

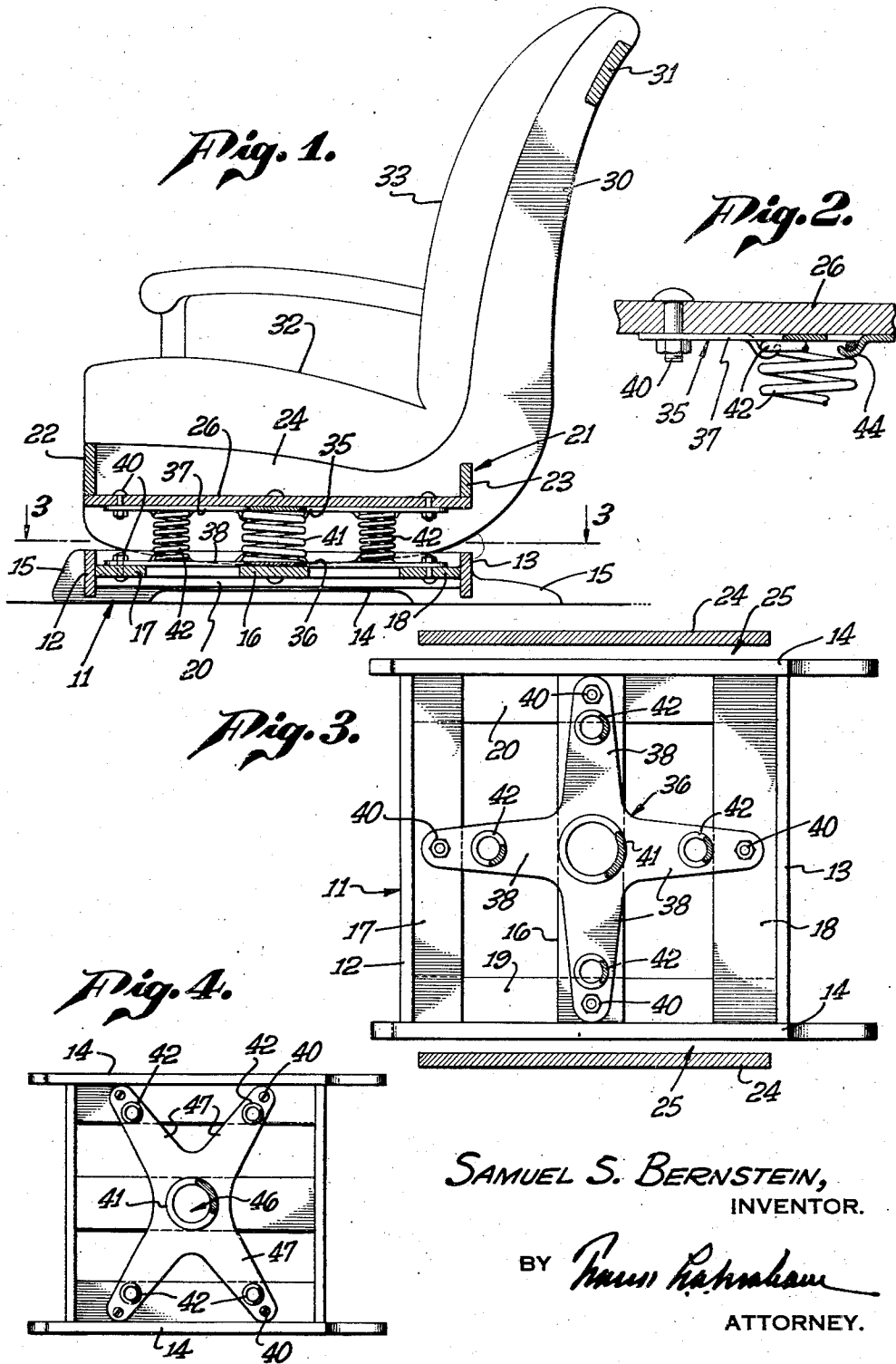
Oct. 22, 1946.

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2,409,826

CHAIR

Filed May 29, 1944



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UNITED STATES PATENT OFFICE

2,409,826

CHAIR

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Application May 29, 1944, Serial No. 537,769

2 Claims. (Cl. 155-54)

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This invention relates to the furniture art and more particularly to rocking chairs and the like of the type in which the seat of the chair is yieldingly supported upon the base of the chair.

In the ordinary type of rocking chair having a fixed base the seat portion or rocking portion is provided with wooden rockers which rock upon corresponding wooden rocking surfaces on a base member, snubber springs being provided to yieldingly resist the rocking action. The disadvantages of this ordinary type of rocking chair are that the rocking motion of the chair is limited to a single plane, that is, backwardly and forwardly, and the rockers riding upon unyielding surfaces the rocking action is stiff, the person occupying the chair depending for comfortable sitting upon the yieldability of the seat cushion. A further disadvantage of the ordinary rocker is that the rockers which are usually of wood ride upon wooden supporting surfaces which soon produce an unpleasant and objectionable noise and such wooden rockers soon wear unevenly resulting in uneven rocking surfaces.

The principal object of the present invention is to provide a new and improved furniture construction of simple form wherein a seat element is mounted on a stationary platform base frame by means of vertically extending coiled springs so that the seat element may freely rock or tilt in any direction at the will of the person occupying the chair.

Another object of this invention is to produce a chair of the class described of simple form and construction in which the yieldable supporting structure may be made as a single unit and readily mounted on the chair members.

Other objects and advantages will appear hereinafter from the following description and drawing.

