

May 22, 1956

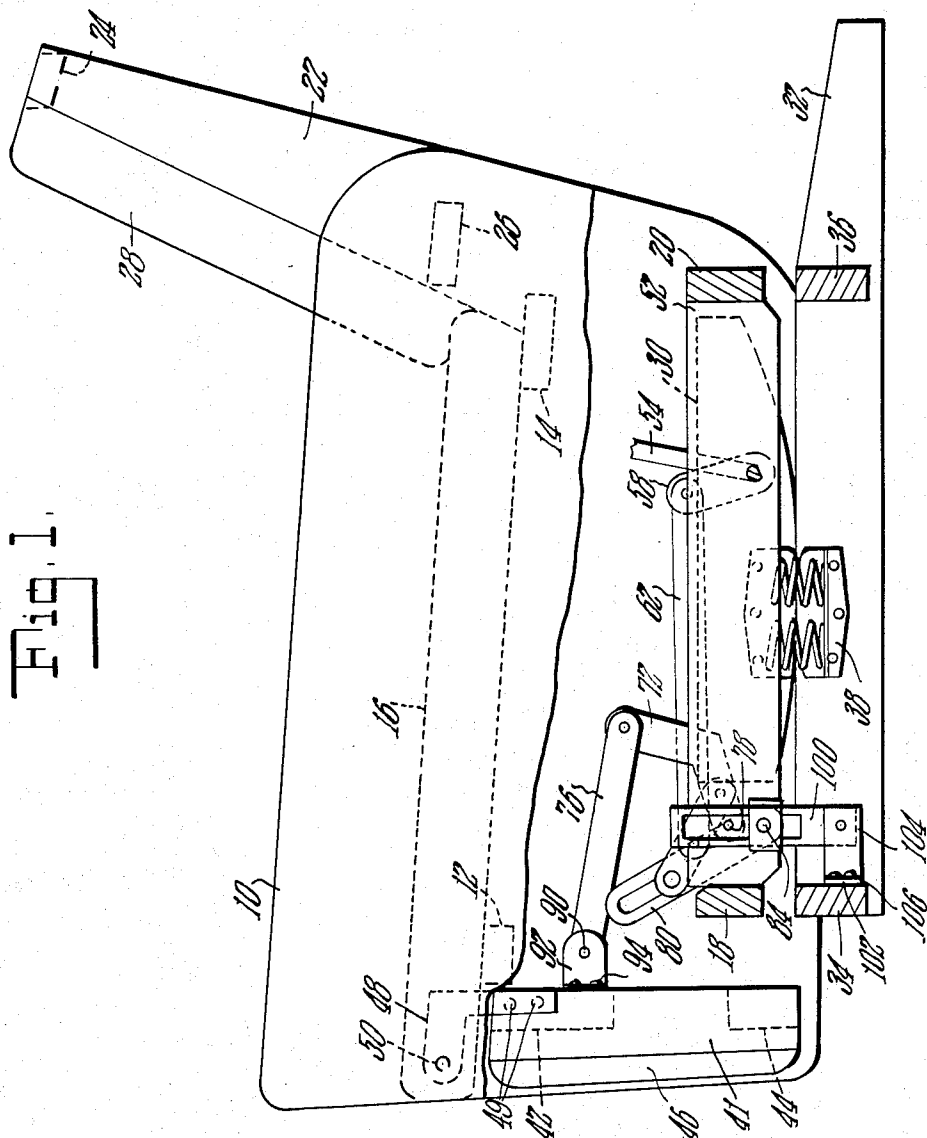
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2,746,519

