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2,813,574

PLATFORM ROCKERS AND SWIVEL CHAIRS

Filed May 17, 1955

2 Sheets-Sheet 1

Fig. 1

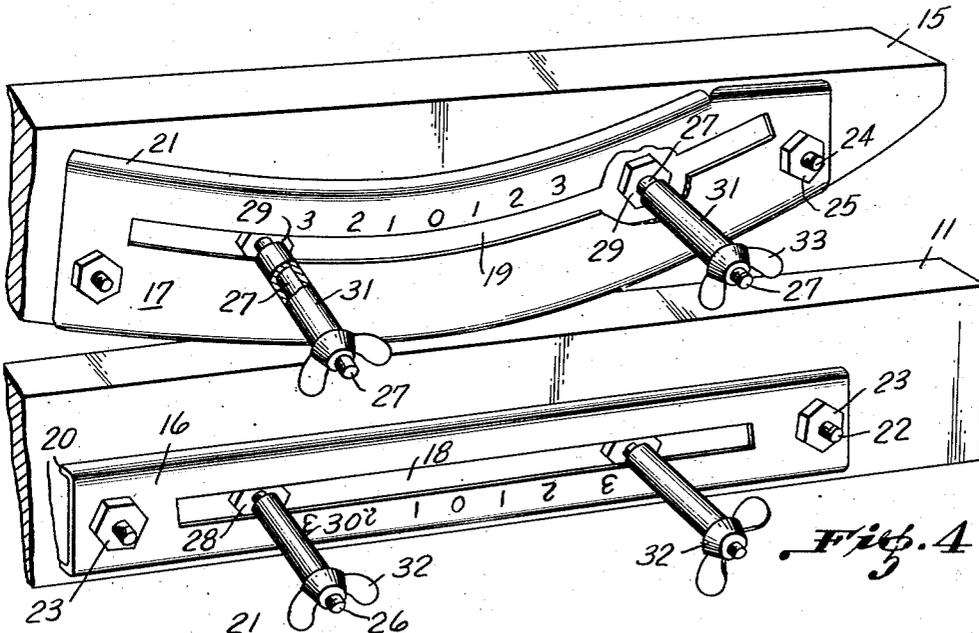
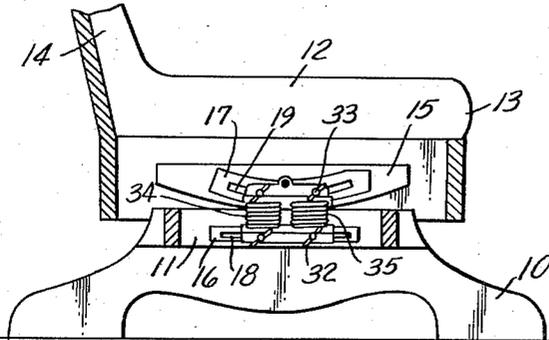


