

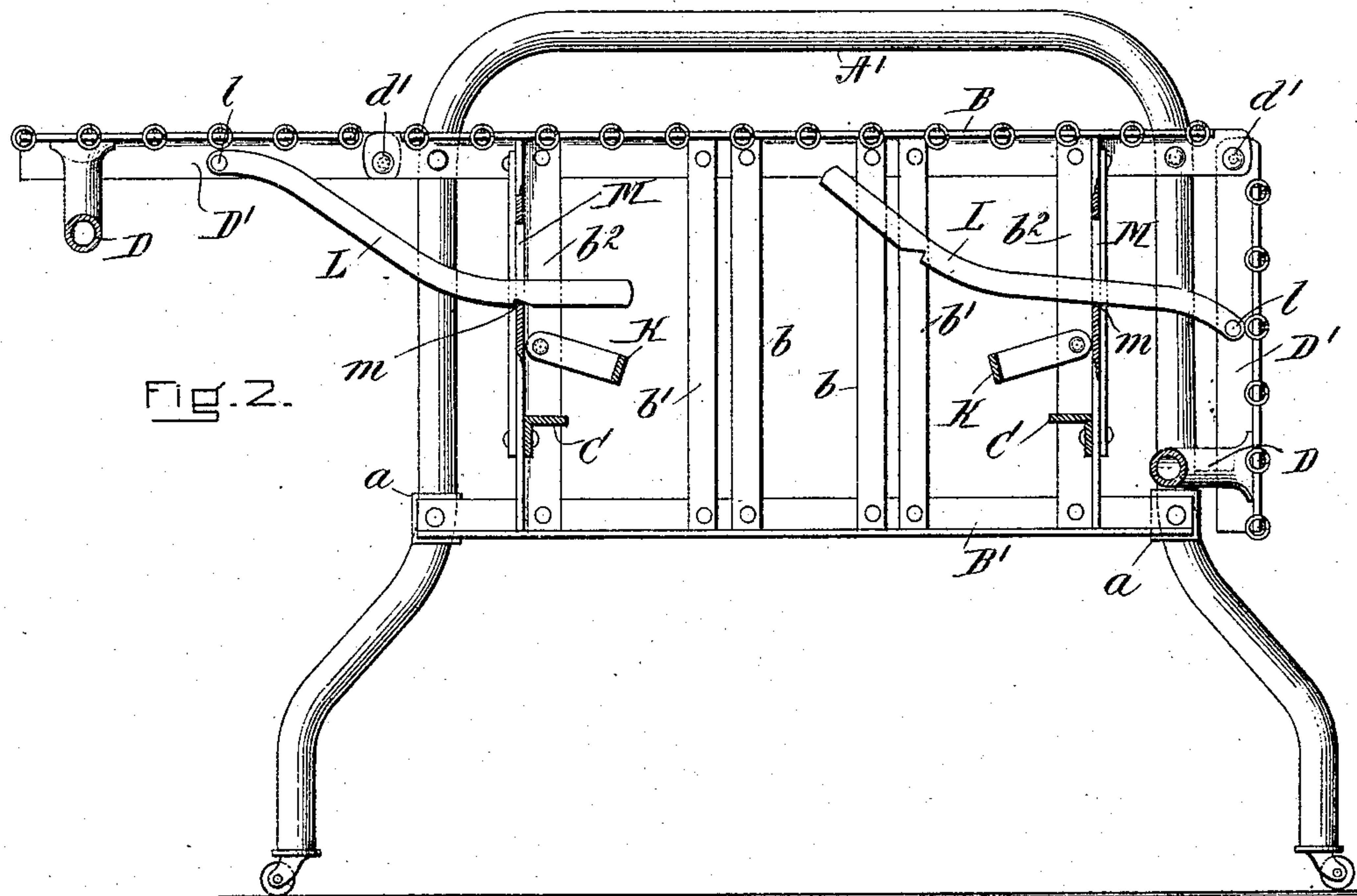
