SITTING ARRANGEMENT

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ABSTRACT

Chaise longue comprising a sofa frame (2), seat part (4) and back rest (3). The seat part (4) comprises side bars (9a, b), cross bars (10a, b) and seat springs (7). The seat part (4) is rotatably connected to the sofa frame (2) by means of mounting devices (8a, b) below the sitting surface of the seat part. One or more balance springs (14) are arranged between the seat part (4) and the sofa frame (2). A shutter or flap (16) is rotatably mounted to the seat part with pivotal joints (17a, b). The flap is furthermore rotatably connected to the sofa frame in point at the opposite end from the joints.

6 Claims, 4 Drawing Sheets
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SITTING ARRANGEMENT

The present invention relates to a chaise longue, also called
longseat, and to an elastic joint for the use in it.

From U.S. Pat. No. 3,974,630, it is known an adjustable
base for the use in a bed, sofa or chaise longue comprising
a back rest 5 being hinged to a seat 2 that is hinged to a foot
part or shutter 3. The back rest is hinged in a rotatable joint
at the lower part of this, just above the hinging to the seat.
Likewise, the seat is hinged to a rotatable joint, where there
also is a slide to receive longitudinal movement in relation to
the backrest. For the same reason, the lower part of the shuttle
is attached to a slide guide. The angle between the back rest
and the seat is adjustable in preset levels. The angle is locked
in each level.

It is an object of the present invention to provide a chaise
longue being easy to adjust during use by redistribution of
body mass. Furthermore, is an object to provide an adjust-
able chaise longue having a basic and robust design without
the possibility of moving parts. The structure comprises a hinged
joint being easy to mount and maintain. There will be little
wear of the joint and it will consequently have a long dur-
ability. Due to the relatively simple design, the production
costs will also be lower.

This is obtained by a chaise longue according to the
attached claim 1, and a flexible joint according to claim 4.

The sitting arrangement will be further described by means
of embodiments in the attached drawings where:

FIG. 1 shows a chaise longue according to the invention,
in plane, longitudinal section and cross section,

FIG. 2 shows the chaise longue with the seat in a second
position,

FIG. 3 shows a flexible joint being a part of the chaise
longue, in perspective a and cross section b,

FIG. 4 shows the hinge point of the chaise longue with the
elastic coupling.

FIG. 1 shows a chaise longue according to the invention. It
comprises a fixed back rest 3, a seat part 4 with a bottom frame
6, seat springs 7 and rotatable mounting devices 8a, b. The
seat frame or bottom frame 6 of the embodiment has the shape
of a quadrangle with four sides forming two mainly straight
parallel side bars 9a, 9b being arranged on the sides being
parallel with the longitudinal direction of the chaise longue,
and two parallel side bars 10a, 10b along the two remaining
sides of the quadrangle. The seat springs 7 are stretched over
the bottom frame 6 between the side bars 9a, 9b thereby
forming a resilient sitting plane, whereon a cushion or the like
can be placed. The sitting part is attached to the frame of the
sofa 2 by means of rotatable mounting devices 8a, b. More
precisely, the bottom frame comprises a third cross bar 10c
being prolonged over the periphery of the bottom frame, and
where the ends of the cross bar is suspended in mounting
devices 8a, b of the sofa frame. The mounting devices are in
the form of bearing blocks that can be made in any suitable
material, such as three or metal, but which are preferably
made in a plastic material, like here. The third cross bar form
a further reinforcing element, but otherwise the suspension
arrangement can be implemented in a simpler way, for
example by welding short pipe sockets to the frame, which in
return anchor the mounting devices to the sofa frame.

In the shown embodiment, the mounting devices 8a, b are
attached asymmetrically to the frame in relation to a centre
axis through the seat part 4, so that the fulcrum joint will be
between the knee and the hip of a user sitting in an ordinary
manner with parallel legs and the back resting towards the
back rest of the chaise longue. The mounting device can as
an example be arranged 1/4 of the distance from the front edge
of the seat. It is an intention that the mounting device 8 is
arranged in such a way that it performs self balancing tilt. The
mounting device is preferably not provided with a lock or
adjustable brake, as the tilt is confined by the mounting
mechanism and the placement of this, in combination with
balance springs 14. However, the chaise longue can be pro-
vided with some sort of final stops limiting the swing of the
seat part.

The chaise longue is provided with balance springs 14. In
the shown figures, the balance springs are arranged between
the bottom frame ad ad the sofa frame below the back rest.
However, the balance springs 14 can be arranged along the
side panels of the sofa frame in stead of in the side of the sofa
frame below the back rest. A skilled person that will con-
struct a sitting arrangement according to the invention, are ree
arrange spring devices where it is the most appropriate to
obtain a desired balance in the seat part and sufficient resis-
tance against tilting in order to make the tilting of the seat part
comfortable for the user. There can also be used other kinds of
spring devices, such as flat coil springs, leaf springs, rubber
band devices or arrangements, torsional springs or others. In
stead of arranging these at the end parts of the cross bars, the
springs can be arranged in relation to the rotatable mounting
arrangement between the seat part and the bottom frame.

