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(54) **ERGONOMIC DUAL-PURPOSE PILLOW FOR BACK SLEEPING AND SIDE SLEEPING**

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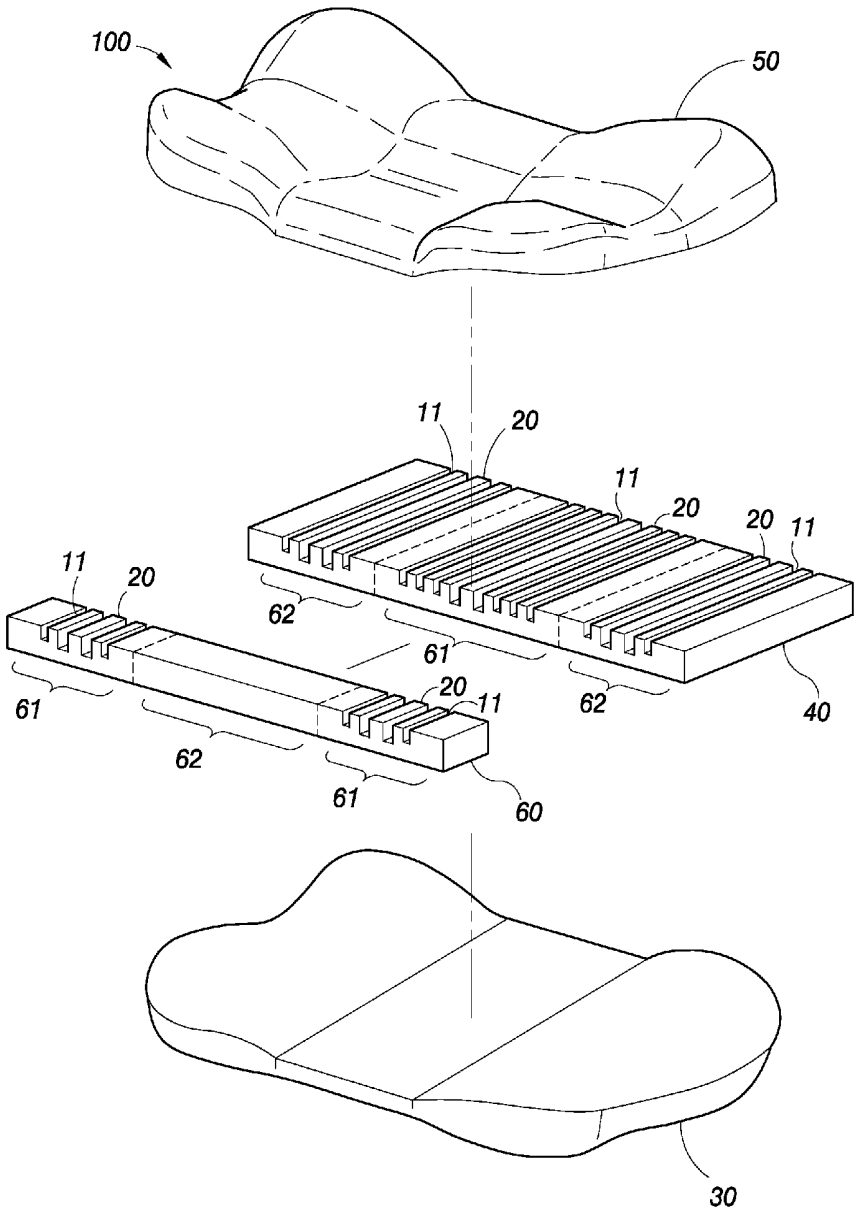
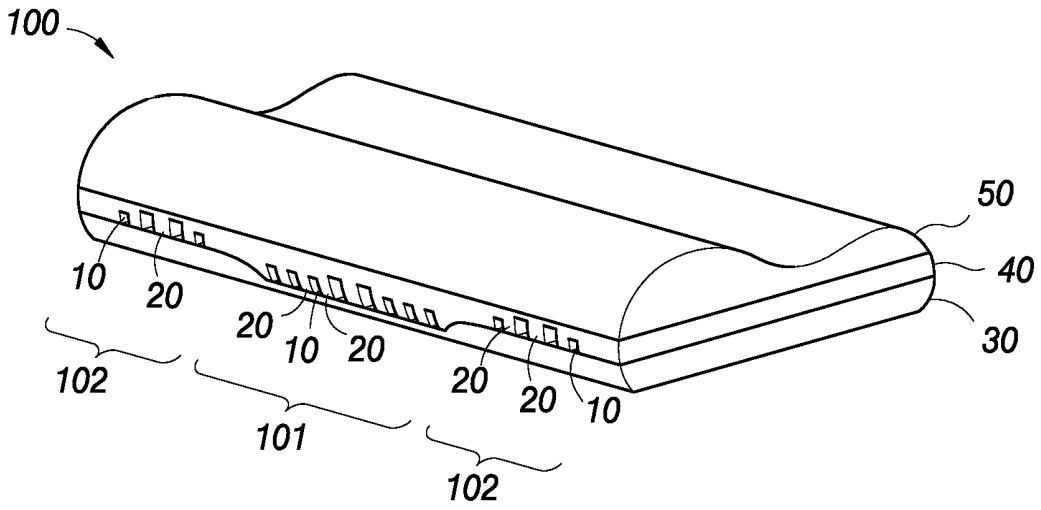
(57) **ABSTRACT**

An ergonomic dual-purpose pillow for back sleeping and side sleeping includes breathable pores and elastic support columns spaced from one another and disposed at the middle of the thickness of the pillow. The quantity, width, arrangement density or height of each breathable pore and/or elastic support column can be adjusted to let the supporting force fed back by a central support section of the pillow be smaller than that of the two side support sections of the pillow, so as to overcome the central recession of the conventional pillow that is likely to cause the head to slip off and leads to sleep problems.

