

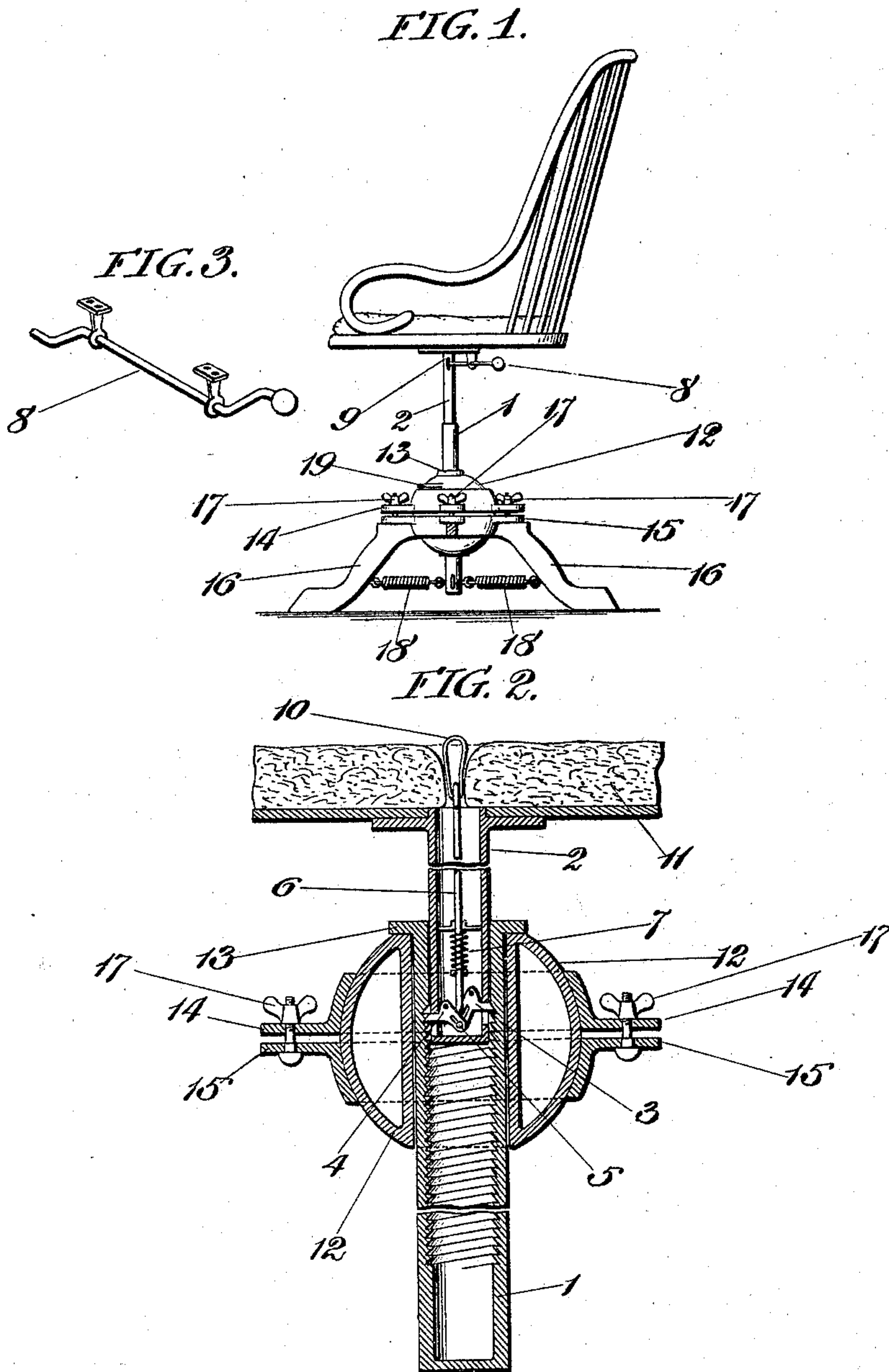
No. 612,580.

Patented Oct. 18, 1898.

H. B. BANES.
CHAIR.

(Application filed Jan. 29, 1898.)

(No Model.)



WITNESSES:

Wm. Stokes Adams
E. F. Grace

INVENTOR

Henry B. Banes
by Jno. C. Wadsworth atty

UNITED STATES PATENT OFFICE.

HENRY B. BANES, OF BRISTOL, PENNSYLVANIA.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 612,580, dated October 18, 1898.

Application filed January 29, 1898. Serial No. 668,417. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. BANES, a citizen of the United States, residing at Bristol, in the county of Bucks, State of Pennsylvania, have invented a new and useful Chair, of which the following is a specification.

My invention relates to improvements in chairs; and the object of the same is to afford means of rotary and rectilinear adjustment and also improved means of rocking or tilting movement of the seat portion and also improvements in details of construction. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a chair employing my device. Fig. 2 is a sectional vertical view of a portion of the supporting-tube and rod, showing means of vertical adjustment. Fig. 3 is a perspective view of a lever adapted to be manually operated to disengage the pawls.

