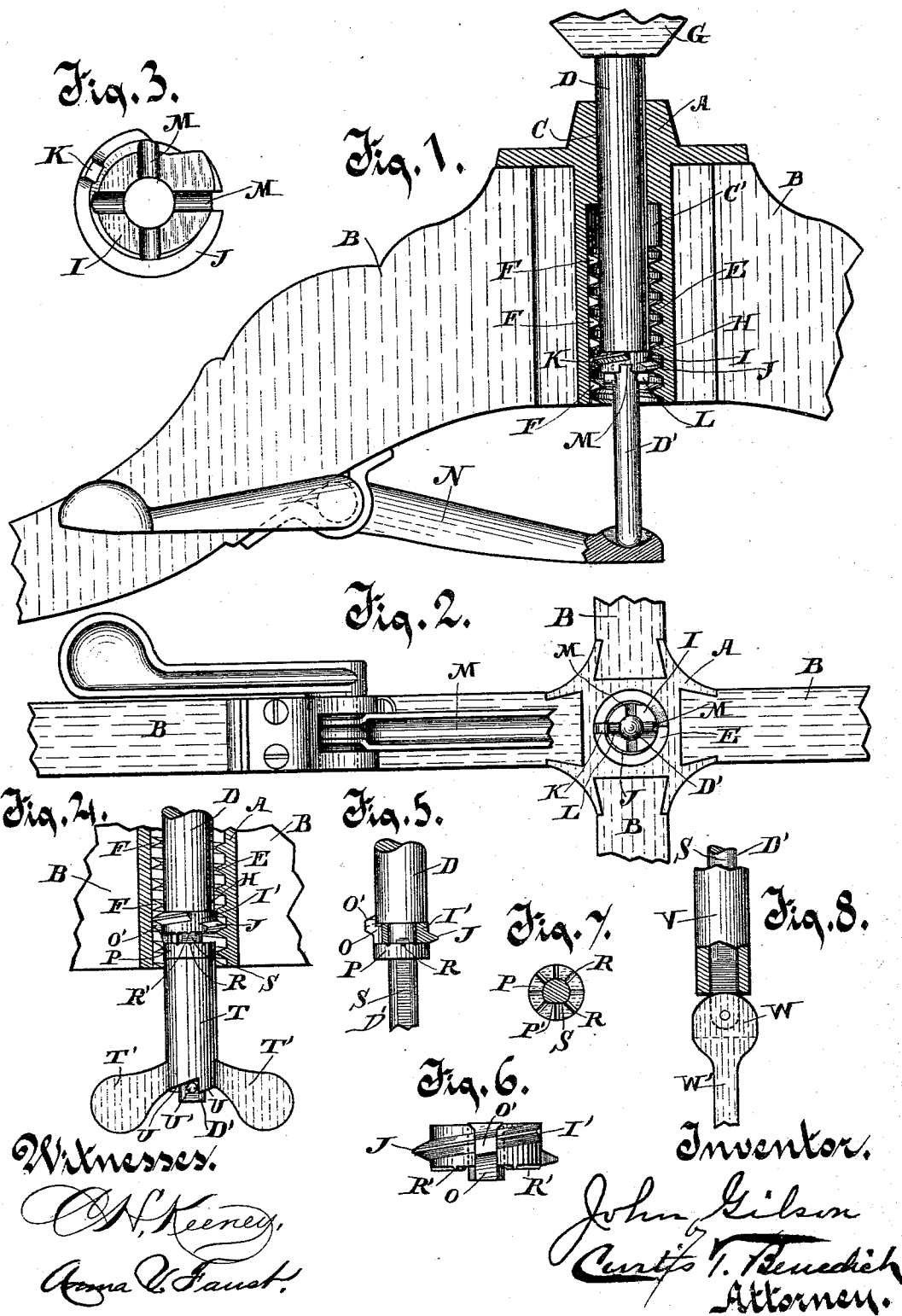


(No Model.)

J. GILSON.
REVOLVING CHAIR.

No. 457,774.

Patented Aug. 18, 1891



UNITED STATES PATENT OFFICE.

JOHN GILSON, OF PORT WASHINGTON, WISCONSIN.

REVOLVING CHAIR.

SPECIFICATION forming part of Letters Patent No. 457,774, dated August 18, 1891.

