H. E. WEBER.

DENTAL CHAIR.

APPLICATION FILED NOV. 6, 1911.

1,157,351.

Patented Oct. 19, 1915.

2 SHEETS—SHEET 1.

Fig. 1

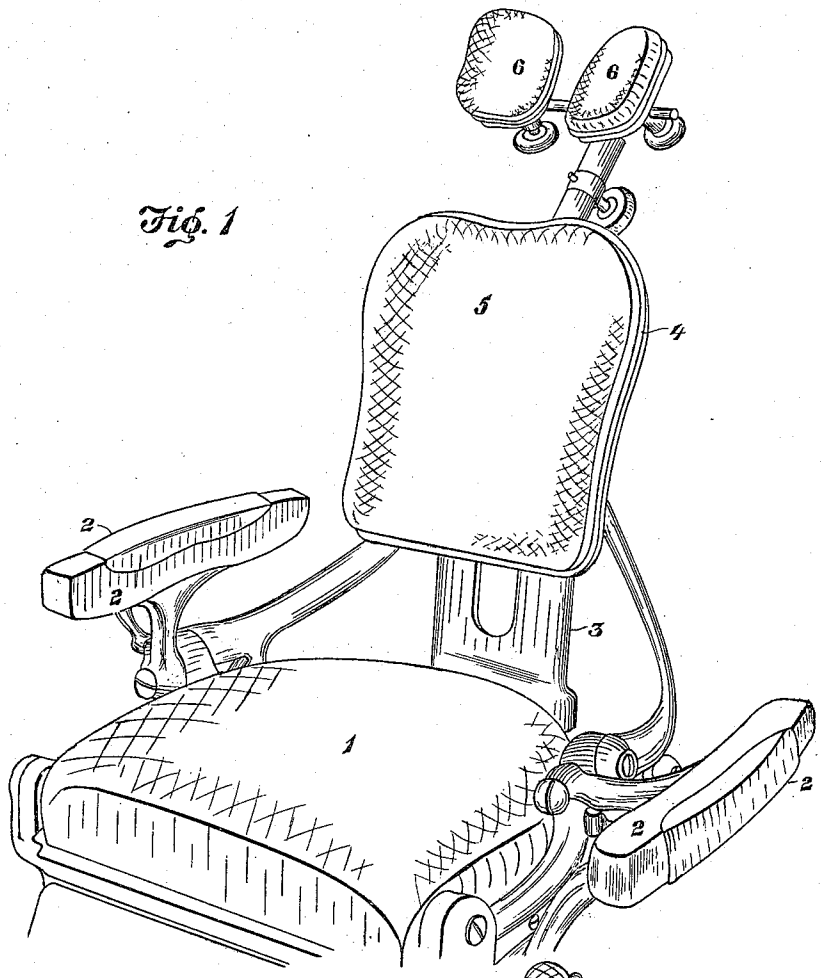
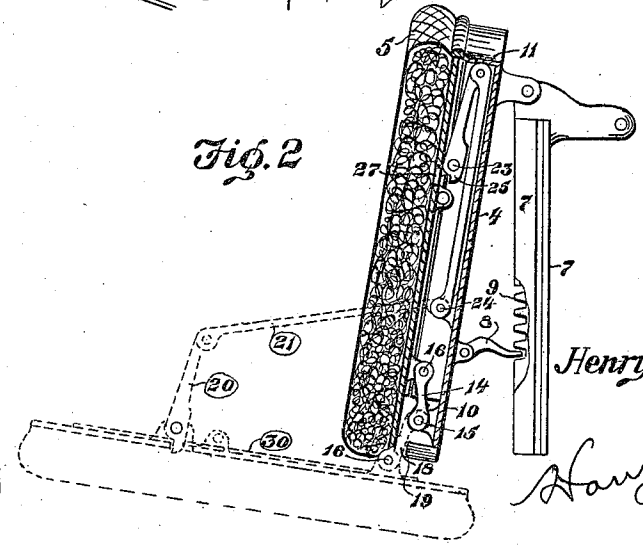


