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(71) Applicant: **Almupers S.A.S.**
Risaralda (CO)

(72) Inventor: **OSPINA QUINTERO, Luis Orlando
Pereira
Risaralda (CO)**

(74) Representative: **Carvajal y Urquijo, Isabel et al
Clarke, Modet & Co.
Patentes
C/Goya no. 11
28001 Madrid (ES)**

(54) **MULTIFUNCTIONAL ORTHOPAEDIC PILLOW WITH EXTERNAL FABRIC COVER, FILLED WITH A PLURALITY OF DISC-SHAPED PARTICLES OR PIECES STRUCTURED ON THE BASIS OF NON-CONTAMINATING POLYMER**

(57) The invention relates to a multifunctional orthopedic pillow comprising a number of pieces structures on the basis of non-contaminated polymer, with which said pillow is filled. The pillow is made using impermeable cotton fabric, preferably with polyester, for comfort, fresh-

ness, relaxation, moldability and adaptability to any type of uses. The pillow is also characterized in that it adapts to the shape of the user's head, protecting the neck area and minimizing the risk of suffocation through limitation of movement.

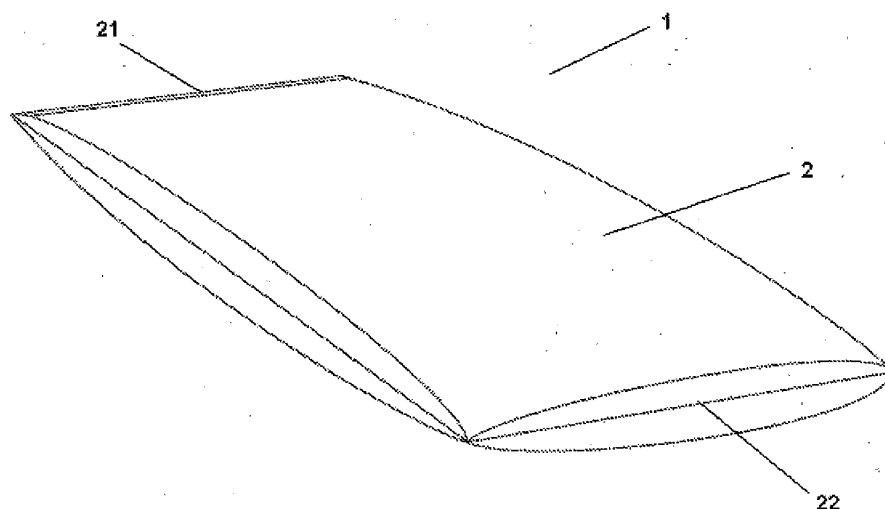


FIG. 1

Description**TECHNICAL FIELD**

5 [0001] The present invention refers to a multifunctional orthopedic bag or pillow comprising a combination of disc-shaped pieces structured on the basis of non-contaminating polymer, with which the pillow is filled. The pillow is made from cotton impermeable material, preferably polyester, in order to provide comfort, freshness, relaxation, moldability and adaptability to any kind of user.

10 [0002] The pillow of the present invention is characterized in that it adapts to the shape of the head of the user, whereby care is provided to the cervical area and the risk of choking by limited movement is minimized. In addition, when the user is a baby, the pillow guarantees the roundness of the skull, since the inner content of the pillow adjusts to the shape of the head and does not deform it, since there is no pressure on the skull.

BACKGROUND OF THE INVENTION

15 [0003] Actually, one of the main problems that occur with pillows, specifically those used for babies is that they affect the shape of the baby's head, taking into consideration that such pillows do not adapt to the contours of the skull, producing thereby malformations of such part of the body that can produce side effects and is aesthetically undesirable. Moreover, the pillows do not provide freshness, nor are comfortable for the user. In addition to the above, most pillows that attempt to solve the cranial deformations of young users, generally require a higher investment, making it unavailable to any user.

20 [0004] In the state of the art there are several documents which divulge different types of pillows stuffed with particles, which are mainly based on the use of a series of particulate material that define the shape of the pillow and allows the user to lay down on it.

25 [0005] Among them is document KR 354829, which describes a filling material of a globular pillow being mixed with such material to form inner layers of air that are retrieved as soon the pressure exerted on the pillow is removed and which improve the ventilation of the same. The filling material corresponds to spheres made of polystyrene, fine powder of bioceramics that radiates far-infrared and powder of precious stones in a regular proportion. The mixture is molded to form a sphere shape. Several spaces are formed on the external surface of the sphere and some of them pass through the body thereof in order to facilitate the smooth movement of the air. The spheres are elastic due to the polystyrene and they create a therapeutic pressure treatment that improves the blood circulation. Spheres can be mixed with seeds as filling material for pillows.