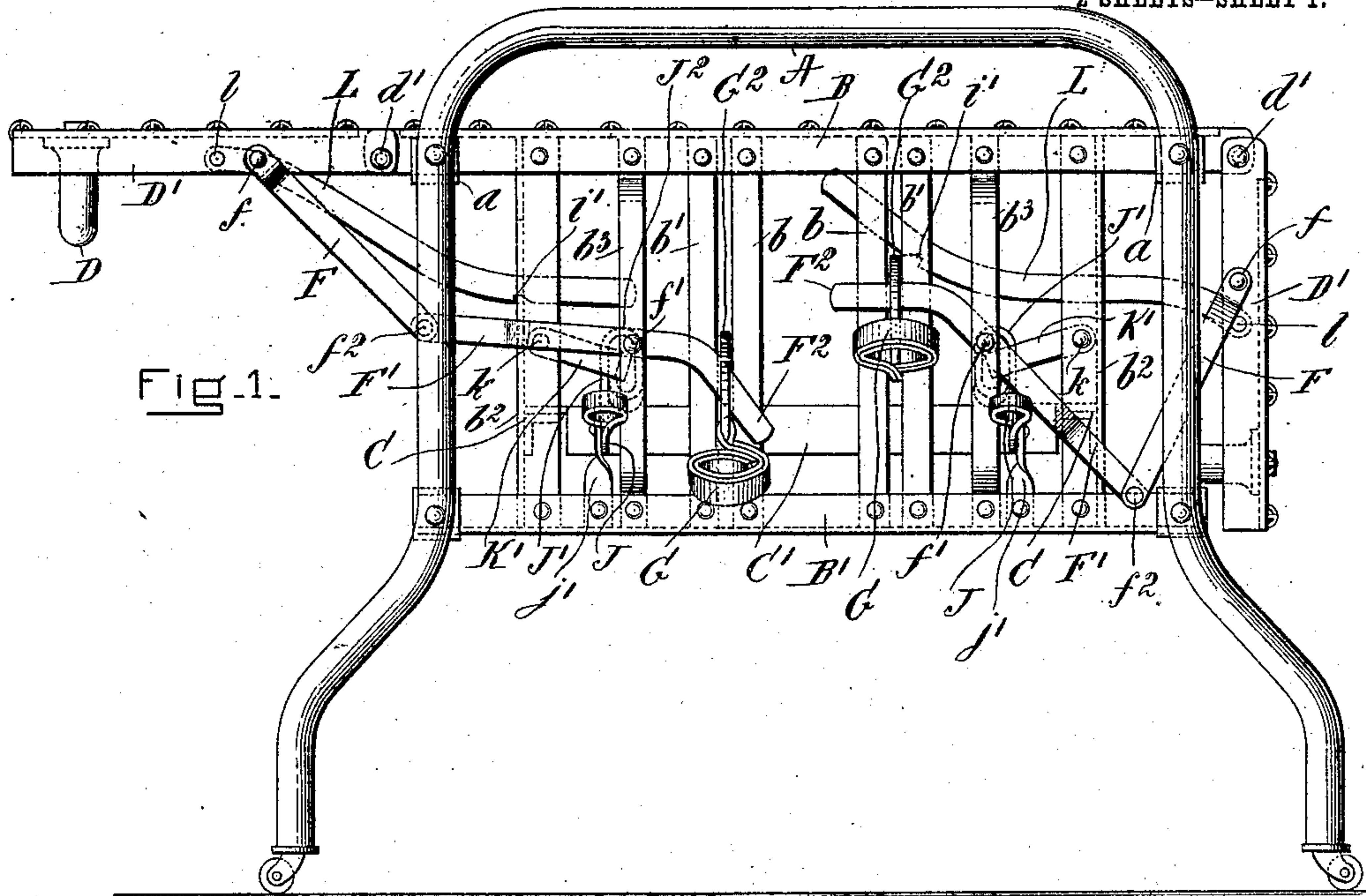
No. 842,876.

