

MASSAGER AND ASSEMBLY PROCESS THEREOF

TECHNICAL FIELD

[0001] The present invention relates to massager technology field, and particularly to a massager and a massager assembly process thereof.

BACKGROUND

[0002] There are different types of massagers for human being massage in the market, such as cushion, neck-pillow, belt and the like. Some of these massagers are operated by remote controller, and some of them are operated by controlling buttons arranged on the massagers. The second type of massagers saves cost and space for the massagers and can be operated conveniently because the remote controller is not needed. The assembly process of the second type of massagers is: defining a groove inside a massager body of the massager, placing a control box into the groove, then covering a cloth cover inside the massager body, and opening an opening on the cloth cover corresponding to the groove, sticking the cloth at the opening on the control box or fixing the cloth at the opening on the control box by the strip and screw. Due to the massager body using PU sponge or general polyurethane foam sponge, the massager assembled by the above described assembly technology has disadvantages of: 1. the massager body is often squeezed, thereby the control box is also squeezed, thus the block structure between the button board and the control box is easy to be separated, and thereby results in detachment of the control board; 2. the control box is squeezed to deform, and the cloth at the opening which being stuck on the control box is easy to fall off.

SUMMARY

[0003] The object of the present invention is to provide a massager and an assembly process thereof with simple structure and reliable assembly process for overcoming the disadvantages of the known technology.

[0004] For solving the above described problem, the technical solution of the

present invention is to provide a massager, the massager includes a flexible body, a box arranged inside the flexible body, and a PCB board arranged inside the box, the massager further comprises a flexible cover, a button board fixed to the outside of the flexible cover, and a compacting member locates within the flexible cover and fixedly connects with the button board, a cover body of the flexible cover is clamped between the compacting member and the button board, the PCB board is fixedly connected to the inside of the button board or the compacting member, the flexible cover covers the flexible body.

[0005] Specifically, the compacting member defines a fixing hole, the button board defines a fixing pole corresponding to the fixing hole, the compacting member and the button board is fastened by a fastening member that is inserted into the fixing hole, passed through the flexible cover, and extended into the fixing pole.

[0006] Further, the inside of the button board defines a protrusion for squeezing the cover body of the flexible cover toward the compacting member.

[0007] Alternatively, the outside of the compacting member defines a protrusion for squeezing the cover body of the flexible cover toward the button board.

[0008] Alternatively, the protrusion is a bump or a protrusion with a straight line shape.

[0009] Further, an engagement structure arranged between the inside of the button board and the outside of the compacting member enables the cover body of the flexible cover to be pressed into the engagement structure.

[0010] Further, the compacting member comprises a hollow cavity, and the PCB extends through the hollow cavity to connect with the button board.

[0011] Further, the compacting member defines a connection pole, and the outside of the box defines a connection hole for receiving the connection pole.

[0012] The present invention further provides an assembly process for massager, comprising the steps of:

[0013] fetching out the flexible cover being processed and turned out from a zipper;

[0014] placing the button board outside the flexible cover, extending the compacting member out of the zipper of the flexible cover, fixedly connecting the button board and the compacting member, and clamping the cover body of the flexible cover between the button board and the compacting member;

[0015] enabling the PCB board to pass through the compacting member to fix the PCB board inside the button board;

[0016] fixedly connecting the box and the compacting member;

[0017] pushing the assembled box into the flexible body;

[0018] turning in the flexible cover to stick and cover the flexible body, and zippering the zipper.

[0019] In the present invention, the button board cannot be detached from the flexible cover even if being pulled or rubbed due to the fixing connection between the button board and the compacting member inside the flexible cover. Because the PCB board is fixedly connected with the button board or compacting member and the flexible cover tightly covers the flexible body, the PCB board cannot be detached from the box and the box cannot slide out of the flexible body due to the restriction of the flexible cover. Therefore, the massager of the present invention has a simpler structure and more reliable connection, and is easy to be assembled.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. 1 is a schematic view of a structure of a massager in accordance with an embodiment of the present invention.

[0021] FIG. 2 is an exploded view of the massager.

[0022] FIG. 3 is a schematic view of a structure of a compacting member of the massage.

[0023] FIG. 4 is a schematic view of a structure of a button board of the massage.

