

DESCRIPTION

Title of Invention: AROMA GENERATOR-EQUIPPED MASSAGING APPARATUS

Technical Field

[0001] The present invention relates to a massaging apparatus equipped with an aroma generator, and more particularly, to an aromatherapeutic massaging mechanism incorporated in a massaging apparatus in chair form.

Background Art

[0002] For example, Patent Literature 1 discloses a massaging apparatus (massaging apparatus in chair form) equipped with an aroma generator intended to bring about synergy between an aromatherapeutic effect and a massage effect.

Citation List

Patent Literature

[0003] Patent Literature 1: Japanese Unexamined Patent Publication JP-A 2008-183561

Summary of Invention

Technical Problem

[0004] The described massaging apparatus in chair form disclosed in Patent Literature 1 incorporates an aroma release device such as an aroma diffuser. In this construction, for example, on the release of an aroma of

"rosemary" from the aroma release device, a rosemary aroma-associated "gentle vibratory massaging motion" is produced, and, for example, on the release of an aroma of "eucalyptus", an eucalyptus aroma-associated "vigorous vibratory massaging motion" is produced. This brings about synergy between an aromatherapeutic effect and a massage effect.

[0005] Unfortunately, a close study of Patent Literature 1 showed that the document provides no disclosure about the details of the aroma release device, and hence it follows that how the aroma release device is to be designed is still unknown. Moreover, Patent Literature 1 discloses a block diagram for aroma release device control, but provides no further information (other information than control procedure). After all, due to uncertainty about the workings of the aroma release device, even those skilled in the art may not be able to implement technologies underlying the aroma release device with reference only to the information from Patent Literature 1.

[0006] Accordingly, an object of the present invention is to provide a massaging apparatus (massaging apparatus in chair form, in particular) equipped with an aroma generator for giving forth a fragrant aroma to allow apparatus users to have massage treatment in a relaxed state of mind.

Solution to Problem

[0007] For accomplishment of the described object, the following technical means is adopted in order that the present invention may be carried into effect.

The present invention provides a massaging apparatus comprising an air bag for massaging a treatment target area in user's body, and an air pump for producing high-pressure air which is injected into the air bag. The massaging apparatus includes an additional mechanism to enhance an effect of massage treatment provided to a user. The additional mechanism comprises an aroma generator for giving forth a fragrant aroma by utilizing high-pressure air supplied from the air pump.

[0008] In the present invention, it is preferable that there are provided a switching valve having a delivery port for feeding high-pressure air from the air pump toward the air bag, and an injection tube for providing connection between the delivery port of the switching valve and the air bag, and that there are also provided a switching valve having a delivery port for feeding high-pressure air from the air pump toward the additional mechanism, and an injection tube for providing connection between the delivery port of the switching valve and the additional mechanism.

In the present invention, it is preferable that an aroma generator is mounted as the additional mechanism so

as to be able to lie toward each side of user's body.

Advantageous Effects of Invention

[0009] The technology provided by the present invention allows users to have massage treatment in a relaxed state of mind under the effect of emitted aroma.

Brief Description of Drawings

[0010]

[FIG. 1] is a front perspective view of the massaging apparatus pursuant to the present invention.

[FIG. 2] is a rear perspective view of the massaging apparatus pursuant to the present invention (with parts of its case omitted to show internal structure).

[FIG. 3] is an enlarged view showing the internal structure (air pump and nearby areas) of the massaging apparatus pursuant to the present invention.

[FIG. 4] is an exploded perspective view showing the structure of the aroma generator.

Description of Embodiments

[0011] An embodiment of the present invention will now be described with reference to drawings. In the following description, a massaging apparatus in chair form exemplifies the massaging apparatus of the present invention.

The massaging apparatus 1 shown in FIG. 1 comprises: a seat section 2 for supporting user's buttocks from below;

a backrest section 3 disposed at the rear of the seat section 2; and a footrest 4 disposed at the front of the seat section 2.

[0012] Under the seat section 2, there is disposed a support leg 5 for the placement of the massaging apparatus 1 on a floor. The seat section 2 is supportably positioned at a predetermined height by the support leg 5.

