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08007 Barcelona (ES)(30) Priority: **02.11.2018 CN 201811300238**(54) **A SHAMPOO BED**

(57) This invention discloses a shampoo bed comprising the bed body of shampoo bed, shampoo basin, the first connecting rod that is in rotating connection to the bed body of the shampoo bed via the first rotating shaft, and the second connecting rod that is in rotating connection to the bed body of the shampoo bed via the second rotating shaft. The shampoo basin is in rotating connection to the first connecting rod via the third rotating shaft, and the shampoo basin is in rotating connection to the second connecting rod via the fourth rotating shaft. A back cushion is provided on the first connecting rod.

Compared to the current technology, when the first connecting rod of the present utility model is rotated, not only the adjustment of the angle of the back cushion is realized, but also the shampoo basin is lifted and lowered along with the back cushion, so that the adjustment of the angle of the back cushion and the adjustment of the position of the shampoo basin are more convenient, the time for additionally adjusting the position of the shampoo basin is eliminated, which is convenient for the user to use and meets the needs of the user.

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Description

[0001] This invention belongs to the field of cleaning equipment, and in particular, relates to a shampoo bed.

Background of the invention

[0002] A shampoo bed or chair allows the hair washer to offer the services such as the hair cleaning and care better to customers who need to lie on the bed or sit on the cushion, with their head inside the shampoo basin after the adjustment of the angle of the shampoo basin.

[0003] Usually the angle of the back cushion and the leg-supporting plate of the shampoo bed can be adjusted to increase the feeling of comfort while washing, to turn a shampoo chair to be a shampoo bed. Generally, after the shampoo chair turns to be a shampoo bed, the angle of the shampoo basin is not suitable, and the shampoo basin may need to be adjusted before the services such as hair washing and care. However, it is difficult to adjust the position of the shampoo basin, resulting in inconvenience and excessively long time consumption during use, which could easily result in dissatisfaction of user. Moreover, if the form is not changed, people will feel discomfort, and insufficient comfort can also lead to user dissatisfaction.

Description of the invention

[0004] In order to overcome the shortcomings in the current technology, one embodiment of the present invention provides a shampoo bed with flexibly adjustable shampoo basin that will be more convenient for use and meet the demands of users.

[0005] One embodiment of this invention solves its technical problem by the following technical scheme:

A shampoo bed, comprising the bed body of the shampoo bed, shampoo basin, the first connecting rod that is in rotating connection to the bed body of the shampoo bed via the first rotating shaft, and the second connecting rod that is in rotating connection to the bed body of the shampoo bed via the second rotating shaft. The shampoo basin is in rotating connection to the first connecting rod via the third rotating shaft, and the shampoo basin is in rotating connection to the second connecting rod via the fourth rotating shaft. A back cushion is provided on the first connecting rod; when the first connecting rod is rotated, the shampoo basin will move up or down along with the rotation of the first connecting rod.

[0006] As an improvement of the above scheme, the distance between the first rotating shaft and the second rotating shaft matches with that between the third rotating shaft and the fourth rotating shaft, and the distance between the first rotating shaft and the third rotating shaft matches with that between the second rotating shaft and the fourth rotating shaft.

[0007] As a further improvement of the above scheme, the shampoo basin is consisted of a basin base and a

basin body provided on the basin base, and the basin body is in rotating connection to both the third rotating shaft and the fourth rotating shaft.

[0008] Further, the second rotating shaft is located beneath the first rotating shaft, and also the third rotating shaft is located beneath the fourth rotating shaft.

[0009] Further, the first connecting rod comprises a support bracket used to install the back cushion and a connecting arm used to connect the support bracket. The support bracket is in rotating connection to the first rotating shaft, and the connecting arm is in rotating connection to the third rotating shaft.

[0010] Further, a leg-supporting plate is hinged at one side of the bed body of the shampoo bed that is away from the shampoo basin.

[0011] Further, a first linkage rod is hinged underneath the leg-supporting plate, and a second linkage rod hinged with the first linkage rod is provided on the first connecting rod.

[0012] Further, a retractable jackstay is hinged underneath the leg-supporting plate. This jackstay can be independently driven from the first connecting rod.

