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3,101,971

SWIVELED ROCKING CHAIR

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2 Sheets-Sheet 1

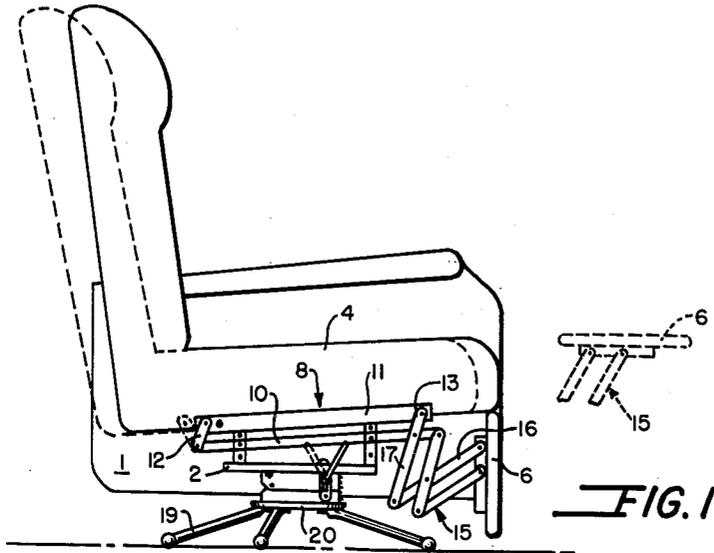


FIG. 1

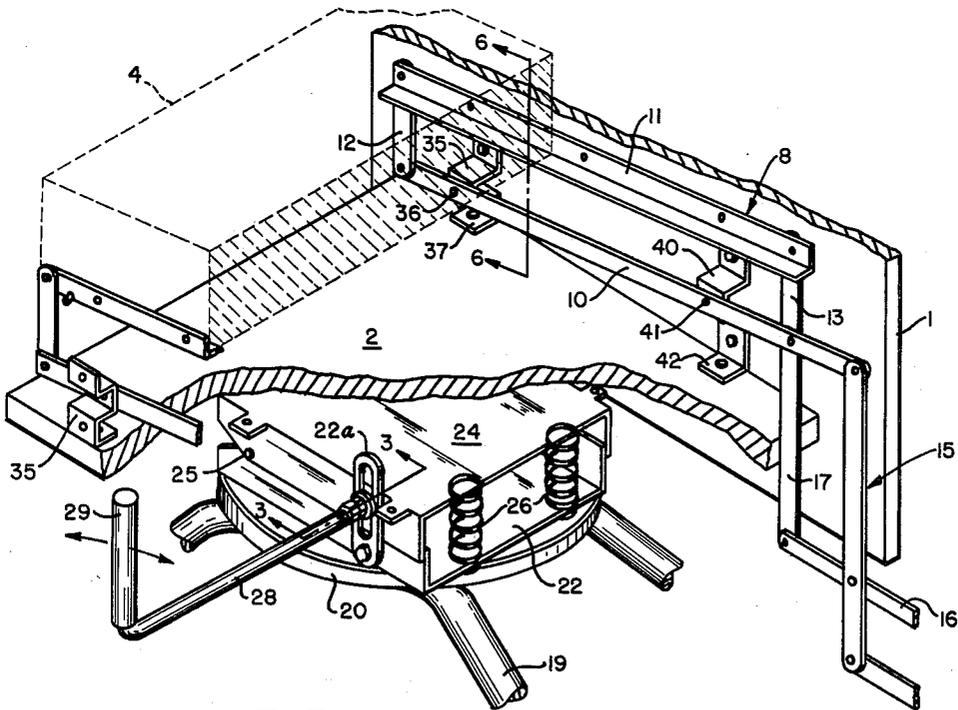


FIG. 2

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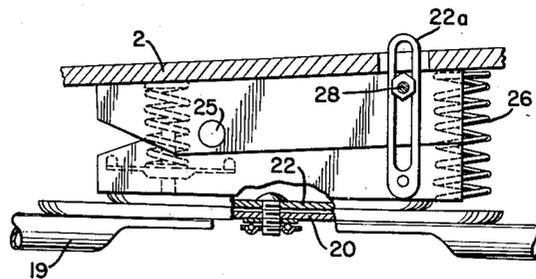
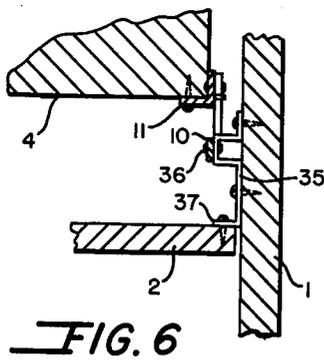
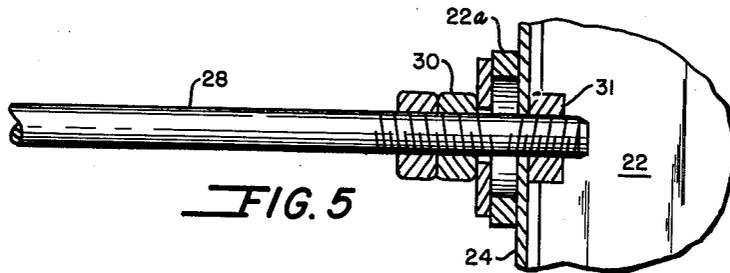
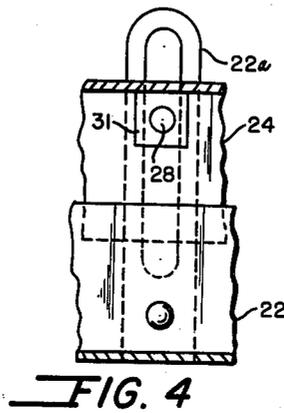
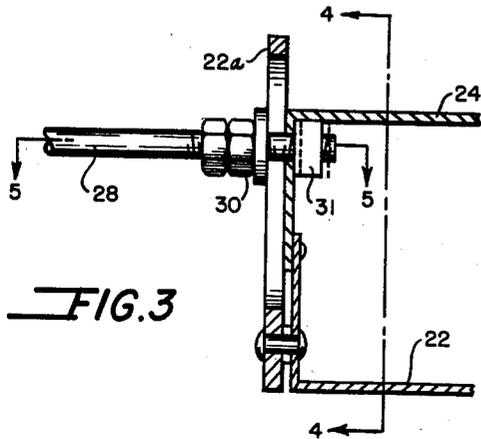
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SWIVELED ROCKING CHAIR

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3 Claims. (Cl. 297-259)

This invention relates to swiveled rocking chairs of the type having an extensible-retractable legrest.

A commercially-available swiveled rocking chair of the foregoing type comprises: (1) a chair structure having (a) a main H frame including a pair of horizontally-spaced vertically-arranged side panel frames and a horizontally-level cross brace frame extending from the lower end portion of one side panel frame to the other and rigidly connected to both, (b) a body supporting unit having a seat member extending horizontally between the side panel frames, (c) a legrest vertically arranged below the front end of the seat member and (d) right and left hardware means not only mounting right and left sides of the seat member on the side panel frames for limited rearward-forward movement relative thereto but also mounting right and left sides of the legrest on the side panel frames for extension-retraction movement which is coordinated with said rearward-forward movement; (2) a base; and (3) swiveled rocker means engaging the cross brace frame and, through such engagement, mounting the chair structure on the base for swiveling and rocking movement.

Heretofore, it has been the practice to provide the right and left side panel frames with right and left tapered wooden blocks, one located on the inner face of each side panel frame at an elevation spaced above the cross brace frame, and to mount the seat member and legrest on the side panel frames by securing and mounting the right and left hardware on the right and left tapered blocks. This arrangement is objectionable because it often results in opposite sides of the chair being mounted at different levels and thereby causing the seat member to slant toward one side or the other.