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102

FIG.1

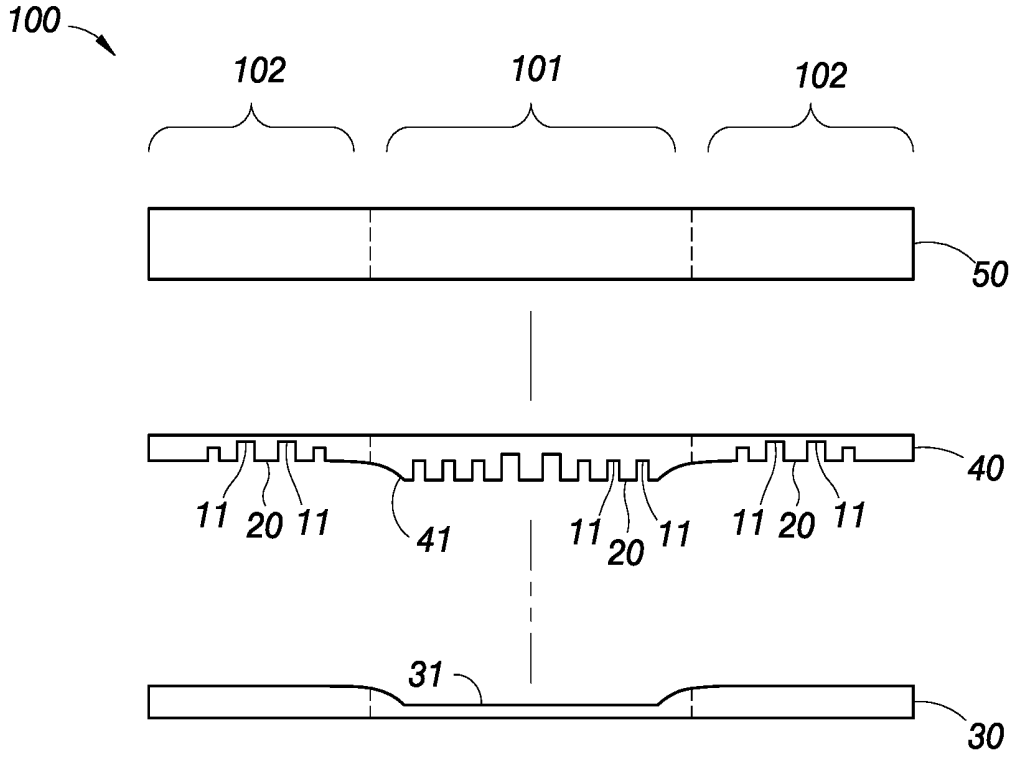
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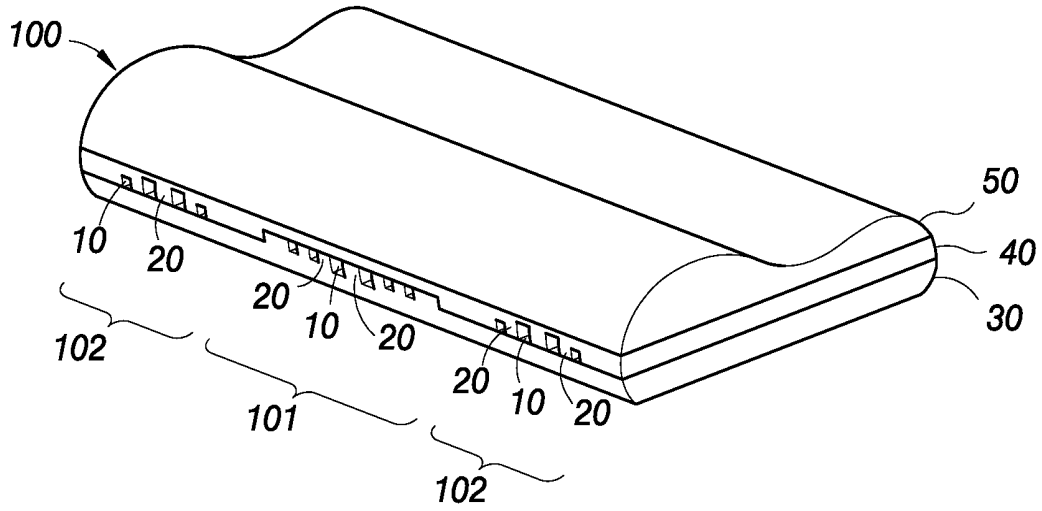
FIG.2


100
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101
102

FIG.3

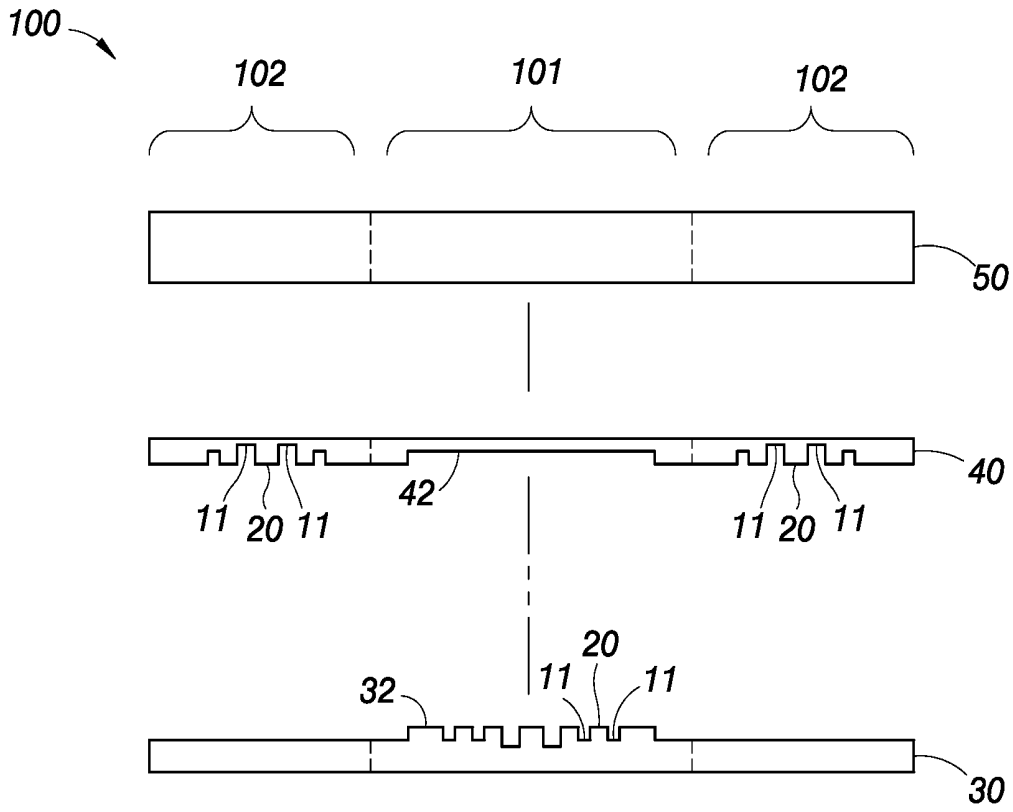
100
102
101
102
50
40
11
20
11
42
11
20
11
20
11
11
32
30

