DESCRIPTION

Title of Invention: HEAD MASSAGER

Technical Field

Background Art

[0001] The present invention relates to a head massager capable of massaging the head of a user who receives massage.

[0002] There is heretofore known a head massager designed to press the head of a user who receives massage by an inflated air bag.

For example, Patent Literature 1 discloses a head massager comprising a firm support member configured so as to surround the head of a user who receives massage circumferentially, and an air bag disposed on the inner periphery surface of the rear side of the support member.

Prior Art Reference

Citation List

[0003] Patent Literature 1: Chinese Utility Model Registration No. 202715033

Summary of Invention

Technical Problem

[0004] The head massager disclosed in Patent Literature 1 employs a construction that externally presses user’s head by means of the inflated air bag. This construction necessitates a firm outer-shell structure for holding the air bag therein

to prevent the inflated air bag from protruding out of the construction (the member indicated by a reference numeral 110 in the drawing).

However, such a firm outer-shell structure is generally heavy in weight, causing an increase in the weight of the head massager. That is, in the head massager disclosed in Patent Literature 1, the possibility arises that due to an increased load on the neck of the user user's convenience in using the head massager will be impaired.

[0005] Furthermore, the heads of users who receive massage vary in size greatly depending on physical size, sex, age, etc., wherefore the dimensions of the above-mentioned outer-shell structure need to be adjusted in accordance with head size. In light of this, in the head massager disclosed in Patent Literature 1, the outer-shell structure is divided into two portions, namely a portion for surrounding the front part of user's head and a portion for surrounding the rear part of the head, and, an adjuster mechanism is disposed between these portions for changing the dimensions of the outer-shell structure by adjusting the distance between the portions. However, the placement of such an adjuster mechanism increases the complexity of the structure of the apparatus, and may also increase the price of the apparatus.

[0006] The present invention has been devised in view of the circumstances as discussed supra, and an object of the present invention is to provide a head massager which is made lightweight

and compact and is yet capable of massaging without fail a to-be-massaged area of the head of a user who receives massage.

Solution to Problem

[0007] In order to solve the above problems, the following technical means is adopted for the implementation of a head massager pursuant to the present invention.

That is, the head massager of the present invention comprises a head cover body for covering the head of a user who receives massage, and a massaging mechanism for massaging the head of the user disposed in the head cover body. Said head cover body comprises a cap-shaped outer cover and an inner cover disposed inside the outer cover to cover the head of the user. Said massaging mechanism is interposed between said outer cover and said inner cover, and comprises a plurality of tapping massage sections and a plurality of pressing massage sections. A plurality of said pressing massage sections are coupled to each other by a bendable and/or stretchable belt member. A plurality of said tapping massage sections are situated on the bendable and/or stretchable belt member. Said pressing massage sections and said tapping massage sections are capable of massaging the head of the user (in particular, acupressure points).

[0008] In the present invention, it is preferable that said pressing massage sections include a plurality of support members arranged circumferentially along the head of said user, and air bags disposed on the corresponding support members, that said

support members are coupled to each other by said belt member, and that an end of the belt member provided with said tapping massage section is coupled to said support member.

[0009] In the present invention, it is preferable that, in the head massager comprising a head cover body for covering the head of a user who receives massage and a massaging mechanism for massaging the head of the user disposed in the head cover body, said head cover body comprises a cap-shaped outer cover and an inner cover disposed inside the outer cover to cover the head of the user, and said massaging mechanism is interposed between said outer cover and said inner cover. Moreover, said massaging mechanism comprises: a front support member disposed so as to surround the head of said user within a range of a side head region to a front head region; a pair of upstanding support members extending upward from said front support member while being curved so as to conform to head shape; a stretchable first belt member situated between said paired upstanding support members so as to connect upper ends of the upstanding support members together; and a stretchable second belt member disposed so as to connect an upper end of each upstanding support member with an intermediate part of said front support member. In addition, said massaging mechanism comprises: a plurality of pressing massage sections attached to said front support member, for performing pressing massage on the head of said user; and a tapping massage section attached to each of said first belt

member and said second belt member, for performing tapping massage on the head of said user.

[0010] In the present invention, it is preferable that said massaging mechanism includes a rear support member disposed so as to surround the head of said user within a range of a side head region to a rear head region, and that said pressing massage section is additionally attached to said rear support member.

In the present invention, it is preferable that said upstanding support members, which are provided in a form of a pair of separate left and right support members situated in positions corresponding to the left side and the right side, respectively, of the head of said user, are formed so as to extend upward from opposite ends, respectively, of said front support member while conforming to head shape of the user.

