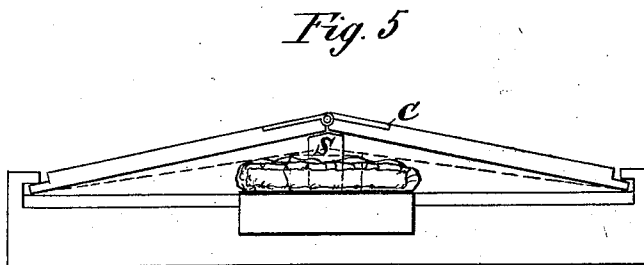
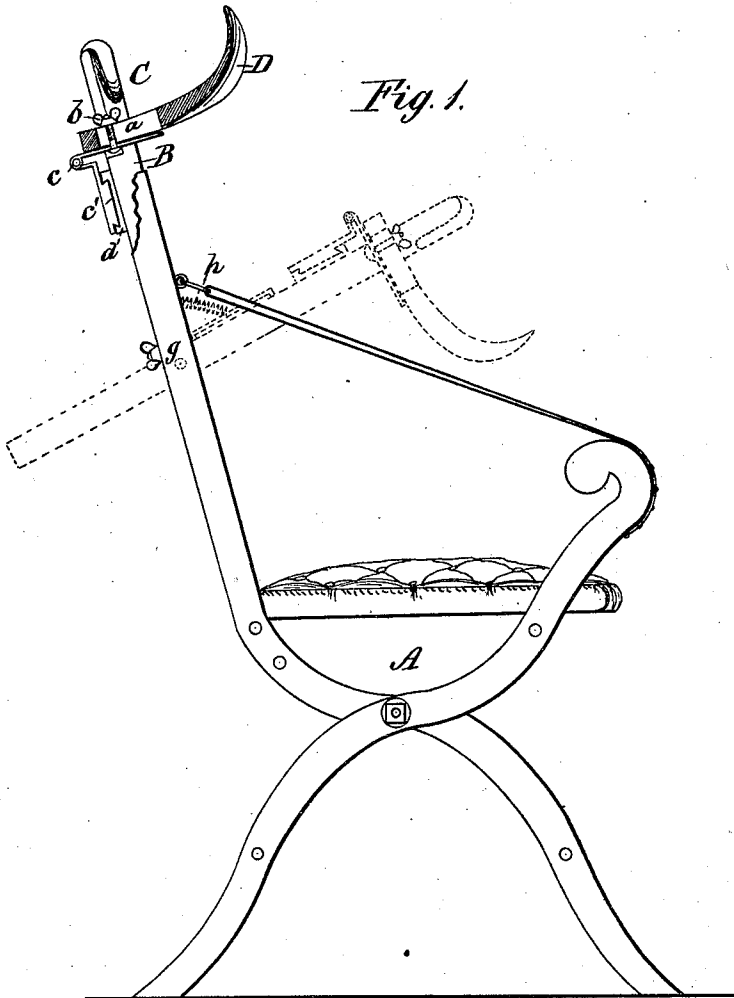


J. W. BARNES.
CHAIR.

No. 177,193.

Patented May 9, 1876.



WITNESSES:

Leon Kemon
Chas. A. Pettit

INVENTOR:

