

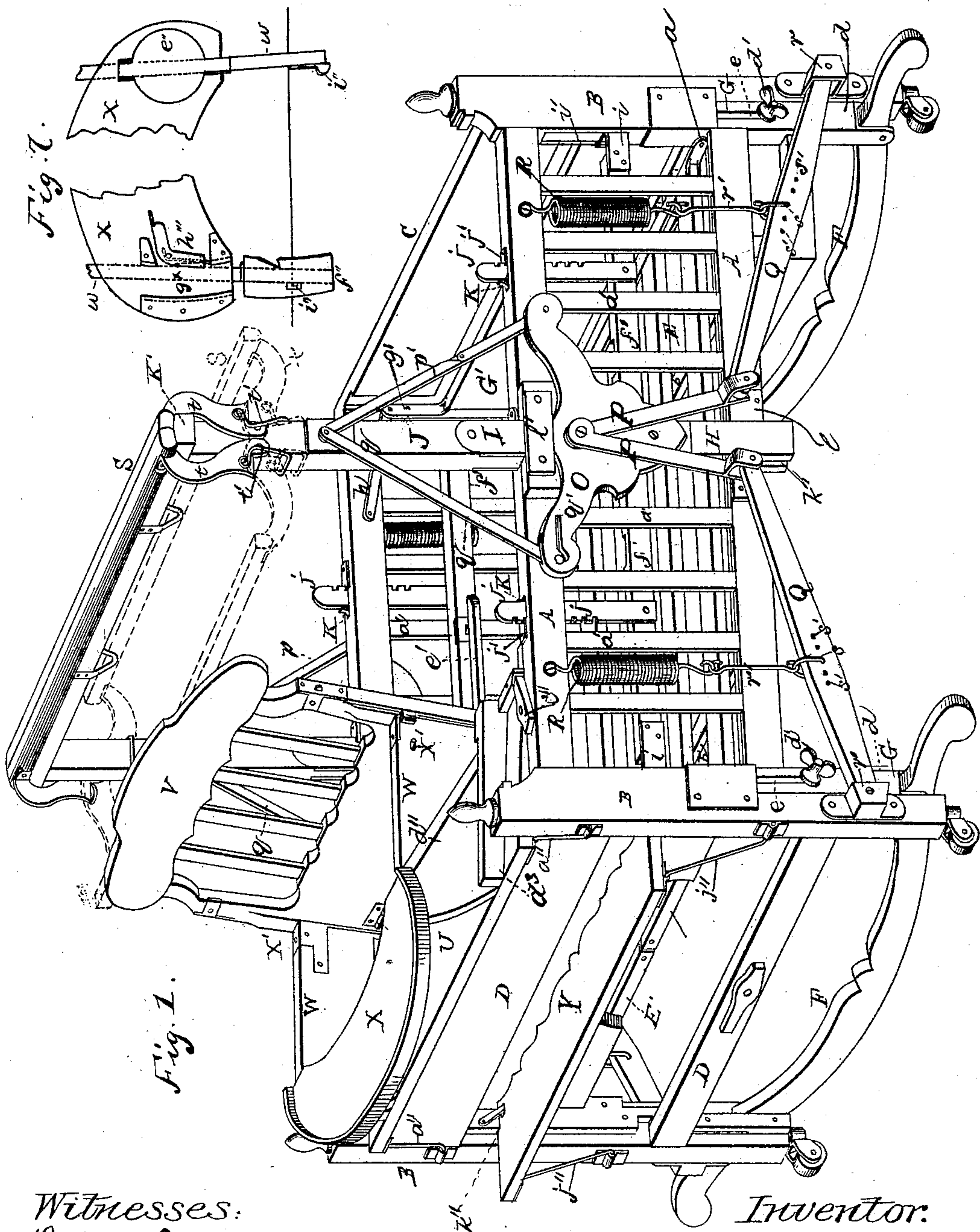
(Model.)

5 Sheets—Sheet 1.

F. W. COWLES.  
FURNITURE.

No. 451,389.

Patented Apr. 28, 1891.



