Aug. 17, 1954 M. FOX 2,686,558

TILTING CHAIR MECHANISM

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FIG. 1

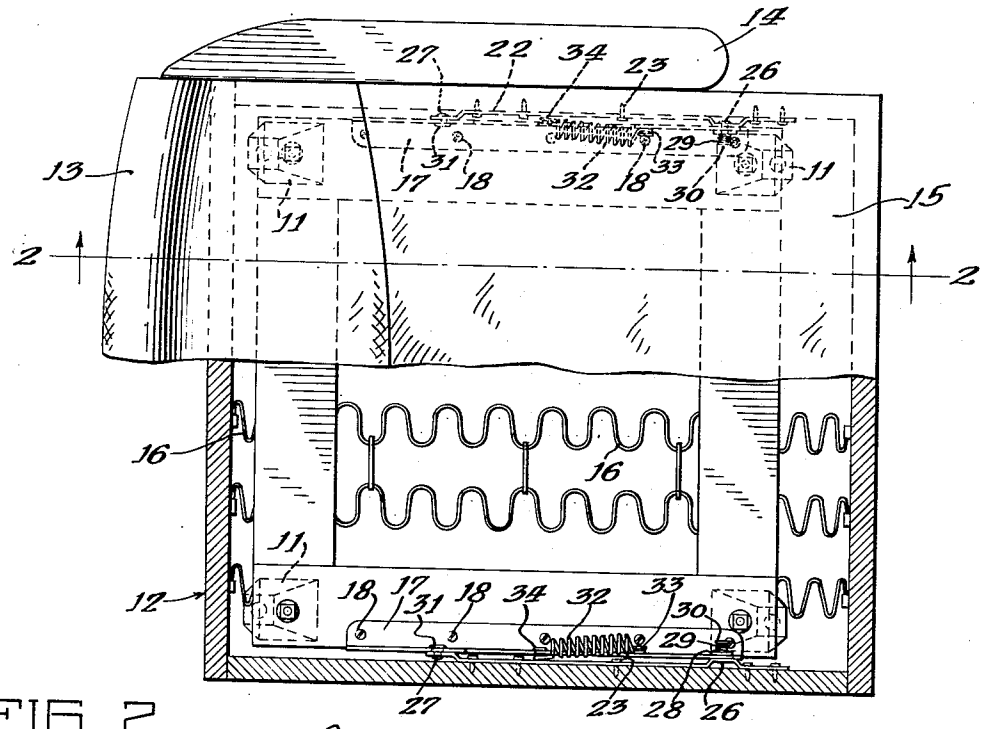

FIG. 2

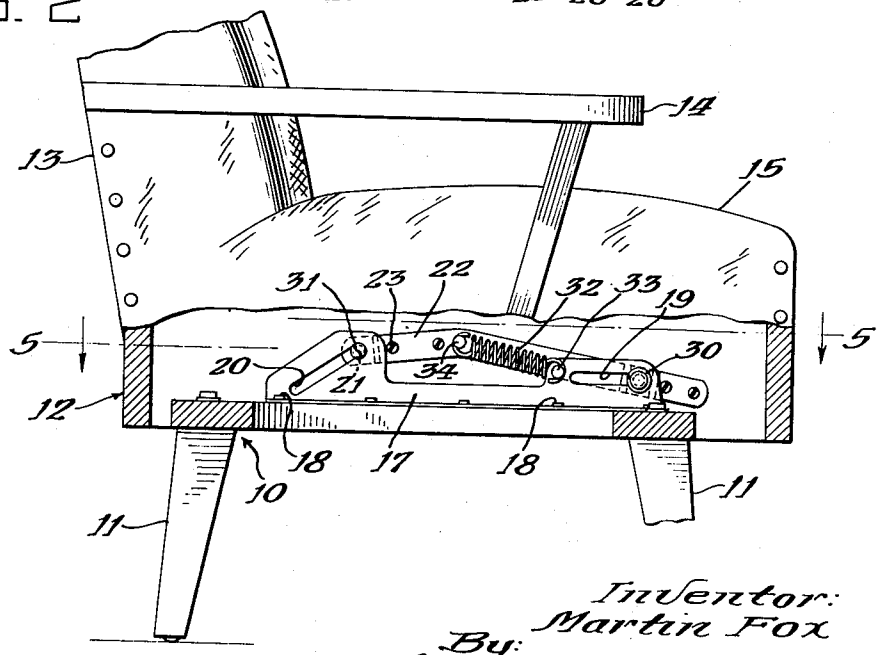

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FIG. 3

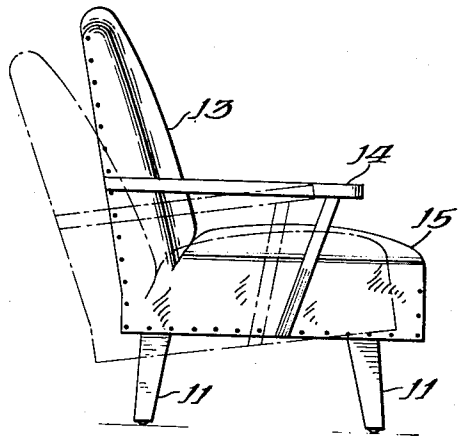


FIG. 4

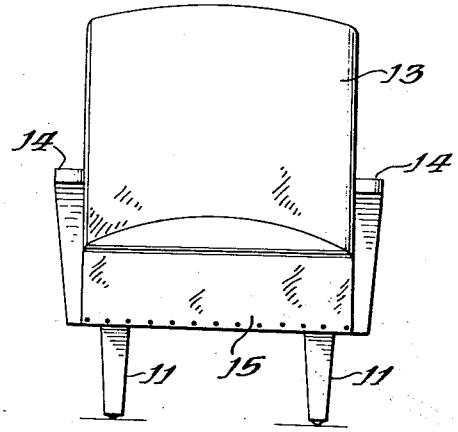


FIG. 5

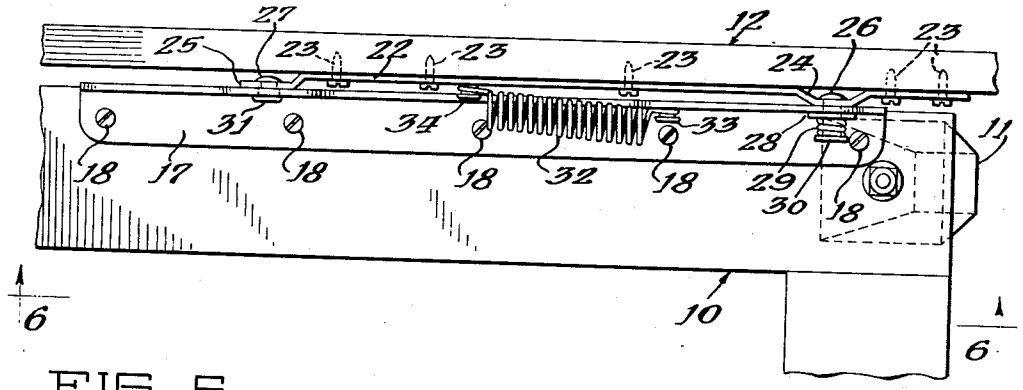
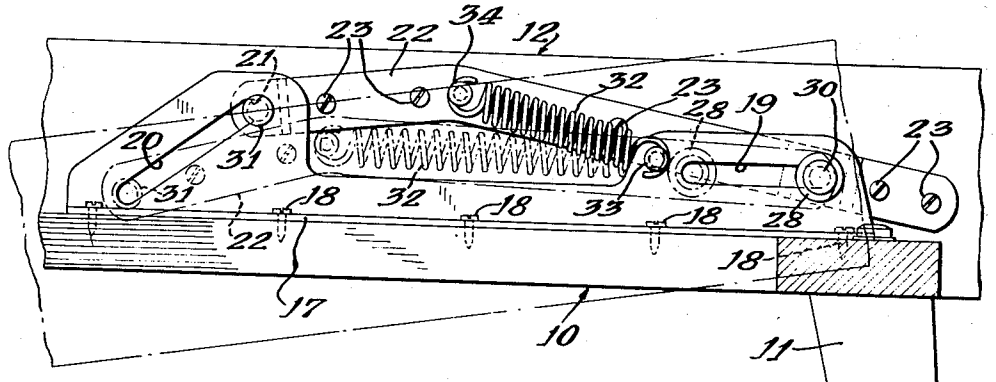


FIG. 6



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UNITED STATES PATENT OFFICE

2,686,558

TILTING CHAIR MECHANISM

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Application April 27, 1950, Serial No. 158,574

3 Claims. (Cl. 155—57)

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This invention relates to a tilting chair mechanism, and in particular it relates to a mechanism which normally retains the chair seat in an upright position, but which permits one sitting in the chair to shift the chair seat to a reclining position merely by shifting the weight of the body.

