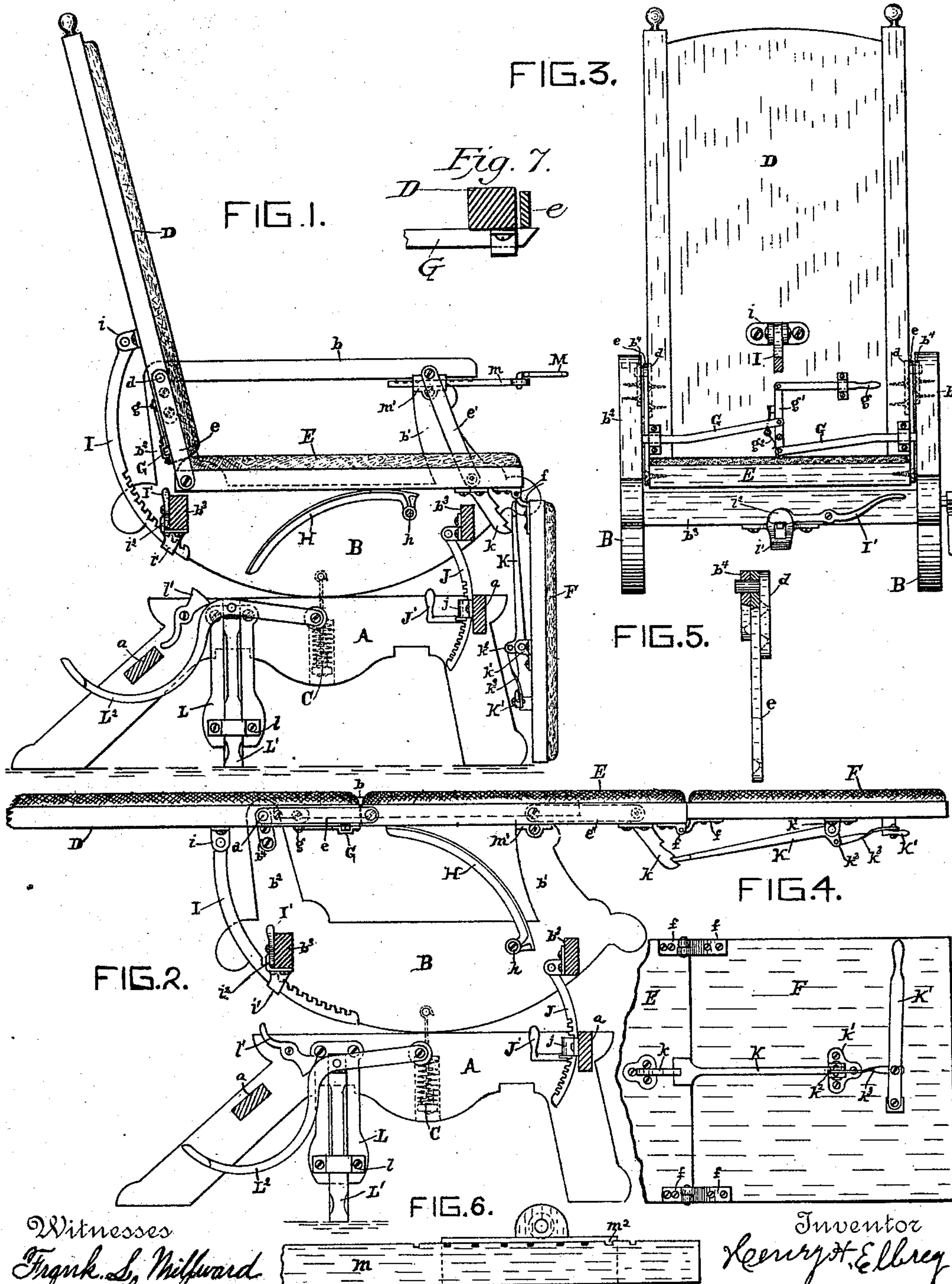


(No Model.)

H. H. ELBREG.
SURGICAL CHAIR.

No. 412,371.

Patented Oct. 8, 1889.



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UNITED STATES PATENT OFFICE.

HENRY H. ELBREG, OF INDIANAPOLIS, INDIANA.

SURGICAL CHAIR.

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To all whom it may concern:

Be it known that I, HENRY H. ELBREG, a citizen of the United States, and a resident of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Surgical Chairs, of which the following is a specification.

My invention relates to certain improvements in surgical chairs.