30 [0006] The pillow described in such document contains a particulate material which shape is spherical, which does not provide the therapeutic benefits on the growth of the skull cavity in infants nor provides the user with sufficient comfort. Moreover, the particulate material found inside the pillow is synthetic and is also mixed with natural seeds, whereby the product shows the risk of undesirable degradation of the natural material when contacting the substances excreted by the user, such as sweat, saliva or vomit.

35 [0007] On the other hand, document US 20060010603 is related to a comfort pillow containing a breathable cover member and a main fabric layer which is closed in both ends and forming an internal cavity containing sphere-shaped pellets, made from neoprene with small fibers extending from one pellet to the other. The pellets can be made from foam, neoprene or composite material. Like the previous document, this patent application establishes that the shape of the particulate material is spherical, the size of the particles is regular and there are no different sizes depending on the application, whereby the pillow does not provide therapeutic benefits on the growth of the skull cavity for infants, nor provides the user with sufficient comfort.

40 [0008] Another document which can be found in the state of the art and related to the kind of pillow, as the present invention, is document GB 221055, which discloses the manufacturing of a stuffing material for pillows which involves forming wood into chips in order to provide them with a spherical shape, which have a roughened surface specifically produced by treatment in a sandpaper grinding machine. The preferred wood is Japanese cypress, or another wood impregnated with fragrant essence extracted from cypress. Such material releases the fragrance, absorbs humidity and is not degradable.

45 [0009] In this regard, the pillow disclosed in such document has a material made from wood, which is spherical but not disc-shaped. The size of the particles is regular and there are no different sizes depending on the application, whereby it is possible to indicate that it does not provide therapeutic benefits on the growth of the skull cavity of infants nor provides the user with sufficient comfort and in addition, the main function is to release a fragrance which is pleasant for the user. Now, document US 5038431 refers to an impregnated pillow comprising an outer pocket for impregnated particles made of an impermeable filling material. The pocket having a removable cover and the sheet having a vent opening on the cover. The cover and the vent can be aligned or facing against each other. The preferred particles are expanded polystyrene impregnated with a medicament. Such pillow facilitates dispensing a medicament to an animal or a person

while resting.

[0010] The pillow described in such document is based on the elimination of odors and the additional therapeutic benefits offered for growing infants. However, this development is related to ergonomic benefits, instead if such beans come in direct contact with the user's head, bumps will appear and will be very uncomfortable for the same, since the beans do not slide one over the other. In addition, different sizes between the particles of the disclosed product in said application are not mentioned, whereby it is possible to establish that the pillow does not adapt to the shape of the skull of the user.

[0011] Finally, document US 20080208299 is related to a pillow filled with multiple legume (lentil) seeds, partially filled with a flexible porous cover. The pillow is preferably made of fabric, such as cotton. The legume seeds are useful for storing heat when exposed to microwaves of a microwave oven and for slowly releasing such energy to the user's body through the cover. A volume inside the cover is filled with legume from 60% to 85%. A closure is attached to the cover in order to ensure the body to the pillow. The objective is to transfer heat during a period of time to the user's body in an area in pain. Such pillow avoids the release of odors generated by heating oat seeds.

[0012] The invention described in such document is based on a material inside the pillow, wherein such material corresponds to legume (lentil) seeds, wherein lentils exhibit edges which are uncomfortable for its application on growing infants. Moreover, the size of the particles is not related with the therapeutic function of the pillow, whereby it is possible to establish that there are no therapeutic benefits for the growth of the skull cavity in infants. In addition, it is important to highlight that the main function of the pillow is to provide heat in areas in pain of the user's body.

[0013] Considering the above information, it is evident that there was a need in the state of the art for designing and implementing an ergonomic pillow being filled with a series of particles with different sizes, in order to adapt the pillow to the shape of the skull of a user, namely an infant, allowing thereby that the head obtain a round shape.

[0014] In addition, it is necessary that the pillow exhibits good comfort, freshness, relaxation, moldability and adaptability properties to any kind of user, while being economic and not having inside particles with shapes that may affect the health and integrity of the user's skin.

DESCRIPTION OF THE DRAWINGS

[0015] The invention may be understood in a better way by the figures, wherein each element of the ergonomic pillow to be protected is showed. Furthermore, figures show reference numerals assigned to each element of said pillow.

Figure 1 corresponds to a perspective view of the orthopedic bag of the present invention.

Figure 2 corresponds to a perspective view of a cross section of the orthopedic bag of figure 1, in order to show the filling thereof.

