May 20, 1952 J. D. JULIAN 2,597,105

EASY CHAIR

Filed April 10, 1947 2 SHEETS—SHEET 1

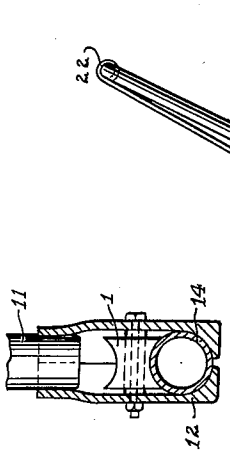


Fig. 7.



Fig. 2.

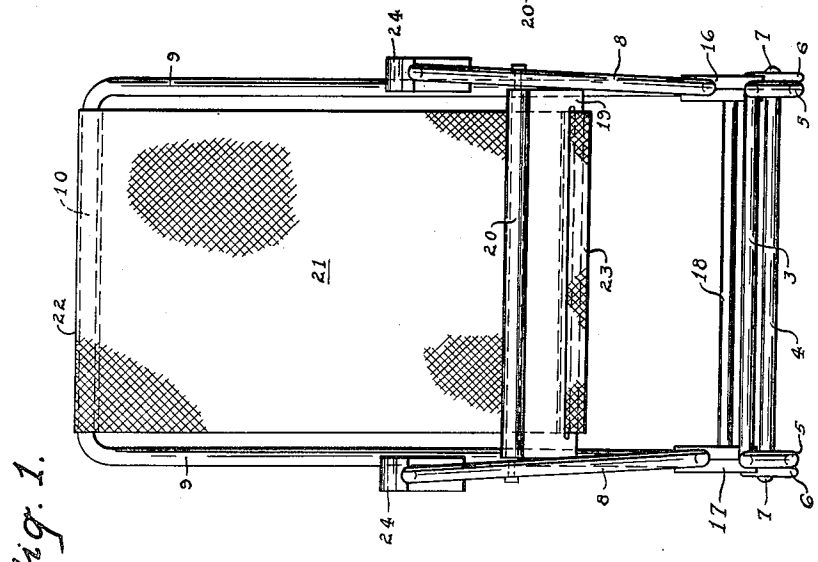


Fig. 1.

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Fig. 3.

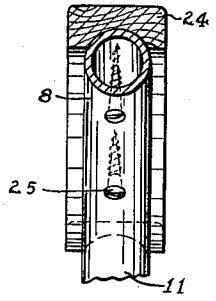



Fig. 4.

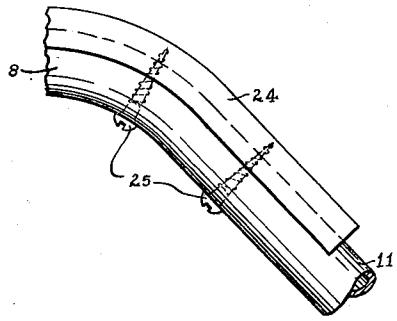



Fig. 5.

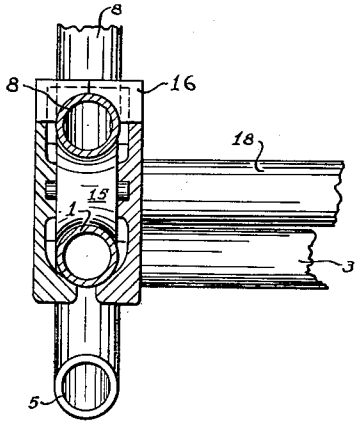
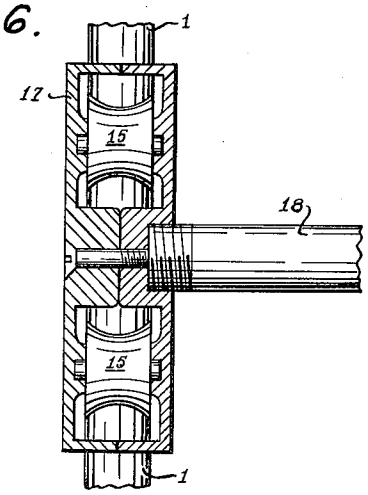



Fig. 6.




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2,597,105

## EASY CHAIR

John D. Julian, Marion, Ind.

Application April 10, 1947, Serial No. 740,586

3 Claims. (Cl. 155—54)

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My present invention relates to the general class of chairs and seats, and more specifically to an improved easy chair of the oscillatable type including a spring frame with an oscillatable seat, a stationary base frame, and traveling supports on the base frame for the spring or resilient frame.

While the chair of my invention is well adapted for various purposes, it is especially designed for use in automotive vehicles, aircraft, and railroad cars; and the chair may be equipped with various types of trimmings and accessories adapting it to different styles of furniture.

The invention consists essentially in certain novel features of construction and combinations and arrangements of parts embodying a base frame having traveling supports, a torsion or resilient spring frame mounted on the supports, and a suspended combination back and seat, as will hereinafter be described and more specifically set forth in the appended claims.

In the accompanying drawings I have illustrated one complete example of a physical embodiment of my invention wherein the parts are combined and arranged in accord with one mode I have devised for the practical application of the principles of my invention. It will however, be understood that changes and alterations are contemplated and may be made in these exemplifying drawings, within the scope of my claims, without departing from the principles of my invention.

Figure 1 is a view in front elevation of a chair in which my invention is embodied; and

Figure 2 is a side view in elevation of the chair.

Figure 3 is an enlarged detail sectional view at line 3—3 of Fig. 2, showing an arm rest or pad attached to one of the loops of the resilient frame; and

Figure 4 is a side view of the parts in Fig. 3.