The primary object of this invention is to avoid this undesirable result and, more particularly, provide an improved seat member mounting means which enables opposite sides of the seat to be mounted easily, quickly and precisely at the proper level.

I have found that it is extremely difficult to mount opposite sides of the seat member consistently at the same level when using elevated tapered wooden blocks and that this difficulty may be easily and entirely overcome by mounting metal brackets on the side panel frames in place of the wooden blocks and by extending the brackets downwardly into engagement with the cross brace frame so as to use the cross brace frame as a common reference level. This simple arrangement provides an easy and inexpensive means of rapidly and consistently securing the proper mounting elevation and inclination for the hardware on each side of the chair.

An embodiment of the invention, in a swiveled rocking chair of the type having an extensible-retractable legrest, is illustrated in the accompanying drawings wherein:

FIG. 1 is a side elevational view of the chair, this view omitting the "right" side frame, hardware and hardware-mounting brackets, for the sake of clearness;

FIG. 2 is an enlarged fragmentary perspective view showing the base, the swiveled rocker means, the cross brace frame, one side panel frame and the hardware and the hardware-mounting brackets in assembled relationship, this view also being broken away for the sake of clarity;

FIG. 3 is a section taken on line 3-3 of FIG. 2;

FIG. 4 is a section taken on line 4-4 of FIG. 3;

FIG. 5 is a section taken on line 5-5 of FIG. 3;

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FIG. 6 is a section taken on line 6-6 of FIG. 2; and FIG. 7 is an enlarged partly-broken side elevational view showing the base, the swiveled rocker means and the cross brace frame.

CONVENTIONAL STRUCTURE

The structure illustrated conventionally includes: a chair structure; a base; swiveled rocker means; and means for locking the rocker means. To the extent that these structures are conventional, they are described immediately hereinafter.

Chair Structure

The chair structure illustrated is conventional insofar as it comprises: a chair structure having a main H frame including a pair of horizontally-spaced vertically-arranged side panel frames 1 and a horizontally-level cross brace frame 2 extending from the lower end portion of one side panel frame 1 to the other and rigidly connected to both, a body supporting unit having a seat member 4 extending horizontally between the mid portions of side panel frames 1, a legrest 6 vertically arranged below the front end of the seat member 4 and right and left hardware means 3 not only mounting the right and left sides of the seat member 4 on the side panel frames 1 for pivoted rearward-forward movement but also mounting the right and left sides of the legrest 6 on the side panel frames 1 for coordinated extension-retraction movement, i.e., coordinated with said rearward-forward movement.

The left hardware means, as seen in FIG. 2, comprises: a forwardly-rearwardly extending stationary frame bracket 10; a similarly extending seat bracket 11 which is slightly elevated above the frame bracket 10; and means mounting the seat bracket 11 on the frame bracket 10 for relative rearward-forward movement, such means including a rear link 12 and a front link 13, each link extending between the frame bracket 10 and the seat bracket 11 and being pivotally connected to both. In other words, the brackets 10 and 11 and the links 12 and 13 form a rectangular structure, the upper bracket 11 of which can be moved more or less horizontally back and forth in the rearward-forward directions. The right hardware means, for supporting the right side of the seat member, is similarly made.

The hardware means for mounting the legrest 6 comprises right and left double overlapped V or "dove" linkages 15. These linkages support the right and left sides of the legrest 6 on the chair frame bracket 10, for extension-retraction movement between positions corresponding to the retracted vertical position of the legrest 6, which is shown in solid lines in FIG. 1, and the forwardly-extended relatively-elevated horizontal position thereof, which is fragmentarily indicated by dotted lines in FIG. 1. The "dove" linkage 15 comprises: a pair of legrest links including link 16; and a pair of chair links including chair link 17 which cooperates with legrest link 16 to form one of the V's. The extension and retraction of the legrest is effected and coordinated with the rearward-forward movement of the seat bracket 11 (and the seat 4 supported thereon) by integrally connecting the front link 13 of the seat-supporting structure with the chair link 17 of the "dove" linkage. With this arrangement, when the seat-bracket 11 and seat 4 are both moved rearwardly, the front link 13 will swing rearwardly about its pivot on frame bracket 10 and thereby actuate the dove linkage by swinging chair link 17 forwardly about that same pivot to extend the legrest 6. The rearward (and forward) movement of the seat member 4, relative to the frame 1, is thus used to effect the coordinated extension (and retraction) of the legrest 6.