[0013] Further, the first connecting rod is rotated by the driving of the first actuating device.

[0014] Further, the bed body of the shampoo bed is provided with a seat cushion matched with the back cushion and the armrests provided on both sides of the seat cushion.

[0015] The advantageous effects of one embodiment of the present invention is as follows: compared to the current technology, the bed body of the shampoo bed of one embodiment of the present utility model is in rotating connection to the first connecting rod and second connecting rod via the first rotating shaft and second rotating shaft, respectively, and the shampoo basin is in rotating connection to the first connecting rod and second connecting rod via the third rotating shaft and fourth rotating shaft, respectively, which achieves that when the first connecting rod is rotated, not only the adjustment of the angle of the back cushion is realized, but also the shampoo basin is lifted and lowered along with the back cushion, so that the adjustment of the angle of the back cushion and the adjustment of the position of the shampoo basin are more convenient, the time for additionally adjusting the position of the shampoo basin is eliminated, which is convenient for the user to use and meets the needs of the user.

Brief description of the figures

[0016] Below are further descriptions about this invention in combination with the drawings and embodiments.

Fig. 1 is the structural schematic diagram of the as-bed state in the linkage scheme in one embodiment of this invention;

Fig. 2 is the structural schematic diagram of the as-

chair state in the linkage scheme in one embodiment of this invention;

Fig. 3 is the structural schematic diagram of the independent moving scheme in one embodiment of this invention;

Fig.4 is the stereoscopic schematic diagram of the overall structure in one embodiment of this invention.

Description of a preferred embodiment

[0017] Referring to Figs. 1-4, a shampoo bed comprises the bed body of shampoo bed (1), the shampoo basin (2), the first connecting rod (3) that is in rotating connection to the bed body of shampoo bed (1) via the first rotating shaft (31), and the second connecting rod (4) that is in rotating connection to the bed body of shampoo bed (1) via the second rotating shaft (41). The shampoo basin (2) is in rotating connection to the first connecting rod (3) via the third rotating shaft (32), and the shampoo basin (2) is in rotating connection to the second connecting rod (4) via the fourth rotating shaft (42), and a back cushion (5) is provided on the first connecting rod (3); when the first connecting rod (3) is rotated, the shampoo basin (2) will move up or down along with the rotation of the first connecting rod (3). In the above, both the first rotating shaft (31) and the second rotating shaft (41) are provided on the bed body of shampoo bed (1), and the bed body of shampoo bed (1) is used to support the entire body, thus the user may lie down thereon. The back cushion (5) is used to support the user's back to make his/her feel more comfortable. The first rotating shaft (31), the second rotating shaft (41), the third rotating shaft (32) and the fourth rotating shaft (42) are not in the same straight line. A linkage mechanism similar to the crank-link mechanism is formed by the mutual cooperation of the bed body of shampoo bed (1), the first connecting rod (3), the shampoo basin (2) and the second connecting rod (4). The back cushion (5) is provided on the first connecting rod (3). When the back cushion (5) is rotated along with the first connecting rod (3), the shampoo basin (2) will also move up or down along with the first connecting rod (3), that is to say, the shampoo basin (2) will be moved along with the back cushion (5). That is to say, when the angle of the back cushion (5) is changed, the shampoo basin (2) will move up or down along with the back cushion (5), during this period, when the shampoo basin (2) is moved up or down, the shampoo basin (2) will be maintained horizontal to keep water inside from splashing onto the floor or shampoo bed, the shampoo basin (2) is made to be always located at the position of the back cushion (5) corresponding to the head of the human body, so that the head of the user who lies down on the bed body of shampoo bed (1) can be directly aligned with the shampoo basin (2). Therefore, when the back cushion (5) is adjusted at any position, the person lying on the bed body of shampoo bed (1) adjusts his or

her lying posture, and after adjusting the lying posture, the cleaning and care can be performed, and the step of adjusting the position of the shampoo basin (2) after adjusting the angle of the back cushion (5) is eliminated, which makes the user more convenient to use, reduces the waiting time, improves the quality of the service, and satisfies the needs of the user.

