

(No Model.)

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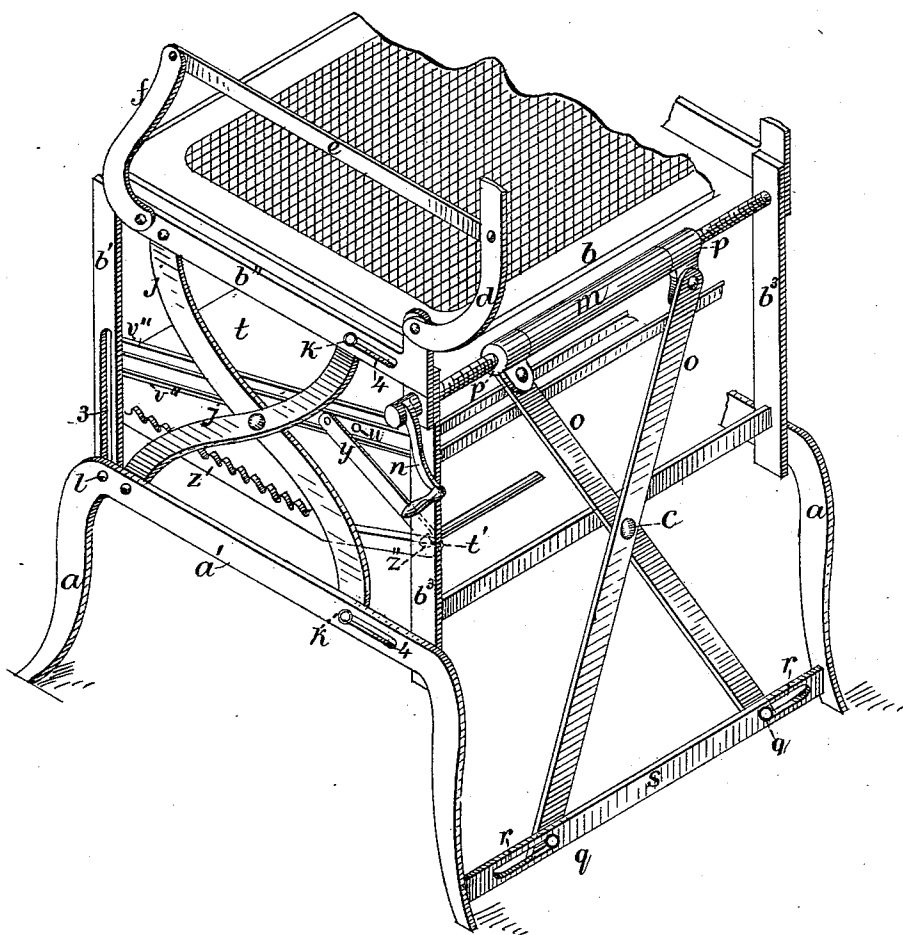
J. POOLMAN & F. R. MARKS.

ADJUSTABLE SURGICAL AND INVALID CHAIR.

No. 278,818.

Patented June 5. 1883.

Fig. 1.



ATTEST:
Cm. Smith
J. J. Phillips.

INVENTORS:
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(No Model.)

