(No Model.)

J. M. MORGAN.

REVOLVING CHAIR.

No. 537,988. Patented Apr. 23, 1895.

Fig. 1.

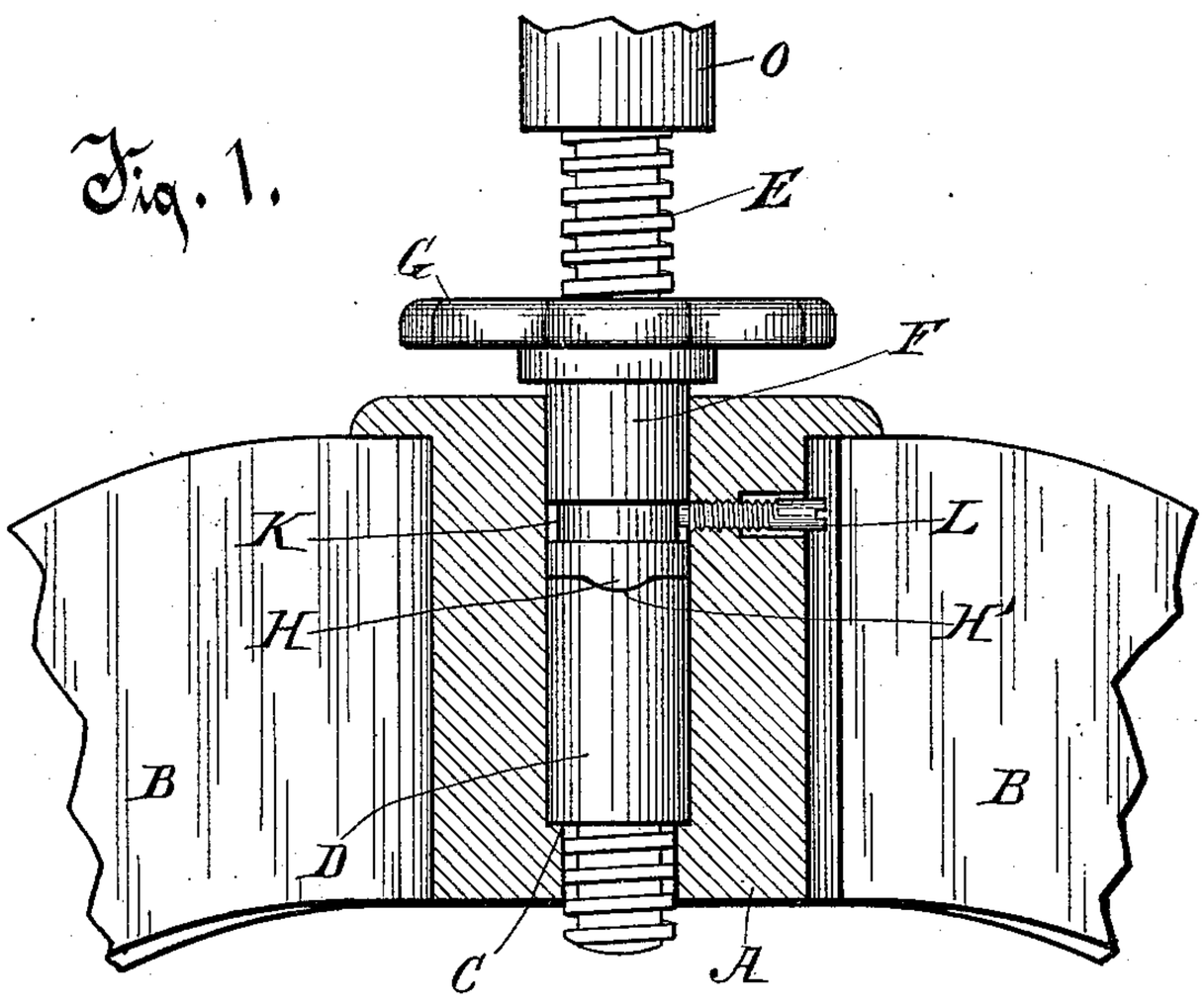


Fig. 2.

