ANGLE ADJUSTABLE MASSAGER

TECHNICAL FIELD

[0001] The present invention relates to health care products, in particular to an angle adjustable massager.

BACKGROUND

[0002] Nowadays, the pressure from work becomes bigger and bigger. People urgently need various methods to relieve the pressure, and therefore portable massagers have been warmly welcomed by consumers. But for now, an area applied by a massager part is relatively simple. The massage only aims at a certain part of a body, such as a neck, arms, legs, and so on. Body parts with similar thicknesses can be all applied by changing a span of the massager, but those thicker or thinner parts can't be massaged by the same massager.

SUMMARY

[0003] The present invention aims at providing an angle adjustable massager to solve the problem existing in the prior art.

[0004] To solve the above mentioned technical problem, the present invention provides an angle adjustable massager which comprises a left shell, a right shell, a connector configured to connect the left shell with the right shell, a massage component mounted on inner surfaces of the left shell and the right shell, and a motor accommodated in the left shell and the right shell for driving the massage component to rotate. The connector comprises an S-shaped elastic sheet of which two ends are respectively connected with the left shell and the right shell fixedly.

[0005] Furthermore, the S-shaped elastic sheet is provided with a plurality of paddle-tumblers.

[0006] Furthermore, the angle adjustable massager further comprises a soft protection sleeve sleeving outer surfaces of the left shell and the right shell, wherein the connector is disposed in the soft protection sleeve.

[0007] Furthermore, each of two ends of the protection sleeve is provided with an L-shaped inner groove, and each of a connecting end of the left shell and a connecting end of the right shell is provided with a hook for clamping the L-shaped inner groove.

[0008] Specifically, each of the two ends of the protection sleeve is provided with a stepped inner lap and a stepped outer lap, the L-shaped inner groove is defined in the outer lap; each of the connecting end of the left shell and a connecting end of the right shell is further provided with a clamping plate with a boss, and the clamping plate clamps the outer lap and the boss is pressed against the inner of the inner lap.

[0009] Specifically, the protection sleeve is wavy.

[0010] Furthermore, the massage component comprises a dial which is embedded in the inner surface of the shell and is driven by the motor to rotate and a plurality of massage head disposed on the dial.

[0011] Specifically, the massage head comprises a spherical cavity defined in the dial and a rotatable elastic ball arranged in the spherical cavity, and a part of an outer surface of the elastic ball protrudes from the spherical cavity.

[0012] Furthermore, the angle adjustable massager further comprises a transmission disposed between the motor and the massage component, wherein the motor comprises a first gear shaft for output, the transmission comprises a crown gear which is engaged with the first gear shaft and is vertically disposed and a planet gear which is engaged with the crown gear and drives the massage component to rotate.

[0013] Specifically, the crown gear comprises a horizontal outer tooth arranged horizontally and annually and a second gear shaft arranged vertically, the horizontal outer tooth is engaged with the first gear shaft, and the second gear shaft is engaged with the planet gear.

[0014] The utility model has the following technical effect that:

[0015] In the present invention, the connector between the left shell and the right shell is an S-shaped elastic sheet; the connector can be bent freely under the application of external force and recover after the external force is removed, such that the included angle between the left shell and the right shell can be changed freely within a certain range. In this way, the range of the function angle of the massager is larger; and the massager can be adjusted to various angles under a pressure to be adapted to different parts, thereby realizing stepless angle regulation massage.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a explosive view of a preferred embodiment of the present invention;

[0017] FIG. 2 is a schematic structure view of an-shaped elastic sheet connecting a left shell with a right shell of the embodiment of the present invention;

[0018] FIG. 3 is a schematic assembly structure view of a protection sleeve, the left shell, and the right shell of the embodiment of the present invention;

[0019] FIG. 4 is a schematic structure view of a massager component of the embodiment of the present invention;

[0020] FIG. 5 is a schematic structure view of a transmission and a motor of the embodiment of the present invention;

[0021] FIG. 6 is a schematic matching structure view of a crown gear and the motor of the embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] To make the objectives, technical solutions and advantages of the present invention clearer, the present invention will be further described hereafter with reference to the accompany drawings and embodiments. It shall be understood that, the embodiments described herein are only intended to illustrate but not to limit the present invention.

