

[54] **ROCKER BASE**

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314; 308/2 R

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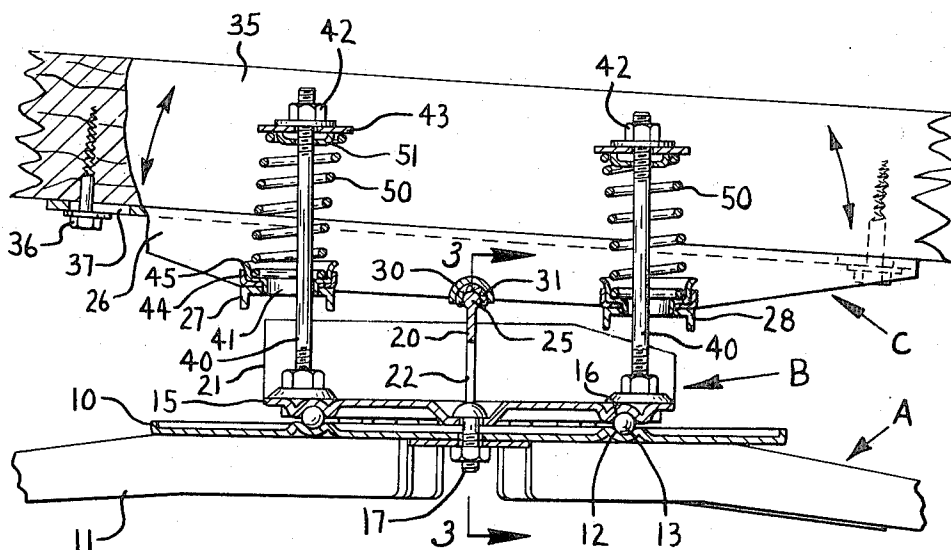
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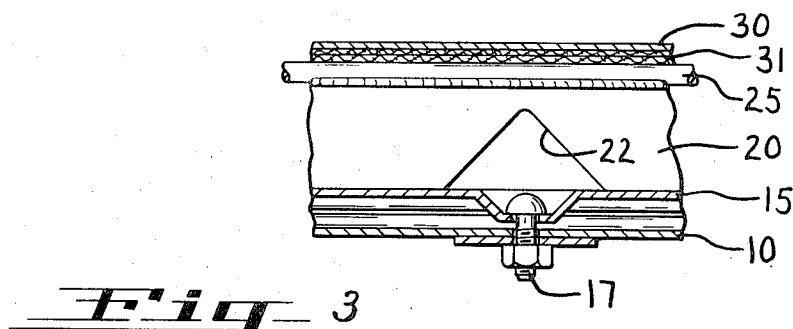
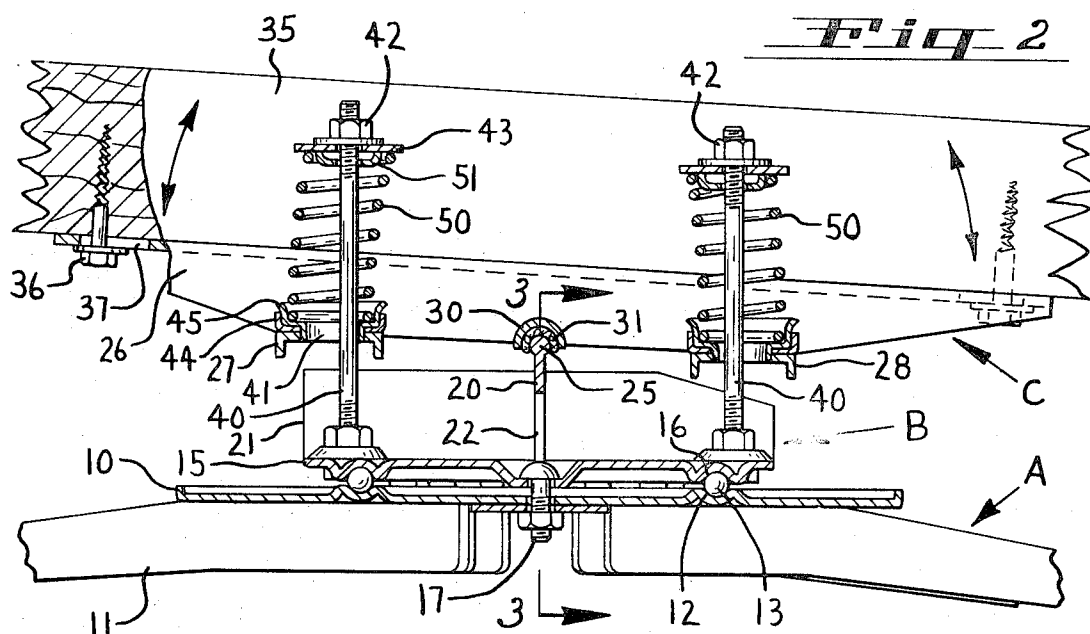
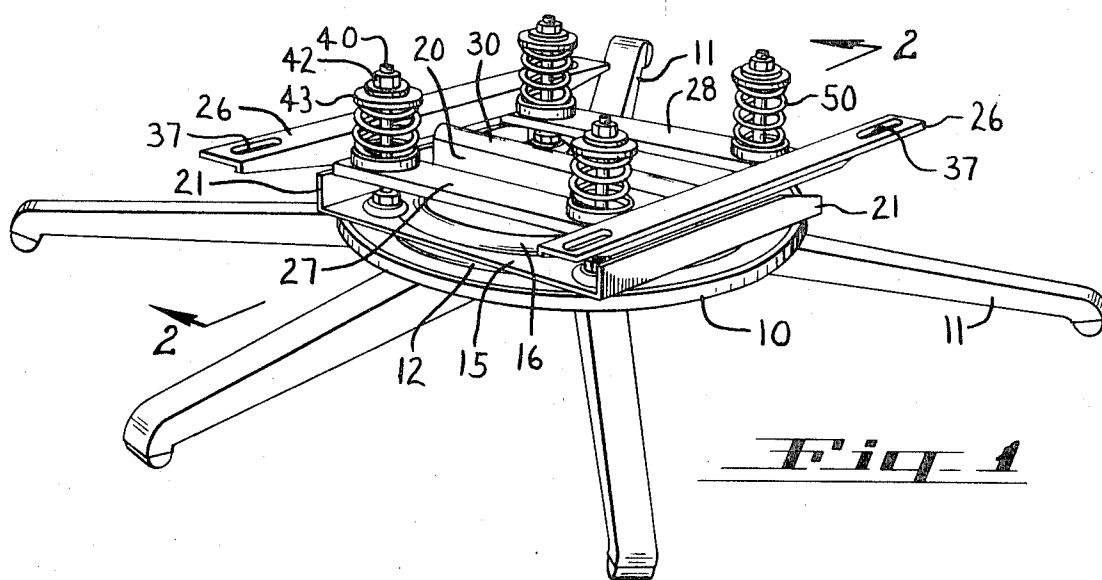
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[57] **ABSTRACT**