PATENTED FEB. 5, 1907.

J. FELDMAN.
FOLDING COUCH.

APPLICATION FILED JULY 16, 1906.

2 SHEETS—SHEET 1.



WITNESSES=

Joseph T. Brennan.
Charles D. Woodbury

INVENTOR=

Jacob Feldman
By Roberts & Mitchell,
his attorneys.

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2 SHEETS—SHEET 2.

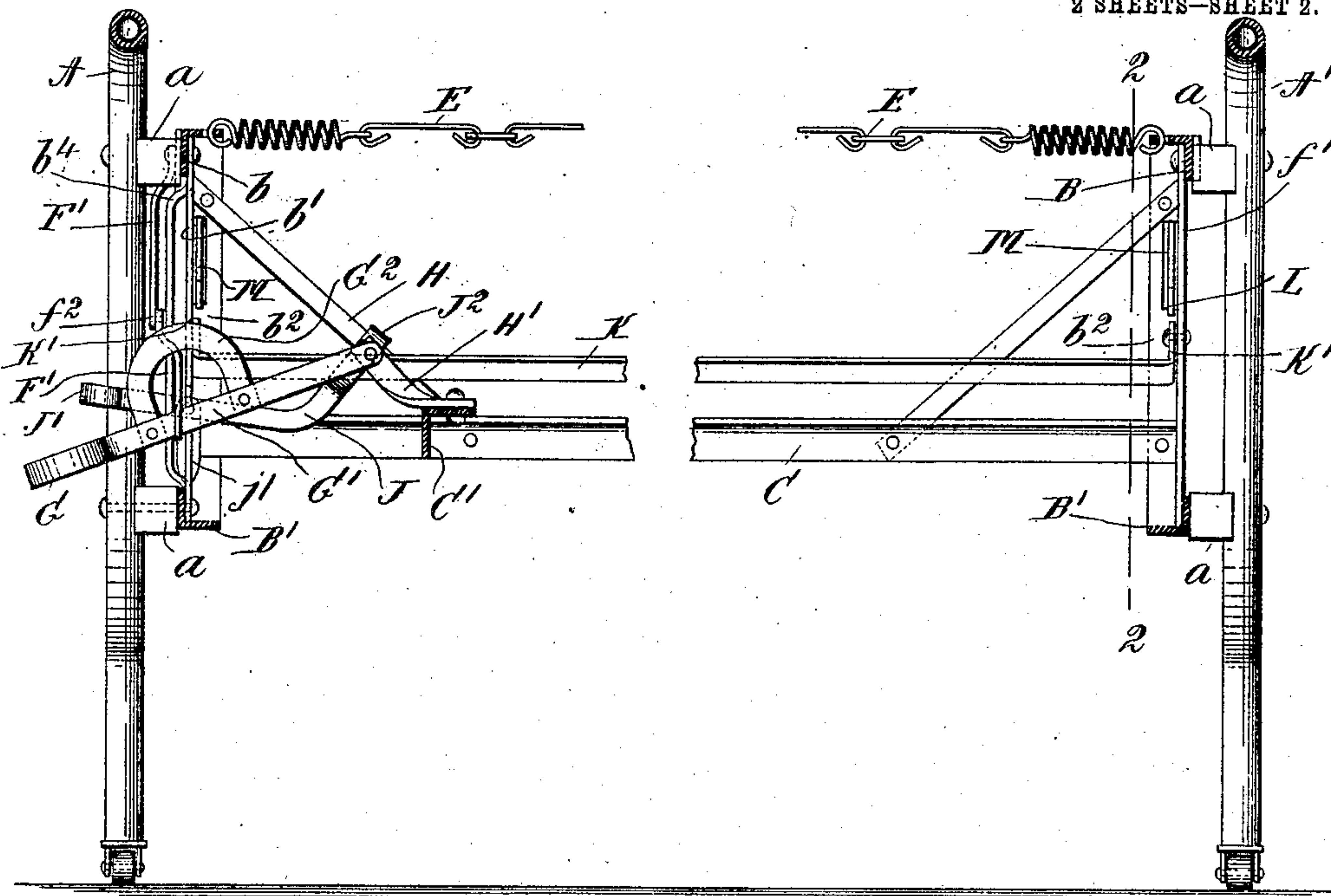
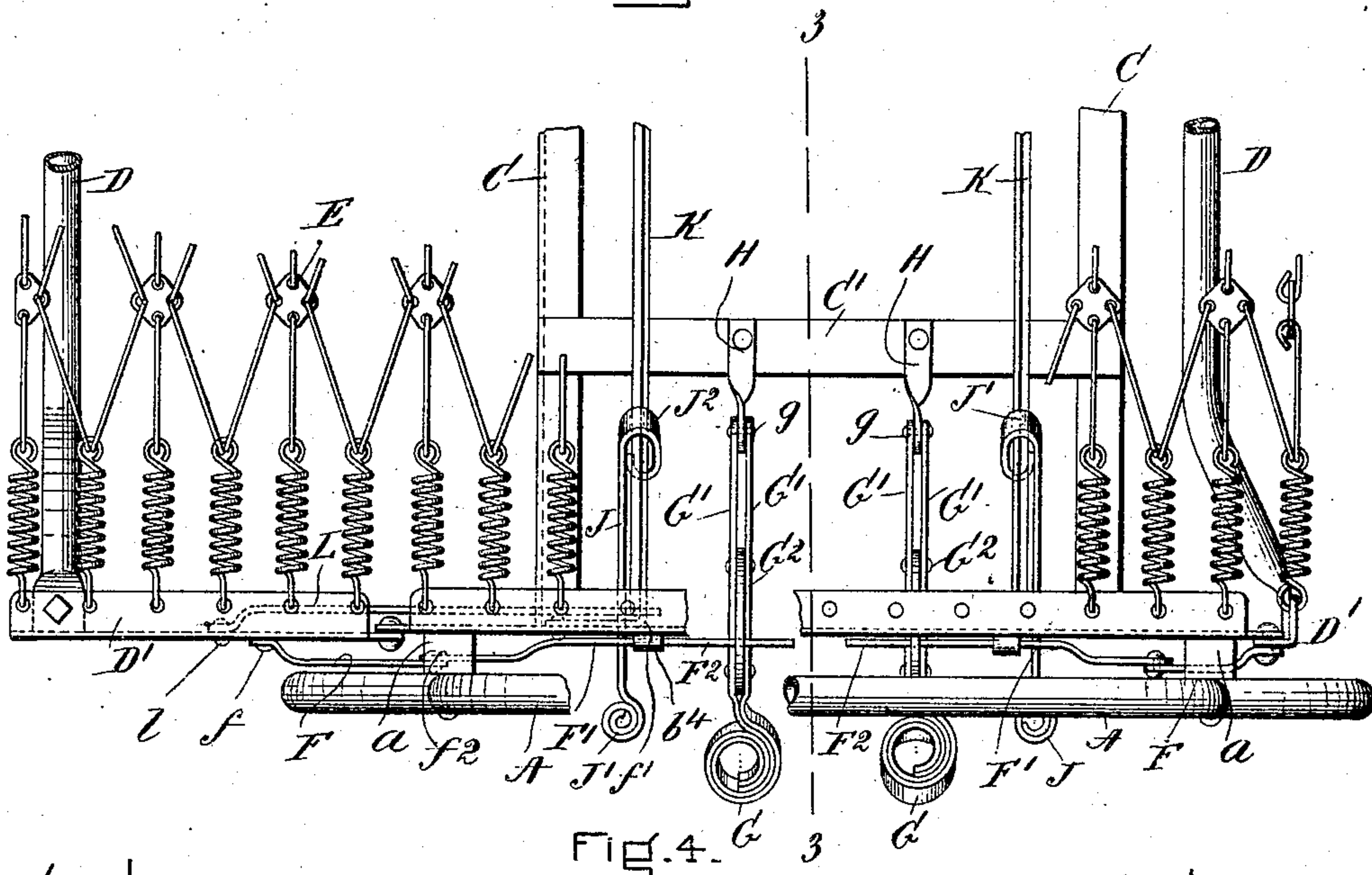


Fig. 3.



