Nov. 30, 1948. W. J. LA VALLIERE 2,454,932

SPRING SUPPORTED ROCKING CHAIR

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Fig. 1.

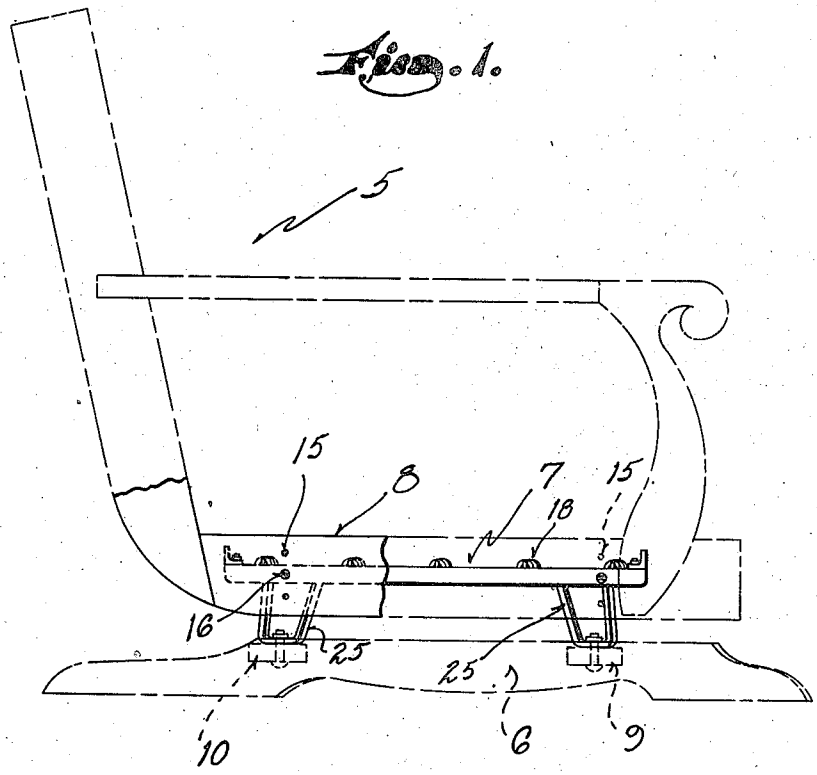
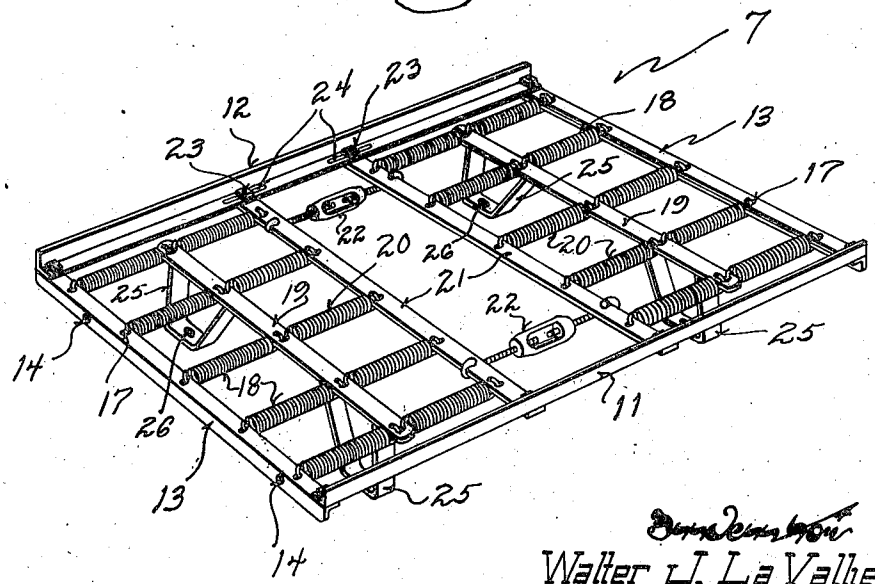


Fig. 2.



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SPRING SUPPORTED ROCKING CHAIR

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6 Claims. (Cl. 155—50)

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This invention relates to rocking chairs and refers particularly to rocking chairs of the type disclosed in Patent No. 2,324,091, issued July 13, 1943, to Walter J. La Valliere, and wherein the chair structure is resiliently supported from a leg structure to allow yielding descent as well as rocking motion.