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To all whom it may concern:

Be it known that I, JOHN GILSON, 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 consists in devices to be hereinafter claimed, by which the seat of a revolving chair is supported revolubly at a constant height, and by which devices, their positions being shifted, the seat on being revolved is raised or lowered.

In the drawings, Figure 1 is a fragmentary view of two of the legs of a chair with the head-block shown in vertical section, and my improved devices for raising and lowering the spindle, a portion of the device being broken away to show interior construction. Fig. 2 is an under side view of the same device, parts being broken away to show other parts more fully. Fig. 3 is a detail of the screw-threaded collar as seen from the under side. Fig. 4 is a modified form of my improved device. Fig. 5 is a view of portions of the device shown in Fig. 4, other parts being omitted, and those shown being in different positions from the positions shown in Fig. 4, and parts being broken away for convenience of illustration. Fig. 6 is a detail of the modified form of threaded collar shown in Fig. 4. Fig. 7 is an underside view of the sleeve or clutch used with the modified form of device shown in Fig. 4. Fig. 8 is a modified form of a portion of the device shown in Fig. 4.

The metal head-block A is supported centrally on the legs B B, which legs at their inner upper ends are socketed in the head-block, and are thereby secured thereto and support the head-block and the chair-seat indirectly thereon. The head-block A has a central vertical aperture, the upper portion C of which aperture is of proper size and form to receive and support the body portion of the spindle D therein, being preferably without a screw-thread. The lower portion of the vertical aperture through the head-block A consists of an enlarged medial part C' and a lower screw-threaded portion E. The screw-

thread in this portion of the aperture is somewhat spread apart, and the screw-thread is cut by vertical channels F F, the several channels being preferably arranged in a vertical line for convenience of construction.

The spindle D is provided with a head or chair iron G, on which the seat of the chair (not shown in the drawings) is supported. The spindle D is provided with a shoulder H, and therefrom downwardly the spindle is continued in a smaller part or stem D'. A collar I, fitted movably on the stem D', is provided with a screw-thread J, adapted to turn in the screw-thread E. A small lug K, formed integrally on the underside of the screw-thread J and as a part of the collar I, is of such height vertically that with the screw-thread I it is adapted to travel in the channel of the screw-thread E, and, if unsupported, to drop by gravity into a channel F when at that point, and thereby prevent the rotation of the collar I. The shoulder H rests on the collar I, thus supporting the spindle revolubly thereon. A pin L, inserted in and projecting diametrically from the stem D', is located normally a little below the collar I, but on raising the spindle the pin enters a groove M in the under side of the collar I and clutches the collar, thereby securing the concurrent revolution of the collar and spindle when so clutched. A lever-pedal N, pivoted medially on one of the legs B, is so balanced that its inner end rests normally easily against the lower end of the stem D' of the spindle.

It will be seen that, as shown in Fig. 1, the lug K is in one of the channels F through the thread E, whereby the collar I is locked against rotation, and in this position, in which also the pin L is below and free from the collar I, the spindle D is free to revolve horizontally resting on the collar and without being raised or lowered by its revolution. It will also be understood that on depressing the outer end of the pedal N the spindle will be raised, forcing the pin L into a recess M in the collar I, thereby clutching the spindle revolubly to the collar, and the lug K will be raised out of the vertical channel F, so as to be free to travel with the screw-thread J on the screw-thread E, and that thereupon, by revolving the spindle D, the spindle and its

supported chair-seat are raised or lowered, as desired. In this form of device it is necessary, when using the collar as a screw, to support it constantly on the pin L by properly raising the spindle therefor, as otherwise the lug K would fall into a channel F and lock the collar against rotation.