Figure 3 corresponds to as perspective view of the particles being inside the orthopedic bag of figures 1 and 2.

DETAILED DESCRIPTION OF THE INVENTION

[0016] The multifunctional orthopedic pillow (1), object of the present invention, comprises the following elements or parts:

- An external cover (2) in fabric, which is sewed in its distal end (21) and the proximal end (22), wherein such external cover (2) has a substantially rectangular shape; and
- A plurality of particles (3) located inside the external cover (2) and provide the shape to the pillow (1), wherein such particles (3) have different sizes depending on the application and are substantially disc-shaped (as a lentil) in order to be adjusted to the shape of the skull of a user.

[0017] Specifically, the external cover (2) is made of fabric, preferably impermeable fabric composed of a mixture of cotton and polyester. In a preferred embodiment, the cotton and polyester ratio in the external cover (2) is 50% cotton and 50% polyester, in order to allow the fabric to be comfortable and soft enough to the user and to be easy to wash and to maintain a suitable state so the infant will not have health problems.

[0018] In addition, the external cover (2) exhibits needlework in the distal end (21) whereby allowing the filling of the inside of said cover (2) with the plurality of particles (3). Such needlework has the function of avoiding the particles (3) inside the pillow (1) to get out and compromise the integrity and health of the infant, since the user or the baby can ingest such particles (3).

[0019] In a preferred embodiment, particles (3) correspond to polymer-based structured pieces, preferably non-con-

taminating, in order to avoid bacteria or any other type of microorganism or contaminant to be adhered to the particle (3) affecting the health of the user.

[0020] Such particles (3) exhibit an acrylic finished, which enables them to have an specific consistency and not being deformed when the user lays down on the pillow (1).

[0021] In one embodiment of the invention, the pillow (1) has a specific size' depending on the age of the infant, as showed in the following table 1:

Table 1

Infant Age	Pillow (1) Size
0 to 9 months	15 cm X 26 cm
9 months to 3 years	17 cm X 28 cm
3 to 12 years	23 cm X 34 cm
12 years and older	30 cm X 41 cm

[0022] In this regard, it is also important to mention that particles (3) may have a series of sizes (thickness) depending on the application and the age of the user. In a preferred embodiment of the present invention, particles (3) are present in five different sizes, which are as follow:

- 4 x 1.8 mm
- 6x2mm
- 8 x 3 mm
- 10 x 4 mm
- 12 x 5 mm

[0023] Such sizes of particles (3) allow that when the infant reclines the head on the pillow (1), it adapts to the round shape of the back of the skull and provide comfort to the user. In addition, the combination of a plurality of sizes of particles (3) allows the pillow (1) to have care properties of the cervical area and minimizes the risk of choking that may occur due to the limitation of movement of the infant's head.

[0024] In a preferred embodiment of the invention, particles (3) with different sizes are present inside the pillow (1) depending on the age of the user, since they allow the infant to move and not drown and furthermore, they adapt to the round shape of the back of the skull.

Table 2

Infant Age	Particle (3) Quantity
0 to 9 months	14.000 particles (3) of 4 x 1.8 mm; and 6.000 particles (3) of 6 x 2 mm.
9 months to 3 years	10.000 particles (3) of 4 x 1.8 mm; 9.000 particles (3) of 6 x 2 mm; and 6.000 particles (3) of 8 x 3 mm.
3 to 12 years	12.000 particles (3) of 6 x 2 mm; 10.000 particles (3) of 8 x 3 mm; and 8.000 particles (3) of 10 x 4 mm.
12 years and older	15.000 particles (3) of 8 x 3 mm; 12.000 particles (3) of 10 x 4 mm; and 9.000 particles (3) of 12 x 5 mm.

Claims

1. A multifunctional orthopedic pillow (1), **characterized by** comprising:

- an external cover (2) in fabric, which is sewed in its distal end (21) and the proximal end (22), wherein such external cover (2) has a substantially rectangular shape; and
- a plurality of particles (3) located inside the external cover (2) and providing the shape to the pillow (1), wherein such particles (3) have different sizes depending on the application and are substantially disc-shaped (as a lentil) in order to be adjusted to the shape of the skull of a user.

