No. 671,300. Patented Apr. 2, 1901.

G. SIBLEY.

HEAD REST.

(Application filed July 28, 1899.)

(No Model.)

Fig. 1.

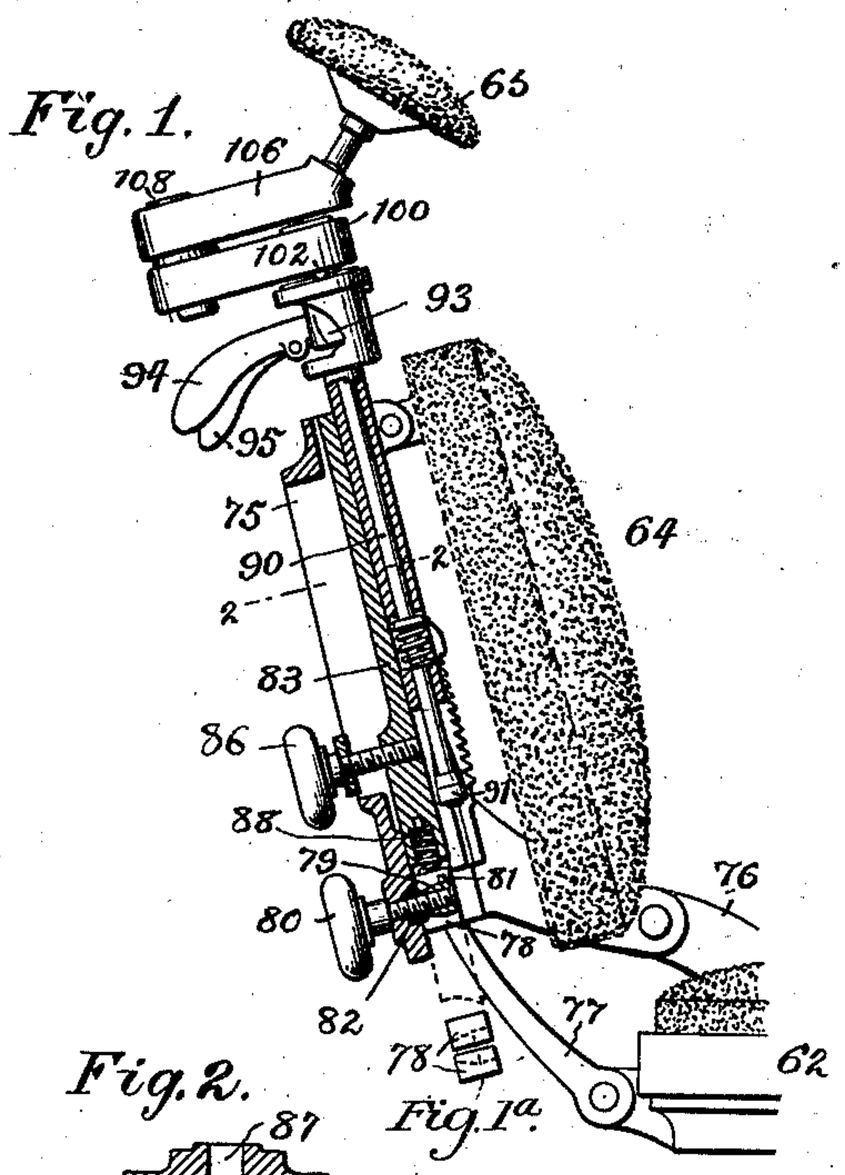

Fig. 1a.

Fig. 2.

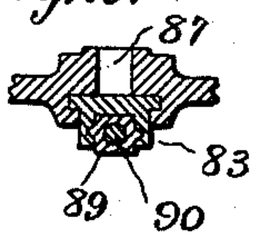

Fig. 3.

