

RECLINING CHAIR PROVIDED WITH MEANS TO NEGOTIATE A WALL CONTIGUOUS TO SAME

FIELD OF THE INVENTION

The present invention relates generally to a reclining chair, and more particularly to a reclining chair which is provided with a linking and moving mechanism to enable the reclining chair to negotiate a wall without relocating the reclining chair contiguous to the wall.

BACKGROUND OF THE INVENTION

As illustrated in FIGS. 1 and 2, a reclining chair 10 of the prior art has a movable backrest 11 which can be adjusted for reclining. The reclining chair 10 is so located next to a wall 12 that the backrest 11 of the reclining chair 10 is apt to be obstructed by the wall 12 at the time when the backrest 11 is adjusted for reclining. In order to prevent the backrest 11 from being obstructed by the wall 12, the reclining chair 10 must be relocated away from the wall 12, as shown in FIG. 2. In the event that the reclining chair 10 is located in a small room with a limited space, the reclining chair 10 can not be relocated. In addition, it is conceivably annoying that the reclining chair 10 must be relocated from time to time.

SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide a reclining chair which is free from the shortcoming of the prior art reclining chair described above.

In keeping with the principle of the present invention, the forgoing objective of the present invention is attained by the reclining chair, which comprises a base, a support frame, a backrest frame, a driving device, and two driven guide rods. The base is rested on the floor. The support frame is slidably mounted on the base such that the support frame can be driven by the driving device to slide back and forth. As the support frame is driven to slide forward, the backrest frame is pulled by the two driven guide rods to recline. As the support frame is driven to slide backward, the backrest frame is pushed by the two driven guide rods to remain in an upright position.

The foregoing objective, features, and advantages of the present invention will be more readily understood upon a thoughtful deliberation of the following detailed description of the preferred embodiments of the present invention with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a schematic view of a prior art recliner with the backrest thereof remaining in an upright position.

FIG. 2 shows a schematic view of the prior art recliner with the backrest thereof remaining in an inclined position.

FIG. 3 shows a perspective view of a reclining chair of a first preferred embodiment of the present invention.

FIG. 4 shows an exploded view of the reclining chair of the first preferred embodiment of the present invention.

FIG. 5 shows a side schematic view of the reclining chair of the

first preferred embodiment of the present invention in combination.

FIG. 6 shows another side schematic view of the reclining chair of the first preferred embodiment of the present invention in combination.

FIG. 7 shows still another side schematic view of the reclining chair of the first preferred embodiment of the present invention in combination.

FIG. 8 shows still another side schematic view of the reclining chair of the first preferred embodiment of the present invention in combination.

FIG. 9 shows a side schematic view of a second preferred embodiment of the present invention.

FIG. 10 shows another side schematic view of the second preferred embodiment of the present invention.

FIG. 11 shows a side schematic view of a third preferred embodiment of the present invention.

FIG. 12 shows another side schematic view of the third preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. 3-6, a reclining chair embodied in the present invention comprises a base 21, a support frame 23, a backrest frame 26, a driving device 40, and two driven guide rods 46.

The base 21 is rested on the floor and is formed of two slotted rails 22 parallel to each other.

The support frame 23 is provide at the bottom of two opposite sides thereof with at least two guide wheels 24 which are slidably mounted in the slide slot of the slotted rails 22 of the base 21, thereby enabling the support frame 23 to slide back and forth on the base 21.

The backrest frame 26 is pivoted at the lower side thereof to the upper side of the rear end of the support frame 23 by two pivoting elements 27. The backrest frame 26 can be thus adjusted for reclining.

The driving device 40 comprises a motor 41, a threaded rod 42, a pivoting seat 43, a back seat 44, and a driving seat 45. The motor 41 is fastened to the back seat 44 which is in turn fastened with the base 21. The threaded rods 42 is fastened between the back seat 44 and the pivoting seat 43 which is fastened with the base 21 such that the pivoting seat 43 is opposite in location to the back seat 44. The driving seat 45 is mounted on the midsegment of the threaded rod 42 such that the driving seat 45 is fastened with a support rod 28 of the support frame 23.