[0011] In the present invention, it is preferable that a stretchable belt member for connecting the opposite ends of said front support member together is disposed so as to run along the rear head region of the user.

In the present invention, it is preferable that said cap-shaped outer cover is provided with an adjustable length belt member disposed so as to run along the rear head region of the user.

In the present invention, it is preferable that said pressing massage section comprises an air bag which performs pressing massage on the head of the user when inflated with air,

and that an air supply tube is placed along said front support member and/or said rear support member for feeding air to the air bag of said pressing massage section.

[0012] In the present invention, it is preferable that a stretchable third belt member is disposed between the tapping massage sections attached to said corresponding second belt members so as to provide connection between the tapping massage sections.

In the present invention, it is preferable that the above-described head massager is mounted in a chair massager comprising a seat portion, a backrest portion, and a back massaging mechanism installed inside the backrest portion, that said pressing massage section is designed to be inflated with air and said tapping massage section is designed to be driven by electric power, and that said pressing massage section is supplied with air from air supply means incorporated in the chair massager and said tapping massage section is supplied with power from power supply means incorporated in the chair massager.

Advantageous Effects of Invention

[0013] The head massager of the present invention is made lightweight and compact and is yet capable of massaging without fail a to-be-massaged area of the head of a user who receives massage.

Brief Description of Drawings

[0014][FIG. 1] FIG. 1 is a view showing how a head massager is

to be used.

[FIG. 2] FIG. 2 is a view showing how the head massager mounted in a chair massager is to be used.

[FIG. 3] FIG. 3 is a view showing a massaging mechanism incorporated in the head massager in a state of being worn by a user who receives massage.

[FIG. 4] FIG. 4 is an exploded view showing the inner section and the outer section of the head massager.

[FIG. 5] FIG. 5 is a perspective view of the massaging mechanism as seen from the front left of the head massager.

[FIG. 6] FIG. 6 is a perspective view of the massaging mechanism as seen from the rear left of the head massager.

[FIG. 7] FIG. 7 is a perspective view of the massaging mechanism as seen from the front right of the head massager.

[FIG. 8] FIG. 8 is a front view of the massaging mechanism.

Description of Embodiments

[0015] Hereinafter, a head massager in accordance with an embodiment of the present invention will be described with reference to drawings.

As shown in FIG. 1, a head massager 1 in the present embodiment is of a type which is put on the head of a user U who receives massage by himself/herself for head massage. As shown in FIG. 2, the head massager 1 in the present embodiment is mounted in a chair massager 2, and is thus operated under the supply of power and air from the chair massager 2.

[0016] Specifically, as shown in FIG. 2, the chair massager 2 in the present embodiment comprises a seat portion 3 in which the user U sits, and a backrest portion 4 against which the user U sitting in the seat portion 3 leans. The backrest portion 4 has a built-in back massaging mechanism for massaging the back of the user U sitting in the seat portion 3 while leaning against the backrest portion 4 (not shown in the drawing).

The back massaging mechanism is designed to massage user's back by rocking a kneading ball with use of electric power, and by inflating an air bag with use of air. The chair massager 2 is internally provided with air supply means such as a pump for feeding air, and power supply means such as a power source for feeding electric power. That is, the head massager 1 in the present embodiment is designed to operate the massaging mechanism (pressing massage section 10) by exploiting air fed from the air supply means incorporated in the chair massager 2, and operate the massaging mechanism (pressing massage section 10) by exploiting electric power fed from the power supply means incorporated in the chair massager 2. The head massager 1 is operated with use of electric power and air from the chair massager 2 provided independently of the head massager 1.

[0017] The placement of the source of air and power supply for operating the head massager 1 inside the chair massager 2 makes it possible to reduce the size of the head 1 massager and thereby render the head massager 1 compact.

FIGs. 3 to 8 are views showing the internal structure of the head massager 1 shown in FIG. 1.

As shown in FIGs. 3 and 4, the head massager 1 in the present embodiment comprises a head cover body 5 for covering the head of the user U, and a massaging mechanism 6 for massaging the head of the user U disposed in the head cover body 5. Moreover, the head cover body 5 comprises a cap-shaped outer cover 7 and an inner cover 8 disposed inside the outer cover 7 to cover the head of the user U. The massaging mechanism 6 is interposed between the outer cover 7 and the inner cover 8.