FIG.4

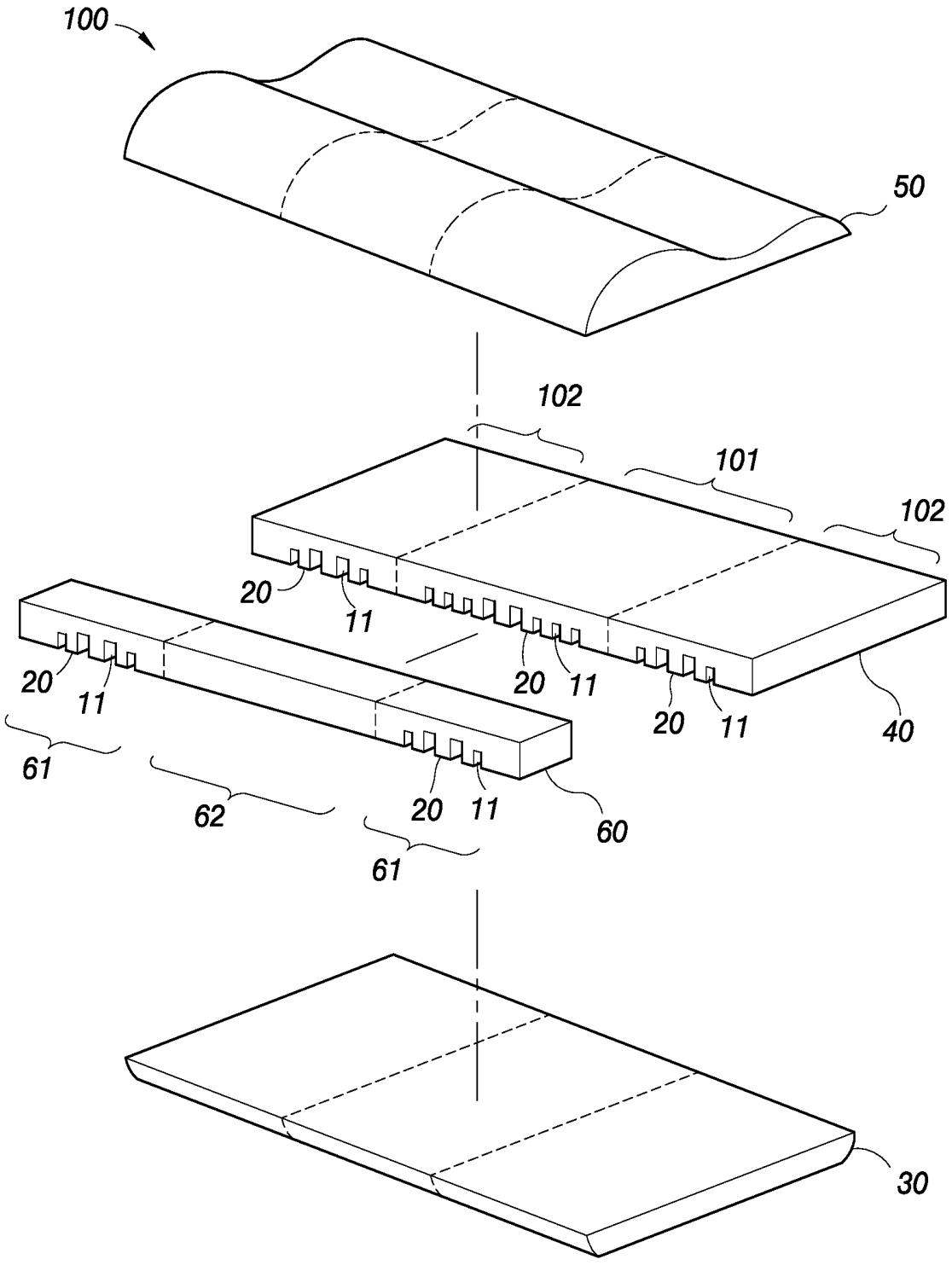

FIG.5

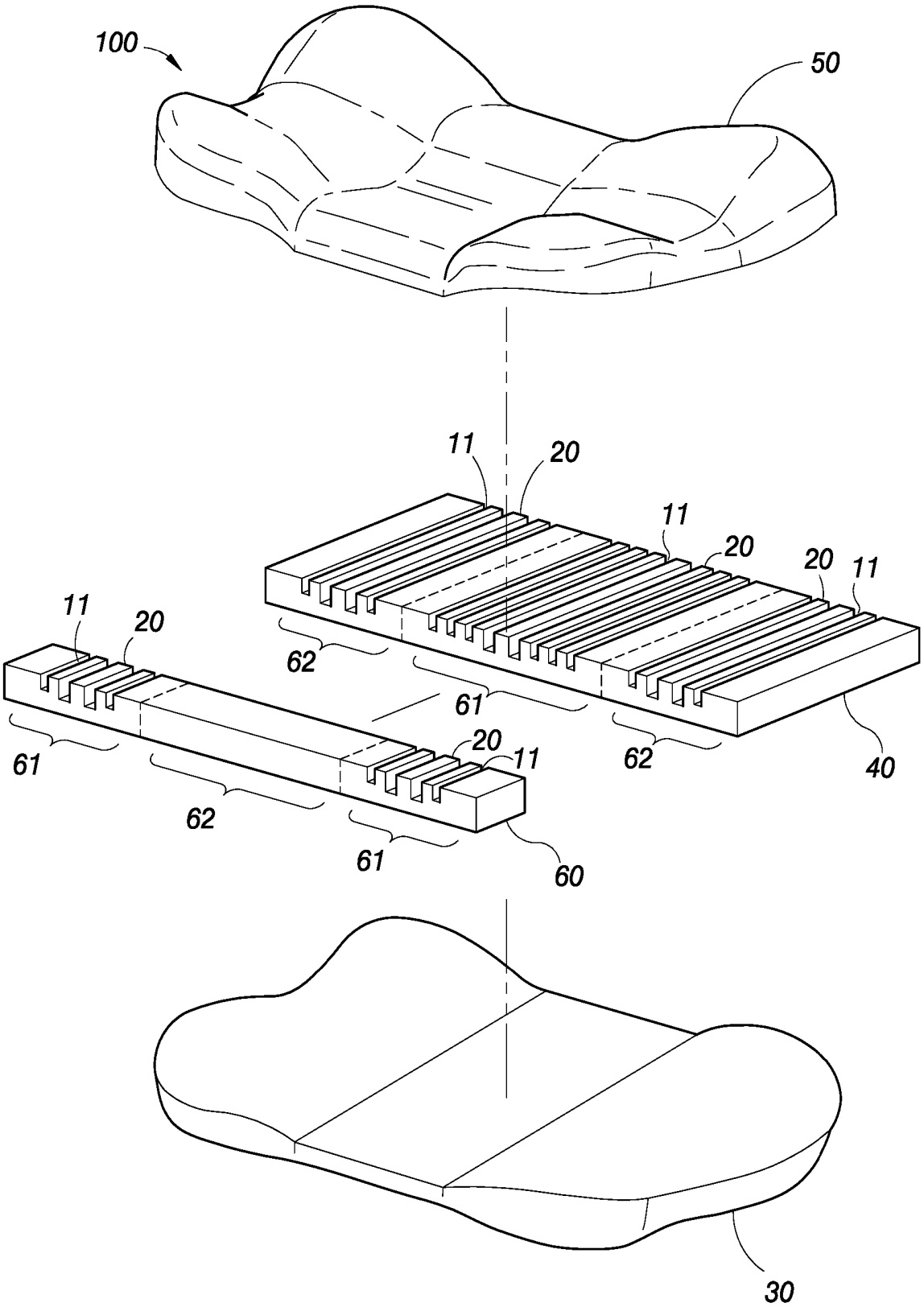

FIG.6

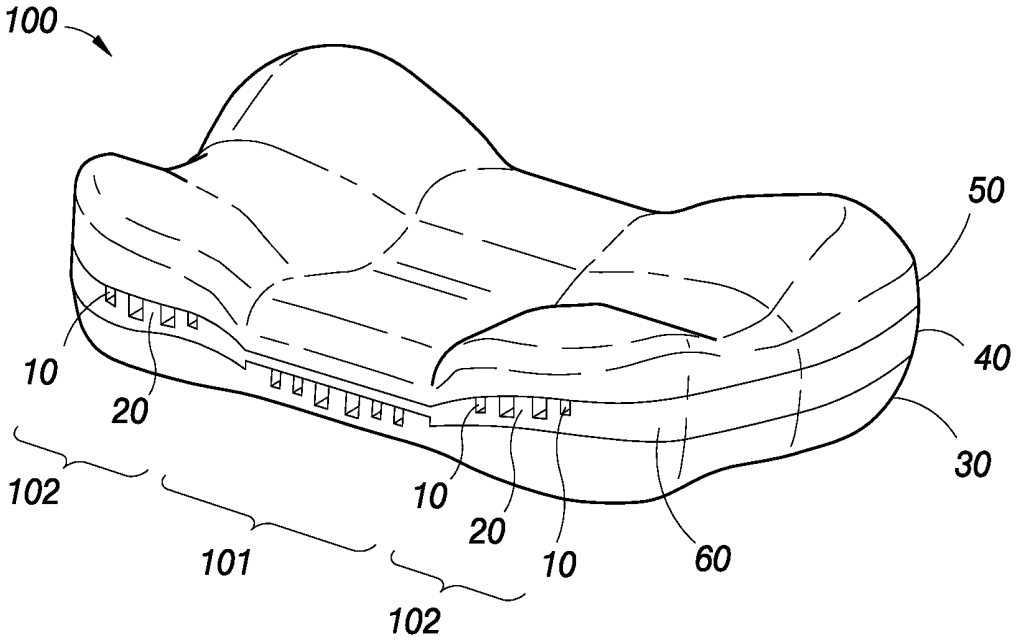
100
50
40
30
10
20
102
101
10
20
10
60
102

FIG.7

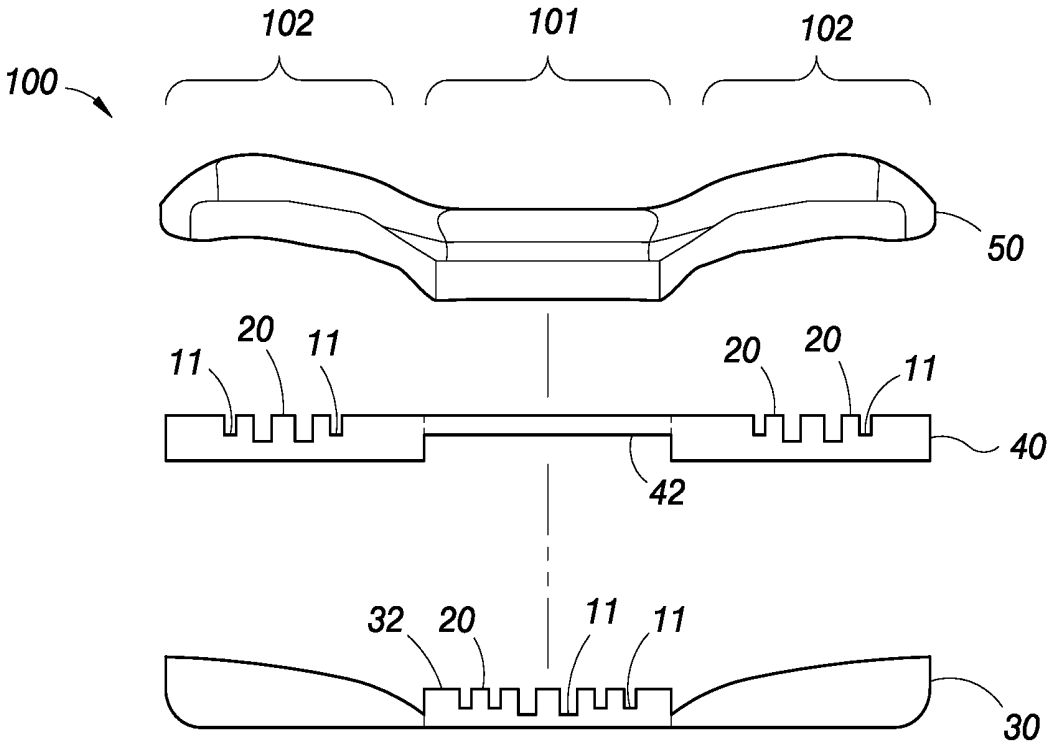
102
101
102
100
50
11
20
11
20
20
11
40
42
32
20
11
11
30

FIG.8

ERGONOMIC DUAL-PURPOSE PILLOW FOR BACK SLEEPING AND SIDE SLEEPING

FIELD OF THE INVENTION

[0001] The present invention relates to an ergonomic dual-purpose pillow for back sleeping and side sleeping, and more particularly to the ergonomic dual-purpose pillow having breathable pores and elastic support columns spaced from one another and disposed at the middle of the pillow, so that the supporting force fed back by a central section of the pillow is smaller than that of two side sections, and regardless of back sleeping, side sleeping or stomach sleeping, the users' cervical spine can maintain a natural curve when no force is exerted, and the invention conforms to ergonomics.