The backrest section 3 is pivoted at its lower end on the rear of the seat section 2 or the rear of the support leg, and retained for free backward and forward rocking motion. The backrest section 3 can be moved into reclined position relative to the seat section 2 by a position-changing mechanism such as a linear actuator disposed within the support leg 5.

[0013] Moreover, the backrest section 3 is internally provided with a vertically movable back-massaging mechanism 6 to produce a massaging motion such as a kneading motion, a tapping motion or a vibratory motion.

The backrest section 3 is provided at each side with a side-massaging mechanism 7. For example, the side-massaging mechanism 7 is designed to alternately inflate and deflate an air bag 25 repeatedly in a predetermined rhythm to apply a lateral pressing force to the side of each arm, as well as the side of each shoulder, of a user sitting with his or her back resting on the backrest

section 3.

[0014] The seat section 2 is provided at each side with an armrest 8. The upper part of the armrest is formed with a space 9 dimensioned to be sufficiently large to receive user's arm. Within the space 9, there is disposed a pneumatic inflatable air bag 25 for providing pressing massage to user's arm received in the space 9.

The footrest 4 is capable of supporting the legs (each leg in the calf-to-foot range) of the user sitting in the seat section 2. The footrest 4 is provided at its face for supporting user's legs (front face) with paired right-hand and left-hand holding recesses 10 for receiving user's right and left legs, respectively. Moreover, the footrest 4 has a built-in leg-massaging mechanism 11 situated at the opposed inward faces of each of the right-hand and left-hand holding recesses 10.

[0015] More specifically, the leg-massaging mechanism 11 comprises paired right-hand and left-hand kneading plates that are driven to alternately move close to and away from each other repeatedly in a predetermined rhythm to apply a lateral pressing force to user's leg sandwiched between the kneading plates for leg massage.

The massaging apparatus 1 according to the embodiment additionally includes a cover member 12 mounted so as to surround the seat section 2 and the backrest section 3

laterally. The cover member 12 in the form of a shell limits user's field of vision in the horizontal direction thereby allowing the user sitting in the seat section 2 to have massage treatment in a relaxed state of mind in an isolated out-of-sight place.

[0016] The described side-massaging mechanism 7 is disposed in the cover member 12. At the inner side of the cover member 12 forward of the side-massaging mechanism 7, there is disposed an operating panel 13 for operation of the massaging apparatus 1 in chair form. The operating panel 13 is constructed of a liquid crystal touch panel. The user is able to operate the massaging apparatus 1 in chair form at the touch of various operation buttons displayed on the operating panel 13.

[0017] The massaging apparatus 1 in chair form pursuant to the present invention includes various additional mechanisms. As employed herein the additional mechanisms refer to other mechanisms than the mechanisms of the massaging apparatus 1 for massaging treatment target areas in user's body and the position-changing mechanism for changing the position of the massaging apparatus 1.

The additional mechanisms are intended to enhance the effect of massage treatment provided to the user. Examples of the additional mechanisms include an "aromatherapeutic mechanism" operatively associated with the massaging

mechanism for giving forth relaxation aroma, a "music playback mechanism" that plays music stored in the massaging apparatus 1 or externally introduced music (including environmental sound), a "music-assisted massage mechanism" that operates the massaging mechanism in a manner to perform massage in time to the music played by the music playback mechanism, and an "optical light mechanism (atmospheric light mechanism)" that applies light which works well for the user sitting in the massaging apparatus 1. As another additional mechanism, use can be made of a thermomassage mechanism (hyperthermic heater) that provides a hyperthermic effect to the user, or a cool and hot air blower mechanism. The hyperthermic heater may be embedded in the seat section 2 or the backrest section 3.

[0018] Among the additional mechanisms, the "aromatherapeutic mechanism" constitutes a striking feature of the massaging apparatus 1 in chair form pursuant to the present invention. Hence, the following description will focus on the aromatherapeutic mechanism.

