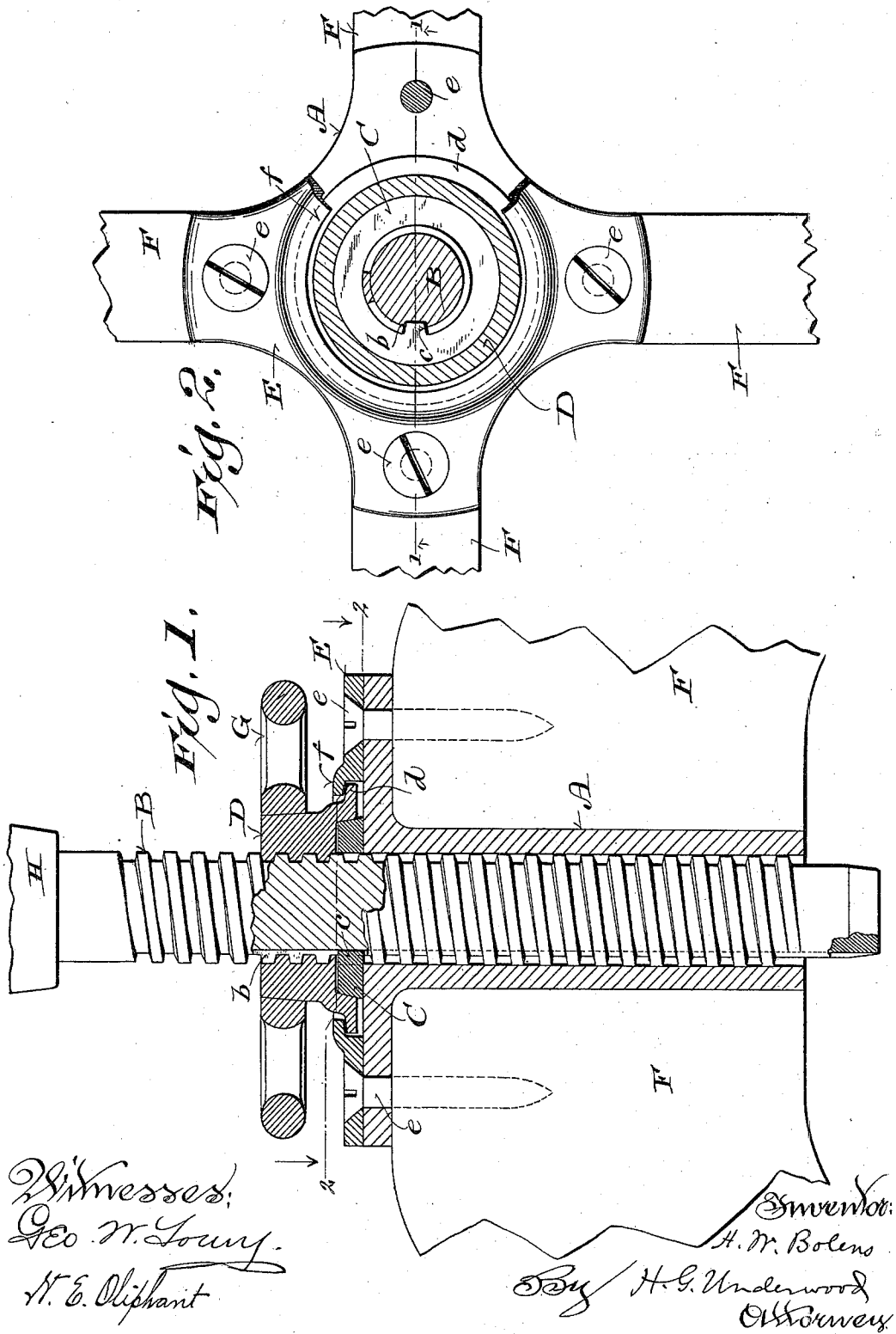


(No Model.)

H. W. BOLENS.
CHAIR.

No. 585,424.

Patented June 29, 1897.



UNITED STATES PATENT OFFICE.

HARRY W. BOLENS, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR, BY
DIRECT AND MESNE ASSIGNMENTS, TO THE GILSON MANUFACTURING
COMPANY AND JAMES M. MORGAN, OF SAME PLACE.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 585,424, dated June 29, 1897.

Application filed April 22, 1895. Serial No. 546,655. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. BOLENS, a citizen of the United States, and a resident of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Chairs; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to cheapen the production of chairs or analogous devices, in which provision is made for a screw adjustment of seat-supporting spindles in a vertical direction.

A further object of the invention is to provide for free rotation of the chair-seats and to prevent automatic descent of their supporting-spindles.

These objects I attain by certain peculiarities of construction and combination of parts, hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a vertical transverse section on the plane indicated by line 1 1 in the succeeding figure and illustrates the essential features of my invention. Fig. 2 represents a plan view on line 2 2 in Fig. 1.