BACKGROUND OF THE INVENTION

[0002] In general, a conventional commercial pillow is made of a single material, and users often need to choose a pillow with an appropriate height in order to relax the cervical spine. For example, side sleepers usually support and prop up the cervical spine by the shoulder, and thus a pillow of a greater height is usually required and chosen; a pillow of a smaller height is usually chosen by back sleepers because of the curvature of the back of the head and the shorter distance between the cervical spine and the bed.

[0003] Studies indicate that when we are in a state of deep sleep, regardless of side sleeping or back sleeping, we will automatically avoid long-term compression of the body weight bearing parts of our body due to physiological reactions, so that we will adjust our sleeping position to unconscious stomach sleeping. If a side sleeper switches from stomach sleeping to back sleeping, the pillow will become too high, thus making the neck to be pressed forward unnaturally and causing discomfort. Similarly, if a back sleeper switches from stomach sleeping to side sleeping, the pillow will become too low, thus making the neck droop. This kind of unnatural bending of the cervical spine occurred in stomach sleeping often causes the user's neck muscle to unconsciously apply forces in a reverse direction. After a period of time, the neck muscle will be strained and resulted in inflammation, which is the so-called "stiff neck".

[0004] To overcome the aforementioned problem, related pillow manufacturers have developed a dedicated pillow for side sleeping as disclosed in R.O.C. Patent Nos. M552320, M571196, and M479701, and the main structure of such pillow has a recession formed at the middle of the pillow, so that the thickness of both sides of the pillow is greater than the thickness of the middle, and such arrangement intends to let side sleepers support the side of their head by a pillow with a greater height on both sides for side sleeping, and to provide a lower neck support for back sleepers by means of the central recession.

[0005] However, practices indicate that both sides and the middle of the aforementioned pillow provide the same supporting force since the whole pillow is made of the same material. In addition to the central recession, there is a larger slope on both sides relative to the middle, so that either side sleepers or back sleepers cannot sleep calmly and peacefully.

[0006] For example, the head of the back sleepers is situated at the central recession of the pillow while sleeping on the back, and if they switch stomach sleeping to side sleeping, the height of the central recession will become too short, so that the shoulder and arm will be pressed to cause neck discomfort. In addition, the aforementioned steep slope on the side is exactly located at the nose and mouth position, thus hindering breathing easily. Therefore, after a sleeper switches from stomach sleeping to side sleeping, the user's head must be lifted and moved to the higher part on both sides of the pillow, which will interfere with the sleep and cause sleep interruption.

[0007] If the head of the side sleeper is rested at a higher position of the side of the pillow and the sleeper moved slightly during the sleep process, the head will fall from the sides to the middle, but the height of the central recession is still insufficient to support the cervical spine and result in discomfort. The users must lift and move their head back to the higher position of the sides of the pillow, thus also causing sleep interruption.

[0008] Regardless of side sleepers or back sleepers, if they adjust their sleeping position to unconscious stomach sleeping in a sleep process, the sleepers must lift and adjust the position of their head. Obviously, this structural design not just fails to meet the requirements for back sleeping and the side sleeping at the same time only, but also fails to overcome the issue of requiring uneven supporting forces for both of the back sleeping and the slide sleeping. Especially for the side sleepers, even if the sleeper's head is moved slightly, the head may slip from the central recession and the sleepers have to lift and move their head back to the original position, thus seriously disturbing their sleep.

[0009] The inventor of the present invention have once created and developed an "ergonomic pad assembly" as disclosed in R.O.C. Pat. No. M587473, and this assembly is applied to mattresses and pillows, and the main technical characteristic resides on that both of the top and bottom surfaces have a plurality of spaced horizontal cut grooves, so that an elastic support column is formed between every two adjacent horizontal cut grooves, and the reaction force provided by each elastic support column allows users to have different fed-back supporting forces when lying on the pad, and the concave shape of the pad substantially conforms to the natural curve when no force is exerted, which can disperse the pressure of the user's body and naturally relax relevant parts of the muscle.

[0010] After the technology disclosed in R.O.C. Pat. No. M587473 is applied to pillows, the pillows indeed fit and support the user's occipital bone and cervical spine, and both of the occipital bone and cervical spine substantially conform to the natural curve when no force is exerted, and the effect is remarkable. After profound researches are conducted by the inventor of the present invention, a special design for the concept of the aforementioned distribution of supporting forces along with different supporting forces required by side sleeping and back sleeping can make pillows not just applicable to back sleeping and side sleeping at the same time only, but also can overcome the drawback of the side sleeping pillow that easily interrupts sleep during stomach sleeping.

SUMMARY OF THE INVENTION

[0011] Specifically, the present invention is directed to an ergonomic dual-purpose pillow for back sleeping and side sleeping, wherein the supporting force fed back by a central section of the pillow is smaller than that of two side sections of the pillow, so as to maintain a natural curve of a user's cervical spine when no force is exerted in back sleeping and

side sleeping, and the invention conforms to ergonomics. Especially when the users sleep on their stomach during the sleep process, an appropriate supporting force can be obtained to relax the neck without the need of moving the head, so as to completely overcome the major drawback of the sleep interruption and interference caused by moving the head on the conventional side sleeping pillow.

