

MASSAGE NECK PILLOW

BACKGROUND OF THE INVENTION

5 1. Technical Field

The present invention relates to the massager field, and more particularly, to a massage neck pillow.

2. Description of Related Art

At present, there are some neck massagers with single function on the market,
10 those massagers can only be used for neck massages. After a neck massage, the massager can only be put away and can't be used as a neck pillow, while neck pillows on the market can only be used as pillows and can't be used for massage.

BRIEF SUMMARY OF THE INVENTION

The object according to the present invention is to provide a massage neck
15 pillow, and to overcome the problem that a neck pillow or a neck massager existing in the prior art only has single function.

The present invention adopts the following technical solutions to solve the technical problem: a massage neck pillow including a U-shaped neck pillow body able to be hung on the human neck, wherein an inner side of the U-shaped neck
20 pillow body is provided with a U-shaped installation slot, two sets of massage heads are symmetrically arranged in the U-shaped installation slot, the two sets of massage heads are connected to a control mechanism, the U-shaped installation slot is provided with two channels, each of the two sets of massage heads is moved and locked in the respective channel of the U-shaped installation slot under the control
25 of the control mechanism, an end of each channel of the U-shaped installation slot is provided with a respective receiving cavity, when each of the two sets of massage heads is driven by the control mechanism to move to the end of the

respective channel, each of the two sets of massage heads is hidden in the respective receiving cavity.

In particular, the U-shaped neck pillow body includes a sponge pillow core and a fabric cover disposed around the sponge pillow core, the U-shaped installation slot is defined on the sponge pillow core, the two sets of massage heads and the control mechanism are arranged at an inner side of the fabric cover.

In particular, the control mechanism includes a fixing bracket and an adjusting assembly arranged on the fixing bracket, the fixing bracket includes a connecting part arranged in the center and fixing parts slantwise and symmetrically provided at the two sides of the connecting part, each of the two sets of massage heads is fixed on an end of a respective rack, the other ends of the two racks overlap each other, each of the two racks is arranged on the respective fixing part, the adjusting assembly is fixed on the connecting part of the fixing bracket and passes through the overlapped ends of the two racks, so that the two racks can be contracted or expanded relatively under the adjustment of the adjusting assembly.

In particular, the adjusting assembly includes a rotating shaft extending from the outside of the connecting part, a knob located at an outer end of the rotating shaft and a gear located at an inner end of the rotating shaft, an upper part and a lower part of the gear are engaged with each of the two racks respectively.

Furthermore, the adjusting assembly further includes a locking structure arranged between the knob and the rotating shaft, the locking structure is configured for locking in two directions.

Furthermore, the locking structure includes a ratchet and a ratchet base engaged with the ratchet, the ratchet synchronously rotates with the knob, the rotating shaft is arranged through the center of the ratchet and fixed in the center of the ratchet.

In particular, each of the two sets of massage heads is driven by a respective

power component, each of the two racks is fixedly connected to the respective power component.

In particular, the respective power component is a gearbox, the gearbox includes a first output shaft and a second output shaft, each set of massage heads
5 includes two massage heads, the two massage heads are fixed on an end of the first output shaft and an end of the second output shaft, respectively.

In particular, each fixing part is provided with two guiding grooves, the other end of the first output shaft and the other end of the second output shaft of each gearbox are slidably arranged in respective guiding grooves.

10 According to the present invention, the two sets of massage heads can be moved in the channels by operating the control mechanism. When the two sets of massage heads are moved to the ends of the channels, the two sets of massage heads are hidden in the two receiving cavities, at that time, the massage neck pillow can be used as a neck pillow and be sleeved on the human neck, for example, when
15 a user is sleeping aboard an airplane or in a car. When the two sets of massage heads move toward the inner side of the channels to a position, the massage neck pillow enters into a massage mode in which the neck can be massaged by the massage neck pillow, thus the massage neck pillow can have multiple functions and can be easily operated.

