

SPECIFICATION

Title of Invention

Chair type massage machine

Technical Field

[0001]

The present invention relates to a chair type massage machine.

Background Art

[0002]

As a chair type massage machine, there is one disclosed in, for example, PTL 1. This chair type massage machine is provided with a seat part on which a user can sit down, and a rear part of the seat part is provided with a backrest part. Also, inside the backrest part, a back massage part that massages a back (refers to a rear side of an upper body of the user, and a range from shoulders to a lower back) of the user is provided. Specifically, inside the backrest part, a vertically extending rail is disposed, and the back massage part is adapted to be vertically movable along the rail. Further, the back massage part is provided with an upper and lower pair of treatment elements (massage bodies) on each of left and right sides, and adapted to be able to use any of the four treatment elements correspondingly to a position of a treatment site such as a lower back or a shoulder to appropriately give massage.

[0003]

For example, in the chair type massage machine in PTL 1, in the case of massaging the shoulders of the user with the back massage part, the back massage part moves up to an upper end of the rail, and uses the upper treatment elements of the upper and lower pairs of treatment elements to massage the shoulders of the user. On the other hand, in the case of massaging the lower back of the user, the back massage part is configured to move down to a lower end of the rail, and use the lower treatment elements of the upper and lower pairs of treatment elements to massage the lower back of the user.

Citation List

Patent Literature

[0004]

Patent Literature 1

Japanese Unexamined Patent Publication JP-A2004-261356

Summary of Invention

Technical Problem

[0005]

A technique disclosed in PTL 1 is one concerning a conventionally widely used chair type massage machine. This chair type massage machine is one that can give effective massage to a user (treatment subject).

Nevertheless, in recent years, a demand for further improving a massage

effect on a lower back has been made as users' opinions.

[0006]

The present invention is made in consideration of the above-described problem, and intended to provide a chair type massage machine that can fulfill a sufficient massage effect not only on shoulders but also on a lower back.

Solution to Problem

[0007]

In order to accomplish the above-described object, the present invention takes the following technical means.

That is, the chair type massage machine according to the present invention is a chair type massage machine provided with: a seat part; a backrest part that is disposed in a rear part of the seat part and provided so as to be able to support a back of a user; inside the backrest part, a rail that extends along a vertical direction; and a back massage part that is movable along the rail in the vertical direction and massages the back of the user, wherein the back massage part has an upper and lower(a top and bottom)pair of treatment elements, in the case where the back massage part is present in an upper position of the rail, the back massage part massages a shoulder of the user with the upper treatment element of the upper and lower pair of treatment elements; and in the case where the back massage part is present in a lower position of the rail, the back massage part massages a lower back of the user with the upper treatment element.

[0008]

The present inventor has known that in the case where the back massage part is configured to use the upper treatment element to massage the lower back of the user by forming the rail for moving the massage part up and down longer than normal or by other means, a sufficient massage effect can be fulfilled on the lower back, and completed the present invention.

In addition, preferably, the back massage part is configured to, in the case where the back massage part is positioned in the lower part of the rail, massage the lower back of the user with the upper treatment element, and massage a buttock of the user with the lower treatment element.

[0009]

Further in addition, preferably, in the case where the back massage part is positioned in the lower part of the rail, the lower treatment element is positioned below the seat part on which the user sits down, and through the seat part, adapted to be able to massage the buttock of the user from below.

Still in addition, preferably, the rail is disposed in the backrest part such that a lower end of the rail is positioned below the seat part.

[0010]

Yet in addition, preferably, a rear side of the seat part is formed thin as compared with a front side.

Still further in addition, preferably, the back massage part is configured to vertically move along the rail in a state where the upper

treatment element is protruded ahead of the lower treatment element.

Advantageous Effects of Invention

[0011]

According to the chair type massage machine according to the present invention, a sufficient massage effect can be fulfilled not only on shoulders but also on a lower back.

