

SPECIFICATION

TITLE OF THE INVENTION: COMPOSITE CHAIR

TECHNICAL FIELD

[0001]

The present disclosure relates to a composite chair that is usable as a continuous oblong sofa by coupling a plurality of chairs to each other. The present application claims priority to Japanese Patent Application No. 2024-021159 filed on February 15, 2024, the entire disclosure of which is hereby incorporated by reference.

BACKGROUND ART

[0002]

Conventionally, there are many chair-type massage machines including a backrest portion capable of reclining in a front-rear direction. Such a chair-type massage machine is disclosed in, for example, Patent Literature 1. Patent Literature 1 discloses a technique concerning a stationary chair-type massage machine capable of reclining operation of a backrest portion.

CITATION LIST

[PATENT LITERATURE]

[0003]

PATENT LITERATURE 1: JP 2012-170554 A

SUMMARY OF THE INVENTION

[0004]

A composite chair according to an aspect of the present disclosure includes: a chair arranged left; a chair arranged right; and a coupling unit configured to couple the chair arranged left and the chair arranged right to each other. The coupling unit is substantially equal in shape to the chair arranged left and the chair arranged right, as seen in side projective view. The composite chair has a module structure in which the chair arranged left and the chair arranged right are assembled to each other with the coupling unit.

BRIEF DESCRIPTION OF DRAWINGS

[0005]

FIG. 1 is a perspective view schematically illustrating a composite chair according to the present disclosure.

FIG. 2 is a perspective view illustrating how to assemble the composite chair by coupling a chair-type massage machine and a chair to each other using a coupling unit interposed between the chair-type massage machine and the chair.

FIG. 3 is an exploded perspective view schematically illustrating a module structure of the composite chair of the present disclosure.

FIG. 4 is a perspective view illustrating a configuration of a main body of a coupling unit and a configuration of right coupling portions of a coupling portion of the coupling unit.

FIG. 5 is a perspective view of a coupled state, seen from below, of each of a front right coupling portion and a front left coupling portion of the coupling portion.

FIG. 6 is a perspective view of a coupled state, seen from rear, of each of a rear right coupling portion and a rear left coupling portion of the coupling portion.

FIG. 7 is a perspective view schematically illustrating a position where a side plate member is attached and a method of attaching the side plate member.

FIG. 8 is a perspective view illustrating the composite chair in a state in which a second

housing of the main body of the coupling unit is tilted forward to serve as an armrest.

FIG. 9 is a perspective view illustrating the composite chair in a state in which a backrest portion of the chair-type massage machine reclines, a seat portion of the chair-type massage machine moves forward together with a right side plate member (the side plate member), and a footrest portion of the chair-type massage machine protrudes forward.

DETAILED DESCRIPTION

[0006]

<Problems to be solved by the present disclosure>

Conventionally, there are single chair-type massage machines, single chairs, and the like such as that disclosed in Patent Literature 1. Such chair-type massage machines, chairs, and the like have been used for different purposes.

[0007]

In recent years, users have demanded to use a single chair-type massage machine and a single chair as an oblong sofa by coupling the chair-type massage machine and the chair arranged side by side to each other.

[0008]

In view of the circumstances described above, hence, an object of the present disclosure is to provide a composite chair that can be used as an oblong sofa by employing a structure capable of easily coupling a chair arranged left and a chair arranged right to each other using a member that is equal in shape to the chair arranged left and the chair arranged right and is fitted into a certain space between the chair arranged left and the chair arranged right.

[0009]

<Advantageous effect of the present disclosure>

A composite chair of the present disclosure can be used as an oblong sofa by employing

a structure capable of easily coupling a chair arranged left and a chair arranged right to each other using a member that is equal in shape to the chair arranged left and the chair arranged right and is fitted into a certain space between the chair arranged left and the chair arranged right.

[0010]

<Outline of embodiments of the present disclosure>

An outline of below-listed embodiments of the present disclosure is described.

[0011]

In order to achieve the foregoing object, the present disclosure takes the following technical measures.

[0012]

(1) A composite chair according to the present disclosure includes: a chair arranged left; a chair arranged right; and a coupling unit configured to couple the chair arranged left and the chair arranged right to each other, the coupling unit is substantially equal in shape to the chair arranged left and the chair arranged right, as seen in side projective view, and the composite chair has a module structure in which the chair arranged left and the chair arranged right are assembled to each other with the coupling unit.

[0013]

(2) In (1) described above, the coupling unit may include: a main body to be installed in a state in which the main body is interposed between the chair arranged left and the chair arranged right; and a coupling portion configured to couple the main body to the chair arranged left and the chair arranged right.

[0014]

(3) In (2) described above, the coupling portion may include: a left coupling portion configured to couple the main body to the chair arranged left; and a right coupling portion configured to couple the main body to the chair arranged right.

[0015]

(4) In (2) described above, the coupling portion may include: an engagement pin provided on a side surface of the chair so as to protrude outward; and a lateral “U”-shaped groove portion having an open rear end and provided on the main body at a position where the groove portion faces the engagement pin.

[0016]

(5) In (2) described above, the main body may include a housing lighter in weight than the chair, and have a strength allowing a user to sit on the main body.

[0017]

(6) In (2) or (5) described above, the main body may be substantially equal in shape to the chair arranged left and the chair arranged right, as seen in side projective view, and have a chair shape allowing the user to sit on the main body, the main body may include: a first connection member having a shape contiguous with a seat portion of the chair arranged left and a seat portion of the chair arranged right; and a second connection member disposed on an upper side of the first connection member and having a shape contiguous with a backrest portion of the chair arranged left and a backrest portion of the chair arranged right, and the second connection member may have a switching function of serving as an armrest when being tilted forward and a backrest when being raised rearward.

[0018]

(7) In (2) described above, the chair may include: a reclinable backrest portion; the seat portion movable in a front-rear direction in conjunction with reclining operation; and armrest portions disposed on left and right sides of the seat portion, and the coupling unit may include a side plate member to be attached instead of a corresponding one of the armrest portions of the chair, the corresponding armrest portion facing the coupling unit.

[0019]

(8) In (7) described above, a depression extending inward of the main body may be provided on a rear side of a side surface of the main body, and a rear overhang portion remaining after removal of the corresponding armrest portion may be fitted into the depression.

[0020]

(9) In (7) described above, the coupling unit may include guide means having a cutout shape and configured to guide the main body in the front-rear direction, and the guide means may include: a first rail provided on the main body; and a second rail provided on the side plate member and configured to be guided along the first rail.

[0021]

(10) In (1) described above, at least one of the chair arranged left and the chair arranged right may be a chair-type massage machine.

[0022]

(11) In (10) described above, at least one of the chair arranged left and the chair arranged right may be a chair-type massage machine, the chair-type massage machine may include: a reclinable backrest portion; a seat portion movable in a front-rear direction in conjunction with reclining operation; and armrest portions disposed on left and right sides of the seat portion, the coupling unit may include a second connection member having a shape contiguous with the backrest portion of the chair-type massage machine, the second connection member may have a switching function of serving as an armrest when being tilted forward and a backrest when being raised rearward, and in the reclining operation of the chair-type massage machine, the backrest portion may move higher than an upper edge of the second connection member in an erected state, and incline rearward while the seat portion slides forward.

[0023]

<Details of embodiments of the present disclosure>

Details of embodiments of the present disclosure are described below with reference to

the drawings. It should be noted that at least some of the embodiments described below may be arbitrarily combined with each other.

[0024]

It should be noted that the embodiments described below are examples embodying the present disclosure; therefore, the configuration of the present disclosure is not limited to these specific examples. In the drawings, some components are not illustrated or indicated by, for example, imaginary lines in consideration of viewability.

[0025]

In the following description, directions defined in the drawings are used in describing a composite chair 1 of the present disclosure. For example, FIGs. 1 to 9 illustrate directions, such as an up-down direction, a front-rear direction, and a left-right direction, of the composite chair 1. These directions correspond to directions seen from a user sitting in the composite chair 1.

[0026]

FIG. 1 is a view schematically illustrating the composite chair 1 including a chair-type massage machine 30, a chair 60, and a coupling unit 2 coupling the chair-type massage machine 30 and the chair 60 to each other.

[0027]

FIG. 2 is a view illustrating how to assemble the composite chair 1 by coupling the chair-type massage machine 30 and the chair 60 to each other using the coupling unit 2 interposed between the chair-type massage machine 30 and the chair 60.

[0028]

FIG. 3 is an exploded view schematically illustrating a module structure of the composite chair 1 (a configuration of the composite chair 1 divided into a group of components).

