] Each of the talc-containing padding layer 10, the magma stone-containing padding layer 20 and the chitosan-containing padding layer 30 in use for the health bedding 1 according to the first embodiment of the invention can be adjusted in weight and thickness according to application and function of the health bedding. Also, the layers 10, 20 and 30 can be sequentially stacked as shown in FIGS. 1 and 2.

[0044] As not shown in the drawings, additional fabrics may be inserted between and sewn with the padding layers 10, 20 and 30 in order to protect the padding layers 10, 20 and 30 while securely maintaining the shape thereof. The padding layers 10, 20 and 30 may be changed in their order of arrangement (stacking).

[0045] Therefore, the health bedding 1 according to the first embodiment of the invention is beneficial to the human being owing to the talc-, magma stone- and chitosan-containing padding layers 10, 20 and 30 in addition to the attachment 60 containing jade, ceramics and magnet attached to the inner sheath 40.

[0046] FIG. 3 is a partially broken perspective view of a health bedding according to a second embodiment of the invention, which is magnified in part, and FIG. 4 is a sectional view of FIG. 3, in which those components similar to those of the health bedding 1 of the first embodiment (in FIGS. 1 and 2) will be designated with reference numbers increased by a hundred and schematically described.

[0047] The health bedding 100 according to the second embodiment of the invention includes several layers 110, 120 and 170 which are wrapped in a sheath 150. The several layers 110, 120 and 170 contain or are surface treated with health materials.

[0048] As shown in FIGS. 3 and 4, in the health bedding 100 according to the second embodiment of the invention, the layers 110, 120 and 170 wrapped in the sheath 150 are stacked in sequence. The first layer 110 is a talc-containing padding layer, and manufactured by finely pulverizing talc, mixing talc powder into polyester resin, melt-spinning talc-containing polyester resin into a talc-containing polyester filament fiber, and cutting the talc-containing polyester filament fiber into a certain length of staple fibers and carding the fibers into a padding layer. The second layer 120 is a magma stone-containing padding layer, and manufactured by mixing magma stone powder to polyester resin, melt-spinning a mixture into a magma stone-containing polyester filament fiber, cutting the filament fiber into a certain length of staple fibers, and then carding the fibers into a padding layer. The first and second layers 110 and 120 constitute inner filling materials of the bedding. The third layer 170 is in the form of a chitosan-treated knitted/woven fabric layer, which is at least surface treated with chitosan. The chitosan-treated knitted/woven fabric layer 170 is manufactured by soaking knitted or woven fabrics, preferably, cotton fabrics into a chitosan solution to contain chitosan or coating the chitosan solution on the surface of the cotton fabrics so that chitosan is applied at least to the surface of the knitted/woven fabric layer 170. The third layer 170 is in the form of a chitosan-treated padding layer, and manufactured by coating chitosan solution on natural fibers such as wool or cotton and carding the chitosan-treated natural fiber.

[0049] In the health bedding 100 according to the second embodiment of the invention, the talc-containing padding layer 110, the magma stone-containing padding layer 120 and the chitosan-treated knitted/woven fabric layer 170 are adapted to show multiple functions of talc, magma stone and chitosan which are contained therein or applied to the surface thereof while adequately maintaining characteristics of the fibers and the knitted/woven fabrics. As described about the health bedding 1 according to the first embodiment, talc, magma stone and chitosan are beneficial to the human body. The talc-containing padding layer 110 and the magma stone-containing padding layer 120 are manufactured in the same manner as in the health bedding 1 according to the first embodiment.

[0050] Chitosan is at least surface treated to the knitted/woven fabric layer 170 of the health bedding 100 according

to the second embodiment of the invention. For example, chitosan functioning beneficial to the human body is solved into solvent to obtain a chitosan solution, into which knitted/woven fabrics, preferably, cotton fabrics are soaked to contain chitosan. Alternatively, the chitosan solution is coated at least on the surface of the knitted/woven fabrics, in particular, the cotton fabrics.

[0051] That is, the knitted/woven fabric layer **170** adopted in the health bedding **100** of this embodiment has bio-friendly characteristics of chitosan such as antibacterial properties and deodorizing ability since the layer **170** is at least surface treated with chitosan.

