

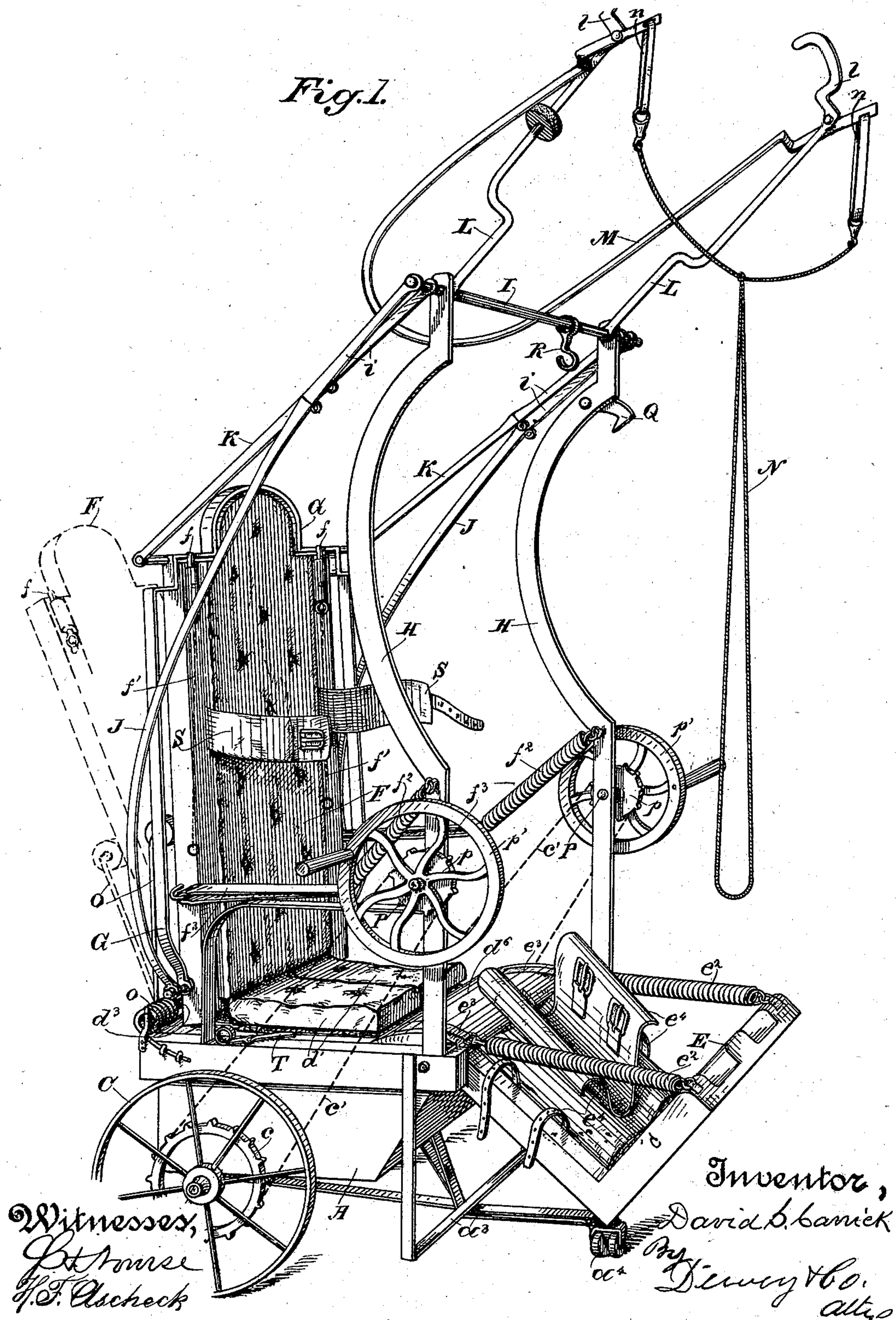
(No Model.)

2 Sheets—Sheet 1.

D. S. CARRICK.  
INVALID CHAIR.

No. 559,119.

