No. 840,348. PATENTED JAN. 1, 1907.

C. N. LEONARD.

SPECIALIST'S CHAIR.

APPLICATION FILED SEPT. 28. 1904.

2 SHEETS—SHEET 1.

Fig. 1.

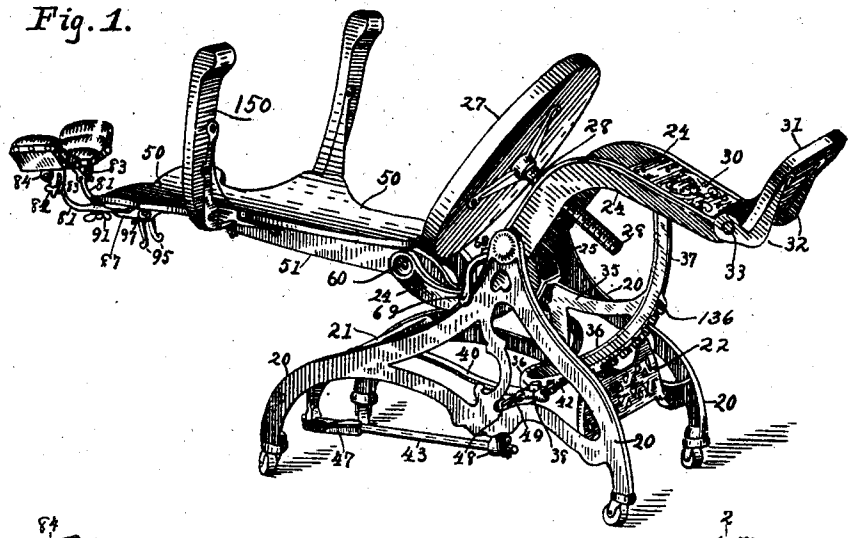


Fig. 2.

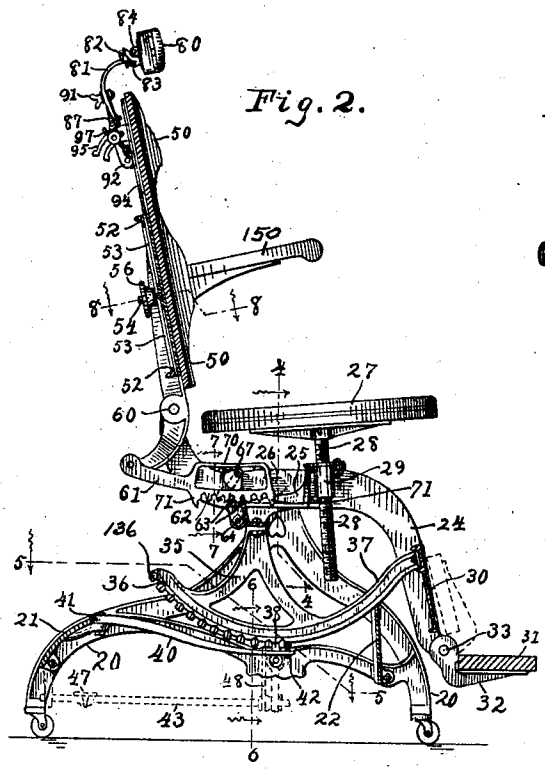
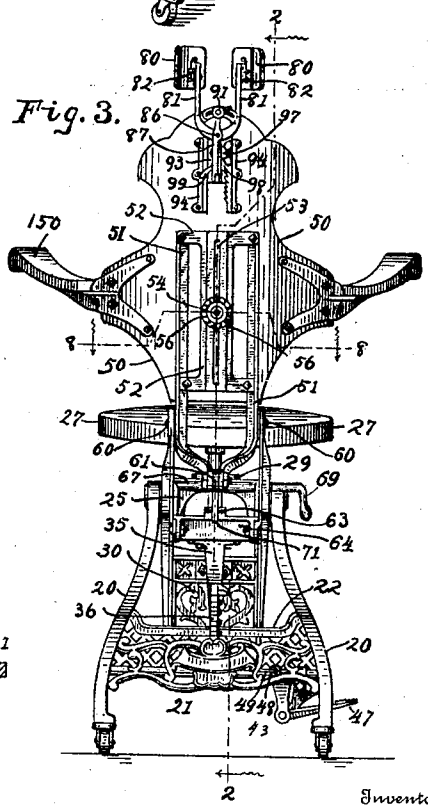


Fig. 3.