It is an object of this invention to provide an improved spring suspension for rocking chairs of this type.

Another object of this invention is to provide means for adjusting the height and tilt of the rocker making it adaptable to persons of varying proportions.

Another object of this invention is to provide means for adjusting the tension on the springs so as to adapt the chair to persons of different weight.

Still another object of this invention is to provide a spring suspension for rocking chairs of the character described which is a complete unit in itself adapted to be fully assembled entirely apart from either the chair structure or its supporting leg structure and to be quickly and easily attached to both.

With the above and other objects in view, which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates one complete example of the physical embodiment of the invention constructed in accordance with the best mode so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a side view of a rocking chair embodying this invention, parts thereof being illustrated in light broken lines; and

Figure 2 is a perspective view of the spring suspension per se removed from the chair structure and its supporting legs.

Referring now particularly to the accompanying drawing, the numeral 5 designates generally the frame of a chair structure which in accordance with this invention is resiliently supported upon a leg structure 6 by means of a spring suspension indicated generally by the numeral 7. Inasmuch as the chair and leg structures are conventional they have not been shown in detail, but merely illustrated in light broken lines in Figure 1.

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As is well known to those skilled in the art, the chair structure includes spaced side members 8 and the leg structure has front and rear cross rails 9 and 10 respectively. The spring suspension 7 of this invention is secured to the side rails 8 of the chair structure and cross rails 9 and 10 of the leg structure in a manner to be described.

The spring suspension comprises a rigid frame consisting of front and back rails 11 and 12 respectively, joined by side rails 13. All of these rails are preferably made of angle iron, and their connections may be effected in any suitable manner as by means of bolts or welding.

The side rails 13 have holes 14 in their vertical flanges and the dimensions of the frame are such that the vertical flanges of the side rails fit flush against the inner sides of the side members 8 of the chair structure. The side members 8 have sets of vertically spaced holes 15 so located that bolts 16 passing through the holes 14 in the side rails of the frame may be inserted in any set of holes 15 to secure the frame to the chair structure in different positions with respect thereto. By means of this simple adjustment the height and tilt of the rocker may be readily adjusted to suit individual requirements.

The horizontal flanges of the side rails 13 have a series of holes 17 along the length thereof into which the ends of tension springs 18 are engaged. In the present instance there are five such springs 18 in a group connected to each side rail 13. The opposite ends of these two groups of springs are hooked to bars 19 which form part of supporting brackets. Another group of tension springs 20 also hooked to the bars 19 in line with the springs 18 have their opposite ends connected to adjustable anchor bars 21.

The two groups of aligned tension springs lying between each anchor bar 21 and its adjacent side rail 13 constitute two sets of springs, and the two sets of springs are adjustably tensioned by drawing the anchor bars together by means of turnbuckles 22. The ends of the anchor bars are secured to the front and back rails 11 and 12 in their desired positions of adjustment as by means of bolts 23 passing through suitable apertures in the ends of the anchor bars and engaging in elongated slots 24 in the horizontal flanges of the angle iron rails 11 and 12. Obviously during adjustment of the tension on the springs by tightening or loosening the turnbuckles, the connections between the anchor bars and the front and back rails are loosened to be retightened after the adjustment is effected.

While two turnbuckles have been illustrated, one near the front and the other near the back of the frame, it will be readily appreciated that by having either the front or back ends of the anchor bars connected to their adjacent frame parts in such a manner as to provide merely a pivotal connection, with their other ends freely adjustable, a single turnbuckle acting on the free end portions of the anchor bars will provide adjustment for the tension of the springs.

The bars 19 to which the springs 18 and 20 are hooked have legs 25 extending downwardly therefrom, and these legs are adapted to rest upon the front and rear cross rails 9 and 10 and to be secured thereto by bolts passing through the cross rails and through holes 26 in the legs.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent that this invention provides a novel spring suspension for rocking chairs of the type in which the chair structure is resiliently supported on the leg structure and that by virtue of the adjustable anchor bars drawn together by turnbuckles, the tension on the sets of springs can be readily adjusted and balanced to provide harder or softer spring action, or one set of springs may be adjusted independently of the other to enable the frame structure of the chair to maintain the proper position; and by virtue of the simple adjustable connection between the spring suspension unit and the chair structure, the height and tilt of the chair can be readily and quickly varied.

