

No. 671,299.

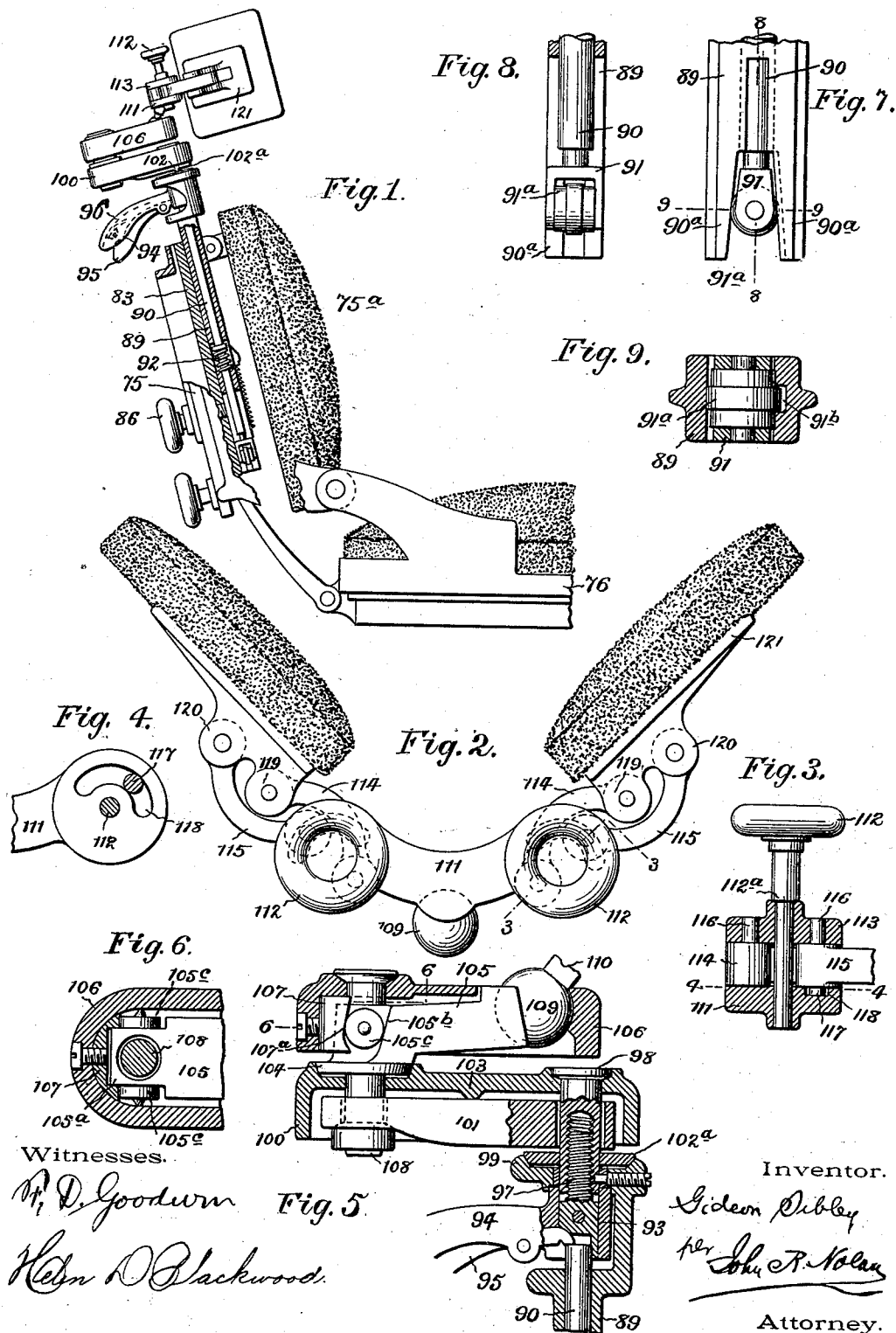
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G. SIBLEY.

# HEAD REST FOR DENTAL CHAIRS.

(Application filed July 28, 1899. Renewed Sept. 6, 1900.)

(No Model.)



Witnesses.

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*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

GIDEON SIBLEY, OF PHILADELPHIA, PENNSYLVANIA.

## HEAD-REST FOR DENTAL CHAIRS.

SPECIFICATION forming part of Letters Patent No. 671,299, dated April 2, 1901.

Original application filed October 2, 1896, Serial No. 607,649. Divided and this application filed July 28, 1899, Renewed September 6, 1900. Serial No. 29,240. (No model.)