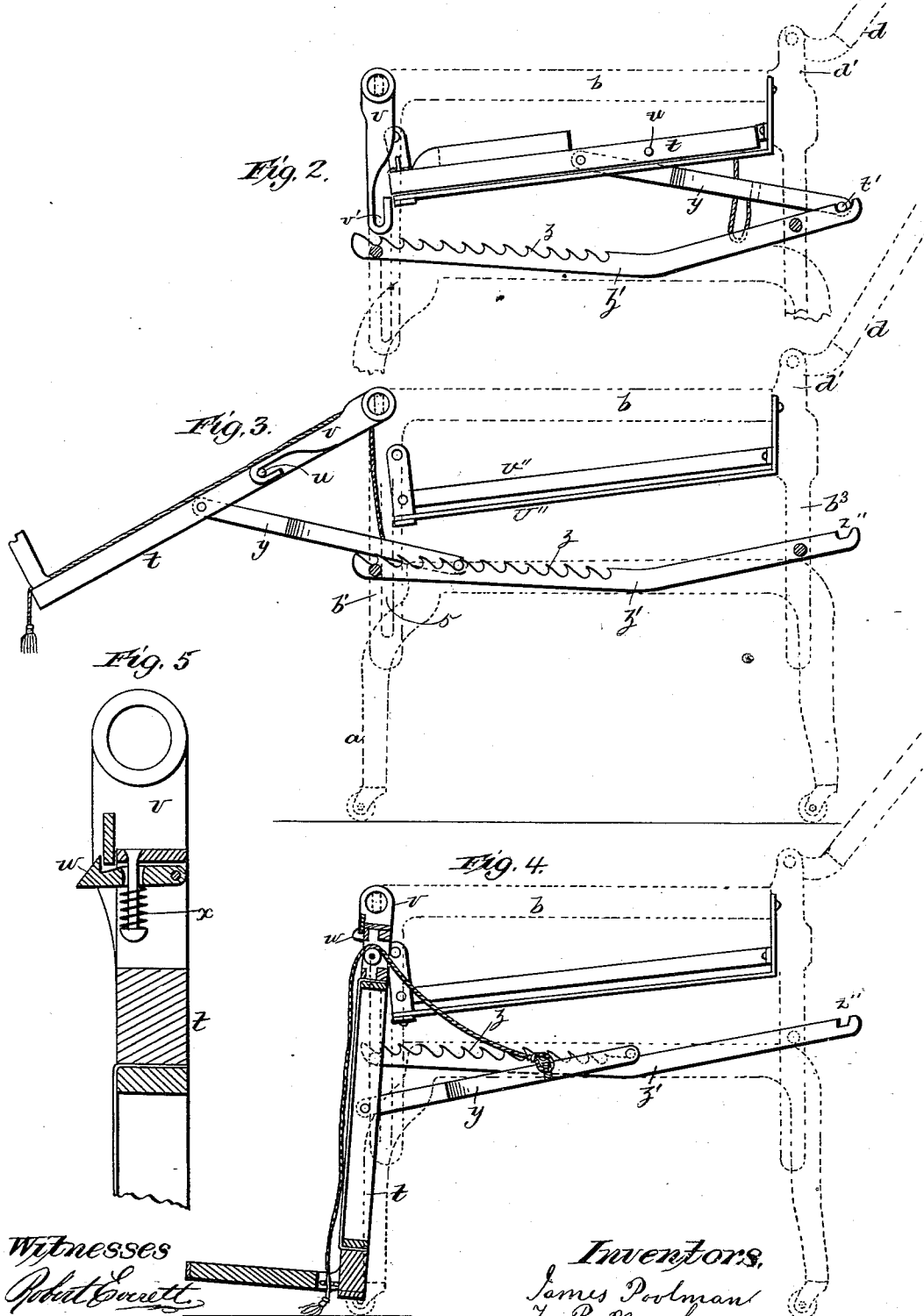
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Witnesses
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(No Model.)

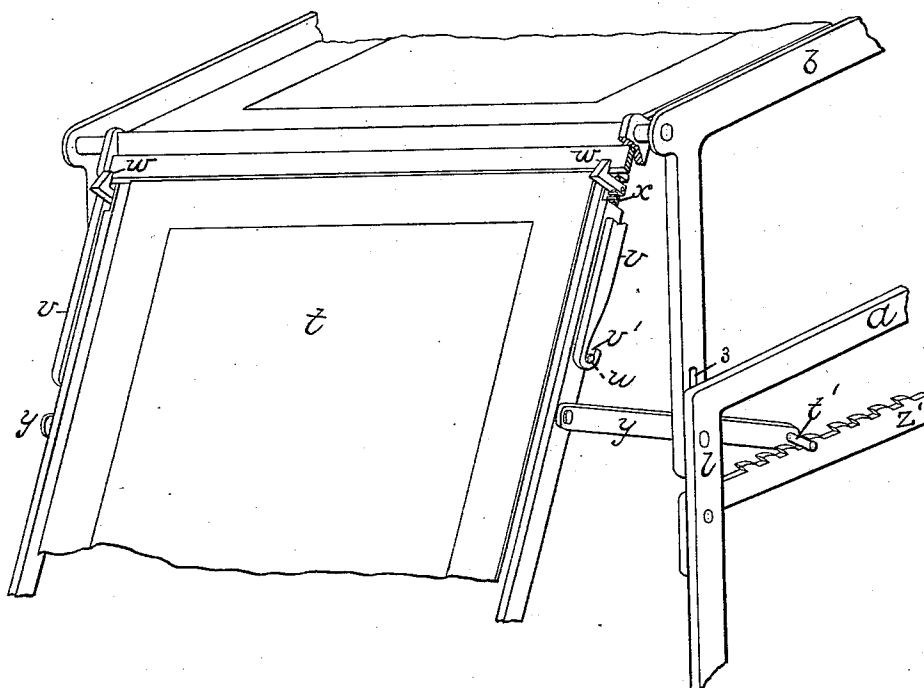
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Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES POOLMAN AND FRANK R. MARKS, OF NEW YORK, N. Y.

