G. C. WINCHESTER.

Tilting Chairs.

No. 138,461. Patented April 29, 1873.

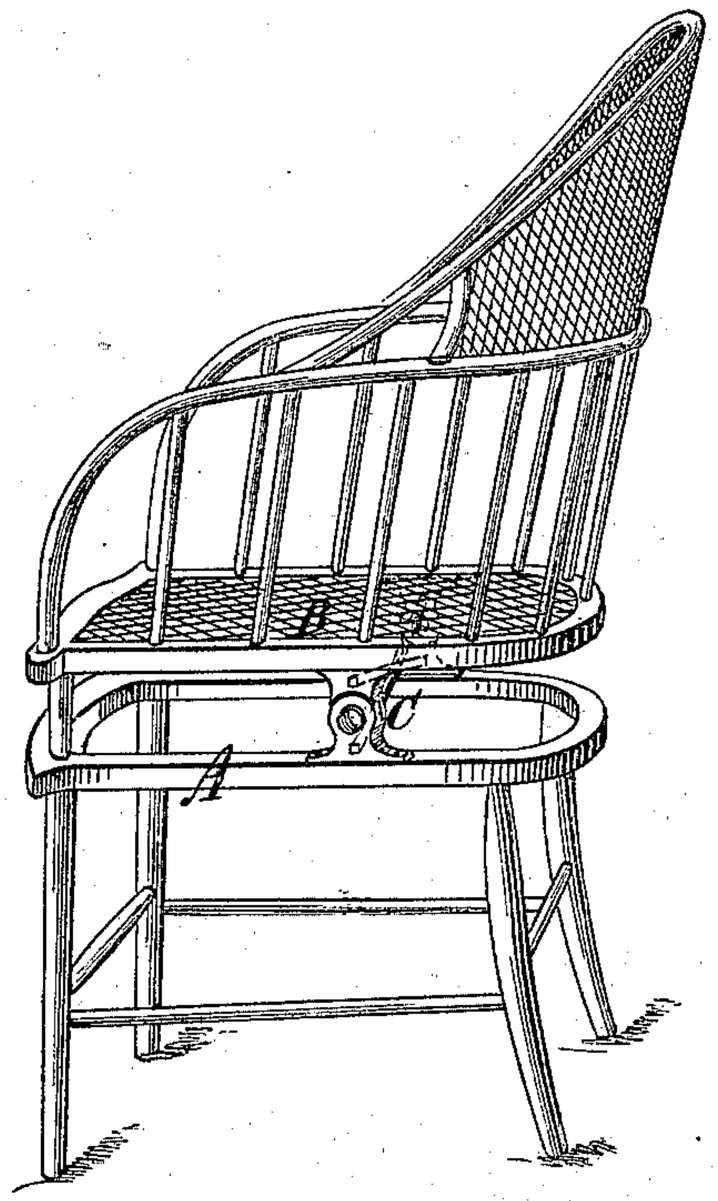


Fig. 1.

Fig. 2.