Brief Description of Drawings

[0012]

[Fig. 1]

Fig. 1 is a perspective view of a chair type massage machine of the present invention.

[Fig. 2]

Fig. 2 is a side view illustrating internal structure of the chair type massage machine in the case where a back massage part is present in a lower part of a rail.

[Fig. 3]

Fig. 3 is a front view illustrating the internal structure of the chair type massage machine in the case where the back massage part is present in the lower part of the rail.

[Fig. 4]

Fig. 4 is a cross-sectional view taken along an A-A line in Fig. 3.

[Fig. 5]

Fig. 5 is a cross-sectional view taken along a B-B line in Fig. 3.

[Fig. 6]

Fig. 6 is an enlarged cross-sectional view of the back massage part in the case where the back massage part is present in the lower part of the rail.

[Fig. 7]

Fig. 7 is a side view illustrating the internal structure of the chair type massage machine in the case where the back massage part is present in an upper part of the rail.

[Fig. 8]

Fig. 8 is a diagram illustrating a switch for performing a reclining operation of a backrest part with enlarging the switch.

[Fig. 9]

Fig. 9 is a diagram illustrating a rotational movement posture switching mechanism for a footrest part.

Description of Embodiments

[0013]

[First embodiment]

In the following, a chair type massage machine 1 according to a first embodiment of the present invention is described on the basis of the drawings.

Figs. 1 to 9 illustrate the chair type massage machine 1 of the first embodiment. In particular, Fig. 1 illustrates a perspective view of an appearance of the chair type massage machine 1. Figs. 2 to 7 are diagrams

illustrating internal structure of a backrest part 2 of the chair type massage machine 1. Note that, for descriptive convenience, each of the drawings may be drawn with structure not directly related to any of features of the present invention being omitted.

[0014]

Also, in the following description, a right-to-left direction in Fig. 2 is referred to as a longitudinal direction at the time of describing the chair type massage machine 1, and a top-to-bottom direction in Fig. 2 is referred to as a vertical direction at the time of describing the chair type massage machine 1. A left-to-right direction in Fig. 3 is referred to as a right-to-left (lateral) direction or a width direction at the time of describing the chair type massage machine 1. These directions coincide with directions viewed from a user U sitting down in the chair type massage machine 1.

As illustrated in Fig. 1, the chair type massage machine 1 has: a seat part 3 on which the user U sits down; and a backrest part 2 that is provided on a rear side of the seat part 3, and supports a back (refers to a rear side of an upper body of the user U and a range from shoulders to a lower back. The same shall apply hereinafter.) of the user U. Note that for descriptive convenience, the backrest part 2 in Fig. 1 is in a state where a side facing to the user U is removed, and adapted to be able to see through the backrest part 2.

[0015]

Also, the chair type massage machine 1 contains a footrest part 4, which can support legs of the user U, on a lower side of the seat part 3. Further, the chair type massage machine 1 is, on both of left and right sides of the seat part 3, provided with armrest parts 5 on which the user U sitting down on the seat part 3 can place elbows of the user U.

Still further, inside the above-described backrest part 2, a back massage part 6 that massages the back of the user U is provided. Also, inside the footrest part 4, foot massage parts that massage below-knee parts (refer to the legs of the user U, and a range below knees. The same shall apply hereinafter.) of the user U, which are inserted into the footrest part 4. Further, above the armrest parts 5, upper arm massage parts 7 that protrude forward from both ends of the backrest part 2 and massage (with air) upper arms of the user U are provided.

[0016]

Note that among the above-described respective members constituting the chair type massage machine 1, the members other than the seat part 3 and the backrest part 2, i.e., any of the footrest part 4, armrest parts 5, and upper arm massage parts 7 is not directly related to the features of the present invention. Therefore, detailed description of these members and massage mechanisms provided for the members is omitted.

Next, among the members constituting the chair type massage machine 1 of the first embodiment, the seat part 3 and the backrest part 2 are described.