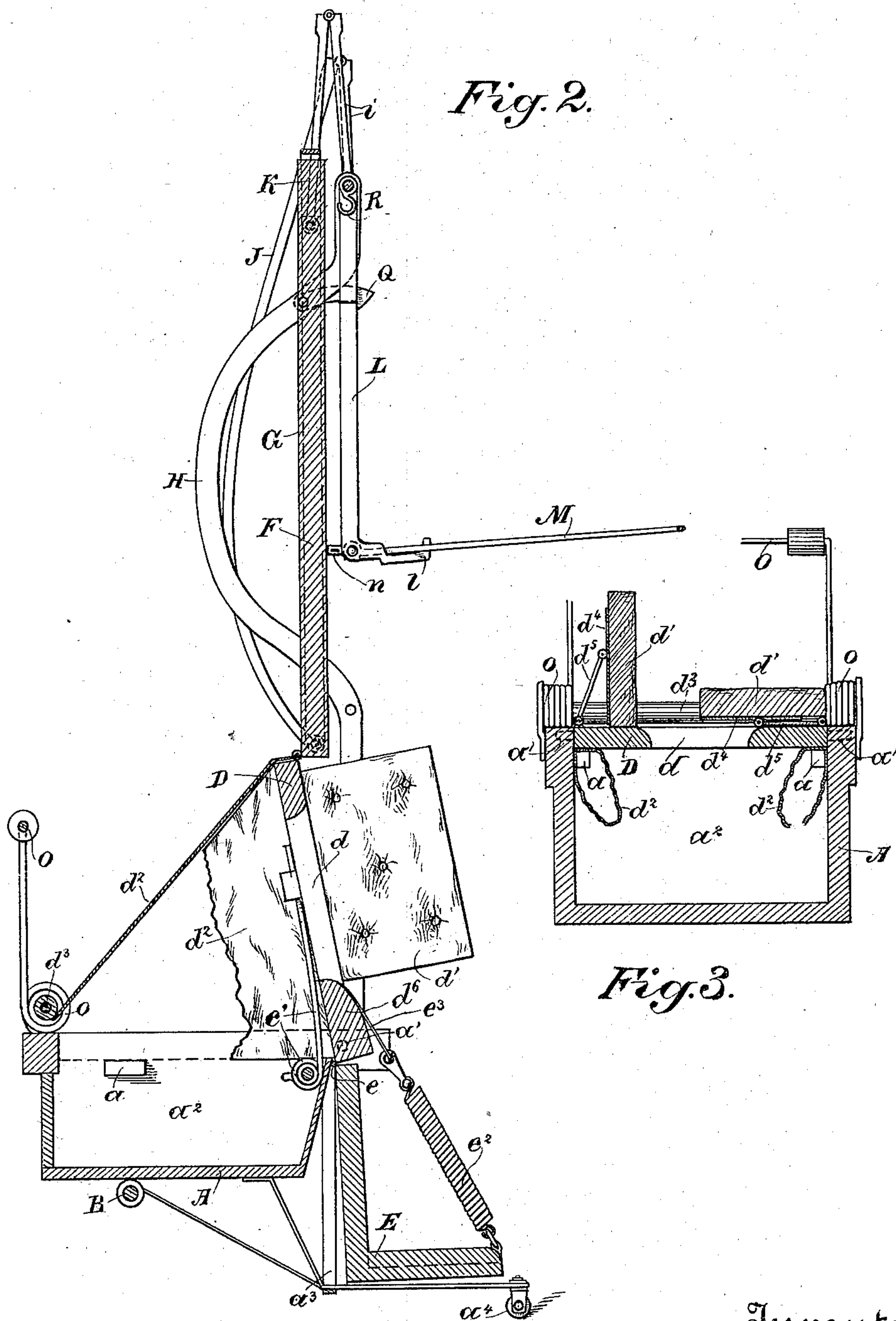
Patented Apr. 28, 1896.



2 Sheets—Sheet 2.

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No. 559,119.



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# UNITED STATES PATENT OFFICE.

DAVID S. CARRICK, OF OAKLAND, CALIFORNIA.

## INVALID-CHAIR.

SPECIFICATION forming part of Letters Patent No. 559,119, dated April 28, 1896.

