No. 800,669. PATENTED OCT. 3, 1905.

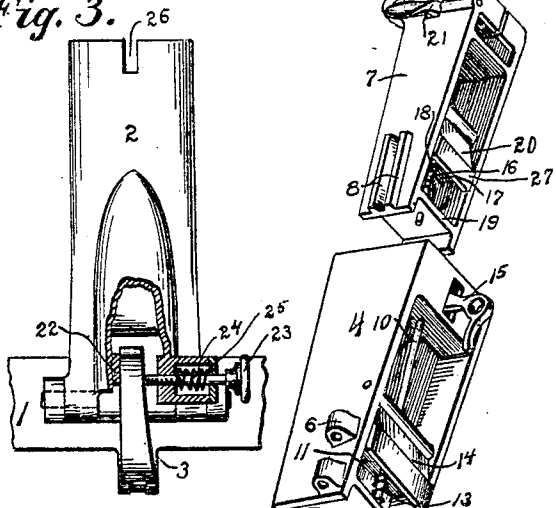
B. NOWLAND.

CHAIR BACK.

APPLICATION FILED NOV. 4, 1904.

2 SHEETS—SHEET 1.

Fig. 3.



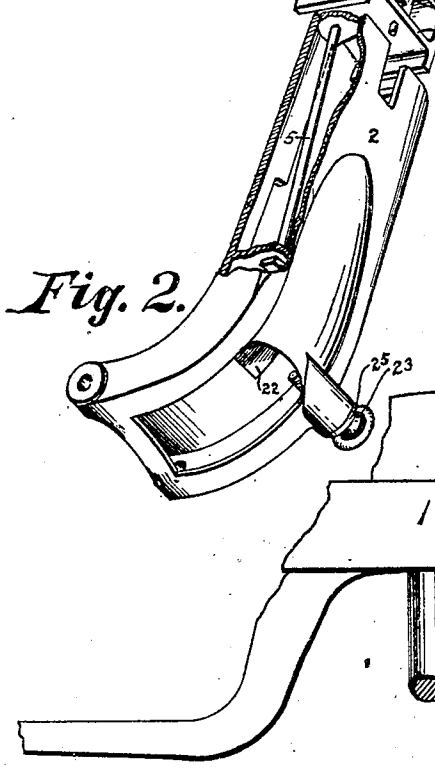
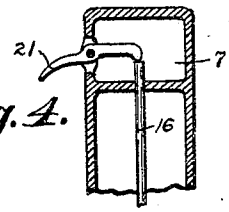


Fig. 2.

Fig. 4.



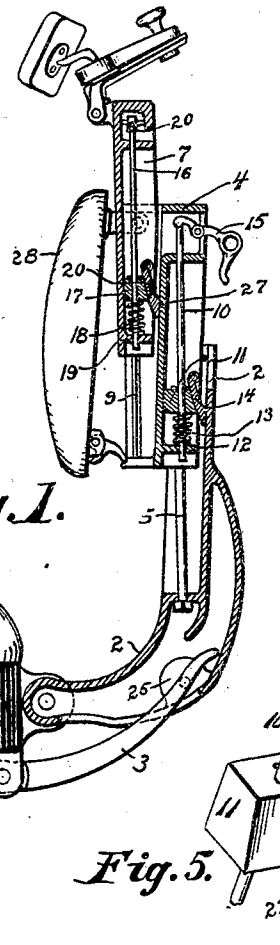


Fig. 1.

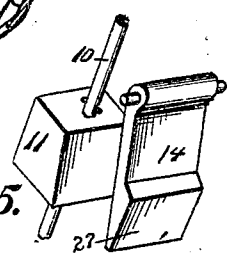


Fig. 5.

WITNESSES

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CHAIR BACK.

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2 SHEETS—SHEET 2.

Fig. 6.

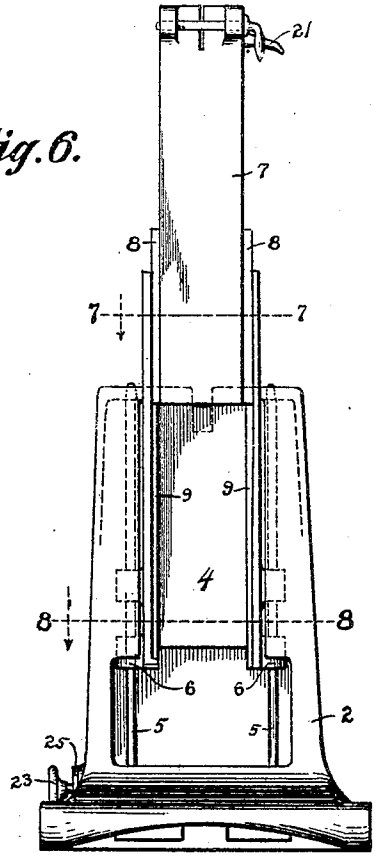


Fig. 7.