What I claim as my invention is:

1. In a rocking chair of the type having a stationary leg structure including front and rear cross bars and a chair structure mounted thereon in a manner permitting resilient descent as well as rocking of the chair structure: a unitary spring suspension assembly connecting the leg and chair structures, and comprising, a rigid frame including front, back and side rails rigidly connected to each other; a pair of adjustable anchor members lying between and substantially parallel with the side rails of the spring frame; a set of tension springs connecting each anchor member with one of the side rails; adjustable tensioning means connecting the anchor members to draw the same together and thereby adjust the tension on said springs; means for securing the ends of the tension bars, in their adjusted positions, to the front and back rails of the frame; mounting brackets connected to the medial portion of each set of said tension springs, but not otherwise joined to the frame so that said brackets are resiliently movable with respect to the frame as permitted by the tension on the springs; means on said brackets for securing the same to the front and back cross bars of the leg structure; and means for securing the side members of the rigid frame to the chair structure.

2. In a rocking chair of the type having a stationary leg structure including front and rear cross bars and a chair structure having side members, mounted on the leg structure in a manner permitting resilient descent as well as rocking of the chair structure: a unitary spring suspension assembly connecting the leg and chair structures, and comprising, a rigid frame including front, back and side rails rigidly connected to each other; a pair of adjustable anchor members lying between and substantially parallel with the side rails of the spring frame; a set of tension springs connecting each anchor member with one of the side rails; adjustable tensioning means connecting the anchor members to draw the same together and thereby adjust the tension on said springs; means for securing the ends of the tension bars, in their adjusted positions, to the front and back rails of the frame; mounting brackets connected to the medial portion of each set of said tension springs, but not otherwise joined to the frame so that said brackets are resiliently movable with respect to the frame as permitted by the tension on the springs; means on said brackets for securing the same to the front and back cross bars of the leg structure; and means for securing the side rails rigidly to the side members of the chair structure in one of several positions of elevational relationship.

3. A spring suspension for a rocking chair having a leg structure separate from the chair structure provided inter alia with side members, comprising: a rigid frame having front, rear and side rails adapted to fit between the side members of the chair structure; means for securing the side rails of the rigid frame to the side members of the chair structure at different positions of adjustment; adjustable anchor bars extending across the rigid frame from front to rear and substantially parallel with the side rails thereof; a set of tension springs connecting each of said adjustable anchor bars with the adjacent side rail of the frame; means for drawing said anchor bars together to adjust the tension on said springs; mounting brackets connected to the medial portion of each set of tension springs; and means for connecting said mounting brackets to the leg structure of the rocking chair.

4. A spring suspension for a rocking chair having a leg structure separate from the chair structure, comprising: a rigid frame having front, rear, and side rails; means for adjustably securing the rigid frame to one of said structures; adjustable anchor bars adjustably connected with the front and rear rails of said frame and each being substantially parallel with one of said side rails; a plurality of tension springs connecting each of said anchor bars with the adjacent side rail of the frame; adjustable tensioning means connecting the anchor bars and providing means for adjusting the tension of said spring; a pair of bracket units each having a bar connected to the medial portions of one set of said tension springs so that said bracket units are resiliently connected to the rigid frame; and means for securing said bracket units to the other one of said two structures.

5. A spring suspension for rocking chairs of the type having a leg structure and a chair structure resiliently supported thereon, comprising: a rigid frame having front, rear, and side rails; means for securing said frame to one of said structures; a pair of supporting bracket members lying within said rigid frame, each including a bar substantially parallel to an adjacent one of the side rails of the frame, and legs extending rigidly from the bar; means for securing said legs to the other of said structures; tension springs connecting each of said bracket members with the adjacent side rail of the frame; and means for maintaining said springs under tension.

6. A spring suspension for rocking chairs of the type having a leg structure and a chair structure resiliently supported thereon, comprising: a rigid frame having front, rear and side rails; means for securing said frame to one of said structures; a pair of supporting bracket members lying within said rigid frame, each including a

bar substantitlly parallel to an adjacent one of the side rails of the frame, and legs extending rigidly from the bar; means for securing said legs to the other of said structures; tension springs connecting each of said bracket members with the adjacent side rail of the frame; and adjustable tensioning means connecting the bars of the two bracket members to maintain said springs under an adjustable degree of tension.

WALTER J. LA VALLIERE.

REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
2,164,163	Piper	June 27, 1939
2,324,091	La Valliere	July 13, 1943

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Number	Country	Date
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