[0012] To achieve the aforementioned objective, the present invention discloses an ergonomic dual-purpose pillow for back sleeping and side sleeping, and the pillow comprises a plurality of breathable pores spaced from one another and disposed at the middle of the thickness of the pillow and an elastic support column formed between every two adjacent breathable pores; wherein the plurality of elastic support columns are disposed at the middle of the pillow to constitute a central support section capable of supporting the back of the neck and the back of the head of a user, so that both sides of the pillow separately constitute a side support section capable of stably supporting both sides of the head of the user, and the quantity, the width, the arrangement density or the height of each breathable pore and/or each elastic support column are adjustable to let the supporting force fed back by the central support section be smaller than the supporting force fed back by the side support section, so that regardless of back sleeping or side sleeping, there is no need to deliberately lift and move the head which may disturb or even interrupt sleep easily, and the invention conforms to ergonomics.

[0013] The implementation of each of the aforementioned components will be described below.

[0014] In an embodiment, the pillow comprises a plurality of breathable pores spaced from one another and disposed at the middle of the thickness of the pillow and an elastic support column formed between every two adjacent breathable pores; wherein the plurality of elastic support columns are disposed the middle of the pillow to constitute a central support section capable of supporting the back of the neck and the back of the head of a user, so that both sides of the pillow separately constitute a side support section capable of stably supporting both sides of the head of the user, and the quantity, the width, the arrangement density or the height of each breathable pore and/or each elastic support column are adjustable to let the supporting force fed back by the central support section be smaller than the supporting force fed back by the side support section.

[0015] In an embodiment, the pillow is integrally formed, or comprised of a lower pad, and an upper pad stacked on the top surface of the lower pad, and the top of the upper pad is an outer layer provided for lying a user's head on the pillow. The upper pad has an upper recession or a lower protrusion formed at the middle of the bottom surface of the upper pad, and the lower pad has an upper protrusion or a lower recession formed at the top surface of the middle of the lower pad and engaged with one another respectively, and the plurality of cut grooves and elastic support columns configured to be corresponsive to the central support section of the pillow are disposed on the bottom surface of the lower protrusion or the top surface of the upper protrusion of the upper pad or the lower pad.

[0016] In an embodiment, the pillow further comprises an auxiliary pad stacked onto the front of the upper pad, and the top surface or the bottom surface on both sides of the auxiliary pad has a plurality of parallel cut grooves, so that a neck support section is formed at the middle of the auxiliary pad and configured to be corresponsive to a human cervical spine.

[0017] Compared with the prior art, the present invention as the plurality of breathable pores and elastic support columns spaced from one another and disposed between the middle of the pillow and two side sections, so that the supporting force fed back by a central section of the pillow is smaller than that by two side sections, and regardless of a change of sleeping position in back sleeping, side sleeping or stomach sleeping, an appropriate supporting force is provided to completely relax the user's neck, and this invention conforms to ergonomics.

[0018] Especially, during side sleeping, the supporting force of the side support section is larger so that the arm will not be pressed. If the user lies the head on the central support section during side sleeping, the supporting force required for heightening the user's cervical spine by the shoulder will be smaller, so that the central support section still can support the cervical spine appropriately to overcome the central recession of the conventional side speeding pillow that is likely to cause the head to slip off and the neck to be pushed back by a force. As a result, the user cannot really relax.

[0019] It is noteworthy that when a user sleeps on the stomach during a sleep process, the aforementioned structure lets the head have an appropriate supporting force without the need of lifting and moving the head, so as to relax the neck and completely overcome the major drawback of the sleep interruption and interference caused by moving the head on the conventional pillow.

[0020] The objectives, technical characteristics and effects of the present invention will become apparent with the detailed description of preferred embodiments accompanied with the illustration of related drawings. It is intended that the embodiments and drawings disclosed herein are to be considered illustrative rather than restrictive.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. **1** is a perspective view of a first embodiment of the present invention;

[0022] FIG. **2** is an exploded view of the first embodiment of the present invention;

[0023] FIG. **3** is a perspective view of a second embodiment of the present invention;

[0024] FIG. **4** is an exploded view of the second embodiment of the present invention;

[0025] FIG. **5** is an exploded view of a third embodiment of the present invention;

[0026] FIG. **6** is an exploded view of a fourth embodiment of the present invention;

[0027] FIG. **7** is a perspective view of a fifth embodiment of the present invention; and

[0028] FIG. **8** is an exploded view of a fifth embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0029] With reference to FIGS. **1** to **8** for an ergonomic dual-purpose pillow for back sleeping and side sleeping in accordance with the present invention, the pillow **100** comprises a plurality of breathable pores **10** spaced from one another and disposed at the middle of the thickness of the

pillow **100**, and an elastic support column **20** formed between every two adjacent breathable pores **10**; the plurality of elastic support columns **20** are disposed at the middle of the pillow **100** to constitute a central support section **101** capable of supporting the back of the neck and the back of the head of a user, so that both sides of the pillow **100** separately constitute a side support section **102** capable of stably supporting both sides of the head of the user.

[0030] In an embodiment disclosed in the figure, the plurality of breathable pores **10** and elastic support columns **20** spaced from one another and disposed in positions of the thickness of the pillow **100** are configured to be relative to the two side support sections **102**, and the supporting forces of the breathable pores **10** and the elastic support columns **20** are assigned after a weight calculation. For example, the quantity, the width, the installation density, the depth of the pore or and the height of the support column of the breathable pores **10** and/or the elastic support column **20** can be fine-tuned by the weight calculation, so as to provide the supporting force for a corresponding head curvature profile and set the supporting force fed back by the central support section **101** to be smaller than that of the side support section **102**. Regardless of back sleeping, side sleeping, or stomach sleeping, when a user changes the sleeping position, the user's cervical spine can substantially conform to a natural curve when no force is exerted and also can conform to ergonomics and naturally relax relevant parts of the muscle.

[0031] With reference to FIGS. **1** to **4** for the implementation of the breathable pores **10** and the elastic support columns **20**, the pillow **100** can be integrally formed or comprised of a lower pad **30**, and an upper pad **40** stacked on a top surface of the lower pad **30**, and the of the upper pad **40** is an outer layer **50** provided for lying the user's head on the pillow **100**.

[0032] The plurality of breathable pores **10** are formed by a plurality of parallel cut grooves **11** as shown in FIG. **1**. When the pillow **100** is integrally formed, a slider (not shown) can be installed in a mold and used for mold opening after the cut grooves are formed and the slider is moved, so as to form the breathable pore **10** and the elastic support columns **20** in the thickness of the integrally formed pillow **100**. In FIG. **2**, the parallel cut grooves **11** are disposed on the bottom surface or the top surface of the upper pad **40** and/or the lower pad **30** respectively. After the upper pad **40** is stacked on the lower pad **30**, the central support section **101** and two side support sections **102** are formed.