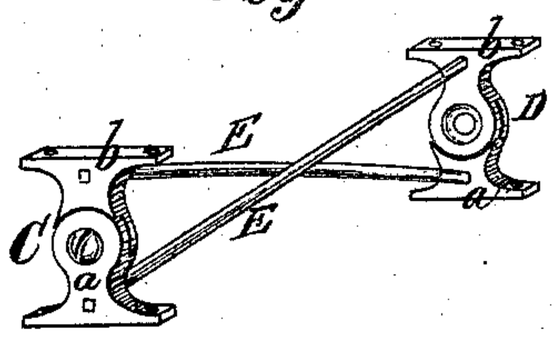
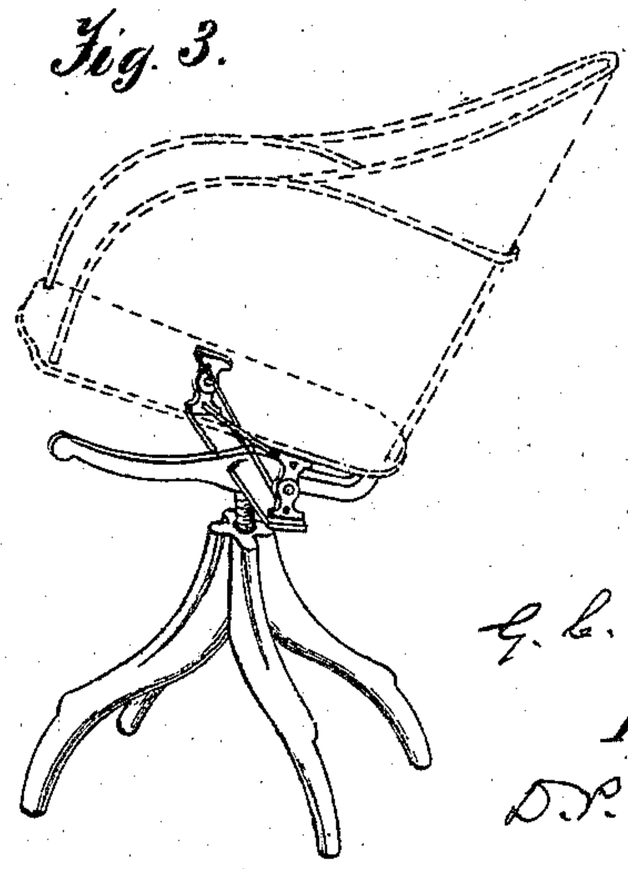


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE C. WINCHESTER, OF ASHBURNHAM, MASSACHUSETTS.

IMPROVEMENT IN TILTING CHAIRS.

Specification forming part of Letters Patent No. **138,461**, dated April 29, 1873; application filed December 29, 1871.

To all whom it may concern:

Be it known that I, GEORGE C. WINCHESTER, residing at Ashburnham, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Tilting-Spring Chairs, of which the following is a specification:

This invention relates to that class of tilting chairs in which the seat with its back only yields to the inclination of the occupant, and the seat is ordinarily sustained in a horizontal position by the tension of springs. My improvement consists in the employment, in combination with the hinges connecting the stool and the seat, of a straight steel wire, or a pair of such wires, each wire being securely fixed at one end in the stationary arm of one hinge, and extending diagonally across to the other hinge is, with its other end, fixed in the movable arm of the latter. Thus, as the seat is inclined or tilted, the wire or wires will be twisted, and return the seat to its horizontal position by their torsion the moment the occupant assumes an upright position, or vacates the chair.

Figure 1 is a perspective view of a tilting-chair embodying my improvement. Fig. 2 is a perspective view of the hinges and the diagonal steel wires, detached. Fig. 3 is a revolving tilting-chair with my improvement drawn in perspective.

The same letters of reference are employed in all the figures in designating identical parts.

The seat B is elevated some distance above the top of the stool A, by the hinges C and D, which are interposed between them, and by which they are connected together. These hinges may be of any approved or preferred construction, the arm *a* of each being firmly secured to the top rail of the stool, and the arm *b* being in like manner fastened to the under side of the seat. The movable arms *b* of the hinges are maintained in vertical positions, so as to dispose the seat horizontally, by the torsion of the steel wires E and E, which, crossing each other diagonally midway between the hinges, have their contiguous ends firmly fixed, respectively, in the movable and the stationary arms of the hinges, in the manner clearly indicated in Fig. 2. Thus, each wire is connected at one end with the stationary arm of one hinge, and at the other end to the movable arm of the opposite hinge, so that, in tilting the seat, each wire will be twisted, as well as slightly bent. As the occupant again assumes an upright position, or vacates the chair, the recoil or torsion of the steel wires will return the seat to its horizontal position.

The steel wires are provided, in the example shown, with square tenons, entering corresponding sockets in the arms of the hinges; but these connections may be made in any other manner, provided they are made rigid. It is evident that one of the steel wires, of sufficient strength, only, need be used to effect the result aimed at; but I prefer to employ two, arranged as described.

My improvement is equally applicable to chairs constructed substantially as illustrated in Fig. 3, where the seat is hinged to a revolving and vertically-adjustable frame.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the hinges C and D, of the steel wire or wires E, connecting the stationary arm *a* of one hinge with the movable arm *b* of the other, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. C. WINCHESTER.

Witnesses:

GEORGE W. EDDY,

GEORGE C. CAMPBELL.