Dec. 25, 1962 J. F. BABBITT 3,070,342

ROCKING CHAIR WITH DECLINING LEGS

Filed April 23, 1959

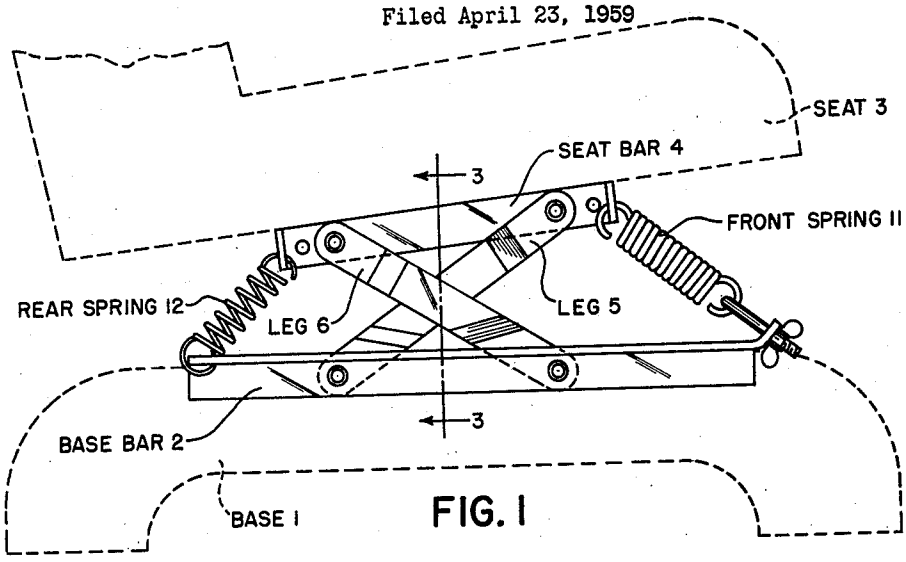


FIG. 1

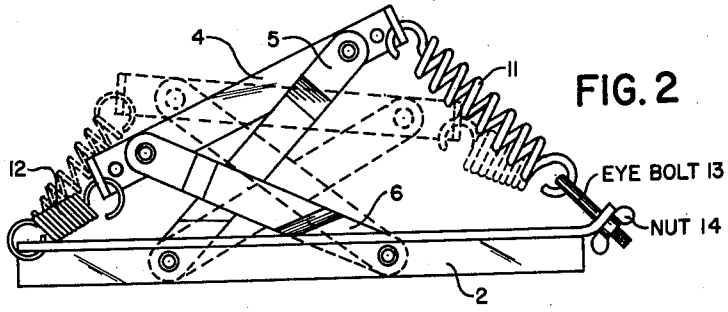


FIG. 2

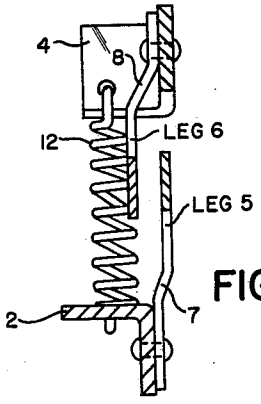


FIG. 3

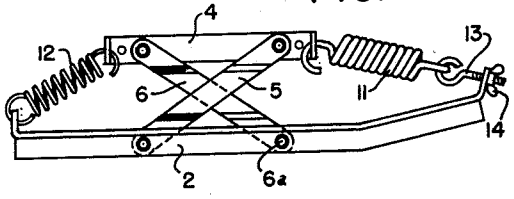


FIG. 4

INVENTOR
JOHN F. BABBITT

BY Arthur Robert
ATTORNEY

United States Patent Office 3,070,342 Patented Dec. 25, 1962

3,070,342

ROCKING CHAIR WITH DECLINING LEGS

John F. Babbitt, Louisville, Ky., assignor to Middletown Manufacturing Company, Middletown, Ky., a corporation of Kentucky

Filed Apr. 23, 1959, Ser. No. 808,375
8 Claims. (Cl. 248—376)

This invention relates to platform rocking chairs and more particularly to the hardware for rockably supporting a rocking chair seat on its base.

The U.S. Boenning patent, #585,422, discloses a simple and relatively inexpensive platform rocking chair comprising: (*a*) a low lying platform base; (*b*) a relatively elevated seat; (*c*) means rockably supporting the elevated seat on the low base, said means including, at each side of the chair, a pair of declining legs crossing each other with one leg declining rearwardly from the front end of the seat to the rear end of the base and the other declining forwardly from the rear end of the seat to the front end of the base, each leg being pivotally connected at its upper and lower ends to the seat and the base respectively; and (*d*) a horizontal tension spring interconnecting the legs at a horizontal level below their crossing point and above the base. With this arrangement, the spring biases the rocker to a neutral position between its extreme forward and rearward rocking positions. To minimize the possibility of tilting over, the legs, which decline rearwardly from the front end of the seat to the rear end of the base, are made longer than the other legs. As a result, they project beyond the extreme rear limit of the seat sufficiently to make accidental overtilt difficult but, to the extent that the legs project beyond the rear limit of the seat, they constitute an obstruction to travel around the rear of the rocker.

