

(No Model.)

J. M. MORGAN.
REVOLVING CHAIR.

No. 547,963.

Patented Oct. 15, 1895.

Fig. 1.

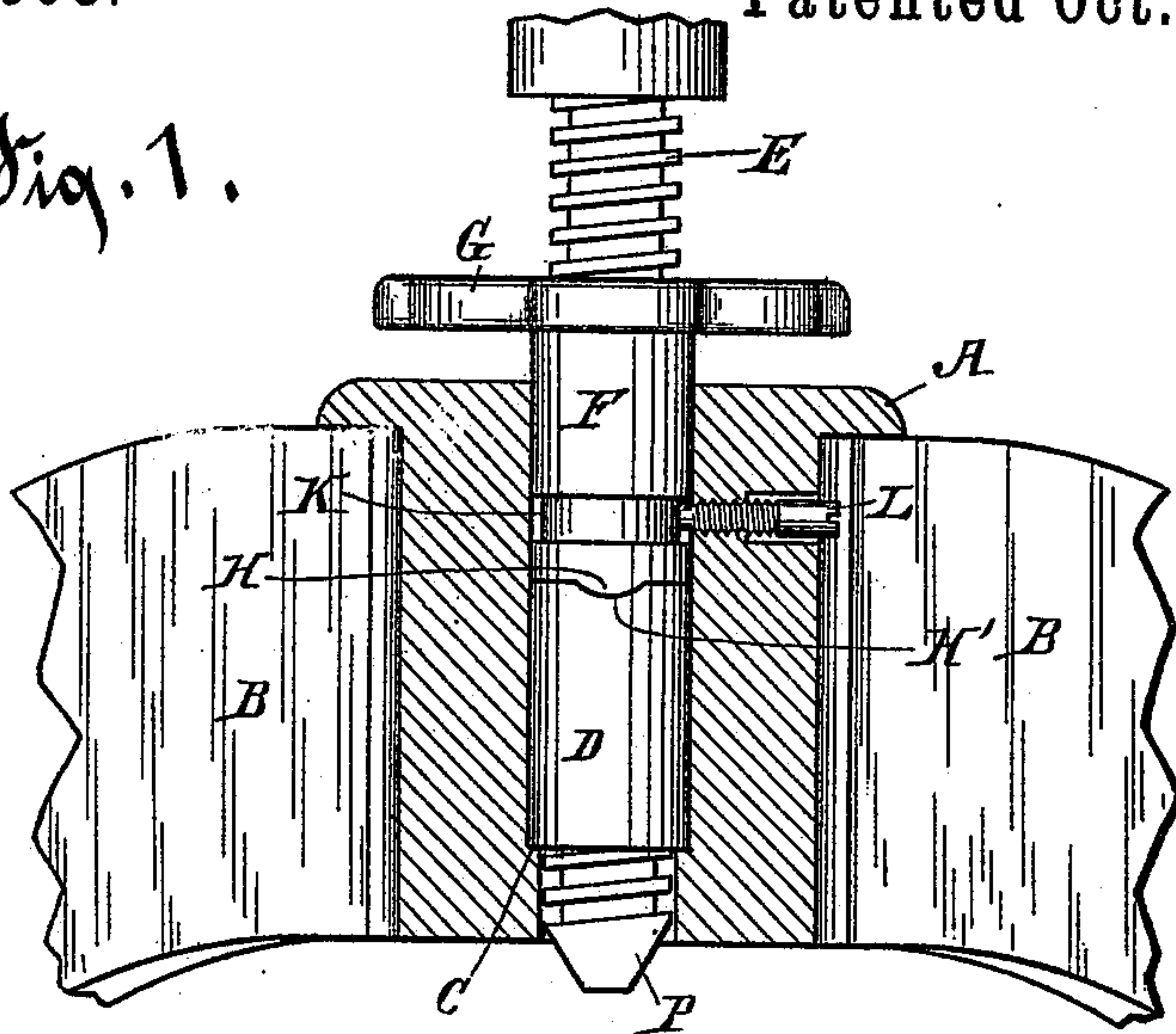


Fig. 2.