Application filed July 31, 1895. Serial No. 557,757. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID S. CARRICK, a citizen of the United States, residing in Oakland, county of Alameda, State of California, have invented an Improvement in Invalid-Chairs; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of chairs for invalids; and it consists in the novel construction, arrangement, and combination of parts hereinafter fully described.

The object of my invention is to provide a chair in which the invalid by his own efforts can adjust it to such positions that he can recline, sit up, or be supported erect, and can also propel himself.

Referring to the accompanying drawings, Figure 1 is a perspective view of my chair. Fig. 2 is a vertical section of the same, showing it in an upright position. Fig. 3 is a transverse section through the body of the chair.

A is the body of the chair, consisting of a frame mounted upon an axle B, upon which wheels C are journaled. Into the top of this body-frame is fitted the seat D, resting therein on cleats  $a$ . The seat is hinged at  $a'$  at its front to the front top of frame A, and said seat has a hole  $d$  in its top, affording communication with the cabinet  $a^2$  under frame A. The hole  $d$  in seat D is normally covered and concealed by cushions  $d'$ , hinged to the seat-top, whereby they may be folded down upon the seat or raised therefrom to expose the hole.

The seat, by being hinged along the front, may turn from a horizontal to an approximately vertical position, and when in this latter position and in order to still cover the cabinet  $a^2$ , a flexible shield or curtain  $d^2$  is arranged to connect the seat and frame A. This curtain is made of suitable material—such as oil-cloth, leather, or the like—and consists of a back piece secured along its upper edge to the back of seat D and along its lower edge to a spring-actuated roller  $d^3$ , similar to a curtain-roller, and side pieces secured to the sides of the seat and to the sides of the frame A. This curtain, when the seat is raised to a vertical position, stretches out and completely covers the cabinet, and when the seat is lowered the back piece of

the curtain winds up on the spring-roller  $d^3$ , while the side pieces fold down within the sides of the cabinet.

To the front of the seat is hinged at  $e$  the foot-rest E, the hinge connection being controlled by strong springs  $e'$ , the tendency of which is to aline the seat and foot-rest by raising the former to its vertical position.

The foot-rest is elastically supported by means of the springs  $e^2$  and straps  $e^3$ , and said rest may have a division for the feet of the invalid and straps  $e^4$  for binding on his legs.

Under the body A is a bracing-frame  $a^3$ , carrying at its forward end a swivel-wheel  $a^4$  under the foot-rest, whereby the chair is guided.

Hinged at the rear edge of the seat is the back F, and also hinged to said seat at its back portion is an open frame G, within which the back F fits freely and to which said back is normally detachably connected by the spring-controlled slide-bolts  $f$  at its top, adapted to engage the top of the open frame G by projecting up in front of said frame. The bolts are released by means of side cords  $f'$  within reach of the invalid, and when so released the back F may be tilted back through the frame G to a reclining position.

Rising from the front of the body-frame A are fixed uprights H, to which are attached the springs  $f^2$  with their straps  $f^3$ , by which the back F is normally held in a yielding perpendicular or upright position, the connection of said springs  $f^2$  with the uprights H being a detachable one, whereby they can be unfastened to relieve the back when it is to be thrown back to a reclining position. In the upper ends of the uprights H is journaled a rock-shaft I, having end cranks  $i$ , to which are attached the jointed braces J and K. The braces J extend down to and are connected with the base or hinge line of the back frame G, and the braces K extend to and are connected with the top of said back frame.

Secured to the rock-shaft I are the levers L, having at their extremities the hooks  $l$ , said levers also carrying the pivoted or swinging bail M. To the extremities of bail M are connected the branches  $n$  of the pull rope or cord N, which hangs down within reach of the patient.

At the back of frame A is a supporting-bail O, controlled by springs  $o$  and adapted to



yieldingly receive and to elastically support the back F when thrown to a reclining position.

Upon the wheels C are sprockets  $c$ , from which endless chains  $c'$  extend to a sprocket  $p$ , carried by short shafts P, mounted in the uprights H and having crank-wheels  $p'$ , whereby they are operated and the chair propelled.