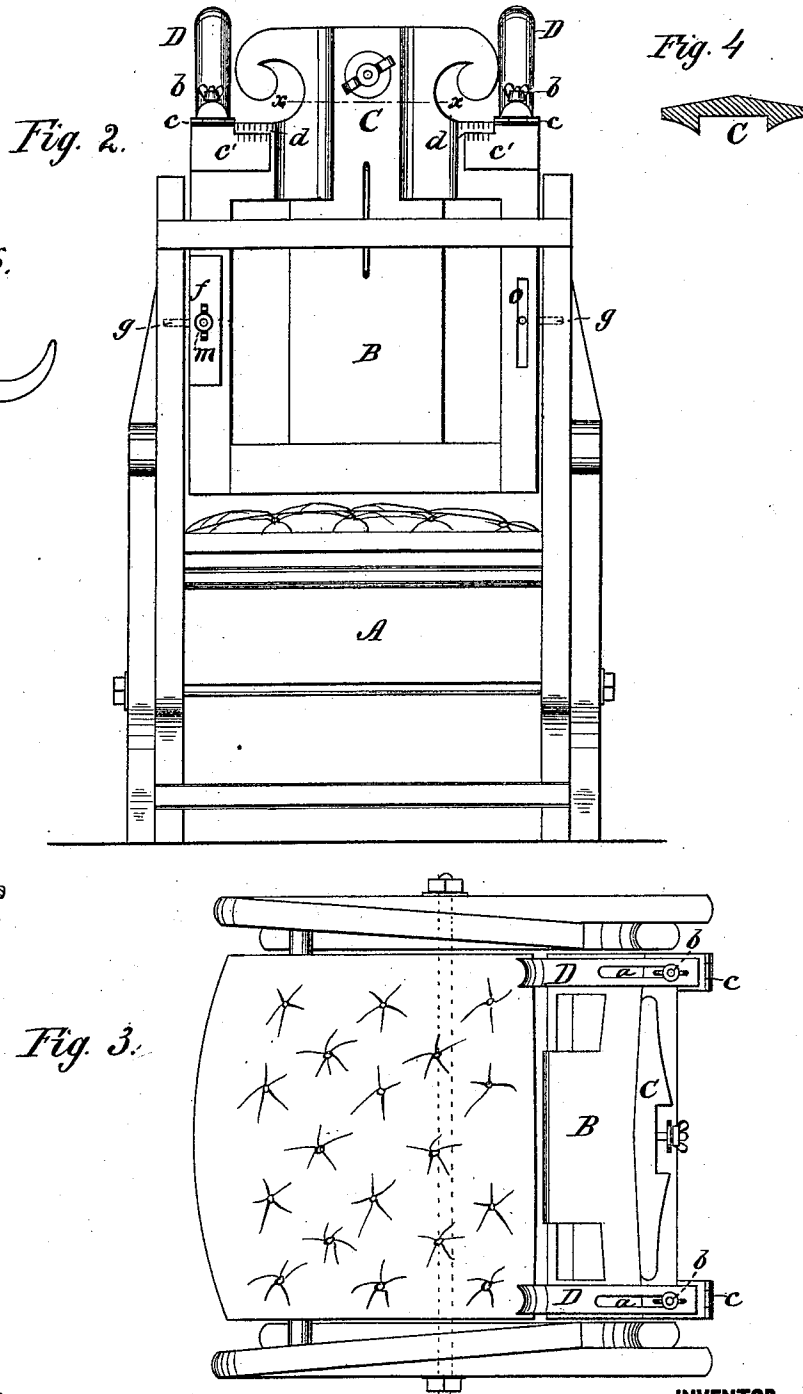
James W. Barnes
BY *Wm. T. C.*

ATTORNEYS.

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WITNESSES:

John C. Kemmon
Chas. A. Pettit

INVENTOR:

James W. Barnes
BY *[Signature]*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES W. BARNES, OF NAVASOTA, TEXAS, ASSIGNOR TO HIMSELF, RIGDON QUINNEY, AND CHARLES C. GIBBS.

IMPROVEMENT IN CHAIRS.

Specification forming part of Letters Patent No. **177,193**, dated May 9, 1876; application filed January 5, 1876.

To all whom it may concern:

Be it known that I, JAMES W. BARNES, of Navasota, in the county of Grimes and State of Texas, have invented a new and useful Improvement in Chairs, Lounges, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side elevation, with one of the shoulder-supports in section; Fig. 2, a rear elevation; Fig. 3, a plan view; Fig. 4, a section of the shoulder-plate through line *xx* of Fig. 2, showing the backward inclination of said plate. Fig. 5 shows the adjustment of the backward inclination of the shoulder-plate. Fig. 6 is a modification of the means for enabling the occupant to get in or out of the chair.