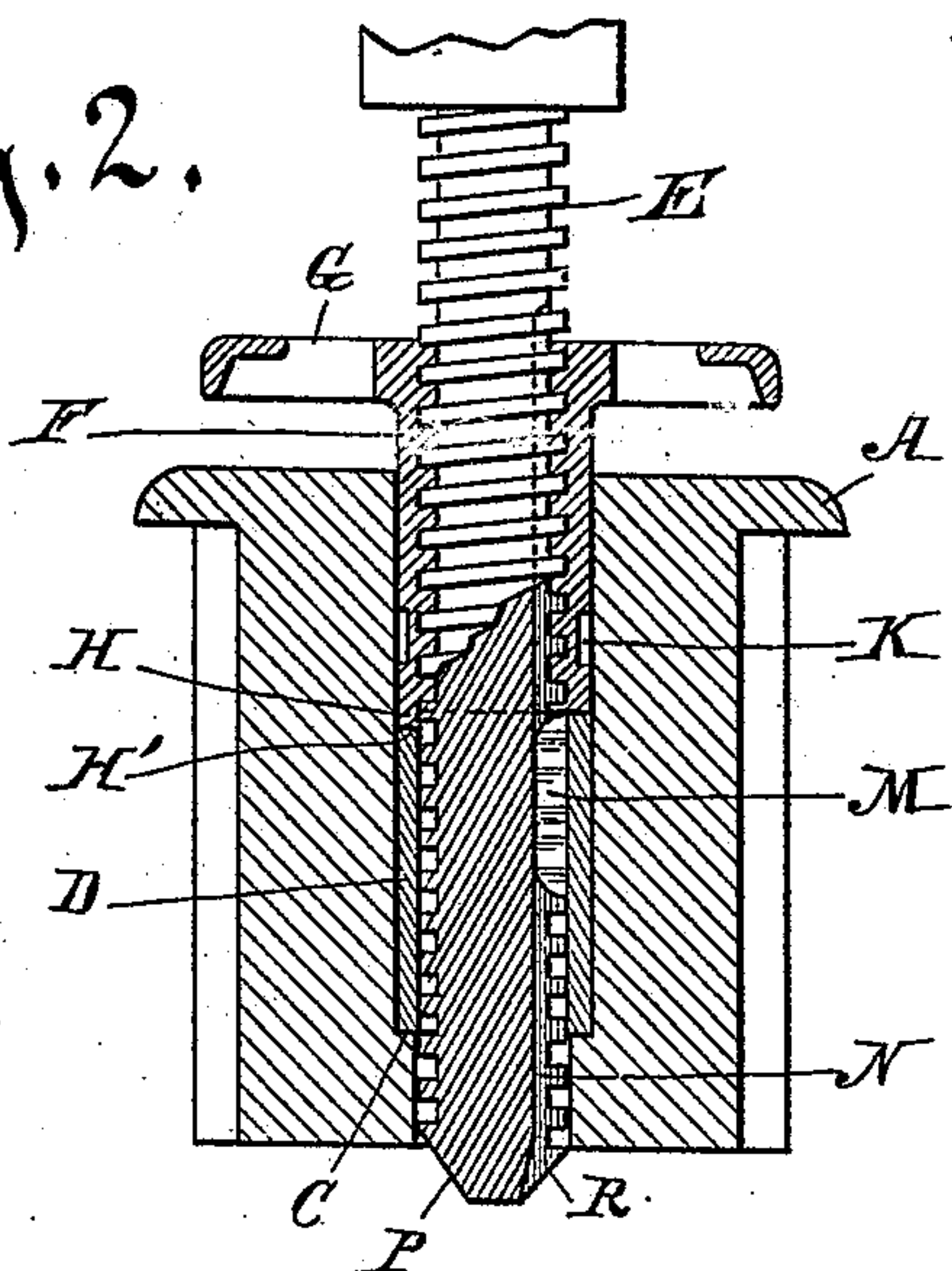


Fig. 4.

