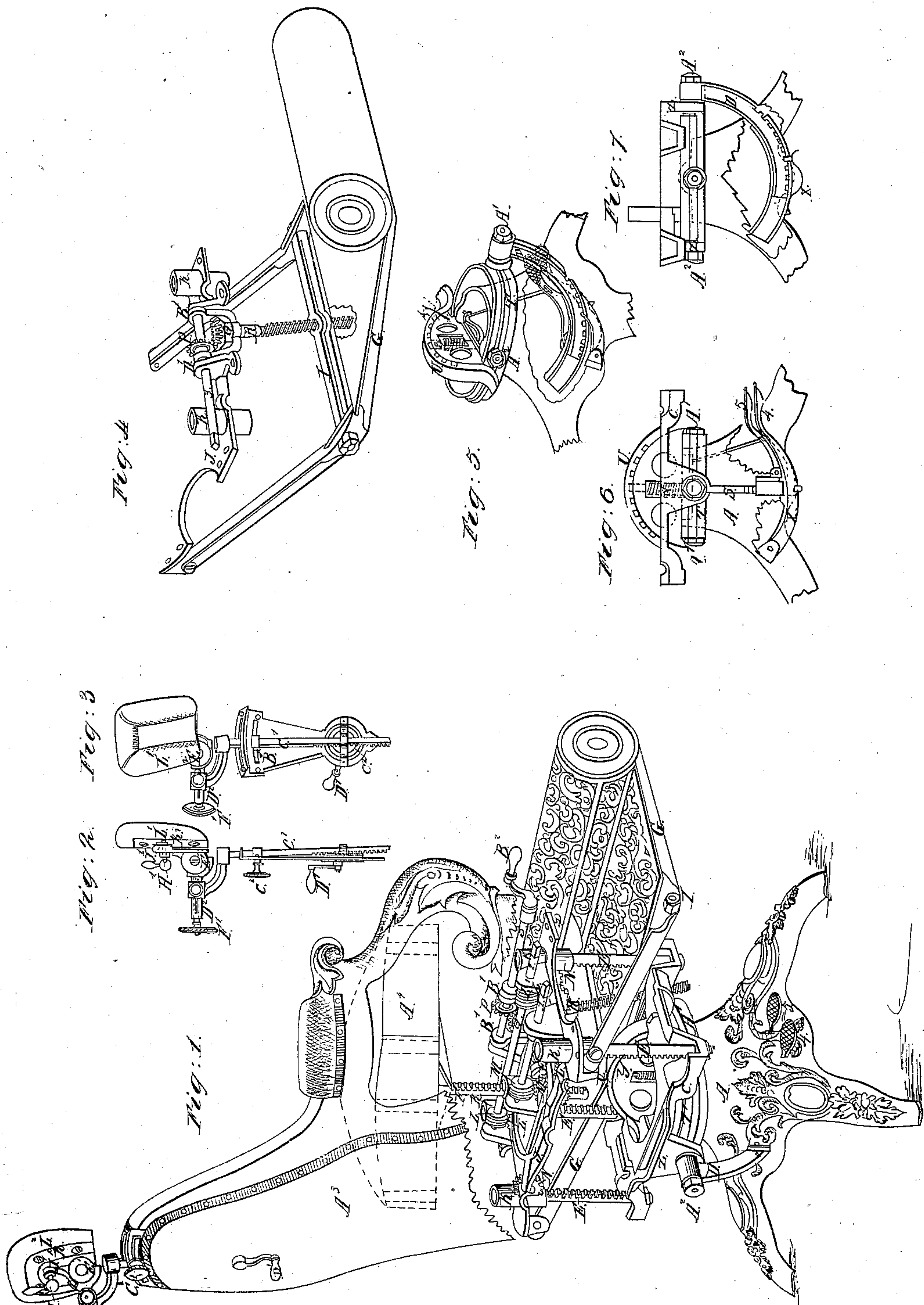


W. M. BUTLER.  
DENTISTS' CHAIR.

No. 106,463.

Patented Aug. 16, 1870.



Witnesses:  
Julius Garbman  
David C. Hume

Inventor:  
William M. Butler



# United States Patent Office.

WILLIAM M. BUTLER, OF LOUISVILLE, KENTUCKY.

Letters Patent No. 106,463, dated August 16, 1870.

## IMPROVED DENTISTS' CHAIR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM M. BUTLER, of the city of Louisville, county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Dentists' Operating-Chairs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, in which—

Figure 1 is a sectional elevation, with the lower part of the frame left off, in order to show more clearly the internal arrangement of the machinery.

Figure 2 is an edge view of the head-rest, showing the arrangement for adjusting the same.

Figure 3 is a front view of the head-rest, showing the scroll-thread and rack by which it is operated.

Figure 4 is a view of the foot-rest, showing the arrangement of the machinery for operating it.

Figure 5 is a view of the base or pedestal, showing how the chair is held in position by means of the pin S, entering holes in the circular slide above, and the trigger falling into notches in the quadrant below.

Figure 6 is also a view of the pedestal, showing the treadles or levers, by means of which the springs and catches, which hold the chair in position, are operated.

Figure 7 is a view of the pedestal, showing the first ring of the universal joint, with the quadrant on the back.

Similar letters and figures of reference indicate corresponding parts in the several drawings.

The nature of my invention consists in providing a neat, compact, and convenient operating-chair, so arranged that it can be adjusted to any desired position by means of levers and springs, which may be operated by the foot, so as to place it in a backward, forward, or side position, or set at any desired angle.