[0018] Referring to Fig. 1 and Fig. 2, preferably, in order to ensure that the shampoo basin (2) will not tilt during the rotation of the back cushion (5), the distance between the first rotating shaft (31) and the second rotating shaft (41) matches with that between the third rotating shaft (32) and the fourth rotating shaft (42), and the distance between the first rotating shaft (31) and the third rotating shaft (32) matches with that between the second rotating shaft (41) and the fourth rotating shaft (42), that is to say, a transmission mechanism similar to the parallelogram mechanism with double crank connecting rods is formed by the bed body of shampoo bed (1), the first connecting rod (3), the shampoo basin (2) and the second connecting rod (4). It can be seen that the shampoo bed serves as the connecting rod in the parallelogram mechanism and the first connecting rod (3) serves as the crank, that is to say, when the first connecting rod (3) is rotated to drive the shampoo basin and the second connecting rod (4), the included angle between the shampoo basin (2) and the horizontal plane remains unchanged. That is to say, when the back cushion (5) is rotated, the shampoo basin (2) will move up or down along with the back cushion (5), and when the shampoo basin (2) is moved up or down, the included angle between the shampoo basin and the horizontal plane is unchanged. Therefore, there is no fear that the shampoo basin (2) is tilted, and there is no need to worry about that the water in the shampoo basin (2) is spilled to wet the floor or the bed body of shampoo bed (1), which is convenient for use and make the shampoo basin (2) more reliable. In addition, the shampoo basin (2) can also be supported by the telescopic support rod to prevent the angle of the shampoo basin (2) from changing; or the angle of the shampoo basin (2) adjusted by using a relatively long swinger to keep the shampoo basin (2) to be horizontal.

[0019] Preferably, for easy installation, the shampoo basin (2) is consisted of a basin base (21) and a basin body (22) provided on the basin base (21), and the basin body (22) is in rotating connection to both the third rotating shaft (32) and the fourth rotating shaft (42). The basin base (21) is used to support the shampoo basin (2) and conveniently connect with the bed body of shampoo bed (1). The basin body (22) is a general bath tray such as a porcelain tray, a plastic tray, a stone tray or the like. The basin body (22) is connected to the basin base (21) by a swinger to facilitate adjustment of the angle of the basin body (22). A U-shape opening is provided on the basin body (22) to facilitate a person's head to align with the shampoo basin (2).

[0020] Preferably, in order to allow greater pendulum angle, adjust more positions and enable the rotation more

stable and more reliable, the second rotating shaft (41) is located beneath the first rotating shaft (31), and also the third rotating shaft (32) is located beneath the fourth rotating shaft (42). Such design that the second rotating shaft (41) is located beneath the first rotating shaft (31) is convenient for hinging and avoids the presence of two dead points in the parallelogram double-crank mechanism, which facilitates the rotation of the first connecting rod (3) and makes the shampoo basin (2) more reliable.

[0021] Preferably, in order to make the installation of the back cushion (5) more reliable, the first connecting rod (3) comprises a support bracket (33) used to install the back cushion (5) and a connecting arm (34) used to connect the support bracket (33). The support bracket (33) is in rotating connection to the first rotating shaft (31), and the connecting arm (34) is in rotating connection to the third rotating shaft (32). A certain included angle exists between the connecting arm (34) and the support bracket (33). Such design is convenient for lifting up the back cushion (5) and make the height of the person lying on the shampoo bed higher, such that the head of the person can be placed directly above the shampoo basin (2), which is convenient for cleaning and care services.

[0022] Referring to Figs. 1-4, preferably, in order to support the legs, a leg-supporting plate (6) is hinged at one side of the shampoo bed that is away from the shampoo basin (2). The position of the leg-supporting plate (6) can be adjusted by the hinged shaft to be adjusted to a comfortable position.