WITNESSES:

Joseph T. Brennan.
Charles S. Wockery

INVENTOR=

Jacob Feldman
 by Roberts & Mitchell,
 his attorneys.

UNITED STATES PATENT OFFICE.

JACOB FELDMAN, OF CHELSEA, MASSACHUSETTS.

FOLDING COUCH.

No. 842,876.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed July 16, 1906. Serial No. 326,316.

To all whom it may concern:

Be it known that I, JACOB FELDMAN, a citizen of the United States, and a resident of Chelsea, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Folding Couches, of which the following is a specification.

My invention relates to folding couches, and consists in sundry structural improvements whereby I attain my object, which is the production of a simple, strong, durable, economically-constructed, and easily-operated folding couch.

While my improved couch is composed of a number of articulated parts, it is nevertheless susceptible of being constructed of the simplest material, such as may be obtained from any ironmonger's stock—namely, tubular iron, angle-iron, flat bars, and ordinary rivets. Without exception all of the articulated parts of my improved couch are made without the necessity of accurate and expensive machine fitting and can be assembled from made-up stock by a workman of ordinary skill.

In the drawings hereto annexed, wherein like letters are uniformly employed to designate like parts, Figure 1 is an end view of my improved couch, showing the head end thereof in elevation and one of the swinging frames or side extensions in its extended position. Fig. 2 is a section of the couch, taken along the line 2 2 of Fig. 3 looking toward the foot end thereof. Fig. 3 is a longitudinal vertical section along the line 3 3 of Fig. 4, and Fig. 4 is a plan view of the head end of the couch whereon certain portions are broken away to show other parts more clearly.

My improved couch comprises a main frame and swinging frames articulately joined or pivoted at the sides of the main frame, the main frame being provided with suitable head and foot standards, which give attractive and substantial finish to the entire structure and serve as the supports which sustain the couch at a convenient level above the floor.

The main frame consists of top end bars B and lower end bars B', these being constructed, preferably, of iron-angle. The top and bottom end bars B B' are secured together and braced by vertical metallic slats b, b', b², and b³ on the head end of the couch and b b b³ on the foot end thereof. The slats b b' are placed close together with a

narrow space between them, which forms a guiding-slot for certain movable members hereinafter to be described. The structure of the couch is symmetrical with respect to a vertical middle plane extending lengthwise thereof, and the movable and articulated parts are duplicated on one side and the other. The two end parts of the main frame, composed of the angle-irons B B' and the vertical slats above mentioned, are secured to the head and foot standards A A' by means of blocks a and bolts which pass through the blocks, frames, and standards. Each standard A A' is formed, preferably, of a single piece of iron tubing bent, as shown in the drawings, to supply upright portions, whereto the blocks a a are secured, a transverse head and foot, and outwardly offset or spreading legs, to which the usual casters may be applied. The outer vertical slats b² on both the head and foot frames are made preferably of angle-iron both for the sake of greater stiffness and strength and also to provide for the movement and securement of sundry articulate and moving parts, to be described. At either side of the main frame side rails C, of angle-iron, extend from the head-frame to the foot-frame, being secured by rivets or bolts to the angle-iron vertical slats b² and being further braced by the braces H, which extend from the upper portion of the vertical slat b² in each instance downward to the outer web of the side rails C, to which the said braces are riveted. Cross-braces of angle-iron C' are provided for the further stiffening of the structure and for proper support for portions of the operating mechanism.

