No. 619,596. Patented Feb. 14, 1899.

J. F. MAYER.

ADJUSTABLE STOOL.

(Application filed Apr. 15, 1898.)

(No Model.)

Fig. 1.

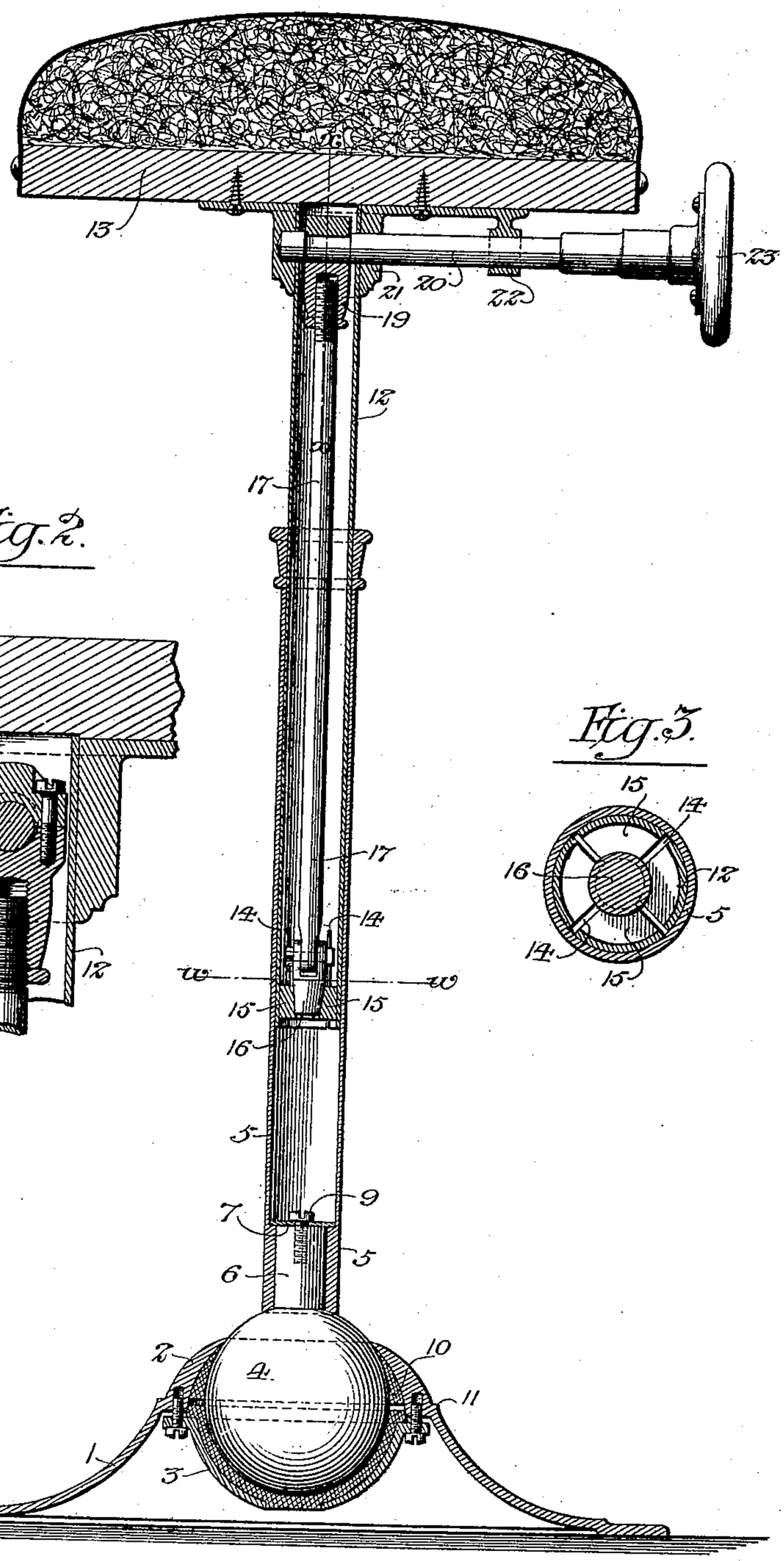

Fig. 2.

Fig. 3.

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JACOB F. MAYER, OF PHILADELPHIA, PENNSYLVANIA.

ADJUSTABLE STOOL.

SPECIFICATION forming part of Letters Patent No. 619,596, dated February 14, 1899.

Application filed April 15, 1898. Serial No. 677,719. (No model.)

To all whom it may concern:

Be it known that I, JACOB F. MAYER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Adjustable Stools, of which the following is a specification.

My invention consists of certain improvements in that class of adjustable stools used mainly by dentists, such a stool having a stem adjustable as to length and mounted by a ball-and-socket joint upon the base, so that the seat can move laterally and can be raised and lowered.

One object of my invention is to provide a ball-and-socket joint for the stem which while preventing any accidental movement of the seat will yet permit the same to yield readily when the occupant of the seat moves forward or backward or from side to side and will permit of the turning of the seat without a corresponding turning of the ball in its socket, and a further object is to provide means whereby the seat can be adjusted vertically and secured in position after adjustment by the use of one hand and without any change in the position of the occupant of the seat other than that necessary to remove the weight from said seat.

In the accompanying drawings, Figure 1 is a vertical sectional view of an adjustable stool constructed in accordance with my invention. Fig. 2 is an enlarged transverse section on the line *x x*, Fig. 1; and Fig. 3 is an enlarged sectional plan view on the line *w w*, Fig. 1.