At the front edge of the seat part a shutter or flap 16 is
hinged in hinges points 17a, b. The flap is also rotatably
attached to the sofa frame 2 at the opposite end of the attach-
ment to the seat part, in rotatable mounting places 18a, b.
When the seat part 4 is tilting in one direction, the flap 16 will
tilt in opposite phase with this and thereby forming a "bend" or
break in the sitting plane or surface and an elevation in the
area by the knees of one sitting in the chaise longue provided
with the sitting arrangement. This will increase the sitting
comfort to a user sitting in the chaise longue. If the user
chooses to lie down or more than one person are sitting on
the chaise longue, the seat part will tilt back in passive position,
such that a straight continuous sitting surface is formed, suitable
for accommodating one person lying down, more persons
sitting or persons partially slung on the sofa.

FIG. 2 shows the chaise longue with the seat part 4 in a
second position, where the seat part is tilted downwards
towards the back rest 3. When the seat part is tilted the cross
bars 9 closest to the back rest 3 tilt downwards, while the cross
bars 9 closest to the flap 16 tilt upwards. The flap 16 thereby
tilt upwards closest to the seat part 4 and will rotate around
rotatable mounting member 18a, b so that flap 16 and seat part
4 form an angle larger than 0° in relation to each other. This
will be the case when someone for example leans towards the
back rest 3 of the sitting arrangement.

Compared to other known solutions for a chaise longue or
longseat, the present solution is distinguished by the seat and
flap being hinged in a hinge point 17 between the seat and
flap. In a flat embodiment, the hinging can be conventional,
with an ordinary to-part hinge with two socket pieces for
connecting to the frame. The hinge can in a first end be firmly
connected to the frame while the other end is allowed to slide
freely inside the tube of the frame. Both ends are also allowed
to slide freely inside the tubes. Thereby, in the hinge point, the
frame will separate to some extent when the seat is tilted
upwards.

Preferable the hinge point is realized as an elastic coupling
as shown in FIG. 3a and b. This is made of a socket piece 19
of an elastic polymeric material. The socket piece is conical
towards both ends and is provided with a neck or collar 20 in
the centre. The socket piece is preferably completely or partly
sealed with a wall 21 in the middle of the tube. This coupling
is easy to mount as it is merely slid into the pipe ends of the
The invention claimed is:
1. A chaise longue comprising:
a sofa frame (2), seat part (4) and back rest (3),
where the seat part (4) comprises side bars (9a, b), cross bars (10a, b) and seat springs (7), characterized in that the back rest (3) is fixed, the seat part (4) is rotatably connected to the sofa frame (2) by means of mounting devices (8a, b) below a sitting surface of the seat part, wherein the mounting devices (8a, b) support the seat part (4) and allow for tilting of the seat part (4) within the sofa frame (2),
one or more balance springs (14) are attached between the seat part (4) and the sofa frame (2),
wherein the balance springs (14) provide resistance to the seat part (4) tilting within the sofa frame (2) maintaining balance to the seat part (4),
a flap (16) is rotatably mounted to the seat part (4) with pivotable joints (17a, b), the flap is rotatably connected to the sofa frame (2) by means of mounting places (18a, b) at the opposite end from the pivotable joints (17a, b), wherein the mounting places (18a, b) support the flap (16) and allow for tilting of the flap (16) within the sofa frame (2),
wherein the seat part (4) and flap (16) have a first position and a second position,
in the first position, the seat part (4) and flap (16) form an approximately straight continuous sitting surface, and in the second position, the seat part (4) is tilting downwards towards the back rest (3), resulting in the flap (16) tilting in the opposite direction due to the pivotable joints (17a, b), wherein the seat part (4) and the flap (16) form an angle larger than 90° in relation to each other.

2. The chaise longue according to claim 1, where the mounting devices (8a, b) are arranged at approximately 1/3 of the distance from the front frame element (2c).
3. The chaise longue according to claim 1, where at least one pivotable joints (17a, b) is elastic,
the elastic pivotable joint (17a, b) comprises, a tubular formed sleeve or pipe socket (19) being conical in both ends, and a collar (20) arranged at the centre of the pipe socket,
wherein the sleeve (19) and the collar (20) is produced in a suitable polymeric material,
wherein one end of the sleeve (19) is engaged with the side bars (9a, b) of the seat part (4) and the opposite end of the sleeve (19) is engaged with the side bars (9a, b) of the flap (16).
4. The chaise longue according to claim 3, where the tubular formed sleeve comprises an internal wall (21) completely or partly sealing the sleeve.
5. The chaise longue according to claim 1, where at least one pivotable joints (17a, b) is elastic,
the elastic pivotable joint (17a, b) comprises, a tubular formed sleeve or pipe socket (19) being conical in both ends, and a collar (20) arranged at the centre of the pipe socket,
wherein the sleeve (19) and the collar (20) is produced in a suitable polymeric material,
wherein one end of the sleeve (19) is engaged with the side bars (9a, b) of the seat part (4) and the opposite end of the sleeve (19) is engaged with the side bars (9a, b) of the flap (16).
6. The chaise longue according to claim 5, where the tubular formed sleeve comprises an internal wall (21) completely or partly sealing the sleeve.

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