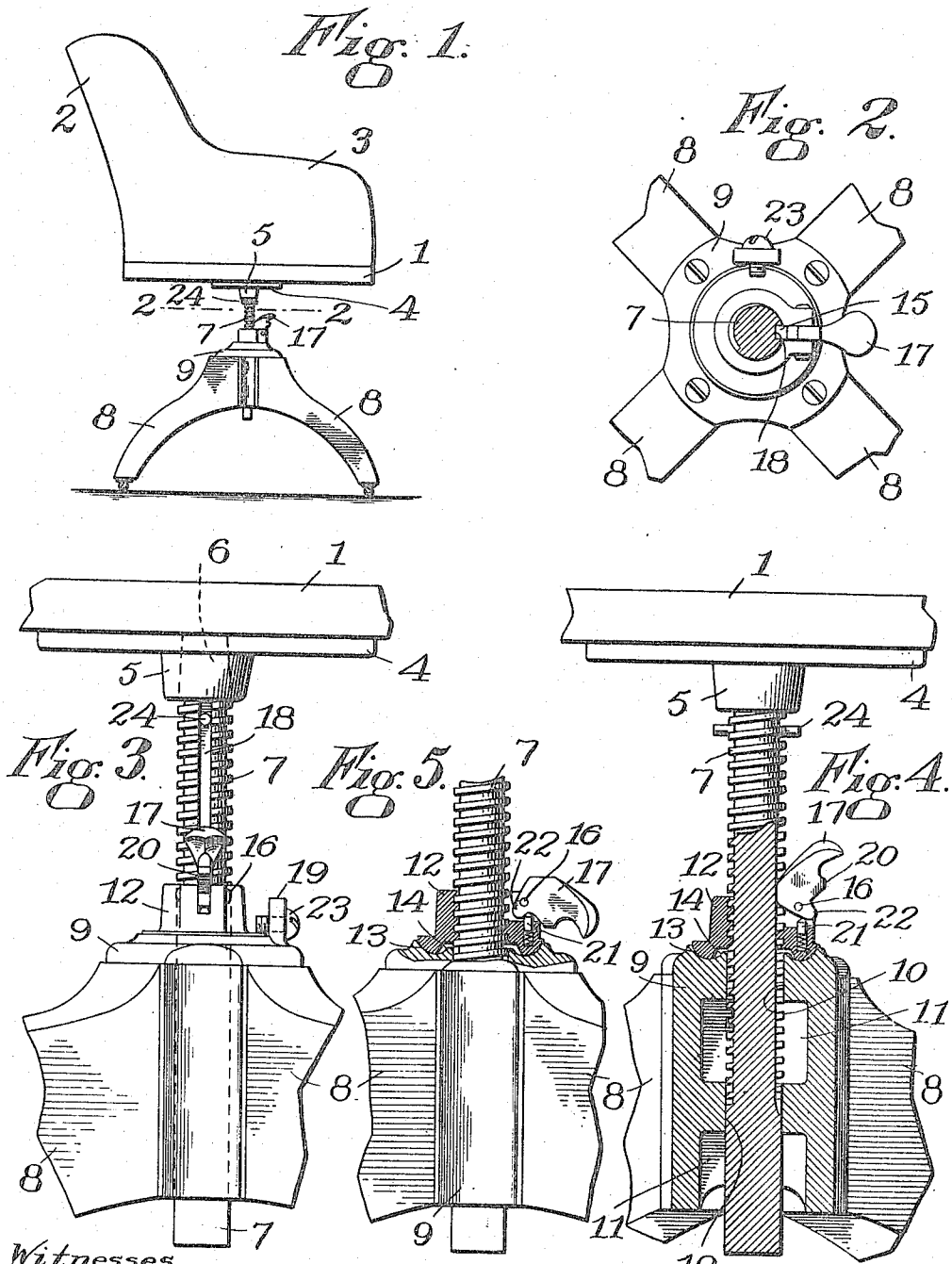


E. G. WATKINS.
 CHAIR.
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1,270,350.

Patented June 25, 1918.



Witnesses
R. D. Tolman,
Pauline Comberbach

Inventor
Edward G. Watkins
 By *Rufus B. Fowler*
 Attorney

UNITED STATES PATENT OFFICE.

EDWARD G. WATKINS, OF GARDNER, MASSACHUSETTS, ASSIGNOR TO HEYWOOD BROTHERS AND WAKEFIELD COMPANY, A CORPORATION OF NEW JERSEY.

CHAIR.

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To all whom it may concern:

Be it known that I, EDWARD G. WATKINS, a citizen of the United States, residing at Gardner, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Chairs, of which the following, together with the accompanying drawing, is a specification.

My invention relates to chairs and more particularly to revolving chairs so constructed as to be vertically adjustable at will.

The object of the invention is to provide an improved form of connection between the seat and base of a chair which will permit the seat to revolve with respect to the base and to be vertically adjusted to and from the base, the construction including means for locking the parts against accidental change in vertical adjustment without interfering with the rotation of the seat.

The advantages of the construction will become apparent from the following description taken in connection with the accompanying drawing, in which Figure 1 is a side view of a chair constructed in accordance with my invention; Fig. 2 is a plan view on the line 2-2 of Fig. 1, the free extremities of the legs of the chair being broken away; Fig. 3 is a side view of the adjustable connection; Fig. 4 is a view similar to Fig. 3, but with parts shown in section to show details of construction; and Fig. 5 is a view similar to the lower portion of Fig. 4, but with the locking member in its inoperative position.

