

J. CLOUGH.
Reclining Chair.

No. 228,869.

Patented June 15, 1880.

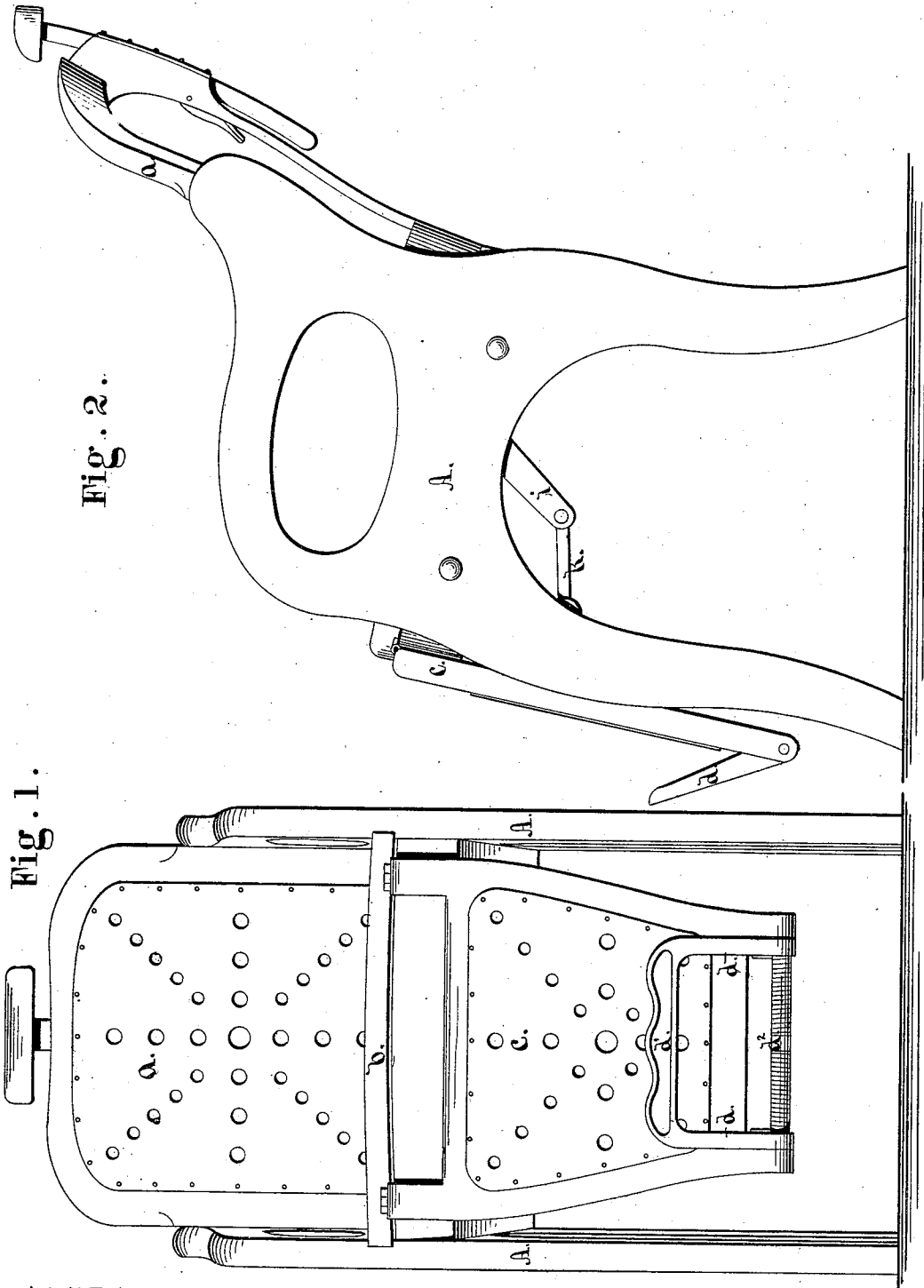


Fig. 1.