Witnesses:  
D. J. Hayden  
Geo. M. Sobat

Inventor:  
Francis W. Cowles

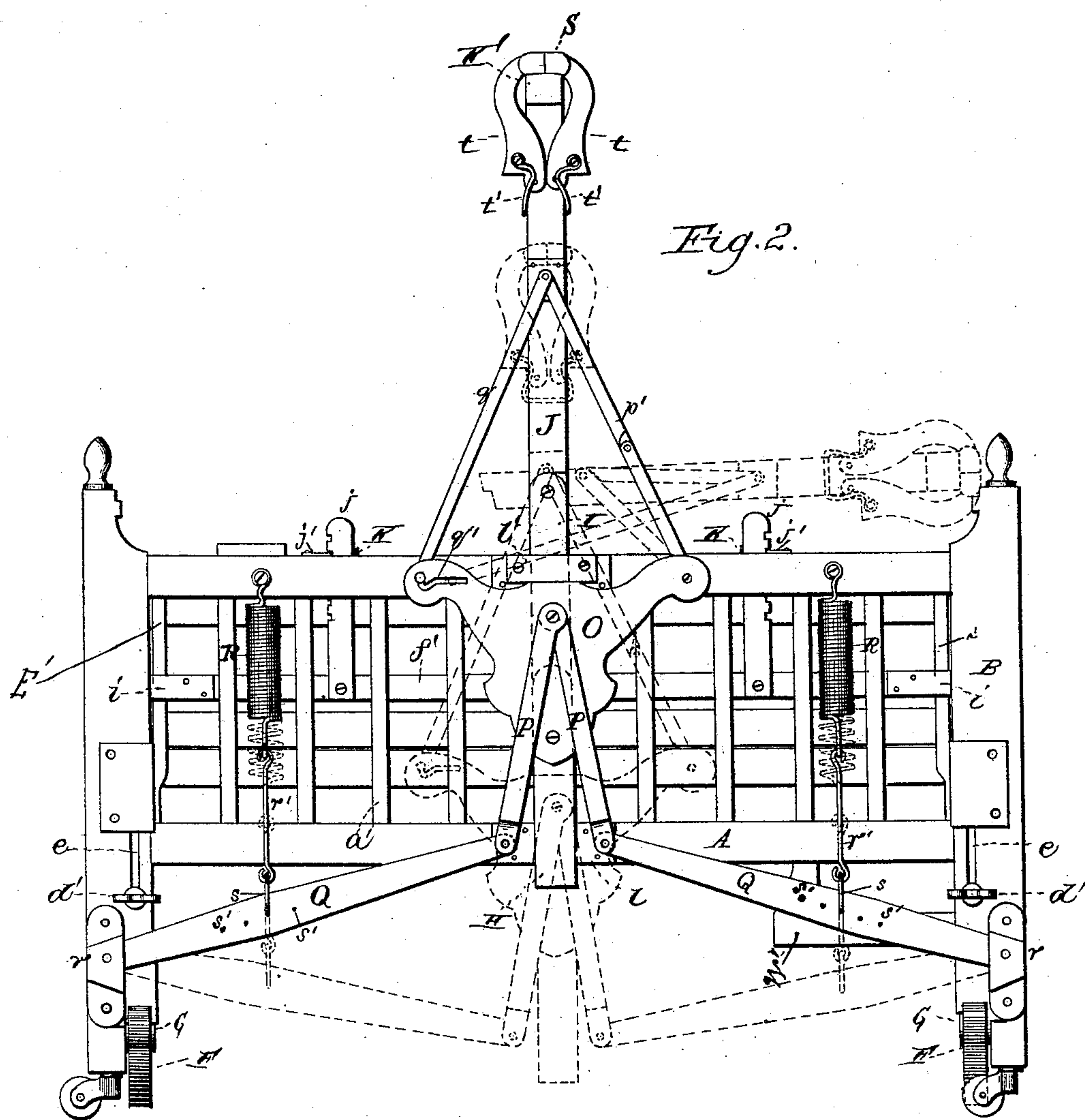
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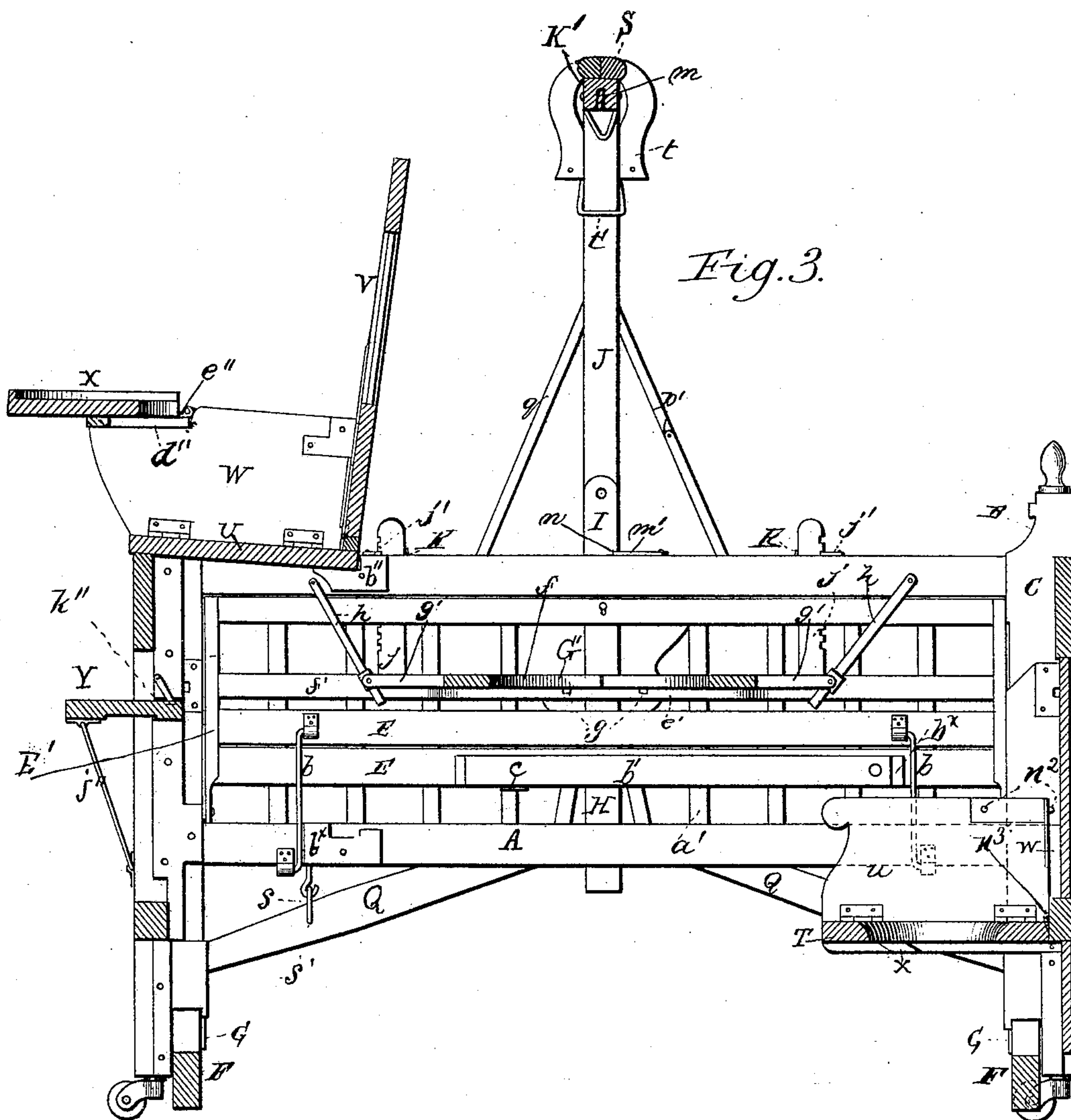