[0023] There are two different options for connection of the leg-supporting plate (6). The first scheme is about linkage with the back cushion (5), referring to Fig. 1 and Fig. 2, i.e. the linkage scheme: the first linkage rod (61) is hinged underneath the leg-supporting plate (6), and the second linkage rod (35) hinged with the first linkage rod (61) is provided on the first connecting rod (3). The second linkage rod (35) is provided on the first connecting rod (3). The rotation of the first connecting rod (3) will drive the second linkage rod (35) to rotate, then the second linkage rod (35) will drive the first linkage rod (61) to prop up and draw back the leg-supporting plate (6), which is convenient for people to coherently adjust the posture without spending time or steps to adjust the position of the leg-supporting plate (6) for convenient use. That is to say, when the first connecting rod (3) is rotated downwards, the leg-supporting plate (6) will be propped up under the cooperation of the first linkage rod (61) and the second linkage rod (35), such that an as-bed state is formed by the back cushion (5), leg-supporting plate (6) and bed body of shampoo bed (1) to allow the user to lie thereon. When the first connecting rod (3) is rotated upwards, the leg-supporting plate (6) will be drawn back, such that an as-chair state is formed to facilitate the user to change the sitting position.

[0024] Referring to Fig. 3, the second scheme is that the movements of the back cushion (5) and the leg-supporting plate (6) are separated from each other, i.e. the independent moving scheme: a retractable jackstay (62)

is hinged underneath the leg-supporting plate (6), and the leg-supporting plate (6) is not provided with linkage rod to connect with the first connecting rod (3). Instead, the retractable jackstay (62) is used directly to open or draw back, which is convenient for the client to adjust the angle of the leg-supporting plate (6) according to his or her own preference, which meets the demands of more clients. The retractable jackstay (62) is a lever that can perform telescopic supporting, such as a hydraulic support rod or a pneumatic support rod.

[0025] Preferably, for the realization of automatic rotation of the first connecting rod (3), the first connecting rod (3) is rotated under the driving of the first actuating device (7). Optimally therein, a motor-driven leadscrew linear drive module is used as the first actuating device (7) to allow the linear retraction of the output rod to drive the first connecting rod (3) to rotate. The output rod is hinged with the first connecting rod (3), which is easy to be stressed. In addition, other actuating devices such as oil cylinder or air cylinder can also be used as the first actuating device (7), or manual operation is applied instead of the actuating device to wiggle the first connecting rod (3) to rotate, as the case may be.

[0026] In an alternative embodiment of the invention, in relation with the second scheme of the connection of the leg-supporting plate (6), the retractable jackstay (62) is driven by an independent motor or the like, in order to allow an independent moving from the first connection rod (3)

Referring to Fig. 4, preferably, in order to facilitate sitting and supporting hands, the bed body of shampoo bed (1) is provided with a seat cushion (8) matched with the back cushion (5) and the armrests (9) provided on both sides of the seat cushion (8). The seat cushion (8), the back cushion (5), and the leg-supporting plate (6) are all supported by a soft cushion to make the person who is lying on the bed body of shampoo bed (1) more comfortable. A soft layer is also provided on the armrests (9) for the avoidance of bump. The armrests (9) are provided with the switch controlling the first actuating device (7) and the button for reverse actuation, such that the person can directly adjust the position of the back cushion (5) by lying on the bed body of shampoo bed (1) for convenient use.

[0027] Compared to the current technology, the bed body of shampoo bed (1) of one embodiment of the present utility model is in rotating connection to the first connecting rod (3) and second connecting rod (4) via the first rotating shaft (31) and second rotating shaft (41), respectively, and the shampoo basin (2) is in rotating connection to the first connecting rod (3) and second connecting rod (4) via the third rotating shaft (32) and fourth rotating shaft (42), respectively, which achieves that when the first connecting rod (3) is rotated, not only the adjustment of the angle of the back cushion (5) is realized, but also the shampoo basin (2) is lifted and lowered along with the back cushion (5), so that the adjustment of the angle of the back cushion (5) and the adjustment of the position of the shampoo basin (2) are more con-

venient, the time for additionally adjusting the position of the shampoo basin (2) is eliminated, which is convenient for the user to use and meets the need that the cleaning and care can be performed even though the user changes the posture at will.

[0028] The descriptions above are merely the preferred embodiment of the present invention, but this invention is not limited to the above embodiment. Any embodiment applying the same or similar means to realize the technical effect of this invention should be covered by the protection scope for this invention.

