

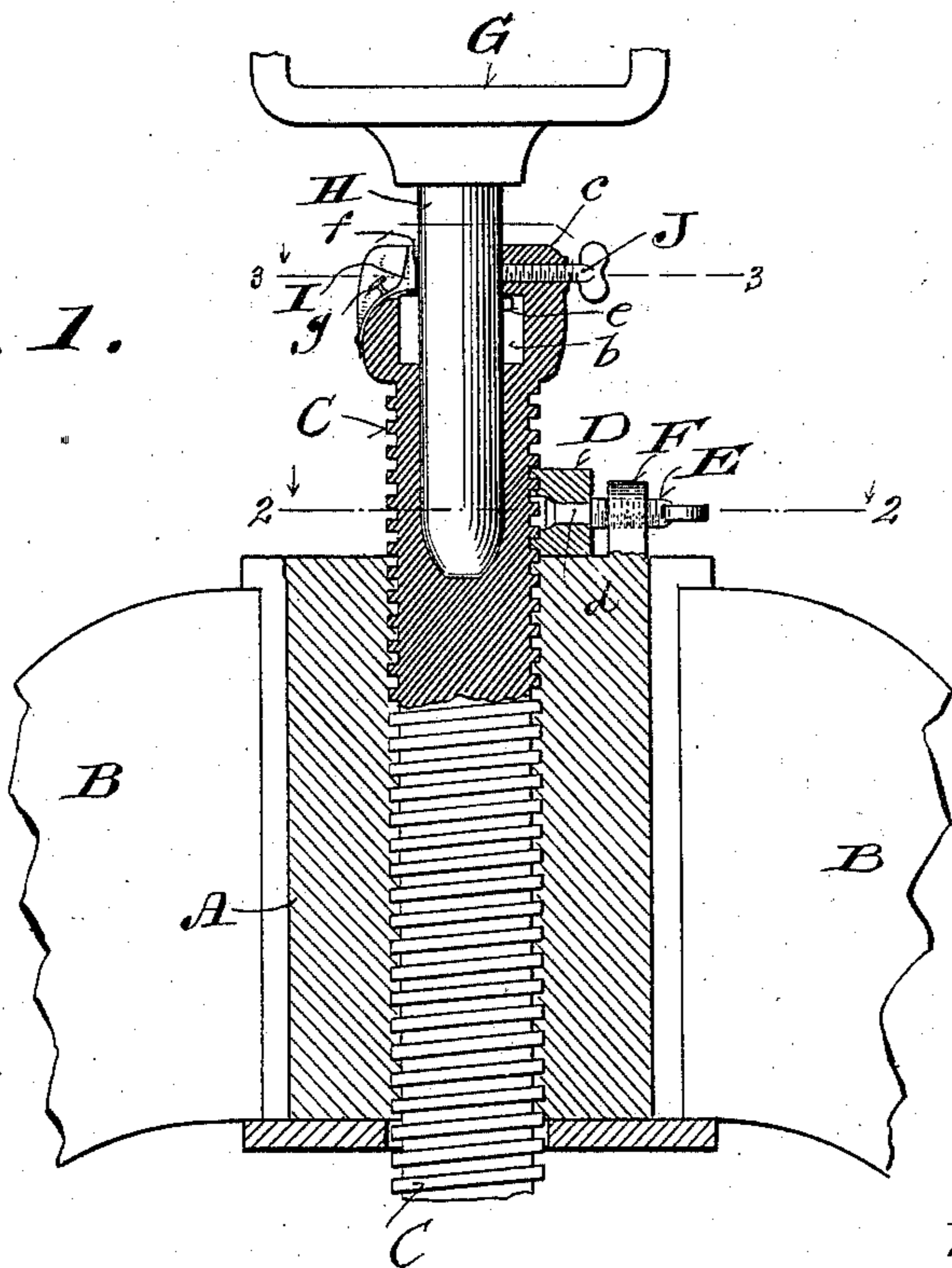
(No Model.)