[0018] The massaging mechanism 6 in the present embodiment is constructed of a combination of a plurality of tapping massage sections 9 and a plurality of pressing massage sections 10. A plurality of the pressing massage sections 10 are coupled to each other by a bendable and/or stretchable belt member. Moreover, a plurality of the tapping massage sections 9 are situated on the bendable and/or stretchable belt member.

The right-hand part and the left-hand part of the paper sheet with FIG. 8 printed on it correspond to the left side and the right side, respectively, of the head massager 1 in its explanation, and, the upper part and the lower part of the paper sheet with FIG. 8 printed on it correspond to the upper side and the lower side, respectively, of the head massager 1 in its explanation. Moreover, the direction of drilling through the paper sheet with FIG. 8 printed on it corresponds to a

front-to-rear direction of the head massager 1 in its explanation. As indicated in some of the drawings, the definitions of directions in the explanation of the head massager 1 are based on the sight of the user U wearing the head massager 1.

[0019] The following describes the outer cover 7 and the inner cover 8 constituting the head cover body 5, and the pressing massage section 10, the tapping massage section 9, and the belt member constituting the massaging mechanism 6.

As shown in FIG. 4, the head cover body 5 comprises the cap-shaped outer cover 7 and the inner cover 8 disposed inside the outer cover 7 to cover the head of the user U.

The outer cover 7 is formed by sewing, for example, pieces of cloths together substantially in the shape of an upwardly convex hemisphere so as to receive and hold the head of the user U. The outer cover 7 has a cap-like appearance so that a third person looking at the outer cover 7 feels that it is just a “cap” to see to it that the third person who glanced at the user U is unable to know that he/she is taking a head massage.

[0020] Moreover, the outer cover 7 has a size which is somewhat larger than the size of the head of the user U so that a certain gap is left between the head of the user U and the outer cover 7 to cover the head of the user U comfortably. By making the outer cover 7 somewhat larger in size than the head of the user U, the inner cover 8 can be interposed between the head of the user U and the outer cover 7, and, both of the inner

cover 8 and the massaging mechanism 6 can be housed inside the outer cover 7, thus hiding these components from view.

[0021] Although the outer cover 7 is, as exemplified, shaped like a narrow-brimmed hunting hat, the shape of a cap such as a baseball cap or a ten-gallon hat may be adopted.

The inner cover 8 is a hemispherical member for covering the head of the user U disposed inside the outer cover 7. Like the outer cover 7, the inner cover 8 is formed from a cloth, for example. The lower end of the inner cover 8 and the lower end of the outer cover 7 are detachably butt-connected to each other by means of a non-illustrated fastener or otherwise. The other part of the inner cover 8 than the fastener or the like-bearing lower end is free of the other part of the outer cover 7 than the fastener or the like-bearing lower end to leave a space for the storage of the above-mentioned massaging mechanism 6.

[0022] As shown in FIGs. 5 to 7, the massaging mechanism 6 is constructed of a combination of a plurality of the tapping massage sections 9 and a plurality of the pressing massage sections 10.

The head massager 1 is, as exemplified, provided with a total of three tapping massage sections 9, namely one situated in a position corresponding to the top of the head of the user U (topmost head region), one located toward the front left of the uppermost tapping massage section 9 given above, and one

located toward the front right of the uppermost tapping massage section 9.

[0023] When viewed from above, the pressing massage sections 10 are so arranged as to surround the three tapping massage sections 9. As shown in FIG. 8 as cross-hatched gray region, there are provided five pressing massage sections 10 in total, namely one situated in a position corresponding to the front part of the head (hereafter also referred to as “frontal head region”), one situated in a position corresponding to the left side of the head (hereafter also referred to as “left side head region”), one situated in a position corresponding to the right side of the head (hereafter also referred to as “right side head region”), and two situated in different positions corresponding to the rear part of the head (hereafter also referred to as “rear head region”).

[0024] The pressing massage section 10 is designed to effect pressing massage for improvement in blood circulation in a to-be-massaged area by pressing a massaging element such as an air bag 12 repeatedly against the to-be-massaged area to press (apply pressure to) the to-be-massaged area. In this embodiment, the pressing massage section 10 is constructed of a pneumatic massaging device using the air bag 12.

The following describes the air bag 12 and a support member for supporting the air bag 12.

[0025] Specifically, the air bag 12 is a bag-shaped member

made of an air-impervious sheet or a sheet which is hardly impervious to air that is capable of storing air therein. The air bag 12 is freely inflated and deflated with use of air fed from the air supply means disposed inside the above-described chair massager 2.