ROCKING CHAIR CONVERTIBLE TO NON-ROCKING

Filed Aug. 13, 1953

5 Sheets-Sheet 1



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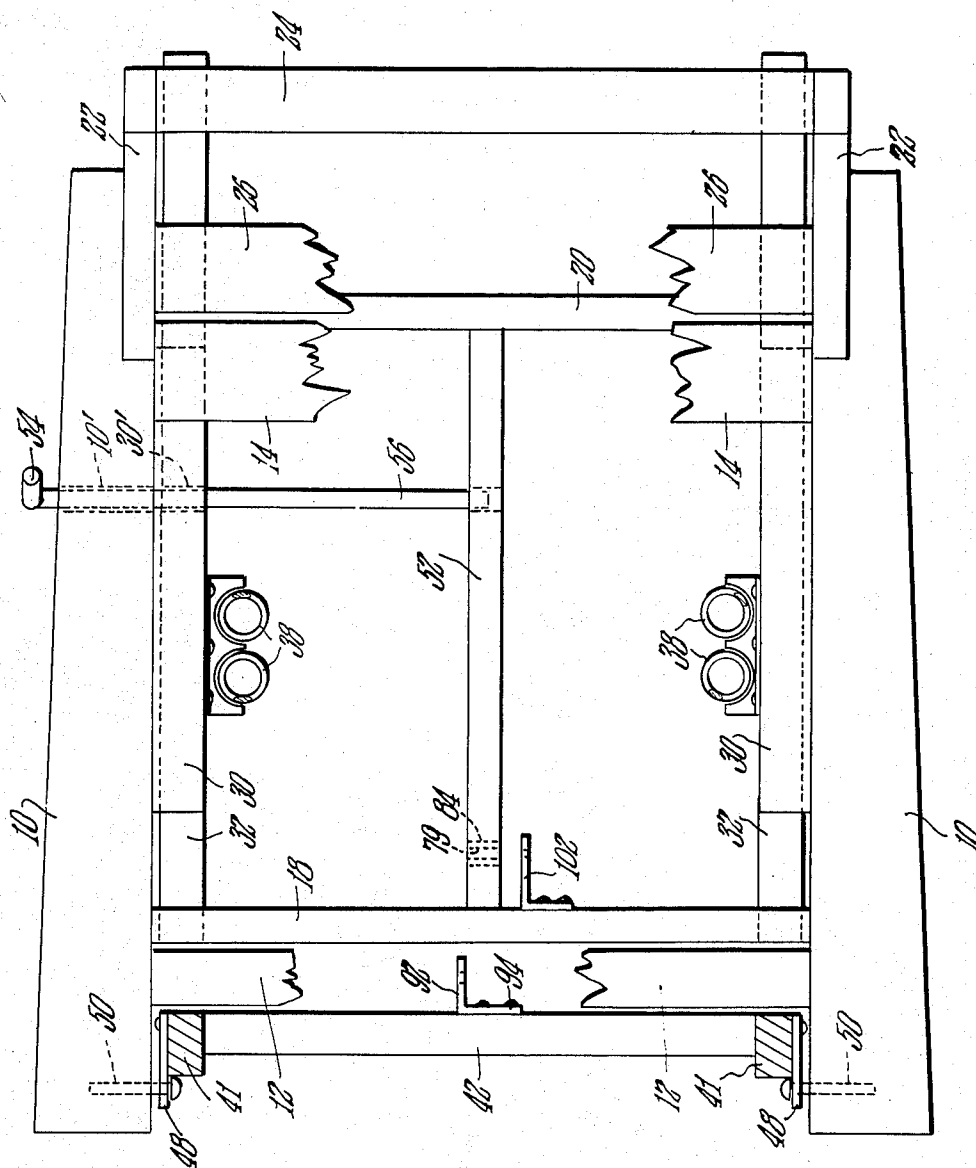


Fig. 2.

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Fig. 3.

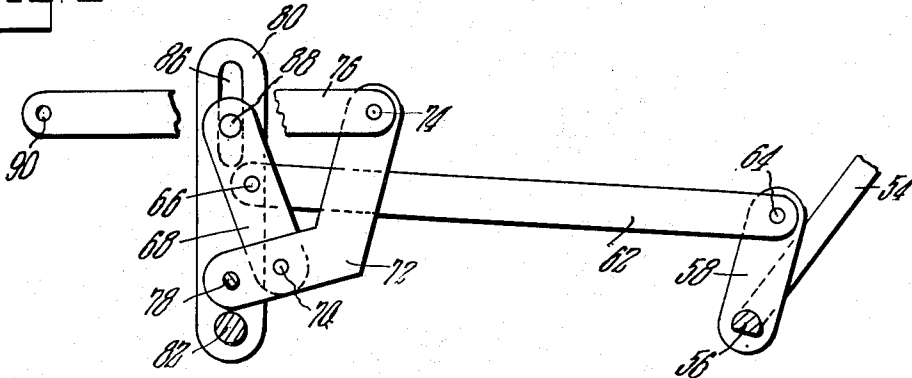


Fig. 4.