[0033] The plurality of cut grooves **11** of the central support section **101** and the plurality of cut grooves **11** of the two side support sections **102** are disposed on the same pad as shown in FIG. **2**, or formed separately on the upper pad **40** and the lower pad **30** as shown in FIG. **4**. In other words, the plurality of cut grooves **11** corresponding to the central support section **101** of the pillow **100** are disposed on the top surface of the middle of the lower pad **30**, and the plurality of cut grooves **11** corresponding to the side support section **102** of the pillow **100** are disposed on the bottom surface of both sides of the upper pad **40**.

[0034] In an embodiment, the upper pad **40** and the lower pad **30** can be flat sheets with an appropriate thickness, or a lower protrusion **41** is formed on a bottom surface of the middle of the upper pad **40** and a lower recession **31** is formed on a top surface of the middle of the lower pad **30** and engaged with the lower protrusion **41** as shown in FIG. **2**; or an upper recession **42** is formed on a bottom surface of the middle of the upper pad **40** and an upper protrusion **32** is formed on a top surface of the middle of the lower pad **30** and engaged with the upper recession **42** as shown in FIG. **4**, wherein the plurality of cut grooves **11** corresponding to the central support section **101** of the pillow **100** are disposed on the bottom surface of the upper recession **42** of the upper pad **40** or the top surface of the upper protrusion **32** of the lower pad **30**.

[0035] Regardless of the plurality of cut grooves **11** disposed on the bottom surface or the top surface of the upper pad **40** and/or the lower pad **30**, after the upper pad **40** is stacked on the lower pad **30**, an elastic support column **20** is formed between the two adjacent cut grooves **11**, so as to form the central support section **101** and two side support sections **102**

[0036] Each support section can provide a different supporting force by changing the quantity, width, density, and height of the plurality of cut grooves **11** and elastic support columns **20**. For example, the distance between two adjacent cut grooves **11** defines the thickness of the elastic support column **20**, and if the widths of all cut grooves **11** are the same and the distance between two cut grooves **11** is reduced, then the thickness of the elastic support column **20** will be decreased, and the supporting force will be weaker.

[0037] On the other hand, if the distance between two adjacent cut grooves **11** in each support section is increased, then the arranged density will be less, the thickness of each elastic support column **20** in each support section will be increased, the supporting force will be stronger, and the overall supporting force of each support section will be increased.

[0038] Further, if the pillow **100** has a width of 65 cm, and the central support section **101** has a width of 33 cm, the widths of all cut grooves **11** in the central support section **101** are fixed, and the distance between two cut grooves **11** is 1.5 cm which is equivalent to that the thickness of each elastic support column **20** is 1.5 cm, then two units of supporting force will be obtained.

[0039] If the distance between every two of all cut grooves **11** in the central support section **101** is 1 cm, the thickness of each elastic support column **20** is reduced to 1 cm, and the arranged density is greater to reduce the overall supporting force of the central support section **101**, then one unit of supporting force will be obtained.

[0040] On the other hand, if the distance between every two of all cut grooves **11** in the central support section **101** is 2 cm, and the arranged density is less, then the thickness of each elastic support column **20** in the central support section **101** will be increased to 2 cm, and the supporting force will be increased, and three units of supporting force will be obtained.

[0041] In addition, different supporting force of each support section can be set by the depth of the cut groove **11** and the height of the elastic support column **20**. If the widths of all cut grooves **11** are the same and the depth of two adjacent cut grooves **11** becomes greater, then the height of the elastic support column **20** between two cut grooves **11** will become greater. When a user sleeps on the pillow, the elastic support column **20** provides a weaker supporting force, so that the support section will be sunken by weight. On the other hand, if the depth between two adjacent cut grooves **11** is smaller, then the height of the elastic support column **20** between two cut grooves **11** is smaller, and a stronger supporting force will be provided.

[0042] For example, if the widths of all cut grooves **11** in the central support section **101** are fixed, the distance between two cut grooves **11** is fixed, the depth of each cut groove **11** is 1.5 cm, which are equivalent to that each elastic support column **20** has a height of 1.5 cm, then two units of supporting force will be obtained.

[0043] If the depths of all cut grooves **11** in the central support section **101** are changed to 2 cm, then the height of each elastic support column **20** will be increased to 2 cm, and the supporting force of the central support section **101** will be weakened, and one unit of supporting force will be obtained.

[0044] On the other hand, if the depths of all cut grooves **11** in the central support section **101** are 1 cm, and the height of each elastic support column **20** is decreased to 1 cm, then the supporting force of the central support section **101** will be increased, and three units of supporting force will be obtained.

[0045] Similarly, the side support section **102** can have a supporting force different from that of the central support section **101** by fine-tuning the quantity, the width, and the density of the cut grooves **11** and the elastic support columns **20**, the depth of the cut groove **11** or the height of the elastic support column **20** according to the aforementioned principle, and thus their description will not be repeated.

[0046] After the quantity, the width and the density of the cut grooves **11** and the elastic support columns **20**, the depth of the pores or the height of the support column heights in each support section are configured according to a weight calculation, the supporting force fed back by the central support section **101** is set to be smaller than that of the side support section **102**, and an appropriate supporting force can be fine-tuned to fit different users, so that when the users sleep on the pillow **100**, the pillow **100** can produce recessions of different levels by different supporting forces to achieve the effects of covering the user's head and providing stable support to the head.

[0047] For example, when the user's sleeping position is a side sleeping position, and the user's head is situated at the top of the side support section **102**, the side support section **102** will provide a larger supporting force and a smaller recession of the pillow **100**, and the user's arm will not be pressed, since the side support section **102** and the central support section **101** will not have the large slope of the general side sleeping pillow, and the back of the head will not slip to the central support section **101** and will not let the user's neck to be unconsciously pushed back by force.

[0048] In addition, when the user switches from side sleeping or stomach sleeping to back sleeping, the natural deflection of the user's head lets the neck and the back of the head naturally roll to the top of the central support section **101** to obtain a moderate support from the central support section **101** without requiring to lift and move the head to another position, and it will not cause the formation of recessions by the slipping of the head.

[0049] When the user sleeps on the side as shown in the figure, the supporting force of the central support section **101** required for heightening the cervical spine by the shoulder is smaller, so that the central support section **101** still can appropriately support the cervical spine overcome the central recession of the conventional side sleeping pillow that is likely to cause the head to slip off and the neck to be pulled back by force, resulting in that the user cannot really relax.