Fig. 2.

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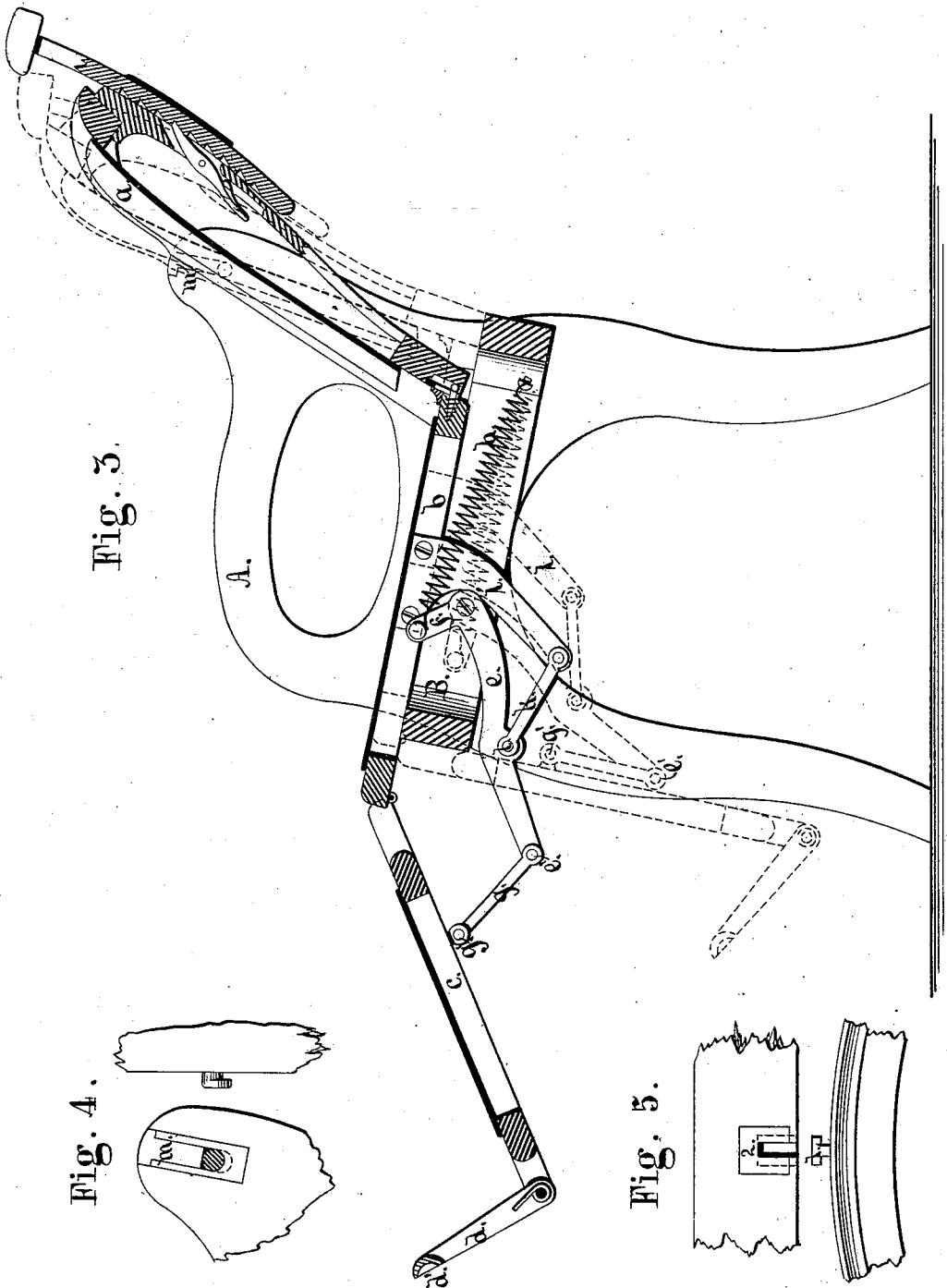
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UNITED STATES PATENT OFFICE.