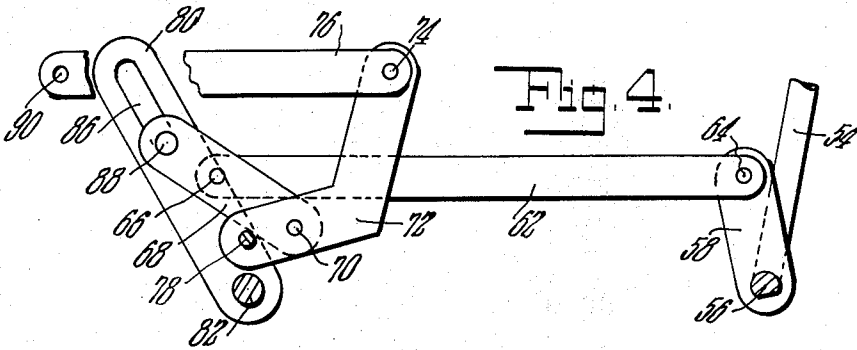
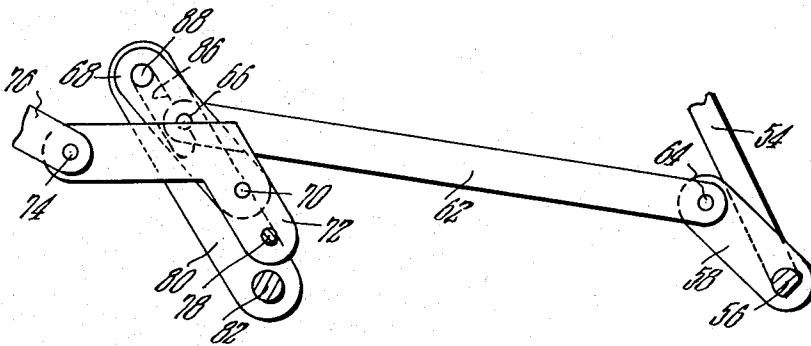


Fig. 5.



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Fig. 6.

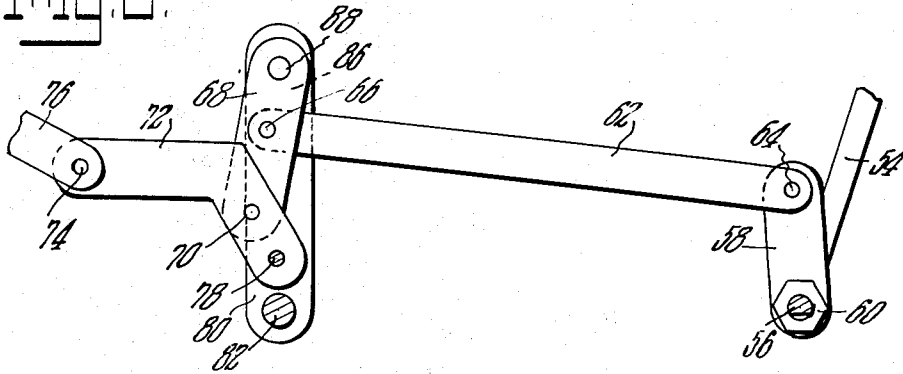


Fig. 8

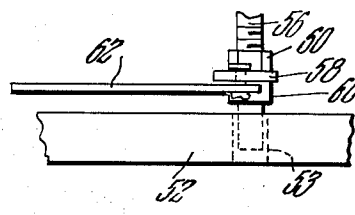
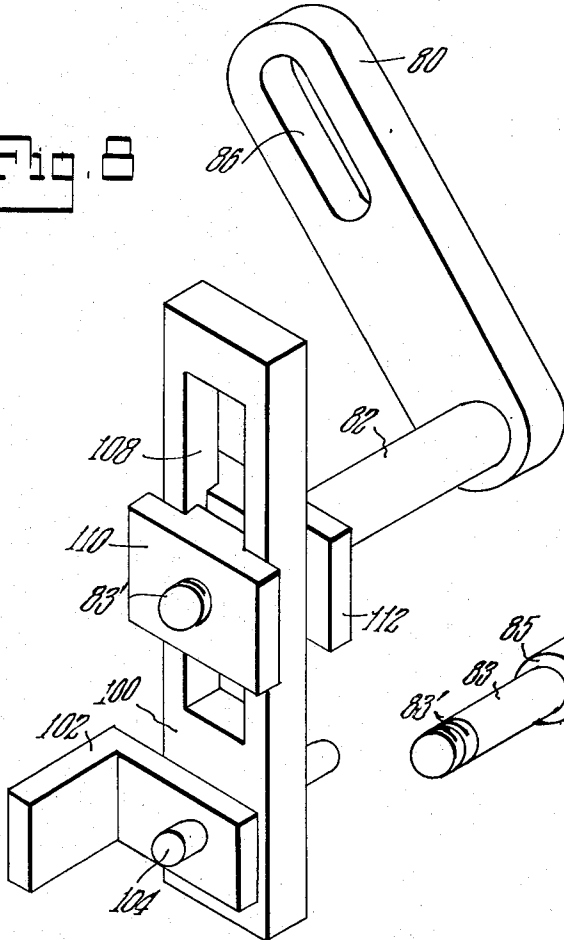
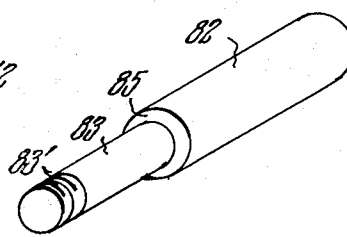