10 Its object is to construct a surgical chair capable of being made to assume all the different positions required by the medical profession, while at the same time it has all the appearance and qualities of an ordinary parlor rocking-chair.

15 The invention will be first described in connection with the accompanying drawings, and then particularly referred to, and pointed out in the claims.

20 Referring to the drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is a view taken in vertical section from front to rear of a chair embodying my improvements, the chair being in its normal position and the section being taken between the arm-rest and the edge of the back, the parts being shown in elevation just as though one side of the platform and the arm and arm-supports upon one side were removed. Fig. 2 is a similar view of the chair folded out to form a surgeon's operating-table. Fig. 3 is a rear elevation of the rocker-frame with the leg-rest removed, showing the means for locking the back and seat sections, so that they will move in unison. Fig. 4 is a detail inverted plan view of a portion of the seat-section and leg-rest. Fig. 5 is an enlarged detail edge view of irons for coupling the back and seat sections to the arms. Fig. 6 is an inside elevation of the stirrup-bar and its box. Fig. 7 is a detail view, in transverse section, through one of the back-posts, showing the beveled end of one of the bolts which lock back to links which couple the back and seat sections.

50 The base or platform A and rocker-frame B, including the arms b and their supports b^1 b^2 , with the connecting cross-stretchers a and b^3 , and the spring C, coupling the rocker to the base, do not differ materially from the

ordinary platform parlor rocker-frames now in common use, and need not be therefore specifically described, for it is upon this well-known structure that I have mounted my improvements, which, while they are nearly concealed from sight, convert the simple parlor-rocker into the surgeon's operating chair or table.

The back-section D, seat-section E, and leg-section F are united together by hinge-couplings, and are suspended from the upper ends of the arm-posts b^1 b^2 of the rocker-frame by iron couplings. The back-section is pivoted between the two rear arm-posts by the coupling-irons d b^4 . The coupling-irons d are plates let into the edges of the back-posts. They have pivot-pins projecting from them, which enter perforations in the plate b^4 , which are let into the inside upper ends of the arm-posts b^2 . The seat-section E is coupled to the back D by metal links e . One end of each of the links e is pivoted upon the pins which project from the plates d , the links being arranged between the plates d b^4 . The opposite ends of the links are pivoted upon stud-bolts which enter the edge rails of the seat-section. The opposite or front end of the seat-section is coupled to the front arm-rest by links e' . The leg-rest F is hinged to the front seat-section by hinge-plates f f' . The links e , which connect the back and seat sections, are normally held rigid with the back-posts by the spring locking-bolts G, so that when the back is turned down the seat-section is carried up until the parts assume the position shown in Fig. 2, so that the patient may sit in the chair in the position shown in Fig. 1, and when the position is changed to the position shown in Fig. 2, or to any desired inclination, the patient need not be disturbed; but when it is desired to drop the seat down out of the way during an operation to form a tray for a basin after the patient is in position this is readily accomplished by pulling the lever g , which withdraws both of the spring-bolts and allows the seat to swing down in a horizontal plane until the links e e' assume the vertical position. The bolts G are united to a pivoted arm g' , the connections being upon opposite sides of the pivot-bolt of arm g' , so that when the le-

ver-handle g is pulled out both bolts are simultaneously withdrawn. I prefer to have the bolts G actuated by a spring, as g^2 , so that they will automatically catch when the seat is again thrown to its position by the curved arm H , which is secured upon the rock-shaft h , which rock-shaft has its bearings in the opposite rockers, one end of which shaft projects through the rocker to the outside, and is square or angular upon the projecting end to furnish a key-seat for a key by which the shaft is turned, and the seat is elevated and gradually lowered, as seen in Fig. 3. The back is held firmly at any desired angle by a toothed segment I , which is journaled upon a pin secured in a lug-plate i , which plate is secured to the back D . This segment passes through a metal guide-box i' , which is secured underneath the cross-stretcher b^3 . The guide-box i' has an upwardly-projecting lug i^2 , which is parallel with the back of the stretcher b^3 , but stands off from it to admit of the end of the pivoted lever I' passing between it and the cross-stretcher b^3 for the purpose of engaging either one of the notches in the segment I , and thus lock the back in any desired position.

To the front cross-stretcher b^3 of the rocker-frame B is journaled a toothed segment J , which passes through a metal guide-box j , which box is secured upon the inside of the cross-stretcher a of the platform A . There is a lever J' pivoted upon the inside of the stretcher a , in a position to have its detent brought into any one of the notches in the segment J underneath the box j , and thus lock the rocker-frame rigidly to the base and at any desired inclination.