Fig. 3.

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(Model.)

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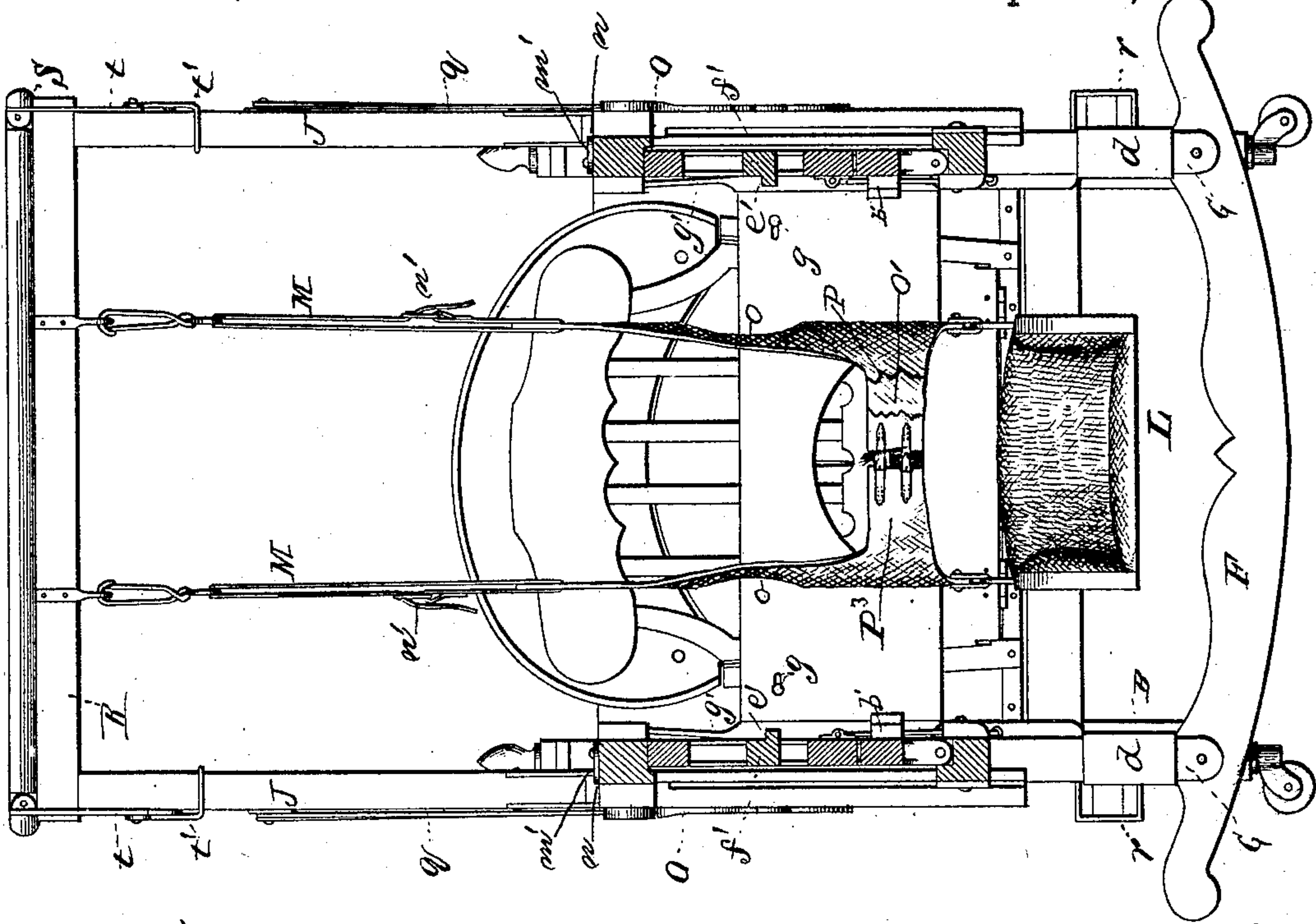