The seat-cushions  $d'$  heretofore mentioned are constructed with metallic frames  $d^4$ , to which are hinged metallic flaps  $d^5$ , which are themselves hinged to the seat. When the cushions are turned to a horizontal position, the frames and flaps afford full and rigid support to the necessarily inwardly-projecting cushions as they reach out toward each other in order to cover the hole in the seat. The front of the seat is ridged at  $d^6$  in order to furnish support under the legs when the cabinet is occupied, and the cushions  $d'$  are high enough to be flush with said ridge, so that ordinarily the seat is level.

A pivoted gravity-latch Q is carried by one of the uprights H and is adapted to engage with one of the levers L when drawn down to hold said levers.

A hook R, depending from the rock-shaft I, is adapted to hold the bail M up out of the way when desired.

A strap S, secured to the back frame, is for the purpose of assisting in supporting the patient when in an upright position.

The use and operation of the chair are as follows: In its ordinary or normal position the seat D is horizontal, the back F and its frame G are vertical, the two being held together by the bolts  $f$ , and the foot-rest E is in an inclined position depending from the front of the seat. In this form of the chair the invalid rests in a sitting posture. He may propel himself by the power of his arms applied to the crank-wheels  $p'$ . He may move his body in a rocking movement back and forth, the back F (which for this purpose is released from its frame G by drawing down bolts  $f$ ) yielding and returning under the power of the springs  $f^2$ , and he may also by releasing said springs from their connection with the uprights H throw the back F to a reclining position, in which it is yieldingly supported upon the spring-bail O, an anti-friction-roller  $o'$  preferably intervening. He can also move his lower extremities by rocking the foot-rest E about its hinge-center. He can also by raising the cushions  $d'$  occupy the cabinet  $a^2$ . When now for any purpose of necessity or comfort he desires to assume an erect position, he pulls down upon the line N, which has the effect of rocking shaft I, and the cranks of said shaft thereupon pulling upwardly on braces J and K raise the back frame G and back F evenly, being connected with the former top and bottom, said frame and back turning about their hinge connection with seat D. This movement also raises the seat, which turns about its front hinge, the strong springs  $e'$  assisting, and by

the same movement the foot-rest E assumes more of a vertical position. These movements continue until the back, the seat, and the foot-rest are approximately alined in a vertical plane. The occupant of the chair is thus enabled to raise himself, and by means of the lower straps  $e^4$  and the upper strap S he may be steadied in this position. If he finds further support necessary, he may swing the bail M over his head, so that as said bail is supported in the hooks  $l$  of levers L he may rest his arms upon it, or if he should not need the bail he may hang it up on the hook R. When the seat is thus raised, the cabinet  $a^2$  is still concealed by the flexible curtain  $d^2$ .

Upon the sides of the frame or body A are pivoted latches T, adapted to be turned in over the seat D when the latter is in a horizontal position, so that it will not rise up under the power of its springs  $e'$  if momentarily relieved from the weight of the occupant.

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

1. The combination, in an invalid's chair of a frame or body, and a seat portion, a back portion and a foot-rest hinged together and supported by the frame or body of the chair, uprights rising from said frame or body, and suitable devices comprising a crank-shaft and connections suspended from the uprights at a point above the occupant of the chair, and connected with the hinged back portion, whereby the occupant of the chair may lift the back, seat and foot-rest into line, to enable him to assume an erect posture.

2. The combination, in an invalid's chair, of a frame or body, a seat portion hinged thereto, a back portion hinged to the seat portion at one edge, and a foot-rest hinged to said seat portion at its other edge, uprights rising from the frame or body, a crank-shaft journaled in the top of said uprights, levers secured to the crank-shaft for rocking it, said levers having a line within reach of the occupant of the chair, and braces connecting the crank-shaft with the back portion, whereby the occupant of the chair may lift the back, seat and foot-rest into line, to enable him to assume an erect posture.