The two driven guide rods 46 are fastened pivotally at he bottom end thereof with the rear end of the base 21 by a pivoting element 27, and at the top end thereof with the backrest frame 26 by a pivoting element 27.

In operation, the threaded rod 42 is driven by the motor 41 to rotate, so as to cause the driving seat 45 to displace on the threaded rod 42. In light of the driving seat 45 being fastened with the support rod 28 of the support frame 23, the displacement of the driving seat 45 on the threaded rod 42 results in the to-and-fro motion of the support frame 23 on which the seat of the reclining chair is mounted. As the

support frame 23 slides forward, the backrest frame 26 is caused to recline. When the support frame 23 slides rearward, the backrest frame 26 is linked to move back to its original upright position.

As shown in FIGS. 7 and 8, the reclining chair of the present invention comprises two link cables 47 in place of the two driven guide rods 46. The link cables 47 are fastened at one end thereof with the front edge of the base 21, and at other end thereof with a link rod 49 which is fastened with the backrest frame 26. As the support frame 23 slides rearward, the link rod 49 is actuated to cause the backrest frame 26 to be in the upright position. When the support frame 23 slides forward, the backrest frame 26 is pulled to recline. The link cables run through the pulleys 48 which are fastened to the bottom of the support frame 23.

As shown in FIGS. 9 and 10, the driving seat 45 of the driving device 40 is replaced by a threaded tubular member 451 which is fastened to the support rod 28 of the support frame 23 such that the threaded tubular member 451 is fitted over the threaded rod 42 for protecting the threaded rod 42.

As shown in FIGS. 11 and 12, the driving device 40 of the reclining chair of the present invention is replaced by a driving shaft device 50. The drive shaft device 50 comprises a motor 51, an expandable shaft 52, and an end seat 53. The end seat 53 is fastened with the free end of the expandable shaft 52 such that the end seat 53 is mounted on the support rod 28 of the support frame 23. The driving shaft device 50 is mounted on the base 21.

WHAT IS CLAIMED IS :

1. A reclining chair comprising:

a base rested on the floor surface and formed of two rails parallel to each other;

a support frame for mounting thereon a seat of the reclining chair, said support frame provided at a bottom of two opposite sides thereof with at least two guide wheels slidably mounted on said two rails of said base so as to enable said support frame to slide back and forth on said base;

a backrest frame fastened pivotally with said support frame such that said backrest frame can be adjusted for reclining;

a driving device formed of a motor, a threaded rod driven by said motor to turn, a pivoting seat, a back seat, and a driving seat, said motor being fastened with said back seat which is in turn fastened with said base, said threaded rod being fastened between said back seat and said pivoting seat, said pivoting seat being fastened with said base such that said pivoting seat is opposite in location to said back seat, said driving seat being movably mounted on said threaded rod such that said driving seat is fastened with a support rod of said support frame; and

two driven guide rods fastened pivotally with said base and said backrest frame;

said motor of said driving device serving to drive said threaded rod to rotate so as to cause said driving seat to displace on said threaded rod, thereby resulting in a to-and-fro motion of



said support frame and the reclining of said backrest frame.

2. The reclining chair as defined in claim 1, wherein said two driven guide rods are replaced by two link cables which are fastened at one end with said base, and at other end with a link rod whereby said link rod is fastened with said backrest frame and is actuated to cause said backrest frame to be in an upright position at such time when said support frame is driven to slide rearward on said base, said backrest frame being pulled by said link rods to recline at such time when said support frame is driven to slide forward on said base, said link cables running through pulleys which are fastened with said support frame.

3. The reclining chair as defined in claim 1, wherein said driving device comprises a threaded tubular member in place of said driving seat whereby said threaded tubular member is fastened with said support rod of said support frame such that said tubular member is fitted over said threaded rod of said driving device for protecting said threaded rod.

4. The reclining chair as defined in claim 1, wherein said driving device is replaced by a driving shaft device comprising a motor, an expandable shaft extending from said motor, and an end seat fastened with the free end of said expandable shaft such that said end seat is mounted on said support rod of said support frame whereby said driving shaft device is mounted on said base.

