

PATENT SPECIFICATION (11)

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(54) CHAIR

(71) We, LA-Z-BOY CHAIR COMPANY, a Company organized and existing under the laws of the State of Michigan, United States of America, of 1284 N. Telegraph Road, Monroe, Michigan, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a chair.

Wheel chairs are usually provided in hospitals, nursing homes and for disabled persons to provide mobility for the occupant without providing the comfort of a lounge chair which has a degree of mobility when using the base of the present invention.

According to the invention there is provided a chair having a base including a base frame having side elements with at least one cross bar therebetween, rollable means mounted at the forward and rearward ends of each side element, and locking members one at the front end of each side element, which locking members are movable into engagement with the forward rollable means to oppose the rotation thereof, the chair also having a seat portion rockable with respect to the base.

Embodiments of the invention pertain to a base for a reclining platform rocking chair, similar to that illustrated in United States Patent No. 3,096,121, which provides mobility thereto. The base is provided with rubber tired wheels at the front end which contact the floor and with casters at the rear end. Spring pressed plungers engage the tires on the front wheels for the purpose of locking the wheels against rotation when the leg rest of the chair is retracted. When the handle at the side of the chair is operated to extend the leg rest, the plungers are retracted near the end of the leg rest extended movement releasing the front wheels and permitting the chair to be moved to another location. The chair will again be retained against movement when the leg rest

is partially or fully retracted which releases the plungers so that they can again be urged against the tires of the wheels.

BRIEF DESCRIPTION OF THE DRAWINGS.

Fig. 1 is a view in elevation of a lounging chair mounted for rocking movement on the base of the present invention;

Fig. 2 is a broken plan view of the base, the rocker parts and footrest structure of the chair illustrated in Fig. 1;

Fig. 3 is a view in side elevation of the base and locking system therefor illustrated in Fig. 2;

Fig. 4 is an enlarged broken view of the front end portion of the structure illustrated in Fig. 3;

Fig. 5 is a sectional view of the structure illustrated in Fig. 4, and

Fig. 6 is an enlarged broken view of the front end portion of the structure illustrated in Fig. 3.

The chair, as illustrated in Fig. 1, has a seat portion 11 which is rockable upon a base 12 which embodies features of the present invention. The seat portion 11 has a leg rest 13 which is operated by a handle 14 to extended and retracted positions. A rockable chair frame 10 has side frame elements 15 interconnected by cross members 16 and 17 at the rear and front ends, respectively. The side frame elements 15 of the chair frame 10 have the convex arcuate bottom surfaces of the rocking members 18 resting upon the planar top section 19 of the base 12. The rocking members 18 are connected to the side frame elements 15, and to the base 12 by spring units 22 of the conventional construction.

The springs of the units 22 have the top turns secured in slots in metal brackets 24 which are attached to the inner face of the rocker member 18 by a plurality of screws 25, as illustrated in Fig. 5. The bottom turns of the springs are secured in slots in metal brackets 26 which are secured to a

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bottom section 27 of the base side frame elements 20 of the base 12 by a plurality of screws 28. The endmost turns of the spring are retained within the slots of the brackets 24 and 26 by struckout tabs 29 which are bent thereover in the conventional manner. At the front of the base frame elements 20 rubber tired wheels 31 are mounted within inverted U-shaped brackets 32 the lower end of the inner arm of each of which is securely welded to an end of a square cross member 33. Bolts 34 extend through the arms of the U-shaped brackets 32 and through the wheels 31 on which they are mounted for rotation. Each side frame member 20 is a casting preferably made of white metal, having an outer face and inwardly extending top and bottom flanges to which the cross members 16, 17 are secured in fixed relationship.

Inwardly extending square bosses 37 are provided on the base frame members 20 over which the ends of a hollow square tubular cross member 38 extend. The ends are secured in fixed relation to the bosses 37 by bolts 39 extending therethrough. The outer side 41 of each U-shaped bracket 32 is secured against a recessed wall in the solid downwardly extending end 42 of the respective side frame member 20 by a screw 43. The screw 43 which extends through the outer arm of the bracket 32 is threaded into a threaded aperture 44 in the solid downwardly extending end 42 of the frame member 20. The opposite end of the frame member 20 slopes downwardly at 45 and upwardly and outwardly at 46 having an outer end section 47 in which the stem of a caster 48 is secured.

The bracket 32, as illustrated more specifically in Fig. 6 has a plate 51 secured across the arms thereof and provided with an aperture 52 through which a rod 53 extends and the rod 53 also extends through an aperture 53 in the web end portion 54 thereof. The rod has a square head 56 on the bottom end containing serrations 57 which engage a rubber tire 58 on the wheel 31. A spring 59 abuts the web end portions 54 and is compressed against a roll pin 61 carried on rod 53 to urge the head 56 downwardly against the tire 58 to prevent the wheel 31 from rotating. The rod 53 has a washer 62 freely fitted thereon engaged by a cam end 63 of a link 64 which is U-shaped in cross section. The washer 62 constitutes a cam surface fixed in position relative to the web. The link has spaced sides thereof disposed on opposite sides of the upper end of the rod 53 and secured thereto by a roll pin 65.