Figure 5 is an enlarged vertical transverse sectional view at line 5—5 of Fig. 2 through one of the front roller carriers or traveling supports for the frame.

Figure 6 is a horizontal sectional detail view through one of the traveling supports; and

Figure 7 is a vertical sectional detail view at line 7—7 of Fig. 2 showing one of the rear traveling supports or roller carriers mounted on a side bar of the base frame.

In carrying out my invention I employ a rectangular base frame that includes a pair of spaced, parallel side bars 1, which are united at their front ends by a cross bar 3 and at their rear ends by a cross bar 4. The front ends of

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these horizontal side bars are bent under to form feet 5, and at the rear of the base frame a pair of wheels 6 are journaled at 7, in order that the feet and wheels may co-act in providing a level base for the chair, and when the feet are lifted free of a supporting surface, the chair may be trundled from place to place on the two supporting wheels.

The resilient chair frame, which is mounted on the base, includes a pair of integral side bars each comprising an annular or circular loop 8, an upwardly and rearwardly extending arm 9 with a transverse bar 10 connecting the arms, and each side bar of the frame also includes a downwardly extending leg 11. As thus constructed the two resilient side bars of the spring frame are supported on the loops and the legs, and under the weight of a load the inclined arms and legs may be depressed without reducing the height of the loops. In the depressing movement, however the upper ends of the arms spread rearwardly and the lower ends of the legs spread rearwardly with a cushioned effect, and when the load is lifted the arms and legs are automatically restored to normal position.

The two side frames with their single coils or loops are bent or wrought to desired shape by the use of a suitable machine tool from spring steel stock which may be flat strips, or round bars, either solid or tubular in cross section. As here shown the side bars 1 of the base frame and the single coils 8, 8 are circular or rounded in cross section for co-action with the travelling carriages or carrier-supports of the resilient chair frame.

At the rear of the chair the ends of the legs 11 are rigidly mounted in housings 12, 12. These housings, which form the carriages, roller-supports, or carriers, for the chair frame preferably consist of split or sectional castings that are bolted together to enclose the side bars of the base frame, and in addition to the performance of their functions as traveling supports for the chair frame, they guide the movement of the frame and prevent lateral displacement of parts.

Each of the rear traveling supports or housings encloses a journaled roller 14 that is provided with an annular exterior groove conforming to the rounded side bars of the base frame, and the side bars, near their rear ends may be provided with stops S, or bolts which limit thereafterward movement of the traveling housings 12.

The lower portions of the two coils or loops 8, 8 merging with the lower ends of the arms of the resilient frame are mounted, or rest upon

two pairs of traveling rollers each of which is designated by the number 15. The pairs are arranged in tandem relation to afford seats for the two loops or coils, and they are journaled in two spaced traveling supports or carriers 16 and 17. These carriers, preferably, are made up of bolted sections that enclose the side bars of the base frame, and the upper portions of the housings accommodate the loops or coils.

The carriers 16 and 17 are rigidly braced by a cross bar 18 with its ends threaded into the carriers, to prevent wobbling movement of the chair frame, and the loops are free to roll or glide on the rollers, while the latter are free to roll on the side bars 1 of the base.

A seat 19, which may be padded, stuffed, or furnished in other suitable manner to form a cushion, is flexibly or pivotally suspended at its front edge on a cross bar 20 that unites the two coils or loops 8, 8, and a flexible back 21 for the chair, of canvas or other suitable material, is suspended at its upper end 22 on the head cross bar 10 of the resilient chair frame. At its lower end the flexible back 21 is pivotally suspended at 23 to the rear edge of the seat 19, thereby providing a comfortable, combined seat and back for the chair that readily adjusts and adapts itself to the occupant of the seat.

At the top of the two loops or coils are provided arm rests or pads 24, 24, secured by screws 25, and these pads preferably conform to the shape of the chair frame to which they are attached.

From this description taken in connection with my drawings it will be evident that I have provided a comfortable easy chair composed of parts that may be manufactured with facility at comparatively low cost of production, and assembled with convenience, to assure a mechanical structure that is durable, and effective in the performance of its required functions.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a chair having a base frame including spaced parallel connected side bars provided with curved fixed feet at their forward ends and wheels at their opposite ends, a pair of front travelling carriers and a pair of rear travelling carriers mounted on said bars and a resilient frame including two laterally spaced loops supported on the front carriers, and two legs extending rearwardly and downwardly from the loops and mounted on the rear carriers the frame also comprising arms extending upwardly and rearwardly from the loops and connected at their upper ends by a cross bar, a seat pivoted at its front end to the loops, and means suspending the rear end of the seat from the cross bar.



2. The combination of a chair having a base frame including two spaced parallel connected side bars provided with curved fixed feet at their forward ends and wheels at their opposite ends, a pair of front travelling carriers and a pair of rear travelling carriers mounted on the bars and a resilient frame including two loops supported on the front travelling carriers, two legs extending from the loops having their ends mounted on the rear carriers, two arms extending rearwardly and upwardly from the loops and united at the upper end by a cross bar and a pivotally jointed back and seat suspended from the loops and said cross bar.

3. The combination of a chair having a base frame including connected side bars provided with curved fixed feet at their forward ends and wheels at their opposite ends, a pair of front travelling supports each having tandem rollers mounted on the bars, and a pair of rear travelling supports, each having a roller mounted on a side bar, and a resilient frame consisting of two side bars, each side bar comprising a loop resting on a pair of the tandem rollers, a leg extending rearwardly and downwardly from the loop and having its rear end united with a rear travelling support, and an arm extending rearwardly and upwardly from the loop, a cross bar uniting the upper ends of the arms, a seat pivotally mounted at its front end on the loops, and a flexible back suspending the rear edge of the seat from the cross bar.

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