Fig. 5.

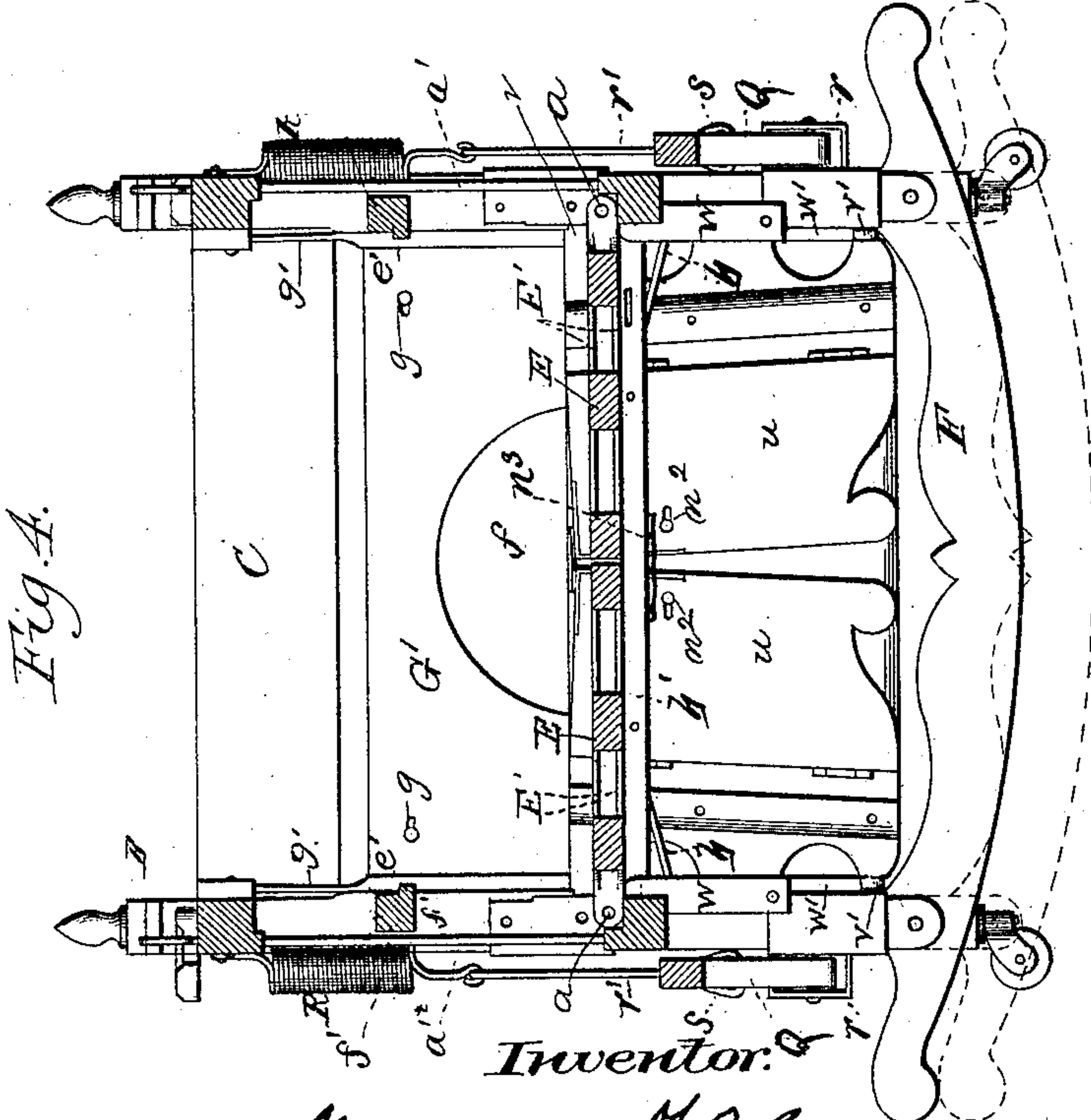


Fig. 4.