2. The pillow (1) according to claim 1, **characterized in that** the external cover (2) is made of fabric, preferably impermeable fabric composed of a mixture of cotton and polyester.
3. The pillow (1) according to claim 2, **characterized in that** the cotton and polyester ratio in the external cover (2) is 50% cotton and 50% polyester.
4. The pillow (1) according to any of claims 1 to 3, **characterized in that** the external cover (2) further comprises needlework in the distal end (21) whereby allowing the filling of the inside of said cover (2) with the plurality of particles (3).
5. The pillow (1) according to claim 1, **characterized in that** particles (3) correspond to polymer-based structured pieces, preferably non-contaminating.
6. The pillow (1) according to claim 5, **characterized in that** particles (3) exhibit an acrylic finished, which enables them to have a specific consistency and not being deformed when the user lays down on the pillow (1).
7. The pillow (1) according to any of the preceding claims, **characterized in that** the pillow (1) has a specific size depending on the age of the infant.
8. The pillow (1) according to claim 7, **characterized in that** the size of the pillow (1) for user from 0 to 9 months is 15 cm X 26 cm; for user from 9 months to 3 years is 17 cm X 28 cm; for user from 3 to 12 years is 23 cm X 34 cm; and for users 12 years and older is 30 cm X 41 cm.
9. The pillow (1) according to claim 7 or 8, **characterized in that** the size (thickness) of the particles (3) inside the pillow (1) depend on the age of the user and are selected from the group consisting of 4 x 1.8 mm; 6 x 2 mm; 8 x 3 mm; 10 x 4 mm; and 12 x 5 mm.
10. The pillow (1) according to claim 9, **characterized in that** the amount of particles (3) for users from 0 to 9 months is 14.000 particles (3) of 4 x 1.8 mm; and 6.000 particles (3) of 6 x 2 mm; for users from 9 months to 3 years is 10.000 particles (3) of 4 x 1.8 mm; 9.000 particles (3) of 6 x 2 mm; and 6.000 particles (3) of 8 x 3 mm; for users from 3 to 12 years is 12.000 particles (3) of 6 x 2 mm; 10.000 particles (3) of 8 x 3 mm; and 8.000 particles (3) of 10 x 4 mm; for users 12 years and older 15.000 particles (3) of 8 x 3 mm; 12.000 particles (3) of 10 x 4 mm; and 9.000 particles (3) of 12 x 5 mm.