The principal object of this invention is to provide a simple and relatively inexpensive Boenning type of rocker of improved design which does not require the extension of the rearwardly declining legs beyond the rear limits of the seat. In other words, this object is to minimize tilting in the aforesaid type of chair when its rearwardly and forwardly declined legs are substantially confined to the space between vertical planes corresponding to the front and rear limits of the seat.

Another important object is to provide a chair of this general type which can be easily, simply and quickly adjusted to accommodate occupants of different weights and heights over wide ranges.

A further object is to accomplish the foregoing objectives with simple and inexpensive means.

In accordance with my invention, the front and rear end portions of the seat are yieldably connected to the front and rear end portions of the base by front and rear tension springs. The front spring can be made of equal or greater strength than the rear spring so long as its strength is great enough, not to prevent tilting over, but, to minimize the possibility of rocking rearwardly to such a pronounced degree that tilting becomes possible. Furthermore, by making the tension of the front springs adjustable, the chair may be made comfortably to accommodate use by occupants of different weights and heights over wide ranges of weights and of heights.

The invention is described in connection with the accompanying drawing wherein:

FIG. 1 is a side elevation of the platform rocker hardware located in its normal intermediate position and showing a platform rocking chair base and seat in dotted lines;

FIG. 2 is a side elevation of the hardware shown in solid lines in a rearwardly rocked position and in dotted lines in a forwardly rocked position;

FIG. 3 is an enlarged vertical section taken on line 3—3 of FIG. 1; and

FIG. 4 is a side elevation of a slightly modified form of rocker.

FIGS. 1–3

The rocking chair structure illustrated comprises: a pair of horizontally-extending, low-lying stationary bases **1**, one for each side of the chair, these bases preferably being suitably interconnected by brace bars (not shown) to form a rigid platform, each base **1** having a base bar **2** extending from front to rear on its upper face; a horizontal seat **3** having a pair of seat bars **4** mounted on its underside, one for each side of the chair, each seat bar **4** extending from front to rear; and means rockably supporting the elevated seat **3** on the base **1**, said means including, at each side of the chair, a pair of declining legs **5**, **6** crossing each other with one leg **5** declining rearwardly from the front end of the seat bar **4** to the rear end of the corresponding base bar **2** and the other leg **6** declining forwardly from the rear end of the seat bar **4** to the front end of the base bar **2**, each leg **5**, **6** being pivotally connected at its upper and lower ends to the seat and the base respectively. The intermediate or crossing portions of the leg may be relatively offset as indicated at **7** and **8** in FIG. 3 to allow them to swing freely without interfering with each other.

In accordance with my invention, the front and rear end portions of the seat are yieldably connected to the front and rear end portions of the base by front and rear tension springs **11**, **12**. When means are provided to mount these springs in or near a plane passing vertically and centrally between its opposite sides, only one set of springs need be used. Preferably, however, two sets of springs are provided, one for each side.

The front spring **11** can be of equal or greater strength than the rear spring **12** so long as its strength is great enough to minimize the possibility of rocking rearwardly to such a pronounced degree that tilting over becomes eminent or actually occurs. In other words, the springs do not prevent tilting over but they tend to restrict the rocking movement of the chair to a safe limit under which tilting over is not encountered.

In further accordance with my invention, means is provided to adjust the tension of the front springs so that the chair may be made to accommodate, with comfort, use by occupants of different weights or heights over wide ranges. While any suitable tension means may be employed, the arrangement illustrated includes the use of an eye bolt **13** to connect the lower end of the front spring **11** to the front end of the base bar **2** and a wing nut **14** adjustably threaded to the eye bolt **13** in position to anchor it to the base bar **2**.

The strength of the front spring preferably should equal or exceed that of the rear spring and be of a value sufficient to render the chair unable to tilt over in the rearward direction for all practical purposes. Overtilt in the forward direction is not so important because its prevention is largely under the control of the user; hence, the rear spring **12** may be and preferably is made weaker than the front spring. So long as rocking in the rearward direction is yieldably restrained to a safe value or limit, both of the rearwardly declining legs **5** of the chair can be satisfactorily confined substantially to the vertical space between front and rear planes of the front and rear edges of the seat. However, a spring, which, at the safe rearward rocking limit of the chair, is strong enough to prevent the chair from being readily rocked to an unsafe degree by an adult of 200 to 250 lbs. weight (or 6½ to 7.0 feet in height), for example, may be too strong to prevent the comfortable use of that chair by a person weighing, say, 80 to 100 lbs. (or standing 5.0 to

5½ feet in height). But if the front spring is made adjustable, it becomes easily and quickly possible to make the chair comfortably usable by a person of relatively light weight or small height over the maximum safe rocking movement without any danger of exceeding the safe limits.