H. W. BOLENS.  
CHAIR.

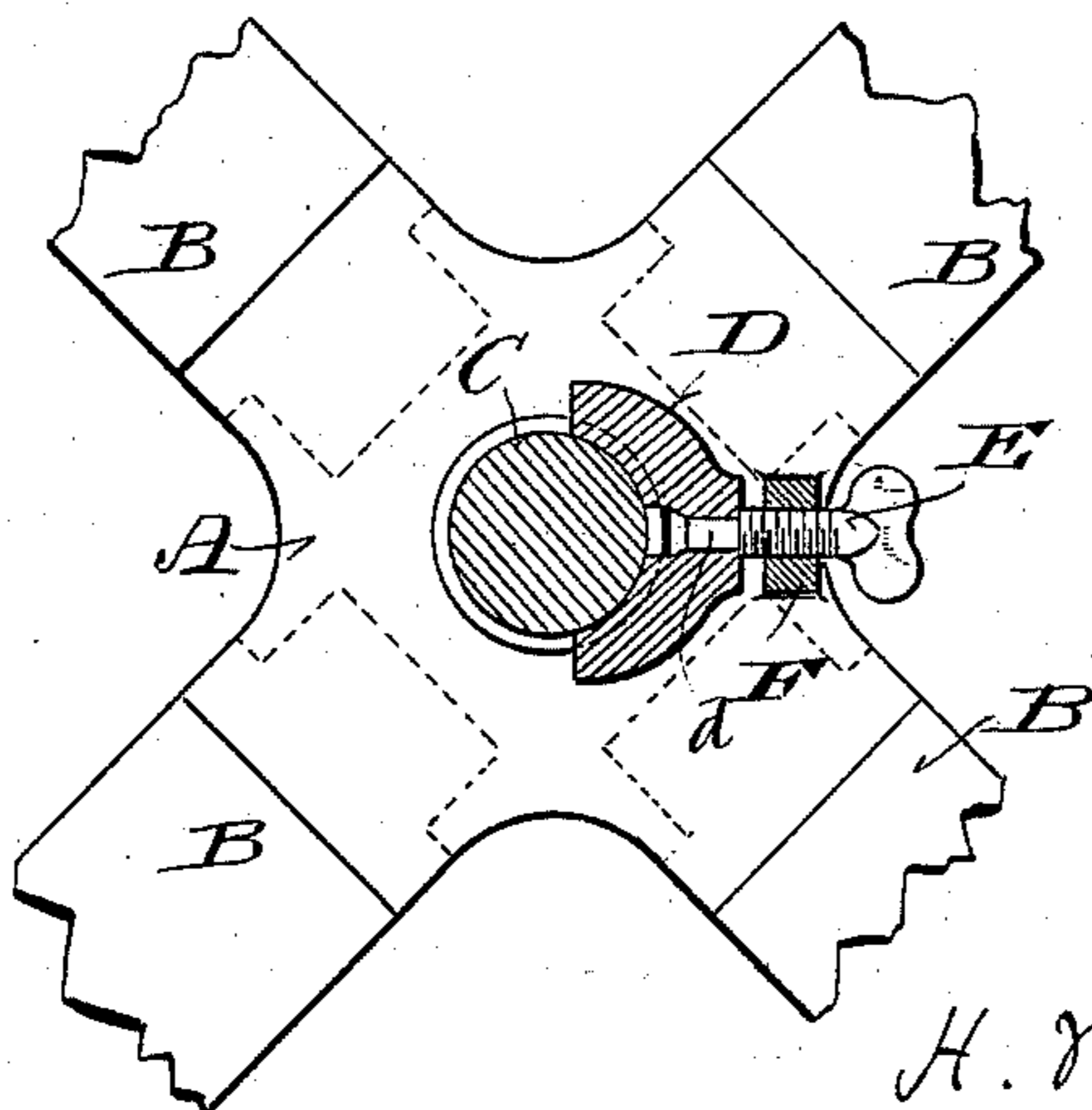
No. 535,347.

Patented Mar. 12, 1895.

