

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
1 July 2010 (01.07.2010)

(10) International Publication Number  
**WO 2010/075294 A1**

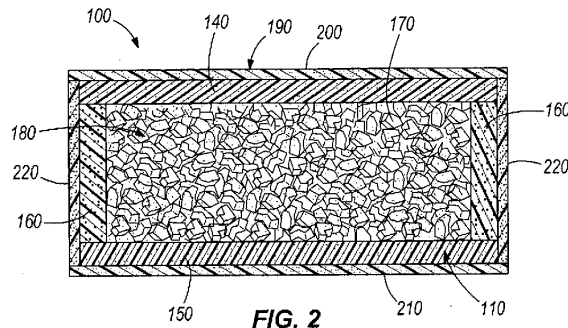
- (51) International Patent Classification:  
A47G 9/00 (2006.01)
- (21) International Application Number:  
PCT/US2009/069018
- (22) International Filing Date:  
21 December 2009 (21.12.2009)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
61/140,622 24 December 2008 (24.12.2008) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report (Art. 21(3))

(54) Title: PILLOW



(57) Abstract: A pillow assembly including a visco-elastic foam core and a cover having a top portion and a side portion that is more permeable than the top portion. The core comprises a top layer of foam, a bottom layer of foam, and a filler of granulated foam filler positioned between the top layer and the bottom layer. The core further includes a side layer coupled to the top layer and bottom layer to define a cavity containing the filler, such that the side layer is more permeable than the top layer. At least one of the side layer and the side portion comprises a 3D textile. The assembly is shaped to include a plurality of lobes. The cover further includes a bottom portion having a material that is less permeable than the side portion, such that the bottom portion comprises a material that is the same as the top portion.

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## PILLOW

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Priority is hereby claimed to U.S. Provisional Patent App. No. 61/140,622, filed December 24, 2008, the entire contents of which are herein incorporated by reference.

### BACKGROUND

[0002] Conventional pillows can be found in a wide variety of shapes and sizes, and are often adapted for supporting one or more body parts of a user.

[0003] Many pillows are constructed entirely or partially out of foam material. For example, polyurethane foam is commonly used in pillows of all types, and can be used alone or in combination with other types of cushion materials. In many cases, pillows are constructed entirely or partially of visco-elastic material, thereby providing the pillow with an increased ability to conform to a user and to thereby distribute the weight or other load of the user. Some visco-elastic materials are also temperature sensitive, thereby also enabling the pillow to change shape based at least in part upon the temperature of the supported body part.

[0004] Although the number and types of pillows constructed with visco-elastic materials continue to increase, the capabilities of such materials are often underutilized. In many cases, this underutilization is due to poor pillow design and/or the choice of material(s) used in the pillow.

[0005] Based at least in part upon the limitations of existing pillows containing visco-elastic material and the high consumer demand for improved pillows in a wide variety of applications, new pillows are welcome additions to the art.

### SUMMARY

[0006] Some embodiments of the present invention provide a pillow comprising a core and a plurality of lobes extending from the core, wherein the core includes a top layer and a bottom layer between which is located granulated filler material, wherein the top layer, bottom layer, and/or granulated foam comprises visco-elastic foam. The sides of the core can be defined by highly porous material (such as a 3D textile material) in some embodiments. Also, the core can be enclosed within a cover having highly porous sides (e.g., made of a 3D

textile material or a velour or stretch velour material) corresponding to and covering the sides of the core and/or a highly porous bottom (e.g., again, made of a 3D textile material or a velour or stretch velour material) corresponding to and covering the bottom layer of the core. In some embodiments, the top of the cover can be less porous than the sides or bottom of the cover, whereas in other embodiments, the top and bottom of the cover are less porous than the sides of the cover. Examples of material that can be used for the top of the cover include a double jersey fabric, velour, or stretch velour. In some alternative embodiments, these same materials can be used for the bottom of the cover, such as in embodiments in which the top and bottom of the cover are both less porous than the sides of the cover.

[0007] A pillow assembly including a visco-elastic foam core and a cover having a top portion and a side portion that is more permeable than the top portion. The core comprises a top layer of foam, a bottom layer of foam, and a filler of granulated foam filler positioned between the top layer and the bottom layer. The core further includes a side layer coupled to the top layer and bottom layer to define a cavity containing the filler, such that the side layer is more permeable than the top layer. At least one of the side layer and the side portion comprises a 3D textile. The assembly is shaped to include a plurality of lobes. The cover further includes a bottom portion having a material that is less permeable than the side portion, such that the bottom portion comprises a material that is the same as the top portion.