Referring to the drawings, 1 is a tube closed at its lower end and open at its upper end and threaded internally intermediate its top and bottom with a spiral ratchet adapted to restrain the downward movement of the pawls and to permit of their upward movement. The tube or rod 2, which I shall hereinafter call "rod" to more readily distinguish it from tube 1, may be hollow, as shown in Fig. 2, or may be solid, with proper recesses or openings to receive the pawls 3 and 4, the spring 7, and the operating-rod 6, hereinafter to be described. This rod 2, closed at its lower end in case it is hollow, is adapted to fit into tube 1, having a free rotary and rectilinear vertical movement therein. Pivoted within rod 2 are the two pawls 3 and 4, having one end of each respectively protruding through openings in the opposite sides of the rod 2. The other ends, respectively, of pawls 3 and 4 are slotted and adapted to engage with the pivot 5 at the end of rod 6, which extends upwardly through rod 2, said pivot 5 having a longitudinal movement with respect to the arm of the pawl in the slots of pawls 3 and 4 as it moves upward or downward to actuate the same. Spiral spring 7 is restrained at its upper end by proper means attached to rod 2 and bears downward against a projection on rod 6 to force said rod 6 downward and

normally maintain the pawls in engagement with the ratchet-thread of tube 1. It will be obvious that the upward movement of rod 6 will effect the disengagement of the pawls from the ratchet-thread. This upward movement of the rod 6 is effected manually, either by means of the loop 10, protruding through the central portion of the chair-seat 11, or by the lever 8, operating through the slot 9 in the rod 2. It will therefore be obvious that the downward vertical movement of the seat portion may be accomplished either by rotating the same, causing the pawls to travel downward in the spiral ratchet, or by actuating the rod 6 to cause the disengagement of the pawls 3 and 4 to allow the rectilinear vertical downward movement of said seat portion. It will also be noted that the ratchet-thread does not extend to the bottom of tube 1, but that the interior of the lower portion of tube 1 is smooth and adapted to cooperate with the lower end of rod 2 to form an air-cushion upon the downward movement of the latter. A small aperture for the admission and expulsion of air may be made in said lower portion of tube 1 in case it should be necessary to facilitate said upward and downward movement of said seat portion. The upward movement of said seat portion may be accomplished by rotating the same in the direction reverse to that just described to cause the pawls to travel upward upon the spiral ratchet-thread, or by simply lifting the seat portion, causing the automatic disengagement of the pawls and permitting the vertical rectilinear elevation of rod 2.

I will now describe the means of permitting the rocking or tilting movement of the seat portion. The spherical member 12 has an opening through the center thereof through which extends the tube 1, having a collar 13 to limit its downward movement through said spherical member. It is obvious that the tube 1 and the spherical member 12 may be made in one piece or a single casting if it should be desirable to so construct it. The members 14 and 15 are adapted to embrace the said spherical member 12 and to be supported by the legs 16 or other suitable supporting means. The screws 17 are adapted to regulate the adjustment between members 14 and 15 and so regulate the pressure ex-

erted upon spherical member 12, and consequently the freedom of its movement between the members 14 and 15. The springs 18 are each attached at one end, respectively, to the lower end of tube 1, while to each leg is attached the other ends of said springs, respectively, thus tending normally to keep the said tube 1 in a vertical position.

If desirable, a projection 19 may be provided upon the spherical member 12, adapted to encounter the member 14 to positively limit the forward or the forward and sidewise movement of the seat portion.

I do not wish to limit myself to the specific details of construction, but reserve to myself the right to change, modify, or vary such details that properly come within the scope of my invention.

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

1. In an adjustable seat-supporting device the combination of a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein and automatic means connected with the rod of normally engaging with the surrounding spiral ratchet-thread, substantially as described.

2. In an adjustable seat-supporting device the combination of a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein and spring-actuated automatic means connected with the rod of normally engaging with the surrounding spiral ratchet-thread, substantially as described.

3. In an adjustable seat-supporting device the combination of a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein, automatic means connected with the rod of normally engaging with the surrounding spiral ratchet-thread and means of manually operating the said automatic means to cause the arbitrary disengagement of the same from the ratchet-thread, substantially as described.

4. In an adjustable seat-supporting device

the combination of a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein and automatic means connected with the rod of normally engaging with the surrounding spiral ratchet-thread to restrain the downward rectilinear movement and to permit the downward rotary and upward rectilinear movement of the rod, substantially as described.

5. In an adjustable seat-supporting device the combination of a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein and automatic means connected with the rod of normally engaging with the surrounding spiral ratchet, the tube having its lower interior walls smooth and adapted to form between its bottom and the lower end of the rod an air-cushion upon the sudden downward movement of the rod, substantially as described.

6. In combination with seat-supporting means, the spherical member, the two members adapted to adjustably embrace said spherical member, and oppositely-acting springs in pairs at right angles with each other adapted to control the movement of said spherical member, substantially as described.

7. In combination with an adjustable seat-support, comprising a tube interiorly threaded with a spiral ratchet-thread, a seat-supporting rod adapted to move therein, automatic means connected with the rod of normally engaging with the surrounding spiral ratchet-thread and means of operating said engaging means, the spherical member, the two members adapted to adjustably embrace said spherical member and oppositely-acting springs in pairs at right angles with each other adapted to control the movement of said spherical member, substantially as described.

HENRY B. BANES.

Witnesses:

WILLIAM H. LORIMER,
WILLIAM B. DOUGLAS.