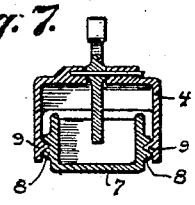
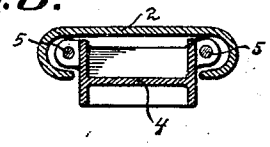


Fig. 8.



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UNITED STATES PATENT OFFICE.

BENONI NOWLAND, OF CANTON, OHIO, ASSIGNOR TO THE CANTON SURGICAL AND DENTAL CHAIR COMPANY, OF CANTON, OHIO, A CORPORATION.

CHAIR-BACK.

No. 800,669. Specification of Letters Patent. Patented Oct. 3, 1905.

Application filed November 4, 1904. Serial No. 231,366.

To all whom it may concern:

Be it known that I, BENONI NOWLAND, 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 Chair-Backs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the numerals of reference marked thereon, in which—

Figure 1 is a vertical section of the different members of the back, showing the same in proper relative position and illustrating the back proper connected to a chair. Fig. 2 is a view showing the parts of the back detached from each other, but in proper relative position with reference to each other. Fig. 3 is a rear view of the lower back-standard, showing a part of said standard broken away and illustrating a portion of the back member in section. Fig. 4 is a sectional view showing a portion of the top or upper end of the top back-section. Fig. 5 indicates views of the wedge-block and latch, showing the operating-bar attached to the wedge-block. Fig. 6 is a view showing the front of the chair-back members assembled. Fig. 7 is a transverse section on line 7 7, Fig. 6. Fig. 8 is a transverse section on line 8 8, Fig. 6.

The present invention has relation to adjustable chair-backs designed to support and hold a head-rest and at the same time bring the back of the chair at any desired angle and to adjust the head-rest to any desired position within the limits of the movements of the parts supporting the head-rests, it being understood that the head-rest may be of any desired construction and may have adjustments independent of the adjustment with the different members of the chair-back, the upper member or section of the chair-back carrying and supporting the head-rest.

In the accompanying drawings, 1 represents a portion of the chair frame or body, which may be of any desired construction, such as are commonly used in dental or surgical chairs.

To the rear or back of the chair body or frame 1 is pivotally attached the lower back-section 2, which back-section is curved rearward and upward, as illustrated in Figs. 1 and 2.

The lower section 2 is formed hollow at its lower end and is so formed for the purpose of receiving the finger 3, which finger is pivotally attached to the chair-frame 1 at a point below the pivotal point of the back-section 2, by which arrangement the chair-back will be held at any desired angularity with reference to the chair-seat, as hereinafter more fully described.

To the lower back-section 2 is attached the intermediate or second section 4 by means of the bolts 5, which bolts are located substantially as shown in Fig. 6 and are held by suitable apertures through which the bolts 5 are passed.

For the purpose of more securely holding the rods 5 their top or upper ends should be screw-threaded and seated in screw-threaded apertures. However, this is a matter of mechanical construction only. The second or intermediate section 4 is provided with the apertured lugs 6, which apertured lugs are located upon the bolts 5, by which arrangement the intermediate or second section is properly guided as to its movements during the time it is adjusted up or down.

To the intermediate or second section 4 is adjustably attached the third or upper chair-back section 7, which upper chair-back is held in proper relative position by means of the grooved flanges 8 and the ribs 9, this feature being illustrated in Fig. 7. To the intermediate or second section 4 is adjustably attached the rod 10, to which rod is securely attached the wedge-block 11, and between said wedge-block 11 and the flange or web 12 is located the spring 13, which spring has a tendency to move or force the wedge-block 11 upward or away from the flange 12, by which arrangement the latch 14 is automatically forced against the inner face of the lower back-section 2.

When it is desired to lower the intermediate section 4, together with the different parts carried thereby, the hand-lever 15 is moved upward at its outer end, which movement depresses the inner end of said lever, which in turn forces the rod 10 downward and releases the latch 14, at which time the intermediate section 4 is free to be moved in either direction longitudinally with reference to the lower chair-back section 2. When the intermediate section 4 has been brought to the desired adjustment, the lever 15 is released and the rod 10, together with its wedge-block, moved upward, which upward movement forces the

latch 14 into frictional contact with the lower chair-back section 2 and locks said intermediate section against longitudinal movement.

The upper section or head-rest stem is provided with the rod 16, which rod has fixedly attached thereto the wedge-block 17, and below the wedge-block 17 is located the spring 18, which spring is supported upon the flange or web 19. The latch 20 is pivotally attached to the upper section 7 and in such a position that it will be forced against the front face of the intermediate section 4 by means of the wedge-block 17 when the wedge-block is elevated by means of the spring 18.