ADJUSTABLE SURGICAL AND INVALID CHAIR.

SPECIFICATION forming part of Letters Patent No. 278,818, dated June 5, 1883.

Application filed September 10, 1881. (No model.)

To all whom it may concern:

Be it known that we, JAMES POOLMAN and FRANK R. MARKS, citizens of the United States, and both residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Adjustable Surgical and Invalid Chairs, of which the following is a specification.

Our invention relates to improvements in that class of chairs which is designed more especially for surgical uses; and it consists in the combination and arrangement, with the seat and base-frame of the chair, of a right- and left-hand screw, connecting levers, and curved brace-rods, whereby the seat-frame can be moved up and down within the base-frame; also, in the combination of hooks, studs, and spring-catches for suspending and locking the foot and leg section to the seat-frame, all as will be more fully hereinafter set forth.

In the accompanying drawings, which serve to illustrate our improvements, Figure 1 is a perspective view, taken from the rear, of the back and one side of a chair containing our invention, and showing the mechanism for elevating and lowering the seat-frame. Fig. 2 illustrates the foot and leg section detached, and in a closed position under the chair-seat, the latter and a portion of the chair-frame being shown in dotted lines. Fig. 3 illustrates the foot and leg section in its open position and attached to the seat-frame for supporting the feet and legs, the seat and a portion of the chair-frame being shown in dotted lines. Fig. 4 illustrates the foot and leg section hanging in a vertical position at the front of the chair, the seat and a portion of the chair-frame being shown in dotted lines. Fig. 5 is a broken sectional view, showing the upper portion of the foot and leg section, its spring-catch and hooked hanger; and Fig. 6 is a perspective view, enlarged, showing the front portion of the seat-frame, and foot and leg section suspended therefrom and in an extended position.

a represents the fixed base or supporting-frame, mounted on casters, and *b* the seat-frame, which moves therein. *e* are the arms of the chair, pivoted at their rear ends to the back-frame *d* and at their front ends to the upright curved portion *f*, which in turn is pivoted to the side bars *b'* of the seat-frame *b*. The seat-

frame *b* and base-frame *a* are connected together by bracing-bars arranged on each side, which are operated by a screw mechanism in the rear of the frame.

To the front end of each of the side bars *b'* of the seat-frame is pivoted the upper end of a curved diagonal brace-bar, *j*, whose lower end, by means of pin *k*, is pivoted to and slides in a horizontal slot, *4*, formed in the rear end of each of the side bars *a'* of the base-frame. To the center of said bars *j* is pivoted crosswise a similar bar, whose upper end is connected to the rear end of the side bar *b'* by a slot, *4*, and pin *k*, as before described, and whose lower end is pivoted to the front end of the side bar *a'* of the base-frame.

Into the upper part of the rear legs, *b''*, of the seat-frame *b* is journaled a screw, *m*, having formed on it a right and left screw-thread, and which projects outside said legs to receive a crank, *n*.

o o are levers, which are connected at their upper end to nuts *p p*, which latter are correspondingly threaded to work on the screw *m*. These levers cross each other, and are secured at their point of intersection by a pin, *c*. Their lower ends, by means of pins *q*, are pivoted to and work in slots *v*, formed in the cross-rail *s* of the base-frame *a*.