3. The combination, in an invalid's chair, of a frame or body, a seat portion hinged thereto, a back portion hinged to the seat portion at one edge, and a foot-rest hinged to said seat portion at its other edge, uprights rising from the frame or body, a crank-shaft journaled in the top of said uprights, levers secured to the crank-shaft for rocking it, said levers having a line within reach of the occupant of the chair, and braces connecting the crank-shaft with the back portion, whereby the occupant of the chair may lift the back, seat and foot-rest into line to enable him, to assume an erect posture, and a latch on the uprights for engaging the levers to hold the parts in position when upright.

4. The combination, in an invalid's chair, of



a frame or body, a seat portion hinged thereto, a back portion hinged to the seat portion, at one edge, and a foot-rest hinged to said seat portion at its other edge, uprights rising from the frame or body, a crank-shaft journaled in the top of said uprights, levers secured to the crank-shaft for rocking it, said levers having a line within reach of the occupant of the chair, braces connecting the crank-shaft with the lower part of the back portion, and braces connecting said shaft with the upper part of said back portion, substantially as and for the purpose herein described.

5. In an invalid-chair, the combination, of the seat, the back hinged to the rear edge thereof, the open frame G, also hinged to said seat, at its back portion, and adapted to freely receive said back, and spring-actuated slide-bolts by which the back and frame are united.

6. In an invalid-chair, the combination, of the seat, the back hinged to the rear edge thereof, the open frame G also hinged to said seat, at its back portion, and adapted to freely receive said back, the spring-actuated sliding bolts to unite the open frame and back and the supporting spring-controlled bail adapted to yieldingly receive and elastically support the back when the latter is in a reclining position.

7. The combination, in an invalid's chair of a frame or body, a seat portion hinged thereto, a back portion, and a receiving-frame therefor, hinged to the seat portion at one edge, said back and frame having detachable connections, a foot-rest hinged to the seat portion at its other edge, uprights rising from the frame or body, a crank-shaft journaled in the top of said uprights, levers secured to said shaft and adapted to be operated by the occupant of the chair, and braces connecting the lower and the upper portions of the back frame with the crank-shaft, substantially as and for the purposes described.

8. The combination, in an invalid's chair, of a frame or body, a seat portion hinged thereto, a back portion and a receiving-frame therefor, hinged to the seat portion at one edge, said back and frame having detachable connections, a foot-rest hinged to the seat portion at its other edge, uprights rising from the frame or body, a crank-shaft journaled in the top of said uprights, levers secured to said shaft and adapted to be operated by the occupant of the chair, and braces connecting the lower and the upper portions of the back

frame with the crank-shaft, and a spring-bail to elastically support the back when released from its frame and dropped to a reclining position.

9. The combination, in an invalid's chair of a frame or body, a seat portion hinged thereto, a foot-rest hinged to one edge of the seat portion and having springs controlling said hinge, a back portion hinged to the other edge of the seat portion, uprights rising from the frame or body, and devices carried by the uprights and connected with the back portion, whereby said back, seat and foot-rest are alined in vertical position, and allowed to return for use as a chair.

10. In an invalid's chair, the combination of a frame or body, the seat, back and foot-rest, hinged together as described, the uprights, and devices comprising a crank-shaft and connections supported from the uprights at a point above the occupant of the chair, and connected with the hinged back portion, whereby the parts may be caused to assume an upright position, and suitable straps for steadying the occupant when in an erect position.

11. In an invalid's chair, the combination of a frame or body, the seat, the back and the foot-rest, hinged together as described, the uprights, the rock-shaft, the levers and connections with the back for causing the parts of the chair to move to an upright position, and the swinging bail carried by the levers, for affording support to the occupant of the chair, when in an erect posture.

12. In an invalid's chair, the frame or body having the cabinet, and the apertured seat hinged to the frame or body and having swinging cushions covering its aperture, in combination with the foot-rest hinged to the seat, the back hinged to said seat, and means for turning said seat, foot-rest and back to an upright position in line.

13. In an invalid's chair, the combination of the frame or body, the cabinet therein, the swinging seat over said cabinet and adapted to be moved to a vertical position, and the spring-actuated flexible curtain adapted to conceal the cabinet when the seat is raised.

In witness whereof I have hereunto set my hand.

DAVID S. CARRICK.

Witnesses:

S. H. NOURSE,  
H. F. ASCHECK.