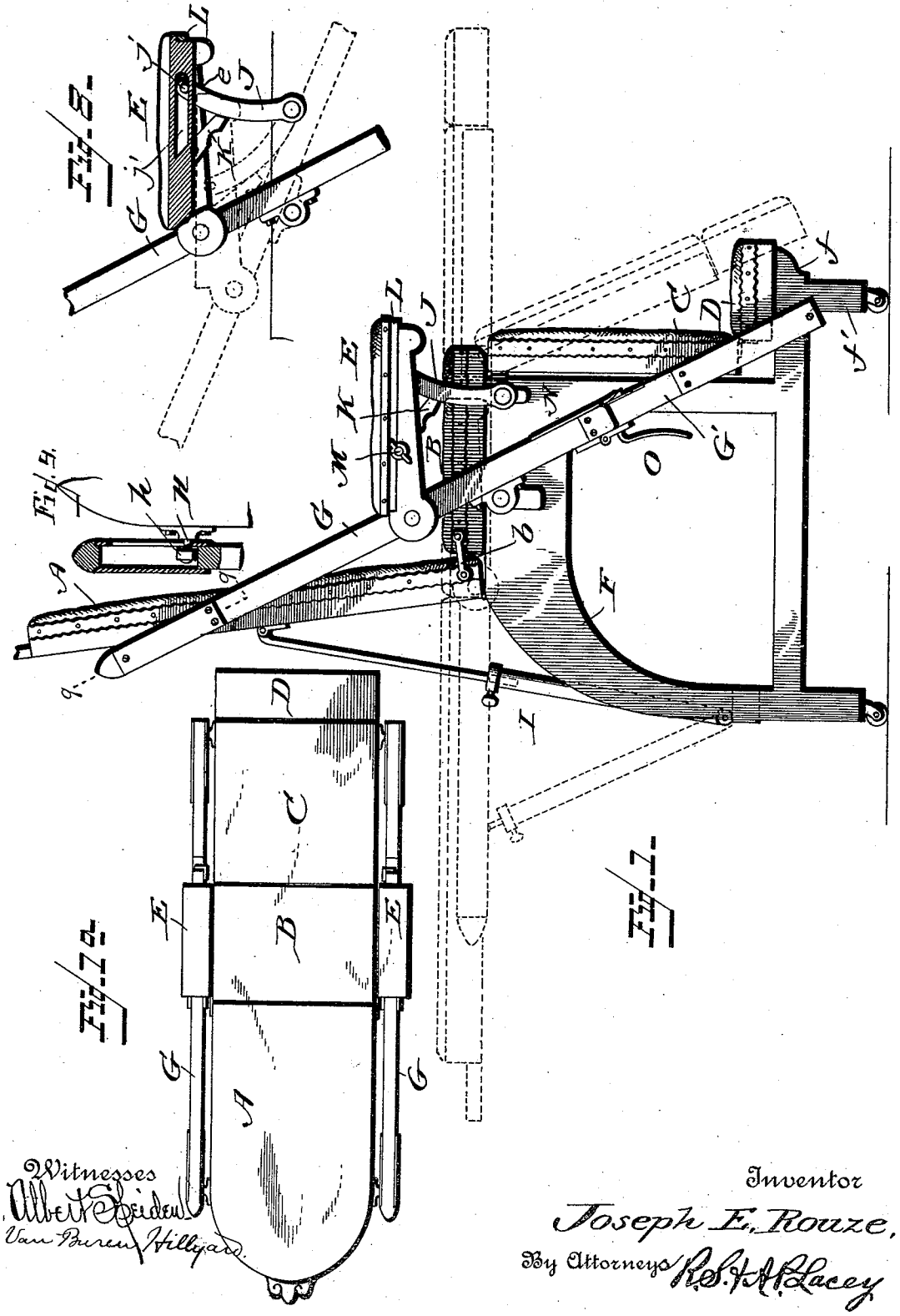
(No Model.) 2 Sheets—Sheet 1.

J. E. ROUZE.

SURGICAL CHAIR.