Specifically, as shown in FIG. 2, the side face of the chair massager 2 is formed with an air outlet 13 for taking air fed from the air supply means incorporated in the chair massager 2 out of the chair massager 2. By inserting a plug 15 attached to one end of an air intake tube 14 into the air outlet 13, it is possible to admit air from the air outlet 13 into the air intake tube 14 via the plug 15. The air thereby admitted in the air intake tube 14 passes through the interior of the air intake tube 14 so as to be fed into the massaging mechanism 6 connected to the other end of the air intake tube 14.

[0026] As shown in FIGs. 5 to 7, the massaging mechanism 6 is internally provided with an air supply piping 16 (air supply tube) for feeding air admitted from the air intake tube 14 to each air bag 12. The air supply piping 16 is placed along the above-mentioned front support member 17 (support member at the front side) and/or a rear support member 18 (support member at the rear side) for feeding air in a direction in which the support members are placed while effecting the supply of air to the individual air bags 12 disposed on these support members.

[0027] Inside the chair massager 2, there is also provided

the power supply means (power source) for feeding electric power like the above-described air supply means. As a power supply mechanism, electric power from the power supply means is fed, through wiring, to the tapping massage section 9. Cord arrangement in the power supply mechanism is similar to the arrangement of the air intake tube 14 of the air supply means, wherefore the illustration of the power supply mechanism is omitted from the drawing.

[0028] The support member is a member situated outside the air bag 12 when viewed from the to-be-massaged area, for directing a pressing force exerted by the air bag 12 in an inflated condition toward the to-be-massaged area lying inwardly of the air bag 12 by controlling outward inflation of the air bag 12. The support member is formed in the shape of a strip plate from a synthetic resin such as nylon or PP or a metal so as to be able to support the pressing force of the inflated air bag 12.

[0029] In the massaging mechanism 6 in the present embodiment, the support member is constructed of a combination of three members, namely the front support member 17 (support member at the front side) situated in a position corresponding to the front part of the head, the rear support member 18 (support member at the rear side) situated in a position corresponding to the rear part of the head, and a pair of upstanding support members 19 (support members in an upstanding condition) extending upward from the opposite rear ends, respectively, of the front

support member 17 (situated in positions corresponding to the left side and the right side, respectively, of the head). Among the above-described five pressing massage sections 10 (air bags 12) placed in different positions, the three pressing massage sections 10 situated on the front side, the left side, and the right side, respectively, are supported by the front support member 17, and, the other two pressing massage sections 10 situated on the rear side are supported by the rear support member 18.

[0030] As shown in FIGs. 5 to 7, the front support member 17 is a strip-like member shaped so as to extend forward from the left side of the head (left side head region) in a horizontal direction while being curved rightward to the front part of the head (frontal head region), then extend backward from the frontal head region in the horizontal direction while being curved rightward, and is lastly bent to reach the right side of the head (right side head region) of the user U. In other words, when viewed from above, the front support member 17 is disposed so as to track a semi-circular path extending from the left side head region to the frontal head region, and from there to the right side head region, thus surrounding front half of the head of the user U.

[0031] The upstanding support members 19 are members extending upward from the opposite ends, respectively, of the above-described front support member 17 in the form of a pair

of separate left and right support members situated in positions corresponding to the left side and the right side, respectively, of the head of the user U. Each upstanding support member 19 is shaped in an elongated strip which is substantially equal in width to the front support member 17.

The left upstanding support member 19 is a member extending upward from the left end of the front support member 17. The upper-end side of the left upstanding support member 19 is so shaped as to extend upward, while being curved gradually rightward, toward the top of the head. The upper end of the left upstanding support member 19 reaches a position just ahead of the top of the head. Moreover, the lower end of the left upstanding support member 19 is coupled to the left end of the front support member 17, and, this coupling area 20 has coupled to it the left end of the rear support member 18.

[0032] On the other hand, the right upstanding support member 19 is a member extending upward from the right end of the front support member 17. The upper-end side of the right upstanding support member 19 is so shaped as to extend upward, while being curved gradually leftward, toward the top of the head. The upper end of the right upstanding support member 19 reaches a position just ahead of the top of the head. Moreover, the lower end of the right upstanding support member 19 is coupled to the right end of the front support member 17, and, this coupling area 20 has coupled to it the right end of the rear support member

18.