This is a swivel rocker base for a rocking chair. A rocker base frame is swivel mounted on a swivel base frame. A rocking trunnion comprising a steel rod is welded in horizontal position on the upper edge of a vertical plate which is mounted in diametral position on the rocker base frame. A rocker frame has a semi-cylindrical saddle bearing overlying the full length of the trunnion rod to support the chair. A nylon cushion is interposed as a bushing between the trunnion rod and saddle bearing. Four upstanding bolts on the rocker base frame extend upward through openings in the rocker frame, two of these bolts being on the front side of the trunnion rod and two on the rear side. Each bolt carries a coil spring compressed between a lower spring seat on the rocker frame and an upper spring seat on the upper end of the bolt whereby the springs are readily replaceable in case of breakage.

6 Claims, 3 Drawing Figures





ROCKER BASE

BACKGROUND OF THE INVENTION

This invention relates to a rocker base for a rocking chair.

Rocker bases as heretofore made have a number of disadvantages. The rocking pivots are a conspicuous weak point in conventional construction. They have a relatively short life, often wearing out while the rest of the chair is in good condition. Spring breakage is a common occurrence and the spring mounting arrangement usually makes it impossible for the user himself to replace a broken spring. Also, conventional chairs tend to develop an annoying squeak both in the springs and in the rocker pivots.

Objects of the present invention are, therefore, to provide an improved rocker base, to provide a rocker base having a long lasting and noiseless rocking pivot and to provide a rocker base having an improved spring arrangement which is quiet in operation and which facilitates replacement of a broken spring.

SUMMARY OF THE INVENTION

In the present construction a rocker frame on which the chair is mounted is supported by a saddle bearing having a nylon pad bushing resting on the full length of a long horizontal trunnion bolt in the rocker base frame. The parts are held in assembled relation by four vertical compression springs which rest on nylon pads in the lower spring seats to make them silent in operation. The springs are mounted on upstanding bolts having readily accessible nuts on their upper ends to facilitate the replacement of a broken spring.

The invention will be better understood and additional objects and advantages will become apparent from the following description of the preferred embodiment illustrated on the accompanying drawing. Various changes may be made, however, in the details of construction and arrangement of parts and certain features may be used without others. All such modifications within the scope of the appended claims are included in the invention.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a rocker base embodying the invention;

FIG. 2 is a view on the line 2—2 in FIG. 1; and

FIG. 3 is a view on the line 3—3 in FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The swivel base frame A comprises a circular plate 10 mounted on a plurality of legs 11. The plate is stiffened by a marginal upturned flange as shown. A circular groove 12 in the upper face of plate 10 forms a lower raceway for ball bearings 13. The rocker base frame B comprises a square plate 15 having a circular groove 16 in its under face forming an upper raceway for the balls 13. The balls 13 are maintained in spaced relation from each other by a cage ring, not shown. Plates 10 and 15 are secured together for relative rotation by a vertical pivot bolt 17.