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(Model.)

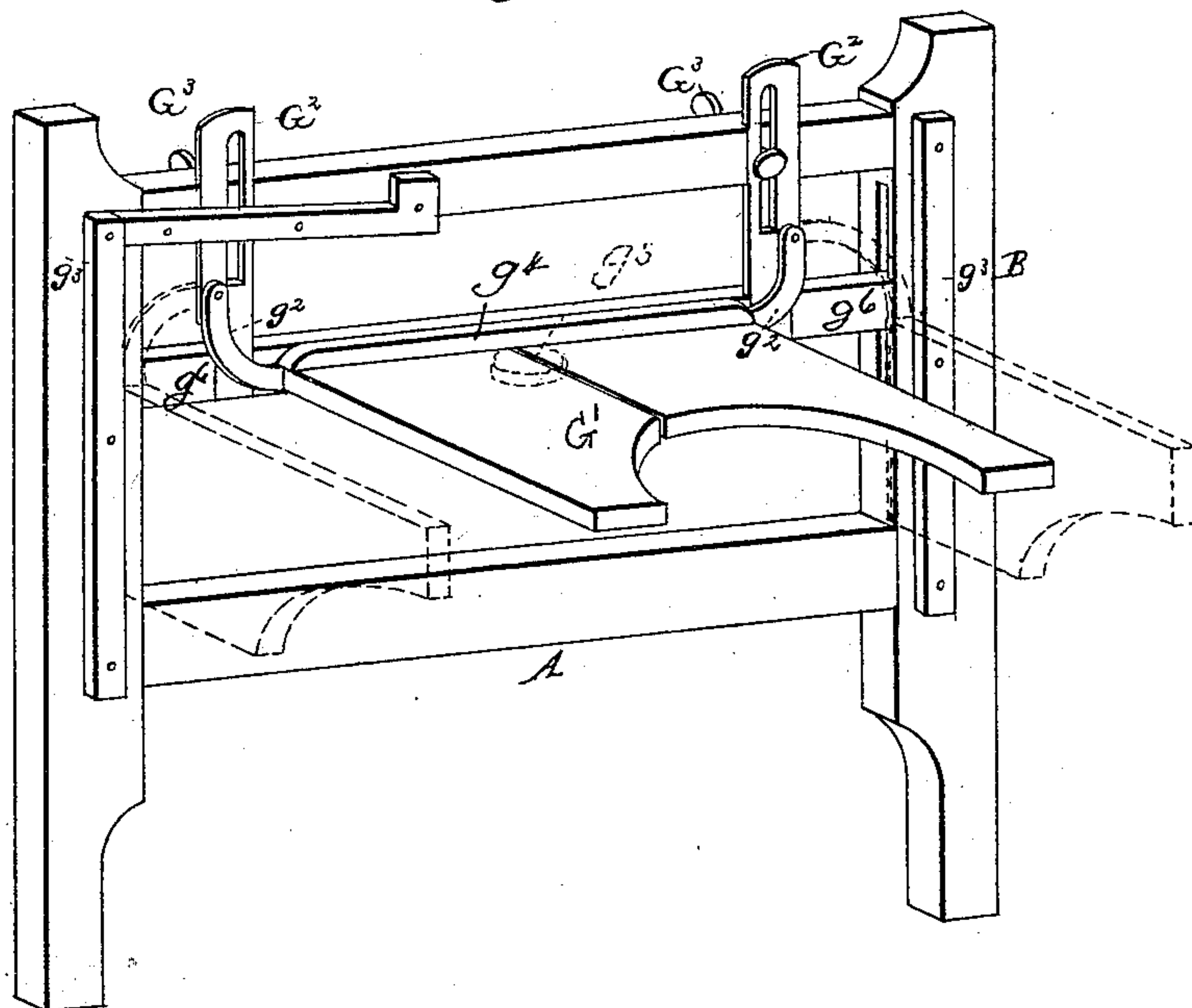
5 Sheets—Sheet 5.

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*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

FRANCIS W. COWLES, OF NEBRASKA CITY, NEBRASKA.

## FURNITURE.

SPECIFICATION forming part of Letters Patent No. 451,389, dated April 28, 1891.

Application filed October 4, 1888. Serial No. 287,156. (Model.)

*To all whom it may concern:*

Be it known that I, FRANCIS W. COWLES, a citizen of the United States, and a resident of Nebraska City, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Furniture; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a perspective view of this invention. Fig. 2 is a side view of the same. Fig. 3 is a longitudinal section. Figs. 4 and 5 are cross-sectional views. Fig. 6 is an end view from the inside in perspective of a modification of the baby-walker. Fig. 7 is a detail of the tray and its operating mechanism.