Fig. 7.

Fig. 9.



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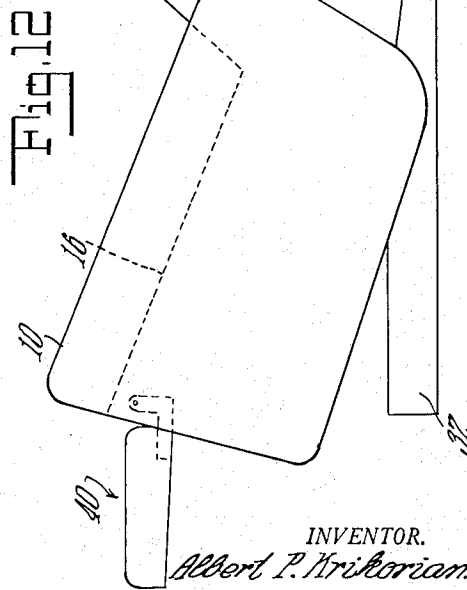
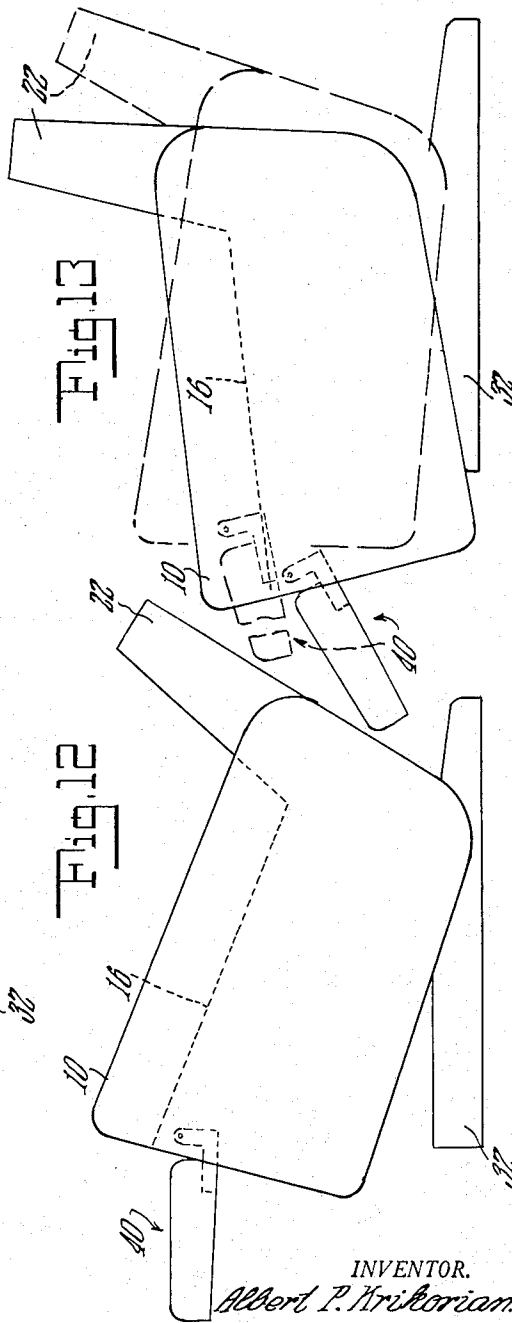
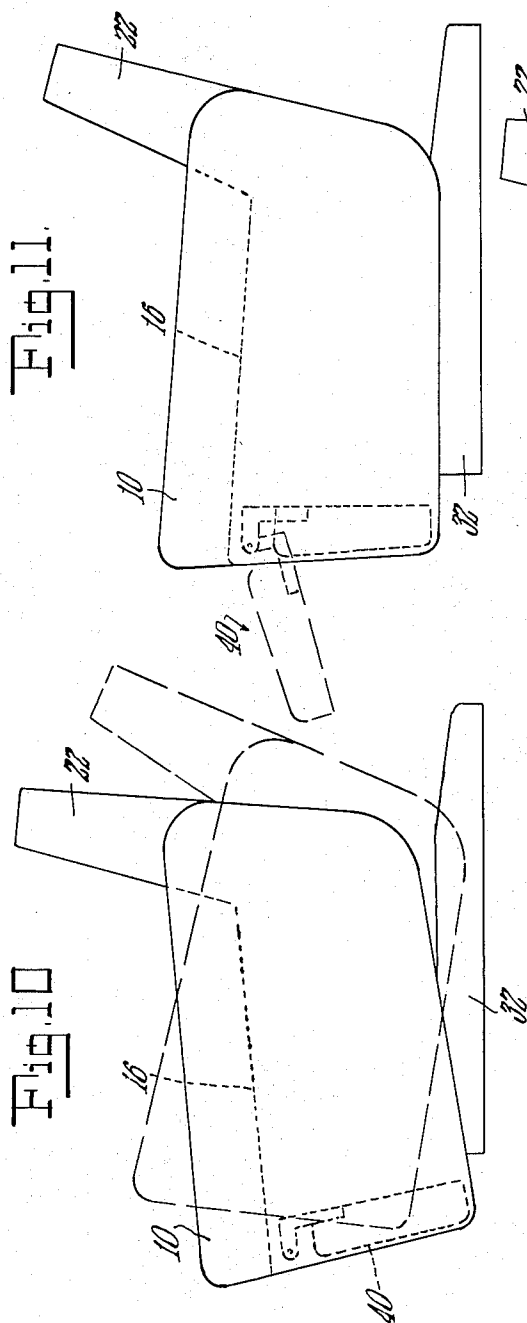
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5 Sheets-Sheet 5



