

L. HEYWOOD.
TILTING CHAIR.

No. 170,561.

Patented Nov. 30, 1875.

Fig: 1.

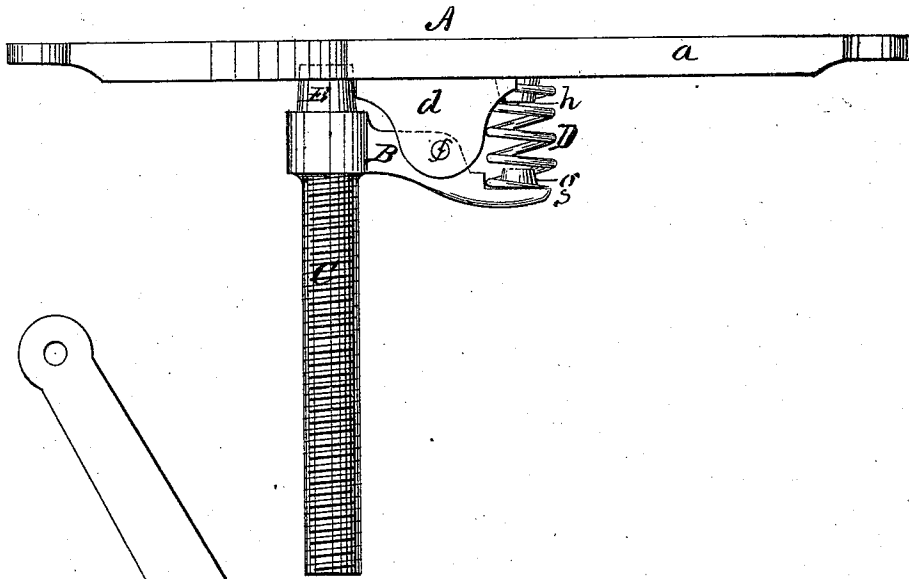


Fig: 2.

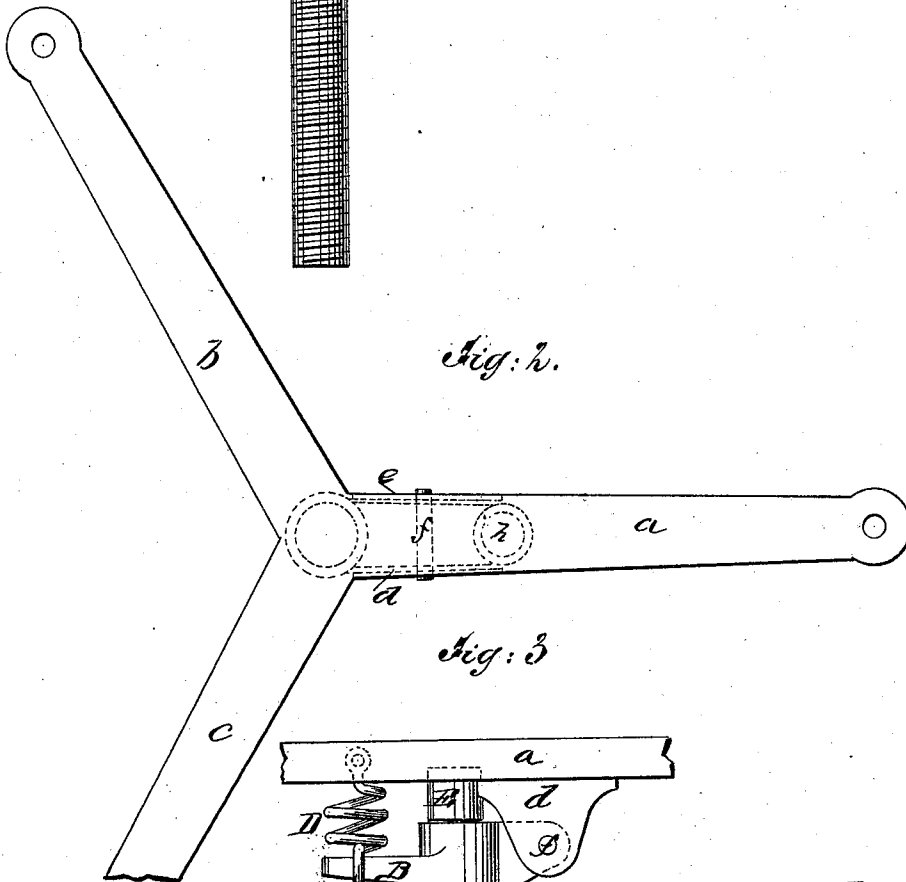
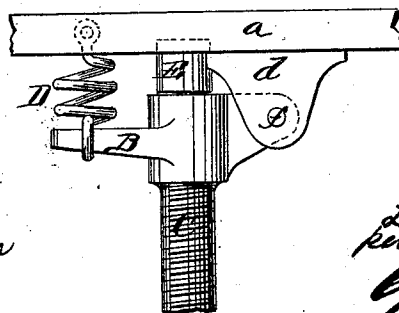