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THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 4.

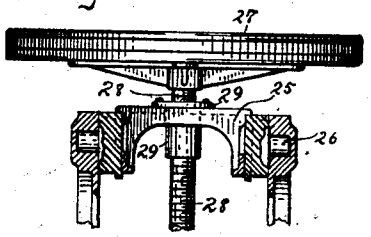


Fig. 5.

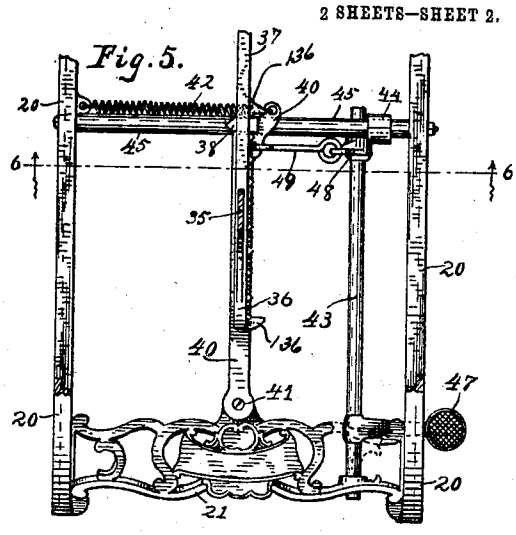


Fig. 8.

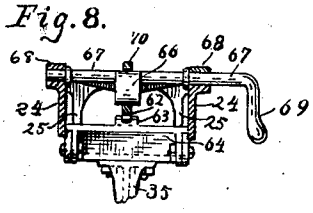


Fig. 6.

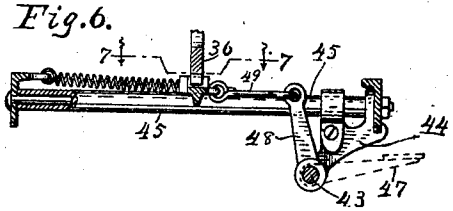


Fig. 9.

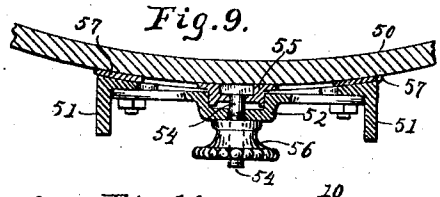


Fig. 10.

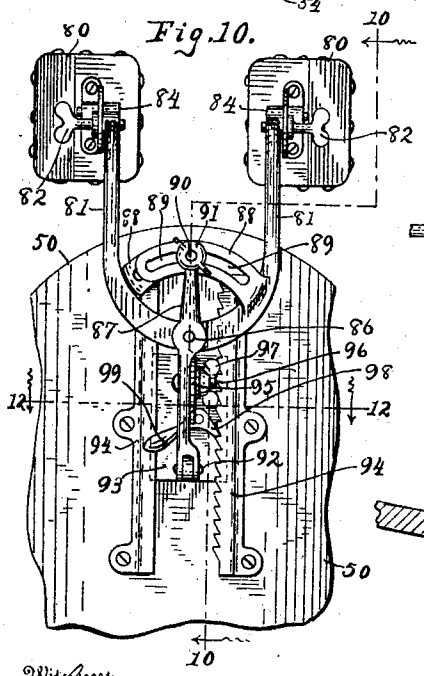


Fig. 7.

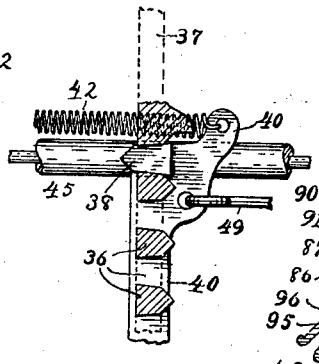


Fig. 11.

