H. M. HUTCHINSON & M. V. LUNGER.

SPRING-SEAT STOOLS.

No. 186,841. Patented Jan. 30, 1877.

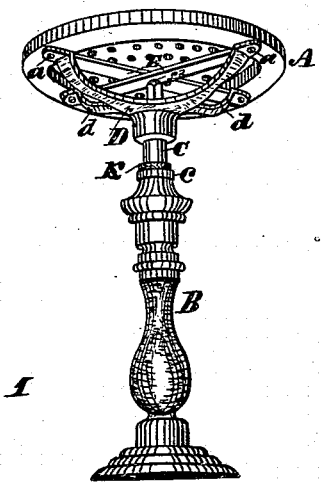

Fig. 1

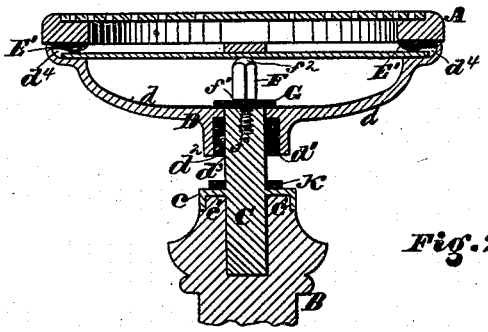

Fig. 2

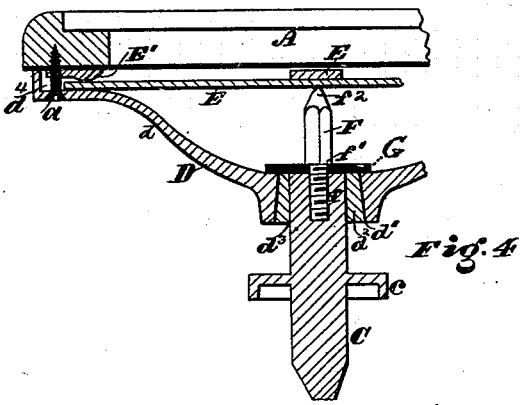

Fig. 4

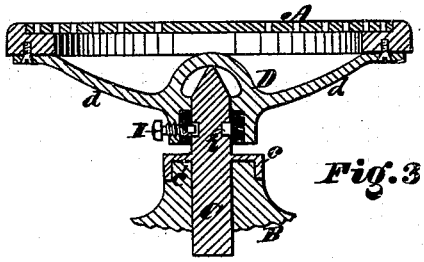

Fig. 3

Witnesses

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SPRING-SEAT STOOLS.

Specification forming part of Letters Patent No. **186,841**, dated January 30, 1877; application filed May 22, 1876.

To all whom it may concern:

Be it known that we, HENRY M. HUTCHINSON and MARTIN V. LUNGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Spring-Seat Stool; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective of our invention. Figs. 2 and 4 are broken longitudinal vertical sections. Fig. 3 is a modification of our invention.

The object of our invention is to provide a noiseless revolving spring-seat stool.

The nature of our invention, accordingly, consists in the peculiar construction and combination and arrangement of parts as hereinafter more fully described, having reference, particularly to the following points:

First. To the provision of a spring or springs placed between the seat of the stool and the spider, for giving to said seat a yielding or undulating motion, the amount of said motion being limited by the weight of the person sitting on the seat or stool.

Second. To the provision of curved blocks, secured beneath the seat in recesses in the arms of the spider, upon which curved blocks the ends of the springs roll and work when the seat is subjected to weight or pressure.

Third. To the provision of a spider having arms, at the extremities of which are recesses or chambers for receiving curved blocks and the ends of the springs. Said spider is also provided with a central packing of wood, or other equivalent material, which revolves next to the gudgeon, thereby decreasing the friction, and producing a noiseless revolving seat-stool.