The primary object of the invention is to provide a simple, rugged mechanism by which a lounge chair may be disposed selectively in upright or reclining position merely by shifting the weight of the body, and which normally retains the chair in upright position.

The invention is illustrated in a preferred embodiment in the accompanying drawings in which—

Fig. 1 is a plan view of a tilting chair embodying the invention, with the seat and seat supporting springs partly broken away to show the tilting mechanism; Fig. 2 is a fragmentary side elevation thereof, with a portion illustrated sectionally, as indicated along the line 2—2 of Fig. 1; Fig. 3 is a side elevation of a lounge chair of the type in which the mechanism is employed, the chair seat and back being illustrated in full lines in normal upright position, and in broken lines in reclining position; Fig. 4 is a front elevational view of such a lounge chair; Fig. 5 is an enlarged fragmentary sectional view taken as indicated along the line 5—5 of Fig. 2; and Fig. 6 is a fragmentary sectional view, taken as indicated along the line 6—6 of Fig. 5.

Referring to the drawings in greater detail, the lounge chair has a wooden base frame, indicated generally at 10, which is supported on a plurality of legs 11; and a seat frame, indicated generally at 12, is movably secured to the base frame 10 by means of the mechanical linkage which is the subject of this invention. The seat frame 12 includes a back 13 and arms 14, the seat and back being provided with upholstery 15 which is supported on zigzag metal springs 16.

As best seen in Figs. 5 and 6, a pair of metal angle plates 17 are secured to the side members of the base frame 10 by means of screws 18, said plates having horizontal front slots 19 and rear slots 20 which have short horizontal portions 21 at their forward ends and incline downwardly and rearwardly from said portions 21.

A pair of slider arms 22 are secured to the side members of the seat frame 12 by means of screws 23, said slider arms having front offset portions 24 and rear offset portions 25 to receive headed studs 26 and 27, respectively. The headed studs 26 extend through the front horizontal slots 19 of the metal plates 17, and are provided with

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washers 28 and springs 29 which are held in compression by flanges 30 so that the washers 28 yieldingly grip the plates 17. The rear headed studs 27 extend through the rear slots 20 of the plates 17 and have flanges 31 retaining them in engagement with said slots so that the slider arms 22 are free to slide in the slots 19 and 20 of the plates 17.

Springs 32 are tensioned between spring studs 33, which are located toward the front of the plates 17, and second spring studs 34 which are located toward the rear of the slider arms 22; and these springs yieldingly urge the slider arms 22 to the front of the slots 19 and 20. Thus the studs 26 normally abut against the forward ends of the front slots 19, and the studs 27 normally rest upon the horizontal portions 21 of the rear slots 20. When the slider arms 22 are in their normal position (the full line position of Fig. 6) as above described, the chair seat assumes the upright position which is shown in full lines in Fig. 3. The chair seat remains in its normal upright position when a person sits in the chair, the force of the springs 32, combined with the binding action of the spring loaded washers 28 and studs 26, being sufficient to hold the studs 27 on the horizontal portion 21 of the rear slots 20. If a person using the chair wishes to shift it to reclining position, he need only lift his weight very slightly off the seat and shift his weight rearwardly, or lean against the back and push with his feet, to move the studs 27 off the horizontal portions 21 and permit the slider arms 22 to move rearwardly until the studs 26 and 27 abut against the rear ends of the slots 19 and 20. The mechanism will then be in the position shown in broken lines in Fig. 6, and the chair seat will be in the position shown in broken lines in Fig. 3. To return the chair seat to normal upright position, the person sitting in it need only shift his weight forward and support himself principally on his feet for a moment so that the springs 32 may return the mechanism to its normal forward position.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, for some modifications will be obvious to those skilled in the art.

I claim:

1. A metal fixture providing tilting mechanism for a lounge chair, comprising: a metal plate adapted to be attached to the base frame of a lounge chair, said plate having a front slot which is substantially horizontal and a rear slot which is downwardly and rearwardly inclined and has

a short substantially horizontal portion at its forward end; a slider arm adapted to be attached to the seat frame of said lounge chair, said slider arm having headed studs extending through the slots in the metal plate; and a tension spring extending between the slider arm and a forward portion of said metal plate to urge the studs to the front of said slots.

2. A metal fixture as specified in claim 1 wherein one of the headed studs on the slider arm comprises a rivet with a washer slidable on its shank and a spring under the rivet flange urging the washer against the metal plate

3. A metal fixture as specified in claim 1 wherein one of the headed studs on the slider arm includes a resilient member mounted on the shank of the stud which grips the metal plate yieldingly.

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