As shown in the drawing such as FIG. 2, the aromatherapeutic mechanism is composed of an air pump 20 for feeding high-pressure air (any of high-dynamic pressure air and high-static pressure air), an aroma generator 21 for giving forth an aroma, and an air tube (injection tube 22) for providing connection between the air pump 20 and

the aroma generator 21. The air tube is mounted so that it spans a switching valve 24 first, and is coupled via the switching valve 24 to the aroma generator 21.

[0019] The air pump 20 takes in external air, pressurizes the air to a predetermined pressure, and feeds the resulting high-pressure air to the air bag 25. The air bag 25 loaded with the high-pressure air is inflatable for performing pressing massage on a treatment target area in user's body.

The air pump 20 has connected to it one end of the injection tube 22 for letting the high-pressure air out. The other end of the injection tube 22 is connected to a plurality of switching valves 24.

[0020] More specifically, the switching valves 24 are each constructed of a solenoid-operated valve, and serve to feed air to various air bags 25. Switching among the switching valves 24 is effected by a control section, not shown. For example, one of the switching valves 24 serves to feed high-pressure air to the air bag 25 placed so as to be able to lie toward the side of user's shoulder. On actuating this switching valve 24 to "ON", the air bag 25 performs pressing massage on the side of user's shoulder.

For example, another one of the switching valves 24 serves to feed high-pressure air to the air bag 25 placed so as to be able to lie toward the side of user's waist

(side-massaging mechanism 7). On actuating this switching valve 24 to "ON", the air bag 25 performs pressing massage on the side of user's waist. For example, still another one of the switching valves 24 serves to feed high-pressure air to the air bag 25 placed so as to be able to lie toward the bottom of user's buttocks (seat section 2). On actuating this switching valve 24 to "ON", the air bag 25 performs pressing massage on the bottom of user's buttocks.

[0021] The supplied high-pressure air in each air bag 25 is discharged out of the air bag 25 via the switching valve 24 by actuating the switching valve 24 serving as a discharge valve to "ON".

Repeating the described sequence of operation enables the air bag 25 to perform pressing massage on corresponding one of treatment target areas in user's body. The program stored in the control section controls the individual air bags 25 in respect of selection between operating and non-operating modes, the degree of inflation, and the order in which the air bags 25 are inflated.

[0022] As shown in FIG. 3, a plurality of switching valves 24 are mounted in the massaging apparatus 1 in chair form according to the embodiment. The injection tube 22 extending from the air pump 20 is connected to each switching valve 24, and is coupled via the switching valve 24 to each air bag 25. The inflation and deflation of each

of the air bag 25 placed so as to be able to lie toward user's shoulder and the air bag 25 for leg massage are effected by actuating the corresponding switching valve 24 to "ON" and "OFF".

[0023] Moreover, in this embodiment, like the described arrangement, at one switching valve 24 making connection with the injection tube 22 extending from the air pump 20, the injection tube 22 extends further from the delivery port of the switching valve 24 so as to be coupled to the aroma generator 21. In other words, the injection tube 22 has one end coupled to the delivery port of the switching valve 24, and the other end coupled to the aroma generator 21 which will hereafter be described.

[0024] In the coupling of the injection tube 22 to the aroma generator 21, the injection tube 22 may be passed (routed) through any location within the massaging apparatus 1 prior to reaching the aroma generator 21. By way of example, the injection tube 22 may be installed so that it extends upward along the back side of the massaging apparatus 1 in chair form, is directed into the cover member 12 through a hole 34 opening into the inner side wall of the cover member 12, passes through the interior of the cover member 12, and is eventually coupled to the aroma generator 21 which will hereafter be described.

[0025] The injection tube 22 is preferably made of a

flexible plastic which measures about 10 mm in diameter.

As shown in the drawings such as FIGs. 1 and 4, the aroma generator 21 has a built-in aroma-generating element 35 through which air (air released via the switching valve 24) travels for the emission of a fragrant aroma.

[0026] As shown in FIGs. 1 and 2, there are provided two aroma generators 21 disposed in the inner side wall of the cover member 12, each placed so as to be able to lie toward corresponding one of user's opposite flanks. A fragrant aroma given off from the aroma generator 21 in this position fills the interior of the cover member 12 (shell) thereby bringing the user into a profoundly relaxed state of mind.