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ROCKING CHAIR CONVERTIBLE TO NON-ROCKING

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Application August 13, 1953, Serial No. 373,987

6 Claims. (Cl. 155—72)

My invention relates to new and useful improvements in reclining chairs of the platform rocker type and is directed more particularly to the provision of means whereby an integral back and seat construction may be moved into any desired sitting or reclining position relative to the base upon which same rocks and may be locked in the said desired position and, further, whereby a foot rest support member may be swung between a down, sitting or non-operating position and an upright, reclining or operating position.

In the accompanying drawing, I have illustrated a complete example of a physical embodiment of the invention in which the parts are combined and arranged in accordance with one type of construction which I have devised for the physical application of the principles of the invention. It will, however, be understood that changes and alterations are contemplated and may be made in these exemplifying drawings and mechanical structures, within the scope of the claims, without departing from the principles of the invention.

I accomplish the above by means of such structure and relative arrangement of parts thereof, as will fully appear by a perusal of the description below and by reference to the accompanying drawings wherein:

Fig. 1 is a side elevational view of a chair construction embodying the novel features of the invention, with certain parts thereof broken away for purposes of clarity;

Fig. 2 is a top plan view of the chair shown in Fig. 1 with certain parts removed for purposes of clarity;

Figs. 3-6 are side elevational views showing the link mechanism of the invention in various operating positions;

Fig. 7 is a plan view of a portion of the mechanism shown in Fig. 6, shown in association with the lateral support member of the invention;

Fig. 8 is a perspective view of the locking mechanism of the invention;

Fig. 9 is a perspective view of the shaft member of the invention shown in Fig. 8; and

Figs. 10-13 are small scale diagrammatic side elevational views showing the chair in various adjusted positions of operation.

In the following description and claims, various details will be identified by specific names for convenience. These names, however, are intended to be as generic in their application as the art will permit. Referring now to the drawings more in detail, in which similar characters of reference indicate corresponding parts in the several figures, and referring more particularly to the preferred form of my invention selected for illustrative purposes, I have shown a chair construction which consists generally of a frame comprising a pair of spaced side members 10 and 10 which are connected together as by transverse forward and back seat rail members 12 and 14 respectively upon which an upholstered seat member 16 may be positioned in the usual manner.