*To all whom it may concern:*

Be it known that I, GIDEON SIBLEY, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Head-Rests for Dental Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This application is a division of the application filed by me October 2, 1896, Serial No. 607,649, for certain improvements in dental chairs.

The subject of the present case relates especially to the head-rests of dental and other chairs, my object being to provide a simple and efficient construction whereby the requisite longitudinal and lateral adjustments of said rests in respect to the seat and back sections may be readily attained, as will be hereinafter particularly described and claimed.

In the drawings, Figure 1 is a sectional elevation of a portion of a chair embodying my invention. Fig. 2 is a plan of the head-rest sections and their immediate connections. Fig. 3 is a sectional detail as on the line 3 3 of Fig. 2. Fig. 4 is a similar detail as on the line 4 4 of Fig. 3. Fig. 5 is a vertical section through the upper clamping and adjusting devices for the stem of the head-rest. Fig. 6 is a sectional detail as on the line 6 6 of Fig. 5. Fig. 7 is an elevation of the lower portion of the slide-support for the head-rest. Figs. 8 and 9 are sections as on the lines 8 8 and 9 9, respectively, of Fig. 7.

75 indicates the back-frame, and 76 the seat-base, to which it is hingedly connected, so that said frame, with its appurtenances, may be swung backward or forward, as desired. Fitted to an appropriate guideway in this frame is a slide 83, to which the back-rest proper, 75<sup>a</sup>, is pivoted in the usual manner. The slide is longitudinally movable in respect to the back-frame, a set-screw 86, fitted thereto and extended through a slot in the frame, affording a convenient means whereby it may be affixed in positions of adjustment.

Mounted in a longitudinal guideway in the inner face of the slide 83 is an independent slide 89, through which centrally extends a

rod 90. The lower end of the slide is bifurcated to constitute spring clamping-jaws 90<sup>a</sup>, the inner walls of which are oppositely beveled or inclined, as seen in Fig. 7. The corresponding end of the rod 90 is provided with a bracket 91, in which three freely-rotatable disk rollers 91<sup>a</sup> are concentrically mounted. These rollers lie between the clamp-jaws. The central roller is slightly larger than the others and is so arranged as to act against one of the beveled walls, the other wall being grooved, as at 91<sup>b</sup>, in the path of the central roller. This roller extends into the groove, and in consequence the outer rollers while bearing against the grooved wall are out of contact with the opposite wall. By this construction it will be seen that if the rod 90 be drawn upward the rollers will bear against the opposing walls of the clamp-jaws, thereby spreading the latter and binding them against the sides of the guideway in a manner to lock the slide 89 in predetermined positions of vertical adjustment. If, on the other hand, the rod be depressed, the slide will be released. The rod is held normally in the raised or clamping position by means of a spring 92, which is set within a socket in the slide in a manner to act against a collar or shoulder on the rod.

It will be obvious that if a single clamp-actuating roller were employed on the rod such roller would merely slide against the opposing beveled walls of the jaws by reason of the reverse actions of the walls upon the roller. By the construction described, however, the independent rollers bear only against their respective walls, and thus effect a free rolling contact therewith, thereby facilitating the operation of actuating the clamp-jaws of the slide.

The upper end of the rod extends freely into a head-piece 93, which has affixed to or formed on it a handle 94. In this handle is fulcrumed a hand-lever 95, one arm of which acts upon the end of the rod, while the other arm is held normally depressed by means of a suitable spring 96. Hence by forcibly grasping the handle and the outer arm of the lever the inner arm will be actuated to depress the rod, with the effect stated.