The aroma generator 21 may give forth any aroma capable of relaxing user's mind. Examples of such an aroma include an aroma of bergamot, an aroma of mandarin, an aroma of thyme, an aroma of orange osmanthus, an aroma of grapefruit, an aroma of vanilla, an aroma of rosemary, an aroma of rosewood, an aroma of peppermint, an aroma of mint, and an aroma of eucalyptus. Moreover, use can be made of an ancient Japanese aroma such as an aroma of sandalwood, an aroma of aloes-wood, and an aroma of UMEGAKA (plum blossom aroma), and in addition, aromas of a set of six different classic Japanese fragrance materials known as "MUKUSA NO TAKIMONO" including "KUROBOU", "BAIKA", "KAYOU",

"KIKUKA", "JIJYU", and "RAKUYOU".

[0027] While the aroma generator 21 may take a number of forms, the aroma generator 21 incorporated in the massaging apparatus 1 in chair form pursuant to the present invention has such a configuration as shown in FIG. 4.

As shown in FIG. 4, the aroma generator 21 is composed of three constituent components, the lower one of which (the lefthand component as viewed in FIG. 4) is built as a lower case component 30. The lower case component 30 has the form of an open-topped shallow cylinder having a closed bottom. In other words, the lower case component 30 has the form of a horizontally oriented petri dish. The outer periphery of the side wall of the lower case component 30 is provided with three circumferentially equispaced projections 31 extending in different directions. Each projection 31 has a centrally located screw hole 32 formed therethrough for securement of the lower case component 30 to the inner wall of the cover member 12.

[0028] An upper case component 33 is fitted in the lower case component 30 through an upper opening 34 of the lower case component 30. The upper case component 33 has the form of a shallow petri dish just like the lower case component 30, but is structurally reverse to the lower case component 30. That is, the upper case component 33 has an open-bottomed component having a closed top. The upper

wall of the upper case component 33 is formed with a plurality of openings 34 for releasing a fragrant aroma out. The upper case component 33 fits circumferentially rotatably within the lower case component 30.

[0029] Between the upper case component 33 and the lower case component 30, in other words, in an internal space created by the engagement of the upper case component 33 in the lower case component 30, there is disposed the aroma-generating element 35.

In this embodiment, the aroma-generating element 35, while having the form of a cylinder having a closed bottom, is also closed at its top for receiving therein a source of aroma generation. As the aroma generation source, use can be made of an aromatic substance in an as-is state, or a cloth or a wad of cotton which has been impregnated with an essence extracted from an aromatic substance.

[0030] The bottom wall (lower wall) of the aroma-generating element 35 is formed with a plurality of openings 34. The upper wall of the aroma-generating element 35 is also formed with a plurality of openings 34. Thus, a fragrant aroma is emitted with the passage of air from the bottom of the aroma-generating element 35 to the top of it (from left to right as indicated by dashed arrows as viewed in FIG. 4).

As described above, the upper case component 33 fits

circumferentially rotatably within the lower case component 30. This permits changing of the area of overlap of the opening 34 of the upper case component 33 and the opening 34 of the upper wall of the aroma-generating element 35. Thus, rotation of the upper case component 33 in a certain direction relative to the lower case component 30 brings the opening 34 of the upper case component 33 into perfect alignment with the opening 34 of the upper wall of the aroma-generating element 35 for mutual communication. This permits external emission of a fragrant aroma to a maximum permissible extent.

[0031] On the other hand, rotation of the upper case component 33 in the reverse direction relative to the lower case component 30 displaces the opening 34 of the upper case component 33 out of alignment with the opening 34 of the upper wall of the aroma-generating element 35 thereby closing the communication between the openings 34 or reducing the area of communication between them. This allows the release of a fragrant aroma to be discontinued, or permits external emission of a fragrant aroma to a limited extent.

With preparation of a plurality of replaceable aroma-generating elements 35 containing different aromatic sources (different aromatic substances), the user is able to enjoy an aroma of his or her choice.

[0032] Thus constructed, the aroma generator 21 (aromatherapeutic mechanism) allows the user to have massage treatment while enjoying a fragrant aroma in a relaxed state of mind.