[0033] That is, the left and right upstanding support members 19 are spaced apart in the horizontal direction, and the space left between them corresponds to the top of the head. The horizontally spaced apart left and right upstanding support members 19 are coupled to each other by a first belt member 21 which will hereafter be described.

Moreover, the upper end of the left upstanding support member 19 extends upward while being curved gradually rightward, and, the upper end of the right upstanding support member 19 extends upward while being curved gradually leftward. The left and right upstanding support members 19 combine to define a sectional profile conforming to the shape of the head of the user U (arcuate shape). Thus, the placement of such upstanding support members 19 makes it possible to facilitate insertion of the head into the head massager 1 when the user wear the massager, and thereby increase user's convenience in using the head massager 1.

[0034] The rear support member 18 is a strip-like member shaped so as to extend backward and slightly downward with a curve from the left end of the front support member 17, then extend forward and slightly upward with a curve from a position corresponding to the rear part of the head, and is lastly bent to reach the right end of the front support member 17. Each end of the rear support member 18 is greater in width than an

intermediate part of the rear support member 18. Moreover, the above-described two pressing massage sections 10 are arranged side by side in the horizontal direction in the lengthwise intermediate part of the rear support member 18.

[0035] The front support member 17, the rear support member 18, and the upstanding support member 19 as above described are, at their ends for example, coupled to one another by belt members. Specifically, the belt member is a bendable and/or stretchable belt member formed in the shape of an elongated strip from a flexible material such as rubber. There are provided four belt members, namely a first belt member 21, a second belt member 22, a third belt member 23, and a rear belt member 24.

[0036] The first belt member 21 is situated between the paired upstanding support members 19 for free expansion and contraction so as to connect the upper ends of the upstanding support members 19 together. The lengthwise intermediate part of the first belt member 21 is provided with the tapping massage section 9 (first tapping massage section 25) which will hereafter be described.

That is, the first belt member 21 is configured to provide a connection between the above-described paired upstanding support members 19 in a narrow space from the upper end of the left upstanding support member 19 to the upper end of the right upstanding support member 19. Due to its short belt length, the first belt member 21 is subjected to a greater elastic force

in its bending direction, expanding direction, and contracting direction, thus pressing the first tapping massage section 25 tightly against the head of the user U. This makes it possible to press the tapping massage section 9 tightly against the to-be-massaged area, and thereby perform massage on the to-be-massaged area with sufficiently high strength.

[0037] The second belt member 22 is a member placed for free expansion and contraction to connect the upper end of each upstanding support member 19 with the intermediate part of the front support member 17. There is provided a pair of separate left and right second belt members 22. That is, where the left second belt member 22 is concerned, the second belt member 22 is, at its rear end, coupled to the forward edge of the upper-end side of the left upstanding support member 19. Moreover, the forward end of the second belt member 22 is coupled to that part of the midportion of the front support member 17 (corresponding to the front part of the head of the user U) located slightly leftward. When the user wears the head massager, the lengthwise intermediate part of the second belt member 22 is bent so as to slightly expand radially outwardly in conformity to the curve defining the shape of the head, while extending in a direction from the upper rear side to the lower front side. The second belt member 22 disposed at the right side, while being similar in configuration to the left second belt member 22, is arranged in a reverse manner to the left second belt member 22 in the

horizontal direction.

[0038] The lengthwise intermediate part of each of the paired second belt members 22 is, like the first belt member 21, provided with the tapping massage section 9 (second tapping massage section 26) capable of performing tapping massage on the upper front part of the head. In other words, when the head massager 1 is viewed from above, the second belt member 22 is positioned in intersecting relation to the above-described first belt member 21.

[0039] The third belt member 23 is a member placed for free expansion and contraction between the tapping massage sections 9 (second tapping massage sections 26) attached to the corresponding second belt members 22 so as to provide connection between the tapping massage sections 9. The third belt member 23 is disposed in parallel with the above-described first belt member 21, for controlling relative movement between the tapping massage sections 9 attached to the corresponding second belt members 22.

[0040] That is, by connecting the second belt members 22 extending in the front-to-rear direction together via the horizontally-extending third belt member 23, the bending, expansion, and contraction of the second belt member 22 can be reduced. As is the case with the short first belt member 21, by the same token, the second belt member 22 is subjected to a greater elastic force, and consequently the tapping massage

section 9 attached to the second belt member 22 is pressed tightly against the to-be-massaged area, thus enabling the tapping massage section 9 to produce higher massage effects.