Fig. 4

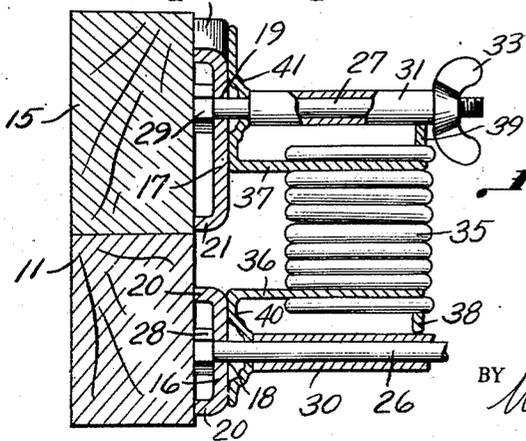


Fig. 5

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Fig. 2

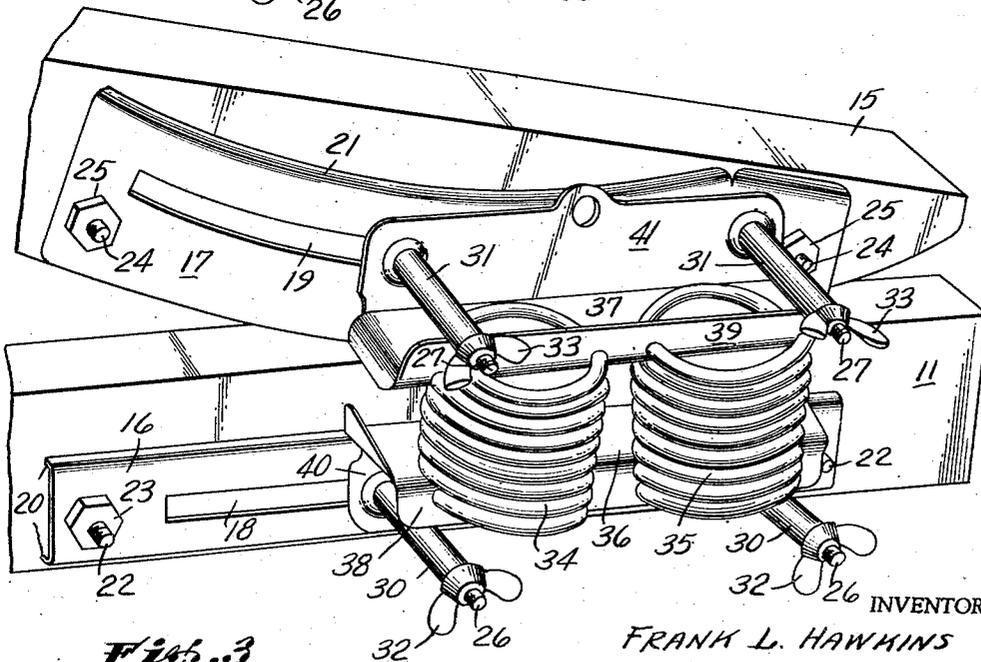
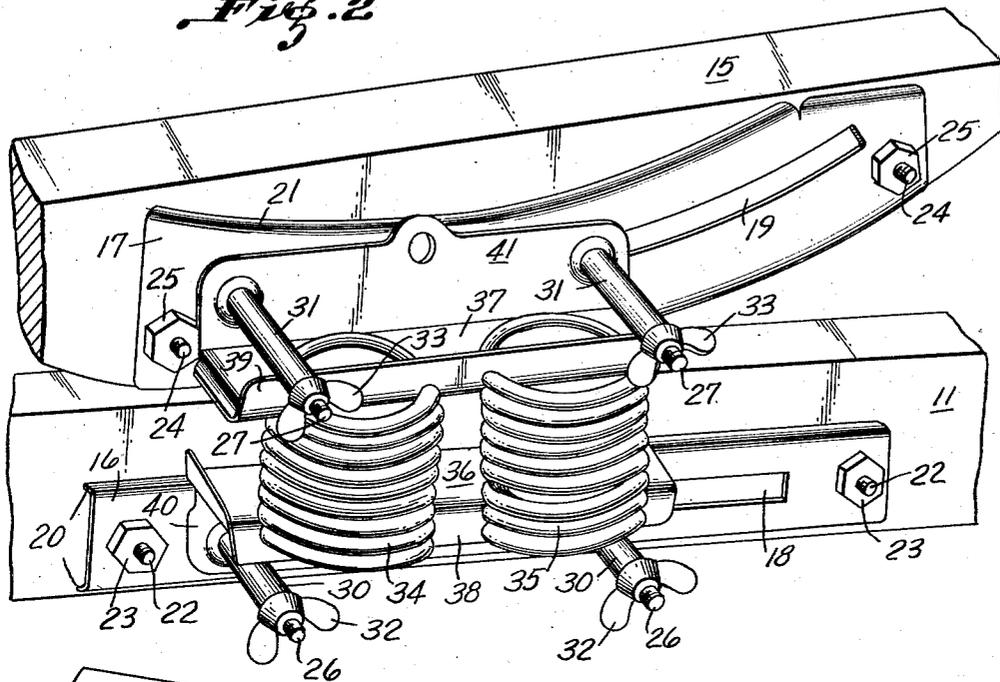


Fig. 3

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PLATFORM ROCKERS AND SWIVEL CHAIRS

Frank L. Hawkins, Claremore, Okla., assignor of one-tenth to Harold Lee Hawkins and one-fourth to Jack E. Gordon and G. Raymond Bassmann, Claremore, Okla.