[0017]

Fig. 2 is a diagram illustrating the internal structure of the backrest part 2 and seat part 3 of the chair type massage machine 1. Note that the chair type massage machine 1 exemplified in the diagram is in a state of massaging the lower back of the user U with the back massage part 6.

As illustrated in Fig. 2, the seat part 3 is a plate member disposed along a horizontal direction so as to enable the user U to sit down, and formed with use of a material provided with cushioning properties, such as urethane foam. An upper surface of the seat part 3 has an area enough to, from below, support buttocks of user U sitting down, and below the seat part 3, a scaffold-like base frame 3a that supports the seat part 3 with respect to a floor surface is provided.

[0018]

In addition, the base frame 3a of the seat part 3 is also provided with: a mechanism for sliding the seat part 3 forward; and a mechanism for protruding the footrest part 4 with respect to the seat part 3.

As illustrated in Figs. 1 to 3, the backrest part 2 is a member that is provided with an area enough to support the back of the user U and a substantially rectangular shaped appearance as viewed from the front, and also in the lateral direction, provided with almost the same width as that of the seat part 3. Further, the backrest part 2 is, in the longitudinal direction, provided with a thickness to the extent of being able to support upper body

weight of the user U.

[0019]

As illustrated in Figs. 2 and 3, inside the backrest part 2, similarly to the seat part 3, a backrest frame 2a that is formed by combining metallic pipe materials is provided so as to be able to support the weight of the user U reclining on the backrest part 2. On a lower side of the backrest frame 2a, a swing shaft part 8 that connects the backrest frame 2a to the above-described base frame of the seat part 3 swingably around a shaft oriented in the lateral direction. That is, the backrest part 2 is adapted to be able to, around the lower side provided with the swing shaft part 8, swing an upper side in the longitudinal direction, and freely change a tilting state between a reclining posture where the backrest part 2 is reclined so as to fall rearward and an uprise posture where the backrest part 2 is raised up so as to become upright along the vertical direction.

[0020]

Inside the backrest part 2, as described above, rails 9 that are provided so as to extend along the vertical direction, the back massage part 6 that is movable in the vertical direction along the rails 9 and also massages the back of the user U, and lifting/lowering means 10 adapted to lift/lower the back massage part 6 along the rails 9 are provided. Next, the rails 9, back massage part 6, and lifting/lowering means 10 provided inside the backrest part 2 are described.

[0021]

Figs. 4 and 5 are cross-sectional views obtained by, along the vertical direction near a right rail 9R, cutting the backrest part 2 of the chair type massage machine 1 illustrated in Fig. 3. Fig. 4 is a diagram of a cutting plane of the backrest part 2 as viewed from left, and Fig. 5 is a diagram of the cutting plane of the backrest part 2 as viewed from right.

As illustrated in Figs. 3 to 5, the rails 9 are long-sized rod-like members attached to the backrest frame 2a with being oriented in a tilting direction of the backrest part 2, and adapted to be able to guide the back massage part 6 along the tilting direction of the backrest part 2.

[0022]

The number of rails 9 provided for the chair type massage machine 1 of the first embodiment is two in total, i.e., as illustrated in Fig. 3, one on a left end side of the backrest part 2, and the other one on a right end side of the backrest part 2, and the rails 9 are configured to include the left and right pair.

The left and right pair of rails 9L and 9R are substantially linearly shaped in a longer direction, of which cross-sections obtained by cutting along a direction vertical to axes thereof are substantially u-shaped, and any of the rails 9L and 9R is disposed with an opened side facing toward a central side in the width direction. That is, regarding the right rail 9R illustrated in Figs. 3 and 4, a left side is opened, whereas regarding the left rail 9L illustrated in Figs. 3 and 5, a right side is opened. Also, the left and right

pair of rails 9L and 9R are adapted to be respectively inserted with guide wheels 11 for the back massage part 6 positioned in the center in the width direction.