Claims

1. A shampoo bed, comprising a bed body of shampoo bed (1), a shampoo basin (2), a first connecting rod (3) that is in rotating connection to the bed body of shampoo bed (1) via a first rotating shaft (31), and a second connecting rod (4) that is in rotating connection to the bed body of shampoo bed (1) via a second rotating shaft (41), wherein the shampoo basin (2) is in rotating connection to the first connecting rod (3) via a third rotating shaft (32), and the shampoo basin (2) is in rotating connection to the second connecting rod (4) via a fourth rotating shaft (42), a back cushion (5) is provided on the first connecting rod (3), wherein when the first connecting rod (3) is rotated, the shampoo basin (2) moves up or down along with the first connecting rod (3).
2. The shampoo bed according to claim 1, wherein a distance between the first rotating shaft (31) and the second rotating shaft (41) matches with that between the third rotating shaft (32) and the fourth rotating shaft (42), and a distance between the first rotating shaft (31) and the third rotating shaft (32) matches with that between the second rotating shaft (41) and the fourth rotating shaft (42).
3. The shampoo bed according to claim 2, wherein the shampoo basin (2) comprises a basin base (21) and a basin body (22) provided on the basin base (21), and the basin body (22) is in rotating connection to both the third rotating shaft (32) and the fourth rotating shaft (42).
4. The shampoo bed according to claim 2, wherein the second rotating shaft (41) is located beneath the first rotating shaft (31), and the third rotating shaft (32) is located beneath the fourth rotating shaft (42).
5. The shampoo bed according to claim 2, wherein the first connecting rod (3) comprises a support bracket (33) used to install the back cushion (5) and a connecting arm (34) used to connect with the support bracket (33), wherein the support bracket (33) is in rotating connection to the first rotating shaft (31), and

the connecting arm (34) is in rotating connection to the third rotating shaft (32).

6. The shampoo bed according to any one of claims 1-5, wherein a leg-supporting plate (6) is hinged at one side of the bed body of shampoo bed (1) that is away from the shampoo basin (2).
7. The shampoo bed according to claim 6, wherein a first linkage rod (61) is hinged underneath the leg-supporting plate (6), and a second linkage rod (35) hinged with the first linkage rod (61) is provided on the first connecting rod (3).
8. The shampoo bed according to claim 6, wherein a retractable jackstay (62) is hinged underneath the leg-supporting plate (6), with an independent moving from the first connecting rod (3).
9. The shampoo bed according to any one of claims 1-5, wherein the first connecting rod (3) is rotated under a driving of a first actuating device (7).
10. The shampoo bed according to any one of claims 1-5, wherein the bed body of shampoo bed (1) is provided with a seat cushion (8) matched with the back cushion (5) and armrests (9) provided on both sides of the seat cushion (8).
11. The shampoo bed according to claim 8, wherein the retractable jackstay (62) is driven by an independent motor.