[0041] Among the massage portions provided in the above-described massaging mechanism 6, the tapping massage sections 9 are intended to effect tapping massage for improvement in blood circulation in the to-be-massaged area by tapping the to-be-massaged area repeatedly. Each tapping massage section 9 employs a system for effecting massage by operating a hammer body (massaging body) to get in and out of a solenoid under an electromagnetic force.

Although not shown in the drawings, the tapping massage section 9 comprises a solenoid whose center is formed as a hollow (exciting coil with a conductor wound in convolution) and a hammer body coaxially inserted into the hollow of the solenoid so as to be free to get in and out of the hollow. Moreover, the tapping massage section 9 is provided with a springy member situated between the hammer body and the solenoid, and, the hammer body is inserted and retained in the hollow of the solenoid under the resilient force of the springy member.

[0042] As means for returning the hammer body into the hollow of the solenoid in the tapping massage section 9, use can be made of, in addition to the springy member, a spring and a strip-like rubber belt.

The above-described tapping massage sections 9 include

the first tapping massage section 9 attached to the first belt member 21 and the second tapping massage section 9 attached to the second belt member 22. The first tapping massage section 9 is attached to the intermediate part of the first belt member 21 spanning the left and right upstanding support members 19, so that the hammer body applies stimulus to the topmost head region, namely the top of the head of the user. Moreover, the second tapping massage section 9 is attached to the intermediate part of the second belt member 22 spanning the upper end of the upstanding support member 19 and the front support member 17, so that the hammer body applies stimulus to the to-be-massaged area located toward the front right of the topmost head region, as well as the to-be-massaged area located toward the front left thereof.

[0043] Moreover, there is provided the stretchable rear belt member 24 situated between the opposite ends of the above-described front support member 17 so as to provide connection between these ends of the front support member 17. Specifically, the rear belt member 24 is, like the first to third belt members 21 to 23, a bendable and/or stretchable member formed in the shape of an elongated strip from a flexible material such as rubber. Moreover, when viewed from above, the rear belt member 24 is disposed so as to surround rear half of the head of the user U. Thus, the rear belt member 24, in combination with the front support member 17 disposed so as to surround front half

of the head, surround the head throughout its periphery. The front support member 17 cannot be readily stretched or bent, whereas the rear belt member 24 can be freely stretched or bent in accordance with the size of the head of the user U. Accordingly, the placement of such a rear belt member 24 makes it possible to allow one single massaging mechanism 6 to perform massage for users U having different head sizes, and thereby eliminate the need to provide, for example, an adjuster function which has an intricate structure and is costly.

[0044] To operate the above-described massaging mechanism 6 to effect massage, the first step is to feed air to the air bag 12 of the pressing massage section 10 from the air supply tube to inflate the air bag 12. In what follows, it will be assumed that air is fed to, among a plurality of the air bags 12, only the one situated at the front side.

Upon the inflation of the front-side air bag 12 with the supply of air, the air bag 12 is brought into contact with the frontal head region of the user situated behind the air bag 12, whereby the inflated air bag 12 performs pressing massage on the frontal head region.

[0045] At this time, a cycle of stretching the scalp and releasing the pressure on the scalp is repeated in sync with inflation and deflation of the air bag 12 around the frontal head region kept in contact with the front-side air bag 12. Such a motion of the air bag 12 to cause the scalp to be stretched

and relaxed is transmitted to the topmost head region spaced away from the air bag 12, thus enabling cycles of stretching the scalp of the topmost head region with the tapping massage section 9 set above it and releasing the pressure on the scalp.

By passing electric current such as pulsed current through the solenoid of the tapping massage section 9 during the stretching of the scalp and the release of the pressure on the scalp, the hammer body gets in and out of the solenoid repeatedly under an electromagnetic force exerted in the solenoid, thus performing tapping massage on the to-be-massaged area in the topmost head region.

[0046] That is, the hammer body jumps out of the solenoid so as to move downward (outward) from its housed position in the hollow of the solenoid under the electromagnetic force exerted in the solenoid. During the interval when electric current is being passed through the solenoid, the hammer body is left outside of the solenoid against the pushing-back force of the springy member.