The invention relates to improvements in furniture; and it consists in the construction and novel arrangement of parts, as hereinafter set forth.

The invention has for its object the combination of several articles of furniture so arranged and connected together that each one may be folded against or within the main frame out of the way while one particular device is in use.

The combination as shown and described herein consists of the several elements, as follows: baby-jumper, baby-walker, swing, clothes-rack, high chair, stool, crib, and rocking cradle.

Referring to the drawings, A designates the side rails mortised into or otherwise connected at their ends to the corner-posts B.

C represents the foot-board rigidly connected to the posts, as shown, and D shows transverse bars connecting the head-posts.

E designates the bottom slats supported between the channeled end bars E', pivoted to the inner face of the posts, as at *a*. The said slats are connected in two sections, so that the sections will fold snugly against the inner face of the side slats *a'*. The central bottom slat of each section has its ends loosely placed in the channels of the end bars so as to slide therein, and the rods *b*, pivoted at one

end to said central slats and at the opposite ends to the bottom side rails, serve to draw the slats toward the outer slat when the sections are folded, as before described. When the sections are put in place to form the crib-bottom, the movable slats are forced by the rods *b* to a position central of the two outer slats of the section. The object in so constructing the movable slat will appear hereinafter. Cross-bars *b'* are pivoted at one end to the under side of the outer slats of the respective sections and adapted to be turned around at right angles to their former position or transversely to said sections, the free ends thereof resting in mortises *b<sup>x</sup>* in the bottom side rails of the sides A, and are designed for the bottom to rest upon when down. The bars *b'* are cut away or reduced at their ends to about half their thickness and rest thereat in the keepers *c* applied to the bottom slat.

The parts above described compose the crib, and roller-casters are provided at the bottom of the posts for the convenience in moving.

To convert the crib into a cradle, the rockers F are provided, which have the sliding arms G extending upwardly and moving in the metal bearings *d*, secured to the corner-posts. The thumb-screws *d'*, extending through a slot *e* in the arms and engaging openings in the posts, serve to hold the rockers in their adjusted position. It will be observed that the rockers may be pushed upwardly above the level of the casters when desired.

G' represents two transverse boards, each having a semicircular opening *f* in the inner edge, so that when the said boards are placed in position with their ends resting on the ledges *e'* of the adjustable bars *f'* the semicircular openings will form together a circular opening sufficiently large to admit a child's body, thus forming the "baby-walker." Sliding bolts *g* in the two boards are designed to enter sockets in the bars *f'* and lock the boards in place. The bolts also serve to hold the boards when folded back. Each board is provided at its ends with rearwardly-extending arms *g'*, having pivoted sleeves thereon. These sleeves are adapted to slide upon rods *h*, which are pivoted to the inner face of the upper side rails. By this construction the



baby-walker boards may be folded against the inner ends of the crib, as shown in Fig. 1.

The bars  $f'$  have their ends provided with metal angle-plates  $i$ , which slide upon the guideways  $i'$ , which are metal plate-like bars having longitudinal grooves and fastened to the corner-posts, and the said bars are rendered vertically adjustable by means of the rack-bars  $j$ , which extend upwardly through slots in the upper side rails and engage with their rack edges the detent-plates  $j'$ , secured on the top of the side bars. The springs  $K$ , arranged in recesses in the top longitudinal bars of the side rails  $A$  and bearing against the opposite edge of these bars, serve to hold the rack in engagement with the detent-plate. The adjustability afforded the bars  $f'$  (upon ledges  $e'$  of which are supported the boards  $G'$  of the baby-walker) permits the adjustment of the latter according to the height of the child.

$H$  designates vertical bars on the outer sides of the crib-frame, provided with longitudinal channels  $k'$ , into which the plates  $l$  on the lower side bars project and serve as guides. The upper ends of the bars  $H$  slide in the guideways  $l'$  on the upper side bars. Plates  $I$  extend upwardly from the bars  $H$  and are let into and form sockets for extension-bars  $J$ , which have their lower ends pivoted between said plates. Vertical pins  $m$  in the upper ends of the extension-bars engage openings in the removable swing-bar  $K'$ .

The swing consists of the seat  $L$ , connected to the lower ends of the straps  $M$ , which have their upper ends provided with a hook to engage the staples depending from the swing-bar.

When it is desired to use the swing, the dogs  $m'$  on the upper side bars are placed in engagement with the notches  $n$  in the extension-bars, which prevents the vertical movement of said bars.

When it is desired to convert the swing into a baby-jumper the seat may be removed and the dogs  $m'$  moved out of the notches. The straps  $M$  may be adjusted in the length by means of the buckles  $n'$ ; and arm-holes  $o$  are provided for the child's arms. The back straps  $O'$  and the front strap  $P^3$  are in one piece and integral with the arm-hole straps  $m$ , have hook engagements, and are designed to encircle the child's body below the arms.