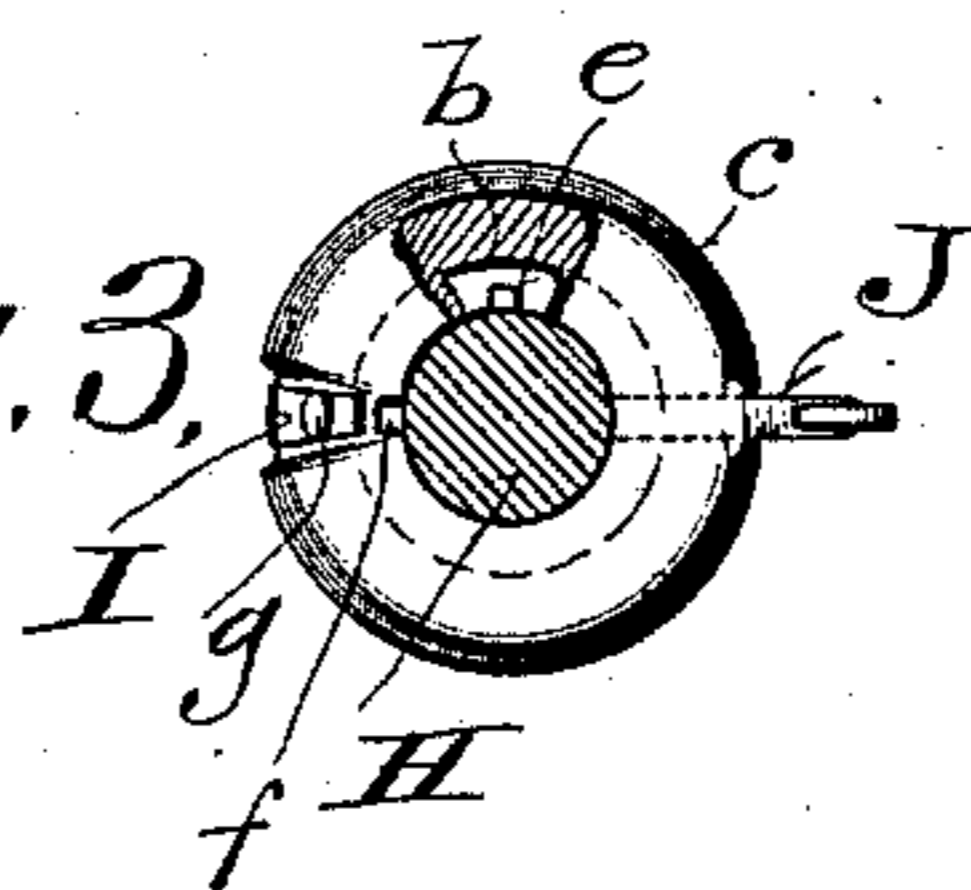
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
Geo. W. Young.  
St. E. Oliphant

Inventor  
H. W. Bolens.

By H. G. Underwood.  
Attorney

# UNITED STATES PATENT OFFICE.

HARRY W. BOLENS, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR TO THE  
GILSON MANUFACTURING COMPANY, OF SAME PLACE.

## CHAIR.

SPECIFICATION forming part of Letters Patent No. 535,347, dated March 12, 1895.

Application filed November 20, 1893. Serial No. 491,374. (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 in the State of Wisconsin, have invented certain now 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 provide a chair of that class having pivotal seats adjustable to various elevations at will; and it consists in certain peculiarities of construction and combination of parts, whereby a chair-seat may have free rotation while in lock against movement in a vertical direction or be held against independent rotary motion while being raised or lowered, and by the same means said seat may be kept from both rotary and vertical movement, my improved means for accomplishing the above enumerated results being hereinafter specifically set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a vertical transverse section of a portion of a chair embodying my improvements, and Figs. 2 and 3, horizontal sections respectively taken on lines 2—2 and 3—3 of the preceding figure.

Referring by letter to the drawings A represents a casting having a screw-threaded bore and exterior sockets, these sockets being for the reception of the upper ends of legs B, the latter and said casting constituting what is generally termed a chair-base. Engaging the bore of the casting is a screw-spindle C that differs from those of ordinary construction in so far that its upper portion is recessed for a convenient distance in a vertical direction to form a socket, and, as herein shown, I may increase the diameter of this socket at a certain point intermediate of its extremities to thereby provide an annular chamber *b*, the latter being of any desirable depth. In order to compensate for loss of metal incidental to the formation of the chamber, above specified, the adjacent portion of the spindle may be enlarged to form a non-threaded head *c* of any dimensions or design found most convenient or desirable, and such a head will be found useful as a hand-grip for

the operator when said spindle is to be run up or down.