The object of my invention is to provide an improved invalid-chair especially adapted to the use of persons afflicted with pulmonary affections, curvature or weakness of the spine, and other kindred diseases, but applicable also in some of its features of construction to chairs, lounges, or beds in general use. It consists in the construction of the shoulder-plate or upper portion of the back of the chair; in the shoulder-supports attached thereto; and in the movable back, to enable the person to get in or out of the chair, all as hereinafter more fully described.

In the drawing, A represents a chair of any ordinary or suitable construction; B, the movable back; C, the shoulder-plate, and D D the shoulder-supports. The said shoulder-supports consist of stiff inflexible upwardly-curved horns or crutch-shaped pieces, whose shanks are slotted at *a*, and fastened by a screw-stem and nut, *b*, to a hinged plate, *c*, so as to be adjusted either forward or backward, or, if needs be, thrown entirely back upon the hinge and out of the way. The hinged plate *c* is made with a slide, *c'*, which is graduated and moves laterally in guideways *d*, so that the shoulder-supports have not only an adjustment upon their hinges, but may be moved either forward or backward or laterally, according to the different sizes and respective needs of different occupants. These shoulder-

supports, as thus described, are arranged upon the outer extremities of the shoulder-plate, so as to rest beneath the arm-pits. They thus serve to hold back the shoulders and expand the lungs, and for this reason are specially advantageous to consumptives. Their principal and most advantageous use, however, is to support the body in cases of curvature and weakness of the spine, the supports in this case relieving the spine of nearly all of the weight of the body, and thus allowing the natural recuperation and straightening of the spine, by allowing the ingrowth of new cartilaginous material between the vertebræ of the column.

To facilitate the expansion of the lungs I construct the shoulder-plate or top part of the back with an angular or curved inclination to the rear from the middle upon both sides. This gives plenty of room for the shoulders to be thrown back, and is founded upon the principle that to straighten that which is bent the same must be bent in the opposite direction and beyond the straight line which it is desirable it should assume. This feature of the backward inclination of the sides of the shoulder-plate is applicable also to beds, lounges, &c., and the angle of the backward inclination will be about ten degrees, more or less. It may be varied, however, at will, by making the said shoulder-plate in two pieces, and hinging them in the center, as shown in Fig. 5, so as to give a variable inclination.

By constructing the shoulder-plate of two hinged leaves, and employing a block, S, or other convenient means, any desired inclination may be given to the sides of the shoulder-plate. When blocks are employed for the adjustment, either different sizes of the same are used or the different transverse dimensions of the same block are used for this purpose. To adapt the height of the back of the chair to the varying sizes of the different occupants it is made with a vertical adjustment, the back being slotted at *o* and clamped in different vertical positions by the plate *f* and screw stem and nut *m*.

To enable the occupant to get readily into and out of the chair the back is hinged upon pivots *g* attached to the clamping devices, and

is held in a vertical position by a spring, *h*. Said spring allows the occupant in getting out of the chair to bend the back forward upon its pivots, so as to free himself from the arm-supports, and yet immediately restores the back to its vertical position as soon as the chair is vacated.

I do not limit myself, however, to this means of facilitating getting into or out of the chair; and instead of using the pivots I may employ simply, in connection with the vertical adjustment, a set of vertically-operating springs, and make the whole back slide up and down at will, a detent with ratchet-teeth being employed in conjunction therewith to determine the fixed position.

Having thus described my invention, what I claim as new is—

1. The combination, with the upper portion of the back of a chair, of stiff inflexible arm-supports, adapted to fit beneath the arm-pits and support the body, substantially as and for the purpose described.

2. The shoulder-supports *D*, having slots *a*, in combination with the screw-stem and nut *b*, the hinged plate *c*, carrying a slide, *c'*, and the guideways *d*, substantially as and for the purpose described.

3. The shoulder-plate, consisting essentially of two hinged leaves, in combination with a suitable adjusting device, as and for the purpose described.

4. The combination of the shoulder-supports *D* with the shoulder-plate *C*, having a backward inclination from the center, as and for the purpose described.

5. The movable back, carrying shoulder-supports, pivoted to the chair-frame at *g*, and having a retracting-spring, *h*, substantially as and for the purpose described.

JAMES W. BARNES.

Witnesses:

EDWD. W. BYRN,
SOLON C. KEMON.