$O$  represents double arm-plates secured centrally to the vertical bars  $H$ , and double-jointed bars  $p'$  have one of their ends pivoted within the bifurcated ends of one of said plates, and their opposite ends pivoted to the extension-bars  $J$ , near their upper end. Single bars  $q$  extend from the pivoted points of the bars  $p'$  in the bars  $J$  to the curved slots  $q'$  through the bifurcated end of the opposite arm of the double arm-plate, in which they are retained by lugs. By this construction the extension-bars may be turned downward on their pivot to lie above the upper face of the upper side bars, as shown by the dotted

lines in Fig. 2. Hangers  $P$  are pivoted at one end to the double arm-plate and have their lower bifurcated ends pivoted to the ends of the bars  $Q$ , which have their outer ends pivoted in the sockets  $r$  attached to the corner-posts. Coiled springs  $R$  are fastened at their upper ends to the top side rails and rods  $r'$  extending from the lower ends of said springs, hook into the loops  $s$  engaging openings  $s'$  in the bars  $Q$ . The loops  $s$  may be transferred to any one of the series of openings  $s'$  in the bars when it is desired to regulate the tension of the springs by having the ends of the wire of which the hoops are formed provided with eyes, which are engaged by bolts in turn engaging said openings. The aforesaid construction—i. e., the parts  $O P Q R$ —permits of the lowering of the clothes-drier herein-after described to a point within convenient reach to permit of the placing of the clothes thereon, and after thus disposing the clothes to effect the automatic elevation of the drier well up out of the way while the clothes are drying.

$S$  shows the clothes-drier bars, having the arms  $t$  pivoted to the extension-bars. The spring-wires  $t'$  are secured at their ends to the arms  $t$ , as shown, and extend loosely around three sides of the extension-bars, so that the clothes-drier can be folded together above the swing-bar or opened for use, as shown in the several figures. It is obvious that the swing-bar and swing connections may be removed, when desired, simply by spreading apart the bars  $S$ , as disclosed in dotted lines in Fig. 1, which will permit the ready lifting of said swing-bar with the swing from their present position.

$T$  represents the stool-seat, which is arranged within the crib with its seat-board about flush with the inner lower edge of one end of said crib, and having the two boards  $u$  hinged thereon, so that they may be turned down to cover the stool or turned in a vertical position at the sides and there form arms. Locking-bolts  $n^2$  are provided, as shown, in the boards  $u$ , which engage apertures in a catch-plate  $n^3$ , secured to the rear edge of the seat  $T$ .

The seat-board is provided at its ends with lugs  $v v'$ , the rear ones  $v$  being adapted to slide in the vertical grooves  $w$  in the two corner-posts, and the front ones  $v'$  when the stool is placed in position enter the longitudinal grooves in the hangers  $w'$  through the ways  $x$ . When not in use, the stool-seat folds against the inner face of the end, as shown in Fig. 4. Its position when down is shown in Fig. 3.

$U$  designates the seat of the high chair, which is to enable the seating of the child at a table, and which is hung near its outer edge to the end posts by means of the hooks  $a''$ , which are long enough to allow the seat to be removed from between the end bars, where it forms a panel, to the top of the crib, where it rests longitudinally on the top of the front cross-bar and the cleats  $b''$ . Buttons  $c''$  serve to hold the seat in place.



V shows the back hinged to the seat, and W are the arms, also hinged to the seat, and when opened have a lock connection X' with the back.

5 X shows a tray, which has the pivoted rods  $d''$ , extending one from the plate  $e''$  and the other from the plate  $f''$  to a pivotal connection with the rear ends of the transverse bars  $d^3$  on the seat, which serve as stops to limit the  
10 outward movement of the arms W as they are unfolded or raised in assembling the parts of the high-chair. The plate  $e''$  is preferably round, as shown, and the tray is pivoted thereon, so that it may be turned laterally, as  
15 hereinafter described. The plate  $f''$  and the plate  $e''$  have downwardly-turned flanges to engage the upper edge of the arm, and said plate  $f''$  slides in a curved way  $g^x$ , where it is normally held by the spring-actuated dog  $h'''$ .  
20 The tray may be moved away from the front of the chair by releasing the dog from the plate and turning the tray outwardly on its pivotal connection with the plate  $e''$ . Spring-controlled catches  $i''$ , fulcrumed on  
25 the arms, engage keepers in the plates  $e'' f''$  to secure the arms and tray together.

Y is the foot-rest to be used in connection with the high chair. The foot-rest Y is pivotally hung to the corner-posts by the rods  
30  $j''$ , which allow the foot-rest board to be turned down to form a bottom panel to the end of the crib. When in position to serve as a foot-rest, one edge of the board is turned into the notches  $k''$  in the corner-posts.