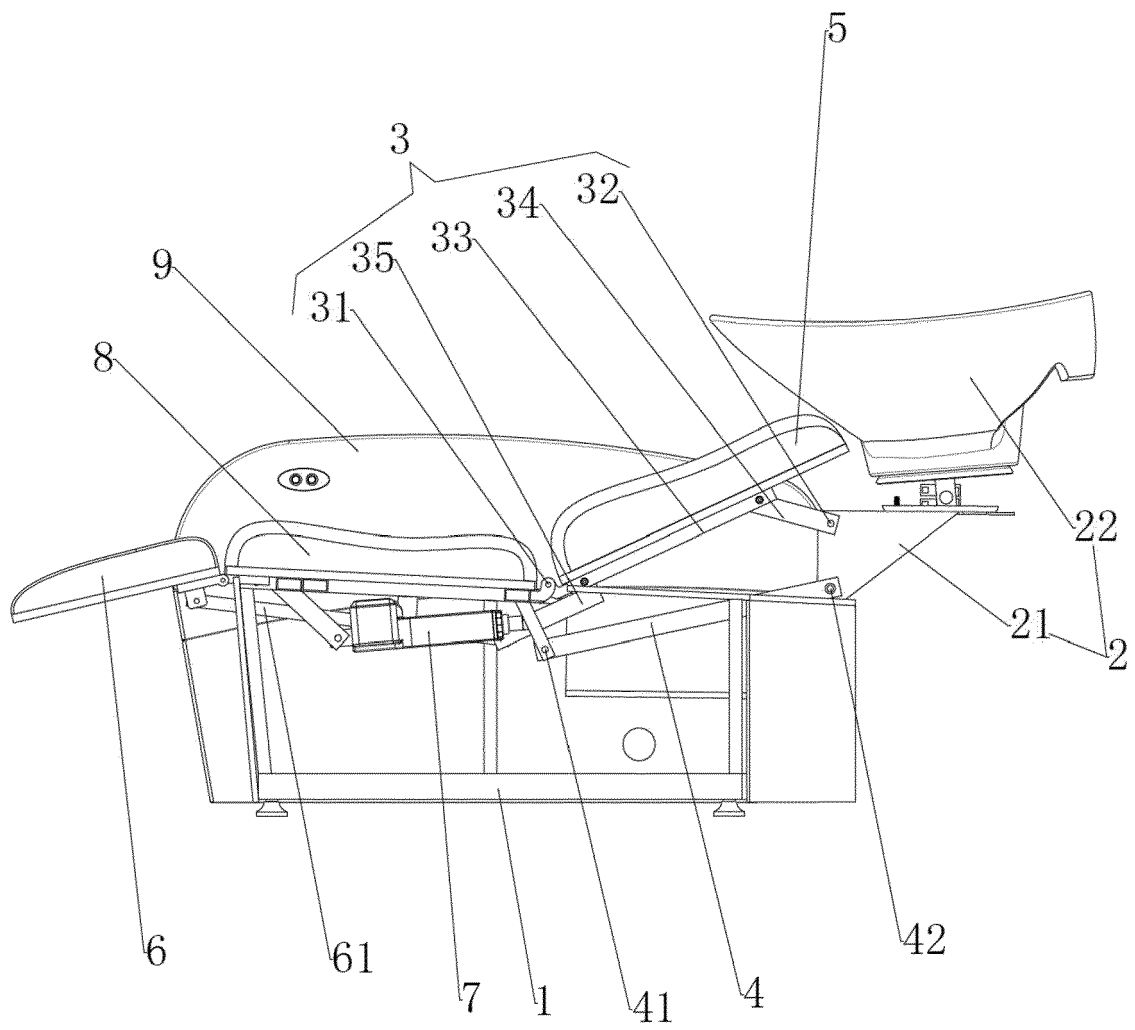


Fig. 1

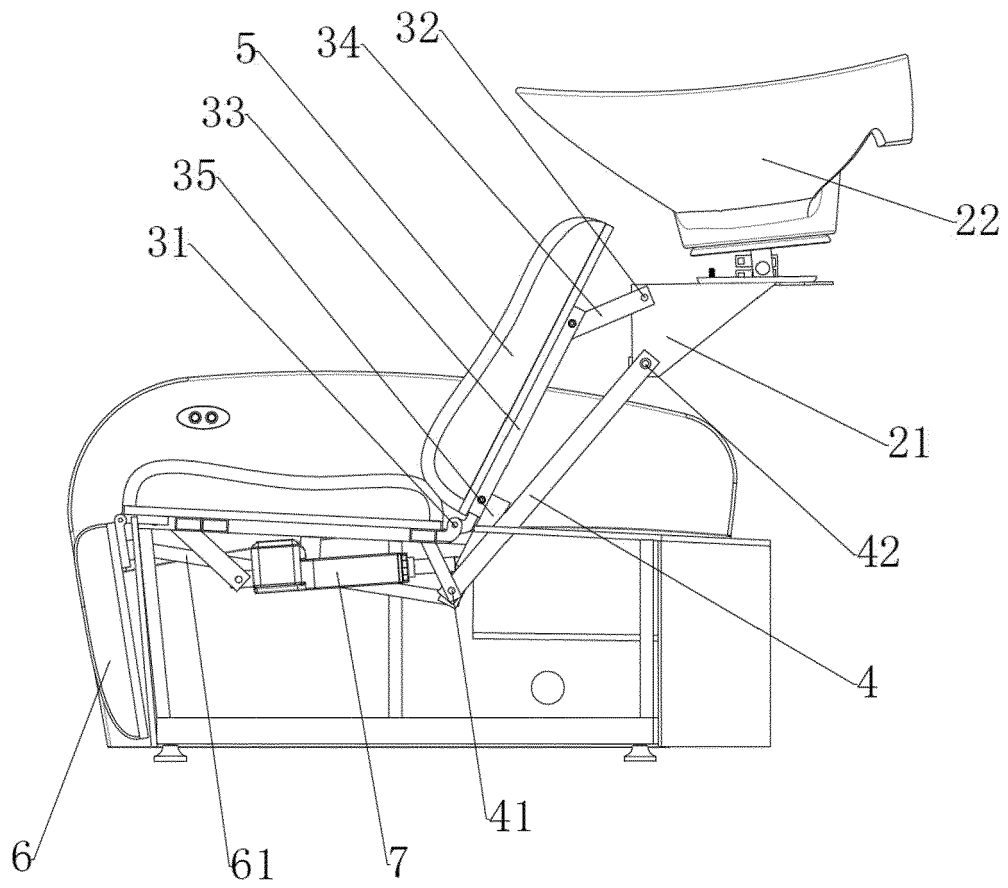


Fig. 2

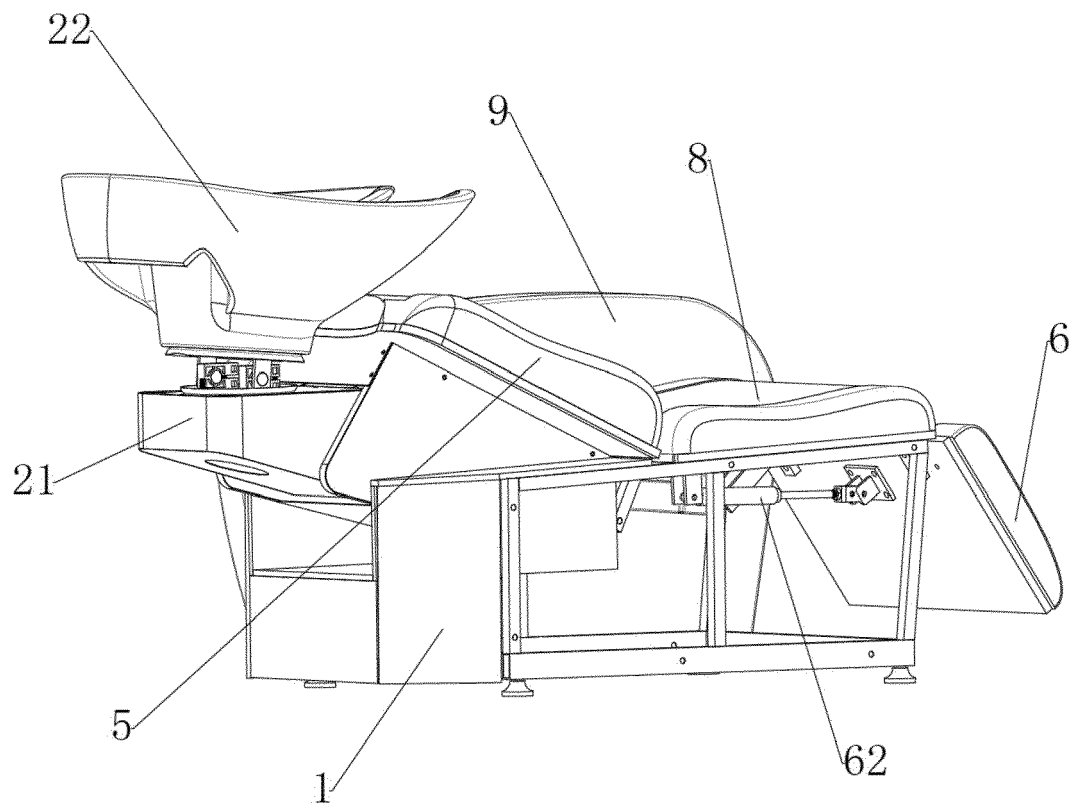


Fig. 3

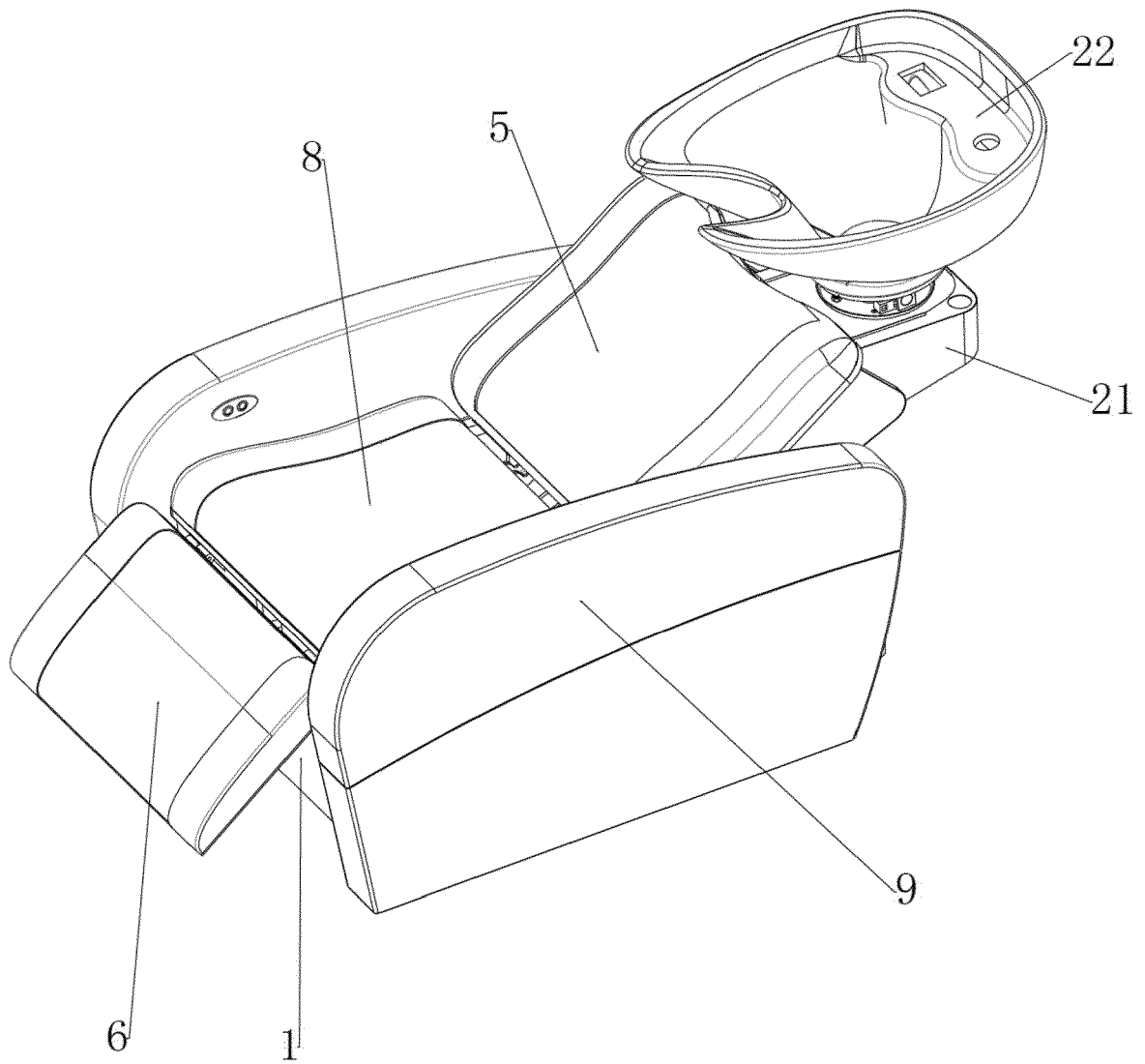


Fig. 4



EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 January 2020	Examiner Melo Sousa, Filipe
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ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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13-01-2020

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82