Transverse forward and back bottom rail members 18

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and 20 respectively, are secured to the spaced side members 10 and 10 as shown.

It will be here understood and appreciated that the uppermost surfaces of the members 10 and 10 may serve as arm members of the chair in the well known manner.

At the rearward portion of each of the side members 10, an adjacent back post 22 is connected thereto or is integral therewith, as may be desired, and extends upwardly therefrom in spaced relation relative to the opposite back post 22.

The upper extremities of the back posts 22 and 22 are connected together by a transverse connecting top rail member 24.

Additionally, an intermediate transverse connecting rail member 26 may be disposed between the back posts 22 and 22 at a distance below the top rail member 24 and at a distance above the back seat rail member 14.

An upholstered back support 28 of the usual construction and designed to be supported between the back posts 22 and 22 and against the transverse connecting rail members 24 and 26, all as is well known.

The lowermost portion of the inner wall of each of the side members 10 is provided with a rocker rail 30 which is fixed thereto and extends inwardly therefrom.

The lower surface of each rocker rail is provided with an arcuate shape which is adapted to bear upon the adjacent side rail 32 of a platform base. The side rail 32 is disposed directly beneath the adjacent rocker rail 30.

The side rails 32 rest upon the floor and, in combination with the forward and rearward connecting rails 34 and 36 respectively which extend between the side rails 32 and 32, form the platform base of construction.

At a point intermediate the transverse rails 18 and 34 forwardly and the transverse rails 20 and 36 rearwardly of the construction, a rocker spring unit 38 of the conventional design for platform rockers is fixed to the inner faces of the rocker rail 30 and the side rail 32 on each side of the chair construction, all as is well known, wherefore the chair is rockable between forward and rearward positions relative to the platform base in a to-and-fro manner.

A foot rest support generally designated by 40 consists of a pair of spaced side rails 41 and 41 which are connected together by transverse top and bottom rail members 42 and 44 respectively.

The support may be upholstered as by padding represented by 46 which is secured to the rails in any of the conventional manners.

A pair of hinge members 48 are pivotally connected at their upper extremities as by pins 50 or similar pivotal devices to the adjacent side member 10.

The lower extremity of each hinge member 48 may be fixedly connected to the adjacent side rail 41 of the foot rest support 40 as by screws 49 or the like (all as is shown), all to the end that the foot rest support 40 may be swung forwardly and upwardly upon the pivotal connections 50 and 50 and relative to the seat member.

A central support rail member 52 is fixed in a position parallel to the side members 10 and 10 of the construction more or less intermediate the same and connecting the transverse members 18 and 20 in a manner as is best shown in Fig. 2.

The locking and foot rest support control mechanism will now be described.

A crank or operating handle member 54 has a manually engageable portion (not shown) which may be grasped by a chair occupant, as he sits in the chair, merely by reaching downwardly along one of the sides on the outside of the chair.

The handle member 54 is spaced outwardly from the side of the chair at a distance from the respective side member 10 so as to facilitate manipulation.

Extending inwardly from the lower extremity of the member 54 is a horizontally disposed arm member 56 which may or may not be integral therewith as desired.

The member 56 extends through aligned openings 10' and 30' in the side member 10 and the adjacent rocker member 30 respectively and has an inner extremity which is concentrically disposed relative to and journaled in a bearing 53 in the support member 52.

A rear link member 58 has one extremity fixed to the member 56 by means of lock nuts 60 and 60 as shown in Figs. 6 and 7.

At the opposite extremity of the rear link member 58, the rear extremity of a primary connecting link 62 is pivotally connected as at 64.

The forward extremity of the link 62 is pivotally connected as at 66 to an intermediate point of a transmission link 68.

If desired, the pivot 66 in the link 68 may be modified so as to be disposed in a slot (not shown) for the purpose of simplifying the operation as will hereinafter appear.

The lower extremity of the transmission link 68 is pivotally connected as at 70 to an intermediate point on a secondary link 72.

The upper extremity of the member 72 is pivotally connected as at 74 to the inner extremity of a tertiary link 76, the outer extremity of which member is associated with the foot rest as will be hereinafter observed.

The opposite extremity of the member 72 is pivoted to a pin 78 which is fixed to or journaled in the member 52 in a bearing 79 extending therethrough.