[0023]

As illustrated in Figs. 2, 3, and 6, the back massage part 6 is provided with a left and right pair of massage members 12 that massages the back of the user U. Each of the massage members 12 has: an arm member 13 of which a shape viewed from a lateral side is curved into a substantially C-shape; and treatment elements 14 attached to both ends of the arm member 13. The arm member 13 is disposed along the vertical direction, and on a middle side in the vertical direction, provided with a driving part 15 that provides a massage operation to the massage member 12. The arm member 13 and driving part 15 are arranged on a board that is formed in a rectangular shape in a front view.

[0024]

More specifically, at a fore end of each of the arm members 13, which protrudes obliquely forward and downward from a corresponding one of the driving parts 15, a lower treatment element 14 is disposed, and a fore end of the arm member 13, which protrudes obliquely forward and upward, an upper treatment element 14 is disposed. Note that in the following description, the upper treatment element is referred to as an “upper treatment element 14U”, and the lower treatment element is referred to as a “lower treatment element

14D”.

The above-described driving parts 15 respectively support the arm members 13 on the middle sides in the vertical direction, and are adapted to be able to move the left and right massage members 12 close to or away from each other in the lateral direction, or move the left and right massage members 12 forward or rearward in the longitudinal direction to thereby provide the massage operations.

[0025]

Specifically, in the case of giving kneading massage with the back massage part 6, the back massage part 6 is adapted to be able to knead a treatment site of the user U inserted between the both massage members 12L and 12R by moving the left massage member 12L and the right massage member 12R close to or away from each other. Also, in the case of giving tapping massage with the back massage part 6, the back massage part 6 is adapted to be able to give a massage effect associated with the tapping on a treatment site of the user U by repetitively swinging base parts of the left and right massage members 12L and 12R around the shafts to move the left and right massage members 12L and 12R forward and rearward in the longitudinal direction. Further, each of the driving parts 15 can also be, separately from mechanisms for the kneading massage and tapping massage, appropriately provided with a function of protruding a corresponding one of the massage members 12 (treatment elements 14) forward or in an opposite manner, move

the massage member 12 rearward. By providing such a function, effective massage can be given according to a body shape of the user U.

[0026]

Left and right lateral surfaces of the above-described back massage part 6 (left and right lateral edges of the board) are provided with the guide wheels 1 that guide the back massage part 6 along a laying direction of the rails. The guide wheels 11 include: an upper and lower pair of left wheels 11L that protrude further leftward from the left lateral surface of the back massage part 6; and an upper and lower pair of right wheels 11R that protrude further rightward from the right lateral surface of the back massage part 6. As illustrated in Figs. 4 and 5, the right wheels 11R are inserted into the right rail 9R and adapted to be able to make a rolling motion inside the rail 9R. Also, the left wheels 11L are inserted into the left rail 9L and adapted to be able to make a rolling motion inside the rail 9L.

[0027]

The respective guide wheels 11L and 11R are attached so as to be rotationally movable around shafts oriented in the lateral direction, and adapted to make the rolling motions inside the rails to be thereby able to guide the back massage part 6 along the laying direction of the rails 9 (tilting direction of the backrest part 2).

The lifting/lowering means 10 is one adapted to lift/lower the back massage part 6 along the above-described rails 9. The lifting/lowering

means 10 is provided with: a lifting/lowering shaft part 16 that is disposed along a direction parallel to the rails 9 (tilting direction of the backrest part 2), and also adapted to be rotationally movable around a shaft center; a driving motor 17 that rotationally drives the lifting/lowering shaft part 16; and a slider 18 that lifts/lowers the back massage part 6 by being screwed with the lifting/lowering shaft part 16 in a state where rotational movement is restricted.