20 **BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS**

Fig. 1 is a schematic view of the structure of a massage neck pillow according to a preferred embodiment of the present invention;

Fig. 2 is a schematic view of the structure of the massage neck pillow according to the embodiment of the present invention wherein a fabric cover of the
25 massage neck pillow is removed;

Fig. 3 is a schematic exploded view of the massage neck pillow according to the embodiment of the present invention;

Fig. 4 is a schematic view of the structure of a control mechanism according to the embodiment of the present invention;

Fig. 5 is a schematic exploded view of the control mechanism according to the embodiment of the present invention;

5 Fig. 6 is a cross-sectional view of the control mechanism according to the present invention;

Fig. 7 is an enlarged view of a part labeled by A in Fig.6;

Fig. 8 is a first schematic cross-sectional view of the massage neck pillow according to the embodiment of the present invention;

10 Fig. 9 is a second schematic cross-sectional view of the massage neck pillow according to the embodiment of the present invention;

100: U-shaped neck pillow body; 110: U-shaped installation slot;

120: sponge pillow core; 130: fabric cover;

111: channel; 200: massage head;

15 300: control mechanism; 310: fixing bracket;

320: adjusting assembly; 330: rack;

311: connecting part; 312: fixing part;

3121: guiding groove; 321: rotating shaft;

322: knob; 323: gear;

20 324: locking structure; 3221: knob base;

3222: knob cover; 3241: ratchet;

3242: ratchet base; 400: power component;

410: first output shaft; 420: second output shaft.

25 **DETAILED DESCRIPTION OF THE INVENTION**

In order to make clearer the objects, technical solutions and advantages of the invention, the present invention will be explained below in detail with reference to

the accompanying drawings and embodiments. It is to be understood that the following description of the embodiments is merely to explain the present invention and is no way intended to limit the invention.

Referring to Fig. 1 to Fig. 3, a massage neck pillow is provided according to the present invention, the massage neck pillow includes a U-shaped neck pillow body 100 which can be hung on the human neck, an inner side of the U-shaped neck pillow body 100 is provided with a U-shaped installation slot 110. The U-shaped installation slot 110 has two channels 111. Two sets of massage heads 200 are symmetrically provided in the U-shaped installation slot 110, the two sets of massage heads 200 are connected to a control mechanism 300, under the control of the control mechanism 300, each of the two sets of massage heads 200 can be moved and locked in the respective channel 111 of the U-shaped installation slot 110. An end of each channel 111 of the U-shaped installation slot 110 is provided with a respective receiving cavity. When each of the two sets of massage heads 200 is driven by the control mechanism 300 to move to the end of the respective channel 111, each of the two sets of massage heads 200 is hidden in the respective receiving cavity. According to the present invention, the sets of massage heads 200 can be moved in the channels 111 by operating the control mechanism 300. When each of the two sets of massage heads 200 is moved to the end of the respective channel 111, each of the two sets of massage heads 200 can be hidden in the respective receiving cavity, at this time, the massage neck pillow can be used as a neck pillow to be sleeved on the human neck, for example, when a user is sleeping aboard an airplane or in a car. When each of the two sets of massage heads 200 moves toward an inner side of the respective channel 111 to a position, the massage neck pillow enters into a massage mode in which the neck can be massaged by the massage neck pillow, thus, the massage neck pillow can have multiple functions and can be easily operated.

According to the embodiment, the U-shaped neck pillow body 100 includes a sponge pillow core 120 and a fabric cover 130 disposed around the sponge pillow core 120, the U-shaped installation slot 110 is defined on the sponge pillow core 120, the two sets of massage heads 200 and a locking structure are located at an inner side of the fabric cover 130. Thus, the massage heads 200 can be enveloped by the fabric cover 130, the neck pillow can have a good appearance. In addition, the fabric cover 130 is removable and washable, which ensures that the neck pillow can be clean and neat after a long-term use.

Referring to Fig. 4 to Fig. 6, the control mechanism 300 includes a fixing bracket 310 and an adjusting assembly 320 arranged on the fixing bracket 310. The fixing bracket 310 includes a connecting part 311 arranged in the center and fixing parts 312 slantwise and symmetrically provided at two sides of the connecting part 311. Each of the two sets of massage heads 200 is fixed on an end of a respective rack 330, and the other ends of the two racks 330 overlap each other. Each of the two racks 330 is arranged on the respective fixing part 312, the overlapped ends of the two racks 330 are arranged on an inner side of the connecting part 311, the adjusting assembly 320 is fixed on the connecting part 311 and passes through the overlapped ends of the two racks 330, so that the two racks can be contracted or expanded relatively under the adjustment of the adjusting assembly 320, thereby making each of the two racks 330 drive the respective set of massage heads 200, so that two sets of the massage heads 200 can be driven to oppositely or reversely move.