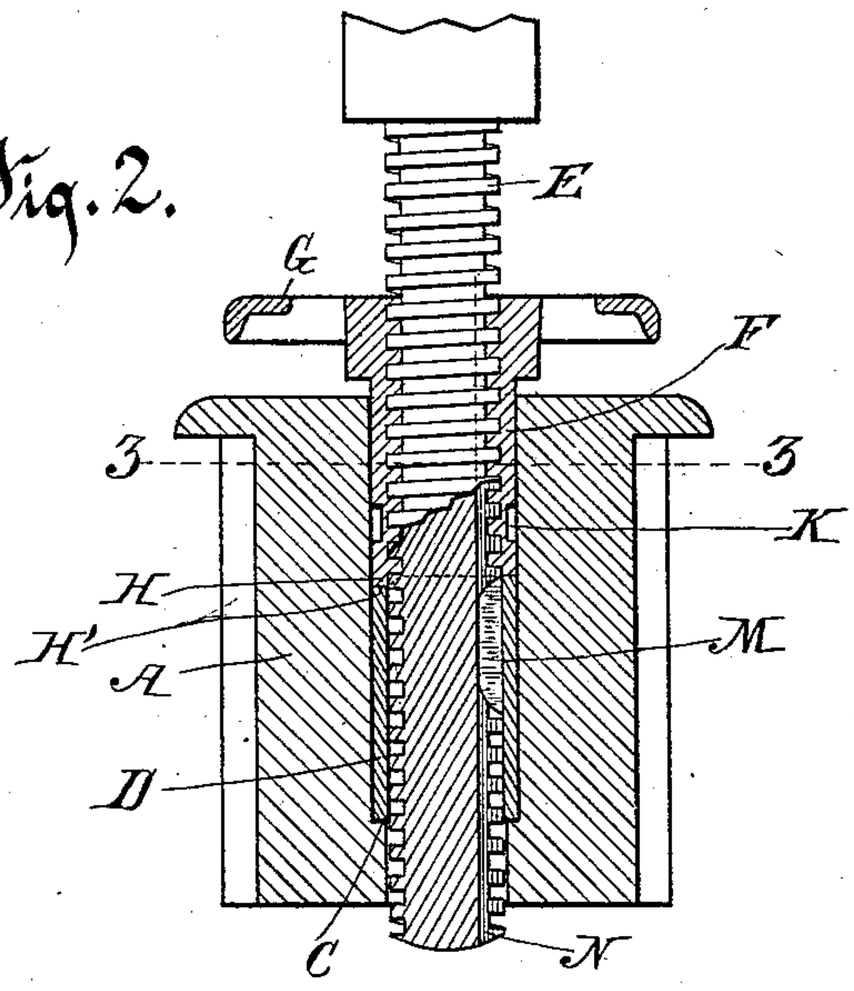
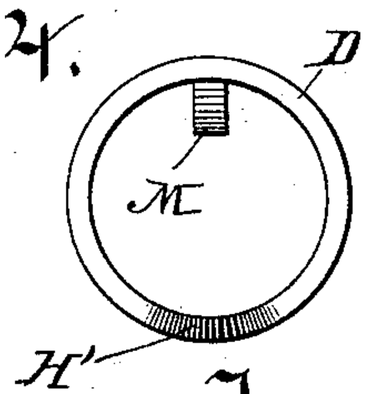


Fig. 3.

Fig. 4.



Witnesses.

A. C. Keeney.

Agnes C. Faust.

Inventor.

James M. Morgan,

By Benedict & Morsell

Attorneys.

UNITED STATES PATENT OFFICE.

JAMES M. MORGAN, OF PORT WASHINGTON, WISCONSIN.

REVOLVING CHAIR.

SPECIFICATION forming part of Letters Patent No. 537,988, dated April 23, 1895.

Application filed January 19, 1895. Serial No. 535,431. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MORGAN, of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented a new and useful Improvement in Revolving Chairs, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in a revolving chair in which the seat is provided with a fixed depending spindle, said seat being adjustable vertically by means of a screw on the spindle turning by its thread in a nut freely revoluble in a hub, the nut being supported on a sleeve which in turn is supported and freely revoluble in the hub.

The invention is of improvements in the devices patented to me in United States Patent No. 526,045, issued September 18, 1894.

In the accompanying drawings, Figure 1, is an elevation of my improved devices, the chair hub being shown in central vertical section. Fig. 2, is a vertical section on the line 2—2 of Fig. 3. Fig. 3, is a horizontal section on the line 3—3 of Fig. 2, and Fig. 4, is a detail plan view of the sleeve.

Like letters of reference denote like parts in all the figures of the drawings.