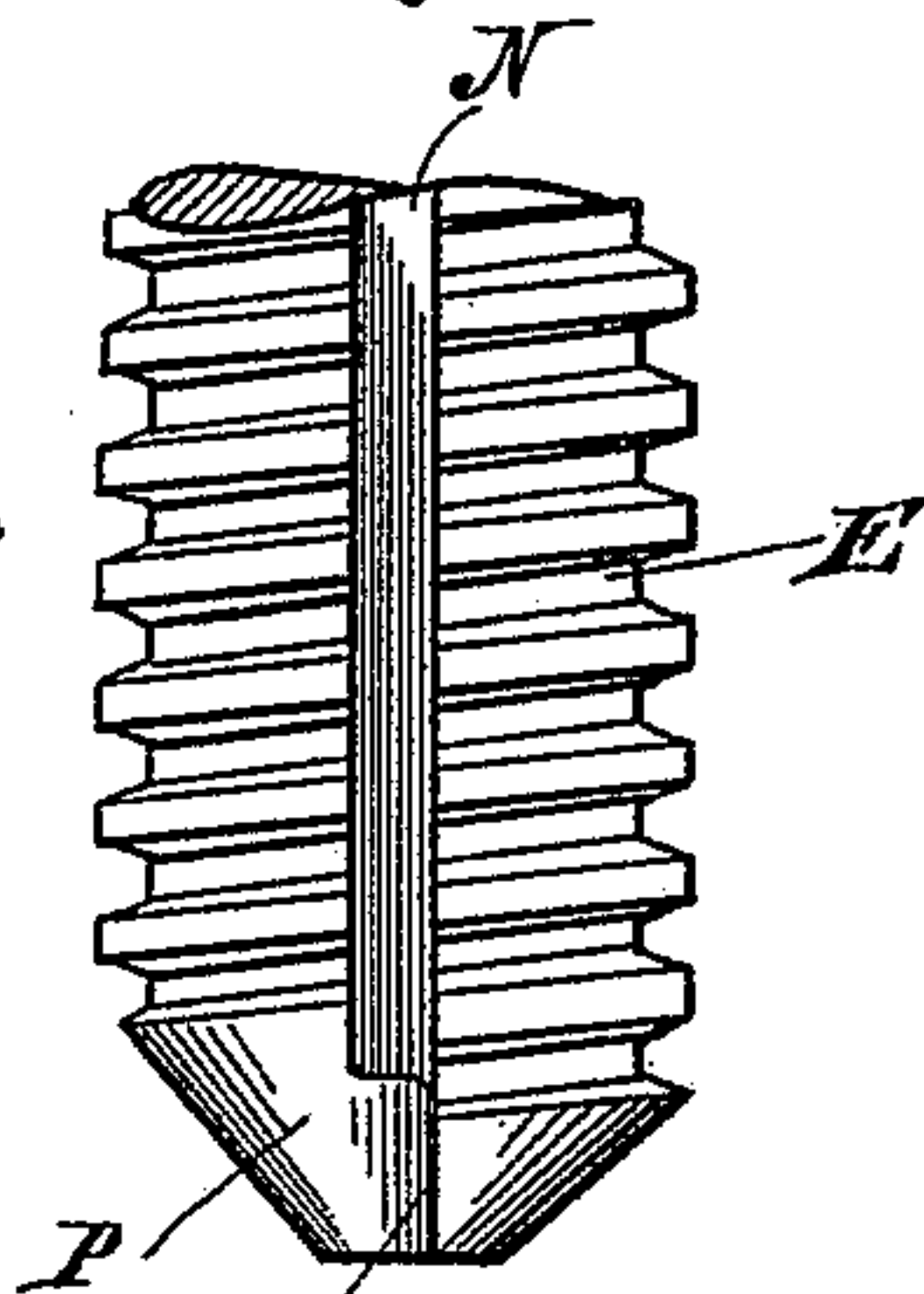


Fig. 5.