A lever member 80 carries at its lower extremity a shaft 82, one end of which is rigidly secured thereto. The shaft 82 extends from the lever member 80 through an opening 84 in the member 52 and is associated with the locking device subsequently to be described.

An elongated slot 86 is provided in the upper extremity of the lever member 80 in which a pin 88 is slidably receivable. The pin 88 connects the members 68 and 80 together whereby same are movable relative to each other with the pin functioning as a common axis therefor.

The outer free extremity of the tertiary link 76 is pivotally connected as at 90 to a fixture 92 which is fixed to the foot rest as by screws 94 or the like.

The locking device of the invention is shown in Fig. 8 and comprises a yoke-type link which is pivotally fixed to a bracket 102 as by a pin 104 or the like.

The bracket 102 is secured to the rail member 34 as by screws 106 or the like.

The upper portion of the yoke 100 is provided with an elongated slot 108 through which a free end portion 83 of a reduced diameter of the shaft 82 extends.

On the opposite sides of the yoke 100, a pair of T-type clamp members 110 and 112 are disposed.

The clamp 110 is provided with an opening which is threadedly engaged with the threaded end portion 83' of the shaft 82.

The clamp 112 is provided with a threadless opening therethrough and is placed over the free end portion 83 of the shaft 82 in advance of the shoulder 85.

The clamps 110 and 112 are so positioned on the shaft 82 and relative to the yoke-type link 100 that the stems or tongues thereof are held in spaced relation as to each other and are receivable within the slot 108 and as will be appreciated are slidable along the length thereof.

The inside faces of the shoulders of the clamps 110 and 112 are toward each other whereby same clamp the member 100 in the well known manner.

It will be understood that various locking devices of similar type may readily be utilized in lieu of the construction disclosed herein, same not forming a part of this invention.

The components of the invention having been explained, the operation thereof will now be described.

In the position of the link mechanism shown in Fig. 3, the components are in what will be referred to as a neutral

state, i. e. wherein the locking device is in a released position, the foot rest is in the down or non-operating position, and the chair is capable of functioning in the conventional platform rocker manner.

This position is best illustrated in Fig. 10 where it will be observed that the chair is rockable to-and-fro upon the platform base and the foot rest is at all times in the down or non-operating position.

The chair may now be locked in the upright or reclined position relative to the platform base with the foot rest in the down or non-operating position.

To accomplish same, the manually engageable member 54 is moved forwardly so as to actuate the member 62 forwardly through the member 58 from the rearward position shown in Fig. 3 to the intermediate position shown in Fig. 4.

The forward movement of member 62 to this so-called intermediate position thrusts the upper end of member 68 forwardly in an arc on the pivot 70. Simultaneously therewith, the link 80 is actuated in a forwardly movement in an arc on the pivot point formed by the shaft 82 which in turn draws the clamp members 110 and 112 together so as to embrace securely the yoke-link 100 therebetween.

The yoke-link being secured to the platform base, as aforesaid, it will be appreciated that the body of the chair is held rigidly to the platform base.

If desired, at this time, a continued forward movement of the member 54 from the position shown in Fig. 4 to the position shown in Fig. 5 will actuate the member 62 (through the member 58) to an extreme forward position.

As the member 62 is so moved, the member 68 is lifted diagonally upwardly relative to the member 80 as the pin 88 slides in the slot 86.

When the pivot 70 has passed its maximum altitude, i. e. has passed the point where it is disposed directly above the pivot 78, the continued forward thrust of the member 62 forces the member 68 to reverse in plane and pull member 72 forwardly and downwardly.

The pin 88 upon reaching the upper limit of the slot 86 thereupon functions as the fulcrum and the member 68 thereby pivots upon the member 88 so as to pull the member 72 forwardly and downwardly whereby the member 76 pivots upon the member 74 and is directed forwardly and downwardly so as to direct the foot rest swingably forwardly and upwardly into the elevated locked position.

The foot rest is retained in the elevated locked position because the pivot 74 passes a dead center position with the line of axis from the pivot 78 to the member 90 and the front rail 18 acts as a positive stop for link 72.

In this position of the linkage mechanism as shown in Fig. 5, the foot rest assumes the position relative to the chair as shown in Fig. 11, wherein the chair is locked in the upright sitting position with the additional feature of the foot rest being in the forward and upward operating position.

Upon rocking to any other desired reclining position, such as shown in Fig. 12, the same procedure may be performed. In this manner, a recliner chair consisting of an elevated foot rest is attained.