[0029]

As illustrated in FIGs. 1 to 3, the present embodiment describes, as an example, the

composite chair 1 in which the chair-type massage machine 30 is arranged right, the chair 60 is arranged left, and the coupling unit 2 is arranged between the chair-type massage machine 30 and the chair 60. The chair-type massage machine 30 and the chair 60 are coupled and assembled to each other with the coupling unit 2. A massage mechanism (not illustrated) is incorporated in each of or one of a backrest portion 32 and a seat portion 31 of the chair-type massage machine 30 to massage a treatment target site of a user. It should be noted that the massage mechanism may be of a mechanical type or may be a pressing massage machine that utilizes expansion and contraction of an air bag.

[0030]

According to the composite chair 1 of the present embodiment, the use of the coupling unit 2 allows coupling of a plurality of the chair-type massage machines 30 and/or chairs 60 that are equal in shape. In other words, according to the present embodiment, the composite chair 1 can be obtained in such a manner that the coupling unit 2 is interposed between adjacent two of the chair-type massage machines 30 and/or chairs 60, equal in shape to each other, to thereby couple at least two or more of the chair-type massage machines 30 and/or chairs 60 to each other in the left-right direction.

[0031]

The composite chair 1 of the present embodiment is an oblong sofa including a plurality (two or more) of the chair-type massage machines 30 and/or chairs 60 that are arranged side by side and are coupled to each other. The composite chair 1 of the present embodiment includes the coupling unit 2 that is interposed between the chair-type massage machine 30 arranged left and the chair 60 arranged right and couples the chair-type massage machine 30 arranged left and the chair 60 arranged right to each other.

[0032]

As illustrated in FIGs. 1 to 3, the composite chair 1 of the present embodiment includes

the chair-type massage machine 30 arranged right, the chair 60 arranged left, and the coupling unit 2 that couples the chair-type massage machine 30 arranged right and the chair 60 arranged left to each other.

[0033]

The coupling unit 2 of the present embodiment is substantially equal in shape (chair shape) to the chair-type massage machine 30 arranged right and the chair 60 arranged left, as seen in side projective view. The composite chair 1 has a module structure in which the chair-type massage machine 30 arranged right and the chair 60 arranged left are assembled to each other with the coupling unit 2 (i.e., a configuration of the composite chair 1 divided into the chair-type massage machine 30, the chair 60, and the coupling unit 2 each corresponding to a group of components that can be assembled).

[0034]

FIG. 4 is a view schematically illustrating a main body 3 of the coupling unit 2 and right coupling portions 9 of a coupling portion 4 of the coupling unit 2.

[0035]

As illustrated in FIGs. 1 to 4, the coupling unit 2 (coupling joint 2) of the present embodiment has an appearance of a substantially chair shape. Furthermore, the coupling unit 2 includes a hollow housing. A width of the coupling unit 2 of the present embodiment is approximately one-third of a width of the chair-type massage machine 30. It should be noted that the shape and dimensions of the coupling unit 2 can be set arbitrarily.

[0036]

Specifically, the coupling unit 2 of the present embodiment includes the main body 3 that is installed in a state in which the main body 3 is interposed between the chair-type massage machine 30 arranged right and the chair 60 arranged left, and the coupling portion 4 that couples the main body 3 to the chair-type massage machine 30 arranged right and the chair 60 arranged

left.

[0037]

As illustrated in FIGs. 1 to 4, the coupling unit 2 (the main body 3 and the coupling portion 4) includes a housing that is lighter in weight than the chair-type massage machine 30 and the chair 60, and has a strength that allows the user to sit on the coupling unit 2. In other words, the main body 3 is light in weight to a degree that the user is able to easily move the main body 3.

[0038]

The chair-type massage machine 30 and the chair 60 are heavy in weight. In particular, the chair-type massage machine 30 is very heavy in weight since it includes the massage mechanism and the like. Therefore, the user cannot easily move the chair-type massage machine 30 and the chair 60. For this reason, the coupling unit 2 is designed to be light in weight.

[0039]

A width of the main body 3 of the present embodiment is approximately one-third of the width of the chair-type massage machine 30. It should be noted that the shape and dimensions of the main body 3 can be set arbitrarily.

[0040]

The main body 3 is substantially equal in shape to the chair-type massage machine 30 arranged right and the chair 60 arranged left, as seen in side projective view, and has a chair shape that allows the user to sit on the main body 3.

[0041]

Specifically, the main body 3 of the coupling unit 2 has a flat surface serving as a seat. The flat surface is evenly contiguous with an upper surface of the seat portion 31 of the chair-type massage machine 30 and a seat portion 61 of the chair 60 with almost no unevenness. The

main body 3 also has a front surface serving as a backrest. The front surface is evenly contiguous with a front surface of the backrest portion 32 of the chair-type massage machine 30 and a backrest portion 62 of the chair 60 with almost no unevenness.

[0042]

The main body 3 includes a first connection member 5 that has a shape contiguous with the seat portion 31 of the chair-type massage machine 30 and the seat portion 61 of the chair 60, and a second connection member 6 that is provided on an upper side of the first connection member 5 and has a shape contiguous with the backrest portion 32 of the chair-type massage machine 30 and the backrest portion 62 of the chair 60.

[0043]

The first connection member 5 (also referred to as a first housing 5 below) is a member that can be placed on a floor F. The first housing 5 is a hollow housing that is light in weight to a degree that the user is able to easily move the first housing 5, and has a predetermined strength.

[0044]

An upper surface of the first housing 5 extends substantially horizontally and is substantially flush with the upper surface of the seat portion 31 of the chair-type massage machine 30 and an upper surface of the seat portion 61 of the chair 60. A height of the first housing 5 from the floor F is almost equal to a height of the seat portion 31 of the chair-type massage machine 30 from the floor F and a height of the seat portion 61 of the chair 60 from the floor F.

[0045]

In other words, the upper surface of the first housing 5 serves as a seat contiguous with the seat portion 31 of the chair-type massage machine 30 and the seat portion 61 of the chair 60. In addition, a front wall surface of the first housing 5 is substantially flush with a front wall surface of the chair-type massage machine 30 when a footrest portion 34 is stored (i.e., a bottom

surface of the footrest portion 34).

[0046]

That is, the first housing 5 (horizontal portion) serves as a seat portion that is almost equal in shape to the seat portion 31 of the chair-type massage machine 30 and the seat portion 61 of the chair 60 except a width and allows the user to sit on the first housing 5. It should be noted that a compartment for holding small articles may be provided inside the first housing 5 (the main body 3). In addition, the upper surface of the first housing 5 serving as the seat may be covered with a cushioning medium or the like.

[0047]

The first housing 5 has steps 7 (recesses 7) that are located slightly below the upper surface and are recessed inward in the left-right direction. The recesses 7 are each a recessed step that extends in the front-rear direction. Two recesses 7 are provided on upper sides of left and right side surfaces of the first housing 5, respectively. Since the first housing 5 has the pair of left and right recesses 7, the first housing 5 has such a tapered shape that a lower side of the first housing 5 is narrower in width than an upper side of the first housing 5 as seen in front view.

[0048]

Protrusions 17 of side plate members 15 (described later) are fitted into (aligned with) the recesses 7 so as to freely slide along the recesses 7 in the front-rear direction. The recesses 7 correspond to first rails 7 that guide the protrusions 17 of the side plate members 15 (described later) in the front-rear direction when the user moves the main body 3 in the front-rear direction. The first rails 7 (the recesses 7) each constitute a part of guide means 16 (described later).

[0049]

It should be noted that the protrusions 17 of the side plate members 15 correspond to second rails 17 that each constitute a part of the guide means 16. The recesses 7 and the protrusions 17 enable smooth movement of the main body 3 in the front-rear direction.

[0050]

The recesses 7 include a right recess 7a (a first right rail 7a) that is provided on the upper side of the left side surface of the first housing 5 and has a shape recessed leftward, and a left recess 7b (a first left rail 7b) that is provided on the upper side of the right side surface of the first housing 5 and has a shape recessed rightward.

[0051]

The right recess 7a (the first right rail 7a) guides a right protrusion 17a (a second right rail 17a) of a right side plate member 15a. The left recess 7b (the first left rail 7b) guides a left protrusion 17b (a second left rail 17b) of a left side plate member 15b. The right recess 7a and the left recess 7b are provided in a pair. The right recess 7a and the left recess 7b are located at the same height and disposed in parallel in the front-rear direction.

[0052]

In the present embodiment, as will be described in detail later, of the side plate members 15 disposed left and right in a pair, the right side plate member 15a is movable forward as the seat portion 31 of the chair-type massage machine 30 moves forward. When the seat portion 31 moves forward, the right protrusion 17a (the second right rail 17a) is guided straight forward along the right recess 7a (the first right rail 7a), which makes the right side plate member 15a movable.

[0053]

In addition, when the seat portion 31 of the chair-type massage machine 30 moves rearward, the second right rail 17a is guided rearward along the first right rail 7a, so that the right side plate member 15a is accommodated in the first housing 5. This allows the right side plate member 15a to smoothly slide in the front-rear direction.