[0052] Since the health bedding **100** of the second embodiment uses the single chitosan-treated knitted/woven fabric layer **170** instead of the chitosan-containing padding layer **30** and the chitosan-containing inner sheath **40** used in the bedding **1** of the first embodiment (FIG. 1), the bedding is simplified in its structure. As a result, the bedding is readily attached with an attachment **160** which will be described hereinafter.

[0053] In the health bedding **100** of the second embodiment, the talc-containing padding layer **110**, the magma stone-containing padding layer **120** and the chitosan-treated knitted/woven fabric layer **170** are stacked and wrapped in the sheath **150**. The sheath **150** adopts a typical sheath made of knitted or woven fabrics which is generally used for bedding.

[0054] In addition to the health functions created from the talc-containing padding layer **110**, the magma stone-containing padding layer **120** and the chitosan-treated padding layer **170** constituting the inner filling materials, the health bedding **100** of the invention may include other health materials such as jade, ceramics and magnet in order to promote blood circulation and metabolism. These health materials can be directly attached to the chitosan-treated padding layer **170**, or via sewing or other attachment means.

[0055] As shown in FIG. 9a, an attachment **160** is prepared directly from rough jade, ceramics or magnet. Alternatively, the attachment **160** may be prepared by integrally molding finely pulverized powder of at least one of jade, ceramics and magnet together with resin and preferably plastic. The attachment **160** is wrapped in a fixing cloth **162**, and fixedly attached to the chitosan-treated knitted/woven fabric layer **170** by sewing a portion of the cloth **162** around the attachment **160**.

[0056] Alternatively, as shown in FIG. 9b, the attachment **160** integrally has a fixing hole **160a**, and a fixture **164** has a rib **164a**. The rib **164a** is inserted into the fixing hole **160a** of the attachment **160** and directly fixed to the chitosan-treated knitted/woven fabric layer **170** so that the attachment **160** can be fixedly attached to the chitosan-treated knitted/woven fabric layer **170**.

[0057] Also in the health bedding **1** of this embodiment, the attachment **160** is provided in plurality. Preferably, the attachments **160** are uniformly distributed across the entire chitosan-treated knitted/woven fabric layer **170**. More preferably, the attachments **160** are concentrically arranged in a portion of the bedding contacting with the chest of a user (user's body) of the bedding so as to concentrically create healthful effects to the user.

[0058] Each of the talc-containing padding layer **110**, the magma stone-containing padding layer **120** and the chitosan-treated knitted/woven fabric layer **170** in use for the health bedding **100** of this embodiment can be adjusted in weight and thickness according to application and function of the health bedding. For example, as shown in FIGS. 3 and 4, this embodiment can increase the thickness of one padding layer, e.g., the padding layer **120** of the two padding layers **110** and **120** to properly maintain the heat insulation ability of the health bedding **100** since the health bedding **100** of this embodiment is decreased in number of the padding layers compared to the health bedding **1** of the first embodiment (in FIGS. 1 and 2).

[0059] As not shown in the drawings, additional fabrics may be used to wrap the talc- and magma stone-containing padding layers **110** and **120** in order to protect the padding layers **110** and **120** and **30** while securely maintaining the shape thereof.

[0060] In the health bedding **100** of the second embodiment, the three layers **110**, **120** and **170** wrapped in the sheath **150** may be varied in their stacked order. However, regarding that the talc- and magma stone-containing layers **110** and **120** are padding layers, the chitosan-treated knitted/woven fabric layer **170** including the cotton fabrics is preferably interposed between the talc- and magma stone-containing padding layers **110** and **120** so that the padding layers **110** and **120** do not directly contact with each other so as to maintain the shape of the padding layers **110** and **120** as well as protect the same.

[0061] Therefore, the health bedding **100** according to the second embodiment of the invention is beneficial to health owing to the talc-, magma stone-containing padding layers **110** and **120** and the chitosan-treated padding layer **170** in addition to jade, ceramics and magnet of the attachment **160**.

[0062] FIG. 5 is a partially broken perspective view of a health bedding according to a third embodiment of the invention, which is magnified in part, and FIG. 6 is a sectional view of FIG. 5, in which those components similar to those of the foregoing health beddings **1** and **100** will be designated with reference numbers increased by hundreds and schematically described.