The upper transverse end bars B extend laterally a short distance beyond the blocks a, so as to provide a support for the swinging side frames. These side frames are made with a side rail D, which in the form preferred by me are lengths of iron pipe slightly offset or dropped, as shown in Figs. 1 and 2, and secured by rivets to the angle-iron end bars D'. These end bars D' are pivoted, by means of pivot-bolts, at d' to the overhanging ends of the end bars B of the main section. The end bars B of the main frame and end bars D' of the swinging side frames are provided with proper means for the securement of a mattress supporting fabric, such as E, which is stretched under proper tension between the end bars of the couch. I have shown in the drawings a mattress-supporting fabric of

the well-known wire-link construction and prefer to employ this style of spring fabric for the reason that I believe it to be better adapted than woven wire to the structural peculiarities of a folding couch.

When the folding couch is folded, the side frame swings down to a vertical position, as seen at the right-hand side of Figs. 1 and 2. In order to elevate and sustain the swinging side frames, I provide the following mechanism: Bars $F F'$ are pivoted together at f^2 , the bar F being pivotally joined to the end bar D' and the bar F' being pivotally joined to the vertical slat b^3 . At its inner end the bar F' is bent down, the downwardly-inclined portion being shown at F^2 . Treadles G are employed to operate the toggle formed by the bars $F F'$. These treadles G are formed by twisting a pair of iron straps into a spiral, as shown best in Fig. 3, and the pair of straps extend from the spiral treadle portion G inward, forming the lever portion G' . Between the two members G' of this lever portion there is secured the stirrup G^2 , which surrounds by its loop the inclined end F^2 of the toggle-bar F' . At the inner end the lever-straps G' straddle and are pivoted to the end of the bracket H' , which is composed of a short piece of strap-iron riveted to the cross-brace C' and bent a quarter-turn on itself and then slightly upward, as seen in Fig. 3. Props L , which consist of bent strap-irons, are pivotally secured at l to the end bars D' of the swinging frames, and notches l are filed at a proper point in the props L . The lateral webs of the vertical iron slats b^2 are slotted at M , so as to form passages for the props L , the lower lips m of these slots serving as catches wherewith the notches l' engage. The toggle-bars F and F' are bent or offset, the bar F' passing inside the guiding-bar b^4 , which is suitably offset for the purpose.

When it is desired to elevate one of the swinging side frames of the folding couch, the operator places a foot upon the treadle G and bears down upon it, whereupon the stirrup G^2 , moving in the space between the upright slats $b b'$, pulls down the portion F^2 of the toggle-bar F' and by the action of the toggle throws the side frame upward and outward. The prop L is carried upward by this movement until the notch l' drops over the lip m . The elevating treadles and toggles are located only at one end of the folding couch, which I have termed the "head" end, although in the couch herein shown there is no substantial difference between the frames and standards at the respective ends of the couch. The props L are provided at both ends of the swinging frames, so that these derive support from the props at both the head and foot ends. As the swing-frames and operating mechanisms are duplicated on either side of the couch-frame, either one side frame

or the other, or both, may be elevated, and the couch may thus be used with these side frames folded or hanging down as a narrow couch or single cot, may be extended to three-quarter-bed width by the elevation of one swing-frame, or to double-bed width by the elevation of the other. If, therefore, it be desired to move the couch against a wall and keep it there, the outer swing frame may be operated without necessitating the moving of the couch as a whole from the wall.

When it is desired to lower either of the side frames, the tripping mechanism is brought into requisition. This consists of a strap-iron tripper K , which extends from end to end of the couch and has its ends K' bent at a right angle and pivoted to the vertical angle-slats at k . At the operating end of the couch there is placed the trip-lever J , pivoted to the short strap j' and provided at its outer end with a tread J' and at its inner end with a loop J^2 , which surrounds the tripper-bar K . Now when the foot of the operator presses down the tread J' the loop J^2 is raised, and with it the tripper-bar K , which strikes smartly against the inner end of the prop L at either end of the couch, lifts the notch l out of engagement with the lip m , and allows the swinging frame to fall to its vertical position.