[0054]

As illustrated in FIGs. 1 to 4, the second connection member 6 (also referred to as a

second housing 6 below) is a member that is disposed on the upper side of the first housing 5.

The second housing 6 is a hollow housing that is light in weight to a degree that the user is able to easily move the second housing 6, and has a predetermined strength.

[0055]

A front surface of the second housing 6 is substantially flush with the front surface of the backrest portion 32 of the chair-type massage machine 30 and a front surface of the backrest portion 62 of the chair 60. A height of the second housing 6 is almost equal to a height of the backrest portion 32 of the chair-type massage machine 30 and a height of the backrest portion 62 of the chair 60.

[0056]

In addition, the front surface of the second housing 6 serves as a backrest surface that is contiguous with the backrest portion 31 of the chair-type massage machine 30 and the backrest portion 62 of the chair 60. That is, the second housing 6 (upright portion) serves as a backrest portion that is almost equal in shape to the backrest portion 31 of the chair-type massage machine 30 and the backrest portion 62 of the chair 60 except a width and allows the user to lean against the second housing 6.

[0057]

The second housing 6 is larger in width than the first housing 5 as seen in front view. Depressions 23 (described later) are provided on a boundary between the first housing 5 and the second housing 6.

[0058]

As described in the present embodiment, preferably, the second housing 6 has a switching function of serving as an armrest when being tilted forward and a backrest when being raised rearward.

[0059]

For example, as illustrated in FIG. 1, the composite chair 1 may be used with the second housing 6 raised rearward to serve as a backrest. Alternatively, as illustrated in FIG. 8, the composite chair 1 may be used with the second housing 6 tilted forward to serve as an armrest.

[0060]

Specifically, a hinge 8 may be provided at a joint between the first housing 5 and the second housing 6 such that the second housing 6 freely turns in the front-rear direction. When the second housing 6 is turned on the hinge 8 and is laid on the first housing 5, the second housing 6 serves as a large armrest that is usable by two users.

[0061]

Alternatively, when the second housing 6 is raised rearward so as to be substantially flush with the front surface of the backrest portion 32 of the chair-type massage machine 30 and the front surface of the backrest portion 62 of the chair 60, the second housing 6 serves as a backrest portion. The composite chair 1 the second housing 6 of which is raised rearward as described above is in the form of a laterally oblong sofa where the user is able to take a nap. It should be noted that a compartment for holding small articles may be provided inside the second housing 6 (the main body 3). In addition, the entire second housing 6 may be covered with a cushioning medium or the like.

[0062]

On the left and right sides of the first housing 5 (the main body 3), the coupling portion 4 is provided to be capable of coupling the main body 3 equal in shape to each of or one of the chair-type massage machine 30 and the chair 60, to each of or one of the chair-type massage machine 30 and the chair 60.

[0063]

FIG. 5 is a view of a coupled state, seen from below, of each of a front right coupling portion 9F and a front left coupling portion 10F of the coupling portion 4. FIG. 6 is a view of a

coupled state, seen from rear, of each of a rear right coupling portion 9R and a rear left coupling portion 10R of the coupling portion 4.

[0064]

As illustrated in FIGs. 2 to 6, the coupling portion 4 assembles the chair-type massage machine 30 arranged right and the chair 60 arranged left to each other with the main body 3 interposed between and coupled to the chair-type massage machine 30 and the chair 60 such that the chair-type massage machine 30 and the chair 60 can be used as the composite chair 1. The composite chair 1 has the module structure in which the coupling unit 2, the chair-type massage machine 30, and the chair 60 are assembled to each other.

[0065]

In addition, the coupling portion 4 decouples the main body 3 from the chair-type massage machine 30 arranged right and the chair 60 arranged left to divide the composite chair 1 into the main body 3, the chair-type massage machine 30, and the chair 60 each corresponding to a group of components. Each of the chair-type massage machine 30 and the chair 60 can thus be used singly.

[0066]

The coupling portion 4 includes the right coupling portions 9 that couple the main body 3 to the chair-type massage machine 30 arranged right, and left coupling portions 10 that couple the main body 3 to the chair 60 arranged left.

[0067]

The right coupling portions 9 are provided on a lower side of the right surface of the first housing 5 (the main body 3) and are capable of coupling the first housing 5 (the main body 3) to the chair-type massage machine 30 arranged right. Two, that is, front and rear right coupling portions 9 are provided between the main body 3 and the chair-type massage machine 30.

[0068]

That is, the right coupling portions 9 include the front right coupling portion 9F that couples a front side of a right side surface of the main body 3 to a front side of a left side surface of the chair-type massage machine 30, and the rear right coupling portion 9R that couples a rear side of the right side surface of the main body 3 to a rear side of the left side surface of the chair-type massage machine 30.

[0069]

As illustrated in FIGs. 3 to 5, the front right coupling portion 9F includes a front right engagement pin 11F that is provided on the front side of the left side surface of the chair-type massage machine 30, and a lateral “U”-shaped front right groove portion 12F a rear end of which is open and that is provided on the front side of the right side surface of the main body 3.

[0070]

The front right engagement pin 11F is fitted into the front right groove portion 12F attached to the main body 3. The front right engagement pin 11F is provided at a position where the front right engagement pin 11F faces the front right groove portion 12F upon coupling of the coupling unit 2. The front right engagement pin 11F is provided on a lower front side of a left side surface of a stationary frame 39 that constitutes a part of the chair-type massage machine 30.

[0071]

Specifically, the front right engagement pin 11F is provided on a front side of a left wall of a left bottom rod member 39a of the stationary frame 39. The front right engagement pin 11F is provided so as to protrude leftward, that is, outward from the front side of the left wall of the left bottom rod member 39a.

[0072]

A pin insertion front hole 41 into which the front right engagement pin 11F can be

inserted is formed in the front side of the left wall of the left bottom rod member 39a (i.e., the lower front side of the left side surface of the stationary frame 39). The front right engagement pin 11F is set to be inserted into the pin insertion front hole 41 in a case where the main body 3 of the coupling unit 2 and the chair-type massage machine 30 are coupled to each other and are used as the composite chair 1.

[0073]

In a case where the chair-type massage machine 30 is used singly, the front right engagement pin 11F is set to be removable from the left bottom rod member 39a (the stationary frame 39).

[0074]

The front right groove portion 12F is a plate-shaped member having a lateral “U”-shaped groove a rear end of which is open. The front right groove portion 12F is provided on a front side of a right wall of the main body 3. In the present embodiment, the front right groove portion 12F is fastened with a screw at the lowermost position on the front side of the right wall of the main body 3.

[0075]

The front right groove portion 12F is an engagement groove, and the front right engagement pin 11F attached to the front side of the left wall of the left bottom rod member 39a is fitted into the front right groove portion 12F along the lateral “U” shape of the front right groove portion 12F. The front right groove portion 12F is provided at a position where the front right groove portion 12F faces the front right engagement pin 11F upon coupling of the coupling unit 2.

[0076]

In the right wall of the main body 3, a cavity is formed behind the position where the front right groove portion 12F is attached. This cavity is a cavity in which a distal end of the

front right engagement pin 11F can be situated.

[0077]

With regard to the front right coupling portion 9F, in coupling the coupling unit 2 to the chair-type massage machine 30 arranged right, the main body 3 is moved rearward to the space between the chair-type massage machine 30 arranged right and the chair 60 arranged left. At this time, the front right groove portion 12F of the front right coupling portion 9F horizontally moves rearward as the main body 3 moves rearward.

[0078]

The front right engagement pin 11F fixed to the left bottom rod member 39a (the stationary frame 39) is fitted into the front right groove portion 12F moving rearward, along the lateral “U” shape of the open end of the front right groove portion 12F. The front right coupling portion 9F couples the front side of the right side surface of the main body 3 to the front side of the left side surface of the chair-type massage machine 30 arranged right.

[0079]

As illustrated in FIGs. 3, 4, and 6, the rear right coupling portion 9R includes a rear right engagement pin 11R that is provided on the rear side of the left side surface of the chair-type massage machine 30, and a lateral “U”-shaped rear right groove portion 12R a rear end of which is open and that is provided on the rear side of the right side surface of the main body 3.

[0080]

The rear right engagement pin 11R is fitted into the rear right groove portion 12R attached to the main body 3. The rear right engagement pin 11R is provided at a position where the rear right engagement pin 11R faces the rear right groove portion 12R upon coupling of the coupling unit 2. The rear right engagement pin 11R is provided on a lower rear side of the left side surface of the stationary frame 39 of the chair-type massage machine 30.

[0081]

Specifically, the rear right engagement pin 11R is provided on a middle of a left rear upright rod member 39b in the up-down direction. The left rear upright rod member 39b constitutes a part of the stationary frame 39, and is a rod member that is erected from a rear end of the left bottom rod member 39a. The rear right engagement pin 11R is provided so as to protrude leftward, that is, outward from a left wall of the rear upright rod member 39b.