Application May 17, 1955, Serial No. 508,961

4 Claims. (Cl. 155—71)

The present invention relates to platform rockers and swivel chairs and has for an object to improve the assembly and usage thereof.

Another object of the invention is to provide a platform rocker or swivel chair of an improved construction which permits a platform or swivel rocker to be assembled by the manufacturer in less time because of fewer operations.

A further object of the invention is to provide a device of the above-described character which permits a quick, easy, and foolproof adjustment of a swivel or platform rocker by an owner whereby the chair is converted to fit any individual.

A still further object of the invention is to so mount the conventional spring assembly of a platform rocker or swivel chair that the same may be moved forwards or backwards as desired to achieve the adjustment heretofore referred to.

A still further object of the invention is to provide means for retaining the spring assembly in the adjusted forward or rearward positions by simply loosening and tightening nuts upon a number of bolts which slidably connect the spring assembly both to the rocker and to the platform base.

A still further object of the invention is to provide an adjustable spring assembly for platform rockers and swivel chairs to the end that the forward movement of the spring assembly will compress the forward spring and thereby lower the front end of the chair to permit a short person to conveniently occupy the chair with his feet on the floor without having to lean forward to counterbalance the pull of the springs.

It is a further object of the invention to provide an improved platform rocker or swivel chair in which the conventional spring assembly may be moved back and forward to front and rear positions and when in the rear position to permit a tall person to keep his feet on the floor and maintain the chair evenly balanced without leaning in either direction, forward or backward.

It is a still further object of the invention to provide an improved platform rocker or swivel chair which can be adjusted to fit any type of individual, short, tall, small, large or medium.

The invention has for a still further object to provide a device which prevents the upper frame work of a platform rocking chair from rubbing laterally the stationary or base portion of the chair by maintaining the shoe in direct alignment to the stationary base of the chair.

A still further object of the invention is to promote longer life of the springs because of their limited usage.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views:

Figure 1 is a vertical fragmentary sectional view of a platform rocker or swivel chair equipped with conven-

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tional spring assembly and adjusting mounting constructed in accordance with the present invention.

Figure 2 is a fragmentary perspective view, taken on an enlarged scale, of a rocker shoe and rocker supporting beam illustrating the conventional spring assembly and the adjusting device of this invention as mounted upon the rocker shoe and rocker supporting beam, and shown in one extreme position of adjustment.

Figure 3 is a similar view showing the spring assembly and adjustable mounting in the opposite extreme position.

Figure 4 is a perspective view of a rocker shoe and supporting beam with the improved device mounted thereto but omitting the conventional spring assembly.

Figure 5 is a vertical transverse sectional view taken through a rocker shoe and its supporting beam and showing the improved adjusting device as mounted to these parts.

Referring more particularly to the drawings, in Figure 1 is illustrated a pedestal, base or platform 10 adapted to be mounted upon the floor and embodying rocker supporting beams 11.

The chair seat 12 is shown as having a forward edge 13 and a chair back 14. The frame of the chair seat 12 embodies rocker shoes 15 seated and rocking upon the supporting beams 11 of the base. Upon the sides of the rocker shoes 15 and supporting beams 11 are mounted plates 16 and 17 having longitudinal slots 18 and 19 and formed with inturned flanges 20 and 21 along their longitudinal edges to engage the sides of the beams 11 and rocker shoes 15 in order to space the plates 16 and 17 a suitable distance from the side walls of such members 11 and 15. The plates 16 and 17 are bound to the beams 11 and rockers 15 by bolts 22 and nuts 23 in the case of the beams 11 and bolts 24 and nuts 25 in the case of the rockers 15.

It will be noted, more particularly from Figure 4, that the slots 18 in the plates 16 of the beams 11 are substantially straight and will be disposed as to length in a generally horizontal direction; while the slots 19 in the rocker shoe plates 17 are curved, preferably in arcs which are substantially concentric with the curved rocking surfaces of the shoes 15. Preferably the plates 16 are substantially straight or right line plates while the plates 17 of the rockers are preferably curved to conform to the general curvature of the curved rocker surfaces.