Rising from the head is a screw 97, which

is fitted to an internally-threaded pin 98, the latter being supported in and guided by an extension 99 on the slide 89, to the end that if the handle, and perforce the head and screw, be properly turned the pin will be raised or lowered, as described. This pin extends through one end of a hollow arm 100, being provided with a head that bears upon the top of the arm. The pin also extends freely through a rock-lever 101, which is confined in the arm, said lever being provided on its under side with diametrically opposite teats 102, that bear upon an annulus 102<sup>a</sup> on the extension. On the arm 100 is a projection 103, that bears upon the upper side of the lever 101. On this arm, near the outer end thereof, is a socket 104, to which is fitted a boss on one end of an arm 105, such arm being contained in a hollow arm 106. Fixed in the outer end of arm 106 is a shoe 107, which embraces the opening end of the arm 105 and is provided with the bevels 107<sup>a</sup>. The arm 105 is reduced, as at 105<sup>a</sup>, and is provided with bevels 105<sup>b</sup>, opposite to those on the shoe, rollers 105<sup>c</sup> being interposed between the opposing beveled surfaces of the shoe and arm, respectively. The respective arms are coupled together by means of a pivot-bolt 108. To an opening in the arm 106, at or near its free end, and to a socket in the adjacent end of the arm 105 is fitted the ball 109 on the shank or stem 110 of the head-rest, to the end that if the latter arm be forced up against the ball, the stem, and perforce the head-rest, will be secured in positions of adjustment. This clamping action is attained by forcibly depressing the arm 106, so that the shoe thereon will bear against the rollers 105<sup>b</sup>, and the latter in turn against the coacting beveled portions of the arm 105, the operation being effected by screwing down the pin 98 through the medium of the handle and screw—that is to say, if the inner end of the arm 100 be drawn down, as described, the projection 103 thereon, bearing upon the rock-arm 101, will depress the outer end of the latter, which end, bearing upon the bolt 108, will draw it downward, the head of the bolt thus correspondingly depressing the connected end of the arm 106. By this construction not only will the head-rest be clamped in position, but the several arms themselves will be clamped fixedly in place.

Upon the stem 110 is supported a cross-bar 111, in the ends of which are vertically-disposed set-screws 112. On the shank of each of these screws is a loosely-mounted collar 113, which takes against a shoulder 112<sup>a</sup> on the shank. Interposed between the collar and the bar are the ends of two arms 114 and 115, respectively, which ends are pivotally connected with the collar by means of the respective studs 116. The arm 115 is also provided with a depending stud 117, that enters a suitably-disposed segmental groove 118 in the underlying face of the bar. The opposite ends of these arms are pivotally con-

nected with adjacent lugs 119 120, respectively, on the back of the cushion-bearing plate 121. By this construction it will be seen that by properly manipulating the screws the collars thereon may be clamped against the underlying arms or be released therefrom. In the latter case the plates or either of them may be swung in any desired position of lateral adjustment, the described pivotal connections of the arms permitting this to be readily effected. This being done, if the collar or collars be clamped upon the underlying arms the latter will be locked in place and the cushion or cushions thus be firmly held in the positions of adjustment.

During the adjustment of either of the cushions as just stated the collar 113 will turn on the screw-shank as an axis, while the stud 117 on the arm 115 will coact with the groove 118 not only to guide and steady the parts in their movements, but also to determine the extreme range of adjustment of the cushion.

I claim—

1. In a chair, the combination with a support of a longitudinally-movable slide therein bifurcated at its lower end to afford two beveled clamp-jaws, a rod in said slide provided at its lower end with independent concentric disk rollers bearing against the respective jaws, as described, a spring to maintain said rod normally elevated, and means for depressing said rod in opposition to the spring, together with a head-rest and connections between the same and said slide, substantially as set forth.

2. In a chair, the combination, of the head-rest stem, the clamping-arms therefor provided with bevels or inclines, a roller interposed between said inclines, an underlying arm upon which one of said clamping-arms is pivotally mounted, a rock-lever, a pivot-bolt connecting said lever and arms, a support for the fulcrum of the rock-lever, and means for operating said underlying arm, substantially as described.

3. In a head-rest, the combination of the supporting member, the cushion-plate, a rotatable support on said member, a plurality of swinging arms pivotally connected to the said support and plate, and movable concurrently therewith in opposite directions to each other during the lateral adjustment of said plate, and means for fixing said arms in positions of adjustment, substantially as described.

4. In a head-rest, the combination of the supporting member the cushion-plate, a rotatable support on said member, a plurality of parallel swinging arms pivotally connected to said support and plate, and movable concurrently therewith in opposite directions to each other during the lateral adjustment of said plate, and means whereby said support is fixed in positions of rotary adjustment, substantially as described.

5. In a head-rest, the combination of the

supporting-bar, provided with a groove therein, the screw in said bar, the collar on said screw, the cushion-plate and the arms pivotally connected with said plate and with the ; collar, one of said arms being connected with said groove, substantially as described.

6. In a head-rest, the combination of the stem, the cross-bar thereon, the rotatable supports on the respective limbs of said bar, the 10 oppositely-disposed cushion-plates, a set of swinging arms pivotally connected to each plate and to the adjacent rotary support

whereby during the lateral adjustment of each plate the support is rotated by the arms to afford a guide therefor, and means for locking said support at predetermined positions 15 in its rotation.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

GIDEON SIBLEY.

Witnesses:

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JOHN R. NOLAN.