Base

The base is conventionally composed of a number of

suitably fashioned legs 19 rigidly connected at their upper ends to a common center plate 20.

Swiveled Rocker Means

The swiveled rocker means conventionally includes: a swivel; and a rocker plate assembly.

The swivel, which is mounted on the base, is a conventional opposed-plate type of swivel, such as is shown in the McMahan U.S. Patent No. 3,025,116. As illustrated, this swivel conventionally includes: the center plate 20 of the base as the lower stationary plate of the swivel; and an upper or top rotary swivel plate 22 mounted on the plate 20 through means which space the plates vertically apart, provide roller bearing means between them and otherwise connect them for relative rotation about a common center. The swivel plates 20 and 22 are conventionally connected together as illustrated in FIG. 7.

The rocker plate assembly conventionally includes: a plate 24 spaced vertically from the rotary top plate 22 of the swivel sufficiently to permit the requisite degree of relative rocking movement; and means mounting the rocker plate 24 pivotally on the rotary swivel plate 22 for rotation therewith and for forward-backward rocking movement relative thereto. To facilitate the vertical spacing and the pivotal mounting of the rocker plate, the side margins of the top swivel plate 22 are bent upwardly to form upstanding side flanges while the corresponding side margins of the rocker plate 24 are bent downwardly to form depending side flanges and these side flanges are pivotally connected together by suitable means such as rivets 25.

Conventionally the rocker means additionally includes: double acting front spring means 26 located between and anchored to the front end portions of both the top swivel plate 22 and the upper rocker plate 24 so as to resist the extreme portion of the backward rocking movement by tension and to cushion the extreme portion of the forward rocking movement by compression; and rear spring means (not shown) located between the rear end portions of the two plates but freely separable from at least one of them so as to be operative to resist the extreme portion of the backward rocking movement by compression.

Rocker Plate Locking Means

The rocker plate locking means conventionally includes: a rod 28 extending through one depending side flange of the rocker plate 24 and the upper slotted portion of a slotted link 22a, which forms an upward extension of the upstanding side flange of the rotary swivel plate 22 of the swivel, the rod 28 having a lever 29 for moving the rod angularly between clamping and unclamping positions; and clamping nuts 30, 31 mounted on the rod and spaced along it to receive, between them, the depending side flange of rocker plate 24 and the upwardly extending link 22a of the rotary swivel plate 22, one nut 30 being locked to the rod by the lock nut shown in FIG. 5 and the other nut 31 being threaded thereto but held against rotation by the rocker plate 24 (as seen in FIG. 3) so as to move toward and away from the other nut 30 as the rod is turned into and out of clamping position. It will be understood that nuts 30 and 31 cooperatively clamp the interposed elements tightly together in the clamping position to hold them against relative movement and that they release them in the unclamping position to permit relative movement.

NEW STRUCTURE

It will be understood that, in the process of making a chair, the chair manufacturer may first assemble the side panel frames 1 and the cross brace frame 2 together to form the main H frame and then mount this chair frame assembly upon the undercarriage, which is formed when the swiveled rocker means and base are assembled

together. The next step is to assemble the seat-legrest hardware means on the side panel frames with the proper elevation and forward-rearward inclination.

In accordance with my invention, this can be simply, quickly and inexpensively accomplished by providing each side panel frame with a pair of horizontally spaced (front and rear) vertically-arranged metal strap brackets, each of which is designed to engage the stationary frame bracket 10 at a predetermined point located at a predetermined elevation, and by extending each bracket downwardly enough to bring the lower end of the bracket into engagement with the cross brace frame 2 when the predetermined point of the bracket is at its predetermined elevation.