[0063] The health bedding **200** according to the third embodiment of the invention includes a talc-containing padding layer **210**, a magma stone-containing padding layer **220** stacked on the talc-containing padding layer **210** and a sheath **250** made of knitted or woven fabrics for wrapping the padding layers **210** and **220**. The padding layers **210** and **220** serve as inner filling materials of the bedding while basically having healthful characteristics.

[0064] Liquid bio-ceramics is applied to at least one of the talc- and magma stone-containing padding layers **210** and **220** which are stacked on each other in the health bedding **200** of this embodiment.

[0065] That is, as shown in FIGS. 5 and 6, the health bedding **200** of the third embodiment uses the padding layers **210** and **220** used as the inner filling materials and wrapped in the sheath **250** made of the knitted or woven fabrics, e.g., cotton fabrics, in which the padding layers **210** and **220** contain talc and magma stone beneficial to the human body. In particular, liquid (ionized) bio-ceramics is

applied to the surface of at least one of the talc- and magma stone-containing padding layers **210** and **220**.

[0066] In the health bedding **200** of this embodiment, the above liquid bio-ceramics has efficacies beneficial to the human body. Examples of the beneficial efficacies may activate water, promote activation of body cells, and raise the temperature of subcutis to boost expansion of capillary vessels and blood circulation, thereby accelerating metabolism of the human body.

[0067] The above-mentioned liquid bio-ceramics is well known, and applied to at least one of the padding layers **210** and **220** of the health bedding **200** of this embodiment. At least one of the talc-containing padding layer **210** and the magma stone-containing padding layer **220** is soaked into liquid bio-ceramics, and then dewatered and dried to contain bio-ceramics components. Alternatively, liquid bio-ceramics is sprayed to the surface of the layers **210** and **220**.

[0068] Therefore, the health bedding **200** of the invention contains liquid bio-ceramics components in addition to the talc and magma stone components which generate far infrared rays and anions, thereby providing more beneficial functions to the human body.

[0069] Next, **FIG. 7** is a partially broken perspective view of a health bedding **200a**, i.e., a variation of the third embodiment of the invention, which is magnified in part. The health bedding **200a** further comprises a second or inner sheath **240** within a sheath **250** for wrapping talc- and magma stone-containing padding layers **210** and **220** as shown in **FIGS. 5 and 6**. The inner sheath **240** stably maintains the padding layers **210** and **220** in shape while enhancing the durability of the health bedding.

[0070] In addition to the padding layers **210** and **220**, an attachment can be fixedly attached to the inner sheath **240**. The attachment **260** is formed of one selected from a group including jade, ceramics and magnet which are known to perform beneficial functions to the human body. Also, the attachment **260** may be molded out of plastic containing at least one selected from the group including jade, ceramics and magnet.

[0071] As shown in **FIG. 7**, the health bedding **200a** of this embodiment further comprises a chitosan-containing padding layer **230** used in the health bedding **1** shown in **FIG. 1**. The chitosan-containing padding layer **230** serves as a filling material of the bedding within the inner sheath **240**.

[0072] Therefore, the health bedding **200a** of this embodiment further comprises the attachment **260** containing health materials such as jade, ceramics and magnet and the chitosan-containing padding layer **230** formed of natural fibers treated with chitosan in addition to the talc- and magma stone-containing padding **210** and **220**, in which liquid bio-ceramics is applied to at least one of the layers **210** and **220**, thereby providing functions beneficial to the human body.

[0073] The health bedding **200a** of this embodiment preferably stacks the talc-containing padding layer **210**, the magma stone-containing padding layer **220** and the additional chitosan-containing padding layer **230** in their order within the inner sheath **240** made of knitted or woven fabrics to maintain the layers **210**, **220** and **230** in shape as shown

in **FIG. 7**. Alternatively, the inner sheath **240** may be stacked between the padding layers **210** to **230** to prevent them from tangling.

[0074] **FIG. 8** is a partially broken perspective view of a health bedding **200b**, i.e., another variation of the third embodiment of the invention, which is magnified in part. The health bedding **200b** of this embodiment comprises talc- and magma stone-containing padding layers **210** and **220** basically showing healthful characteristics and an outer sheath **250** made of knitted or woven fabrics for wrapping the padding layers **210** and **220**. Liquid bio-ceramics is applied to the surface of at least one of the padding layers **210** and **220**. The health bedding **200b** also comprises a chitosan-treated knitted/woven fabric layer **270** instead of the inner sheath **240** and the chitosan-containing padding layer **230** shown in **FIG. 7**. The knitted/woven fabric layer **270** is at least surface treated with chitosan, and has attachments **260** attached thereto.

