Jan. 8, 1957 A. BELISLE 2,776,702

LOCKING MECHANISM FOR ROCKING CHAIRS

Filed June 27, 1955

Fig. 1.

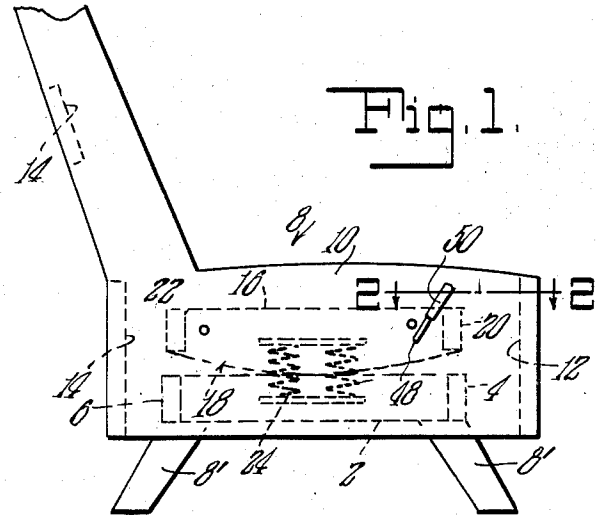


Fig. 2.

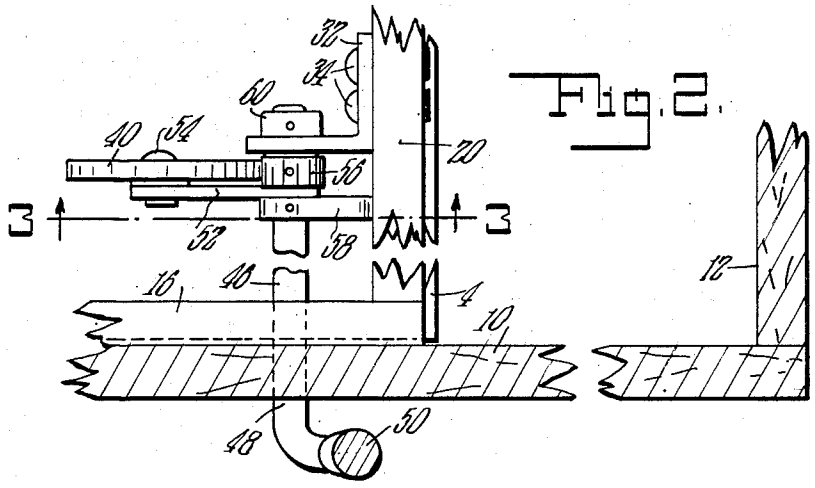


Fig. 3.

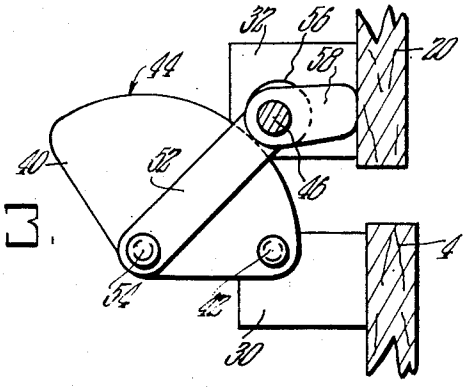
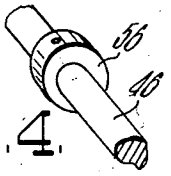


Fig. 4.



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LOCKING MECHANISM FOR ROCKING CHAIRS

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4 Claims. (Cl. 155—72)

This invention relates to improvements in chairs of the type wherein a seat and back are rockable on a base between upright and reclining positions and is directed more particularly to a mechanism for releasably locking the seat and back against movement on the base.

The principal object of the invention is directed to the provision of manually operable mechanism for a chair having a seat and back rockable or reclinable on a base which is constructed and arranged to releasably lock the seat and back against movement on the base in various reclined positions of the seat on the base. That is, the mechanism is adapted for releasably locking the seat and back in an upright or fully reclined position or an intermediate reclined position.

According to one novel feature of the invention, the mechanism is readily and easily affixed to the seat and base of a chair and is readily and easily operated by an occupant of the chair to lock or release the seat.

The mechanism is compact in form so as to occupy but small space and, as is the case with prior art mechanisms, the construction and appearance of the chair is not unfavorably influenced in order to accommodate the mechanism.

According to novel features of the invention the construction is such that components are associated with the base and seat which include portions engageable in an operative position of an operating rod thereby to lock the seat against movement. The engageable portions are disengaged in the inoperative position of the member to permit movements of the seat relative to the base.

All of the above cited objects I accomplish by means of such structure and relative arrangement of parts thereof, as will fully appear by a perusal of the description below and by various specific features which will be hereinafter set forth.

To these above and other ends and with the foregoing and various other and ancillary features and advantages and objects of my invention as will become more readily apparent as the description proceeds, my invention consists in certain features of novelty, in a mode of operation, and in the combination, organization, and arrangement of parts as will be hereinafter more particularly pointed out in the claims hereunto annexed and more fully described and referred to in conjunction with accompanying drawings wherein:

Fig. 1 is a diagrammatic side elevational view of a chair embodying the novel features of the invention;

Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1;

Fig. 3 is a sectional elevational view on the line 3—3 of Fig. 2; and

Fig. 4 is a perspective view of the locking component of the mechanism.