[0024] FIG. 5 is a schematic view of a structure of a box of the massage.

[0025] FIG. 6 is a schematic view for assembling the button board and a flexible cover in accordance with an embodiment of the present invention..

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0026] In order to clearly describe the object, technical solutions, and advantages of the present invention, the accompanied drawings and embodiments are used to describe the present invention in detail. It should be understood, the embodiments described here intends to explain the present invention, and do not intend to limit the present invention.

[0027] FIGs. 1 and 2 show a schematic view of a structure of a massager in accordance with an embodiment of the present invention. In the embodiment, the massager 100 is a cushion and mainly used for massaging the buttock of the body and also can be used for massaging the back of the body when it is placed on the back. The cushion is taken for example to describe the massager in detail below, but the massager also can be other massagers such as neck-pillow, belt, and the like.

[0028] In the embodiment, the massager 100 includes a flexible body 110, a box 120 arranged inside the flexible body 110, a PCB board 160 arranged inside the box 120. The massager 100 further includes a flexible cover 130, a button board 140 fixed outside flexible cover 130, and a compacting member 150 arranged inside the flexible cover 130 is fixedly connected to the button board 140 to clamp the flexible cover 130 between the compacting member 150 and the button board 140. The PCB board 160 is fixedly connected to an inside of the button board 140 or the compacting member 150. The flexible cover 130 covers the flexible body 110. In the present embodiment, the button board 140 cannot be detached from the flexible cover 130 even if being pulled or rubbed due to the fixing connection between the button board 140 and the compacting member 150 inside the flexible cover 130. The PCB board 160 is fixedly connected with the button board 140 or compacting member 150, and the PCB board 160, the button board 140, and the compacting member 150 are connected to form a whole regardless any fixing structure. Further, because the flexible cover 130 tightly covers the flexible body 110, the PCB board 160 cannot detach from the box 120 and the box 120 cannot slide out of the flexible body 110 due to the restriction of the flexible cover 130. Therefore, the massager of the present invention has simpler structure and more reliable connection by comparing with the known structure of the massager.

[0029] Referring to FIGs. 3 and 4, a fixing hole 151 is defined on the compacting member 150, a fixing pole (not shown) corresponding to the fixing hole 151 is defined on the button board 140. A fastening member (not shown) is inserted into the fixing hole 151 and passed through the flexible cover 130 and extended to the fixing pole to fixedly connect with the compacting member 150 and the button board 140. In the embodiment, the fastening member is a screw. The compacting member 150 locates inside the flexible cover 130 and the fastening member extends into the compacting member 150, thereby avoiding exposure of the fastening member on the button board 140 and the looseness and detachment of the fastening member when the fastening member is fixed to the outside of the flexible cover 130.

[0030] Further, in the embodiment, the inside of the button board 140 is formed to have a protrusion (not shown) for squeezing the cover body of flexible cover toward the compacting member 150. Alternatively, the outside of the compacting member 130 is formed to have a protrusion (not shown) for squeezing the cover body of the flexible cover toward the button board 140. Thus, the flexible cover 130 can be tightly clamped between the compacting member 130 and the button board 140 to avoid the flexible cover 130 to be easily pulled out.

[0031] Specifically, the protrusion is a bump or a bar shaped protruding block, or protruding structure with other shapes. The protruding structures that enable the cover body of the flexible cover 130 to be tightly clamped between the button board 140 and the compacting member 150 are within the scope of the present invention.

[0032] Alternatively, an engagement structure (not shown) is arranged between the inside of the button board 140 and the outside of the compacting member 150, thus the connection between the compacting member 150 and the button board 140 is more reliable and the flexible cover 130 can be clamped between the compacting member 150 and the button board 140 more tightly. The engagement structures are teeth or protruding structures engaging with each other or other engagement structures.

[0033] Referring to FIGs. 3 and 5, in the embodiment, a connecting pole 152 is arranged on the compacting member 150, the outside of the box 120 defines a

connection hole 121 for receiving the connecting pole 152. Thereby, the compacting member 150 can be fixedly connected with the box 120 by the connecting pole 152 and connecting hole 121, so that the box 120 and the button board 140 are connected to form a whole. Additionally, the box 120 and the button board 130 can be directly connected by the fastening member passing through the flexible cover 130.