Fourth. To the provision of a fixed central spindle, which is screwed into or otherwise secured to the gudgeon, and is formed with a pivotal point at its upper extremity, upon which rest the flat springs, which cross each other at this point, said springs being secured to the spider of the revolving seat, and said pivotal point forming the means whereby a yielding motion is given to the springs, and thence to the seat. Said spindle is also provided with a shoulder at or near its middle portion, which, by reason of a washer placed between the shoulder and spider, and being larger in diameter than that of the central opening of the spider, prevents the latter from being removed from the pedestal.

Referring to the accompanying drawing, A represents the seat of a stool; B, the pedestal. C is a gudgeon formed with a cup-shape or recessed flange, *c*. Said gudgeon, with its flange, is driven into the pedestal, or otherwise secured thereto, so that the flange *c* will inclose a portion of the pedestal, which is turned to a suitable diameter, as shown at *c'*, thus forming a ferrule for and strengthening the upper part of the pedestal. D is a spider, which slides up and down and revolves about the gudgeon C. Said spider has four or more arms, *d d d;* and also has a central square opening, d^1, which is packed with wood or other suitable material d^2, having an opening, d^3, which receives the gudgeon C. The extremities of the arms *d d d* of the spider D are recessed, so as to form the chambers d^4 d^4 d^4, in which are received the curved blocks E′ E′ E′, and the ends of the springs E, said arms and blocks being secured to the seat by the screws *a a a*. F is a spindle, formed with a screw, *f*, by which it is secured to the gudgeon C, and also has a shoulder, f^1, and pivot-pointed extremity f^2. G is a washer surrounding the screw *f* of the spindle, and is placed between the shoulder f^1 and the spider, and, being of larger diameter than that of the central opening of the spider, against which it rests, and the spindle being screwed into the gudgeon until it impinges against said washer, and thus loosely secures the spider, and prevents it from being removed from the pedestal. E E are flat springs, which cross each other at and rest upon the pivotal point f^2 of the spindle F, as shown. The ends of the springs enter the chambers d^4 d^4 of the arms *d d* of the spider, and rock or work upon the curved portion of the blocks E′ E′. K is a rubber washer surrounding the gudgeon C above the flange or ferrule *c*, against which the hub of the spider strikes on its downward movement.

By this construction we have a seat-stool in which the spider is secured to the seat and held in position to slide and revolve on a gudgeon, which is firmly fixed and secured to a pedestal, the springs being placed between the seat and spider, and crossing each other, and resting at their centers on a pivotal-pointed spindle, which is secured to the gudgeon, and their ends resting on curved blocks, and rolling and rocking on the same. Hence, where pressure or weight is exerted upon the seat it is depressed, and carries with it the ends of the springs and the spider, but the middle portion of the springs, resting upon the pivot f^1 of the spindle F, which is fixed and immovable, cannot yield or go down, and produces a tension of the springs E E at that point which, when the pressure is removed, causes the seat to rise to its normal position.

Fig. 3 represents a modification of our invention, in which the gudgeon C is pointed at its upper extremity, and supports the spider D, as shown, said spider being attached to the seat A in the usual manner. The spider is loosely secured to the gudgeon by means of the set-screw I passing through the hub and packing of wood d^2 of the spider D, and entering the slot i in the gudgeon, thus producing a revolving seat which is noiseless, and which cannot be removed from the pedestal accidentally.

What we claim as our invention is as follows:

1. A revolving seat-stool, having springs E E placed between the spider and seat, substantially as shown and described, for giving to said seat a yielding or spring motion.

2. The spider D, having a central packing of wood, or other equivalent material, for the purpose set forth, substantially as shown and described.

3. The stationary spindle F, in combination with the springs E E, gudgeon C, revolving seat A, and spider D, of a revolving spring-seat stool, said spindle being secured to the gudgeon.

4. The combination of the springs E E, curved blocks E′, &c., and spider D, substantially as shown and described.

5. In a revolving seat-stool, the combination of the spider D, gudgeon C, spindle F, and washer G.

In testimony that we claim the foregoing we have hereunto set our hands.

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Witnesses:
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