[0082]

A pin insertion rear hole 42 into which the rear right engagement pin 11R can be inserted is formed in a front side of the left rear upright rod member 39b (i.e., the lower rear side of the left side surface of the stationary frame 39). The rear right engagement pin 11R is set to be inserted into the pin insertion rear hole 42 in the case where the main body 3 of the coupling unit 2 and the chair-type massage machine 30 are coupled to each other and are used as the composite chair 1.

[0083]

In the case where the chair-type massage machine 30 is used singly, the rear right engagement pin 11R is set to be removable from the left rear upright rod member 39b (the stationary frame 39).

[0084]

The rear right groove portion 12R is a plate-shaped member having a lateral “U”-shaped groove a rear end of which is open. The rear right groove portion 12R is provided on a rear side of the right wall of the main body 3. In the present embodiment, the rear right groove portion 12R is fastened with a screw at a position lower than the center of the right wall of the main body 3 on the rear side of the right wall of the main body 3.

[0085]

The rear right groove portion 12R is an engagement groove, and the rear right engagement pin 11R attached to the left rear upright rod member 39b is fitted into the rear right

groove portion 12R along the lateral “U” shape of the rear right groove portion 12R. The rear right groove portion 12R is provided at a position where the rear right groove portion 12R faces the rear right engagement pin 11R upon coupling of the coupling unit 2.

[0086]

In the right wall of the main body 3, a cavity is formed behind the position where the rear right groove portion 12R is attached. This cavity is a cavity in which a distal end of the rear right engagement pin 11R can be situated.

[0087]

With regard to the rear right coupling portion 9R, in coupling the coupling unit 2 to the chair-type massage machine 30 arranged right, the main body 3 is moved rearward to the space between the chair-type massage machine 30 arranged right and the chair 60 arranged left. At this time, the rear right groove portion 12R of the rear right coupling portion 9R horizontally moves rearward as the main body 3 moves rearward. The open end of the rear right groove portion 12R has a fan shape such that the rear right engagement pin 11R can be fitted into the rear right groove portion 12R with ease. Likewise, the open end of the front right groove portion 12F also has a fan shape (triangular shape).

[0088]

The rear right engagement pin 11R fixed to the left rear upright rod member 39b (the stationary frame 39) is fitted into the rear right groove portion 12R moving rearward, along the lateral “U” shape of the open end of the rear right groove portion 12R. The rear right coupling portion 9R couples the rear side of the right side surface of the main body 3 to the rear side of the left side surface of the chair-type massage machine 30 arranged right.

[0089]

Next, the left coupling portions 10 that couple the main body 3 to the chair 60 arranged left are described. A configuration of each left coupling portion 10 is similar to the

configuration of each right coupling portion 9 (a configuration like an inverted mirror image); therefore, the point thereof is summarized.

[0090]

The left coupling portions 10 are provided on a lower side of the left side surface of the first housing 5 (the main body 3) and are capable of coupling the first housing 5 (the main body 3) to the chair 60 arranged left. Two, that is, front and rear left coupling portions 10 are provided between the main body 3 and the chair 60.

[0091]

That is, the left coupling portions 10 include the front left coupling portion 10F that couples a front side of a left side surface of the main body 3 to a front side of a right side surface of the chair 60, and the rear left coupling portion 10R that couples a rear side of the left side surface of the main body 3 to a rear side of the right side surface of the chair 60.

[0092]

As illustrated in FIG. 5, the front left coupling portion 10F includes a front left engagement pin 13F that is provided on the front side of the right side surface of the chair 60, and a lateral “U”-shaped front left groove portion 14F a rear end of which is open and that is provided on the front side of the left side surface of the main body 3.

[0093]

The front left engagement pin 13F is fitted into the front left groove portion 14F attached to the main body 3. The front left engagement pin 13F is provided so as to protrude rightward, that is, outward from the front side of the right side surface of the chair 60. The front left engagement pin 13F is provided at a position where the front left engagement pin 13F faces the front left groove portion 14F upon coupling of the coupling unit 2.

[0094]

A pin insertion front hole 64 into which the front left engagement pin 13F can be

inserted is formed in the front side of the right side surface of the chair 60. The front left engagement pin 13F is set to be inserted into the pin insertion front hole 64 in a case where the main body 3 of the coupling unit 2 and the chair 60 are coupled to each other and are used as the composite chair 1.

[0095]

The front left groove portion 14F is a plate-shaped member having a lateral “U”-shaped groove a rear end of which is open. The front left groove portion 12R is fastened with a screw at the lowermost position on a front side of a left wall of the main body 3. The front left groove portion 14F is an engagement groove, and the front left engagement pin 13F attached to the front side of the right side surface of the chair 60 is fitted into the front left groove portion 14F along the lateral “U” shape of the front left groove portion 14F.

[0096]

With regard to the front left coupling portion 10F, in coupling the coupling unit 2 to the chair 60 arranged left, the main body 3 is moved rearward to the space between the chair 60 arranged left and the chair-type massage machine 30 arranged right. At this time, the front left groove portion 14F of the front left coupling portion 10F horizontally moves rearward as the main body 3 moves rearward.

[0097]

The front left engagement pin 13F fixed to the front side of the right side surface of the chair 60 is fitted into the front left groove portion 14F moving rearward, along the lateral “U” shape of the open end of the front left groove portion 14F. The front left coupling portion 10F couples the front side of the left side surface of the main body 3 to the front side of the right side surface of the chair 60 arranged left.

[0098]

As illustrated in FIG. 6, the rear left coupling portion 10R includes a rear left

engagement pin 13R that is provided on a rear side of the right side surface of the chair 60, and a lateral “U”-shaped rear left groove portion 14R a rear end of which is open and that is provided on the rear side of the left side surface of the main body 3.

[0099]

The rear left engagement pin 13R is fitted into the rear left groove portion 14R attached to the main body 3. The rear left engagement pin 13R is provided so as to protrude rightward, that is, outward from the rear side of the right side surface of the chair 60. The rear left engagement pin 13R is provided at a position where the rear left engagement pin 13R faces the rear left groove portion 14R upon coupling of the coupling unit 2.

[0100]

A pin insertion front hole 65 into which the rear left engagement pin 13R can be inserted is formed in the rear side of the right side surface of the chair 60. The rear left engagement pin 13R is set to be inserted into the pin insertion front hole 65 in the case where the main body 3 of the coupling unit 2 and the chair 60 are coupled to each other and are used as the composite chair 1.

[0101]

The rear left groove portion 14R is a plate-shaped member having a lateral “U”-shaped groove a rear end of which is open. The rear left groove portion 14R is fastened with a screw at a position lower than the center of the left wall of the main body 3 on the rear side of the left wall of the main body 3. The rear left groove portion 14R is an engagement groove, and the rear left engagement pin 13R attached to the rear side of the chair 60 is fitted into the rear left groove portion 14R along the lateral “U” shape of the rear left groove portion 14R. The open end of the rear left groove portion 14R also has a fan shape such that the rear left engagement pin 13R can be fitted into the rear left groove portion 14R with ease. Likewise, the open end of the front left groove portion 14F also has a fan shape (triangular shape).

[0102]

With regard to the rear left coupling portion 10R, in coupling the coupling unit 2 to the chair 60 arranged left, the main body 3 is moved rearward to the space between the chair 60 arranged left and the chair-type massage machine 30 arranged right. At this time, the rear left groove portion 14R of the rear left coupling portion 10R horizontally moves rearward as the main body 3 moves rearward.

[0103]

The rear left engagement pin 13R fixed to the rear side of the right side surface of the chair 60 is fitted into the rear left groove portion 14R moving rearward, along the lateral “U” shape of the open end of the rear left groove portion 14R. The rear left coupling portion 10R couples the rear side of the left side surface of the main body 3 to the rear side of the right side surface of the chair 60 arranged left.

[0104]

As described in detail above, the coupling unit 2 couples the main body 3 to the chair-type massage machine 30 arranged right, using the right coupling portions 9 (the front right coupling portion 9F and the rear right coupling portion 9R), with the main body 3 interposed between the chair-type massage machine 30 arranged right and the chair 60 arranged left. The coupling unit 2 also couples the main body 3 to the chair 60 arranged left, using the left coupling portions 10 (the front left coupling portion 10F and the rear left coupling portion 10R), with the main body 3 interposed between the chair-type massage machine 30 arranged right and the chair 60 arranged left.

[0105]

The main body 3 is coupled to the chair-type massage machine 30 and the chair 60 with the coupling portion 4 (the right coupling portions 9 and the left coupling portions 10), and then the main body 3 of the coupling unit 2 is fastened to the chair-type massage machine 30 and the

chair 60 with the screws. The main body 3, the chair-type massage machine 30, and the chair 60 can thus be used as the composite chair 1.