[0023] Referring to FIG. 1 and FIG. 2, the present invention provides an angle adjustable massager. The angle adjustable massager comprises a left shell 100, a right shell 100, a connector 200 configured to connect the left shell 100 with the right shell 100, a massage component 300 mounted on inner surfaces 110 of the left shell 100 and the right shell 100, and a motor 400 accommodated in the left shell 100 and the right shell 100 for driving the massage component 300 to rotate. The connector 200 comprises an S-shaped elastic sheet 210 of which two ends are respectively connected with the left shell 100 and the right shell 100. The S-shaped elastic sheet 210 connects the left shell 100 with the right shell 100, so that the connector 200 has the function similar to the function of a spring. When the left shell 100 and the right shell 100 are subjected to an external force, the S-shaped elastic sheet 210generates a certain deformation and changes an included angle between the left shell 100 and the right shell 100, and therefore the massager can massage different parts of a human body. When the massage is finished, the external force is released, and the S-shaped elastic sheet 210 returns to the original shape thereof. Thus, the massage range of the massager is enlarged, and stepless angle regulation massage is achieved.

[0024] Furthermore, the S-shaped elastic sheet 210 is provided with a plurality of scraped groove 211. In this way, connecting wires (not shown in the figures) between the left shell 100 and the right shell 100 can be inserted

through the paddle-tumblers, and the paddle-tumblers play a protection role. The S-shaped elastic sheet 210 may be also provided with a plurality of wire holes (not shown in the figures); the connecting wire may be inserted through the wire hole to connect the motor 400 in the left shell and the right shell 100.

[0025] Furthermore, referring to FIG. 3, the massager further comprises a soft protection sleeve 500. Two ends of the soft protection sleeve 500 sleeve the outer surface of the left shell and the outer surface of the right shell 100 respectively; and the connector 200 is disposed in the protection sleeve 500. Generally, gaps exist in the connection between the connector 200 and the left shell 100 and the connection between the connector 200 and the right shell 100. When the connector 200 is adjusted, the gaps may be enlarged. Thus, when the massager is applied to some certain parts of the body, the situation of clamping hair may occur, which goes against the comfortability of the massage. After the protection sleeve 500 is added, the gaps are hidden in the protection sleeve 500, and the situation of clamping hair during the massage won't exist.

[0026] Furthermore, each of two ends of the protection sleeve 500 is provided with an L-shaped inner groove 511, each of a connecting end 120 of the left shell 100 and a connecting end 120 of the right shell 100 is provided with a hook 121, and the hooks 121 are just stuck in the L-shaped inner grooves 511. The engagement between the L-shaped inner grooves 511 and the hooks 121 fixes the protection sleeve 500 on the left shell 100 and the right shell 100. Because the protection sleeve 500 is made of soft material, it is convenient to clamp the hooks 121 into the L-shaped inner grooves 511 during assembly.

[0027] Specifically, each of the two ends of the protection sleeve 500 is provided with a stepped inner lap 520 and a stepped outer lap 510, the L-shaped inner groove 511 is disposed on the outer lap 510, each of the connecting end 120 of the left shell 100 and the connecting end 120 the right

shell 100 is further provided with a clamping plate 130 with a boss 131; the clamping plate 130 clamps the outer lap 510 of the protection sleeve 500, and the boss 131 is pressed against the inner of the inner lap 520. Doing that is to clamp the protection sleeve 500 on the left shell 100 and the right shell 100 by the two clamping plate 130, such that the L-shaped inner grooves 511 won't separate from the hooks 121.

[0028] Specifically, the protection sleeve 500 is wavy. When the connector 200 is adjusted during massage, the protection sleeve 500 has enough deformation, and doesn't affect the adjustment of the connector 200.

[0029] Referring to FIG. 1 and 4, two dials 310 are embedded in the inner surfaces 110 of the shells 100 respectively, a plurality of massage heads 320 are mounted on the dial 310, and the dials 310 can be driven to rotate by the motor 400. When the dials 310 rotate, the massage components 320 rotate about the axes of the dials 310 at the same time. Thus, compared to rotation of a single massage head 320, the massage range of the massager is larger, and the massage efficiency is improved.