Referring to the drawings the letter A indicates the metal hub, which is so constructed as to receive the upper ends of legs B, on which it is supported. The hub is provided with a central vertical aperture, and a shoulder C is formed preferably, near the lower end of said aperture. Resting upon this shoulder is a sleeve D, and upon the upper edge of this sleeve rests a nut F, said nut extending above the upper end of the hub, and provided at its outer extremity with a hand wheel G. The lower edge of the nut is provided with a projection H, which is adapted to fit releasably in a corresponding depression H′ in the upper end of the sleeve D. The nut is further provided at a medial point within the central aperture of the hub with an annular groove K, which groove is adapted to receive the inner end of a set screw L working laterally through the hub. It will be noticed that this groove is sufficiently wide to permit of a vertical play of the nut equal to the vertical extent of the projection H.

The sleeve D is provided with an inwardly projecting lug M which fits into a longitudinal groove in the spindle E, and thereby holding the sleeve to the spindle rotatively, while permitting independent vertical movement of the spindle.

The screw-threaded spindle E depends from the chair seat, (not shown) to which it is fixed, conveniently by a suitable flange on the head O.

In operation when the chair seat is revolved by the occupant of the chair, the screw E carries with it the sleeve D, by reason of the lug M engaging the walls of the groove N, while the sleeve D, supported and revolving freely in the hub, carries with it the nut F, by reason of the releasably engaging projection H of said nut. It follows therefore that the nut is normally held revolubly to the screw, and consequently there is no vertical movement at all, although the free rotation of the chair seat is secured. If, now, it is desired to adjust the chair seat vertically, said chair seat is held against rotation with one hand, while the other hand grasps and rotates the nut G. The forcible rotation of the nut carries the projection H out of the recess H′, and said projection rides around on the upper edge of the sleeve D. With the continued rotation of the nut, the screw E is either raised or lowered, in accordance with the direction in which said nut is turned. The screw L while permitting the free rotation of the nut, at the same time serves to hold it against undue vertical movement.

It will be seen that by my improvements all the several parts are disposed within the central aperture of the hub obscured from view, while the shoulder C forms a strong support for the working parts. The hand wheel G of the nut is also, by this arrangement, disposed in a most convenient position for ready manipulation.

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

1. The combination with a hub having a vertical aperture, of a sleeve supported and freely revoluble therein, a nut supported on and releasably engaging the sleeve, a screw-threaded chair-spindle extending through the nut and the sleeve, the screw of the nut engaging the screw of the spindle, and means holding

the sleeve to revolution with the spindle, while permitting vertical movement of the spindle in the sleeve, substantially as described.

2. The combination with a hub provided with a vertical aperture therethrough, the upper portion of said aperture being enlarged forming a shoulder at the lower extremity of the enlarged portion of the aperture, of a sleeve fitting in the aperture and resting revolubly on the shoulder, said sleeve being provided with a depression in its upper edge, a nut supported movably on the sleeve and provided with a projection fitting the depression in and thereby releasably engaging the sleeve revolubly, and means for forcibly rotating the nut and thereby disengaging it from the sleeve, substantially as described.

3. The combination, with a hub provided with a vertical aperture therethrough, the upper portion of said aperture being enlarged forming a shoulder at the lower extremity of the enlarged portion of the aperture, of a sleeve fitting in the aperture and resting revolubly on the shoulder, said sleeve being provided with a depression in its upper edge, a nut supported movably on the sleeve and provided with a projection fitting the depression in and thereby releasably engaging the sleeve revolubly, means securing the nut to the hub revolubly therein, and means above the hub for rotating the nut forcibly and thereby releasing it from the sleeve, substantially as described.

4. The combination, with a hub provided with a vertical aperture therethrough, the upper portion of said aperture being enlarged forming a shoulder at the lower extremity of the enlarged portion of the aperture, of a sleeve fitting in the aperture and resting revolubly on the shoulder, said sleeve being provided with an inwardly extending lug and in its upper edge with a depression, an interiorly screw-threaded nut supported movably on the sleeve and provided with a projection fitting in the depression in and thereby releasably engaging the sleeve revolubly, means securing the nut to the hub revolubly therein, and a screw-threaded spindle extending through the nut and the sleeve, said spindle being provided with a vertical groove into which the lug on the sleeve projects thereby compelling concurrent rotation thereof but permitting independent vertical movement of the spindle, the screw-thread on the spindle engaging the screw of the nut, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. MORGAN.

Witnesses:
ARTHUR L. MORSELL,
ANNA V. FAUST.