2 Sheets—Sheet 1.

E. BURRITT.

DENTIST'S CHAIR.

No. 192,809. Patented July 3, 1877.

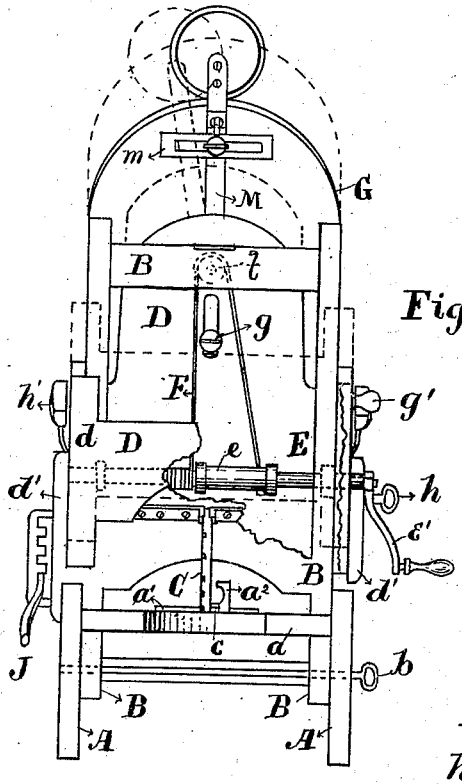

Fig 1

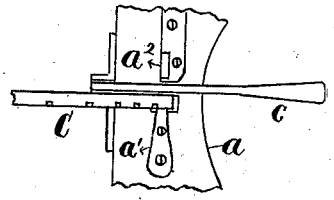

Fig. 3.

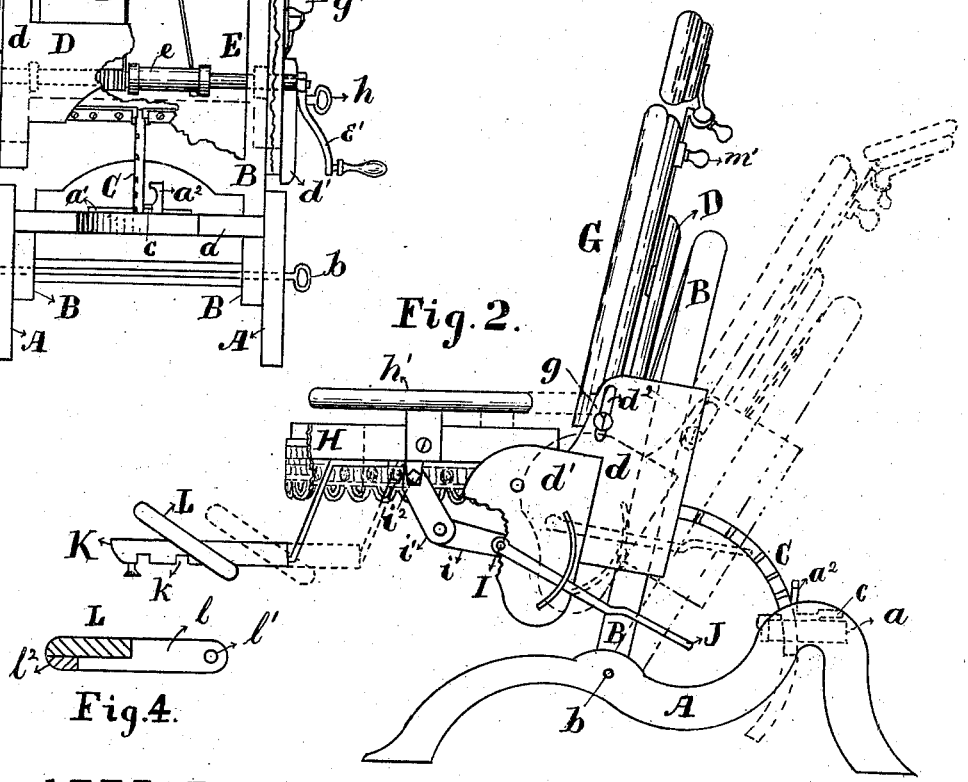

Fig. 2.

Fig. 4.

ATTEST.

W. C. Corlies.

E. S. Lloyd.

INVENTOR.

Elihu Burritt.

By Coburn & Thacher

Attys.