To positively maintain the spindle in its vertical adjustment a clamp of some description is necessary, and while various devices of this character may be found suitable for the purpose, I prefer the one herein shown, the same consisting of a metal block D having a threaded concave surface in mesh with the spindle C, and a screw E having a non-threaded extremity *d* in loose upset engagement with the block, this screw being arranged to work in a threaded bearing F formed with or held on the casting A above specified.

The seat-iron G is provided with a depending pivot H that loosely engages the socket in the spindle C, and as herein shown the pivot has a lateral lug *e* that enters the chambered portion *b* of said socket through a vertical channel *f* and serves as a stop to prevent unpremeditated disengagement of said seat-iron and spindle. Inasmuch as the lug *e* and channel *f* may be in register at any time or come into register when the chair is lifted, it is desirable that some means be employed to close the entrance-channel to the chamber in the spindle, and as one way of accomplishing this result I show a spring stop I arranged in a recess portion of the spindle-head and provided with a finger *g* by which it may be retracted whenever necessary or desirable.

To lock the seat-iron pivot H against rotation I may employ a set-screw J herein shown as having its bearing in the spindle-head. While the screw J is sufficient as a means for locking the seat-iron pivot to the spindle, various other means may be employed for the same purpose without departure from my invention.

Owing to the fact that the spindle is generally made of steel and the seat-iron pivot of cast-iron there will be more or less wear between the two. Therefore I make the chamber *b* in said spindle of sufficient depth to permit of a considerable descent of the pivot-lug *e*, and said chamber is also intended as a receptacle for a supply of lubricant.

To vary the elevation of the spindle, the clamp is loosened and said spindle revolved, either by its head or by turning the chair-seat, provided the latter be in lock with the aforesaid spindle. The spindle having been

adjusted to the desired elevation and clamped, the seat-iron pivot will be ordinarily left free to turn in its socket so that the occupant of the chair may swing about without causing movement of said spindle up or down, but it is obvious that the chair-seat may be held against both rotary and vertical movement by the proper adjustment of the locking devices above specified.

From the foregoing it will be seen that the spindle has the same range of vertical adjustment as those of the most ordinary construction and there is no possibility of lubricant dropping down on the surface upon which the chair-base sets.

Another advantage of my chair consists in the fact that it can be shipped in a knock-down condition and no tool or skilled mechanic are necessary to properly assemble said chair, this being a matter of considerable importance to the trade.

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

1. The combination of a chair base, a spindle connected to the base and recessed at its upper portion to form a vertical socket, an annular chamber communicating with the socket and a vertical entrance channel to the chamber; a seat-iron having a depending pivot that engages said socket, a lateral lug on the pivot let into said chamber through said channel, and a suitable device arranged in the spindle to close the aforesaid channel against withdrawal of the pivot-lug from the aforesaid chamber, substantially as set forth.

2. The combination of a chair-base, a spindle vertically adjustable in the base and recessed at its upper end to form a vertical socket, an annular chamber communicating with the socket and a vertical entrance channel to the chamber; suitable means for locking the spindle in adjusted position, a seat-iron having a depending pivot that engages said socket, a lateral lug on the pivot let into said chamber through said channel, and a suitable device arranged in the spindle to close the aforesaid channel against withdrawal of the pivot-lug from the aforesaid chamber, substantially as set forth.

3. The combination of a chair-base, a spindle connected to the base and recessed at its upper portion to form a vertical socket, a chamber communicating with the socket and a vertical entrance channel to the chamber; a seat-iron having a depending pivot that engages said socket, a lateral lug on the pivot let into said chamber through said channel, a suitable device arranged in the spindle to close the aforesaid channel against withdrawal of the pivot-lug from the aforesaid chamber, and a set-screw in said spindle opposed to said pivot, substantially as set forth.

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

H. W. BOLENS.

Witnesses:

WM. AHLHAUSER,  
JOHN GILSON.