Accordingly, a rear bracket 35 is provided with its mid-portion bent outwardly to provide a suitable seat for the rear end portion of the stationary frame bracket 10 which is to be riveted thereto at a predetermined point by rivet 36. The rivet 36 must be located at a precisely predetermined elevation above the plane of reference provided by the cross brace frame 2 and this is accomplished by extending the rear bracket 35 downwardly to such plane of reference, which, in this case, is provided by the upper face of the cross brace frame 2. Preferably, the lower end portion of rear bracket 35 is turned to provide it with a foot 37 which has flush face-to-face engagement with cross brace frame 2 (or any other horizontal frame surface at the plane of reference provided by cross brace frame 2) when the rivet 36 is at the proper elevation. The foot 37 is used because it makes it easy to locate the position of the rear bracket 35 for proper securement to the side frame 1. Preferably, the foot 37 is also riveted, nailed or otherwise secured firmly to the cross brace frame 2.

The front bracket 40, provided for the front end portion of the stationary frame bracket 10, is identical in shape to the rear bracket 35 but of a length sufficient to hold its predetermined point at the higher elevation required to produce the requisite inclination of the stationary frame bracket 10. Consequently, the front bracket 40 has a higher predetermined point for rivet 41 and a foot 42 at its lower end.

It will be understood that corresponding rear and front brackets 35 and 40 will also be provided on the right side panel frame for the right hardware means.

From the foregoing, it will be appreciated that I have provided a hardware means for movably mounting the seat member 4 of a chair having a main H frame composed of a pair of horizontal-spaced vertically-arranged side panel frames 1 and a lower cross brace frame 2, which interconnects the side panel frames 1 and provides a horizontally level plane of reference. This hardware means includes a rectangular structure, which is composed of frame and seat brackets 10 and 11 and rear and front links 12 and 13, and which provides for the constrained movement of the seat bracket 11. It also includes a side bracket means for mounting the stationary frame bracket 10 on the side panel frames 1 of the chair. The side bracket means includes, on each side of the chair, rear and front side brackets 35 and 40. Each side bracket has spaced upper and lower portions which are adapted to engage and to be secured to said side panel frame 1. Each side bracket also has, between its spaced upper and lower portions, an intermediate portion which is bent to provide an outwardly displaced seat extending to the stationary frame bracket 10. The seat is secured to the bracket 10 at a predetermined point by a rivet (36 or 41). Finally, each side bracket is so dimensioned that, when operatively mounted on a side panel frame to hold said predetermined point (36 or 41) at a predetermined elevation above the plane of reference, it extends downwardly a distance sufficient to place it into engagement with a horizontal surface of the chair frame at the plane of reference.

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Having described my invention, I claim:

1. Hardware means for movably mounting a seat member on a chair having a pair of horizontally-spaced vertically-arranged side panel frame and a lower cross brace frame interconnecting the side panel frames and providing a horizontally level plane of reference, comprising: a forwardly-rearwardly extending stationary metal frame bracket; a similarly extending relatively elevated metal seat bracket; means mounting the seat bracket on the frame bracket for limited relative rearward-forward movement; and side bracket means for mounting the stationary frame bracket on the side panel frames of the chair, said means including a vertical metal side bracket not only having spaced upper and lower portions which are adapted to engage and to be secured to said side panel frames, but also having an intermediate portion bent to provide an outwardly displaced seat which extends adjacent to said stationary frame bracket and which is secured thereto at a predetermined point, said side bracket being operative, when secured to said side panel frame, to engage a horizontal surface of said chair frame at said plane of

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reference and to hold said predetermined point at a predetermined elevation above said plane of reference.

2. The hardware means of claim 1 wherein: said metal side bracket is provided with means for securing the side bracket to said cross brace frame.

3. The hardware means of claim 2 wherein: said side bracket means includes a pair of said metal side brackets secured at horizontally spaced locations to said stationary frame bracket.

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