[0106]

FIG. 7 is a view schematically illustrating a position where one of the side plate members 15 (the right side plate member 15a) is attached and a method of attaching the side plate member 15 (the right side plate member 15a).

[0107]

As illustrated in FIGs. 3 and 7, the coupling unit 2 includes the side plate members 15 that are attached instead of the armrest portions provided on the chair-type massage machine 30 or the chair 60.

[0108]

The side plate members 15 are provided left and right in a pair. The side plate members 15 include the right side plate member 15a that is attached instead of the armrest portion closer to the coupling unit 2, of the pair of left and right armrest portions 33 of the chair-type massage machine 30, and the left side plate member 15b that is attached instead of the armrest portion closer to the coupling unit 2, of the pair of left and right armrest portions 63 of the chair 60.

[0109]

The right side plate member 15a is attachable to the left side surface of the chair-type massage machine 30. The right side plate member 15a is disposed on the right side surface of the first housing 5. That is, the right side plate member 15a is disposed to be interposed between the first housing 5 and the chair-type massage machine 30 in coupling the main body 3 to the chair-type massage machine 30.

[0110]

As illustrated in FIG. 7, the right side plate member 15a is attached to a left side surface

(a front-rear rod member 40a) of a movable frame 40, instead of the left armrest portion (not illustrated) of the left and right armrest portions 33 of the chair-type massage machine 30.

[0111]

Specifically, the right side plate member 15a is fastened to the movable frame 40 with a screw inserted into a front hole 20 formed in the right side plate member 15a and a front attachment hole 43 formed in the movable frame 40 with the front hole 20 and the front attachment hole 43 aligned with each other. Likewise, the right side plate member 15a is fastened to the movable frame 40 with a screw inserted into a rear hole 21 formed in the right side plate member 15a and a rear attachment hole 44 formed in the movable frame 40 with the rear hole 21 and the rear attachment hole 44 aligned with each other.

[0112]

As thus described, the right side plate member 15a is attached to the left front-rear rod member 40a of the movable frame 40 with the right side plate member 15a supported at front and rear ends of the left front-rear rod member 40a. In addition, the right side plate member 15a is disposed on a front side of a rear case body 45 of the chair-type massage machine 30.

[0113]

An upper edge of the right side plate member 15a of the present embodiment is located at the same height as a height of the upper surface of the seat portion 31 of the chair-type massage machine 30 or at a height lower than the height of the upper surface of the seat portion 31 of the chair-type massage machine 30. In other words, the right side plate member 15a is located so as not to protrude higher than the upper surface of the seat portion 31.

[0114]

The upper surface of the right side plate member 15a of the present embodiment is substantially flush with the upper surface of the seat portion 31 of the chair-type massage machine 30. In other words, a height of the right side plate member 15a from the floor F is

equal to the height of the seat portion 31 of the chair-type massage machine 30 from the floor F.

[0115]

As a result, the coupling unit 2, the chair-type massage machine 30, and the chair 60 assembled into the composite chair 1 form a flat seat. It should be noted that the front wall surface of the right side plate member 15a is flush with the front wall surface of the chair-type massage machine 30 when the footrest portion 34 is stored (the bottom surface of the footrest portion 34).

[0116]

The right side plate member 15a of the present embodiment is slidable in the front-rear direction as the movable frame 40 (the seat portion 31 of the chair-type massage machine 30) moves in the front-rear direction. It should be noted that a distance of the right side plate member 15a sliding forward is equal to a distance of the armrest portions 33 of the chair-type massage machine 30 sliding forward.

[0117]

A configuration of the left side plate member 15b is similar to the configuration of the right side plate member 15a (a configuration like an inverted mirror image); therefore, the point thereof is summarized.

[0118]

As illustrated in FIG. 3, the left side plate member 15b is attachable to the right side surface of the chair 60. The left side plate member 15b is disposed on the left side surface of the first housing 5. That is, the left side plate member 15b is disposed to be interposed between the first housing 5 and the chair 60 in coupling the main body 3 to the chair 60.

[0119]

The left side plate member 15b is attached to the right side surface of the chair 60, instead of the right armrest portion (not illustrated) of the left and right armrest portions 63 of the

chair 60. The left side plate member 15b is fixed to the chair 60 with a fitting tool 22 and therefore does not slide in the front-rear direction.

[0120]

An upper edge of the left side plate member 15b of the present embodiment is located at the same height as a height of the upper surface of the seat portion 63 of the chair 60 or at a height lower than the height of the upper surface of the seat portion 63 of the chair 60. In other words, the left side plate member 15b is located so as not to protrude higher than the upper surface of the seat portion 63.

[0121]

As illustrated in FIGs. 3 and 7, the coupling unit 2 is provided with the guide means 16 that has a cutout shape and guides the main body 3 smoothly in the front-rear direction.

[0122]

The guide means 16 is capable of guiding the right side plate member 15a (the side plate member 15) in the front-rear direction when the backrest portion 32 of the chair-type massage machine 30 reclines rearward and the seat portion 31 of the chair-type massage machine 30 moves forward in conjunction with the reclining operation.

[0123]

The guide means 16 includes the first rails 7 that are provided on the main body 3 (the first housing 5), and the second rails 17 that are provided on the side plate members 15 and are guided along the first rails 7.

[0124]

The first rails 7 are located slightly below the upper surface of the first housing 5. The first rails 7 are the steps 7 (the recesses 7) that are recessed inward. Two first rails 7 are provided on the upper sides of the left and right side surfaces of the first housing 5, respectively. The first rails 7 each have a recessed shape.

[0125]

The first rails 7 are each a step that extends in the front-rear direction, and guide the side plate members 15 such that the side plate members 15 freely slide along the first rails 7. Since the first housing 5 has the pair of left and right first rails 7 (recesses 7), the first housing 5 has such a tapered shape that the lower side of the first housing 5 is narrower in width than the upper side of the first housing 5 as seen in front view.

[0126]

The second rails 17 (the protrusions 17) of the side plate members 15 are fitted into (mate with) the first rails 7 (the recesses 7) so as to freely slide along the first rails 7 (the recesses 7) in the front-rear direction. The first rails 7 are guided in the front-rear direction along the second rails 17 of the side plate members 15, so that the main body 3 is capable of smoothly moving in the front-rear direction.

[0127]

The first rails 7 of the present embodiment include the first right rail 7a that is provided on the upper side of the right side surface of the first housing 5 and extends in the front-rear direction, and the first left rail 7b that is provided on the upper side of the left side surface of the first housing 5 and extends in the front-rear direction.

[0128]

The first right rail 7a (the right recess 7a) is a step that is recessed leftward in the right side surface of the first housing 5 as seen in front view. The first left rail 7b (the left recess 7b) is a step that is recessed rightward in the left side surface of the first housing 5 as seen in front view.

[0129]

In the present embodiment, the first right rail 7a and the first left rail 7b are provided in a pair. The first right rail 7a and the first left rail 7b are located at the same height and disposed

in parallel in the front-rear direction. It should be noted that the first right rail 7a and the first left rail 7b may be located at different heights (may be located with a step difference).

[0130]

The first right rail 7a is guided, in moving the main body 3, by the second right rail 17a provided on the right side plate member 15a. The first left rail 7b is guided, in moving the main body 3, by the second left rail 17b provided on the left side plate member 15b.

[0131]

The second rails 17 are located slightly below upper edges of the side plate members 15. The second rails 17 are the steps 17 (the protrusions 17) that overhang outward, and are provided on the upper sides of the side plate members 15. The second rails 17 each have an overhanging shape.

[0132]

Each second rail 17 is a step that extends in the front-rear direction, and allows the main body 3 to move in the front-rear direction.

[0133]

The second rails 17 (the protrusions 17) are fitted into (mate with) the first rails 7 (the recesses 7) provided in the first housing 5, so as to freely slide along the first rails 7 (the recesses 7) in the front-rear direction. The second rails 17 guide the first rails 7 of the first housing 5 in the front-rear direction, so that the main body 3 is capable of smoothly moving in the front-rear direction.

[0134]

The second rails 17 of the present embodiment include the second right rail 17a that is provided on an upper side of a left side surface of the right side plate member 15a and extends in the front-rear direction, and the second left rail 17b (the left protrusion 17b) that is provided on an upper side of a right side surface of the left side plate member 15b and extends in the front-

rear direction.

[0135]

The second right rail 17a (the right protrusion 17a) is a step that has a shape overhanging leftward, that is, outward from the left side surface of the right side plate member 15a as seen in front view. The second left rail 17b (the left protrusion 17b) is a step that has a shape overhanging rightward, that is, outward from the right side surface of the left side plate member 15b as seen in front view.