The opposite end of the link 64 is secured to a link 66 by a pivot pin 67 which operates to pull the pin 67 to the left. With the cam end 63 resting on the washer 62, the

pin 65 and rod 53 are moved outwardly to move the head 56 from engagement with the tire 58. The link 66 is secured to the end of a link 68 by a pivot 69 with the opposite end bent inwardly and reversely bent into U-shape and provided with aligned square holes 71 through the walls thereof. The links 68 are secured to the ends of a square rod 72 by screws 73. The square tube 38 has a pair of upstanding arms 74 welded thereto through which the rod 72 is supported in circular flanged sleeves 75 contained in upper cylindrical apertures which permits the rod and sleeves to rotate therein.

A link 76, similar to the links 68, having a U-shaped end 70 with aligned square holes through the walls thereof, is secured on the rod 72 by a screw 73 providing an operating arm for rotating the rod. The link 76 has its extending end engaged by a pivot 77 which extends through a slot 78 at the end of a link 79. A link 81 is secured at one end over a pin 82 of an arm 83 and at the other end is secured to the link 79 by a screw 84 which is threaded into one of a plurality of apertures 85 which provides adjustment in length to the link 79. The pin 77 will engage the end of the link 78 near the end of the swinging movement of the arm 83 to release the heads 56 from the tires 58. The arm 83 is secured to a square rod 86 which is operated by the handle 14 on the outer righthand side of the chair.

The leg rest 13 is mounted on linkage 87 for supporting the leg rest 13 forwardly of the chair when the handle 14 is rotated upwardly and to the rear. This movement near the end of the leg rest extension moves the link 76 counterclockwise to move the arm 68 and link 66 to the left, as viewed in Fig. 6, moving the link 64 counterclockwise to thereby move the pins 65 outwardly for moving the rods 53 and heads 56 away from the tires 58. A mechanism 88 locks the leg rest in extended position and permits the retraction thereof when the handle 14 is reversed. The square cross member 33 has a pair of spaced posts 91 secured thereto by screws 92. A shaft 93 is supported in aligned apertures in the two posts 91 for pivotally supporting the ratchet arm 94 in position to engage one of a plurality of teeth 95 for locking the chair against forward rocking movement when the leg rest is extended. When moving the operating handle 14 to retract the leg rest 13, a wire loop 96 connected to the ratchet arm 94 releases the end 97 thereof from the teeth 95 and permits the chair to again rock in the normal manner while locking the front wheels against movement. This and other novel features of the chair, can be studied in detail in United States Patent No. 3,096,121 above mentioned which discloses the same chair

as that of the present invention except for the mobile base.

WHAT WE CLAIM IS:—

- 5 1. A chair having a base including a base frame side elements with at least one cross bar therebetween, rollable means mounted at the forward and rearward ends of each side element, and locking members one at the front end of each side element, which locking members are movable into engagement with the forward rollable means to oppose the rotation thereof, the chair also having a seat portion rockable with respect to the base.
- 15 2. A chair as claimed in claim 1, wherein means are employed for moving said locking members out of engagement with said rollable means to permit them to rotate.
- 20 3. A chair as claimed in claim 2, wherein said rollable means at the front ends of the side elements are pivoted wheels, and wherein the rollable means at the rearward end of the elements are casters.
- 25 4. A chair as claimed in claim 3, wherein a retractable leg rest is mounted at the forward end of the chair, a handle on one side of the chair for operating a mechanism for moving the leg rest between extended and retracted positions, and for releasing the locked wheels and locking said leg rest to prevent the chair from rocking when the leg rest is in said extended position.
- 30 5. A chair as claimed in claim 4, wherein each said wheel is mounted on a shaft carried by a U-shaped bracket, said locking member embodying a rod extending through an aperture in the end web of the bracket, a spring within the bracket about
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said rod for urging the rod axially, and a lever pivoted to the extending end of said rod for moving the opposite end of the rod away from said wheel when the lever is actuated.

6. A chair as claimed in claim 5, wherein one end of said lever engages a cam surface fixed in position relative to said web, and means are provided connected to the other end of the lever to pivot the lever and thereby move said rod axially and the said opposite end thereof away from said wheel.

7. A chair as claimed in claim 4, wherein each side member of the base has an inwardly extending boss, and said cross bar comprises a tubular cross member having its ends extending over said bosses and secured thereto.

8. A chair as claimed in claim 7, wherein said tubular cross member has upstanding arms, a square rod rotatably supported by said upstanding arms and a link fixed to said square rod and having the one end coupled to said mechanism.

9. A chair as claimed in claim 7, wherein a rotatable rod is rotated by said handle, an actuating arm is fixed onto said rotatable rod, and a link connects the actuating arm to an arm on said square rod for operating the mechanism.

10. A chair substantially as herein described and as shown in the accompanying drawings.

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30 5. A chair as claimed in claim 4, wherein each said wheel is mounted on a shaft carried by a U-shaped bracket, said locking member embodying a rod extending through an aperture in the end web of the bracket, a spring within the bracket about

said rod for urging the rod axially, and a lever pivoted to the extending end of said rod for moving the opposite end of the rod away from said wheel when the lever is actuated.

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55 8. A chair as claimed in claim 7, wherein said tubular cross member has upstanding arms, a square rod rotatably supported by said upstanding arms and a link fixed to said square rod and having the one end coupled to said mechanism.

60 9. A chair as claimed in claim 7, wherein a rotatable rod is rotated by said handle, an actuating arm is fixed onto said rotatable rod, and a link connects the actuating arm to an arm on said square rod for operating the mechanism.

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