[0075] That is, the health bedding **200b** of this embodiment adopts the chitosan-treated knitted/woven fabric layers **270** made of knitted/woven fabrics, for example, cotton fabrics surface-treated with chitosan to maintain biofriendly characteristics of chitosan such as antibacterial properties as well as attaches the attachments **260** to the chitosan-treated knitted/woven fabric layer **270**.

[0076] The chitosan-treated knitted/woven fabric layer **270** is manufactured by solving chitosan into a solvent, soaking knitted/woven fabrics such as cotton fabrics into a chitosan solution to contain chitosan, or spraying the chitosan solution onto the surface of the knitted/woven fabrics as described above in respect to the health bedding **100** shown in **FIG. 3**.

[0077] In the health bedding **200b** of this embodiment, it is most preferred that the chitosan-treated knitted/woven layer **270** having the attachments **260** fixed thereto is stacked between the talc-containing padding layer **210** and the magma stone-containing padding layer **220** to separate the padding layers **210** and **220** from each other thereby improving the shape maintaining ability thereof.

[0078] As shown in **FIGS. 7 and 8**, the health beddings **200a** and **200b** in the above embodiments may adjust the weight or thickness of each of the padding layers **210** to **230** functioning as the inner filling materials of the bedding, the outer and inner sheaths **250** and **240** made of knitted or woven fabrics and the chitosan-treated knitted/woven fabric layer **270** according to application and function. Also, the layers **210** to **250** and **270** may be changed in their stacked order.

[0079] **FIGS. 9a and 9b** illustrate that an attachment made of jade, ceramic and magnet can be attached to the inner sheath **240** and the chitosan-treated knitted/woven fabric layer **270** used in the health beddings **200a** and **200b**.

[0080] As shown in **FIG. 9a**, the attachment **260** is prepared directly from rough jade, ceramics or magnet. Alternatively, the attachment **260** may be prepared by integrally molding one of finely pulverized powders of jade, ceramics, magnet or mixture thereof together with resin and preferably plastic. The attachment **260** is wrapped in a fixing cloth **262** and fixedly attached to the inner sheath **240** and the chitosan-treated knitted/woven fabric layer **270** by sewing portions of the fixing cloth **262** around the attachment **260**.



[0081] Alternatively, as shown in FIG. 9b, the attachment 260 integrally has a fixing hole 260a, and a fixture 264 has a rib 264a. The rib 264a is inserted into the fixing hole 260a of the attachment 260 and directly fixed to the inner sheath 40 so that the attachment 260 can be fixedly attached to the inner sheath 240 and the chitosan-treated knitted/woven fabric layer 270.

[0082] As in the foregoing health beddings 1 and 100, a plurality of attachments 260 may be uniformly distributed across entire portions of the inner sheath 240 made of knitted or woven fabrics or the chitosan-treated knitted/woven fabric layers 270. More preferably, the attachments 260 are concentrically arranged in a portion of the bedding contacting with the chest of a user of the bedding so as to concentrically create healthful effects to the user.

[0083] According to the foregoing the health beddings 200, 200a and 200b, liquid bio-ceramics is treated to the talc- and magma stone containing padding layers 210 and 220, the chitosan-containing padding layer 230 made of natural fibers treated with chitosan or the chitosan-treated knitted/woven fabric layer 270 is selectively provided, and the attachments 260 formed of jade, ceramics, magnet and the like are attached to the inner sheath 240 and the chitosan-treated knitted/woven fabric layer 270. As a result, the health beddings 200, 200a and 200b can provide more beneficial functions to the human body.

#### Industrial Applicability

[0084] According to the health bedding of the invention as set forth above, the polyester fibers provide fabric characteristics, chitosan provides bio-friendly characteristics of such as antibacterial properties and deodorizing function, talc and magma stone radiate far infrared rays and anions and have antibacterial effects, activation of physiology and growth, and liquid bio-ceramics promotes metabolism of the body so as to achieve advantageous and practical effects which further boost the health.