No. 515,303. Patented Feb. 20, 1894.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

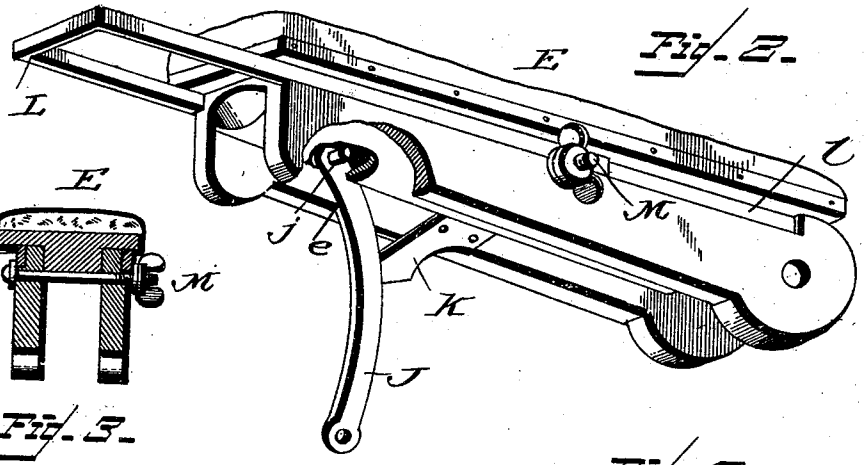


Fig. 3.

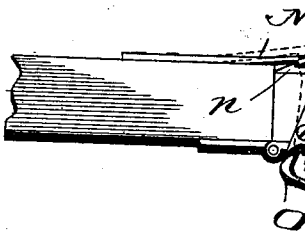


Fig. 4.

Fig. 5.

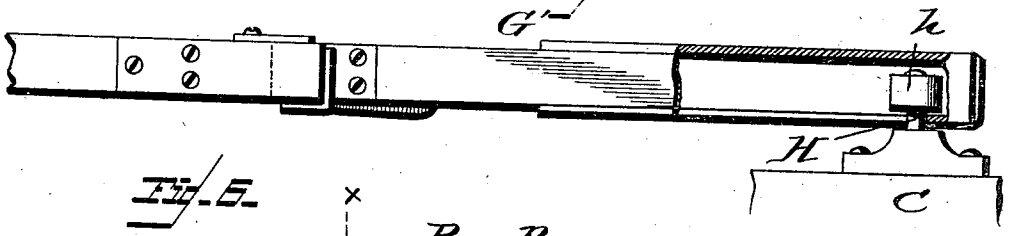


Fig. 6.

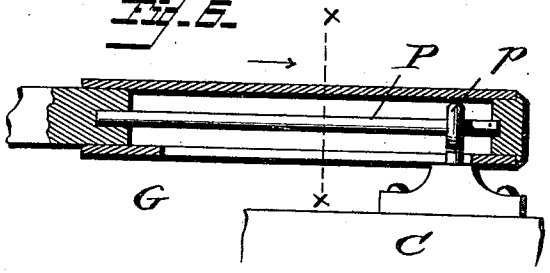
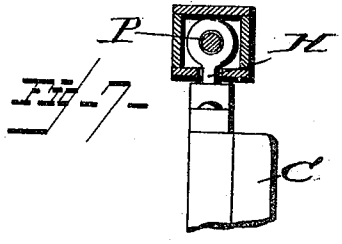


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOSEPH E. ROUZE, OF McPHERSON, KANSAS.

SURGICAL CHAIR.

SPECIFICATION forming part of Letters Patent No. 515,303, dated February 20, 1894.

Application filed December 24, 1892. Serial No. 456,242. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. ROUZE, a citizen of the United States, residing at McPherson, in the county of McPherson, State of Kansas, have invented certain new and useful Improvements in Surgical Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to chairs which are especially designed for surgeon's use.