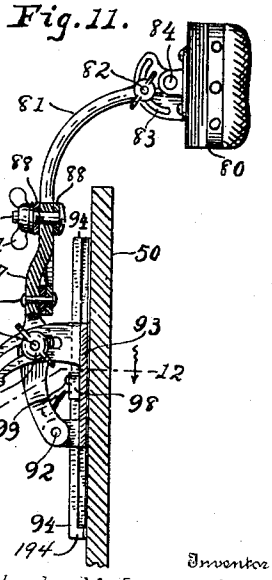
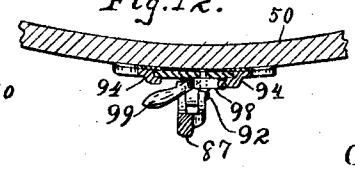


Fig. 12.



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UNITED STATES PATENT OFFICE.

CHARLES N. LEONARD, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO WILLIAM D. ALLISON, OF INDIANAPOLIS, INDIANA.

SPECIALIST'S CHAIR.

No. 840,348. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed September 28, 1904. Serial No. 226,289.

To all whom it may concern:

Be it known that I, CHARLES N. LEONARD, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Specialist's Chair; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to various improvements which I have made in physicians' chairs to render them more convenient and satisfactory in use and to give them a wider range of usefulness and to adapt them especially for specialists who treat the eye, ear, nose, and throat.

The various features of the invention will be understood from the accompanying drawings and the following description and claim.

In the drawings, Figure 1 is a perspective view of the chair in a reclining position. Fig. 2 is a vertical section through the chair in its upper position, the section being on the line 2 2 of Fig. 3 and parts being shown in dotted lines. Fig. 3 is a rear elevation of the chair in its upright position. Fig. 4 is a vertical transverse section of a part of the chair on the line 4 4 of Fig. 2, showing the seat in elevation. Fig. 5 is a substantially horizontal section of a part of the chair on the line 5 5 of Fig. 2. Fig. 6 is a transverse section on the line 6 6 of Fig. 5, a part being shown in dotted lines. Fig. 7 is a horizontal section of a portion of the device on the line 7 7 of Fig. 6. Fig. 8 is a vertical transverse section of a part of the chair on the line 7 7 of Fig. 2. Fig. 9 is a transverse section of a part of the chair on the line 8 8 of Figs. 2 and 3, parts being broken away. Fig. 10 is an enlarged rear elevation of the upper part of the back of the chair to show more plainly the connection of the head-rest with the back of the chair, parts being broken away. Fig. 11 is a vertical section on the line 10 10 of Fig. 10. Fig. 12 is a transverse section of a portion of the back on the line 12 12 in Figs. 10 and 11.

The drawings show in detail a base-frame mounted on castings, said base-frame consisting of two oppositely-located side pieces or frames 20, one on each side of the chair, a rear transverse connection 21, and a forward transverse connection 22, said parts being rigidly secured together by bolts.

A chair-frame that rocks forward and backward is pivotally mounted in the upper part of the base-frame. This rocking-frame is formed of two side bars 24, that have secured between them a seat-frame 25, as seen in Figs. 2 and 4. Said side bars 24 are shaped somewhat like the letter **S**, and near the middle they have laterally-extending trunnions 26, resting in corresponding bearings in the upper part of the side pieces 20 of the base-frame. With this mounting the rocking forward and backward is rendered possible. A round seat 27 is secured on the upper end of a screw 28, that extends through an internally-threaded bracket 29, secured on the front part of the seat-frame 25, as seen in Fig. 2. Therefore the seat is rotatable and vertically adjustable, and it rocks backward and forward along with the seat-frame and the side bars 24.

The forward end of the side bars 24 turn downward, as seen in Fig. 2, and a cross-bar 30 is secured at each end to the side bars, so as to connect them, and the foot-rest 31 is secured on a pair of arms 32, that are pivoted at 33 to said bars 24, as seen in Fig. 2, with the usual stop arrangement, so that said foot-rest will extend normally at about a right angle from the adjacent ends of the side bars 24, and yet the foot-rest may be folded up, as shown by the dotted lines in Fig. 2.