Fig. 2



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3

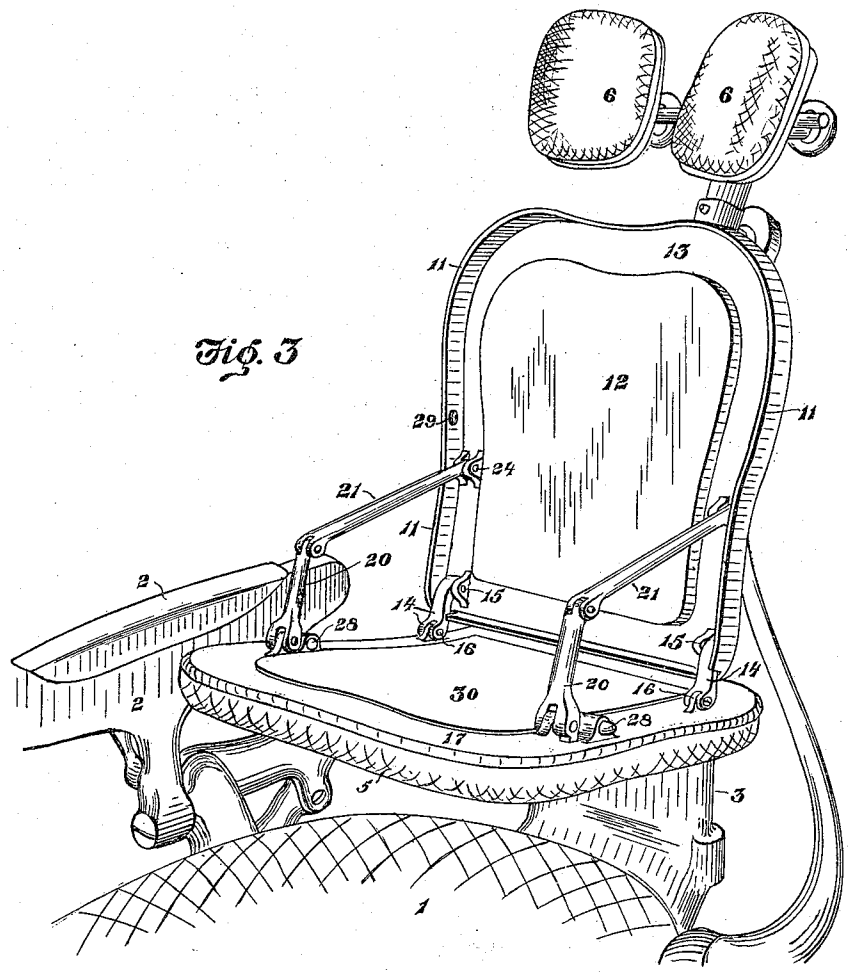
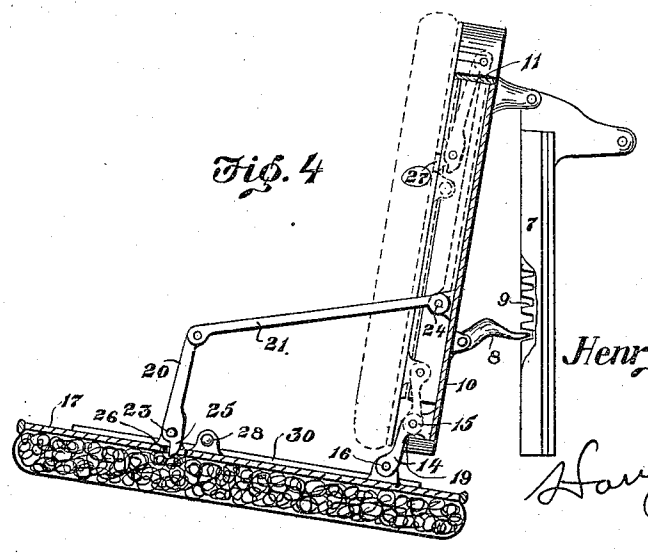


Fig. 4



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DENTAL CHAIR.

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Application filed November 6, 1911. Serial No. 658,834.

To all whom it may concern:

Be it known that I, HENRY E. WEBER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Dental Chairs, of which the following is a specification.

The invention relates to a folding seat forming part of the back of an adjustable chair of the kind generally used by dentists, surgeons, barbers and other operators; and the object of the improvement is to provide a secondary folding seat composed of one of the ordinary and usual parts of the chair structure, which is always ready and available for use without attaching or detaching any supplemental parts, and which can be adjusted upward and downward with the back to permit the occupant to use the ordinary head-rest, and, if desired, to use the ordinary seat as a foot rest. This object is attained by utilizing the ordinary cushion-pad of the chair back for the secondary folding seat, and by connecting the same to the frame of the chair-back by a pair of hinge-links at the lower ends of the parts, and a pair of folding arms intermediate the ends of the parts, which braces serve not only to stop the folding seat when open but also serve as arm rests for the occupant thereof.

A preferred embodiment of the invention, thus set forth in general terms, is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a perspective view of the upper portion of a dental chair with one ordinary arm rest rotated outward, showing the folding seat in its normal closed position against the back-frame: Fig. 2, a detached side elevation of the chair-back, partly in section, showing the details of the hinge-link and folding arm in closed relation, and also showing the open position of the parts in broken lines; Fig. 3, a perspective view of the upper portion of a dental chair with one ordinary arm rest rotated out of view, showing the folding seat opened downward in prone position with respect to the back-frame: and Fig. 4, a detached side elevation of the back showing the folding seat opened downward in prone position, partly in section, to show details of the hinge-link and folding arm, and showing the parts in closed position by broken lines.