A vertical plate 20 is welded along its lower edge to the upper face of plate 15 and its ends are welded to a pair of upstanding flanges 21 on opposite sides of plate 15. Plate 20 is in diametral position relative to the ball raceway 16 and is notched at 22 at mid length to pro-

vide access to the vertical pivot bolt 17. Welded on the upper edge of plate 20 is a horizontal trunnion rod 25 spanning the width of rocker base frame B and which, by way of example in the present embodiment, has a seven inch long bearing surface.

Rocker frame C comprises a pair of left and right longitudinal side members 26 and front and rear transverse members 27 and 28 welded together as shown. Side members 26 are preferably angle irons and the transverse cross members 27 and 28 are preferably channel irons. This frame is supported by a semicylindrical saddle bearing 30 which is welded at its ends to the vertical flanges of longitudinal members 26. Saddle member 30 rests on a bushing 31 on the trunnion rod 25. Bushing 31 preferably comprises plural layers of a folded piece of heavy nylon material, the bushing 31 and saddle bearing 30 extending the full length of the trunnion rod 25.

Side members 26 support the chair. The chair has a pair of longitudinal wooden base members 35 which are secured to the top horizontal flanges of members 26 by screws 36. The screws 36 are inserted through slots 37 which provide a range of fore and aft adjustment to properly balance the chair on trunnion rod 25.

Mounted in the corners of the square rocker base plate 15 outside of ball race 16 are four upstanding spring bolts 40. The bolts 40 extend upward through large openings 41 in the front and rear transverse members 27 and 28 and are provided on their upper ends with nuts 42 and spring seat washers 43. Surrounding the openings 41 on the upper side of transverse members 27 and 28 are spring seat cups 44 lined with pads 45 of woven nylon material.

Each spring bolt 40 carries a coil spring 50 compressed between washer 43 and pad 45. The lower end of the spring is centered in the cup 44 and the upper end is centered by an internal cup washer 51 on the bolt 40. Thus, the spring action is readily adjustable by the four nuts 42 and in case a spring should break, it is readily removable by unscrewing nut 42 from its bolt 40. The under side of the chair has ample open space to allow removal of one of the springs 50 without dismantling any of the other parts. When one spring is removed, the remaining three springs hold the parts in assembled relation.

The rocking action does not produce any metal to metal frictional contact between the supporting saddle bearing 30 and trunnion rod 25. The rotary sliding movement occurs between the bushing material 31 and rod 25 rather than between metallic parts. Because of the great length of the bearing surfaces, the fabric bushing material is not subject to undue wear and, even if the bushing material should wear thin or wear out entirely, the rocking action is not functionally impaired. In such event, the mechanism does not fall apart or become inoperative, the metal parts 25 and 30 having indefinitely long life.

Nylon and certain other synthetic fabrics are suitable for the cushion material at 31 and 45 without requiring any lubrication. They are extremely durable and long lasting and do not squeak in the absence of lubricant. However, it is within the scope of the invention to utilize the pads 31 and 45 to hold a suitable lubricant, if desired. When lubricant is used, these pads may be made of a wide variety of other materials.

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Having now described my invention and in what manner the same may be used, what I claim as new and desire to protect by Letters Patent is:

1. In a rocker base, a rocker base frame, a pair of up-
standing side flanges on opposite sides of said base
frame, a transverse vertical plate welded along its lower
edge to the top side of said base frame and welded at
its ends to said side flanges, a trunnion rod welded
along its under side to the upper edge of said transverse
vertical plate, said plate supporting said rod; a rocker
frame comprising a pair of side members and a pair of
front and back transverse members connected at their
ends to said side members, a semi-cylindrical saddle
bearing welded at its ends to said side members, a non-
metallic bushing element between said trunnion rod
and saddle bearing, said saddle bearing supporting said
rocker frame for rocking movement on substantially
the full length of said trunnion rod; a pair of upstanding
bolts mounted in a front part of said base frame, a pair
of upstanding bolts mounted in a back part of said base
frame, said bolts extending upward through holes in
said transverse members of said rocker frame, lower
spring seats on said transverse members concentric
with said holes, upper spring seats on the upper ends of
said bolts, and coil springs on said bolts compressed be-

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tween said upper and lower spring seats.

2. A rocker base as defined in claim 1, said bushing
element comprising a fabric pad.

3. A rocker base as defined in claim 2, said fabric pad
comprising a folded piece of nylon material.

4. A rocker base as defined in claim 1, said transverse
members comprising channel irons and said side mem-
bers comprising angle irons, said saddle bearing being
welded to vertical flanges on said angle irons, and said
angle irons having horizontal flanges with longitudinal
slots to receive screws for mounting a chair in fore and
aft adjusted position on said horizontal flanges.

5. A rocker base as defined in claim 1, said rocker
base frame comprising a square horizontal plate having
a circular ball race on its under side for swivel mount-
ing on a swivel base frame, and said bolts being
mounted in the corners of said plate.

6. A rocker base as defined in claim 5 including a
swivel base frame, said swivel base frame comprising a
horizontal plate with a circular ball race on its upper
side, balls in said race supporting said rocker base
frame, and legs mounted on the under side of said
swivel base frame plate.

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