That is, the control section operates the air pump 20 in a manner to inflate the air bag 25 placed so as to be able to face user's shoulder or waist for applying pressing force (providing pressing massage) to a treatment target area. After that, the control section operates the switching valve 24 communicated with the aroma generator 21 in a manner to introduce high-pressure air present in the air bag 25 into the injection tube 22. After introduced into the injection tube 22, the air is directed to the aroma generator 21 placed so as to be able to lie toward each side of user's body, and passes through the aroma-generating element 35, causing external release of a fragrant aroma from the aroma-generating element 35 (aroma release into the cover member 12, in particular). Thus, the user sitting on the cover member 12 filled with the fragrant aroma is able to have massage treatment in a relaxed state of mind. Note that the supply of high-pressure air from the air bag 25 to the aroma generator 21 may be effected either on a continuous basis or on an intermittent basis.

[0033] It should be understood that the embodiments as

disclosed herein are each considered in all respects as illustrative only and not restrictive. In particular, for such matters as not explicitly specified in the disclosure of the embodiment, for example, for working and operating conditions, various parameters, and the dimensions, weights, and volumes of structural components, use has been made of credible values that do not depart from practical ranges adopted in the light of the common knowledge of those skilled in the art.

[0034] While the massaging apparatus 1 equipped with the aroma generator 21 exemplifies the massaging apparatus in chair form 1 in the foregoing description, for example, the aroma generator-equipped massaging apparatus 1 may be constructed in the form of a stationary massaging apparatus 1 or a handheld massaging apparatus 1.

Moreover, the aroma generator 21 may be designed to operate under the air-discharging action of the air bag 20. More specifically, the control section operates the air pump 20 in a manner to inflate the air bag 25 placed so as to be able to face user's shoulder or waist for applying pressing force to a treatment target area. After that, the control section operates the switching valve 24 in a manner to introduce high-pressure air present in the air bag 25 into an air discharge tube. After introduced into the air discharge tube, the air is directed to the aroma generator

21 placed so as to be able to lie toward each side of user's body, and passes through the aroma-generating element 35, causing external release of a fragrant aroma from the aroma-generating element 35 (aroma release into the cover member 12, in particular).

Reference Signs List

[0035]

- | | |
|----|---|
| 1 | Massaging apparatus (Massaging apparatus in chair form) |
| 2 | Seat section |
| 3 | Backrest section |
| 4 | Footrest |
| 5 | Support leg |
| 6 | Back-massaging mechanism |
| 7 | Side-massaging mechanism |
| 8 | Armrest |
| 9 | Space |
| 10 | Holding recess |
| 11 | Leg-massaging mechanism |
| 12 | Cover member |
| 13 | Operating panel |
| 20 | Air pump |
| 21 | Aroma generator |
| 22 | Injection tube |
| 24 | Switching valve |

- 25 Air bag
- 30 Lower case component
- 31 Projection
- 32 Screw hole
- 33 Upper case component
- 34 Opening
- 35 Aroma-generating element

CLAIMS

1. An aroma generator-equipped massaging apparatus, the massaging apparatus comprising:

an air bag for massaging a treatment target area in user's body; and

an air pump for producing high-pressure air which is injected into the air bag,

the massaging apparatus including an additional mechanism to enhance an effect of massage treatment provided to a user,

the additional mechanism comprising an aroma generator for giving forth a fragrant aroma by utilizing high-pressure air supplied from the air pump.

2. The aroma generator-equipped massaging apparatus according to claim 1, wherein

there are provided a switching valve having a delivery port for feeding high-pressure air from the air pump toward the air bag, and an injection tube for providing connection between the delivery port of the switching valve and the air bag, and there are also provided a switching valve having a delivery port for feeding high-pressure air from the air pump toward the additional mechanism, and an injection tube for providing

connection between the delivery port of the switching valve and the additional mechanism.

3. The aroma generator-equipped massaging apparatus according to claim 1 or claim 2, wherein

as the additional mechanism, there is provided an aroma generator disposed so as to be located beside a user.