It also relates to an adjustable head-rest, consisting of joints, adjusting slide, and rack, operated by a wheel with scroll-thread; also, the manner of raising and lowering the seat and foot-rest, by means of a screw and bevel-gearing.

To enable others skilled in the art to make and use my improvement or invention, I will proceed to describe its construction and operation, by reference to the drawings, and to the letters and figures of reference marked thereon, in which—

Fig. 1 is a sectional elevation.

A is the base or pedestal.

4 and 5 are foot-levers or triggers, by means of which the chair is operated, and is held in a back position by the trigger 4 entering notches in the quadrant D, and in a side position by the small rod or pin S, attached to the trigger 5, passing up through the arch Y, and entering holes in the circular slide U, and held up by the spiral spring V.

T is the first ring of the universal joint, and is attached to the base A, by means of set-screws at the sides, near the top, on which it turns.

C is a cast frame or plate, on which the frame J and upper machinery of the chair rests, and also constitutes the upper part of the universal joint, and is attached to the last-named ring T, by means of set-screws A<sup>2</sup> and A<sup>2</sup> passing through the lugs Z Z into the ring T, on which it turns.

The above frame C, has a circular slide, U, on the top side, and is made to fit neatly over the circular arch Y, on which it turns, and is held in position by means of the pin S entering holes in the under side, and is held up by the spiral spring V.

E E E E are four racks, secured to the corners of the frame C, they being made round, so as to pass up through and fit closely in the tubes K K K K in frame J, so as to act as guides on which to raise and lower the chair, which is done by means of the pinions N N, attached to the frame J, and operated by the universal screws and pinions L L L L, on shaft 2.

F and F' are a rack and pinion, for raising the seat A<sup>4</sup>, and is operated by the universal screw and pinion M M', on shaft I.

R is a screw for adjusting the foot-rest G, having a miter pinion, Q, on the upper end, the screw being connected at the top to the frame J, by means of the hinge-joint B<sup>1</sup> B<sup>1</sup>, around the shaft 3, while the lower end passes down through the bar I, of the foot-rest G, and is operated by the miter-pinion P on shaft 3, by means of the loose crank B<sup>2</sup>.

All of the above-described machinery is made of iron, except the frame and seat of the chair, which latter is made of wood, and upholstered according to taste.

B<sup>3</sup> is the plate of the head-rest.

C<sup>1</sup> is the rack of the same.

C<sup>2</sup> is a small wheel, with a scroll-thread, for the purpose of raising the rack C<sup>1</sup>, by means of the crank D<sup>1</sup>.

C<sup>3</sup> is a set-screw, by which the rack C<sup>1</sup> is held in position when set.

D<sup>2</sup> is a slide, for adjusting the head-rest, one end of which is made round so as to pass through the rack C<sup>1</sup>, and is grooved out in one side sufficient to permit the point of the set-screw to enter, in order to prevent it from turning, and by means of which it is held in its place when set, the other end of said slide D<sup>2</sup> being attached to the plate J' by means of the hinge-joint E'.

K' is the plate on which the cushion L' is built, and is secured to the plate J' by the set-screw H', so as to be adjustable.

Having thus fully described the construction of my improvement, its operation is simply that of placing



the foot on the triggers 4 and 5, after which place the chair in any desired position, and it will remain so firmly; and if it becomes necessary to raise the chair, place the crank B<sup>2</sup> on shaft 2, and, by turning, it will accomplish the object; and when the seat is required to be raised, place the loose crank B<sup>2</sup> on the shaft I, and, by turning, will raise it or lower it to the desired position; and in order to adjust the foot-rest, place the crank B<sup>2</sup> on shaft 3, and, by turning, will adjust it to the proper position.

Having thus fully described my improvement, therefore,

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

1. The combination of the devices for producing the backward tilting of the chair, and the lateral inclination of the same, consisting of the quadrant D, circular slide U, arch Y, triggers 4 and 5, pin S, and spring V and X, as herein set forth.

2. The combination of the ring T, the set-screws A<sup>2</sup> A<sup>2</sup>, the arch Y, the quadrant D, and set-screws A<sup>1</sup> A<sup>1</sup>, the frame C with its lugs Z Z, and circular slide U, constituting the universal joint, and the means by which the chair is held in position, substantially as and for the purpose set forth.

3. The combination of the racks E E E E, the pin-

ions N N N N, the plate or frame J, to which they are attached, also the tube guides K K K K, the universal screws L L on shaft I, and the pinions L' L', in which they work, constituting the devices for raising the chair, substantially as and for the purpose set forth.

4. The rest G, the screw R, the connecting link B<sup>1</sup> B<sup>1</sup>, the pinion Q on screw R, and P on shaft 3, constituting the device for raising the foot-rest, substantially as and for the purpose set forth.

5. The combination of the plate B<sup>3</sup>, the rack C<sup>1</sup>, the scroll thread-wheel O<sup>2</sup>, and crank D<sup>1</sup>, the set-screw O<sup>3</sup>, and the slide D<sup>2</sup>, the set-screw F', the hinge-joint E', the plate J', and set-screw H', the plate K', and cushion L', constituting the head-rest, when arranged, constructed, and operated in the manner and for the purpose set forth.

6. In combination with the devices claimed in the foregoing clause, the rack F, pinion F', and universal screw M on shaft I, constituting a device for raising the seat, as herein described.

WILLIAM M. BUTLER.

Witnesses:

JULIUS BARBARAUX,  
DAVID C. DUNN.