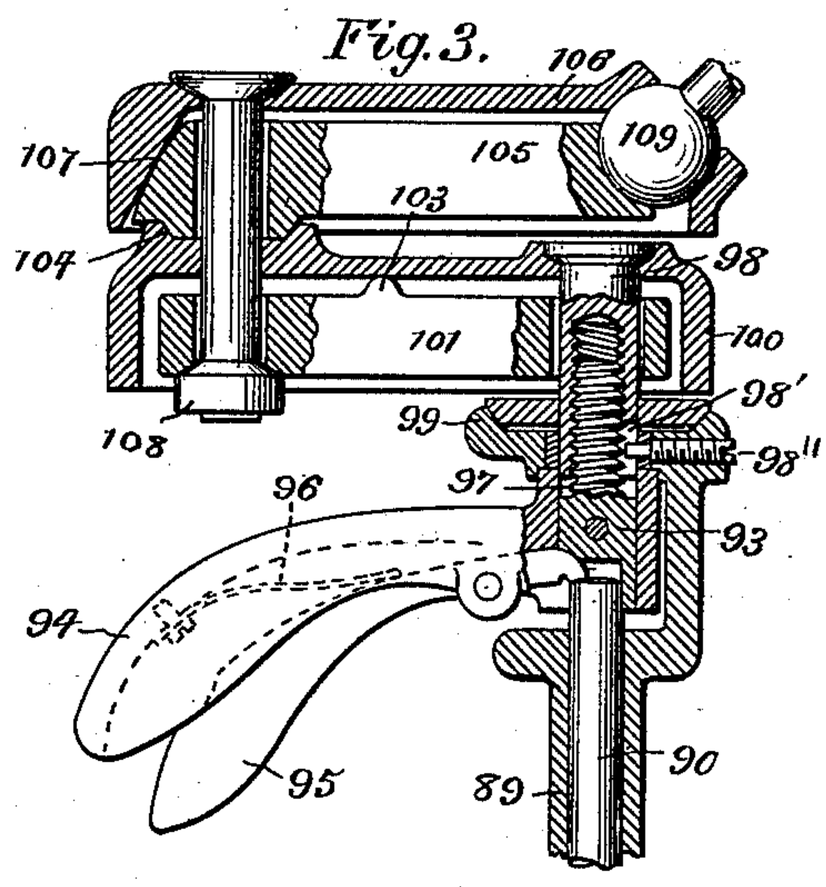

Fig. 4.

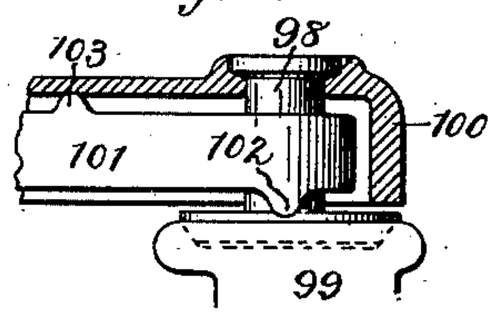

Fig. 5.

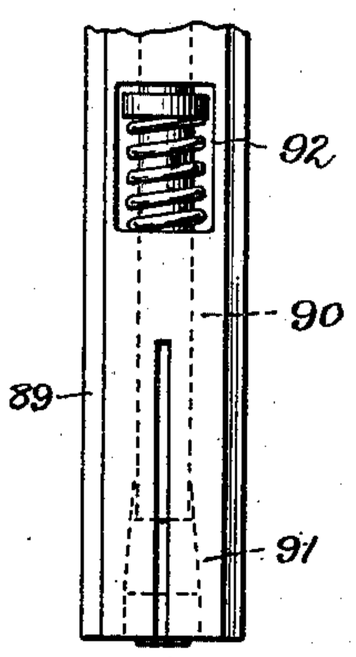

Fig. 7.

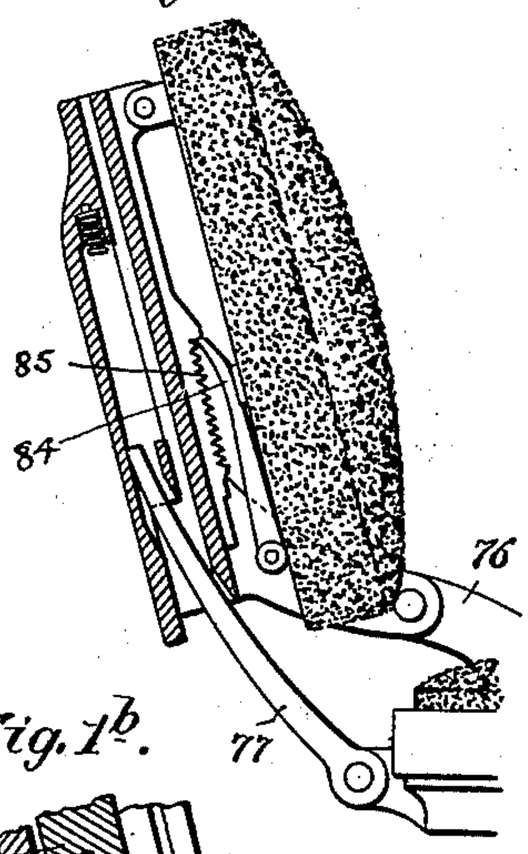

Fig. 1b.