Referring to the drawing, which is for illustrative purposes only:

Fig. 1 is an elevational sectional view of a chair embodying a preferred form of my invention;

Fig. 2 is an enlarged fragmentary sectional view of a portion of the seat frame showing the manner of connecting the top of one of the springs to the frame;

Fig. 3 is a sectional plan view on line 3-3, Fig. 1; and

Fig. 4 is a view similar to Fig. 3 showing a modified arrangement of positioning the springs.

Referring more particularly to the drawing, which is for illustrative purposes only, the numeral 11 generally indicates a base or platform frame consisting of upright front and rear rails

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12 and 13 respectively which extend between and are connected in any conventional manner to upright side rails indicated at 14 which side rails are each provided with feet 15 which rest upon the floor and support the chair base or platform thereon. Extending transversely across the frame 11 is a central rail and front and back horizontal rails 16, 17 and 18 respectively. These rails 16, 17 and 18 rest upon and are secured in any conventional manner to supporting rails 19 and 20 which run along the side rails 14 between the front and rear rails 12 and 13. The rails 16, 17, 18, 19 and 20 are all secured to the side, front and rear walls by nailing or in any other conventional manner.

Arranged above the base frame and supported thereon as hereinafter described is a chair frame generally indicated at 21. This frame consists of front and rear upright rails 22 and 23 respectively which extend between and are connected in any conventional manner to side panels or rails 24. The side panels or rails 24 are wider than the side rails 14 of the base frame and have a downwardly extending rounded portion which extends down on each side of the rails 14 of the base frame to hide the spring structure hereinafter referred to, and which are spaced apart therefrom as shown at 25 in Fig. 3.

The chair frame 14 is also provided with a floor indicated at 26 which is secured to the front and rear rails 22 and 23 respectively and to the side panels 24 in any conventional manner.

The side panels 24 extend upwardly and rearwardly as indicated at 30 and are joined at their upper ends by a cross bar 31. A seat cushion indicated at 32 and a back cushion indicated at 33 are secured in any well known manner to the chair frame, it being understood that the seat and back cushions may be of any conventional desired design and construction as may be adaptable.

It is to be noted that the seat frame has no rigid connection to the base frame but is supported thereon by a plurality of vertically extending coiled springs forming a part of a spring unit.

This spring unit, in the form shown in Fig. 1 and Fig. 3, consists of upper and lower metal plates 35 and 36 respectively in the form of a cross having four arms indicated at 37 on the upper plate 35 and indicated at 38 on the lower plate. These arms, in the form shown in Figs. 1 and 3, are arranged at right angles to each other and the arms of one plate being secured at their outer ends to the horizontally disposed rails of the chair frame and the arms of the other

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plate being secured to the horizontal rails of the base frame by means of bolts or screws indicated at 40.

The plate 35 is spaced above the plate 36 and interposed therebetween is a plurality of coiled compression springs. One of these springs, which may be termed a mainspring, indicated at 41, is placed at the center of the plates 35 and 36 and a coiled compression spring indicated at 42 placed between the plates 35 and 36 near the ends of the arms. The central spring or mainspring 41 is designed to carry most of the weight of the person occupying the chair and is heavier and of larger diameter than the springs 42.

The manner of attaching the springs to the plates 35 and 36 is shown in Fig. 2, wherein one arm 37 of the upper plate 35 is shown attached to the floor 26 of the seat frame. This arm 37 is punched or upset to form lugs or fingers 44 which extend under and partly around the uppermost coil of the spring 42. This form of attachment is also provided for both the upper and lower ends of each spring.

In the form of my invention shown in Figs. 1 to 3 and described above, the springs 42 may all be considered of the same weight and diameter so that the chair may be rocked sidewise, front and back or in any intermediate direction with the same amount of effort, in other words, the chair is what may be termed as having a balanced movement.

It is to be understood that the spring unit may be entirely assembled, that is, the upper and lower plates and the springs connected to the plates. The unit can be attached to the chair frame and base frame simply by securing the bolts or screws 40.

If it is desired to have the chair rock more easily from front to back and a stiffer movement from side to side, then the unit may be provided with the side springs somewhat stiffer than the front and back springs but no matter how the springs are proportioned as to stiffness, the unit affords a yielding support for the chair frame.

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In the form shown in Fig. 4, the upper and lower plates of the unit are in the form of an X with the arms 47 closer together at the sides than at the front and back. This construction allows a more free movement forwardly and backwardly than sidewise as the springs 42 are arranged so that there are two of such springs at each side of the chair.

Although one form of the invention has been particularly shown and described, it is contemplated that various changes and modifications can be made without departing from the scope of the invention and it is intended to cover such changes and modifications as come within the scope of the claims.

I claim as my invention:

1. A chair comprising: a stationary base frame, a chair frame superimposed over the base frame, a seat on said chair frame, and means for yieldably supporting the chair frame on the base frame, said means comprising solely a plurality of coiled compression springs extending vertically between said frames, said springs being arranged with one of the springs centrally disposed between said frames; the remainder of said springs being spaced apart from the central spring; and means for securing the ends of the springs to said frames, the centrally disposed spring being relatively stronger than the other springs.

2. In a chair having a stationary base and a seat adapted for rocking movement relative to the base, means for rockably mounting the seat on the base comprising a main coil spring mounted upright centrally between the base and seat and four relatively weaker secondary coil springs arranged symmetrically around the main spring and upright between the base and seat, said springs constituting the sole support for the seat and the sole means of connecting the seat to the base whereby the main spring functions as a resilient fulcrum for rocking movement of the seat either sidewise or backwardly and forwardly.

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