Referring now to the drawings more in detail the mechanism of the invention will be fully described.

The chair has a base formed by opposite side members 2 and transverse front and rear end members 4 and 6 which are suitably secured together in the form of a rectangle. Legs 8' of suitable form are provided at the four corners of the base. It is usual to construct the base from wood but other materials may be used if desired.

A seat and back indicated by 8 has side members 10 and transverse end members 12 and 14 which are secured together to provide a rigid structure. The components of the chair may be upholstered in the usual manner to provide the usual seat and back supporting means and the usual decorative appearance but forms no part of the present invention. Also the components may take any shape or configuration desired, the form shown being for purposes of disclosure merely.

The members 2 of the base serve as supporting bars. Rockers 16 are secured to inner sides of the side seat members 10 and have lower edges 18 which are curved for rocking or rolling on the upper sides of the members 2. The said rockers are secured together by forward and rear transverse end members 20 and 22. There may be other similar members.

Spring devices 24 at each side of the chair connect the members 2 and 16 of the base and seat and are of well known form. Said devices urge the seat into upright position but permit the seat to be inclined from the upright position shown to an inclined position wherein the back assumes a more tilted position than shown.

The mechanism of the invention is associated with the seat and base and more particularly with the forward transverse members 20 and 4 thereof. These members for purposes of disclosure will be referred to as the seat and base.

Lower and upper brackets 30 and 32 are fixed to members 4 and 20 of the base and seat respectively, as by bolts 34.

A segment 40 is pivoted at 42 to the lower bracket 30 and has a peripheral edge 44. An operating rod 46 is rotatable in the bracket 32. The outer end 48 of the rod is journalled in a side member 10 of the seat and carries a manually engageable grip 50.

The brackets 30 and 32 are preferably positioned about midway of the sides of the chair.

A link 52 has an inner or lower end pivoted at 54 to the segment 40 and its upper end loosely receives the rod 46.

As the seat moves towards and away from the base the action of the link 52 is such as to rotate the segment 40 with its peripheral edge operably related to the rod 46.

A cam 56 is fixed to the rod 46 and may be cylindrical in form and eccentrically related to the axis of rotation of said rod. The cam will be of such shape as to securely bind on the periphery of the cam to prevent rotation thereof.

For illustrative purposes the shaft 40 is shown in an inoperative position. As it is turned counterclockwise the cam 56 binds against the periphery 44 of the segment to lock said segment against rotation. Thereby the seat is locked against movement relative to the base.

The rod 46 is turned clockwise to the inoperative position whereby the segment is released by the cam so that the seat may be moved relative to the base.

A stop 58 is fixed to the rod 46 which is arranged to abut member 20 of the seat to limit rotation of the rod in releasing direction.

A collar 60 is fixed to the rod 46 and cooperates with the stop and cam and the bracket to hold the rod against axial movement.

Thus the seat may be locked to the base against movement in an upright position or the seat may be moved to a reclining position and releasably locked therein.

The invention may be embodied in other specific forms without departing from the essential characteristics there-

of. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

1. Manually operable locking mechanism for releasably locking to the base the seat of a chair tiltable on said base comprising, lower and upper brackets for securing to said base and seat, a segment pivoted to said lower bracket having an arcuate periphery, an operating rod journalled in said upper bracket for rotation in locking and releasing directions, a link pivotally connected at opposite ends to said segment and operating rod arranged to rotate said segment and maintain the periphery of said segment in locking positions relative to said rod as said brackets are moved towards and away from one another, a cam fixed on said rod arranged in operative locking position of the rod to bind on the periphery of the segment to hold it against rotation and thereby lock the brackets against movement towards and away from one another.

2. Manually operable locking mechanism for releasably locking to the base of a chair a seat tiltable relative thereto comprising, lower and upper brackets for securing to said base and seat, a segment pivoted to said lower bracket, an operating rod journalled in said upper bracket for rotation in opposite directions between locking and releasing positions, a segment pivoted to said lower bracket having an arcuate periphery, a link having opposite ends pivoted to said segment and rod for rotating said segment in opposite directions and positioning

the periphery of said segment adjacent said rod as said brackets are moved towards and away from one another, and a cam fixed on said rod having a periphery eccentrically related to the axis of rotation of said rod for binding on the periphery of the segment in locking position of said rod.

3. The combination with a chair having a base and a seat and back tiltable thereon of manually operable mechanism for releasably locking the seat and back against movement on the base comprising in combination, lower and upper brackets secured to said base and seat, an operating rod rotatable in the upper bracket in locking and releasing directions, a segment rotatable on the lower bracket, a link having an outer end journalled on said rod and pivotal connections between the lower end of said link and segment, said segment having a peripheral portion concentric relative to said pivotal connections and adjacent said rod, said link operating to rotate said segment in opposite directions as said seat moves on said base in opposite directions, and a cam fixed to said rod having a peripheral portion eccentrically related to the axis of said rod adapted as the rod is rotated in locking direction to bind on the periphery of the segment and lock the same against rotation.

4. Manually operable mechanism set forth in claim 3 wherein the axis of rotation of said segment is parallel to the axis of rotation of said operating rod.

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