Like reference characters refer to similar parts in the different figures.

In the form of the invention shown in the drawing the chair includes a seat 1 which supports a back 2 and arms 3. Secured to the lower surface of the seat is a seat iron 4 having a downwardly extending projection 5, there being a tapered opening 6 extending vertically through the iron at the center of its projection. The tapered upper end of the threaded spindle 7 fits into the tapered opening 6, the friction between the two parts being sufficient to hold them in firm engagement, or, if desired, the upper end of the spindle may be headed over to guard further against separation of these parts.

The legs 8 of the chair are joined together by a spider 9 to form a supporting base. A

smooth vertical bore 10 is provided in the spider 9 to receive the spindle 7, the threads on the spindle being preferably square in order to insure a sufficient bearing surface between the spindle and the wall of the bore. It is preferable that the fit of the spindle within the bore be quite close and accurate in order that there may be no appreciable side-play of the spindle. In order to save material and also to save labor in drilling out and finishing the bore 10, the spider is preferably cast with open spaces 11 concentric with and larger than the bore itself.

The bore 10 being smooth, there is nothing in the bore itself to prevent vertical movement of the spindle 7 therein. To support the spindle 7 the nut 12 is provided. This nut is threaded onto the spindle and is provided with an annular projection 13 on its under face fitting into an annular seat 14 on top of the spider, the projection 13 of the nut and the seat 14 of the spider being concentric with the axes of the nut 12 and the bore 10 respectively. The seat 14 is concave in cross section so as to form a reservoir or retention chamber for lubricant, such as hard grease, graphite or the like, and the annular projection 13 is convex so as to turn properly on its lubricated seat. This construction, therefore, provides a bearing which may be lubricated so as to prevent the squeaking which has been found objectionable in previous devices of this character.

One side of the upper face of the nut 12 is provided with a narrow slot 15 and on the pivot 16, extending transversely across this slot, is mounted the locking member 17. The spindle 7 is provided with a longitudinal slot 18 to receive one edge of the locking member 17 when the locking member is in its upper position as shown in Figs. 1, 3 and 4. The locking member 17 when in this position serves to prevent relative rotation of the spindle 7 and the nut 12. The nut, however, is free to rotate upon the seat 14 as the spindle 7 is turned in the bore 10. It is thus clear that the chair seat may be revolved as much as desired without any danger of variation or change in its vertical adjustment with relation to the base of the chair. When it is desired to raise or lower the seat of the chair or, in other words, to change its vertical adjustment with relation to the base of the chair, the locking member 17 is

tipped outwardly about its pivot 16, thus disengaging it from the spindle 7. The spindle 7 is then free to turn in the nut 12 so as to raise or lower the seat of the chair.

5 It is probable, however, that at times the friction between the spindle and the nut would be great enough to cause the nut to rotate upon its seat 14 with the spindle so as to prevent vertical motion of the spindle.
 10 The stud or stop 19, preferably integral with the spider 9, is therefore provided. This stop projects upwardly into the path of the projection 20 upon the locking member 17 when the locking member is in its
 15 inoperative position as shown in Fig. 5. Under such conditions the nut 12 may rotate upon its seat with the spindle until the projection 20 hits the upper end of the stud 19. Further rotation of the stud is
 20 then impossible, the spindle 7 then turning in the nut so as to move upwardly or downwardly as desired. The locking member 17 is held in either its operative or inoperative position by the spring pressed pin 21
 25 which engages the projection 22 of the locking member upon one side or the other according to the position of the locking member as shown in Figs. 4 and 5.

30 It is very probable that after having adjusted the chair to the desired height in the manner which has been described, the groove or slot 18 will not lie exactly opposite the locking member 17 so as to receive the locking member when it is thrown upwardly against the spindle. Under such
 35 conditions the edge of the locking member will strike against the spindle and will be held in this position by the spring pressed pin 21 until, at some later time, the spindle
 40 becomes turned so as to bring the slot 18 opposite the locking member. The pressure of the spring pressed pin 21 will then serve to complete the upward movement of the locking member 17 so that it will drop

to the bottom of the groove and lock the 45 nut and spindle securely together. The screw 23 supported in the stud 19 projects over the edge of the nut 12 so that the spindle and nut cannot be lifted from the base of the chair when the chair is picked up 50 to carry it from place to place.

The spindle 7 is provided with a transverse pin 24 near its upper end, this pin serving as a stop to prevent the projection 5 of the seat iron 4 from coming into con- 55 tact with the upper end of the nut 12 so as to loosen the seat from the spindle.

While I have shown and described the details of one form of my invention, I do not wish to be limited to such details as 60 changes may be made within the scope of the appended claim without departing from the spirit of the invention; but having described my invention, what I claim as new and desire to secure by Letters Patent is: 65

In a revolving chair, the combination with a spider having a vertical bore, and providing an annular concave seat surrounding the upper end of said bore, of a threaded spindle turning loosely in said 70 bore, a chair seat on the upper end of said spindle, and a nut threaded on said spindle, said nut having a convex under surface corresponding to the outer circumferential portion of said annular concave seat, and 75 adapted to be supported by the latter to carry the weight of the chair seat, said nut being recessed inwardly of said convex surface, whereby to cooperate with the inner circumferential portion of said concave 80 seat in forming an annular space, surrounding said spindle for the retention of lubricant.

Dated this fifth day of June 1913.

EDWARD G. WATKINS.

Witnesses:

CHARLES A. BROWN,
 FLORENCE L. MOORE.