Similar numerals refer to similar parts throughout the drawings. The chair is preferably composed of the ordinary seat 1, the ordinary arm rests 2, the back standard 3, the back-frame 4 having the cushion-pad or folding seat 5 thereon, the head rest 6, and the usual lower parts of a dental chair not shown in the drawings.

The back-frame 4 is preferably pivoted above to the upper end of the back slide 7 which has an upward and downward sliding connection with the back standard 3; and the back-frame is also preferably provided below with a pivoted detent 8 adapted to engage in the rack 9, provided in the slide, so as to tilt the back at different angles with reference to the back standard.

The back-frame 4 is preferably composed of the base plate 10 and the forwardly projecting rim flange 11, within which flange the shallow block-pad 12 is preferably secured to the base plate leaving an interval or rim recess 13 between the rim and the edges of the block-pad, which block-pad substantially fills the cavity of the back frame except the rim recess, and furnishes a back rest for the occupant of the secondary folding seat.

One end of each hinge-link 14 is pivoted to the back-frame at 15 in the rim recess 13 at each lower corner of the back-frame, and the other end of each hinge-link is pivoted at 16 to the frame plate 17 of the folding seat 5 at an interval from the lower or rear end thereof, and this end of each link is adapted to rotate from an upright position within the rim recess as shown in full lines in Fig. 2 to a depending position as shown in full lines in Figs. 3 and 4; the notches 18 being provided in the rim flange 11 of the back-frame for receiving the hinge-links in their depending position, and the bottom 19 of these notches furnish abutments for stopping the rearward rotation of the links.

Each folding arm is composed of the relatively short section 20 and long section 21 jointed together at 22, the other end of each short section being pivoted at 23 to the frame-plate of the folding seat at a substantial distance from its upper or forward end, and the other end of each long section being pivoted at 24 to the back-frame in the rim recess at a substantial distance above the pivots of the hinge-links. By means of these connections, the folding seat is adapted to be folded or closed in its normal position as a cushion-pad against the back-

frame, in which relation of the parts the hinge-links and the folding arms are received within the rim recess of the back-frame so as to permit the frame-plate of the folding seat to close tightly against the forward edge of the rim flange 11 of the back-frame, as shown in Fig. 2: while on the other hand the folding seat is adapted to be swung forward and downward on the various pivots into the open or prone position for use as a secondary seat, as shown in Figs. 3 and 4; in which movement the lower end of the folding seat swings not only downward, but is carried by the hinge-links below and to the rear of the lower end of the back-frame until stopped by the abutment of the hinge-links against the bottoms of the rim notches, and the folding arms carry the upper end of the folding seat forward and downward until it reaches the prone position for use as a secondary seat, in which relation of the parts the long sections of the folding arms extend forward and slightly downward and the short sections thereof extend downward with the intermediate joints above the plane of the end pivots, thus forming suitable arm rests for the occupant of the folding seat. A further straightening of the folding arms is prevented by a suitable stop, which as shown, is formed by the abutment of the downwardly extending lug 25 of the short section 20 of each arm with the end 26 of the notch 27 provided in the frame plate 17 of the folding seat; which stop, in conjunction with the abutment of the hinge links against the back frame, serves to sustain the folding seat in the prone position. And it is evident that when the seat is folded upward on the hinge links, the joint of the arm sections will be folded upward, and that the long sections 21, will carry the seat and the hinge links upward and close the same in normal upright position against the back frame.

The spring latches 28 are preferably provided on each side of the folding seat, which are adapted to automatically engage in small sockets as 29 formed in the inner side of the rim flange 11, which latches serve to releasably lock the folding seat in its normal closed position against the back-frame, for use as a back rest for the occupant of the ordinary seat; and, at the same time, these latches will automatically disengage from the back-frame when the upper end of the folding seat is pulled forward for rotating it to its prone position for use as a secondary seat. For use as a seat, the face of the frame-plate 17 is preferably finished by the thin pad 30, as of leather, the edges of which are located inside the hinge-link and folding arm pivots.

It is evident that the folding seat thus formed of the cushion-pad of the ordinary seat back, may be given all the sliding and tilting adjustments which pertain to the cushion-pad when used as a back rest; that the head rest is, therefore, available for the use of the occupant of the secondary seat; and finally that the ordinary seat may be used, if desirable or necessary, as a foot rest for such occupant.

I claim:

1. A chair including a back, a folding seat, hinged links connecting the lower end of the back with the seat at a point adjacent to its lower rear end, whereby the lower end portion of the seat can swing from a position in front of to a position below and in rear of the lower end of the back; and arm links pivoted to the back and seat and each having an upwardly folding intermediate joint with means for stopping the seat in prone position.

2. A chair including a back, a folding seat, hinged links connecting the lower end of the back with the seat at a point adjacent to its lower rear end, whereby the lower end portion of the seat can swing from a position in front of to a position below and in rear of the lower end of the back; and arm links pivoted to the back and seat and each having an upwardly folding intermediate joint with means for stopping the seat in prone position with the arm joints above the plane passing through the seat and back pivots.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."