In particular, combining Fig. 6 and Fig. 7, the adjusting assembly 320 according to the embodiment includes a rotating shaft 321 extending from the outside of the connecting part 311, a knob 322 located at an outer end of the rotating shaft 321 and a gear 323 located at an inner end of the rotating shaft 321, an upper part and a lower part of the gear 323 are engaged with each of the racks

330 respectively. The knob 322 includes a knob base 3221 located at the inside of the connecting part 311 and a knob cover 3222 protruding from the outside of the connecting part 311 and fixed with the knob base 3221. When the knob cover 3222 is rotated, the knob base 3221 is driven by the knob cover 3222 to rotate, the rotating shaft 321 is driven by the knob base 3221 to rotate, the gear 323 located at the inner end of the rotating shaft 321 is driven by the rotating shaft 321 to rotate. When the gear 323 rotates forwards or backwards, the two racks 330 engaged with the upper part and the lower part are driven to get close to or far away from each other, therefore, an appropriate distance between the two sets of massage heads 200 can be obtained, thus the massage neck pillow can be used by different users easily. It should be noted that the adjusting device for adjusting the distance between the two sets of massage heads 200 is not limited to the above-mentioned adjusting device, the distance also can be adjusted by using a overlapping structure and a corresponding movable buckle.

Furthermore, the adjusting assembly 320 according to the embodiment further includes a locking structure 324 between the knob base 3221 and the rotating shaft 321, the locking structure 324 is configured for locking in two directions. The knob base 3221 and the rotating shaft 321 can be locked by the locking structure 324. When the two sets of massage heads 200 are adjusted to an appropriate distance, the knob 322 is locked by means of the locking structure 324, the knob 322 can't be rotated without an artificial rotation. The distance between the two sets of massage heads 200 is fixed, so that two sets of massage heads 200 can't move during massage, which is convenient for the user.

According to the embodiment, the locking structure 324 includes a ratchet 3241 and a ratchet base 3242 engaged with the ratchet 3241, the ratchet 3241 synchronously rotates with the knob 322, the rotating shaft 321 is arranged through the center of the ratchet 3241 and fixed in the center of the ratchet 3241. The

locking structure 324 formed by matching the ratchet base 3242 and the ratchet 3241 has been disclosed in the related patent document of the applicant, therefore it will not be discussed here. It is to be noted that the locking structure 324 also is not limited thereto, other structures also can be used for the locking structure 324.

5 Referring Fig. 4 and Fig. 5 again, according to the embodiment, each of the two sets of massage heads 200 is driven by a respective power component 400, each of the two racks 330 is fixedly connected to the respective power component 400. The power component 400 is a gearbox, the gearbox includes a first output shaft 410 and a second output shaft 420, the set of massage heads 200 includes two
10 massage heads, the two massage heads are fixed on an end of the first output shaft 410 and an end of the second output shaft 420, respectively. Thus, after each gearbox is started, the two massage heads 200 are driven by the first output shaft 410 and the second output shaft 420 of the gearbox, respectively, to massage. At the same time, each fixing part 312 is provided with two guiding grooves 3121, the
15 other end of the first output shaft 410 of each gearbox is slidably arranged in a guiding groove 3121 and the other end of the second output shaft 420 is slidably arranged in the other guiding groove 3121. Therefore, when each gearbox is driven by the respective rack 330 to move, the first output shaft 410 and the second output shaft 420 move in the respective guiding grooves 3121. Therefore, the movement
20 of the gearbox can be guided, further balanced and will not deviate.

