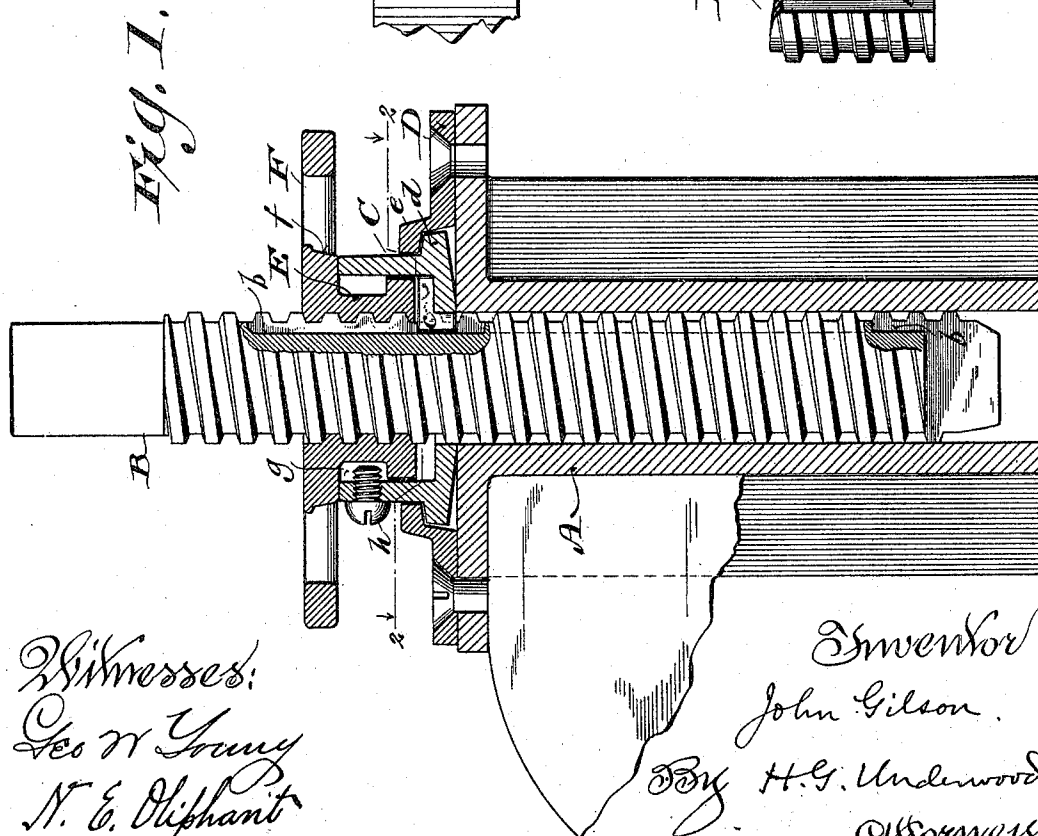
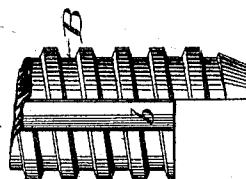
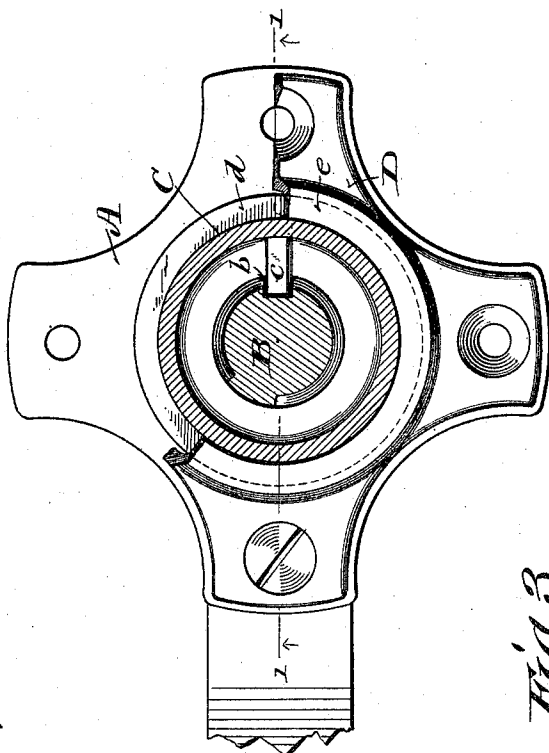


(No Model.)