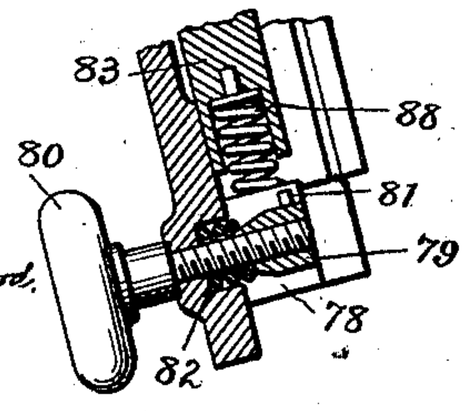

Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

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HEAD-REST.

SPECIFICATION forming part of Letters Patent No. 671,300, dated April 2, 1901.

Original application filed January 22, 1896, Serial No. 576,452. Divided and this application filed July 28, 1899. Serial No. 725,341. (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.

The present application is a division of the application filed by me January 22, 1896, Serial No. 576,452, for certain improvements in dental chairs.

The subject of this case relates to head-rests for dental and other chairs, my object being to provide a simple and efficient construction whereby the requisite adjustments of these parts in relation to each other and 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. 1[a] is a separate view of the two-part clamping-block 78. Fig. 1[b] is a detail of clamp device for the back-frame. Fig. 2 is a transverse section as on the line 2 2 of Fig. 1. Fig. 3 is a vertical section through the clamping and adjusting devices for the head-rest. Fig. 4 is a detail in sectional elevation of the rock-lever and adjuncts. Fig. 5 is an elevation of the lower portion of the slide-support for the head-rest. Fig. 6 is a rear view of the back-rest and its supporting parts. Fig. 7 is a vertical section as on the line 7 7 of Fig. 6.

62 represents a portion of the seat-base, 64 the back, and 65 the head-rest.

The back-frame 75 is hingedly connected at its lower end with lateral lugs 76 on the seat-base, so that said frame, with its appurtenances, may be swung backward or forward, as desired. Pivoted to a boss on the back of said base are the lower ends of two arms 77, which extend into the frame, so that if the latter be clamped to the arms the frame will be sustained in the desired position of adjustment. These arms embrace a two-part block 78 in the frame, in and between the parts of which block is a tapered nut 79 on the inner end of a set-screw 80, supported in the frame. A pin 81 extends from the nut between the parts of the block, so as to prevent the turning of the nut. Hence by properly turning the screw the nut will be drawn up thereon to spread the parts of the block and bind them against the opposing edges of the arms and by contrarily turning the screw the nut will release the block from the arms. The inner edges of the arms are gradually tapered or flared outwardly toward the top, so that if the screw should at any time be accidentally turne dto release the block slightly the frame will be prevented from dropping to an appreciable extent owing to the binding of the block upon and between the lower contracted portion of the arms. (See Fig. 6.) A spring 82, interposed between the block and the opposing face of the frame, aids in retaining the screw in place and helps to release the nut when the screw is turned.

Fitted to an appropriate guideway in the frame is a slide 83, to which the back-rest proper is pivoted in the usual manner, the latter being provided with a dog 84, that is designed to coact with a rack 85 on the slide, and thus support the back-rest in any desired position to which it may be swung. The slide is longitudinally movable in respect to the back-frame, a set-screw 86, fitted thereto and extended through a slot 87 in the frame, affording a convenient means whereby it may be affixed in positions of adjustment. The back of the frame is inclined from the bottom to the top of the slot, so that if the screw should be accidentally turned the frame will not slip to any appreciable extent. A spiral spring 88, supported in a socket in the lower end of the slide, bears upon the block 78 when the slide is in its lowermost position, and thus performs the function of a cushion.