The seat-frame *b* slides up and down within the base-frame *a*, and the front legs, *b'*, of the seat-frame are slotted (seen at 3, Fig. 1,) and connected to the inside of the front legs of the base-frame by pins *l* on the latter. The rear legs of both frames are left disconnected, simply serving as braces to each other.

In Fig. 1 the seat-frame is shown as elevated to a considerable height above the base-frame. To accomplish this the crank *n* is turned in one direction, rotating the screw *m* and causing the nuts *p* to approach each other, carrying with them the levers *o o*, which are made to assume a position more or less vertical, and at the same time the brace-bars *j j*, connecting the sides of the seat-frame and base-frame, are made to assume a similar position. A reverse movement of the screw will lower the seat-frame.

t represents the foot and leg section of the chair. This is so suspended from the seat-frame that it can at any time be entirely removed

therefrom and put out of the way. On each end of the front rail of the seat-frame, within the side bars or rails, is pivoted a hooked hanger, *v*, (see Figs. 2 and 3,) the hook having a deep socket, *v'*, and on each side rail of the foot and leg section is arranged a stud or pin, *u*, adapted to engage with the hook end of the hanger. At each end of the top bar of the foot and leg section is also provided a latch or catch, *w*, which is operated by a spring, *x*, arranged beneath it.

In Fig. 2 the foot and leg section is shown as detached from the seat-frame and pushed under it, upon a supporting-frame formed of two parallel bars, *v''*, their front and rear ends being connected, respectively, to the front and rear legs of the seat-frame, the lower ones forming a shelf upon which the said section slides, and the upper ones serving as guide-rails.

To the side bars of the foot and leg section are pivoted the outer ends of two arms, *y*, the inner ends of which are connected by a cross-bar. On the lower ends of these arms is provided a pin, *t'*, to engage with the teeth of the ratchet-bar *z'*, by which means the foot and leg section can be held at any desired inclination. The ratchet-bar *z'* is bent upwardly about midway of its length, and has in its rear end a notch, *z''*, so that when the foot and leg section is pushed beneath the seat the pin *t'* on the arms *y* will engage with this notch *z''* and lock the said section thereunder, as shown in Fig. 2.

The bars *v''*, which form the shelf to support the foot and leg section when folded under the seat, are set at an inclination, as shown, to facilitate the sliding in of the said section. When the foot and leg section is drawn out from under the seat the pins *u* will engage with the hook end of the hangers *v*, and a slight tilting of the upper end of the said section will cause the catches *w* to engage with the front cross-bar of the seat-frame, and the foot and leg section will be locked to the seat-frame.

We are aware that a right-and-left-hand screw for raising separate portions or sections of a chair is not new, and such, broadly, we do not claim as our invention; but

What we do claim as our improvement, and desire to secure by Letters Patent, is—

1. In a surgical or invalid chair, the combination, with the base-frame, and seat-frame arranged within the base-frame, of a right-and-left-hand screw-rod journaled in the rear legs of the seat-frame, screw-nuts working on said rod, pivoted cross-levers secured at their upper ends to the said nuts, and their lower ends pivoted to and working in slots formed in the lower cross-bar of the base-frame, and curved cross-brace bars pivoted together at their point of intersection, and pivoted at their front ends to the front portion, respectively, of the side bars of the seat-frame and base-frame, and their rear ends pivoted to and working in slots in the rear ends of said side bars of the seat and base frame, and the front legs of the seat-frame and front legs of the base-frame having a similar pin-and-slot connection, all being so combined and arranged that when the screw is rotated the seat-frame moves up and down within the base-frame, and the seat, back, and foot and leg section are elevated and lowered together, substantially as set forth.

2. The combination, with the seat-frame *b* and hooked hangers *v v*, pivoted to the front bar thereof, of the foot and leg section *t*, having studs *uu* to engage with said hooked hangers, arms *y y*, latches *w w*, and springs *x x*, for operating said latches, whereby the said section is suspended from the seat-frame and locked in position, substantially as set forth.

3. The combination, with the foot and leg section *t*, pivoted arms *y*, provided with pins *t'*, and bars *v''*, for supporting said section beneath the seat, of the ratchet-bars *z'*, having notches *z''* in their rear end for engaging the pins *t'*, whereby the foot and leg section is locked in position under the seat, substantially as set forth.

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