2 Sheets—Sheet 2.

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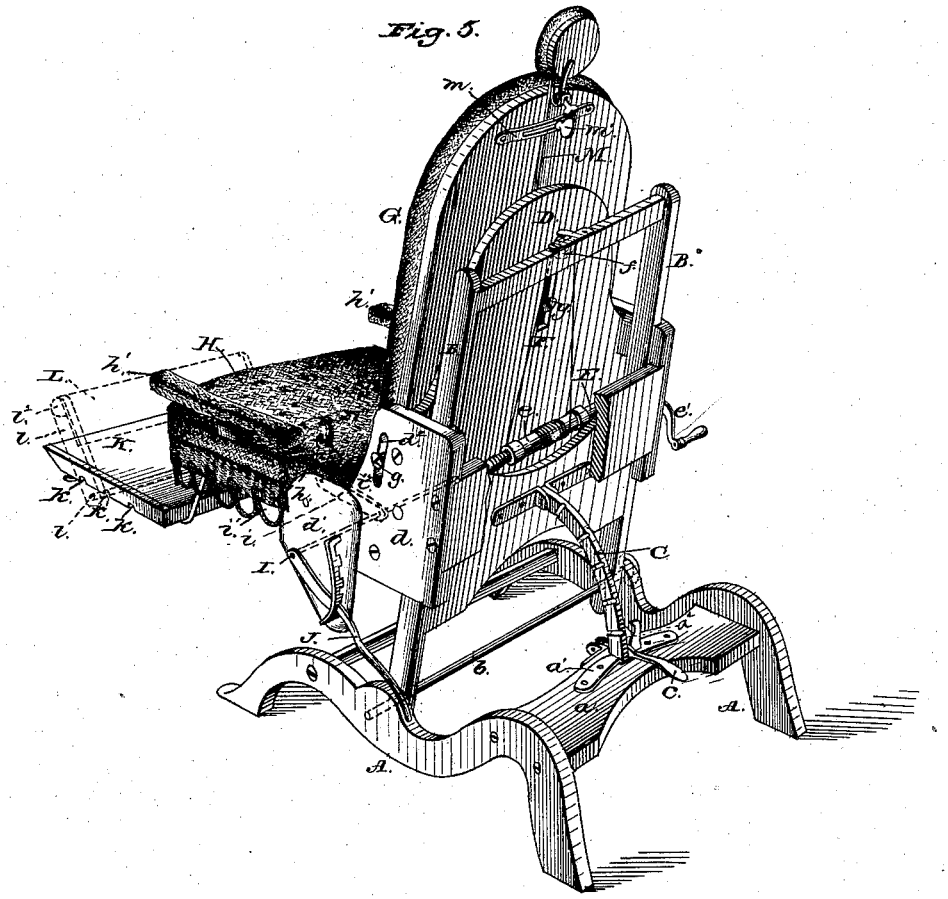
Fig. 5.



Attest:

W. C. Curtis.

E. S. Lloyd.

Inventor:

E. Burritt

By. Coburn & Thacher

Attys.

UNITED STATES PATENT OFFICE.

ELIHU BURRITT, OF ELGIN, ILLINOIS.

IMPROVEMENT IN DENTISTS' CHAIRS.

Specification forming part of Letters Patent No. **192,809**, dated July 3, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that I, ELIHU BURRITT, of Elgin, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Dentists' Chairs, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a rear elevation of the chair, a portion of the frame-work being broken away to show the raising and lowering device; Fig. 2, a side elevation of the same; Fig. 3, a detached view of the device for holding the vibrating frame in position; Fig. 4, a transverse sectional view of the adjustable foot-rest; and Fig. 5 is a perspective view of the chair.

The object of my invention is to improve the devices for adjusting the chair back and forth and up and down, so that these adjustments can be effected easily by mechanism, cheap and simple, thereby reducing the expense of the chair.

The invention consists in connecting together the supporting-frame, vibrating frame, sliding seat-frame, and seat by detachable joints, so that the chair can be readily taken to pieces for convenience in shipping.

It also consists in a cord wound upon a windlass of unequal diameters, in combination with the upright vibrating frame and adjustable seat-frame.

It also consists in a special device for adjusting the back of a chair vertically.

It also consists in the peculiar construction of and means for adjusting the foot-rest; and it further consists in various combinations of devices, all of which will be hereinafter more fully set forth.

In the drawings, A represents the base or supporting-frame, which consists of two side pieces joined together at front and rear by cross-bars, the rear bar *a* being widened to furnish a support for certain attachments hereinafter described, and also to make a foot-rest for the operator, the rear end of the base being elevated slightly, as shown in Figs. 2 and 5 of the drawings, for this purpose.

An upright frame, B, is pivoted at its lower end to the base A by means of the pivot-rod *b*, which is made removable at will, so that the base and upright frame may be disconnected at pleasure. A curved or bent arm, C, is hinged to a cross-piece near the center of the upright frame B, and extends backward and downward through a slot in the cross-board *a*. A suitable detent-plate, a^1, is arranged upon one side of this slot, and upon the corresponding side of the arm C is a series of notches, with any one of which the detent may engage. The slot is large enough to permit of side movement of the arm to disengage the detent, and the arm is pushed up and held in engagement with the latter by a small pivoted wedge or cam, *c*, hinged to the board *a*, and held in place by a guide-piece, a^2, between which and the notched arm C it is pressed down to push the latter over, and cause the detent to engage with one of the notches therein.

From the above description it will be seen that the upright frame B may be readily adjusted back and forth, and fixed in any position desired.

A frame-work, D, is fitted upon the upright frame B, so as to slide up and down thereon, the side pieces *d* being provided with grooves or ways which are adapted to receive the side bars of the frame B, and which will also permit the frame D to be entirely removed from the upright frame, and replaced at pleasure.