[0030] Specifically, each of the massage heads 320 comprises a spherical cavity 321 defined in the dial 310 and a ball 322 received in the spherical cavity 321, the ball 322 can rotate freely, and a part of an outer surface of the ball 322 protrudes from the spherical cavity 321. During the actual massage, only the balls 322 contacts the human body skin directly; as the dial 310 drives the massage head 320 to rotate, the ball 322 slides on the human body skin and a friction is generated, and thus the ball 322 is pushed to scroll. The ball 322 scrolls and massages the human body skin gently, and the massage effect is better. The ball 322 is made of elastic material, and it is convenient to take the ball 322 out of the spherical cavity 321 and arrange the ball 322 into the spherical cavity 321.

[0031] Furthermore, referring to FIGs. 1, 5 and 6, the massager further

comprises a transmission 600 disposed between the motor 400 and the massage component 300. An output shaft of the motor 400 is a first gear shaft 410. The transmission 600 comprises a crown gear 610 which is engaged with the first gear shaft 410 and is vertically disposed and a planet gear 620 which is engaged with the crown gear 610 and drives the massage component 300 to rotate.

[0032] Specifically, the crown gear 610 comprises a horizontal outer tooth 611 arranged horizontally and annually and a second gear shaft 612 arranged vertically, the horizontal outer tooth 611 is engaged with the first gear shaft 410, the second gear shaft 612 is engaged with a sun wheel 621 of the planet gear 620, and the sun wheel 621 is engaged with and rotates with a planet wheel 622 of the planet gear 620, such that the planet wheel 622 drives the massage component 300 to rotate for massage. Under the speed control of the transmission 600, the massager vibrates gently, and has low noise. In addition, the crown gear 610 is engaged with the first gear shaft 410 and is disposed vertically, such that the motor 400 can be arranged horizontally as well as the transmission 600, which optimizes the height of the left shell and the right shell, and ensures the portability of the massager.

[0033] What described above are only preferred embodiments of the present invention but are not intended to limit the shape mentioned above, any modifications, equivalent replacements and improvements etc. made within the spirit and principle of the present invention, should be included in the protection scope of the present invention.

What is claimed is:

1. An angle adjustable massager comprising a left shell, a right shell, a connector configured to connect the left shell with the right shell, a massage component mounted on inner surfaces of the left shell and the right shell, and a motor accommodated in the left shell and the right shell for driving the massage component to rotate, wherein the connector comprises an S-shaped elastic sheet of which two ends are respectively connected with the left shell and the right shell fixedly.

2. The angle adjustable massager of claim 1, wherein the S-shaped elastic sheet is provided with a plurality of paddle-tumblers.

3. The angle adjustable massager of claim 1 further comprising a soft protection sleeve sleeving outer surfaces of the left shell and the right shell, wherein the connector is disposed in the soft protection sleeve.

4. The angle adjustable massager of claim 3, wherein each of two ends of the protection sleeve is provided with an L-shaped inner groove, and each of a connecting end of the left shell and a connecting end of the right shell is provided with a hook for clamping the L-shaped inner groove.

5. The angle adjustable massager of claim 4, wherein each of the two ends of the protection sleeve is provided with a stepped inner lap and a stepped outer lap, the L-shaped inner groove is defined in the outer lap; each of the connecting end of the left shell and a connecting end of the right shell is further provided with a clamping plate with a boss, and the clamping plate clamps the outer lap and the boss is pressed against the inner of the inner lap.

6. The angle adjustable massager of any of claims 3-5, wherein the protection sleeve is wavy.

7. The angle adjustable massager of any of claims 1-5, wherein the massage

component comprises a dial which is embedded in the inner surface of the shell and is driven by the motor to rotate and a plurality of massage head disposed on the dial.

8. The angle adjustable massager of claim 7, wherein the massage head comprises a spherical cavity defined in the dial and a rotatable elastic ball arranged in the spherical cavity, and a part of an outer surface of the elastic ball protrudes from the spherical cavity.

9. The angle adjustable massager of any of claims 1-5, further comprising a transmission disposed between the motor and the massage component, wherein the motor comprises a first gear shaft for output, the transmission comprises a crown gear which is engaged with the first gear shaft and is vertically disposed and a planet gear which is engaged with the crown gear and drives the massage component to rotate.

10. The angle adjustable massager of claim 9, wherein the crown gear comprises a horizontal outer tooth arranged horizontally and annually and a second gear shaft arranged vertically, the horizontal outer tooth is engaged with the first gear shaft, and the second gear shaft is engaged with the planet gear.