It will be obvious that the front spring **11** may interconnect the front ends of the two base bars **2**, **4** or the front ends of the two legs **5**, **6** or the front end of the base bar **2** with the rearwardly declining leg **5** or the front end of the seat bar **4** with the front end of the forwardly declining leg **6**. Consequently, if we view the base bar **2** and the lower ends of the legs **5** and **6** (with or without the base **1**), as constituting the base structure and seat bar **4** and the upper ends of the legs **5** and **6** (with or without the seat **3**), as constituting the seat structure, it will be appreciated that the front tension spring **11**, broadly, may yieldably interconnect the front ends of the seat and base structures, and that the rear tension spring **12**, broadly, may yieldably interconnect the rear ends of the seat and base structures.

Finally, it may be noted that the rear and front springs should never be completely relaxed but, on the contrary, should have a minimum tension sufficient to prevent the spring noise which occurs during rocking when a relaxed spring is tightened.

FIG. 4

The rocking chair hardware structure illustrated in FIG. 4 differs from that shown in FIGS. 1–3 only in that the FIG. 4 base bar **2** is increased in length to project to a greater extent both rearwardly and forwardly while its front end is bent to incline forwardly upward at a point approximately mid-way between the base pivot **6***a* of leg **6** and the extreme front end of the base bar **2**. This does not make any significant change in operation but is desirable because it enables the front spring hardware attachment to be more successfully concealed when the chair is rocked.

It is desirable to adjust chairs of this type to the height of the occupant as well as to the weight of the occupant. It will be well understood that all structure illustrated in the drawing except the base **1** and seat **3** may be and preferably is composed of metal.

Having described my invention, I claim:

1. A rocking chair comprising: a base; a relatively elevated seat; means rockably supporting the seat on that base, said means including a pair of crossed legs, one declining rearwardly from the front end of the seat to the rear end of the base and the other declining forwardly from the rear end of the seat to the front end of the base, each leg being pivotally connected at its opposite ends to the seat and base respectively, the midportion of one leg being laterally spaced from the other leg; the base and the lower ends of the legs constituting a base structure; the seat and the upper ends of the legs constituting a seat structure; and spring means yieldably restraining the rocking action of the seat on the base, said spring means including a front tension spring yieldably interconnecting the front ends of the seat and base structures and a rear tension spring yieldably interconnecting the rear ends of the seat and base structures.

2. The chair of claim 1 wherein: the front spring is less yieldable than the rear spring.

3. The chair of claim 1 including: means for adjusting the yieldability of the front spring to accommodate occupants of different size.

4. A rocking chair hardware comprising: a base bar hardware member; a relatively elevated seat bar hardware member; hardware means rockably supporting the seat hardware member on the base hardware member, said hardware means including a pair of crossed legs, one declining rearwardly from the front end of the seat hardware member to the rear end of the base hardware member and the other declining forwardly from the rear end of the seat hardware member to the front end of the base hardware member, each leg being pivotally connected at its opposite ends to the seat hardware member and base hardware member respectively, the midportion of one leg being laterally spaced from the other leg, the base hardware member and lower end portions of the legs constituting a base hardware structure; the seat hardware member and the upper end portions of the legs constituting a seat hardware structure; and spring means yieldably restraining the rocking action of the seat hardware member on the base hardware member, said spring means including a front tension spring yieldably interconnecting the front ends of the seat hardware and base hardware structures and a rear tension spring yieldably interconnecting the rear ends of the seat hardware and base hardware structures.

5. The hardware of claim 4 wherein: the front spring is less yieldable than the rear spring.

6. The hardware of claim 4 including: means for adjusting the yieldability of the front spring to accommodate occupants of different size.

7. The hardware of claim 6 wherein: said front spring interconnects the front ends of the seat hardware member and the base hardware member while said rear spring yieldably interconnects the rear ends of said seat hardware member and said base hardware member.

8. The hardware of claim 4 wherein: the midportion of each leg is offset relative to its end portions.

References Cited in the file of this patent

UNITED STATES PATENTS

182,845	Mohr	Oct. 3, 1876
365,288	Wicker	June 21, 1887
459,653	Sampson	Sept. 15, 1891
585,422	Boenning	June 29, 1897
2,277,875	Macbeth	Mar. 31, 1942
2,529,638	Spradlen	Nov. 14, 1950
2,810,428	Plese	Oct. 22, 1957
2,813,574	Hawkins	Nov. 19, 1957
2,964,095	Hoffman et al.	Dec. 13, 1960

FOREIGN PATENTS

401,654	France	Aug. 2, 1909