However, upon the interruption of the current flowing through the solenoid, the hammer body is moved in a direction to return to the hollow under the pushing-back force of the springy member. That is, in the tapping massage section 9, upon the supply of current to the solenoid, part of the front end of the hammer body protrudes from the hollow of the solenoid, and, upon the interruption of the current, the hammer body returns to the

hollow located centrally of the solenoid under the pushing-back force of the springy member. Accordingly, when feeding electric current to the solenoid on and off repeatedly, as for example pulsed current application, or when feeding current whose magnitude changes cyclically to the solenoid, the hammer body gets in and out of the solenoid repeatedly, and consequently the head, now in the condition where the scalp is being stretched and relaxed repeatedly by the pressing massage section 10, is further tapped repeatedly by the tapping massage section 9.

[0047] In this way, by additionally performing tapping massage on the to-be-massaged area by the tapping massage section 9 in sync with the movement of the scalp caused by the pressing massage section 10, it is possible to provide distinctive massage effects, which cannot be obtained just by tapping the to-be-massaged area by the tapping massage section 9, to the user U (to-be-massaged area). That is, when the pressing massage section 10 and the tapping massage section 9 act in conjunction with each other, in contrast to monotonous stimulus produced by the tapping massage section 9 alone, elaborate and universal massage actions can be imparted to the to-be-massaged area. This makes it possible to achieve remarkable massage effects, for example, improvement in blood circulation even in the face of the user spaced way from the position of placement of the tapping massage section 9.

[0048] Moreover, in the head massager 1 in the

above-described present embodiment, the individual support members are joined together by bendable and/or stretchable members such as the first to third belt members 21 to 23 and the rear belt member. In this case, since each belt member is flexibly stretched and bent in accordance with the size of the head of the user U, it is possible to change the distance between the support members freely, and thereby allow the massaging mechanism 6 to change its shape so as to conform closely to the head of the user U. Thus, although the heads of the users U vary in size greatly depending on physical size, sex, age, etc., one single head massager 1 can be utilized to give optimal massage to various users U.

[0049] Moreover, the use of a bendable and/or stretchable belt member makes it possible to eliminate the need to adopt a bulky adjuster mechanism for adjustment of the size of the massaging mechanism 6, and thereby simplify the structure of the head massager 1.

Moreover, by disposing the pressing massage section 10 in each of a plurality of support members coupled together by belt members, as contrasted to a case where all the pressing massage sections 10 are supported by a single support member, it is possible to reduce the amount of the support member, and thereby render the head massager 1 lighter in weight.

[0050] Meanwhile, in response to inflation and deflation of the air bags of the pressing massage sections 10, the front

support member, the rear support member 18, and the upstanding support member 19 supporting the air bags move slightly relative to the head. Therefore, if the tapping massage section 9 is attached directly to the support member, the possibility arises that the tapping massage section 9 will be displaced in sync with the inflation and deflation of the air bag. However, as practiced in the tapping massage section 9 of the present invention, by securing the tapping massage section 9 to the stretchable belt member, even if the support member moves relative to the head in response to the inflation of the air bag 12, the tapping massage section 9 attached to the stretchable belt member will hardly move relative to the support member. Thus, the tapping massage section 9 of the present invention is capable of constant and continuous application of a tapping force to one single area, thus achieving stable massage on the to-be-massaged area.

[0051] During the supply of air to a plurality of the air bags, it is preferable that the air bags 12 located at opposite sides of the head are inflated insofar as possible to allow the head to fit more snugly against the head massager 1. Moreover, it is preferable that the direction in which air is fed (flows) to the air bag 12 coincides with a direction toward the surface of the head or a direction toward the center of the head. This allows the air bag 12 to provide even higher finger-pressure massage effects.

[0052] Moreover, in the above-described head massager 1, the lateral part of the head of the user U, in particular, the ear region, can be held between the upstanding support members 19, thus preventing the head massager 1 from moving slidingly upward (being lifted) during the inflation of the air bag 12.

While, in the above-described head massager 1, the stretchable rear belt member 24 connecting the opposite ends (rear ends) of the front support member 17 is disposed so as to run along the rear head region of the user U, the belt member 24 may be attached to the outer cover 7. For example, a portion shaped in an inverted U is cut from the rear part of the cap-shaped outer cover 7 for the placement of an adjustable length rear belt member which conforms to the rear head region of the user. Such a rear belt member has substantially the same configuration as that of a belt for size adjustment provided in a commercially available baseball cap. The use of such a rear belt member makes it possible to simplify the structure of the head massager 1.

[0053] It should be understood that the embodiments as disclosed heretofore are considered in all respects as illustrative only and not restrictive. Specifically, where particulars that are not explicitly specified in the embodiments as set forth herein, for example, working conditions, operating conditions, relevant parameters, and the dimensions, weights, and volumes of constituent components are concerned, values that do not depart from the scope of the present invention to be

fulfilled by those skilled in the art but are easily conceivable by persons having ordinary skill in the art are adopted for such particulars.