35 It will be observed that the movable slats in the crib-bottom are moved toward the outer slats by rods  $b$  when the sections are folded against the crib sides, so as to allow the said sections to fold snugly, and not come in contact with the bars  $f''$ .  
40

In Fig. 6 is shown a section of a modification of the baby-walker, wherein each board  $G'$  is formed in two parts, and each so suspended by arms  $g^2$ , pivoted to sliding slotted  
45 arms  $G^2$ , engaged by set-screws  $G^3$ , as to permit the folding or swinging of the parts or sections of the boards  $G'$  back against cleats  $g^3 g^3$  applied to the posts. The two parts of the board  $G'$ , when in their normal position,  
50 rest against the under side of a rib  $g^4$ , and are held thereto by a button  $g^5$ , pivoted to the under side of the bar  $g^6$ .

Having described my invention, what I claim is—

55 1. The combination, with the side rail and the corner-posts, of the bottom slats, having the pivoted channeled end bars pivoted to the inner face of said posts, the central slat of each section having its ends movable in  
60 the channels, the rods pivoted at one end to the central slats and at the opposite ends to the bottom side rails, and the cross-bars  $b'$ , pivoted at one end to the under side of the outer slats of the respective section and de-  
65 signed as a support for the bottom, substantially as specified.

2. In combination with a supporting-frame,

the transverse boards  $G'$ , having each a semi-circular opening in the inner edge, the adjustable bars  $f''$ , having the ledge  $e'$ , supporting the ends of said boards, the arms extend- 70  
ing rearwardly from said boards, and the sleeves pivoted upon said arms and sliding upon rods  $h$ , pivoted to the frame, substantially as described. 75

3. The combination, with the frame, of the transverse boards forming the baby-walker, the adjustable bars  $f''$ , supporting the ends of said boards and having at their ends the angle-plates sliding upon guardways  $i$  on the 80  
corner-posts, the pivoted rack-bars for effecting the adjustment of said bars  $f'$  and engaging detent-plates, and the springs bearing against said rack-bars and holding the racks in engagement with said detent-plates, 85  
substantially as described.

4. In combination with the frame, the vertical bars H, adapted to slide in guideways, the plates I, the extension-bars pivoted there- 90  
in, the swing-bar removably supported on said extension-bars, the locking plates or dogs therefor, and the swing supported from said swing-bar, substantially as specified.

5. The combination, with the frame, of the vertical bars carried thereby, their upper ends 95  
sliding in guideways on the upper side bars of said frame, the double arm-plates secured to said bars, double-jointed bars  $p'$ , pivoted at one end within the bifurcated ends of one arm of said double arm-plates and at their 100  
opposite ends to the extension-bars J, pivoted to said vertical bars, the single bars  $q$ , extending from the pivotal points of the bars  $p'$  to the bifurcated end of the opposite arm of the double arm-plates, the removable swing-bar 105  
supported on said extension-bars, the swing-straps M, the hangers P, pivoted at one end to the double arm-plates and at their opposite end to bars Q, pivoted to the corner-posts, and the springs adjustably connected with said 110  
bars Q, substantially as described.

6. The combination, with the frame and the extension-bars pivotally supported thereon, of the clothes-drier bars having arms pivoted 115  
to said extension-bars, and spring-wires secured at their ends to said arms  $t$  and extending loosely around three sides of said bars, substantially as and for the purpose specified.

7. The combination, with the herein-de- 120  
scribed frame and the crib supported thereon, of the stool-seat arranged within said crib, of the boards hinged to said stool-seat, the locking-bolts for said boards, the lugs at the rear and front ends of the sides of said seat, said 125  
lugs sliding, respectively, in grooves in the corner-posts and in hangers  $w'$  through ways  $x$ , said seat when not in use folding against the end of said crib, substantially as de-  
130

8. The combination, with the end posts and the end bars, of the high-chair seat hung from said end posts and adapted to be removed from them and form a panel for the end of



the crib supported in the frame, the back and arms hinged to said seat, the lock connection X' for said arms with the back, the rods d'', pivoted to said seat at one end and supporting an adjustable tray X at their opposite ends and serving as stops for said arms, and the foot-rest hung to the corner-posts by the rods j'' and adapted to be used in connection with said high-chair, substantially as described.

9. The combination, with the high-chair seat hooked to the frame-posts and its hinged arms and back, of the tray having the pivotal rods d'', having a pivotal connection with the rear ends of the transverse seat-bars, substantially as described.

10. The combination, with the chair hung

to the end posts of the frame, of the tray, said tray having the end plate e'', to which it is pivoted, and the plate f'', each of said plates having the downwardly-turned flanges to engage the upper edge of the chair-arm, the curved way g<sup>x</sup>, in which said plate f'' slides, and the spring-actuated dog h''' for holding it therein, and the spring-actuated catches i'', fulcrumed on the chair-arms and engaging keepers in said plates to secure the arms and tray together, substantially as described.

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

FRANCIS W. COWLES.

Witnesses:

D. L. HAYDEN,

K. H. MOORE.