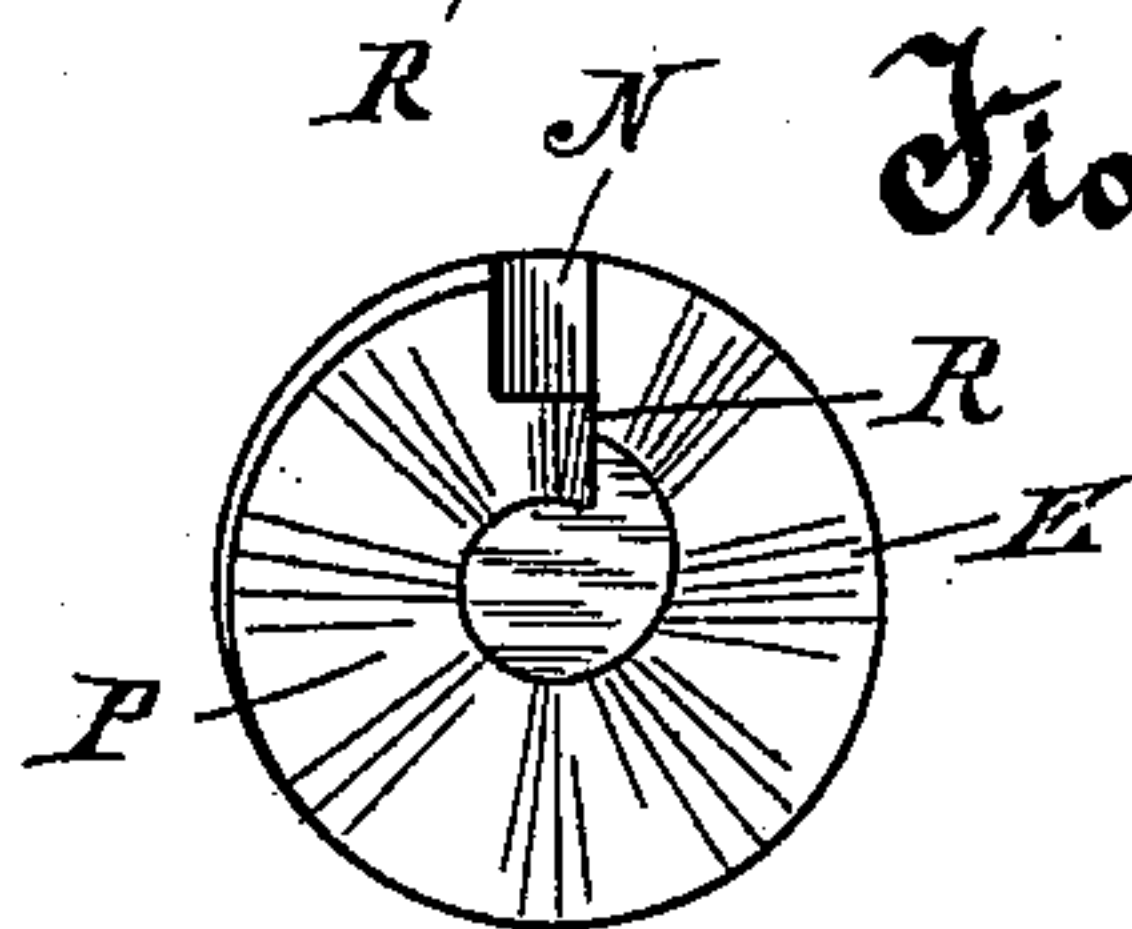


Fig. 3.

