

(No Model.)

J. M. MORGAN.
REVOLVING CHAIR.

No. 519,866.

Patented May 15, 1894.

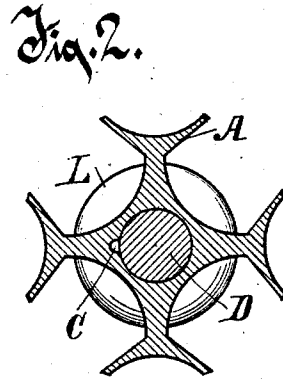
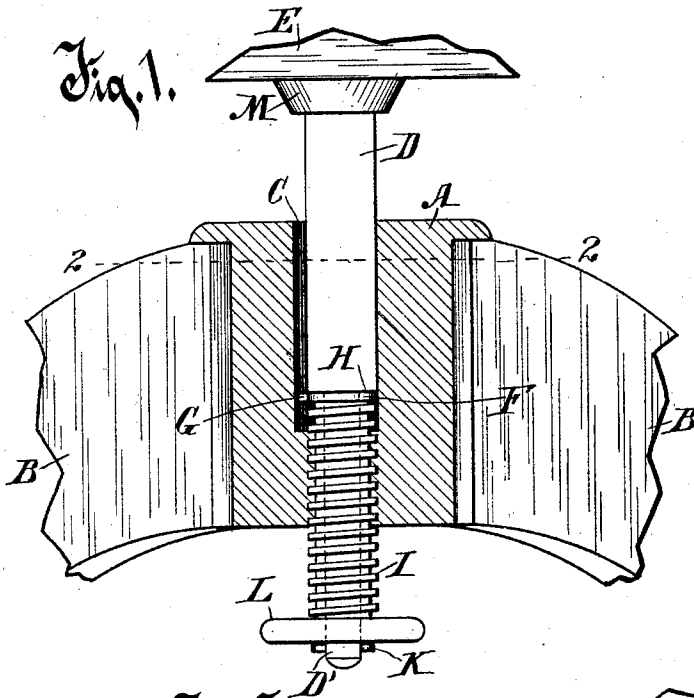


Fig. 3.

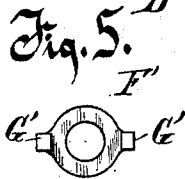
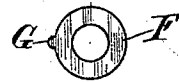


Fig. 4.

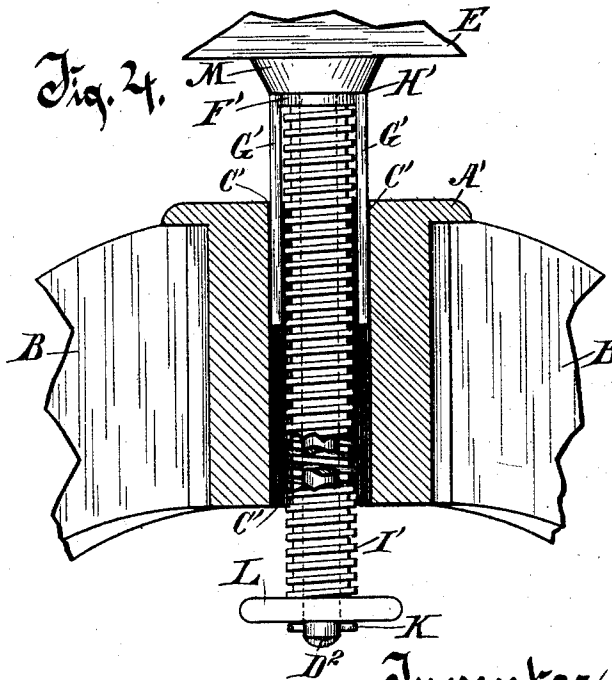
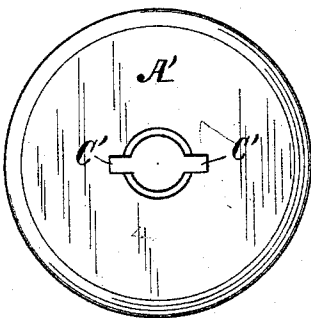


Fig. 6.



Witnesses.

C. H. Keeney
Anna V. Faust

Inventor.

James M. Morgan
By Benedict & Mosell
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES M. MORGAN, OF PORT WASHINGTON, WISCONSIN.

REVOLVING CHAIR.

SPECIFICATION forming part of Letters Patent No. 519,866, dated May 15, 1894.

Application filed September 28, 1893. Serial No. 486,728. (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 has relation to improvements in revolving chairs, or analogous devices.

The object of the invention is to provide a more desirable means for the adjustment of the chair seat vertically in connection with novel means providing for its revolution independently of the device for adjusting it vertically, so that the seat can be revolved freely even with a person thereon without moving or in any wise disturbing the device for adjusting it vertically.