[0028]

The lifting/lowering shaft part 16 is a threaded shaft disposed between the left and right rails 9L and 9R and near the left rail 9L, and on an outer circumferential side thereof, a male thread part that spirally screws around the shaft center is formed. The lifting/lowering shaft part 16 is attached to the backrest frame 2a through a bearing or the like so as to be rotatable around the shaft oriented in the direction parallel to the rails 9. Also, the lifting/lowering shaft part 16 is disposed so as to vertically penetrate through the back massage part 6 that is disposed with being bridged between the left and right rails 9L and 9R, and at a position where the lifting/lowering shaft part 16 penetrates, the slider 18 is provided.

[0029]

The driving motor 17 is disposed on the lower side of the backrest frame 2a, and attached so as to orient a driving shaft thereof in the lateral direction. The driving shaft of the driving motor 17 is connected to a lower

end side of the lifting/lowering shaft part 16 through a worm gear mechanism, a bevel gear mechanism, or the like, and adapted to be able to transmit rotational driving force generated by the driving motor 17 to the lifting/lowering shaft part 16 to rotate the lifting/lowering shaft part 16 rotatably around the shaft. In addition, the driving motor 17 is adapted to be able to rotate the lifting/lowering shaft part 16 so as to be switchable between forward and reverse directions by a signal from an after-mentioned upper or lower limit switch 19U or 19D.

[0030]

As indicated by dashed lines in Fig. 6, the slider 18 is a member attached to the position where in the back massage part 6, the lifting/lowering shaft part 16 penetrates, and adapted to be able to be rotatably screwed with the lifting/lowering shaft part 16. The slider 18 is attached to the back massage part 6 in the state where the rotational movement integrated with the lifting/lowering shaft part 16 is restricted, and adapted to lift or lower along the lifting/lowering shaft part by rotating the lifting/lowering shaft part 16 in any of the forward and reverse rotational directions. For this reason, in the case where the lifting/lowering shaft part 16 is rotated in one direction (rotated forward) by the driving motor 17, the slider 18 screwed with the lifting/lowering shaft part 16 in the state where rotation is restricted moves upward, and the back massage part 6 attached with the slider 18 also moves upward. On the other hand, in the case where the lifting/lowering shaft part

16 is rotated in the other direction (rotated reversely), the slider 18 moves downward, and the back massage part 6 also moves downward.

[0031]

Each of the above-described rails 9 (right rail 9R exemplified in the diagrams) is provided with: the upper limit switch 19U that senses that the back massage part 6 has moved up to a predetermined height; and the lower limit switch 19D that senses that the back massage part 6 has moved down to a predetermined height. Each of the upper and lower limit switches 19U and 19D is adapted to output a signal to the driving motor 17 to switch a rotational direction of the motor. That is, the upper and lower limit switches 19U and 19D constitute “positioning means” adapted to restrict the back massage part 6 from exceeding a predetermined movable range to further move upward or downward.

[0032]

Meanwhile, the chair type massage machine 1 of the present invention is, in order to be able to fulfill a sufficient massage effect not only on the shoulders of the user U but also on the lower back, configured to, in the case where the above-described back massage part 6 is present in an upper or upper end position of the pair of rails 9, massage the shoulders of the user U with the upper treatment elements 14U of the upper and lower pairs of treatment elements, and also in the case where the back massage part 6 is present in a lower or lower end position of the pair of rails 9, massage the lower back of

the user U with the upper treatment elements 14U. That is, in the case of massaging lower back of a user, a conventional chair type massage machine typically uses lower treatment elements of upper and lower pairs of treatment elements; however, the chair type massage machine 1 of the present invention is characterized by using the upper treatment elements 14U to massage a lower back.

[0033]

Specifically, the chair type massage machine 1 of the present invention is adapted to be able to move the back massage part 6 to below the seat part 3 by extending the lower ends of the rails 9 to below the seat part 3, and as compared with the conventional chair type massage machine, the upper treatment elements 14U reaches the lower back correspondingly to the downward extension of the rails 9. Further, the back massage part 6 is configured to, in the case where the back massage part 6 is positioned in the lower part or lower end of the pair of rails 9, in addition to massaging the lower back of the user U with the upper treatment elements 14U as described above, dispose the other lower treatment elements 14D below the seat part 3 to massage the buttocks of the user U with the lower treatment elements 14D from below.