By the reversal of the manually engageable member 54 in a rearward direction (see Fig. 6), the connecting link 62 is drawn rearwardly so as to release the lock mechanism in the following manner.

Pivot 70 functions as a pivotal fulcrum for the link member 68. The upper extremity of the link 68 travels arcwise and rearwardly and pulls the slotted link 80 rearwardly thereby releasing the clamp members of the locking mechanism and making the chair rockable.

The handle 54 can be pulled back further to the rear, with the lock mechanism disengaged, before release of the foot rest from the maximum upright locked position is effected.

To release the foot rest to the down position, the member 54 continues rearwardly further actuating the primary

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link 62 which, at this point, lifts the upper extremity of the link 68 diagonally upwardly and rearwardly. The pin 88 is slidable in the slot 86 so as to elevate in turn the link member 72, thereby reverting the stool for the down position.

As in the case of the forward movement previously described, again when the pivot 70 has passed its maximum altitude, i. e., has passed the point where it is disposed directly above the point 78, the continued rearward thrust of the member 62 forces the member 68 to reverse in plane and the member 72 is in sequence pulled upwardly and rearwardly.

It will be thus appreciated that there are five distinct operating positions for the chair: (1) the chair may be used as a conventional type platform rocker chair with the chair unlocked relative to the platform base and with the foot rest support in the down or non-operating position (wherein the chair rocks between the position shown in solid lines and dash lines in Fig. 10); (2) the chair may be locked in a rigid upright position with the foot rest support in the down or non-operating position; (3) the chair may be locked in a reclining position with the foot rest support in the down or non-operating position; (4) the chair may be used as a reclining lounge chair when the chair is locked in the desired upright position shown in Fig. 11 and the foot rest support is in the upright or operating position or the chair is locked in the desired reclining position shown in Fig. 12 with the foot rest support in the operating position; and (5), the chair may be used as a reclining rocking chair when the lock mechanism is unleashed and the foot rest support is in the upright or operating locked position and the chair is swingable between the positions shown in solid lines and dash lines in Fig. 13.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. 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. A reclining article of furniture comprising in combination, a support, an integral seat and back rest structure being rockable on said support, a foot rest mounted on said structure and swingable between horizontal operating and vertical non-operating positions, operating means engageable with said support and structure and foot rest and manually operable to move in a certain direction successively to an intermediate position for locking said structure to said support and to a position forward of said intermediate position for elevating said foot rest from vertical non-operating to horizontal operating position.

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2. In a platform chair having a movable foot rest comprising, a platform base, a unitary seat and back structure rockable on and relative to said base, a foot rest movably mounted on said structure, unitary means operable to move sequentially to an intermediate position for locking said structure to said platform base with said foot rest in the vertical non-operating position relative to said structure and to a position away from the intermediate position for moving and locking said foot rest in the horizontal operating position relative to said structure.

3. A chair construction comprising, a platform support, an integral seat and back structure, means to facilitate rocking of said structure on said support between an upright position wherein the seat of said structure is substantially horizontally positioned and a reclining position wherein the seat declines rearwardly from the forward end thereof, a leg rest mounted on said structure and adapted for swinging movement between a substantially vertical position downwardly of the forward end of the seat and a relatively horizontal position forwardly of the seat, unitary mechanism connecting said structure and platform support and leg rest for releasably locking said structure to said support and for sequentially swinging said leg rest between vertical and horizontal positions.

4. A multipurpose platform rocking chair construction comprising in combination, a support, a seat and back structure, means to facilitate rocking of said structure on said support between an upright position wherein the seat is somewhat angularly disposed to the horizontal and a reclining position wherein the seat declines rearwardly from the forward end thereof, a leg rest mounted on said structure for swinging movement between a substantially vertical position and a relatively horizontal position, unitary mechanism connecting said seat and back structure and support and leg rest for sequentially releasably locking said structure relative to said support and for swinging said leg rest between vertical and horizontal positions.

5. A chair construction having a combined rocking and tilting action incorporating a movable foot rest in connection therewith comprising, a platform support, a combination seat and back member rockably supported by said support, lock means for locking said member to said support in any desired position, a foot rest movably mounted on said support, a link mechanism between said seat and back member and said foot rest and arranged whereby said foot rest may be moved between vertical and horizontal positions without effecting the relative positions of said seat and back member and said support.

6. The construction of claim 5 including a unitary operating member for controlling the movement of said link mechanism and said lock means.

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