(No Model.)

W. B. SANDERS.

SURGICAL CHAIR.

No. 344,546. Patented June 29, 1886.

FIG. 1.

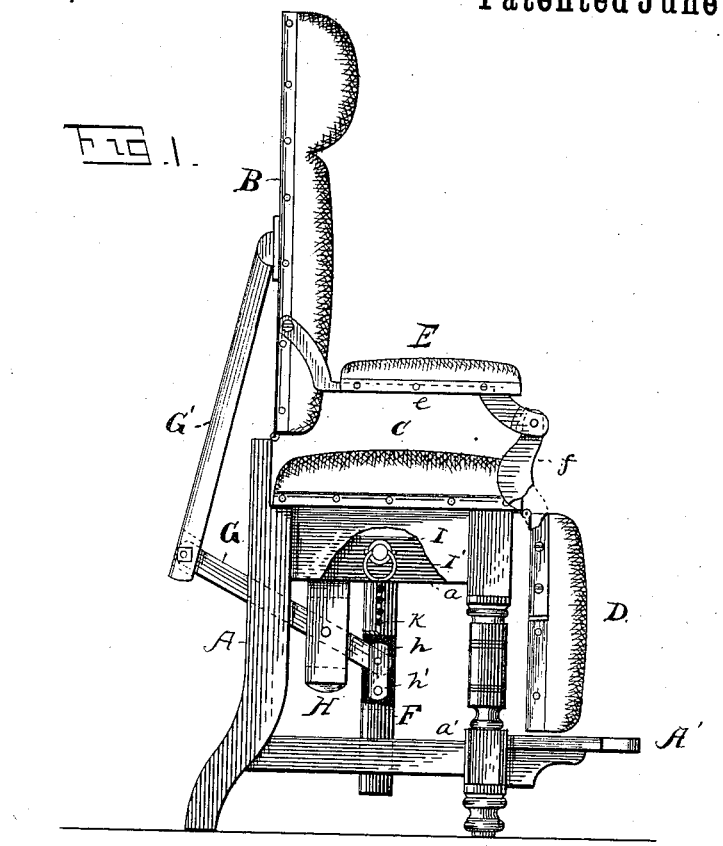
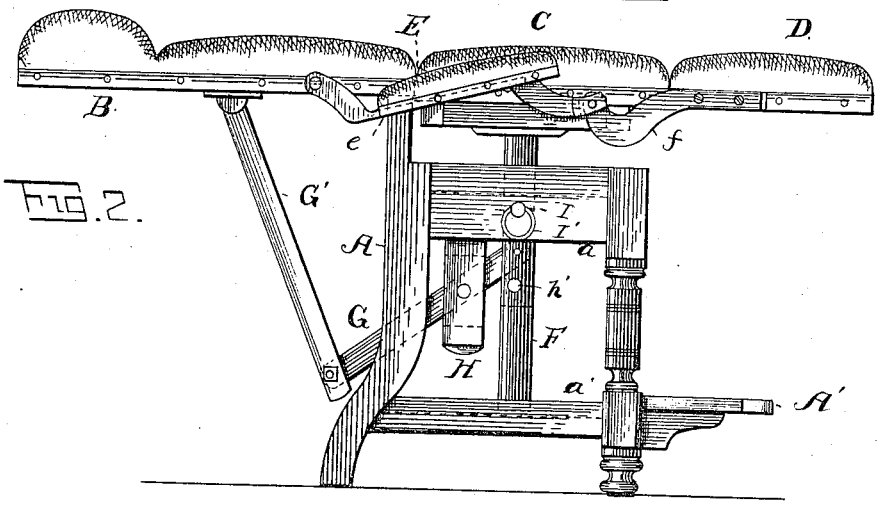


FIG. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM B. SANDERS, OF LOCK HAVEN, PENNSYLVANIA, ASSIGNOR TO JOHN L. THIELE, OF SAME PLACE.

SURGICAL CHAIR.

SPECIFICATION forming part of Letters Patent No. 344,546, dated June 29, 1886.

Application filed November 11, 1885. Serial No. 182,493. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. SANDERS, of Lock Haven, in the county of Clinton and State of Pennsylvania, have invented a new and useful Improvement in Surgical Chairs; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates, particularly, to an improvement in surgical-chairs, but is equally well adapted for all other purposes for which tilting and adjustable chairs are adapted, giving both comfort and ease to the occupant.

My main object is to afford better conveniences for the surgeon in his operations without detracting from the comfort of the patient, and at the same time produce a chair combining simplicity and cheapness in construction, and one simple and easy to operate.

To these ends my improvements consist, essentially, in a vertically-adjustable seat combined with a hinged back and apron, means connecting the back and apron, and means connecting the back and seat, whereby on lowering the back the arm-rests are simultaneously lowered and both the back and apron are simultaneously raised and brought to a level in the same horizontal plane with the back, all as will be more fully hereinafter described and claimed.