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 and is hollowed out to receive a tapering head 91 on the lower end of the rod, so that if the rod be drawn upward the head will expand the lower end of the slide and bind it against the sides of the guideway in a manner to lock the slide in predetermined posi-

tions of vertical adjustment. If, on the other hand, the rod be depressed, the slide 89 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. The upper end of the rod extends freely into a headpiece 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 lever-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 of the slide 89, to the end that if the handle, and perforce the head and screw, be turned the pin will be raised or lowered, as desired. The pin is provided with a vertical slot 98′ at its lower end, into which extends a screw 98″ in the extension, whereby rotation of the pin is prevented, while vertical movement thereof is permitted. 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 laterally of the pin with diametrically opposite teats 102, that bear upon an annulus 102ª on the extension. On the upper side of the lever is a projection 103, that bears against the opposing side of the arm 100. On the top of 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. The opposing ends of the arms 105 and 106 are inclined, as at 107, and such arms, together with the arms 100 and 101, are coupled by means of a pivot-bolt 108. To a flanged opening in the free end of the arm 106 and to a socket in the adjacent end of the arm 105 is fitted the ball 109 on the shank of the head-rest, to the end that if the flanged portion of the arm 106 be forced up against the ball the head-rest will be secured in positions of adjustment. This clamping action is attained by drawing the inclined end of the arm 106 against the coacting end of the arm 105, the same being effected by the operation of screwing down the pin 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, such arm bearing upon the projection on the rock-arm will depress the outer end of the latter, which end bearing upon the bolt 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.

The annulus 102ª, above referred to, is fitted to a recess or socket in the extension, so as to be rotatable thereon, and thus permit the rotation bodily of the head-rest and its connections.

It will be seen that by the act of manipulating the lever on the handle the slide 89 may be released and moved up or down, as desired, or that at the same time the head-rest and its supporting-arms may be released and adjusted, or that the latter parts may be unclamped and adjusted independently of the slide.

I claim—

1. In a chair, the combination with a longitudinally-movable slide, and its supporting parts, of a longitudinally-movable member in said slide, means coacting with said member for effecting the clamping and the unclamping of the slide, a head-rest, connections between the same and said slide, and a vibratory lever constructed and arranged to be swung in a vertical arc upon said member to shift the latter longitudinally and thereby effect the unclamping of the slide, substantially as described.

2. In a chair, the combination with a longitudinally-movable slide, and its supporting parts, of a longitudinally-movable member in said slide, means coacting with said member for effecting the clamping and the unclamping of the slide, a spring to maintain said member normally raised, a head-rest, connections between the same and said slide, and a vibratory lever constructed and arranged to be swung upon said member to depress it against the pressure of the spring, substantially as described.

3. In a chair, the combination with a longitudinally-movable slide, and its supporting parts, of a longitudinally-movable member in said slide, means coacting with said member for effecting the clamping and the unclamping of the slide, a head-rest, adjustable connections therefor between the same and the slide, said connections including a rotary clamping device, and a lever pivotally connected with said device and adapted to coact with the said movable member, substantially as described.

4. In a chair, the combination with a longitudinally-movable slide, and its supporting parts, of a longitudinally-movable member in said slide, means coacting with said member for effecting the clamping and the unclamping of the slide, a spring to maintain said member normally raised, a head-rest, adjustable connections therefor between the same and the slide, said connections including a rotary clamping device, and a lever pivotally connected with said device and adapted to coact with the said movable member to depress it against the pressure of the spring, substantially as described.

5. In a head-rest support and locking device, a chair-back-frame guide, a sliding bar, a rotating ring provided with a handle pivoted thereto, a head-rest-clamping device,

mechanism intermediate the handle and slide-bar and mechanism intermediate the ring and head-rest clamp, all substantially as set forth whereby the handle may be turned on its pivot to unlock the bar and rotated horizontally to move the ring and clamp the head-rest.

6. In a chair, the combination, with a longitudinally-movable slide, and supporting and operating parts therefor, of a screw-head on said slide, a lever for rotating the same, an internally-threaded pin on the screw-head, a vertical guide therefor, a head-rest, and supporting and clamping mechanism therefor operatively connected with said pin, substantially as described.

7. In a chair, the combination, with a longitudinally-movable slide and its supporting parts, of a longitudinally-movable rod in said slide, means coacting with the rod for effecting the clamping and unclamping of the slide, a screw-head on said rod and slide provided with a handle, a lever on said handle adapted to act upon the rod, an internally-threaded pin on the screw-head, a head-rest, and supporting and clamping mechanism therefor operatively connected with said pin, substantially as described.

8. In a chair, the combination of the head-rest, the clamping-arms therefor provided with coacting 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, an internally-threaded pin extending through said underlying arm, a screw-head coacting with said pin, and means for supporting and actuating said head, substantially as described.

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

GIDEON SIBLEY.

Witnesses:
ANDREW V. GROUPE,
JOHN R. NOLAN.