The object of the invention is to fill a long felt want in providing a chair that is readily convertible to a table and to the various positions intermediate the vertical and the horizontal as required, and which will be portable, simple, compact and durable.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a side elevation of a chair embodying my invention, the horizontal position being shown by dotted lines and the foot section being shown dropped from the horizontal position in dotted lines. Fig. 1ª is a top plan view of the invention on a smaller scale showing the chair in a horizontal position and as used for a surgeon's table. Fig. 2 is a perspective view of an arm showing the relative position of the pivoted link for supporting the front end thereof. Fig. 3 is a cross section of the arm showing the means for holding the stirrup in the required position. Fig. 4 is a side view of the lower portion of a side bar showing the operation of releasing the catch by dotted lines, a portion being broken away to show the traveling roller. Fig. 5 is a top plan view of that portion of the side bar shown in Fig. 4, a portion being broken away to show the traveling roller and the mortise in which said roller moves. Fig. 6 shows a modified form of guide between a movable section of the chair and the side bar. Fig. 7 is a cross section on the line X—X of Fig. 6 looking in the direction of the arrow. Fig. 8 is a detail view of the inner side of an arm and a portion of the side bar attached thereto, parts being broken away to show the relative disposition of the pivoted link for supporting the outer end of the arm and the projection when engaging said pivoted link to carry the free end of the same forward when changing the chair from a horizontal to a vertical position. Fig. 9 is a detail section of the upper end of the side bars on the line 9—9 of Fig. 1, showing the means for connecting the back and the side bars.

The chair comprises the back A, the seat B, the front drop section C, the foot rest D, the arms E, the frame F, and the side bars G.

The frame F is suitably constructed to support the several parts and is provided with a forward extension *f* which is strengthened from beneath by a foot *f'* and which is adapted to form a positive support for the foot rest D. By this construction the weight of the patient when stepping upon the foot rest D is imposed directly upon the support or foot *f'* thereby obviating any tendency to the tilting of the chair as is the case where the foot rest is braced from the chair instead of being supported from the floor as in the present instance.

The foot rest D is hinged to the lower end of the front drop section C and forms a prolongation therefor when the said section C is moved from the vertical position. The section C is hinged at its upper end to the frame F and is connected at its side near the free end by suitable guides with the side bars G. The pins H extending laterally from the side of the section C project into grooves or mortises formed in the side bars and have rollers *h* mounted thereon to travel in said grooves and relieve the friction between the moving parts. The groove or mortise in the side bar is closed by a slotted plate through which the pins H extend.

The seat B is placed loosely upon the frame and is adapted to move thereon, being connected by links *b* with the back A. The front portion of the seat B extends over the top edge of the drop section C, as shown by the full lines in Fig. 1. By reason of the link connection *b* the seat B will move to the rear of the frame a short distance on dropping the back from the vertical to a horizontal position as shown by the dotted lines in Fig. 1. By this arrangement a close joint is

obtained between the opposing ends of the parts A, B and C, as shown most clearly in Fig. 1ª.

The back A is hinged at its lower end to the frame F and is connected at its sides by suitable sliding connection with the side bars. The sliding connection between the side bars G and the back A is precisely the same as that provided between the section C and the said side bars and is shown in Figs. 4 and 5. The back is braced from the frame by means of the adjustable connection I which is pivoted at its ends to the frame and the said back, respectively. This brace I is adjustable in length to vary the position of the back and admit of the same being adjusted from a vertical to a horizontal position or to any point intermediate of these two positions. In the preferred form of construction the lower portion of the brace is made tubular and the upper portion is adapted to slide therein, being held at the required position by a suitable binding screw.

The arms E are pivotally connected at their rear ends directly to the side bars G and have their front portions supported by means of pivoted links J which are supported at their lower ends upon the frame F. These links J are slightly curved in their length and are provided at their upper ends with a pin *j* which forms a positive connection between the arms and the said pivoted link. A shoulder *e* on the arm E is provided for the upper portion of the link J to engage with and limit the forward movement of the same. A projection K located in the rear of the shoulder *e* is adapted to engage with a link J and move the same forward when elevating the back A to a vertical position,

The stirrup L is of approximately U-shape, and is adapted to have its parallel members slide in ways *l* provided by rabbeting the sides of the arms E. A clamp bolt M passing transversely through the arm is constructed to clamp the parallel members of the stirrup against the side of the arms and hold the stirrup in the required position.