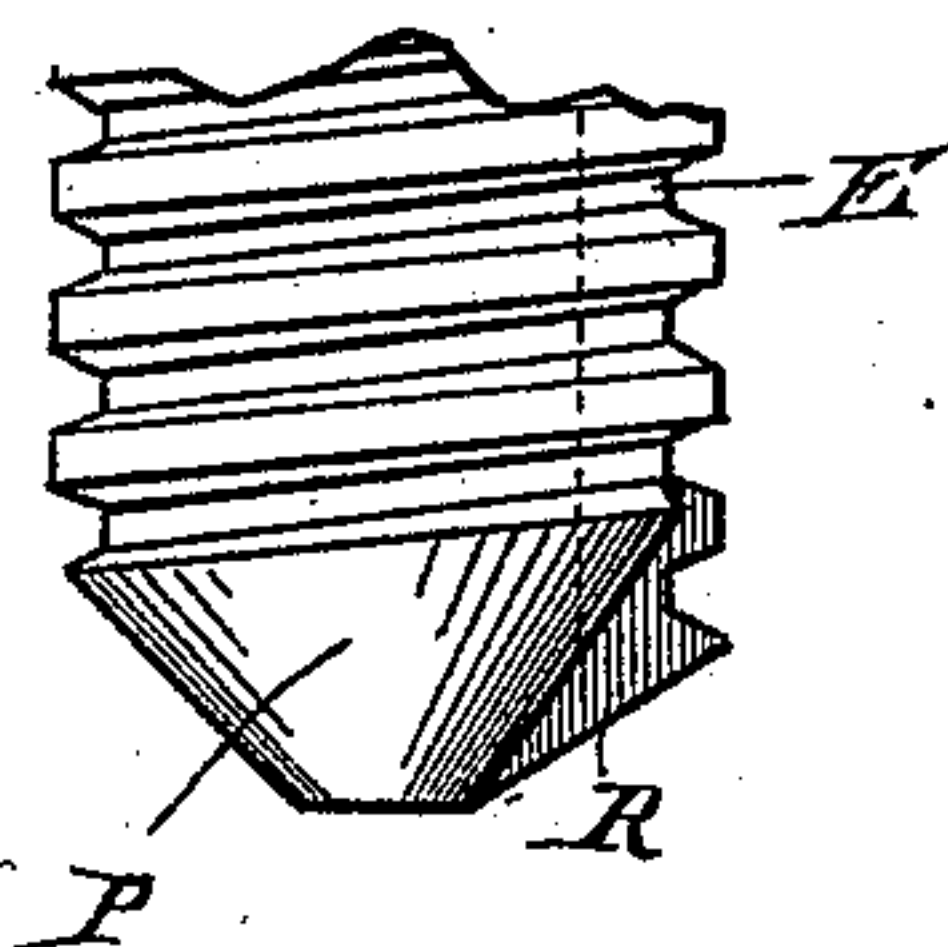
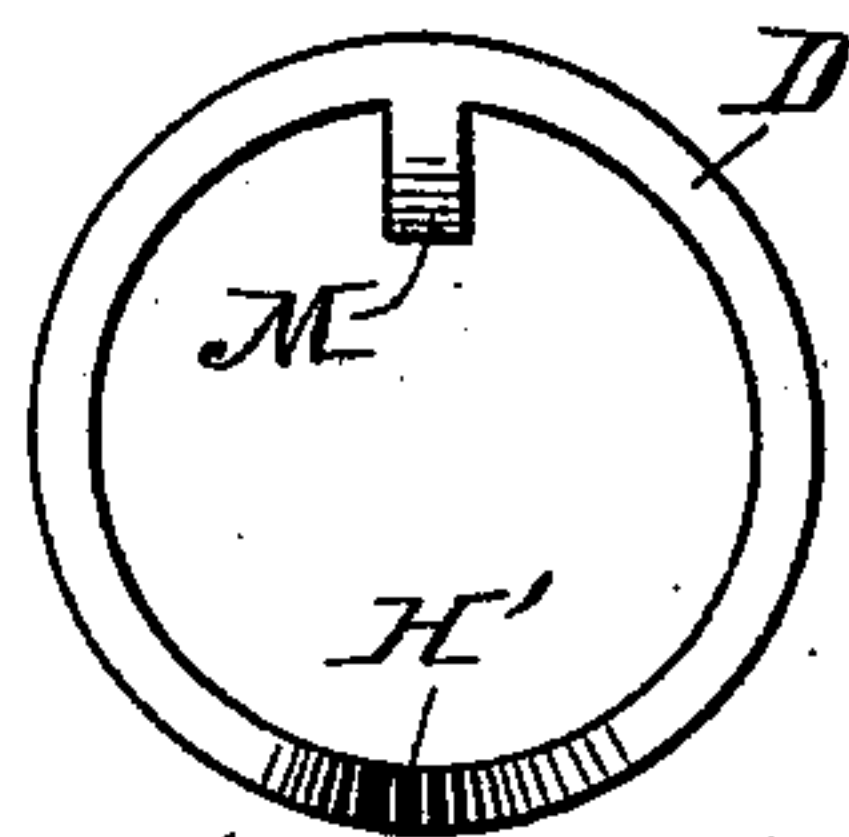


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES M. MORGAN, OF PORT WASHINGTON, WISCONSIN.

REVOLVING CHAIR.

SPECIFICATION forming part of Letters Patent No. 547,963, dated October 15, 1895.

Application filed August 12, 1895. Serial No. 558,988. (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.

The present invention relates to an improvement in the devices for which Letters Patent No. 537,988 were issued to me on April 23, 1895.

The object of the invention is to provide means for readily and surely inserting the longitudinally-grooved chair-spindle in the encircling and supporting sleeve, said sleeve being provided with an inwardly-projecting and obstructing lug.

The invention consists of the parts and combination of parts hereinafter described and claimed or their equivalents.

In the drawings, Figure 1 is a central vertical section of the hub of a revolving chair with the devices to which my invention relates in elevation therewith. Fig. 2 is a central vertical section of the hub and other devices shown in Fig. 1. Figs. 3 and 4 are each elevations of a fragment of the lower portion of the chair-spindle and disclose the principal feature of my present invention. Fig. 5 is a view of the lower end of the chair-spindle. Fig. 6 is a plan of the sleeve in which the spindle is inserted.

As my present invention involves only a small portion of the devices shown in the drawings, and as the same devices are in the main shown in my former patent, it will be sufficient now to describe them very briefly, particularly so far as they do not directly involve the present invention.