JOSEPH CLOUGH, OF PROVIDENCE, RHODE ISLAND.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 228,869, dated June 15, 1880.

Application filed July 7, 1879.

To all whom it may concern:

Be it known that I, JOSEPH CLOUGH, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Reclining-Chairs; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a front view of my improved reclining-chair. Fig. 2 is a side view of the same. Fig. 3 is a sectional view, showing the parts in solid lines in the reclining position and in broken lines in the sitting position. Fig. 4 shows the hinge or pivot on which the back swings, and Fig. 5 the sliding hinge by which the back and sliding seat are connected.

This invention has reference to reclining-chairs in which the position can be readily changed from a sitting to a reclining position, and vice versa, by the person sitting in the chair or by an attendant, when desired. Such chairs are peculiarly well adapted for barbers' chairs, but can be used for railroad-cars and all other purposes where reclining-chairs are desired.

The invention consists in the peculiar and novel arrangement of levers by which the seat, the back, and the leg-rest are connected by means of levers, so as to operate simultaneously in the desired direction, and are restrained in their motion by a coiled spring or springs.

The invention further consists in the peculiar arrangement of an automatic adjustable spring-pressed foot-rest, and in the peculiarly-constructed hinge on which the back is pivoted, all of which will be more fully set forth hereinafter, and pointed out in the claims.

In the drawings, A A are the two sides of a chair, which are firmly secured by bolts to the frame B. *a* is the hinged back of the chair. *b* is the sliding seat. *c* is the leg-rest, and *d* the foot-rest.

The back *a* is connected with the sliding seat *b* by means of a T-bolt, 1, sliding in the slot of the plate 2, so that in all positions occupied by the back and seat the joint between

the back and seat is always closed and the clothing of the occupant is not liable to get into this joint.

Another advantage in this arrangement is, that the sliding seat moves always in the same plane, and no part of the same is either raised or lowered in changing its position.

The leg-rest is hinged to the sliding seat by ordinary hinges, and the foot-rest is pivoted to the lower end of the leg-rest.

In a reclining-chair it has always been difficult to secure a foot-rest that can automatically adjust itself to the length of the legs of the occupant, and also will allow of such changes in the position of the feet as will conduce to perfect rest.

To accomplish this I construct my foot-rest of the arms *d*, pivoted to the lower part of the leg-rest, and unite the two arms by the cross-bar *d'*, preferably rounded on top, and made to conform somewhat to the shape of the boots or shoes, so as to give a better rest to the same and to prevent the sliding of the feet on the rest. The rod *d''*, forming the pivot on which the foot-rest is hinged, I surround with two spiral springs, one end being fixed to the rod and the other ends to the arm *d*. The action of these springs holds the foot-rest against the leg-rest, and the cross-bar *d'*, when in the position shown in Fig. 2, can be reached by a person with very short legs, and can be pushed into any desired position against the resistant pressure of the springs to suit the length of the legs of any person. As the legs rest against the leg-rest the feet require but little support, and the pressure of the springs, by giving an elastic support to the feet, secures a pleasant yielding support, more agreeable and more restful than a rigid support can be.

The system of levers by means of which the foot-rest and sliding seat are connected and operated consists of a pair of the bell-crank levers *e*, having the short arm *f* at their upper end. These bell-crank levers are pivoted one on each side of the frame B, the lower end of the lever *e* being connected with the leg-rest by the link *g*. The length and position of the bell-crank *e* and the link *g* are such that when folded in the position shown

in broken lines in Fig. 3 the pivotal point g' , where the link g is connected with the leg-rest, will be on a line or within a line drawn from the hinge connecting the leg-rest with the seat to the pivot e' , and in this position the lower end of the lever e is prevented from rising until the foot-rest is moved slightly outward.