A windlass or shaft, E, is mounted in the frame D, which is constructed with one portion, *e*, of greater diameter than the rest of the shaft, and is provided with a crank, e', at one side of the chair. A cord, F, of any suitable material, is attached to both ends of this shaft, one end being fastened so as to wind upon the smaller portion of the shaft, and in an opposite direction from the other end, as shown in Figs. 1 and 5 of the drawings. This cord is carried up and passed over a pulley, *f*, on the upper end of the frame B, so that whenever the shaft is turned by means of its crank the frame D will be raised or lowered by the differential operation of the windlass and cord wound thereon.

At the same time the downward strain upon one end of the cord is compensated by a strain in the opposite direction on the other end, they being wound in opposite directions, so that the frame will remain stationary in any

position to which it may be adjusted without the use of an auxiliary fastening device.

The back G of the chair is made separate from the seat, and is attached to the frame D by means of a pin, *g*, on the back side of the back, which passes through a slot in the frame D. A similar pin, *g*, is also attached to one of the lower corners of the back, and passes through a slot, d^2, in the side piece *d*; and on the other lower corner is an adjustable screw-pin, *g'*, which passes through a similar slot, d^2. This construction permits of the vertical adjustment of the back G upon the frame D, and it is fastened in any position desired by turning up the screw-pin *g'*, which is placed on the same side of the chair as the crank *e'*, for the convenience of the operator.

The seat H is pivoted to the side pieces d^1, which project forward at their lower ends for this purpose, by means of a pivot-pin, *h*, which is removable at pleasure for the purpose of detaching the seat. The seat is provided with arms *h'*, of any suitable construction, permanently attached at the sides thereof. A rock-shaft, I, is mounted in the front projections of the side pieces d^1, just below the pivot-pin *h*, and is provided near its center with a crank-arm, *i*, connected by a pivoted link-bar, i^1, to the bottom of the seat H, the pivot-pin i^2, connecting the link to the seat, being removable to permit the seat to be readily disconnected from the sliding frame. A lever, J, is attached to the end of the rock-shaft I, on the side of the chair opposite to the crank *e'*, by means of which the shaft is rocked, thereby tilting the seat H. A notched rack is fastened to the side piece d^1 on the same side of the chair, with which the lever J engages, to hold the seat H in any position to which it may be adjusted. A foot board, K, is attached to the seat H by means of supporting brace-bars, and its side bars are provided with a series of notches, *k*, beneath the board. An auxiliary foot-rest, L, is constructed with projecting side pieces *l*, which are connected at their extremities by a rod, l^1, between which and the supporting-board there is an open space considerably wider than the thickness of the foot-board K, which is pressed through this space with the rod l^1 below it, and the latter engages with the notches *k*, so as to be held in any desired position.

The rest L is tilted forward in the position shown in Fig. 2 of the drawings, and is provided with a weight, l^2, upon its lower outer edge, to prevent disturbance of its adjusted position. Pins may be inserted in the front edge of the lower side of the foot-board K, if desired, to prevent the rest L from slipping off, but they should be of such length as to permit the rest to be slipped off easily when turned up in a vertical position. A bar, M, is pivoted at its lower end to the back of the chair-back G, so as to swing sidewise, and near its upper end is a slotted plate, *m*, also attached to the back, and a set-screw, *m'*, passing through the slot into the bar, by means of which the bar may be secured in the position described. On the upper end of the bar is pivoted an adjustable head-rest of any ordinary construction.

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

1. The base or supporting frame A, constructed with the rear ends of the side pieces raised as described, and a wide rear cross-bar, suitable for a foot-support, substantially as and for the purpose set forth.

2. The base A, provided with the slotted cross-piece *a*, in combination with the upright frame B pivoted thereto, curved notched arm C, pivoted to the frame B, and detent a^1, all constructed and operating substantially as and for the purpose set forth.

3. The slotted cross-piece *a*, in combination with the notched bar C, detent a^1, pivoted fastening-arm *c*, and guide a^2, substantially as and for the purpose set forth.

4. The frame B, in combination with the sliding frame D, cord F, and shaft E, provided with an enlargement, *e*, and crank e^1, all arranged and operating substantially as described.

5. The frame D, in combination with the independent back G, secured to and adjusted upon the frame D, independently of the seat, by means of the slots d^2, pin *g*, and set-screw *g'*, substantially as described.

6. The seat H, pivoted to the sliding frame D, in combination with the rock-shaft I, crank-arm *i*, link-bar i', and adjusting-lever J, substantially as and for the purpose set forth.

7. The foot-board K, provided with notches *k* on its under side, in combination with the adjustable foot-rest L, constructed as described, and attached to the foot-board by means of the rod l^1, substantially as set forth.

8. The base A, in combination with the pivoted frame B, sliding frame D, seat H, and removable pivot-bolts *b*, *h*, and i^2, whereby these parts may be readily disconnected for shipment, substantially as set forth.

ELIHU BURRITT.

Witnesses:
L. A. BUNTING,
M. M. DILLON.