Pairs of bolts 26 and 27 are spaced apart in the respective slots 18 and 19 with their shanks extending through such slots 18 and 19 respectively with enlarged bolt heads 28 and 29 on the inner ends of the bolts 26 and 27, which bolt heads 28 and 29 are slidably accommodated in the spaces between the beams 11 and their plates 16 and the rocker shoes 15 and their plates 17. It will be understood that the bolt heads 28, 29 are of a diameter greater than the widths of the slots 18 and 19 so that the bolts 26 and 27 are maintained in captive relation with respect to the slotted plates 16, 17 without interfering with the longitudinal sliding movement of these bolts 26, 27 in the slots 18 and 19. At the same time, the enlarged heads 28, 29 maintain the bolts 26, 27 in place in their relation to the plates 16 and 17 so that the bolts 26, 27 may support the conventional spring assembly.

Sleeves 30 and 31 are fitted about the bolts 26 and 27 respectively, the threaded ends of the bolts 26 and 27 projecting outwardly beyond the sleeves 30 and 31 to receive winged nuts 32, 33 which are easily tightened and loosened in the fingers of the operator.

The conventional spring assembly consists generally of a pair of coil springs 34, 35 at each side of the chair with the helices mounted at their lower ends upon spring seat plates 36. At their upper ends the coil springs engage top spring confining or loading plates 37. There is one

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plate 36 and one plate 37 at each side of the chair. In other words, one bottom seat plate 36 receives the lower portions of both coil springs 34 and 35 at each side of the chair and in the same manner a single top plate 37 at each side of the chair receives the upper ends of both coil springs 34, 35 at such side.

The spring seat plates 36 have outer flanges 38 down-turned from the outer longitudinal edges thereof. Similarly, the upper plates 37 have outer flanges 39 turned upwardly from the longitudinal edges thereof. The lower spring seat plates 36 are also provided with down-turned inner flanges 40 which are adapted to engage against the outer faces of the lower plates 16, it being understood that the bolts 26 pass through these flanges 40 and are enveloped by sleeves 30, the inner ends of which abut the flanges 40. Also, the top spring confining or loading plates 37 are provided with up-turned inner flanges 41 which engage against the upper rocker plates 17 and receive therethrough the upper bolts 27. However, the inner ends of the sleeves 31 which surround the bolts 27 do not pass through the flanges 41 but engage directly thereagainst.

In the operation of the device, it will be understood that the conventional spring assembly consisting generally of the two sets of coil springs 34, 35 at opposite sides of the chair and the upper and lower spring plates 36, 37 together with their flanges 38, 40 and 39, 41 are carried by the several bolts 26, 27 and are movable in an adjustable manner along with the bolts 26, 27 as these bolts are slid lengthwise in the slots 18, 19 of the plates 16, 17. These bolts 26, 27, by loosening the butterfly or winged nuts 32, 33, may be slid together with the conventional spring assembly to any desired longitudinal position along the slots 18, 19. Thereafter the nuts 32, 33 are tightened on the bolts 26 and the entire spring assembly is thus secured in the adjusted position.

As the nuts 32, 33 are rotated in a right-hand direction to tighten the same upon the bolts 26, 27, as these bolts 26, 27 cannot shift axially due to the entrainment of their heads 28, 29 in the spaces back of the plates 16, 17, and as the nuts 32, 33 when rotated in a right-hand direction progress inwardly along the bolts 26, 27, they will exert longitudinal thrust upon the sleeves 30, 31 pushing the sleeves against their respective inner flanges 40, 41 of the upper and lower spring plates 36, 37 and thus urging the flanges 40, 41 tightly against the slotted plates 16, 17 carried respectively by the beams 11 and the rocker shoes 15. In this way, the spring assembly is bound tightly to the adjusting plates 16, 17.

The plates 16, 17 may be of medium weight metal, approximately eleven inches in length and the flanges 20, 21 thereof may be approximately one-fourth of an inch in depth. These plates 16, 17 with their flanges 20 and 21 in relation to the beams 11 and rocker shoes 15, constitute tracks on which the bolts 26, 27 and the conventional spring assembly are moved forwardly and backwardly.

Figure 3 shows the unit moved to the limit of its forward position so the front end 13 of the chair seat 12 as shown in Figure 1 is lowered, whereby a short person may sit in the chair and yet reach the floor with his feet and without having to lean forward to counterbalance the pull of the springs 34, 35.

