

H. M. HUTCHINSON & M. F. HUTCHINS.

Tilting-Chairs.

No. 149,755.

Patented April 14, 1874.

Fig. 1.

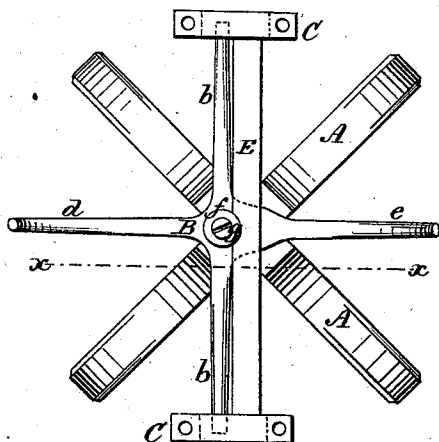
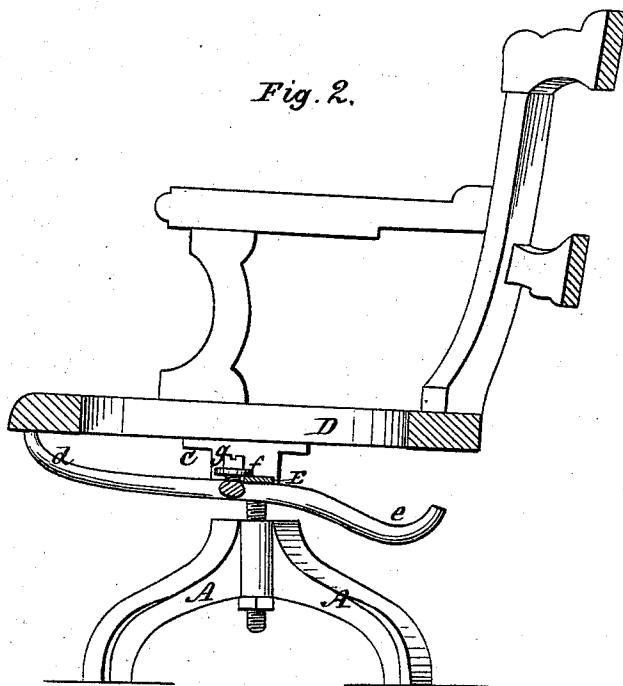


Fig. 2.



Witnesses:

A. H. Norris.
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Inventors:

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By James L. Norris,
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UNITED STATES PATENT OFFICE.

HENRY M. HUTCHINSON, OF PHILADELPHIA, PENNSYLVANIA, AND MERRITT F. HUTCHINS, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN TILTING CHAIRS.

Specification forming part of Letters Patent No. **149,755**, dated April 14, 1874; application filed March 16, 1874.

To all whom it may concern:

Be it known that we, HENRY M. HUTCHINSON, of Philadelphia, Pennsylvania, and MERRITT F. HUTCHINS, of Camden, New Jersey, have invented certain new and useful Improvements in Tilting Chairs, of which the following is a specification:

Our invention consists in a radial bearing-frame or spider, formed with its side arms journaled to the seat, and with front and back arms, which serve as stops to limit the inclination of the back and seat, and admit of its adjustment, there being combined with such constructed spider a steel rod, which acts as a spring to sustain the seat in its normal position, a suitable device being employed, in some instances, for regulating the tension of said rod or spring.

In the drawings, Figure 1 is a plan view with the seat removed, and Fig. 2 a sectional elevation on the line *xx* of Fig. 1.

As represented in the drawings, A is the base or pedestal; B, the spider, having its axis in the base A, which consists, preferably, of a threaded bolt or rod, whereby the seat can be raised or lowered at will, in a manner well understood. The two lateral arms *b b* of the spider are journaled in bracketed bearings *c c*, attached to the frame of the seat D, by means of which the seat portion of the chair is permitted to oscillate back and forward, its motion being limited by the front arm *d* and back one *e*. The lateral pivoted arms *b b* are arranged a little forward of the axis of the spider, so that the weight of the occupant will preponderate toward the back, and thereby afford an easy and comfortable seat; and at a point preferably over the axis, we arrange a rod, E, secured at both ends in the brackets *c c*, and its middle portion bearing on the spider. The connection with the seat being rigid, when the latter is inclined backward, the rod at its middle portion is twisted and bent by the leverage of the seat and back acting on its extreme ends, and as soon as the chair is va-

cated or relieved from weight, the reaction of this rod restores it to its normal upright position. We prefer to use a flat steel rod for this purpose, so that, by a considerable deflection of the seat, the action of the rod becomes torsional, in consequence of which more resistant power is obtained from a small rod, and the tendency to become loose in the fastenings by the shortening of the rod as bent is obviated. This rod is held by square or oblong slots, in which its ends are received in the same brackets in which the spider-arms *b b* are journaled. The force of the spring is regulated by means of the bearing plate or collar *f* and set-screw *g*.

This mode of employing the rod is simple and effective, and obviates the objections which appertain to flat and spiral springs for this purpose.

We claim as our invention—

1. The rod E, rigidly attached at its ends to the seat by brackets, in combination with a spider, constructed substantially as described, so that when the seat is inclined backward the rod is twisted and bent by the leverage, and becomes torsional in its action, as and for the purposes specified.

2. In combination with the rod E, affixed to the seat and bearing on the spider B, the adjusting-screw *g* and bearing-collar *f*, substantially as set forth.

3. The brackets *c c*, forming bearings for the arms *b b* and rod E, in combination with a spider constructed with arms for limiting the motion of the seat D, and a bearing for twisting and bending the rod E, substantially as and for the purpose described.

In testimony that we claim the foregoing, we have hereunto set our hands this 12th day of March, 1874.

HENRY M. HUTCHINSON.
MERRITT F. HUTCHINS.

Witnesses:

B. RICHARDSON,
JOHN H. MALLETT.