[0136]

In the present embodiment, the second right rail 17a and the second left rail 17b are provided in a pair. The second right rail 17a and the second left rail 17b are located at the same height and disposed in parallel in the front-rear direction. When the first right rail 7a and the first left rail 7b are located at different heights, the second right rail 17a and the second left rail 17b may be located at the same heights as those of the first right rail 7a and the first left rail 7b, respectively.

[0137]

In moving the main body 3, the second right rail 17a of the right side plate member 15a (adjacent to the chair-type massage machine 30) guides the first right rail 7a of the main body 3 in the front-rear direction and, at the same time, the first left rail 7b of the left side plate member 15b (adjacent to the chair 60) guides the first left rail 7b of the main body 3 in the front-rear direction. The main body 3 is thus capable of smoothly moving in the front-rear direction.

[0138]

In the present embodiment, of the side plate members 15 disposed left and right in a pair, the right side plate member 15a is movable as the seat portion 31 of the chair-type massage machine 30 (the movable frame 40) moves forward. When the movable frame 40 moves forward, the second right rail 17a is guided straight forward along the first right rail 7a, so that

the right side plate member 15a becomes movable.

[0139]

In addition, when the seat portion 31 of the chair-type massage machine 30 moves rearward, the second right rail 17a is guided rearward along the first right rail 7a, so that the right side plate member 15a is accommodated in the first housing 5. This allows the right side plate member 15a to smoothly slide in the front-rear direction.

[0140]

A cutout portion 18 is provided on a lower side of the right side plate member 15a. When the right side plate member 15a slides in the front-rear direction, the cutout portion 18 avoids contact with the front right engagement pin 11F and rear right engagement pin 11R of the right coupling portions 9. The cutout portion 18 is formed so as to extend rearward from a middle of the right side plate member 15a in the front-rear direction. The cutout portion 18 allows the right side plate member 15a to smoothly move in the front-rear direction.

[0141]

As illustrated in FIGs. 2 to 4, the depressions 23 are formed on the rear side of the side surface of the main body 3. The depressions 23 are each a cutout extending inward of the main body 3. In the main body 3 of the present embodiment, the second housing 6 is larger in width than the first housing 5 as seen in front view. The depressions 23 are provided on the boundary between the first housing 5 and the second housing 6.

[0142]

Each depression 23 is a step that extends in the front-rear direction, and guides a rear overhang portion of the chair-type massage machine 30 or the chair 60 such that the rear overhang portion freely slides along the depression 23. The main body 3 has a pair of left and right depressions 23. Therefore, the main body 3 has such a tapered shape that a lower side of the main body 3 is narrower in width than an upper side of the main body 3 as seen in front view.

[0143]

The rear overhang portion that remains after removal of one of the armrest portions 34 is fitted into the corresponding depression 23. In the chair-type massage machine 30, the rear case body 45 corresponds to the rear overhang portion. In the chair 60, a rear case body 66 corresponds to the rear overhang portion.

[0144]

A right depression 23a is a step that has a shape recessed leftward in the right side surface of the main body 3 as seen in front view. A left depression 23b is a step that has a shape recessed rightward in the left side surface of the main body 3 as seen in front view. In the present embodiment, the right depression 23a and the left depression 23b are provided in a pair. The right depression 23a and the left depression 23b are located at the same height and disposed in parallel in the front-rear direction.

[0145]

The rear case body 45 (the rear overhang portion) of the chair-type massage machine 30 is fitted into the right depression 23a. The rear case body 66 (the rear overhang portion) of the chair 60 is fitted into the left depression 23b.

[0146]

When the rear case body 45 (the rear overhang portion) is fitted into the right depression 23a while being guided, the coupling unit 2 is positioned, so that the coupling unit 2 and the chair-type massage machine 30 are coupled to each other with ease and good appearance.

[0147]

Likewise, when the rear case body 66 (the rear overhang portion) is fitted into the left depression 23b while being guided, the coupling unit 2 is positioned, so that the coupling unit 2 and the chair 60 are coupled to each other with ease and good appearance.

[0148]

Next, the method of attaching the coupling unit 2 is described with reference to FIGs. 1 to 7.

[0149]

First, as illustrated in FIGs. 3 and 4, of the left and right armrest portions 33 of the chair-type massage machine 30, the left armrest portion (not illustrated) is removed. A cover (not illustrated) is removed, which is attached to the left side surface (the rear case body 45) of the chair-type massage machine 30 so as to cover the pin insertion hole 42 for the rear right engagement pin 11R.

[0150]

As illustrated in FIG. 7, the right side plate member 15a of the coupling unit 2 is attached to the left side of the movable frame 40 of the chair-type massage machine 30. Specifically, the right side plate member 15a is fastened to the movable frame 40 with the screw inserted into the front hole 20 in the right side plate member 15a and the front attachment hole 43 in the front-rear rod member 40a of the movable frame 40 with the front hole 20 and the front attachment hole 43 aligned with each other.

[0151]

Likewise, the right side plate member 15a is fastened to the movable frame 40 with the screw inserted into the rear hole 21 in the right side plate member 15a and the rear attachment hole 44 in the front-rear rod member 40a of the movable frame 40 with the rear hole 21 and the rear attachment hole 44 aligned with each other. The right side plate member 15a is thus fixed to the movable frame 40.

[0152]

As illustrated in FIGs. 4 and 5, the front right engagement pin 11F is inserted into the pin insertion front hole 41 in the bottom rod member 39a of the stationary frame 39. As illustrated in FIGs. 4 and 6, the rear right engagement pin 11R is also inserted into the pin

insertion rear hole 42 in the rear upright rod member 39b of the stationary frame 39.

[0153]

As illustrated in FIG. 3, of the left and right armrest portions 63 of the chair 60, the right armrest portion (not illustrated) is removed. The fitting tool 22 with which the left side plate member 15b is attachable is attached to the right side surface of the chair 60. The left side plate member 15b of the coupling unit 2 is fastened with a screw to the fitting tool 22 on the right side surface of the chair 60.

[0154]

As illustrated in FIG. 5, the front left engagement pin 13F is inserted into the pin insertion front hole 64 in the front side of the right side surface of the chair 60. As illustrated in FIG. 6, the rear left engagement pin 13R is inserted into the pin insertion rear hole 65 in the rear side of the right side surface of the chair 60.

[0155]

As illustrated in FIG. 2, for example, the chair-type massage machine 30 is arranged right and the chair 60 is arranged left with the space secured between the chair-type massage machine 30 and the chair 60 such that the main body 3 of the coupling unit 2 is placed in the space. The main body 3 is moved rearward to the space between the chair-type massage machine 30 arranged right and the chair 60 arranged left.

[0156]

As illustrated in FIG. 5, the front right groove portion 12F horizontally moves rearward as the main body 3 moves rearward. As a result, the front right engagement pin 11F attached to the stationary frame 39 is fitted into the front right groove portion 12F moving rearward, along the lateral “U” shape of the open end of the front right groove portion 12F.

[0157]

At the same time, the front left groove portion 14F horizontally moves rearward as the

main body 3 moves rearward. As a result, the front left engagement pin 13F attached to the chair 60 is fitted into the front left groove portion 14F moving rearward, along the lateral “U” shape of the open end of the front left groove portion 14F.

[0158]

As illustrated in FIG. 6, the rear right groove portion 12R horizontally moves rearward as the main body 3 moves rearward. As a result, the rear right engagement pin 11R attached to the stationary frame 39 is fitted into the rear right groove portion 12R moving rearward, along the lateral “U” shape of the open end of the rear right groove portion 12R.

[0159]

At the same time, the rear left groove portion 14R horizontally moves rearward as the main body 3 moves rearward. As a result, the rear left engagement pin 13R attached to the chair 60 is fitted into the rear left groove portion 14R moving rearward, along the lateral “U” shape of the open end of the rear left groove portion 14R.

[0160]

In addition, the rear case body 45 (the rear overhang portion) is fitted into the right depression 23a while being guided, and the rear case body 66 (the rear overhang portion) is also fitted into the left depression 23b while being guided, so that the coupling unit 2 is positioned.

[0161]

In this way, the right coupling portions 9 couple the right side of the main body 3 to the left side of the chair-type massage machine 30, and the left coupling portions 10 couple the left side of the main body 3 to the right side of the chair 60.

[0162]

The main body 3 of the coupling unit 2 is interposed between the chair-type massage machine 30 and the chair 60. The right coupling portions 9 (the coupling portion 4) couple the main body 3 to the chair-type massage machine 30. The left coupling portions 10 (the coupling

portion 4) couple the main body 3 to the chair 60. Thereafter, the main body 3 is fastened with a screw to the chair-type massage machine 30 arranged right. In addition, the main body 3 is fastened with a screw to the chair 60 arranged left.