An ordinary mattress may be laid upon the wire fabric E and, provided it is thin enough for the purpose, will bend of itself so as to hang down at the sides when the swing-frames are in folded or in vertical position. If a thicker mattress is desired, this may be made like a book-mattress—namely, with sections of sufficient width to cover the swinging frames, said mattress-sections stitched to the binding of the main mattress along the juncture of their lower edges.

What I claim, and desire to secure by Letters Patent, is—

1. In a folding couch, a main frame having a head and foot each composed of transverse top and bottom angle-bars joined by vertical metallic slats, metal side rails connecting the head and foot portions of said main frame and braces joining said side rails to the two end portions of the main frame, head and foot metallic standards whereto the main frame is secured, and laterally-suspended swinging frames each consisting of an outer side rail and end bars pivotally joined to the transverse top end bars of the main frame, elevating-toggles and props for said swinging frames and independent treadles to operate the swinging frame of either side.

2. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper

end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended and elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles.

3. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, and lifting-treadles pivoted on the cross-brace of the main frame having operating ends extending outside the main frame, said treadles having stirrups to engage the elevating-toggles.

4. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails, and braces from the side rails to the outer vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, lifting-treadles pivoted on a cross-brace of the main frame having operating ends extending outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread and having stirrups to engage the elevating-toggles.

5. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame to engage the elevated toggle member.

6. In a folding couch, a main frame, com-

prising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame, said treadles being composed each of two strap-irons spirally coiled to form a tread, having stirrups to engage the elevating-toggles.

7. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame to engage and operate the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

8. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame having operating ends extending outside the main frame, and stirrups to engage the elevating-toggles to lift the swing-frames, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

9. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and swing frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame having operating ends extending outside the main frames, said treadles composed each of two strap-irons spirally coiled to form a tread and having a stirrup to engage an elevating-toggle, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

10. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, side rails and braces, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main frame and end bars on the swing-frames, props carried by the swing-frames and engaging with the main frames when the swing-frames are extended and lifting-treadles pivoted on the main frame having operating ends extending

outside the main frame and stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

11. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended and elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

12. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, and lifting-treadles pivoted on the cross-brace of the main frame having operating ends extending outside the main frame, said treadles having stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

13. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails, and braces from the side rails to the outer vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, lifting-treadles pivoted on a cross-brace of the main frame having operating ends extending outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread and having stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

14. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars,

the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame to engage the elevated toggle member, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

15. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame, said treadles being composed each of two strap-irons spirally coiled to form a tread, having stirrups to engage the elevating-toggle, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

16. In a folding couch, a main frame comprising top and bottom angle-iron end bars, vertical slats connecting said end bars, pairs of slats serving as guides for treadle-levers, the outer slats composed of angle-iron whereof the webs are slotted to receive the props, the top end bars extended laterally to form stirrups for swing-frames, end standards of bent pipe, blocks to secure the end bars of the side frame to the standards, side rails and braces between the side rails and outer vertical slats; swing-frames each provided with an outer side rail and end bars pivoted to the upper end bars of the main frame; elevating-toggles pivoted to the main and side frames respectively; props engaging with the main frame when the swing-frames are extended, said props provided with notches to catch on the lower lips of the slots in the vertical angle-iron slats; lifting-treadles pivoted to a cross-brace on the main frame and provided with operating ends which extend outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread,

and having a stirrup to engage an elevating-
toggle; trippers to engage the props, said
trippers composed each of a bar bent at its
ends and pivoted on the main frame; tripper-
5 treadles pivoted on the main frame and each
provided with a loop to engage a tripper, said
swing-frames and actuating members being
independently operable, the main frame and

swing-frames adapted to receive a spring fab-
ric between the several end bars thereof. 10

Signed by me at Boston, Massachusetts,
this 15th day of June, 1906.

JACOB FELDMAN.

Witnesses:

JOSEPH T. BRENNAN,
JOSEPHINE H. RYAN.