Underneath the forward end of the seat-section E is a toothed bar k , so arranged as to engage the free end of a swinging prop-bar K , which is journaled in a lug-plate k' , which is secured underneath the leg-section F . The prop-bar or lever K has a short crank-arm k^2 , to which is connected one end of a link k^3 . The opposite end of this link is connected to a lever K' , which is pivoted underneath the leg-section near the end, for the purpose of drawing the bar out of engagement with the rack-bar k , or placing it into such engagement when it is desired to lower the leg-section, as in Fig. 1, or elevate it, as in Fig. 2.

Secured to the inside of one of the platform sides A is a device for elevating one side of the chair to cause it to assume the "Sims" position. This device consists of the metal plate L , which is secured to the platform A , the prop L' fitted to slide in the guide-box l , the bent lever L^2 , which is pivoted upon a stud-bolt in the platform and jointed to the upper end of the prop L' , and a pivoted dog l' , which is arranged to bear upon lever L^2 when depressed and retain the prop in its lower position.

The heel-stirrup M is of ordinary construction, but its connection by the stirrup-bar m

and its box m' , Fig. 6, to the chair arm and support is of my invention. The open metal box m' is let into the upper end of the arm-support b' , its bottom coming flush with the inside face of the arm and its support. The upper screw-lug of this box extends up upon the arm b , and the screw which passes through it also serves as the pivot-bolt for the link e' . The screw which passes through the lower screw-lug enters the arm-support b' . Thus the box while serving to guide the stirrup-bar also acts as a securing-plate to strengthen the joint between the arm b and arm-bracket b' . The box m' is wider at its rear end, and from its upper edge projects a tooth m^2 , to engage any of the notches in the upper edge of the stirrup-bar m , so that the stirrup may be adjusted nearer to or farther from the end of the arm, as desired. In the position shown the tooth projects from the upper edge of the box and is at the rear of the arm-bracket, while the notches in the bar m are upon the upper edge; but the result would be the same if the box were reversed to bring the tooth underneath and in front; but, of course, the stirrup-bar m should also be turned to bring its notches upon the lower edge.

It will be seen that by means of the segment J and lever J' the chair-frame may be held rigid at any desired inclination, and that after an operation, if the patient has been put under the influence of an anæsthetic, the vital forces are restored by throwing out the lever J' and subjecting the patient to a gentle rocking motion.

I do not limit myself to the exact construction of the several parts, as it is evident that mechanical changes may be made without varying the invention.

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

1. In a surgical chair, the combination of the platform, the rocking frame and spring-coupling connecting the two, the back, seat, and leg sections hinged together, the pivots securing the back-section to the rear of the rocking frame, the pivoted links connecting the seat-section to the front of said frame, the pivoted segment I , its guide and locking-lever, for securing the back and seat sections in the desired position, and the pivoted segment J , with its guide and locking-lever, to lock the platform and rocker, substantially as shown and described.

2. The combination, in a surgical chair, of the supporting-frame, the adjustable back and seat sections pivotally secured in said frame, with the elevating device for one side of the chair, consisting of the plate L , its sliding prop L' , the lever L^2 , and dogging-lever l' , substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the supporting-frame, the back-section pivotally secured in said frame, the seat-section, and links e , for hinging the said sections together, the links e' , for

swinging the front end of the seat-section to the supporting-frame, locking-bolts for holding the links *e* parallel with the back-section, and the arm *H* and rock-shaft *h*, to elevate and gradually lower the seat-section independent of the back-section, for the purpose set forth.

4. The combination, substantially as hereinbefore set forth, of the platform *A*, rocking frame *B*, and spring-connection *C*, with the back, seat, and leg sections hinged together, as shown, and pivotally connected to the rocking frame, the segment *I*, hinged to the back-section, guide-box *i'*, secured upon the cross-stretcher *b⁸* of frame *B*, the lever *I'*, also pivoted to said cross-stretcher, the segment *J*,

hinged to the rocking frame, the guide-box *j*, secured upon the cross-stretcher of the platform, and the lever *J'*, said parts being arranged as set forth.

5. The pivotal connections for surgical chairs, consisting of the plate *d*, having a pin or trunnion projecting from it, the plate *b⁴*, for receiving said pin, and the link *e*, hung upon said pin between said plates, in combination with the supporting-frame and adjustable back and seat sections.

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Witnesses:

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