For the better understanding of the construction and operation of the parts comprising this chair attention is invited to the accompanying drawings, in which—

Figure 1 is a side view of the same with parts broken away and parts in dotted lines, and Fig. 2 a similar view of the same as converted into a table or cot suitable for the operations of a surgeon upon a patient.

Like letters of reference denote corresponding parts in both illustrations.

A denotes a suitable supporting-frame having the usual legs and connecting-rungs and side pieces, and provided at its front with a proper foot-rest, A′, and at its center with cross-pieces *a a′*, respectively, connecting the rungs and side pieces, as shown.

B is the back of the chair, hinged to the back of this frame A; C, the vertically-adjustable seat which normally sets in the open upper end of said frame, and D the apron which is hinged to the front edge of this seat, all of which parts should be comfortably upholstered.

The arm-rest E, at each side of the chair, is secured to and supported by a lever, *e*, having a bent-up curved rear end, which is pivoted to the side edge of the chair-back B some distance above its lower edge, and a bent-down curved front end having a forked extremity between which is pivoted the upper end of an upright arm, *f*, secured to the side edge of the apron D. By this means of connection between the back B and apron D it will be apparent that when the former is lowered the latter will be simultaneously raised and the arm-rests E E likewise lowered to a level with the chair-back.

The seat C, which should be properly cut and tenoned to fit snugly within the open upper end of the frame A, is mounted or secured at its center upon the upper end of a post, F, which post may be either round or square, or of some other shape, and passes freely through and is guided by suitable holes or openings made in the upper and lower cross-pieces, *a a′*, respectively, of the frame A. This post F is slotted vertically at or about its center to receive the inner end of a lever, G, which is attached to a link, *h*, pivoted within the slot of said post by means of a suitable pin or bolt, *h′*. This lever G passes through and is fulcrumed in another slotted post or bracket, H, depending from the top cross-piece, *a*, and at its outer end is pivoted in the slotted lower end of an arm or brace, G′, which extends upward, and is hinged or pivoted at its upper end to the center of the chair-back B. From this connection between the seat and back of the chair it will be evident that when the back is lowered the seat will be simultaneously raised to a level with the same, bringing the patient higher and within a more convenient reach of the surgeon.

To adjust the chair-back to any desired inclination between its vertical and horizontal limits, the post F, which supports the seat C, is provided with a vertical series of holes or perforations, *k*, with which engages or is adapted to be engaged a spring-actuated locking-bolt, I, arranged horizontally below the seat C and passing through one side of the frame A

and into the upper cross-piece, *a*, as far as the post F. This bolt is provided on its outer end with a ring or other appropriate handle, I', for withdrawing it from engagement with any one of the holes or perforations *k* when it is desired to change the inclination of the chair-back.

An objection characteristic with other chairs of this class has been that when converted into a table or cot for surgical operations the arm-rests, instead of being lowered to the same level with the table, have invariably projected above the same, and to such an extent as to seriously interfere with the work of the surgeon; and, furthermore, the table has always been too low for convenience in performing surgical operations, and hence I have devised the within-described means for overcoming these objections, and in doing so have dispensed with the many complicated devices for adjusting the chair to various positions, and have adapted the chair to be changed into these various positions by simply lowering or depressing its back under proper control of the locking-bolt.

Another very important feature connected with this chair is that when the seat is in its normal position the distance to the foot-rest is the same as in ordinary chairs, thus giving the same ease and comfort to an invalid as the ordinary easy-chair, and yet enabling the surgeon to raise his patient higher and within a more convenient reach for operation than can be done with other chairs of this class.

I am aware that it is not new to provide a chair with arm-rests having pivotal connections with a pivoted back and a pivoted leg-rest or apron, and therefore do not broadly claim such combination; but,

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

1. In a chair of the character described, the combination, with a back hinged to the frame, a vertically-adjustable seat, and an apron hinged to said seat, of a pair of arm-rests having pivotal connections with the back and apron, and a post supporting said seat and having intermediate lever connections with the back, whereby the several parts are brought to the same level in a horizontal plane by lowering the back, substantially as described.

2. In a chair of the character described, the combination, with the back B, hinged to the frame, the seat C, supported by a post having intermediate lever connections with the back, and the apron D, hinged to said seat, of the arms *f f*, secured to the sides of said apron, and the arm-rest levers *e e*, with bent-up rear ends pivoted to the sides of the chair-back, and with bent-down front ends pivotally attached to the upper ends of the arms *f f*, substantially as and for the purposes set forth.

3. In a chair of the character described, the combination, with the hinged back B, seat C, and hinged apron D, of the perforated post F, supporting said seat and moving in guides of the chair-frame, and the spring-actuated sliding bolt I, adapted to engage with the perforations of said post, substantially as and for the purposes set forth.

4. In a chair of the character described, the combination, with the hinged back B and seat C, of the slotted post F, lever G, arm or brace G', post H, and link *h*, substantially as described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. SANDERS.

Witnesses:

A. W. BEMAN,

O. B. SHAFFER.