Referring by letter to the drawings, A represents a chair-base casting having a smooth bore for the reception of a seat-supporting screw-spindle B, the latter being provided with a longitudinal groove *b*, engaged by an inwardly-extended spline *c*, constituting a part of a collar C, that surrounds the spindle and rests on the base-casting.

The periphery of the collar C is preferably beveled, and an adjusting-nut D on the spindle B is provided with a bottom recess into which said collar fits. By having the collar and the nut-recess beveled I obtain a wedging engagement, it being desirable to have as tight a fit as possible when the chair is occupied and yet provide for an easy slip of the nut or collar when it is necessary to adjust the elevation of the spindle.

The depth of the recess in the nut D is always such that said nut is out of frictional contact with the base-casting, this being one of the essential features of my invention, as

will hereinafter appear. The nut D is also provided with an exterior annular flange *d*, opposed by a guard on the base-casting, in order to prevent separation of the chair when the latter is lifted by the seat. As a matter of preference the nut-guard is a plate E, similar in general contour to the top of the base-casting, on which it is secured by screws *e*, run down through said casting into the legs F of the chair, said plate being provided with a central opening of sufficient area to permit its being put in place over the nut and so shaped as to present an annular lip *f* in opposition to the flange on said nut, provision being made to prevent frictional contact of the nut-flange and its guard, except when a lift of the chair by the seat takes place.

A hand-wheel G is herein shown driven onto the adjusting-nut to facilitate operation of the latter, said hand-wheel being positioned after the guard-plate is put in place.

In order to facilitate placing the spindle B in position, the screw-thread thereon may be chamfered away from the usual beveled end a distance sufficient to insure a full width of said thread coming into contact with the guide-spline, whereby a ready engagement of the longitudinal spindle-groove with said spline is made positive and binding avoided. As a matter of preference the length of chamfer, including the usual bevel-point of the spindle, is equal to the depth of the threaded portion of the nut.

I have shown a portion H of an ordinary seat-spider on the upper end of the spindle, and it is to be understood that the connection is a rigid one. Consequently said spindle constitutes the seat-pivot, it being also understood that said spindle or the nut thereon must be held while the other is turned in order to vary the elevation of the chair-seat.

The chair-seat having been adjusted to the desired elevation, rotation of its supporting-spindle will also rotate the collar C, and the nut D being in clutch with said collar, out of frictional contact with the base-casting and the guard, it also rotates, but has no leverage on said spindle. Therefore the latter cannot work down. It also follows that the greater the weight there is on the chair-seat the tighter

said nut will wedge on the aforesaid collar. However, the opposing beveled surfaces of the collar and nut permit an easy slip of one on the other when it is desirable to adjust the elevation of the chair-seat.

Inasmuch as the base-castings do not have to be tapped or counterbored I effect a material saving in the cost of production, and it will also be seen that the construction and arrangement of parts are such as to facilitate knockdown shipment of chairs, this being an important item to the trade.

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

1. The combination of a chair-base casting, a splined collar loose on the same, a seat-supporting screw-spindle having a longitudinal groove engaged by the collar-spline, and a nut on the spindle fitting the collar out of contact with the base-casting.

2. The combination of a chair-base casting, a splined collar loose on the same and having a beveled periphery, a seat-supporting screw-spindle having a longitudinal groove engaged by the collar-spline, and a nut on the spindle having a beveled recess of limited depth engaging the collar.

3. The combination of a chair-base casting, a splined collar loose on the same, a seat-supporting screw-spindle having a longitudinal groove engaged by the collar-spline, a nut on the spindle fitting the collar out of contact with the base-casting, and suitable means for preventing vertical displacement of the nut.

4. The combination of a chair-base casting, a splined collar loose on the same, a seat-supporting screw-spindle having a longitudinal groove engaged by the collar-spline, an annularly-flanged nut on the spindle fitting the collar out of contact with the base-casting, and a guard on said base-casting opposing the nut-flange.

5. The combination of a chair-base casting, a splined collar loose on the same, a seat-supporting screw-spindle having a longitudinal groove engaged by the collar-spline, an annularly-flanged nut on the spindle fitting the collar out of contact with the base-casting, and a plate that is fast on said base-casting and has an annular lip opposing the nut-flange.

6. The combination with a base-casting having a vertical aperture, of a freely-revoluble collar supported by said base-casting, a nut supported on and releasably engaging the collar, a screw-threaded chair-spindle extending through the nut and the collar, the screw of the nut engaging the screw of the spindle, and means holding the collar to revolution with the spindle, while permitting vertical movement of the spindle in the collar.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

HARRY W. BOLENS.

Witnesses:

N. E. OLIPHANT,
HENRY DANKERT.