When it is desired to release the upper section 16, so that it is free to move up and down with reference to the intermediate section 4, the lever 21 is moved upward at its outer end, and its inner end depresses, which in turn forces the rod 16 downward, carrying with it the wedge-block 17, at which time the latch 20 is freed from the face of the intermediate section 4 and of course the upper section free to be moved in either direction and guided in its movements by means of the grooved flanges 8 and the ribs 9.

By pivotally attaching the lower back-section 2 to the chair it will be understood that the back-sections can be brought into any angle, and for the purpose of holding the back proper in the desired adjustment with reference to its inclination the finger 3 is provided, which finger is located upon one side against the flange 22, and for the purpose of securely holding the back the screw 23 is provided, the inner end of which normally presses against the finger 3, and for the purpose of automatically causing the screw to press against the finger 3 and bind said finger between the flange 22 and the inner end of the screw 23 the spring 24 is provided, one end of said spring being secured to the flange 25 or its equivalent and the opposite end thereof fixed to the screw. By this arrangement when the screw is rotated to release the finger 3 the tension of the spring will be increased, so that the reaction of the spring will rotate the screw when released and automatically clamp the finger 3.

The object of providing means for automatically rotating the screw is to insure the proper engagement of said screw with the finger 3, thereby preventing any accidental movement of the chair-back proper. For the purpose of more securely holding the chair-back proper against backward movement upon its pivotal point the finger 3 is tapered or wedge shaped, or, in other words, the face of the finger designed for engagement with the screw 23 inclined from its pivotal point toward its free end, by which arrangement the finger will be bound between the screw and the flange 22 in such a manner that the chair-back cannot be moved backward without releasing the screw from engagement with the contact-face of the finger.

For the purpose of allowing the intermediate section 4 to be lowered to its extreme limit without interfering with the hand-lever 15 the top or upper section of the back 2 is provided with the recess 26 and into which recess the lever 15 passes when the intermediate section 4 is lowered to its extreme limit.

For the purpose of providing proper frictional contact so as to better hold the various sections of the chair-back in desired adjustment the pivoted latches 14 and 20 are provided with the contact-faces 27, and for the purpose of preventing any downward movement of the intermediate section 4 and the upper section 7 except when desired the back faces of the lower section 2 and the intermediate section 4 are inclined at an angle to the rods 5 and rib 9, by which arrangement there can be no downward movement of the detachable chair-back sections at any time except the latches 14 and 20 are released from frictional contact by the depression of the wedge-blocks 11 and 17. It will be understood that when the wedge-blocks are lowered the latches are free to swing upon their pivotal points by gravity, providing the chair-back sections stand in a vertical position, or nearly so, and if thrown out of a vertical position said latches will have little if any frictional contact upon the back faces with which they are brought into engagement.

For the purpose of providing a proper back, or what might be termed a "back-rest," the upholstered back 28 is provided, which is of the usual construction and forms no particular part of the present invention except that it is understood that a suitable upholstered back is to be provided, and, as shown in this instance, it is attached to the intermediate section 4.

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

1. In a chair-back, a series of sections, the lowermost section pivotally connected to a chair-frame, said lowermost section provided with guide-rods, the inner back face of said lowermost section located at an angle to the guide-rods, an intermediate chair-back section adapted to be adjusted upon the guide-rods, and said intermediate section having pivoted thereto, a latch adapted for contact with the inner back face of the lowermost section, a rod adjustably attached to the intermediate section and having fixed thereto a wedge-block adapted for contact with the latch, an operating-lever connected to the adjustable rod, and a spring located around the rod and below the wedge-block, said spring adapted to elevate the wedge-block and press the latch against the inner face of the lowermost chair-back section, and means for holding the low-

ermost chair-back section against movement upon its pivotal point, substantially as and for the purpose specified.

2. In a chair-back, the combination of a chair-frame, a chair-back section pivotally attached to the chair-frame, a finger attached to the chair-frame at a point below the pivotal point of the chair-back section, said finger provided with an inclined face, a screw adapted for engagement with the inclined face of the finger and said screw having attached thereto one end of a spring, and a spring secured at its opposite end to a fixed point other than the screw, and a flange or face adapted for contact with the finger, and an adjustable chair-back section carried by the section pivoted to the chair-frame, substantially as and for the purpose specified.

3. In a chair-back, the combination of a chair-frame, a series of chair-back sections adjustably attached together, one of the sections provided with guide-rods and the guide-rods located at an angle to the inner back face of the section, and a section tongued and grooved upon the section guided by the guide-rods, and the inner back face of the lowermost section located at an angle to the tongue and grooves, and means for releasing the sections, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

BENONI NOWLAND.

Witnesses:
L. R. RAMSBERGER,
EMMA HERMANN.