[0034]

Next, a positional relationship between the back massage part 6 or rails 9 and a treatment site of the user U, which is a feature of the chair type

massage machine 1 of the present invention, is described in detail with use of drawings.

As illustrated in FIG. 4, the lower ends of the rails 9 provided for the chair type massage machine 1 of the present invention are extended to further below the upper surface of the seat part 3. Specifically, the lower ends of the rails 9 are adapted to be positioned at substantially the same level as a lower surface of the seat part 3 in the vertical direction, and extended to the vicinities of a swing center (swing shaft part 8) of the backrest frame 2a with respect to the base frame 3a of the seat part 3. Also, upper ends of the rails 9 are positioned at a level enough for the upper treatment elements 4U of the back massage part 6 to reach the shoulders of the user U, specifically, positioned a few cm below an upper end of the backrest part 2. Further, as illustrated in Fig. 4, the upper ends of the rails 9 are positioned behind the lower ends of the rails 9 as viewed in the horizontal direction.

[0035]

Still further, as illustrated in Figs. 5 and 6, in the case where the back massage part 6 is positioned in the lower part or lower end of the pair of rails 9 extended to such lower positions, the back massage part 6 is adapted such that a lower surface thereof is positioned at substantially the same level as the lower surface of the seat part 3 in the vertical direction, and rotational movement centers of the arm members 13 that swing the treatment elements 14 (in other words, the driving parts 15) are adapted to be positioned at the

same level as the upper surface of the seat part 3.

[0036]

As illustrated in Fig. 6, in the case where the back massage part 6 is configured to be able to move down to the same level as the seat part 3 as described, the upper treatment elements 14U can come into contact with the lower back of the user U from behind to massage the lower back of the user U with the upper treatment elements 14U having high kneading force, and therefore a sufficient massage effect can also be fulfilled on the lower back.

Further, in the back massage part 6 having moved down to the same level as the seat part 3, the lower treatment elements 14D protrude forward, so that the lower treatment elements 14D can press the buttocks of the user U from below the seat part 3, and therefore a sufficient massage effect can also be fulfilled on the buttocks of the user U.

[0037]

Note that, as illustrated in Fig. 6, a rear side of the above-described seat part 3 is formed thin as compared with a front side of the seat part 3, and has a shape (shape with a cutout) like the seat part 3 of which an edge on a lower rear side is missing. Further, into the rear side of the seat part 3, which is formed thin, the lower treatment elements 14D are adapted to be fitted from below, and therefore the present embodiment is adapted to be able to surely transmit massaging force applied from the lower treatment elements 14D to the buttocks of the user U.

[0038]

In addition, in the case of employing a configuration that lowers the back massage part 6 to almost the same level as the seat part 3 as described above, some means adapted to prevent an object from being caught between the back massage part 6 (in particular, any of the treatment elements 14) and the seat part 3 is preferably taken.

For example, in the case of employing a configuration that, in a state where the lower treatment elements 14D among the upper and lower pairs of treatment elements provided for the back massage part 6 are protruded ahead of the upper treatment elements 14U, moves the back massage part 6 upward, an object may be caught between any of the lower treatment elements 14D and the seat part 3, and in some cases, an internal mechanism may be damaged.

[0039]

However, by employing the configuration that, in the state where the upper treatment elements 14U are protruded ahead of the lower treatment elements 14D (state illustrated in Fig. 7), moves the back massage part 6 downward, even in the case of lowering the back massage part 6 to almost the same level as the seat part 3, a sufficient distance can be ensured between the seat part 3 and each of the upper treatment elements 14U, and therefore an object is unlikely to be caught between the seat part 3 and the upper treatment element 14U. Therefore, preferably, the back massage part 6 is adapted to be provided with biasing means adapted to bias the upper treatment elements 14U

so as to protrude the upper treatment elements 14U ahead of the lower treatment elements 14D, such as springs, and moved up and down (lifted and lowered) in the state where the upper treatment elements 14U are protruded ahead of the lower treatment elements 14D.