[0163]

The coupling unit 2 of the composite chair 1 of the present embodiment can be easily fitted into the space between the chair-type massage machine 30 and the chair 60 in coupling the chair-type massage machine 30 and the chair 60 to each other. After the coupling of the coupling unit 2, the coupling unit 2 is less likely to be detached from the chair-type massage machine 30 and the chair 60.

[0164]

According to the coupling unit 2, the right coupling portions 9 couple the main body 3 to the chair-type massage machine 30 arranged right, and the left coupling portions 10 couple the main body 3 to the chair 60 arranged left, with the main body 3 interposed between the chair-type massage machine 30 and the chair 60.

[0165]

FIG. 8 is a view illustrating the composite chair 1 in a state in which the second housing 6 of the main body 3 of the coupling unit 2 is tilted forward to serve as an armrest.

[0166]

As illustrated in FIG. 8, according to the composite chair 1 of the present embodiment, the second housing 6 may be turned forward on the hinge 8 to serve as an armrest on which the user can rest his/her arm. The main body 3 includes the hinge 8 (movable portion 8) that is provided at the joint between the first housing 5 and the second housing 6 such that the second housing 6 freely turns in the front-rear direction.

[0167]

That is, the main body 3 may have the switching function of serving as an armrest when

the second housing 6 is turned forward on the hinge 8 and a backrest when the second housing 6 is turned rearward on the hinge 8. When the second housing 6 is tilted forward and is laid on the first housing 5, the second housing 6 serves as a large armrest that is usable by two users who sit in the composite chair 1.

[0168]

Preferably, a cup holder 19 is provided on a rear surface of the second housing 6, and the user may use the cup holder 19 when tilting the second housing 6 forward. The user is able to relax in the composite chair 1 while putting, for example, a cup filled with something to drink on the cup holder 19.

[0169]

FIG. 9 is a view illustrating the composite chair 1 in a state in which the backrest portion 32 of the chair-type massage machine 30 reclines, the seat portion 31 of the chair-type massage machine 30 moves forward together with the right side plate member 15a, and the footrest portion 34 of the chair-type massage machine 30 protrudes forward.

[0170]

As illustrated in FIG. 9, according to the composite chair 1 of the present embodiment, the backrest portion 32 of the chair-type massage machine 30 is capable of inclining rearward, the seat portion 31 of the chair-type massage machine 30 is capable of moving forward, and the footrest portion 34 of the chair-type massage machine 30 is capable of protruding forward. At this time, the right side plate member 15a (the side plate member 15) moves forward together with the seat portion 31.

[0171]

At this time, the second housing 6 may be tilted forward to serve as an armrest. The user is able to relax in the composite chair 1 while being massaged by the chair-type massage machine 30.

[0172]

The composite chair 1 of the present disclosure can be used as an oblong sofa capable of performing a massage, by employing the structure capable of easily coupling the chair-type massage machine 30 arranged right and the chair 60 arranged left to each other using the coupling unit 2 that is equal in shape (chair shape described above in detail) to the chair-type massage machine 30 arranged right and the chair 60 arranged left and is inserted into a certain space between the chair-type massage machine 30 arranged right and the chair 60 arranged left.

[0173]

[Modifications]

As described in the present embodiment, for example, one chair-type massage machine 30 and one chair 60 equal in shape to the chair-type massage machine 30 may be prepared, and the chair-type massage machine 30 and the chair 60 may be coupled to each other with a coupling unit 2 interposed therebetween.

[0174]

Alternatively, for example, two chair-type massage machines 30 may be prepared, and the chair-type massage machines 30 may be coupled to each other with a coupling unit 2 interposed therebetween.

[0175]

In addition, two coupling units 2 may be used. For example, a composite chair 1 can be obtained as a more oblong sofa in such a manner that three chair-type massage machines 30 are prepared and adjacent two of the chair-type massage machines 30 are coupled to each other with one of the coupling units 2 interposed therebetween.

[0176]

Alternatively, a composite chair 1 can be obtained as a more oblong sofa in such a manner that two chair-type massage machines 30 and one chair 60 equal in shape to the chair-

type massage machines 30 are prepared and the chair 60 is coupled to the chair-type massage machines 30 with the coupling units 2 interposed between the chair 60 and the chair-type massage machines 30.

[0177]

The use of the coupling units 2 described above in detail enables coupling of at least two or more chair-type massage machines 30, chairs 60, and the like in the left-right direction and achieves a composite chair 1 having a desired size (length) (a chair 1 in the form of a laterally oblong sofa).

[0178]

It should be noted that the rear right coupling portion 9R and the rear left coupling portion 10R may have the following shapes. However, the front right coupling portion 9F and the front left coupling portion 10F preferably have the configurations (the front right groove portion 12F and the front left groove portion 14F each have the lateral “U” shape) described above in detail.

[0179]

For example, the rear right coupling portion 9R may include an inverted “U”-shaped rear right groove portion 12R a rear end of which is open and that is provided on the rear side of the right side surface of the main body 3, and a rear right engagement pin 11R that is provided on the rear side of the left side surface of the chair-type massage machine 30 and is fitted into the inverted “U”-shaped rear right groove portion 12R.

[0180]

In addition, the rear left coupling portion 10R may include an inverted “U”-shaped rear left groove portion 14R a rear end of which is open and that is provided on the rear side of the left side surface of the main body 3, and a rear left engagement pin 13R that is provided on the rear side of the right side surface of the chair 60 and is fitted into the inverted “U”-shaped rear

left groove portion 14R, so as to be symmetrical with the rear right coupling portion 9R.

[0181]

In coupling the chair-type massage machine 30 arranged right and the chair 60 arranged left to each other using the exemplary coupling unit 2 described above, when the user moves the main body 3 rearward, the front right groove portion 12F and the front left groove portion 14F also move rearward.

[0182]

The front right engagement pin 11F is horizontally fitted into the front right groove portion 12F moving rearward, along the lateral “U” shape of the front right groove portion 12F. At the same time, the front left engagement pin 13F is horizontally fitted into the front left groove portion 14F moving rearward, along the lateral “U” shape of the front left groove portion 14F.

[0183]

The rear right groove portion 12R and the rear left groove portion 14R also move rearward. The rear right engagement pin 11R moves so as to be lifted upward and then is lowered and fitted into the rear right groove portion 12R moving rearward, along the inverted “U” shape of the rear right groove portion 12R. At the same time, the rear left engagement pin 13R moves so as to be lifted upward and then is lowered and fitted into the rear left groove portion 14R moving rearward, along the inverted “U” shape of the rear left groove portion 14R.

[0184]

That is, according to this exemplary coupling unit 2, the rear right engagement pin 11R of the rear right coupling portion 9R is mounted on the rear right groove portion 12R of the rear right coupling portion 9R and then is fitted into the rear right groove portion 12R along the inverted “U” shape of the rear right groove portion 12R, and the rear left engagement pin 13R of the rear left coupling portion 10R is mounted on the rear left groove portion 14R of the rear left

coupling portion 10R and then is fitted into the rear left groove portion 14R along the inverted “U” shape of the rear left groove portion 14R.

[0185]

As a result, before coupling between the chair-type massage machine 30 arranged right and the chair 60 arranged left, the main body 3 moves such that the rear side of the main body 3 slightly floats, and the rear right engagement pin 11R which has been mounted on the rear right groove portion 12R is lowered and fitted into the rear right groove portion 12R. At the same time, the rear left engagement pin 13R is lowered and fitted into the rear left groove portion 14R. As a result, the coupling unit 2 may have a configuration in which the rear right coupling portion 9R and the rear left coupling portion 10R are in a locked state.

[0186]

Finally, the schematic configurations of the chair-type massage machine 30 and chair 60 each constituting a part of the composite chair 1 of the present embodiment are briefly described. It should be noted that the chair-type massage machine 30 and the chair 60 are not limited to the examples described in the present embodiment and may be modified in design as appropriate. The coupling unit 2 is prepared so as to be adapted for the chair-type massage machine 30 and the chair 60.

[0187]

As illustrated in FIGs. 1 to 4, the chair-type massage machine 30 includes the seat portion 31 on which the user is able to sit, the backrest portion 32 in which the massage mechanism (not illustrated) is incorporated for performing massage operation on the back of the user, and the armrest portions 33 disposed on the left and right side surfaces of the seat portion 31.

[0188]

The chair-type massage machine 30 of the present embodiment also includes the

footrest portion 34. In the footrest portion 34, a foot massage mechanism is incorporated for performing a massage on the lower limbs of the user. The footrest portion 34 is capable of protruding forward and retracting rearward.

[0189]

The backrest portion 32 is capable of reclining and moving upward by a reclining mechanism 35. The seat portion 31 is capable of moving in the front-rear direction by a slide mechanism 36, in conjunction with the reclining operation of the backrest portion 32.