[0050] Since the central support section **101** and the side support section **102** are not like the traditional pillow that uses the height difference to provide different supporting forces, therefore a greater slope will not be produced between the central support section **101** and the side support section **102**. When a user lies the head on the central support section **101** switches the back sleeping or stomach sleeping to the side sleeping, the user's head can be deflected naturally and laid on the top of the side support section **102** without applying a force to lift and move the head to the side support section **102**. In this way, it will not cause sleep interference or interruption.

[0051] In an embodiment, the outer layer **50** disposed at the top of the upper pad **40** can be integrally formed with the surface of the upper pad **40**, or separately manufactured and then stacked onto the upper pad **40**. In addition, the outer layer **50** can be designed with a curvature, so that from the perspective view of both sides of the pillow **100**, the front section is relatively convex and attached to the back of the neck, and the middle section is relatively concave and attached to the back of the head, and such design is suitable for users using a soft mattress and/or having narrow shoulders.

[0052] In FIGS. **5** and **6**, the pillow **100** further comprises an auxiliary pad **60** stacked onto the front of the upper pad **40**, and the top surface or the bottom surface of both sides of the auxiliary pad **60** has a plurality of parallel cut grooves **11**, so that the auxiliary pad **60** has a shoulder support section **61** formed relative to both sides of the pillow **100**, and the plurality of cut grooves **11** of the auxiliary pad **60** and the plurality of cut grooves **11** on both sides of the upper pad **40** are aligned with one another respectively to allow the shoulder support section **61** of the auxiliary pad **60** to provide the same supporting force to both sides of the upper pad **40**, and a neck support section **62** corresponding to a human cervical spine is formed at the middle of the auxiliary pad **60** to allow the user to have an appropriate support to the back of the neck when the user is lying on the pillow.

[0053] To improve the covering and supporting effects of the head by the pillow **100**, the outer layer **50** of the pillow **100** is designed with the top surfaces of the two side support sections **102** facing the central support section **101** and tilting downwardly to form a structure with a greater thickness on both sides and a smaller thickness at the middle as shown in FIGS. **6** to **8**, so that the user's is wrapped and supported when the user lies the head on the pillow, and such design is suitable for users using a hard mattress and/or having broad shoulders.

[0054] In FIGS. **7** and **8**, the lower pad **30** and/or the outer layer **50** can be designed with a greater thickness on both sides and a smaller thickness in the middle, so that the upper pad **40** is in form of a flat sheet. After the outer layer **50** or lower pad **30** is stacked, the structure having the side support section **102** with a thickness greater than that of the central support section **101** still can be formed.

[0055] The central support section **101** and the plurality of breathable pores **10** of the side support section **102** can be configured to be parallel longitudinally or transversally or arranged in dot matrix on the pillow **100**. In the figure, the longitudinal configuration is used for the illustration, and the front side and/or rear side of the longitudinal breathable pore **10** are penetrated through the thickness of the pillow **100**, so that when a user lies on the pillow **100**, each support section provides a supporting force, while compressing a plurality

of breathable pores **10**, and the air in each breathable pore **10** is compressed to produce a wind tunnel effect and discharged from the front side and/or the rear side of the pillow **100** to achieve breathable ventilation, and reduced sultry, and the pad and the outer layer can be a memory foam, a latex, a sponge, or a material with binchotan.

[0056] While the invention has been described by means of specific embodiments, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention as set forth in the claims.

What is claimed is:

1. An ergonomic dual-purpose pillow for back sleeping and side sleeping, comprising a plurality of breathable pores spaced from one another and disposed at the middle of the thickness of the pillow, and an elastic support column formed between every two adjacent breathable pores; wherein the plurality of elastic support columns are disposed at the middle of the pillow to constitute a central support section capable of supporting the back of the neck and the back of the head of a user, so that both sides of the pillow separately constitute a side support section capable of stably supporting both sides of the head of the user, and the quantity, the width, the arrangement density or the height of each breathable pore and/or each elastic support column are adjustable to let the supporting force fed back by the central support section be smaller than the supporting force fed back by the side support section, so that regardless of back sleeping or side sleeping, the cervical spine of the user substantially conforms to the natural curve when no force is exerted and the pillow also conforms to ergonomics.

2. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **1**, wherein the pillow comprises a plurality of breathable pores and elastic support columns spaced from one another and disposed in positions of the thickness of the pillow relative to the two side support sections, and the quantity, width, arrangement density or height of each breathable pore and/or elastic support column can be adjusted to let the supporting force fed back by the central support section be smaller than the supporting force fed back by the side support section.

3. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **2**, wherein the plurality of breathable pores are configured to be longitudinally or transversally parallel to one another or in a dox matrix arrangement on the pillow.

4. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **3**, wherein the pillow is integrally formed, or comprised of a lower pad, and an upper pad stacked on the top surface of the lower pad, and the top of the upper pad is an outer layer provided for lying a user's head on the pillow.

5. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **4**, wherein the plurality of breathable pores are comprised of a plurality of parallel cut grooves formed on the bottom surface or the top surface of the upper pad and/or the lower pad to constitute the central support section and two side support sections respectively after the upper pad is stacked on the lower pad.

6. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **5**, wherein the plurality of cut grooves of the central support section and the plurality of cut grooves of the two side support sections are staggered r and disposed on the corresponding stacked surfaces of the upper pad and the lower pad respectively.

7. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **5**, wherein the upper pad has an upper recession or a lower protrusion formed at the middle of the bottom surface of the upper pad, and the lower pad has an upper protrusion or a lower recession formed at the top surface of the middle of the lower pad and engaged with one another respectively.

8. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **7**, wherein the plurality of cut grooves and elastic support columns configured to be corresponsive to the central support section of the pillow are disposed on the bottom surface of the lower protrusion or the top surface of the upper protrusion of the upper pad or the lower pad.

9. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **7**, wherein the pillow further comprises an auxiliary pad stacked onto the front of the upper pad, and the top surface or the bottom surface on both sides of the auxiliary pad has a plurality of parallel cut grooves, so that a neck support section is formed at the middle of the auxiliary pad and configured to be corresponsive to a human cervical spine.

10. The ergonomic dual-purpose pillow for back sleeping and side sleeping as claimed in claim **9**, wherein both sides of the outer layer relative to the top surface of the side support section are configured to be facing the central support section and tilted downwardly.

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