In the drawings, A is a metal hub supported on the legs B. The hub is bored centrally vertically, the upper portion being of greater diameter than the lower portion, forming an annular shoulder C medially in the hub, the bore in both parts being cylindrical.

D is a cylindrical sleeve fitting loosely in the upper enlarged portion of the bore and resting revolubly on the shoulder C.

E is the screw-threaded spindle, and a sleeve-like nut F fits and is rotatable on the screw of the spindle.

G is a hand-wheel integral with or fixed on the nut F, by which it is conveniently rotated.

H is a projection on the lower end of the nut, which normally fits releasably in a complementary recess H' therefor in the top of the sleeve D.

K is an annular groove in the exterior surface of the nut F, into which a screw-threaded pin L projects, the pin turning by its thread through the hub A. The pin is adapted to retain the parts in place revolubly when inserted in the hub in the manner indicated in Fig. 1. The foregoing described parts are only incidentally connected with my present invention.

The spindle E has a longitudinal groove or channel N cut in its periphery through the thread thereon and preferably a little into the body of the spindle. The sleeve D is provided with an inwardly-projecting lug M, preferably in the form of a fin or feather integral with the sleeve, which fin is adapted to fit in the groove N in the spindle and permit of the longitudinal movement of the spindle in the sleeve, but compelling concurrent rotation of the sleeve with the spindle. When the parts are in position, as shown in Figs. 1 and 2, the nut F rests on the top of the sleeve D, the lug M is in the groove N, so that the spindle and the sleeve must revolve together, and the nut F normally rotates with the sleeve and spindle.

In assembling or putting the parts together the practice is first to drop the sleeve D into place in the bore of the hub A, then place the nut F in the hub on the sleeve and secure it therein revolubly by the pin L, and thereafter to insert the spindle in the nut and turn it down, holding the nut against revolution.

Before my present invention was produced spindles were made with a rounded-off end, and it was also common to chamfer off the end of the spindle with a chamfer of equal depth and height entirely around the spindle; but it was found that on inserting the spindle in the nut and turning it down so that its point should enter the sleeve D it was difficult to bring the groove N to register with the lug M, as the parts, being hidden within the bore of the hub, could not be adjusted by sight so as to register as they came together, and if the spindle were permitted to rest on the

top of the sleeve and the spindle were then rotated to bring the groove N into registration with the lug M the spindle would not ride around on the sleeve until the groove and lug
5 should register; but the friction between the spindle and the sleeve would cause the sleeve itself to rotate on its seat with the spindle and thus prevent the relative proper adjustment of the spindle on the sleeve. To overcome this difficulty and annoyance and to provide means whereby the groove N could be readily made to register with the lug M and the lug could be made to enter the groove notwithstanding the parts were within the
15 bore of the hub and out of sight, I form the spindle E at its end with a spiral conical cut or chamfer, commencing at one side of the groove N and extending around the spindle spirally in the direction of and in conformity
20 with the thread of the screw, producing the spiral conical chamfer seen at P and producing the radially-disposed face or lip R in a plane of a wall of the groove N. This face R is in the plane of that wall of the groove at
25 the rear, (in following the thread upwardly on the spindle,) so that in turning the spindle down while it rests lightly in the top of the sleeve or upon the lug M (if the lug is below the top of the sleeve) the spindle will as
30 it turns go down a little in the sleeve and the face R will come in contact with the side of the lug M, in which position the lug will register with the groove N, and then, on continuing to turn the spindle down, the lug will en-

ter the groove and go up in it, holding the sleeve to rotation with the spindle. This construction is also well adapted for conveniently and readily entering the spindle in the nut F when the nut and spindle are to be connected together.

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

1. In a chair iron, the combination with a sleeve having an inwardly projecting lug, of a screw-threaded spindle having a longitudinal groove the end of which spindle is beveled off or chamfered spirally conically the continuous surface of which chamfer terminates at one wall of the groove in a radially disposed shoulder or face, substantially as described.

2. The combination with a hub and a sleeve supported revolubly in the hub the sleeve having an inwardly projecting lug, of a screw-threaded spindle and a nut turning thereon, said spindle having a longitudinal groove adapted to receive the lug of the sleeve therein, and the end of which spindle is chamfered spirally conically, the continuous surface of which chamfer terminates at one wall of the groove in a radially disposed shoulder or face, substantially as described.

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

JAMES M. MORGAN.

Witnesses:

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C. T. BENEDICT.