In the modified form of device shown in Figs. 4 and 5 the collar I', instead of being provided with a rigid lug, like the lug K in the form shown in Figs. 1 and 3, is provided with a latch O, movable vertically in a channel therefor in the collar, which latch is provided with a projection O', formed to travel with the screw-thread J revolubly in the screw-thread E and to drop into a channel F in the screw-thread E when unsupported at its lower end by the short sleeve or clutch P. In Fig. 5 the latch O is shown in position to travel with the screw-thread J in the screw-thread E, and in Figs. 4 and 6 the latch O is shown as let down, so as to enter the channel F in the screw-thread E and lock the collar I' against rotation. The short sleeve P, the top surface of which is shown in Fig. 7, is provided with recesses R R, adapted to receive therein corresponding ribs or ridges R' R' on the lower surface of the collar I', and thereby to clutch the sleeve with the collar revolubly when the two are in engagement. The sleeve P is also constructed with a flat face P', fitted to a face S on the stem D', whereby the sleeve is adapted to move longitudinally on the stem, but is held to rotate therewith. A sleeve T, having wings T' T', revoluble on the stem D', is provided at its lower end with cams U U, arranged to bear against a pin U', inserted in the stem D', which sleeve T at its upper end supports thereon the sleeve P, and by means of the cams U U, bearing against the pin U', is adapted to put the sleeve P into engagement with or release it from the collar I'.

It will be understood that when the parts are arranged in the manner shown in Fig. 4 the spindle D rotates freely on and is supported by the collar I', locked against rotation in the screw-thread E, and that when the sleeve P is raised against the collar I', so as to clutch therewith and at the same time to lift the projection O' of the latch O out of a channel F, as shown in Fig. 5, thereupon by the rotation of the spindle D the spindle and its supported seat are raised or lowered, as desired.

In the modified form shown in Fig. 8 a simple sleeve V is used instead of the cam-winged sleeve T in the form of device shown in Fig. 4. With this sleeve V a socketed cam W is used, the lower end of the stem D' being inserted in the socket and pivoted therein. The cam is provided with a pendent handle W'. This cam W can be swung out horizontally either to the right or left conveniently by the foot of the operator, and thereby elevate the sleeve V sufficiently to force the sleeve P into engagement with the collar I' and raise the

latch O out of engagement with the thread E. In this form of device shown in Fig. 8 the independent cam W serves to elevate the sleeve V in substantially the same manner as the sleeve T is elevated by the cams U, acting on the pin U'.

It will be understood that the principal feature of my invention is the independent screw-threaded collar on which the spindle rests, the collar being provided with means for locking it against rotation in the head-block. The methods that may be used for releasing the collar from engagement with the head-block against rotation and for clutching the spindle to the collar are numerous. In addition to those shown in the drawings, it will be seen that a device like the one shown in Fig. 8, consisting of a sleeve V and a cam W, pivoted on the stem, might be used in connection with the device shown in Fig. 1, instead of the pedal N and pin L, by merely arranging the top of the sleeve V to clutch with the collar I when the sleeve is raised into engagement with it and raises it from engagement against rotation in the head-block A.

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

1. The combination, in a revolving chair, of a head-block having a vertical aperture provided with a screw-thread and vertical channels therethrough, a collar having an exterior screw-thread adapted to travel on the screw-thread of the head-block, and a device to enter temporarily a vertical channel in the screw-thread of the head-block and lock the collar against rotation, and a spindle resting on the collar and provided with means for clutching the collar temporarily when raised therein, substantially as described.

2. In a revolving chair, the combination of a head-block having a vertical cylindrical aperture, a screw-thread in the head-block exterior to and about the cylindrical aperture, a spindle fitted movably in the cylindrical aperture in the head-block, a reduced part or stem integral with the spindle, a spindle-supporting collar about the stem having a screw-thread traveling loosely and with a limited amount of vertical play on the thread in the block, a lug on the collar adapted by gravity to fall into the vertical channel and lock the carrier against rotation, and means, substantially as described, for raising the collar out of engagement with the walls of the channel, as set forth.

3. In a revolving chair having a head-block provided with an interior screw-thread, a spindle having an annular shoulder resting on an independent collar, in combination with the independent screw-threaded collar having a lug that drops by gravity into a channel in the thread of the head-block, and a pin in the stem arranged to enter recesses in the collar when the spindle is raised and to lock the collar rotatably to the spindle, substantially as described.

4. The combination, in a revolving chair,
of an interiorly-screw-threaded head-block, a
spindle having a shoulder movable in the
head-block, a screw-threaded collar normally
5 locked against rotation in the head-block and
supporting the spindle thereon, a pedal piv-
oted on the chair adapted to raise the spindle,
and means for clutching the spindle to the
collar and releasing the collar from engage-

ment against rotation in the head-block, sub- 10
stantially as described.

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

JOHN GILSON.

Witnesses:

G. O. GURAMSON,
WM. A. THOLEN.