The rocking-chair frame is held in any desired position by the following means: A frame 35 extends downward from the seat-frame and is secured rigidly to the bottom of the seat-frame and carries a segmental rack 36 on its lower end, as seen in Fig. 2. Said segmental rack is extended by means of a bar 37 to the front, which is secured rigidly to the seat-frame and the chair-frame, so that the whole constitutes practically one rocking frame. The teeth on the segmental rack 36, as seen in Fig. 7, extend laterally to the right, as viewed from the rear of the chair, and are beveled so as to receive a laterally-movable catch 38, correspondingly beveled and mounted on the inner end of the lever 40, pivoted at 41 to the rear of the cross-bar 21 of the base-frame, as seen in Figs. 2 and 5. Said catch 38 is held normally and safely in engagement with said rack by the spring 42, (seen in Fig. 5,) which at one end is connected to the side piece 20 of the base-frame and at the other end is connected with

the inner and movable end of said lever 40. This will effectually hold the rocking frame in its adjustable position. Stops 136 on the rack 36 limit the movement of the rocking-chair frame.

Said holding means just described is disengaged by a pedal mechanism consisting of a rock-shaft 43, mounted at one end in the rear cross-bar 21 of the base-frame and in the other end in a hanger 44, secured to the cross-bar 45, that extends from one side of the base-frame to the other, as seen in Figs. 5 and 6. Said rock-shaft 43 is actuated in one way by a pedal 47, and through the crank-arm 48 and the connecting-rod 49 between the crank-arm and the lever 40 said lever 40 is drawn to the right, as shown in Fig. 5, at each operation of the pedal. In such case the catch 38 disengages the segmental rack, and the rocking frame of the chair can be adjusted to any suitable position, whereupon the pedal is released by the foot and the spring 42 draws the catch 38, which is wedge-shaped, into the wedge-shaped space between a pair of the teeth on the segmental rack.

The back 50 is supported by the back-frame, which consists of two side pieces 51, as seen in Fig. 3, and an intermediate piece 52, secured to and between said side pieces and having a central vertical slot at 53, through which a bolt 54 extends, that is secured to the plate 55 on the back of the chair-back 50, as seen in Fig. 9. By means of a hand-wheel 56 on the bolt 54 the back is clamped in any desired position as to elevation to the back-frame. The back 50 has also metal plates 57 secured to it, against which the side bars 51 of the back frame bear to avoid wearing the back 50. In order to hold the back vertically, the piece 52 of the back-frame has a central vertical guideway, (seen in Fig. 9,) in which the plate 55 on the back 50 fits and is vertically slidable. The back-frame is at its lower end pivotally mounted on the rocking frame heretofore described. This is effected by the side bars 51 of the back-frame being pivoted at 60 to the upward and rearwardly extending ends of the side bars 24 of the rocking frame of the chair. As seen in Fig. 3, below said pivotal connection the side bars 51 of the back-frame are bent toward each other and turned somewhat rearward, as seen in Fig. 2, and at the lower end a bar 61 is pivoted between said side bars 51. The bar 61 extends forward and has at its inner end the rack 62, the teeth of which extend transversely and engages a pair of teeth 63, that extend upward from the cross-bar 64, forming a part of said frame 25, as seen in Figs. 2 and 8. The back is held in any desired position and inclination by the forced engagement between the rack 62 and the teeth 63 on the seat-frame. The rack is held in engagement with the teeth 63 by means of a cam 66 on a small shaft 67, mounted in a pair of bearings 68, connected with the seat-frame, as seen in Fig. 8, and said shaft has a crank 69 for operating it and turning the cam downward, as seen in Figs. 2 and 8. A metal strap 70 is connected with the rack-bar 62 and extends immediately above the shaft 67 and over the cam 66, as seen in Fig. 2, so that by turning the cam into an upward position it will engage said strap 70 and lift the rack 62 out of engagement with the teeth 63 to permit the adjustment of the back.

At each end of the rack 62 there is a long projection or stop 71, that engages the bar 64, on which the teeth 63 are mounted, and thus limit the movement in each direction of the rocking bar 62. A crank 69 is at the right-hand side of the chair, (seen in Fig. 1,) where it is convenient for operation. With this arrangement the angle between the back and the seat may be modified, and also the desired inclination of the back may be obtained and maintained.