Explanation of Reference Numerals and Symbols

[0054]

1	Head massager
2	Chair massager
3	Seat portion
4	Backrest portion
5	Head cover body
6	Massaging mechanism
7	Outer cover
8	Inner cover
9	Tapping massage section
10	Pressing massage section
12	Air bag
13	Air outlet
14	Air intake tube
15	Plug
16	Air supply piping
17	Front support member
18	Rear support member
19	Upstanding support member
20	Coupling area
21	First belt member
22	Second belt member

23	Third belt member
24	Rear belt member
25	First tapping massage section
26	Second tapping massage section
U	User

CLAIMS

1. A head massager comprising:

a head cover body for covering the head of a user who receives massage; and

a massaging mechanism for massaging the head of the user disposed in the head cover body,

said head cover body comprising a cap-shaped outer cover and an inner cover disposed inside the outer cover to cover the head of the user,

said massaging mechanism being interposed between said outer cover and said inner cover, and comprising a plurality of tapping massage sections and a plurality of pressing massage sections,

a plurality of said pressing massage sections being coupled to each other by a bendable and/or stretchable belt member,

a plurality of said tapping massage sections being situated on the bendable and/or stretchable belt member,

said pressing massage sections and said tapping massage sections being capable of massaging the head of the user.

2. The head massager according to claim 1,

wherein said pressing massage sections include a plurality of support members arranged circumferentially along the head of said user, and air bags disposed on the corresponding support members,

wherein said support members are coupled to each other by said belt member,

and wherein an end of the belt member provided with said tapping massage section is coupled to said support member.

3. A head massager comprising:

a head cover body for covering the head of a user who receives massage; and

a massaging mechanism for massaging the head of the user disposed in the head cover body,

said head cover body comprising a cap-shaped outer cover and an inner cover disposed inside the outer cover to cover the head of the user,

said massaging mechanism being interposed between said outer cover and said inner cover,

said massaging mechanism comprising:

a front support member disposed so as to surround the head of said user within a range of a side head region to a front head region of the head,

a pair of upstanding support members extending upward from said front support member while being curved so as to conform to head shape;

a stretchable first belt member situated between said paired upstanding support members so as to connect upper ends of the upstanding support members together; and

a stretchable second belt member placed so as to connect an upper end of each upstanding support member with an intermediate part of said front support member,

said massaging mechanism comprising:

a plurality of pressing massage sections attached to said front support member, for performing pressing massage on the head of said user; and

a tapping massage section attached to each of said first belt member and said second belt member, for performing tapping massage on the head of said user.

4. The head massager according to claim 3,

wherein said massaging mechanism includes a rear support member disposed so as to surround the head of said user within a range of a side head region to a rear head region of the head,

and wherein said pressing massage section is additionally attached to said rear support member.

5. The head massager according to claim 3 or claim 4,

wherein said upstanding support members, which are provided in a form of a pair of separate left and right support members situated in positions corresponding to the left side and the right side, respectively, of the head of said user, are formed so as to extend upward from opposite ends, respectively, of said front support member while conforming to head shape of

the user.

6. The head massager according to claim 4 or claim 5, wherein a stretchable belt member for connecting the opposite ends of said front support member together is disposed so as to run along the rear head region of the user.

7. The head massager according to claim 4 or claim 5, wherein said cap-shaped outer cover is provided with an adjustable length belt member disposed so as to run along the rear head region of the user.

8. The head massager according to any one of claims 4 to 7, wherein said pressing massage section comprises an air bag which performs pressing massage on the head of the user when inflated with air,

and wherein an air supply tube is placed along said front support member and/or said rear support member for feeding air to the air bag of said pressing massage section.

9. The head massager according to any one of claims 3 to 8, wherein a stretchable third belt member is disposed between the tapping massage sections attached to said corresponding second belt members so as to provide connection between the tapping massage sections.

10. The head massager according to any one of claims 1 to 9, which is mounted in a chair massager comprising a seat portion, a backrest portion, and a back massaging mechanism installed inside the backrest portion,

wherein said pressing massage section is designed to be inflated with air, and said tapping massage section is designed to be driven by electric power,

and wherein said pressing massage section is supplied with air from air supply means incorporated in the chair massager, and said tapping massage section is supplied with power from power supply means incorporated in the chair massager.