J. GILSON.  
CHAIR.

No. 585,435.

Patented June 29, 1897.



Witnesses:  
Geo W Young  
N. E. Oliphant

Inventor  
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By H. G. Underwood  
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# UNITED STATES PATENT OFFICE.

JOHN GILSON, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR TO THE  
GILSON MANUFACTURING COMPANY, OF SAME PLACE.

## CHAIR.

SPECIFICATION forming part of Letters Patent No. 585,435, dated June 29, 1897.

Application filed November 30, 1896. Serial No. 613,926. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN GILSON, 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 simplify and cheapen the manufacture of chairs in which vertically-adjustable screw-spindles capable of free rotation on their axes are held against longitudinal displacement, and a further object of the invention is to facilitate knockdown shipment and storage of the chairs without loss of parts, these objects being attained as the result of certain peculiarities of construction and combination of detail features hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a view for the most part in vertical transverse section on the plane indicated by line 1 1 in Fig. 2 and illustrates an improved longitudinally-grooved screw-spindle in connection with other features of my invention. Fig. 2 represents a plan view, partly in horizontal section, as indicated by line 2 2 in Fig. 1, a guard-plate constituting an element of the assemblage being illustrated as having a portion thereof broken away. Fig. 3 represents an elevation of the lower portion of the aforesaid screw-spindle.

Referring by letter to the drawings, A represents what is commonly termed the "base-casting" in a chair of the class to which my invention relates, this casting being herein shown provided with a plurality of leg-sockets and having a smooth bore, the latter being for the engagement of a screw-threaded spindle B, that in practice has connection at its upper end with a spider to which the seat portion of the chair is made fast.

The screw-spindle is provided with a longitudinal groove *b*, and this groove is engaged by a spline *c*, constituting an inwardly-extending projection of another casting C, that is herein termed a "cup," notwithstanding the fact that it has a bottom aperture for the passage of said spindle. The cup C has the

under side of its bottom in frictional contact with the base-casting, but the area of this contact is preferably reduced by beveling said under side of the cup-bottom in an upward outward direction, as clearly illustrated in Fig. 1, it being desirable in practice to avoid unnecessary friction between said cup and base-casting.

An exterior annular flange *d* at the lower end of the cup C is overlapped by a guard that may be of any suitable construction and held in place by any suitable means, but, as herein shown, the guard is preferably a centrally-apertured cast-metal plate D, similar in general contour to the top of the base-casting, said plate and base-casting being provided with registering apertures for the passage of leg-holding screws common in the art to which my invention relates. The wall of the cup C comes within the central aperture of plate D, and this aperture is properly within the boundary of an annular offset lip *e*, that constitutes part of said plate in opposition to the cup-flange *d*, above specified. As herein shown, it is preferable that the cup and guard-plate have such relative proportions that frictional contact of the two is avoided except at such time as there may be a lift on the spindle B, above specified.

A preferable cast-metal nut E, run on spindle B, comes within the cup C, and an upper annular flange *f* of the nut bears upon the rim of said cup, but otherwise the two are preferably made to be out of contact with each other in order to avoid unnecessary friction. The nut may be cast with a hand-wheel F, as herein shown, and it is also shown provided with an exterior annular groove *g* for the reception of a stop that extends inward from the wall of cup C, this stop being preferably in the form of a set-screw *h*, engaging a tapped opening in the cup-wall. The stop prevents the nut from lifting out of the cup when a chair is set up, and in knockdown shipment or storage of the chair said nut may be retained in said cup or carried by the spindle.

Except the spindle B and the screw *h*, the several parts above specified may be made by casting, and no tool or machine work is necessary thereon other than tapping the nut and

cup-wall for engagement of said spindle and screw.

The screw-spindle is herein shown as having a portion of its ordinarily-tapered lower end cut away in a longitudinal direction to form a right-angle notch having the vertical boundary thereof in line with one side of the groove *b*, the lower terminus of the latter being at the horizontal boundary of the notch far enough from said end of the spindle to insure of at least one full width of the screw-thread upon said spindle coming into contact with spline *c* of cup *C* prior to the engagement of said groove and spline when the aforesaid spindle is engaged with nut *E* and run down. By notching the lower end of the spindle, as aforesaid, the positive ready engagement of the spindle-groove and cup-spline is insured and binding avoided.