Referring Fig. 8, when the knob cover 3222 is rotated clockwise, the rotating shaft 321 is driven by the knob base 3221 to rotate, the gear 323 is driven by the rotating shaft 321 to rotate, the two racks 330 engaged with the upper and lower parts of the gear 323 get far away from each other, so that the two sets of massage
25 heads 200 expand outwards and get far away from each other. When each of the two sets of massage heads 200 moves to the end of the respective channel 111, each of the two sets of massage heads 200 is hidden in the respective receiving cavity.

Thus, the massage neck pillow can be hung on the neck and be used as a neck pillow. Referring to Fig. 9, when the knob cover 3222 is rotated counterclockwise, the two sets of massage heads 200 are moved from the receiving cavities and get close to each other. When each of the two sets of massage heads 200 is moved to an appropriate position, the rotation of the knob 322 can be stopped, then the knob 322 can be locked by the locking of the locking structure 324, the knob 322 can't be rotated without an artificial rotation. The distance between the two sets of massage heads 200 is fixed, so that two sets of massage heads 200 can massage the neck.

The above-mentioned is only the preferred embodiments of the present invention, but places no limit to the invention. Therefore, any modification, equivalent replacement and improvement etc. on the basis of the spirit and principle of invention shall be within the protective scope of the present invention.

CLAIMS

1. A massage neck pillow comprising a U-shaped neck pillow body able to be hung on the human neck, wherein an inner side of the U-shaped neck pillow body is provided with a U-shaped installation slot, two sets of massage heads are symmetrically arranged in the U-shaped installation slot, the two sets of massage heads are connected to a control mechanism, the U-shaped installation slot is provided with two channels, each of the two sets of massage heads is moved and locked in the respective channel of the U-shaped installation slot under the control of the control mechanism, an end of each channel of the U-shaped installation slot is provided with a respective receiving cavity, when each of the two sets of massage heads is driven by the control mechanism to move to the end of the respective channel, each of the two sets of massage heads is hidden in the respective receiving cavity;

the control mechanism comprises a fixing bracket and an adjusting assembly arranged on the fixing bracket, the fixing bracket comprises a connecting part arranged in the center and fixing parts slantwise and symmetrically provided at the two sides of the connecting part, each of the two sets of massage heads is fixed on an end of a respective rack, the other ends of the two racks overlap each other, each of the two racks is arranged on the respective fixing part, the adjusting assembly is fixed on the connecting part of the fixing bracket and passes through the overlapped ends of the two racks, so that the two racks can be contracted or expanded relatively under the adjustment of the adjusting assembly;

the adjusting assembly comprises a rotating shaft extending from the outside of the connecting part, a knob located at an outer end of the rotating shaft and a gear located at an inner end of the rotating shaft, an upper part and a lower part of the gear are engaged with each of the two racks respectively.

2. The massage neck pillow according to claim 1, wherein the U-shaped neck pillow body comprises a sponge pillow core and a fabric cover disposed around the sponge pillow core, the U-shaped installation slot is defined on the sponge pillow core, the two sets of massage heads and the control mechanism are arranged at an inner side of the fabric cover.
3. The massage neck pillow according to claim 1, wherein the adjusting assembly further comprises a locking structure arranged between the knob and the rotating shaft, the locking structure is configured for locking in two directions.
4. The massage neck pillow according to claim 3, wherein the locking structure comprises a ratchet and a ratchet base engaged with the ratchet, the ratchet synchronously rotates with the knob, the rotating shaft is arranged through the center of the ratchet and fixed in the center of the ratchet.
5. The massage neck pillow according to claim 1, wherein each of the two sets of massage heads is driven by a respective power component, each of the two racks is fixedly connected to the respective power component.
6. The massage neck pillow according to claim 5, wherein the respective power component is a gearbox, the gearbox comprises a first output shaft and a second output shaft, each set of massage heads comprises two massage heads, the two massage heads are fixed on an end of the first output shaft and an end of the second output shaft, respectively.
7. The massage neck pillow according to claim 6, wherein each fixing part is provided with two guiding grooves, the other end of the first output shaft of each gearbox and the other end of the second output shaft of each gearbox are slidably arranged in respective guiding grooves.

8. The massage neck pillow according to claim 1, wherein the knob includes a knob base located at the inside of the connecting part and a knob cover protruding from the outside of the connecting part and fixed with the knob base.