There are two head-rests 80, which are mounted on an independent arm 81, so the inclination thereof may be adjusted. This is accomplished by set-screws 82, extending from the upper end of the arm 81 through the curved slot in the plate 83, that is secured at 84 to the back of the head-rest. Said plate is clamped on the arm 81 by the set-screws 82, as seen in Fig. 11. Each of the arms 81 is at its lower end, by means of a bolt 86, pivoted to a bar 87, and each arm 81 has a plate 88, extending from it toward the other arm and with a curved slot 89 therein, so that the two arms, and especially the slots, will overlap and register with each other, as seen in Fig. 10. A bolt 90, secured at the upper end of the bar 87, extends through the slots in said plates 88, and they are all clamped together by the nut 91. With this construction the head-rest may be moved laterally and the relative positions of the two with regard to each other be adjusted. Said bar 87, as seen in Fig. 11, is at 92 pivoted to a plate 93, that is secured to the back 50 of the chair between the two guide-strips 94, as seen in Fig. 10. This permits the head-rest to move backward and forward to the desired position, and it is held in such position by a slotted plate 95, that extends rearward from the upper part of the plate 93, as seen in Fig. 11, and the bolt 96 from the bar 87 passes through said slot and is clamped in place by the nut 97. The slot in the plate 95 is concentric with the pivotal point 92. The stop 194 limits the downward movement of the head-rest.

The vertical position of the head-rest is adjusted independently of the back for vertically moving the plate 93, and it is held in position by a dog 98, that is pivoted to said plate and engages teeth on the edge of one of

the guiding-strips 94, as seen in Fig. 10. When thus engaged the weight of the head-rest and attached parts wedges the plate 93 between said guide-strips 94, and the dog has a handle 99 for its release.

The segmental rack 36 is curved concentric with the pivotal point of the rocking frame—namely, the trunnion 26—so that when said frame is rocked the teeth of said rack will always move in the same path. The slot in the plate 83 on the head-rest is curved concentric with the pivotal point 84. The slots 89 in the plates 88, (seen in Fig. 10,) are both curved concentric with the pivot 86, and likewise the slot in the arm 95 is curved concentric with the pivotal point 92.

From the foregoing it is seen that this chair is capable of adjustment in a great many positions and can be readily adjusted in such positions and the parts held mechanically in any of the adjusted positions.

As stated above, the chair shown herein is adapted especially for physicians who treat the eye, ear, nose, and throat. The positions in which it is desirable for such specialists to place their patients renders various features of this chair meritorious and important. Thus it is important that the arms 150, extending at a right angle from the back, should have no downwardly-extending portions toward the seat, so that it will be easy for a patient to sit sidewise with his legs extending laterally under the arms of the chair, and thus present his ear or other part more conveniently for treatment.

It is important to have the patient in exactly the right position in the matter of elevation in order to bring the ear or eye or other part to be treated into the right position. Hence the seat is vertically adjustable with relation to the back, and the angle of the back is adjustable with relation to the seat, for often, as in the treatment of the nose, the back should be absolutely vertical or lean forward somewhat. This also makes the rocking construction of the chair important, for in some instances it is desirable to have the head hang low in the back. For such specialists probably the most important feature of this chair is in the arrangement of the head-rest, as it is necessary that the head be held in the right position for treating the eye or ear or nose. A double head-rest is hence provided, so that the head can lie quiet with the back hair extending between the pair of head-rests, and it is desirable that the two head-rests be laterally adjustable toward and away from each other. The angle at which the head-rest is maintained by the screw 82 is important because it, more than any other feature, adjusts the position of the head. Likewise the relation between the head-rest and the chair back and seat is important for patients of varying sizes who have ailments of various natures.

What I claim as my invention, and desire to secure by Letters Patent, is—

In an adjustable chair, a base, a rocking-chair frame mounted thereon, a frame secured to said rocking frame and extending down into the base and carrying a segmental rack on the lower end thereof that is curved concentric with the pivotal point of said rocking frame, the teeth of said rack extending laterally, a rod extending from one side to the other of said base immediately under said rack, a lever pivoted to the rear part of the chair with the forwardly-extending end of said lever resting and laterally movable on said rod, a catch on the movable end of said lever near said rod adapted to engage said rack when the lever is moved laterally, a pedal mechanism for actuating said lever to move the catch away from said rack, and a spring connected with said lever tending to hold the catch in engagement with said rack.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

CHARLES N. LEONARD.

Witnesses:
V. H. LOCKWOOD,
NELLIE ALLEMONG.