[0085] Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions can be made without departing from the scope and spirit of the invention as defined in the accompanying claims.

#### 1. A health bedding comprising:

- a talc-containing padding layer made of talc-containing polyester fibers;
  - a magma stone-containing padding layer made of magma stone-containing polyester fibers;
  - a chitosan-containing padding layer made of chitosan-coated natural fibers;
  - an inner sheath made of knitted or woven fabrics and wrapping the talc-containing padding layer, the magma stone-containing padding layer and the chitosan-containing padding layer; and
  - an outer sheath made of knitted or woven fabrics for wrapping the inner sheath,
- wherein the chitosan-, talc- and magma stone-containing padding layers are stacked on one another.

2. A health bedding in accordance with claim 1, further comprising an attachment fixedly attached to the inner sheath, the attachment being formed of one selected from a group including jade, ceramics and magnet or molded out of plastic containing at least one selected from the group.

3. A health bedding in accordance with claim 2, wherein the attachment is attached to the inner sheath by sewing a portion of a fixing cloth around the attachment or via a fixture.

#### 4. A health bedding comprising:

- a talc-containing padding layer made of talc-containing polyester fibers;
- a magma stone-containing padding layer made of magma stone-containing polyester fibers;
- a chitosan-treated knitted or woven fabric layer which is at least surface treated with chitosan;
- a sheath made of knitted or woven fabrics for wrapping the talc-containing padding layer, the magma stone-containing padding layer and the chitosan-treated knitted/woven fabric layer; and

an attachment fixedly attached to the chitosan-treated knitted/woven fabric layer, the attachment being formed of one selected from a group including jade, ceramics and magnet or molded out of plastic containing at least one selected from the group.

5. A health bedding in accordance with claim 4, wherein the chitosan-treated knitted/woven fabric layer is interposed between the talc-containing padding layer and the magma stone-containing padding layer.

6. A health bedding in accordance with claim 4, wherein the chitosan-treated knitted/woven fabric layer is made of cotton fabrics.

7. A health bedding in accordance with claim 4, wherein the attachment is attached to the chitosan-treated knitted/woven fabric layer by sewing a portion of a fixing cloth around the attachment or via a fixture.

#### 8. A health bedding comprising:

- a talc-containing padding layer made of talc-containing polyester fibers;
- a magma stone-containing padding layer made of magma stone-containing polyester fibers;
- a first sheath made of knitted or woven fabrics for wrapping the talc-containing padding layer and the magma stone-containing padding layer;

wherein at least one of the padding layers is applied with liquid bio-ceramics at the surface thereof.

9. A health bedding in accordance with claim 8, further comprising:

- a second sheath arranged within the first sheath for wrapping the talc- and magma stone-containing padding layers, the second sheath being made of knitted or woven fabrics; and

an attachment fixedly attached to the second sheath, the attachment being formed of one selected from a group including jade, ceramics and magnet or molded out of plastic containing at least one selected from the group.

10. A health bedding in accordance with claim 9, further comprising a chitosan-containing padding layer made of

natural fabrics coated with chitosan, wherein the chitosan-containing padding layer is wrapped in the second sheath.

**11.** A health bedding in accordance with claim 8, further comprising:

a knitted/woven fabric layer which is at least surface treated with chitosan; and

an attachment fixedly attached to the knitted/woven fabric layers, the attachment being formed of one selected from a group including jade, ceramics and magnet or molded out of plastic containing at least one selected from the group.

**12.** A health bedding in accordance with claim 11, wherein the chitosan-treated knitted/woven layer is interposed between the talc-containing padding layer and the magma stone-containing padding layer.

**13.** A health bedding in accordance with claim 11, wherein the chitosan-treated knitted/woven fabric layer is made of cotton fabrics.

**14.** A health bedding in accordance with claim 9, wherein the attachment is attached to the second sheath or the chitosan-treated knitted/woven fabric layer by sewing a portion of a fixing cloth around the attachment or via a fixture.

**15.** A health bedding in accordance with claim 11, wherein the attachment is attached to the second sheath or the chitosan-treated knitted/woven fabric layer by sewing a portion of a fixing cloth around the attachment or via a fixture.

\* \* \* \* \*