[0190]

As illustrated in FIGs. 4 and 7, the chair-type massage machine 30 of the present embodiment includes the reclining mechanism 35 that moves the backrest portion 32 upward and then reclines the backrest portion 32 which has been moved upward, the slide mechanism 36 that slides the seat portion 31 (the movable frame 40) in the front-rear direction, and an interlocking mechanism 37 that interlocks the reclining mechanism 35 and the slide mechanism 36 with each other.

[0191]

The seat portion 31 and the backrest portion 32 are supported by a leg body 38. The leg body 38 includes the stationary frame 39 that is installed on the floor F, and the movable frame 40 to which the seat portion 31 and the backrest portion 32 are mounted, and that is capable of moving in the front-rear direction relative to the stationary frame 39.

[0192]

In the chair-type massage machine 30 of the present embodiment, a backrest frame of the backrest portion 32 is mounted to the movable frame 40, and the interlocking mechanism 37 interlocks the reclining mechanism 35 and the slide mechanism 36 with each other.

[0193]

The backrest portion 32 is substantially flush with the upper edge of the second housing

6 in the erected state before the reclining operation of the chair-type massage machine 30 (see FIG. 1). In reclining the backrest portion 32, the interlocking mechanism 37 uses the driving force of the reclining mechanism 35 for the slide mechanism 36, so that the movable frame 40 slides forward. When the movable frame 40 slides forward, the backrest frame (the backrest portion 32) moves forward while reclining.

[0194]

At the time of the reclining operation of the chair-type massage machine 30, the backrest portion 32 moves higher than the upper edge of the second housing 6 (the coupling unit 2) in the erected state, and inclines rearward while the seat portion 31 slides forward.

[0195]

As described above, at the time of the reclining operation of the backrest portion 32, the interlocking mechanism 37 causes the seat portion 31 to slide forward and the backrest portion 32 to move forward, so that the backrest portion 32 moves downward without contact with a wall of a room.

[0196]

For example, in installing the chair-type massage machine 30, even in a case where a distance between the wall of the room and the rear surface of the backrest portion 32 is several centimeters, the backrest portion 32 is capable of smoothly reclining. In addition, the seat portion 31, the armrest portions 33, and the right side plate member 15a are capable of sliding in the front-rear direction.

[0197]

That is, according to the chair-type massage machine 30, at the time of the reclining operation of the backrest portion 32 by the reclining mechanism 35, the interlocking mechanism 37 smoothly interlocks the sliding operation of the seat portion 31 in the front-rear direction by the slide mechanism 36. Therefore, in installing the chair-type massage machine 30 in the

vicinity of the wall of the room, even in a case where there is a short distance between the wall of the room and the rear surface of the backrest portion 32, the backrest portion 32 is capable of smoothly reclining.

[0198]

In the present embodiment, the movable frame 40 is movable obliquely upward and forward. Therefore, at the time of the reclining operation during which the backrest portion 32 inclines rearward, the seat portion 31 slightly moves upward while moving forward. The user thus relaxes without feeling gravity during the reclining operation.

[0199]

Also in the present embodiment, the chair-type massage machine 30 has a function of an ottoman. Specifically, the footrest portion 34 of the present embodiment is turnable on an axial center in the left-right direction. When the footrest portion 34 is turned such that the bottom surface is directed upward, the footrest portion 34 serves as an ottoman on which the user sitting in the chair-type massage machine 30 is able to put his/her legs. The user is thus able to further relax.

[0200]

As illustrated in FIGs. 1 to 3, the chair 60 is substantially equal in shape to the chair-type massage machine 30, and includes the seat portion 61, the backrest portion 62, and the armrest portions 63 disposed on the left and right side surfaces of the seat portion 61.

[0201]

It should be understood that embodiments disclosed herein are illustrative and are not restrictive in all respects. In particular, as matters that are not explicitly described in the embodiments disclosed herein, such as activating conditions or operating conditions, and dimensions, weights, and the like of constituents, matters are adopted that can be easily conceived by a person skilled in the art without departing from the scope of ordinary

implementations by a person skilled in the art. Although not illustrated in the drawings, for example, with regard to the massage mechanism incorporated in the chair-type massage machine 30, a length of a kneading arm, an inclination angle of a kneading arm to a rotary drive shaft, a distance between left and right kneading arms, and the like can be changed as appropriate in view of a treatment range.

REFERENCE SIGNS LIST

[0202]

- 1 composite chair
- 2 coupling unit
- 3 main body
- 4 coupling portion
- 5 first connection member (first housing)
- 6 second connection member (second housing)
- 7a first right rail
- 7b first left rail
- 9F front right coupling portion
- 9R rear right coupling portion
- 10F front left coupling portion
- 10R rear left coupling portion
- 11F front right engagement pin
- 11R rear right engagement pin
- 12F front right groove portion
- 12R rear right groove portion
- 13F front left engagement pin

- 13R rear left engagement pin
- 14F front left groove portion
- 14R rear left groove portion
- 15a right side plate member
- 15b left side plate member
- 17a second right rail
- 17b second left rail
- 30 chair-type massage machine
- 31 seat portion
- 32 backrest portion
- 33 armrest portion
- 39 stationary frame
- 39a bottom rod member
- 39b rear upright rod member
- 40 movable frame
- 40a front-rear rod member
- 60 chair
- 61 seat portion
- 62 backrest portion
- 63 armrest portion
- F floor

CLAIMS

[Claim 1] A composite chair comprising:

 a chair arranged left;

 a chair arranged right; and

 a coupling unit configured to couple the chair arranged left and the chair arranged right to each other,

 wherein the coupling unit is substantially equal in shape to the chair arranged left and the chair arranged right, as seen in side projective view, and

 the composite chair has a module structure in which the chair arranged left and the chair arranged right are assembled to each other with the coupling unit.

[Claim 2] The composite chair according to claim 1, wherein

 the coupling unit includes:

 a main body to be installed in a state in which the main body is interposed between the chair arranged left and the chair arranged right; and

 a coupling portion configured to couple the main body to the chair arranged left and the chair arranged right.

[Claim 3] The composite chair according to claim 2, wherein

 the coupling portion includes:

 a left coupling portion configured to couple the main body to the chair arranged left;

and

 a right coupling portion configured to couple the main body to the chair arranged right.

[Claim 4] The composite chair according to claim 2, wherein

the coupling portion includes:

an engagement pin provided on a side surface of the chair so as to protrude outward;

and

a lateral “U”-shaped groove portion having an open rear end and provided on the main body at a position where the groove portion faces the engagement pin.

[Claim 5] The composite chair according to claim 2, wherein

the main body includes a housing lighter in weight than the chair, and has a strength allowing a user to sit on the main body.

[Claim 6] The composite chair according to claim 2 or 5, wherein

the main body is substantially equal in shape to the chair arranged left and the chair arranged right, as seen in side projective view, and has a chair shape allowing the user to sit on the main body,

the main body includes:

a first connection member having a shape contiguous with a seat portion of the chair arranged left and a seat portion of the chair arranged right; and

a second connection member disposed on an upper side of the first connection member and having a shape contiguous with a backrest portion of the chair arranged left and a backrest portion of the chair arranged right, and

the second connection member has a switching function of serving as an armrest when being tilted forward and a backrest when being raised rearward.

[Claim 7] The composite chair according to claim 2, wherein

the chair includes:

a reclinable backrest portion;

the seat portion movable in a front-rear direction in conjunction with reclining operation; and

armrest portions disposed on left and right sides of the seat portion, and

the coupling unit includes a side plate member to be attached instead of a corresponding one of the armrest portions of the chair, the corresponding armrest portion facing the coupling unit.

[Claim 8] The composite chair according to claim 7, wherein

 a depression extending inward of the main body is provided on a rear side of a side surface of the main body, and

 a rear overhang portion remaining after removal of the corresponding armrest portion is fitted into the depression.

[Claim 9] The composite chair according to claim 7, wherein

 the coupling unit includes guide means having a cutout shape and configured to guide the main body in the front-rear direction, and

 the guide means includes:

 a first rail provided on the main body; and

 a second rail provided on the side plate member and configured to be guided along the first rail.

[Claim 10] The composite chair according to claim 1, wherein

 at least one of the chair arranged left and the chair arranged right is a chair-type massage machine.

[Claim 11] The composite chair according to claim 10, wherein

 at least one of the chair arranged left and the chair arranged right is a chair-type
message machine,

 the chair-type message machine includes:

 a reclinable backrest portion;

 a seat portion movable in a front-rear direction in conjunction with reclining
operation; and

 armrest portions disposed on left and right sides of the seat portion,

 the coupling unit includes a second connection member having a shape contiguous with
the backrest portion of the chair-type message machine,

 the second connection member has a switching function of serving as an armrest when
being tilted forward and a backrest when being raised rearward, and

 in the reclining operation of the chair-type message machine, the backrest portion
moves higher than an upper edge of the second connection member in an erected state, and
inclines rearward while the seat portion slides forward.