Fig: 3.



Witnesses:

William Anderson
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UNITED STATES PATENT OFFICE

LEVI HEYWOOD, OF GARDNER, MASSACHUSETTS.

IMPROVEMENT IN TILTING CHAIRS.

Specification forming part of Letters Patent No. **170,561**, dated November 30, 1875; application filed January 7, 1875.

To all whom it may concern:

Be it known that I, LEVI HEYWOOD, of Gardner, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Tilting Chairs; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in tilting chairs; and the invention consists in a tilting chair the swivel of which is constructed with an arm pivoted to the spider, and supporting a spring which is confined between said arm and one of the arms of the spider, a stop being arranged so as to come in contact with the head of the swivel, or in line with the axis of its rotation, and the front and back stops being substantially equidistant from the point of oscillation, all substantially as is hereinafter more fully described.

It is desirable in swivel and tilting chairs that the construction of the spider and the swivel should be such as, with but slight modification, will admit of the spring being placed either in front or in rear of the center of the seat, and also to place the stop below the center of the seat, so that the tilting of the seat may be effected without unnecessary jar or suddenness, which results when the stop is placed at the rear.

In the accompanying sheet of drawings, Figure 1 is a side elevation, showing spring in rear of swivel-screw; Fig. 2, plan of same, and Fig. 3 spring in front of swivel-screw.

Similar letters of reference indicate like parts in the several figures.

A represents the spider of a tilting chair, which may be constructed with three radial arms, *a b c*, or in other suitable form. To one of the arms of the spider, and at any suitable distance from the center of the same, are cast or otherwise formed two lugs, *d e*. Secured between these lugs by a pivotal bolt, *f*, is an arm, B. One end of this arm is cast with or otherwise secured to the upper end of the swivel

C, and the other end of this arm is cast with a projection, *g*, on its upper side, corresponding with a similar projection, *h*, cast immediately in the rear of the lugs *d e*. Between the end of the arm B and the arm of the spider with said lugs is placed a spring, D. This spring is confined in this position by encircling the projections *g h*. To the center of the spider A, and to its under side, is affixed a stop, E, of rubber or other suitable material. This stop is so arranged that it will come in contact with the head of the swivel C.

My tilting and swiveling device being constructed substantially as above described, its operation is as follows: The spider A is secured to the bottom of the chair-seat frame by screws or otherwise, and the swivel C inserted into its proper bearing in the legs or other support of the chair, as in ordinary swivel-chairs, and when it is desired to tilt the chair-seat backward the weight of the occupant is thrown back, when the spider will oscillate on the pivotal bolt *f*, tilting the seat backward, the spring D acting as an elastic cushion to receive the weight as the seat is tilted. When the seat recovers its horizontal position the stop E comes in contact with the head of the swivel, and enables the seat to maintain that position.

A very great advantage is derived from placing the stop in a central line, so as to come in contact with the swivel-head, and that is, that there is less leverage, and therefore less force, required when the seat recovers its horizontal position, and in consequence the chair is less liable to be strained and racked than is the case when the stops are placed under the extreme front and rear of the seat-frame. The same remark will apply to the stop which checks the chair from being inclined too far backward.

This stop, it will be observed, is formed by the spring D and the projections *g* and *h* within it. This spring being placed but a short distance from the point of oscillation, the rear tilting of the seat is effected without jar.

This construction of a swivel and tilting chair is equally applicable whether the spring

is placed in front or in rear of the point of oscillation, the tilting being effected with equal facility in either case.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a revolving tilting chair, the combination of the arm B, stop E, and swivel C with

the spring D and spider A, said spider and arm being secured together at *f* by jointed ears, and provided with stops, constructed substantially as described.

LEVI HEYWOOD.

Witnesses:

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