[0040]

The chair type massage machine 1 of the present invention provided with the above-described distinctive configuration has also other distinctive configurations. In the following, the other distinctive configurations are also described.

First, as illustrated in Fig. 8, the chair type massage machine 1 that can switch tilting between the reclining posture and the uprise posture as described above may be provided with a side switch 20 (side button) for a reclining operation. For example, in the above-described chair type massage machine 1, in the case of tilting from the uprise posture to the reclining posture, a remote controller is typically used. However, in the case of dropping the remote controller outside of any of the armrest parts 5 by mistake with the user U sitting down in the chair type massage machine 1 switched to the reclining posture, it is extremely difficult for the user U to pick up the remote controller with lying. As a result, the user U becomes unable to restore a tilting state of the backrest part 2 to the uprise posture, and even rising up (getting out) from the chair type massage machine 1 becomes difficult.

[0041]

For this reason, as illustrated in Fig. 8, it is better to, on a lateral surface of any of the armrest parts 5, provide the side switch 20 for the reclining operation, which swings forward the backrest part 2 from the reclining posture. By providing such a side switch 20, even in the case of dropping the remote controller to a place out of reach (e.g., outside of any of the armrest parts 5) by mistake, the tilting state of the backrest part 2 can be restored to the upright posture by operating the side switch 20, and the user U can easily rise up (get out) from the chair type massage machine 1. That is, the side switch 20 acts as an operation switch for emergency escape. Note that, even in the case of operating the side switch 20 to perform the normal reclining operation, there is no problem at all.

[0042]

Also, as illustrated in Fig. 9, the above-described chair type massage machine 1 is, in front of the seat part 3, provided with the footrest part 4 that can support the legs of the user U. The footrest part 4 is adapted to be able to be contained below the seat part 3 when not used.

The footrest part 4 is, on a front surface thereof, formed with a left and right pair of retaining grooves 21, and inside the retaining grooves 21, foot massage parts (illustration is omitted) that massage the below-knee parts of the user U, which are inserted into the retaining grooves 21, are provided, respectively. Further, a rear surface of the footrest part 4 is adapted to be a

flat surface 22, on which the below-leg parts of the user U can be placed. The footrest part 4 is adapted to be rotationally movable around a shaft center that is oriented in the lateral direction at substantially central parts of lateral surfaces, and switchable between the front surface and the rear surface.

[0043]

As a mechanism for reversing such a footrest part 4 to fix the footrest part 4 at a reverse position (rotational movement posture switching mechanism for the footrest part 4), it is preferable to use a technique such as one disclosed in Japanese Patent No. 4163688. In the rotational movement posture switching mechanism for the footrest part 4, by operating a footrest reversing lever 23, positional fixation of the footrest part 4 can be brought into a released state to make the footrest part 4 rotatable.

[0044]

To simply describe the rotational movement posture switching mechanism of the present embodiment while referring to Fig. 9, the footrest reversing lever 23 is a long-sized rod-like member, of which a middle part is bent into a crank shape, and as viewed from a right lateral surface, disposed so as to extend from a rear upper part to a front lower part. The footrest reversing lever 23 is adapted to be pushable or pullable in a longer direction, and on a base end side (rear side) thereof, a handle is attached, whereas on a fore end side thereof, a claw member 25 is connected through a wire 24. Accordingly, by pulling the footrest reversing lever 23 toward the user U

(toward the rear side), the wire 24 is drawn toward the lever side, and thereby the claw member 25 can be drawn back. Note that although illustration is omitted, the wire 24 is provided with a biasing member that biases the wire 24 in a direction in which the claw member 25 protrudes.