[0034] Further, in the embodiment, the box 120 separates the PCB board to avoid the box 120 contact or press the PCB 160 during a using process. The compacting member 150 includes a hollow cavity 153. The PCB 160 within the box 120 extends through the hollow cavity 153 to connect with the button board 140. The compacting member 150 may be block-shaped or other structure and the PCB board 160 is fixedly connected to the button board 140 directly. Further, the PCB board 160 may be fixed to the compacting member 150 directly in the condition that ensuring the PCB board 160 is fixedly connected with the button board 140 and the compacting member 150 to form a whole.

[0035] Referring to FIG. 6, in the embodiment, turning out the flexible cover 130 from the zipper during a processing process of the flexible cover 130 cancels the turning out step for the later assembling process, thereby improving efficiency. During the assembling the massager, placing the button board 140 outside the flexible cover 130, extending the compacting member 150 inside the flexible cover 130 from the zipper of the flexible cover 130, fixedly connecting the button board 140 and the compacting member 150, and clamping the cover body of the flexible cover 130 between the button board 140 and the compacting member 150; enabling the PCB board to pass through the compacting member 150 to fix the PCB board 160 inside the button board 140; fixedly connecting the box 120 and the compacting member 150 and enabling the box 120 extends inside the box 120; pushing the assembled box 120 into the groove 111 of the flexible body 110; and then turning in the flexible cover 130 to stick and cover the flexible body 110, and zippering the zipper, thereby finishing the assemble of the massager 100. In this structure, the box 120 only needs to be placed into the groove 111, and need not stick using glue, so the structure of the present invention is simpler and the connection in thus structure is more reliable

comparing to the known structure.

[0036] The above described examples are only a few embodiments of the present invention, and the descriptions are detailed, but it should not be understood that they are intended to limit the invention to these embodiments. It should be noted that, to the person skilled in this art, the alternatives, modifications and equivalent to the embodiments may be included within the spirit and scope of the invention.

CLAIMS

1. A massager, comprising a flexible body, a box arranged inside the flexible body, and a PCB board arranged inside the box, wherein the massager further comprises a flexible cover, a button board fixed to an outside of the flexible cover, and a compacting member arranged inside the flexible cover is fixedly connected to the button board to clamp the flexible cover between the compacting member and the button board, the PCB board is fixedly connected to an inside of the button board or the compacting member, and the flexible cover covers the flexible body;

wherein the compacting member defines a fixing hole, the button board defines a fixing pole corresponding to the fixing hole, the compacting member and the button board is fastened by a fastening member that is inserted into the fixing hole, passed through the flexible cover, and extended into the fixing pole..

2. The massager as claimed in claim 1, wherein the inside of the button board is formed to have a protrusion for squeezing the cover body of the flexible cover toward the compacting member.

3. The massager as claimed in claim 1, wherein the outside of the compacting member is formed to have a protrusion for squeezing the cover body of the flexible cover toward the button board.

4. The massager as claimed in claim 2 or 3, wherein the protrusion is a bump or a bar shaped protrusion block.

5. The massager as claimed in claim 1, wherein an engagement structure arranged between the inside of the button board and the outside of the compacting member enables the cover body of the flexible cover to be pressed into the engagement structure.

6. The massager as claimed in claim 1, wherein the compacting member comprises a hollow cavity, and the PCB extends through the hollow cavity to connect with the button board.

7. The massager as claimed in claim 1, wherein the compacting member provides a connection pole, and an outside of the box defines a connection hole for receiving the connection pole.

8. An assembly process for the massager as claimed in any proceeding claims 1-7, comprising:

fetching out the flexible cover being processed and turned out from a zipper;

placing the button board outside the flexible cover, extending the compacting member out of the zipper of the flexible cover, fixedly connecting the button board and the compacting member, and clamping the cover body of the flexible cover between the button board and the compacting member;

enabling the PCB board to pass through the compacting member to fix the PCB board inside the button board;

fixedly connecting the box and the compacting member;

pushing the assembled box into the flexible body;

turning in the flexible cover to stick and cover the flexible body, and zippering the zipper.