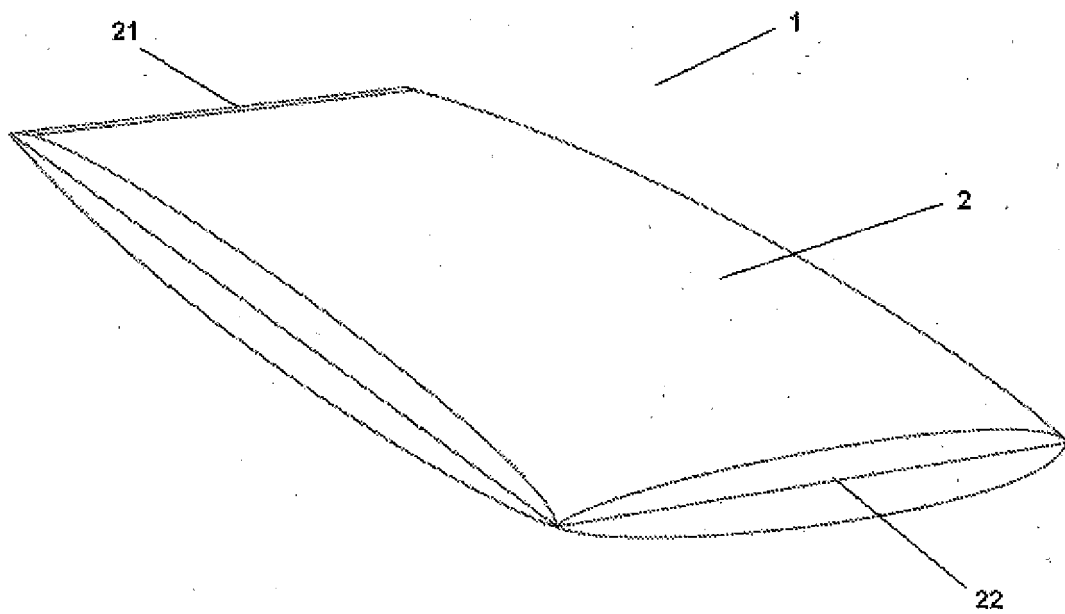


FIG. 1

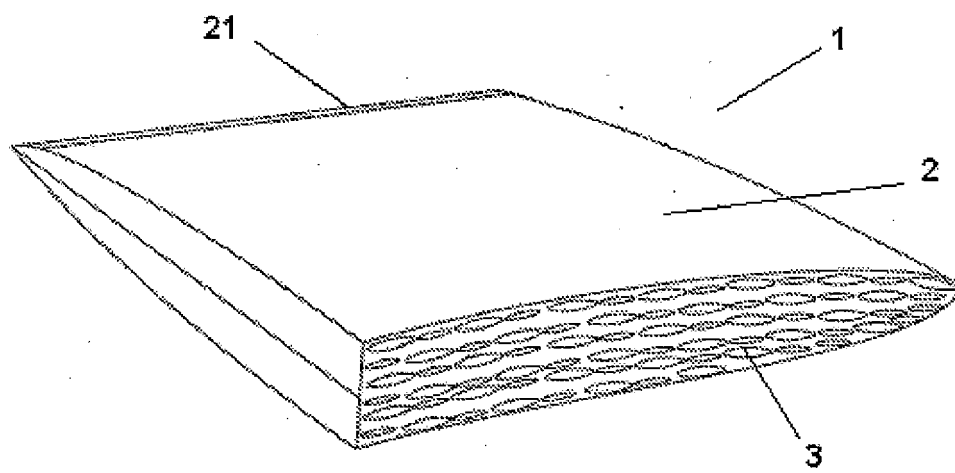


FIG. 2

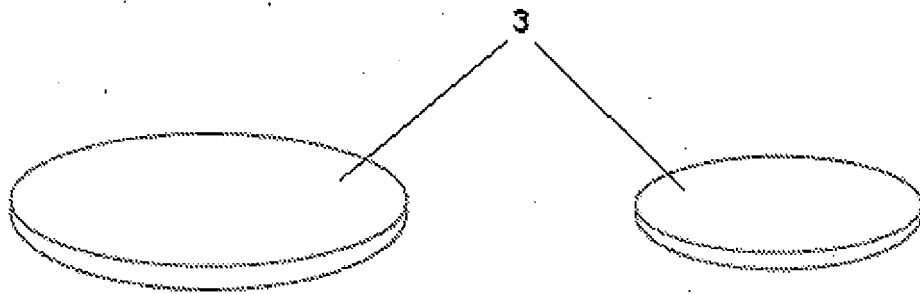


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2011/052346

A. CLASSIFICATION OF SUBJECT MATTER

A47G9/10 (2006.01)

B68G1/00 (2006.01)

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)

A47G, B68G

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

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

EPODOC, INVENES, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4139920 A (EVANS FRANKLIN T) 20/02/1979, the whole document.	1-10
Y	US 4607403 A (ALIVIZATOS MARGARET A) 26/08/1986, column 3, line 14 - column 6, line 4; figures 1, 3 .	1, 4-5, 7-8
A		9-10
Y	US 2008208299 A1 (MARTINEAU SYLVAIN) 28/08/2008, abstract; figure 1.	1, 4-5, 7-8
A	US 3459179 A (OLESEN IRMA) 05/08/1969, description; figure 2.	1-2, 5, 7-10
A	US 4606087 A (ALIVIZATOS MARGARET A) 19/08/1986, description; figure 3.	1-2, 5, 7-10

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

* Special categories of cited documents:

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"&"

Date of the actual completion of the international search

04/10/2011

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OFICINA ESPAÑOLA DE PATENTES Y MARCAS

Paseo de la Castellana, 75 - 28071 Madrid (España)

Facsimile No.: 91 349 53 04

Authorized officer

S. Alcalde Villar

Telephone No. 91 3496859

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2011/052346

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2369569 A (LEWIS RACHAEL) 05/06/2002, abstract.	3

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

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2011/052346

Information on patent family members

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
US4139920 A	20.02.1979	US4055866 A	01.11.1977
-----	-----	-----	-----
US4607403 A	26.08.1986	US4606087 A	19.08.1986
-----	-----	-----	-----
US2008208299 A	28.08.2008	NONE	
-----	-----	-----	-----
US3459179 A	05.08.1969	BE666900 A	03.11.1965
		NL6508757 A	07.10.1966
		GB1088405 A	25.10.1967
		CH462402 A	15.09.1968
		SE312650 B	21.07.1969
		FI41769 B	31.10.1969
		DE1554031 ABC	20.11.1969
		DK121398 B	11.10.1971
-----	-----	-----	-----
US4606087 A	19.08.1986	US4607403 A	26.08.1986
		US4689844 A	01.09.1987
-----	-----	-----	-----
GB2369569 AB	05.06.2002	NONE	
-----	-----	-----	-----

Form PCT/ISA/210 (patent family annex) (July 2009)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 354829 [0005]
- US 20060010603 A [0007]
- GB 221055 A [0008]
- US 5038431 A [0009]
- US 20080208299 A [0011]