[0045]

On the other hand, the footrest part 4 is provided with a disk-shaped lock member 26 that is rotationally movable integrally with the footrest part 4. The lock member 26 is provided with two positioning parts 27 for catching the above-described claw member 25, and the present embodiment is adapted to be able to switch a reverse posture of the footrest part 4 depending on which of the two positioning parts 27 the claw member 25 is caught in.

[0046]

For example, by pulling the footrest reversing lever 23 toward the rear side against biasing force by the above-described biasing member, the wire 24 is drawn toward the lever side to release the claw member 25 provided at a fore end of the wire 24 from a positioning part 27 of the lock member 26, and thereby the footrest part 4 can be reversed around the shaft oriented in the lateral direction.

Meanwhile, in the above-described footrest reversing lever 23, the handle attached on the base end side is preferably positioned near a front end side of the seat part 3. As described, by protruding the handle (base end side) of the footrest reversing lever 23 toward the rear side (seat part 3 side),

and disposing the handle near the front end side of the seat part 3, the user U sitting down on the seat part 3 can operate the footrest reversing lever 23 just by directly reaching, so that at the time of reversing the footrest part 4, it is not necessary to take an unnatural posture, and therefore user-friendliness of the chair type massage machine 1 can be further improved.

[0047]

Note that the embodiment disclosed here is exemplified in all respects, and should be considered unlimited. In particular, in the embodiment disclosed here, matters not explicitly disclosed, such as operating conditions, operating procedure, various types of parameters, and dimensions, weights, and volumes of components, are ones not deviating from the scope where a person having ordinary skill in the art normally works, and values that a normal person having ordinary skill in the art can easily assume are employed.

Reference Signs List

[0048]

1 Chair type massage machine

2 Backrest part

2a Backrest frame

3 Seat part

3a Base frame of seat part

4 Footrest part

5 Armrest part

6 Back massage part

7 Upper arm massage part

8 Swing shaft part

9 Rail

9R Right rail

9L Left rail

10 Lifting/lowering means

11 Guide wheel

11L Left wheel

11R Right wheel

12 Massage member

12L Left massage member

12R Right massage member

13 Arm member

14 Treatment element

14U Upper treatment element

14D Lower treatment element

15 Driving part

16 Lifting/lowering shaft part

17 Driving motor

18 Slider

19U Upper limit switch

19D Lower limit switch

20 Side switch

21 Retaining groove

22 Flat surface

23 Footrest reversing lever

24 Wire

25 Claw member

26 Lock member

27 Positioning part

U User

CLAIMS

1. A chair type massage machine comprising:

a seat part;

a backrest part that is disposed in a rear part of the seat part and provided so as to be able to support a back of a user;

inside said backrest part, a rail that extends along a vertical direction; and

a back massage part that is movable along the rail in the vertical direction and massages the back of the user, wherein

said back massage part has an upper and lower pair of treatment elements,

in a case where said back massage part is present in an upper position of the rail, said back massage part massages a shoulder of the user with the upper treatment element of said upper and lower pair of treatment elements, and, in a case where said back massage part is present in a lower position of the rail, said back massage part massages a lower back of the user with the upper treatment element of said upper and lower pair of the treatment elements.

2. The chair type massage machine according to claim 1, wherein

said back massage part is configured to, in the case where the back

massage part is positioned in a lower part of the rail, massage the lower back of the user with the upper treatment element, and massage a buttock of the user with the lower treatment element.

3. The chair type massage machine according to claim 2, wherein

in the case where said back massage part is positioned in the lower part of the rail, said lower treatment element is positioned below the seat part on which the user sits down, and through the seat part, adapted to be able to massage the buttock of the user from below.

4. The chair type massage machine according to any of claims 1 to 3, wherein

said rail is disposed in said backrest part such that a lower end of the rail is positioned below the seat part.

5. The chair type massage machine according to claim 4, wherein

a rear side of said seat part is formed thin as compared with a front side.

6. The chair type massage machine according to claim 4, wherein

said back massage part is configured to vertically move along said rail in a state where said upper treatment element is protruded ahead of the lower treatment element.