The spindle and spline having been engaged the former may be held against rotation on its own axis and the nut rotated to effect a vertical adjustment of said spindle. This adjustment having been accomplished a rotation of the spindle will also cause a rotation therewith of the cup and nut on the same axis. Consequently said spindle cannot work down.

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

1. The combination of the base-casting, an independent revoluble open-bottom cup supported by the same and having an inwardly-extending spline, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting but having its groove engaging said spline, and an adjusting-nut for the spindle having its bearing on the cup out of contact with the aforesaid base-casting.

2. The combination of the base-casting, an independent open-bottom cup supported by the same and having an inwardly-extending spline as well as an exterior annular flange, a guard connected to the base-casting to overlap the cup-flange, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting but having its groove engaging said spline, and an adjusting-nut for the spindle having its bearing on the cup out of contact with the aforesaid base-casting.

3. The combination of the base-casting, an open-bottom cup supported by the same and having an inwardly-extending spline as well as an exterior annular flange, a plate made fast to said base-casting and provided with an annular offset lip in opposition to the cup-flange, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting but having its groove engaging said spline, and an adjusting-nut for the spindle, having a supporting-flange at rest on the cup-rim.

4. The combination of the base-casting, an independent revoluble open-bottom cup sup-

ported by the same and having an inwardly-extending spline, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting but having its groove engaging said spline, an adjusting-nut for the spindle having its bearing on the cup out of contact with the aforesaid base-casting, and suitable means for preventing loss of the nut from the cup.

5. The combination of the base-casting, an independent revoluble open-bottom cup supported by the same and having an inwardly-extending spline, a longitudinally-grooved screw-spindle extending down through the cup-bottom into the base-casting but having its groove engaging said spline, an exteriorly-grooved spindle-adjusting nut having its bearing on the cup out of contact with the aforesaid base-casting, and a screw adjustable in the cup-wall to come within the nut-groove.

6. The combination of the base-casting, an open-bottom cup supported by the same and having an inwardly-extending spline as well as an exterior annular flange, a plate made fast to said base-casting and provided with an offset annular lip in opposition to the cup-flange, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting but having its groove engaging said spline, an adjusting-nut for the spline having a supporting-flange at rest on the cup-rim as well as an exterior annular groove that comes within the cup, and a set-screw engaging the cup-wall to come within the nut-groove.

7. The combination of the base-casting, an independent open-bottom cup having a beveled under side in contact with said casting, and provided with an inwardly-extending spline, a longitudinally-grooved screw-spindle extending down through the cup-bottom into the aforesaid casting but having its groove engaging said spline, and a spindle-adjusting nut having its bearing on the cup out of contact with the base-casting.

8. The longitudinally-grooved screw-spindle having its lower end cut away in a longitudinal direction to form a right-angled notch having the vertical boundary thereof on a line with a side of the groove and a depth sufficient to insure of a full width of screw-thread coming into contact with a guide-spline when said spindle is run down through a nut above said spline, whereby the latter is caused to have a positive automatic engagement with said groove.

9. The combination of a base-casting, an independent open-bottom cup supported by the same and having an inwardly-extending spline as well as an exterior annular flange, a guard connected to the base-casting to overlap the cup-flange, a longitudinally-grooved screw-spindle extending down through the cup-bottom into said base-casting and having a right-angled notch at its lower end, the vertical boundary of the notch being in line with

one side of the spindle-groove that has its lower terminus on the horizontal boundary of said notch at a point that will insure of at least one full width of the spindle-thread coming into contact with the aforesaid spline prior to engagement of the latter with said groove; and a spindle-adjusting nut having its bearing on the cup out of contact with the aforesaid base-casting.

10 10. The combination of the base-casting, an independent revoluble open-bottom cup supported by the same and having an inwardly-extending spline, a longitudinally-grooved screw-spindle extending down through the

cup-bottom into said base-casting but having 15 its groove engaging said spline, and a spindle-adjusting nut having free rotation in the cup as well as bearing thereon out of contact with the aforesaid base-casting.

In testimony that I claim the foregoing I 20 have hereunto set my hand, at Port Washington, in the county of Ozaukee and State of Wisconsin, in the presence of two witnesses.

JOHN GILSON.

Witnesses:

H. W. BOLENS,  
JOS. HOELLER.