The side bars G in the simplest form of construction are straight throughout their length and are pivotally supported midway of their ends to the side of the frame F and are attached near their ends to the back A and the drop section C by adjustable or sliding connections substantially in the manner herein set forth. The connections between the side bars and the back, the drop section C, and the arms are so disposed that on turning the said side bars to a horizontal position the several parts A, B, C, D and E will assume a horizontal position and lie in the same plane forming in effect a perfectly level surface or table, as shown by the dotted lines in Fig. 1. By having the arms E drop to the plane of the seat B the table is widened at a point intermediate of its ends where it is desirable to have the greatest width. In some instances it is desirable to have the sections C and D out of the way when the back A is in a horizontal position and to effect this result the side bars G are made in sections which are connected together by a hinged joint as shown most clearly in Fig. 4. The lower section G′ is held in alignment with the upper section by means of a catch N and a stop *n*, the catch being carried by the upper section and the stop by the lower section. A releasing lever O is pivoted to the lower section G′ and its upper end is beveled and normally projects in front of the beveled end of a catch N. On operating the lever O the beveled end thereof is engaged with the catch N and releases the same from the stop *n* and permits the section G′ to drop.

In providing an adjustable or sliding connection between the parts A and C and the side bars any well known means that will effect a positive connection between the said parts and the side bars may be provided, an instance of a well known connection being shown in Figs. 6 and 7, the same consisting of a rod or bar P and an eye *p* which is adapted to travel upon the said rod or bar P and has its shank attached to the parts A or C in such a manner as to turn to adapt itself to the various positions necessary to prevent binding between the said eye and the bar P.

It will be understood that the parts A, B, C, D and E will be appropriately upholstered to suit the purpose and taste of the purchaser of the chair. The several parts may be constructed of wood, or metal or a combination of the two, or may be formed of any desired material that will combine lightness, strength and durability. While I have described the invention in its special adaptation to surgical chairs it is obvious that it may be applied to chairs or seats of any known construction that are adapted to be converted or changed from one position to another.

The links J have their upper ends constructed to travel in slots in the arms and held in the said slots by the pins *j* which extend into slots *j′* and serve also to limit the movement of the said links.

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

1. A convertible chair composed of a frame, the back and seat pivotally connected together, the seat adapted to have a limited movement on the frame, a drop section pivoted to the frame, the arms, and side bars having pivotal connection between their ends to the frame and the inner ends of the arms, and having positive sliding connection with the said back and drop section, whereby on tilting the said side bars to a horizontal position, the said back, seat, arms and drop section will assume a horizontal plane and form an operating table, the said arms forming lateral extension of the said table, substantially as described.

2. A convertible chair composed of a frame, a seat adapted to slide on the said frame, a

back, short links connecting the lower end of the back with the seat, a drop section pivoted at its upper end to the frame, arms, links pivoted at their lower ends to the frame and having a sliding connection at their upper ends with the said arms, and side bars pivoted between their ends to the said frame and the inner ends of the arms, and having sliding connection near its ends with the said back and drop section and adapted to be tilted into a horizontal position to bring the said back, seat, arms and drop section in the same horizontal plane, substantially as described for the purpose specified.

3. In a convertible chair, the combination with the frame, of side bars pivoted to the said frame, arms pivoted at their rear ends to the said side bars a short distance from their pivotal supports, links pivoted at their lower ends to the said frame and having sliding connection at their upper ends with the forward portion of the said arms, and projection K extending from the said arms to engage with the pivoted links and brace the same, substantially as and for the purpose described.

4. In a convertible chair, the combination with the frame and a drop section, of side bars pivoted to the said frame and composed of hinged sections, the lower section having a sliding connection with the said drop section, and a catch to hold the sections of each bar in alignment, substantially as described.

5. In a convertible chair, the combination with the frame and a drop section, of side bars pivoted to the said frame and composed of hinged sections, the lower section having a sliding connection with the said drop section, a catch to hold the sections of said side bars in alignment, and a lever to be actuated for releasing the said catch, substantially as and for the purpose described.

6. In a chair the combination with the frame having a forward extension *f* and feet *f'* directly under the said extension, of a drop section C having foot rest D to rest upon the said extension *f*, substantially as and for the purpose described.

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

JOSEPH E. ROUZE.

Witnesses:
L. P. WHITAKER,
JESSIE D. KINGSBERY.