1 represents the hollow base of the stool, which has at the top a portion 2, constituting a segment of a sphere, and to the under side of the hollow base is secured another spherical segment 3, the two segments forming a socket for the reception of the ball 4 at the bottom of the tubular section 5 of the seat-supporting stem, said ball having an upwardly-projecting plug 6, which fits snugly within a thickened lower portion of the stem 5 and is vertically secured thereto by a cap-plate 7 and bolt 9, said cap-plate resting upon the top of the plug 6 and overlapping the shoulder formed by the thickening of the lower end of the stem. By this means the hollow stem 5, while vertically confined to the ball 4, can rotate independently thereof. Hence the seat can be rotated without rotating the ball in its socket.

Both of the spherical segments 2 and 3 are provided with linings 10 of Babbitt metal or other suitable antifriction material, which fit snugly to the contour of the ball 4, and when the lower segment 3 is secured in position beneath the hollow base press so firmly upon the ball that while accidental movement of the same in the socket is prevented the ball is not so rigidly held as to prevent movement of the seat of the stool in following the movements of the body of the person occupying said seat.

Adjustment of the lower segment 3 readily compensates for wear of the ball 4 or linings 10, all of the adjusting devices being normally hidden by the base 1.

The upper edge of the lower segment 3 of the base projects inwardly beyond the lower edge of the upper segment 2, so as to form an internal annular shoulder 11, providing an additional vertical support for the lower lining.

Fitting snugly to the hollow stem 5 of the stool is the upper tubular section 12 of said stem, the latter carrying at its upper end the seat 13 and having at the lower end a series of slots or saw-kerfs 14, so as to form at said lower end a series of spring-jaws, each of which has an internally-projecting block 15, these blocks forming a seat for a wedge 16, which is pivoted to the lower end of a rod 17, centrally disposed within the tubular stem 12 and threaded at the upper end for the reception of a block 19, which has a transverse opening for the reception of the eccentric portion of a shaft 20, the latter being mounted so as to be free to turn in suitable bearings 21 and 22, secured to and projecting downwardly from the wooden bottom of the seat 13, the outer end of said shaft 20 being provided with a disk 23 or other suitable form of handle, whereby the shaft may be readily turned by one hand.

The blocks 15 may be integral with the hollow stem 12 or may be separate blocks secured thereto in any available manner.

When the parts occupy the position shown in Fig. 1, the wedge 16 is depressed, so as to expand the blocks 15 and the spring-jaws of the tubular stem 12, thereby forcing the lat-

ter firmly into contact with the inner side of the tubular stem 5 and clamping the two stems firmly together, so as to retain the seat of the stool in the vertical position to which it has been adjusted; but by turning the shaft 20, so as to raise the rod 17 and its wedge 16, pressure upon the blocks 15 is released, and the upper tubular stem 12 can be readily moved up or down in the lower stem 5, being secured in position after adjustment by a reverse movement of the shaft 20, so as to again expand the spring-jaws and lock the stem 12 to the stem 5. The occupant of the stool can thus readily change the vertical position of the seat by the use of one hand without changing his position on the seat further than to relieve the same from his weight.

The movement of the locking-rod 17 is positive, and there is no tendency of said rod to move accidentally from either the locked or unlocked position, thus overcoming an objection to that class of stools in which the locking of the stems is effected by the action of a spring or springs.

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

1. The combination of the hollow base of the stool having the upper fixed spherical segment thereon, with the lower spherical segment contained within and hidden by said hollow base, and set-screws whereby said lower segment can be adjusted in respect to the base, substantially as specified.

2. The combination of a stool having a stem with ball at the lower end, a base having upper and lower segments partially embracing said ball, the lower segment extending inwardly beyond the upper segment so as to form an annular shoulder, and a two-part packing or filling of antifriction metal interposed between the ball and socket formed by said spherical segments, the lower part having a bearing upon said annular shoulder, substantially as specified.

3. The combination of a stool having a two-part stem with a ball-and-socket mounting at the base, the lower part of the stem being loosely mounted so as to be free to turn around its axis on said ball, a seat secured to the upper part of the stem, means for locking the two parts of the stem together, and an operating device for said locking mechanism carried by the seat and projecting laterally from the stem, substantially as described.

4. The combination of a stool having a hollow stem thickened at the lower end so as to form an internal shoulder some distance above said lower end, a ball adapted to a socket on the base of the stool and having an upwardly-projecting plug fitted to said thickened lower end of the stem and a cap-plate bolted to the upper end of said plug and overlapping the internal shoulder of the tubular stem, substantially as specified.

5. The combination in a stool, of a seat-support comprising upper and lower tubular stems, the upper sliding in the lower and having a clutch whereby it can be secured thereto, a clutch-operating rod contained within said upper stem and having a head at its upper end, and a transverse shaft having an eccentric portion adapted to an opening in the head and having a disk or other suitable handle whereby it may be readily manipulated, substantially as specified.

6. The combination in a stool, of a seat-support comprising upper and lower tubular stems, the upper sliding in the lower and having jaws for clutching the same and locking the two stems together, a wedge for actuating said jaws, a rod to the lower end of which said wedge is pivoted, a head mounted upon the upper end of said rod, and a transverse shaft having an eccentric portion engaging with an opening in said head, substantially as specified.

7. The combination in a stool, of a seat-support comprising upper and lower tubular stems, the upper sliding within the lower, a clutch whereby the two stems may be locked together, a clutch-operating rod having a threaded upper end, a head screwed upon said upper end of the rod so as to be adjustable thereon, and a transverse shaft having an eccentric portion adapted to an opening in said head, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB F. MAYER.

Witnesses:
FRANK E. BECHTOLD,
JOS. H. KLEIN.