If desired, the point g' may be made to extend farther from the leg-rest, and the whole operation of the chair may be controlled by the foot or leg rest. In a railroad-seat or other reclining-chair this would be desirable; but in a barber's chair I prefer to use the levers as shown in the drawings, and control their action by the coiled spring h , secured to the rear portion of the frame B and to a stud on the arm f of the bell-crank lever, which arm is placed at such an angle that when the chair is in the position shown in broken lines in Fig. 3 then the strain on the spring h is on a line with the fulcrum of the bell-crank lever, and when in the position shown in solid lines in the same figure, then the tension on the springs h (two of which are usually employed, one on each side) will support the bell-crank lever in the position shown and all parts connected with the same. The seat and back, being united by the peculiar sliding connection shown in Fig. 5, are also operated by the bell-crank lever e , the seat having the curved arm i rigidly secured thereto, which arm i , extending downward, is connected with the bell-crank lever at l by the link k , and as soon as the spring h draws in the short arm and extends the long arm of the bell-crank lever the seat is drawn forward by the link k until the arm i rests against the bell-crank lever, and thus forms a stop, all parts being firmly held in this position by the springs h .

If no leg or foot rest is desired, then the bell-crank lever e may stop at the place l , where the link k is connected with the same, and the springs h will operate and hold the sliding seat and the back the same as if the leg-rest were secured and operated. In many cases this construction is preferable for barbers' chairs, as the usual foot-support may be used.

It will be observed that this improved chair is limited to two positions, in each of which it is firmly locked and held by the springs h ; that there are no pawls, ratchet, or other devices that have to be manipulated, but that the occupant can move from one position to the other as readily as he can move any part of his body. He does not have to learn the use of secret devices by which he may wind himself up or down, but at once, without previous experience, can operate the chair at will, and so readily that it almost seems to be operated by his will.

Although there are only two fixed positions at which the parts are firmly locked, intermediate positions may be readily retained by

a little exertion, and the locked reclining position may be much farther extended, so as to approach a couch more nearly than is indicated in the drawings.

The hinge on which the back is pivoted is shown in Fig. 4, and consists of a metal slide in which a pin provided with a shoulder turns. The slide m can be withdrawn and the back removed when the chair is to be taken apart, and when connected the back is so firmly secured that the sides are firmly braced by the same.

These chairs are simple and substantial in construction, and are entirely automatic in their operation, and not liable to get out of order.

The head-rest shown in the several figures is supported on a curved stem which slides in a socket extending from the back of the chair, arranged so that the head-rest is movable in a line obliquely to the vertical line of the back, intersecting the back at or near the top of the back, so that the head-rest will support the head of a person in any position, in the same manner as the head-rest shown and described in Patent No. 192,898, issued to me July 10, 1877.

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

1. The combination, with a leg-rest, of pivoted or hinged foot-rest and springs connected with the pivotal bar for receiving the pressure exerted upon the foot-rest, and thereby enabling the latter to serve as a yielding foot-support, substantially as set forth.

2. In a reclining-chair, the combination, with the chair, of a leg-rest provided with a foot-rest pivoted to the leg-rest, and arranged as described, to give a yielding support to the feet, as described.

3. In a reclining-chair, the combination, with the hinged back and sliding seat, of the bell-crank levers e f , the springs h , and the link k , connecting the bell-crank lever with the seat, arranged to hold the seat and back in a sitting and reclining position, as described.

4. In a reclining-chair, the combination, with a sliding seat, of a bell-crank lever connected with the seat by means substantially as described, and a spiral spring connected with the bell-crank lever, substantially in the manner described, so as to automatically lock the seat, as described.

5. The combination, with the seat of a chair and the hinged leg-rest, of the bell-crank lever e f , link g , and the spring h , connected with the short arm of the bell-crank, and arranged to hold the leg-rest in a raised position, as described.

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