The invention consists in the devices and their combinations, hereinafter described and claimed, or their equivalents.

Figure 1, is an elevation of my improved devices, the chair hub to which they relate and in which they operate, being in central vertical section, in connection with fragments of the supporting legs. Fig. 2, is a transverse section of the hub and revolving and adjusting devices on line 2—2 of Fig. 1, looking downwardly. Fig. 3, is a detail. Fig. 4, is a central vertical section of the hub and related devices, of a modified form of the improved devices, parts being broken away for convenience of illustration. Fig. 5, is an under side view of the bearing plate used in the modified form shown in Fig. 4. Fig. 6, is a top plan of the hub in the modified form shown in Fig. 4.

A is a metal nut or hub, so constructed as to receive the ends of and be supported by the legs B. The hub is provided with a central vertical aperture, the upper portion of which has a smooth inclosing surface and the lower portion of which is provided with a screw thread. Also at one side of the upper portion of the aperture and continuous therewith, there is a small vertical groove C, extending from the top of the hub downwardly to the screw threaded portion of the aperture.

A cylindrical spindle D affixed to and projecting downwardly from the spider or chair seat E fits movably in the upper or smooth

portion of the vertical aperture through the hub A. A contracted and diametrically smaller portion D' of the spindle projects axially downwardly through and beyond the screw threaded portion of the aperture in the hub. An annular flat ring or plate F, provided with a laterally projecting part or tongue G receives therethrough the contracted part or stem D' of the spindle and receives thereon the bearing of the annular ledge or shoulder H on the spindle D that exists at the point of the sudden contraction of the spindle to the stem D' thereof. This annular plate F is of such size as to fit movably in the upper or smooth portion of the vertical aperture in the hub, the tongue G entering the groove C and preventing the revolution of the plate, but permitting it to move freely vertically therein. A screw threaded sleeve, or hollow screw I turns in the screw threaded part of the vertical aperture in the hub against the plate F and supports the plate, and the spindle and its load adjustably thereon. The stem D' passes loosely through the hollow screw I and is prevented from being removed from the screw by the removable pin or key K. The screw I is provided with a rigid hand wheel L for operating it conveniently. It will be understood that by rotating the screw I by means of the hand wheel L, the spindle and its supported chair seat can be raised or lowered at will, and that the spindle resting on the non-revoluble plate F, can revolve freely in the hub without rotating the screw I, the slight possible incidental contact of the stem D' against the inner wall of the screw not being sufficient to compel movement of the screw therewith.

In the modified form of devices shown in Figs. 4, 5 and 6, the hub A' is provided with a central vertical aperture, that is screw threaded its entire length, and is provided with vertical grooves C', preferably two or more (two being shown in the drawings) alongside thereof. The hollow screw I' extends through the hub, extending somewhat therefrom both above and below it. The annular bearing plate F', which rests on the top of the hollow screw I', is provided with rigid depending guide rods or legs G', which register with and enter and travel vertically in the grooves C'. The spindle D² is of equal diam-

eter throughout its length and fits revolubly in the hollow screw I'. At the top of the spindle a part M having an annular laterally projecting shoulder H' rests on the bearing plate F'. The part M is rigid to the spindle D² and may be a part of the spindle, but is preferably a part of the spider E in which the spindle is fixed. The hollow screw is provided with the hand wheel L for rotating it, and a transverse pin K intersects the lower end of the spindle D² in order to retain it in the hollow screw. In this modified form of device, the support of the spindle in the hub is strengthened, by reason of the longer screw thread in the hub and of the greater extent of the screw, which strength is desirable in cases where, by reason of the load to be carried by the chair, greater strength is required. The grooves C' are co-extensive with the vertical aperture through the hub, but independent vertical apertures through the hub adjacent to the vertical screw-threaded aperture might be provided for the guide rods G', without departing from the spirit of my invention, though on account of the increased expense and other considerations, such structure would not be deemed as desirable, as the one shown and described. Also a plate F' with a single guide rod G' might be used, though such a structure would not be as reliable or desirable as one having a plurality of guide rods.

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

1. The combination, with a chair hub provided with a vertical screw threaded aperture, and a hollow screw adjustable vertically in the hub, of a seat spindle supported on and revoluble in and independently of the hollow screw, and a non-revoluble bearing plate resting on the screw and adjustable vertically thereby and supporting the spindle and its seat thereon, substantially as described.

2. In a revolving chair, the combination with a hub having a vertical screw-threaded aperture and a vertical groove or grooves, of a hollow screw adjustable vertically in the hub, a spindle supported on and revoluble in and independently of the hollow screw, a non-revoluble bearing plate resting on the screw and supporting the spindle and its seat thereon, and means on the plate in connection with the groove or grooves in the hub for preventing the revolution of the plate, substantially as described.

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

JAMES M. MORGAN.

Witnesses:

HENRY W. LYMAN,
C. T. BENEDICT.