[0008] A pillow assembly including a core having a top layer of foam, a side layer and a bottom layer, and a cover surrounding the core. The core further includes a granulated foam filler positioned between the top layer and the bottom layer. The side layer is coupled to the top layer and the bottom layer to define a cavity containing the filler. The side layer is more permeable than the top layer and the bottom layer. The assembly is shaped to include a plurality of lobes.

[0009] Further aspects of the present invention, together with the organization and operation thereof, will become apparent from the following detailed description of the invention when taken in conjunction with the accompanying drawings, wherein like elements have like numerals throughout the drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a perspective view of a pillow according to the present invention, shown with a portion of the cover removed to expose the core of the pillow.

[0011] FIG. 2 is a detail cross-sectional view of the pillow of FIG. 1.

## DETAILED DESCRIPTION

[0012] Before the various embodiments of the present invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Also, terms such as "first", "second", and "third" are used herein and in the appended claims for purposes of description and are not intended to indicate or imply relative importance or significance. The term "first" does not necessarily refer to the top most layer, rather, it refers to the first of a plurality, without indicating a particular location or position. Similarly, the terms "top" and "bottom" are used for the purpose of description and are not intended to indicate or imply relative importance, significance, unless otherwise specified. The term "top" does not necessarily refer to the top most layer, and "bottom" does not necessarily refer to the bottom most layer.

[0013] The use of "including," "comprising," or "having" and variations thereof herein is meant to encompass the items listed thereafter and equivalents thereof as well as additional items. Unless limited otherwise, the terms "connected," "coupled," and variations thereof herein are used broadly and encompass direct and indirect connections and couplings. In addition, the terms "collected" and "coupled" and variations thereof are not restricted to physical or mechanical connections or couplings.

[0014] A pillow 100 according to an embodiment of the present invention is illustrated in FIGS. 1-2. The pillow 100 comprises a core 110 having a plurality of lobes 120, 130 extending from a central portion of the core 110. In some embodiments, the lobes 120, 130 all have substantially the same size. However, in other embodiments (including that shown in FIG. 1), the lobes 120, 130 can have different sizes. In particular, two of the lobes 120 in the illustrated embodiment are smaller than the other two lobes 130. Any combination of lobes having the same size or different sizes is possible, and falls within the spirit and scope

of the present invention. Also, in other embodiments, the core 110 can have three lobes, five lobes, or more lobes of the same or different size. In any case, the lobes 120, 130 can be equally or unequally spaced about the periphery of the pillow 100. The lobed shape of the pillow 100 provides a number of support surfaces for a user. For example, the lobed shapes can enhance breathing of a user resting his or her head against the pillow 100 (e.g., when sleeping on the user's side or stomach), and can also provide support for the shoulder and/or neck of the user when the user is sleeping on his or her side or back.

**[0015]** With continued reference to FIGS. 1 and 2, the core 110 of the illustrated pillow 100 includes a top layer 140, a bottom layer 150 opposite the top layer 140, and sidewalls 160 connecting the top layer 140 and the bottom layer 150. The top layer 140, bottom layer 150 and sidewalls 160 define a cavity 170 shaped to receive filler material 180. The pillow 100 can include a rib where the top layer 140 and sidewalls 160 meet and are joined, and/or a rib where the bottom layer 150 and the sidewalls 160 meet and are joined. The top layer 140, bottom layer 150 and sidewalls 160 can be secured to one another in any suitable manner, such as by adhesive or cohesive bonding material, by being bonded together during formation of the top layer 140, bottom layer 150, and sidewalls 160, by tape, hook and loop fastener material, or conventional fasteners, by stitches extending at least partially through the top layer 140, bottom layer 150, and/or sidewalls 160, or in any other suitable manner.

**[0016]** The top layer 140, bottom layer 150 and sidewalls 160 can have any thickness desired. By way of example only, in some embodiments the top layer 140, bottom layer 150, and sidewalls 160 are each approximately 1cm in thickness. In other embodiments, the top layer 140, bottom layer 150 and sidewalls 160 can be less than 1cm thick or greater than 1cm thick.

**[0017]** By virtue of the generally box-shaped core structure defined by the top layer 140, bottom layer 150, and sidewalls 160 in some embodiments, the pillow 100 can provide enhanced support to a user, as well as providing space for the filler material 180.

**[0018]** In some embodiments, the top layer 140, bottom layer 150 and sidewalls 160 can include one or more releasable fasteners (e.g., zippers, buttons, clasps, laces, hook and loop fastener material pieces, hook and eye sets, tied ribbons, strings, cords, or other fastener elements). Such fasteners can be located between the top layer 140 and sidewall 160, between a sidewall 160 and the bottom layer 150, or within an opening in the top layer 140,

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