Figure 2 of the drawings shows the adjustable unit moved to the rearmost limit of its movement as provided by the slots 18, 19. In this position, the front edge 13 of the chair is tilted upwardly to the end that a tall person may reach the floor with his feet and also that the chair may be evenly balanced without requiring leaning of the occupant in either forward or backward direction.

It will be appreciated by those skilled in this art that there are a number of different positions of adjustment between those shown in Figures 2 and 3 whereby the chair seat 12 may be brought to various positions to accom-

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modate persons of short, tall, small, large or medium build.

It will also be appreciated that as wide areas of the flanges 40 and 41 of the spring assembly engage correspondingly large surface areas of the plates 16, 17, the rocker shoes 15 are at all times maintained in vertical alignment with their supporting means 11 and are not permitted any lateral movement as would be the case with small conventional plate surface areas. Since the rocker shoes and supporting means are held in alignment, they cannot move angularly with respect to one another to cause undesirable rubbing and squeaking.

In moving to the forward position of Figure 3, the forward spring 35 is tensioned, and in moving to the rear position of Figure 2, the rear spring 34 is tensioned. The upper and lower convolutions of these spring stacks 34, 35 may pass through openings in the forward flanges 38, 39 so as to underlie the spring seat plates 36 and overlie the top confining spring loading plates 37, all as best seen in Figures 2 and 3.

By the wide range of adjustment permitted by the improved device, the chair 12 becomes a posture chair and admits of posture adjustment.

The improved device according to this invention also saves the manufacturer from fifteen to twenty minutes in the act of assembling the chair. Not only is there a saving in this time but the assembly is more accurate.

To assemble the device according to the present invention, there are only four holes in the flanges 40, 41 for the four bolts 26, 27. For example, these bolts may be a quarter-inch in diameter. These bolts must be inserted and tightened which involves four operations at each side of the chair or eight operations in all.

According to prior methods, twenty operations are required. Thus, the invention saves the manufacturer twelve operations. According to the prior method, it is first necessary to glue both sides of the chair and the shoe rocker, then insert two large screws; thereafter put the springs in place and then finally insert six more screws. The same operation must be repeated at the other side of the chair so that twenty separate operations are required as against eight operations pursuant to the present invention.

The invention not only keeps the chair from rubbing but also prevents the springs from breaking. The chair may be adjusted to the convenience of the user and this adjustment may be made by anyone in a very short space of time.

The numeral series "3210123" appearing on the plates 16 and 17 attached to the platform base 11 and to the rocker 15 indicate numbered positions of adjustment which will permit the operator to select with greater particularity the position required.

Although I have disclosed herein the best form of the invention known to me at this time, I reserve the right the all such modifications and changes as may come within the scope of the following claims.

I claim:

1. An adjusting device for a rocker chair having a conventional spring assembly comprising straight and curved tracks for respectively securing to the rocker supporting beam and rocker shoe of the chair, supports carrying the spring assembly and having parts travelling in said tracks, and means for binding the supports in adjusted position along the tracks.

2. An adjusting device for a rocking chair having a conventional spring assembly including a lower spring seating plate and an upper spring loading plate comprising straight and curved tracks adapted to be carried by the chair rocker supporting beam and rocker shoe respectively and supports on the spring assembly adapted to carry the upper and lower plates thereof and having parts travelling in said tracks to require tilting movement of the chair and incidental tension of one or the other spring of each spring assembly.

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3. An adjusting device for a rocking chair having a conventional spring assembly comprising track plates mounted in spaced relation to the sides of the rocker supporting beam and rocker shoe of the chair and having respectively longitudinal straight and curved slots, bolts slidable in said slots and having enlarged heads back of the plates for retaining the bolts in position therein, said bolts supporting the spring assembly, and means whereby the spring assembly may be tightened against said plates.

4. An adjusting device for a rocking chair having a spring assembly, plates adapted to be secured to the rocker supporting beam and rocker shoe of the chair and having respectively straight and curved slots therein, bolts fitted with their shanks slidable in said slots and carrying the spring assembly, said bolts having heads thereon back of the plates, said heads being larger in diameter than the

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widths of the slots, sleeves received over said bolts and engaged at their inner ends against the spring assembly and nuts on the outer ends of said bolts for developing thrust against said sleeves to drive the sleeves tightly against the spring assemblies to force the latter against said track plates.

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