

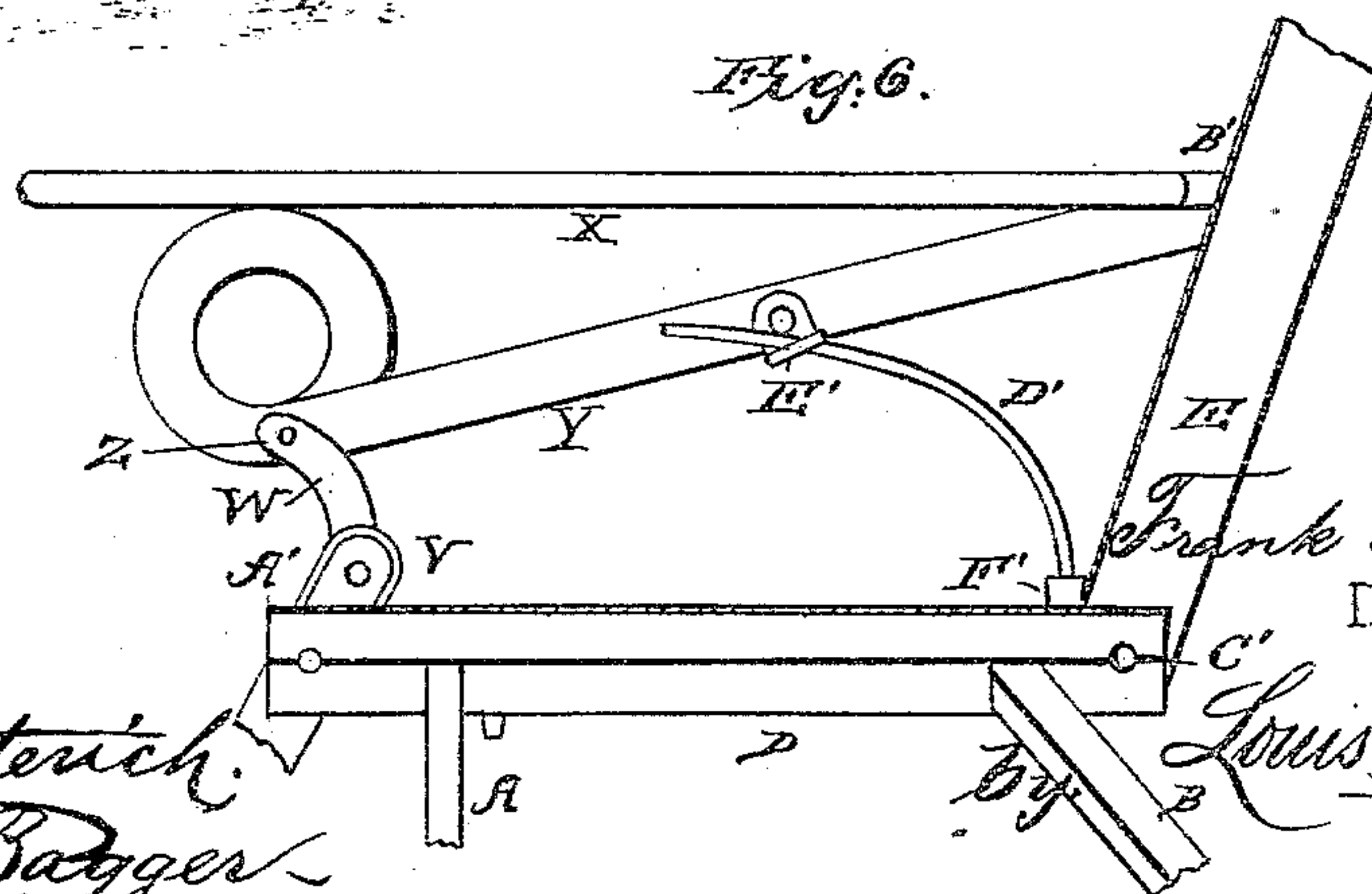
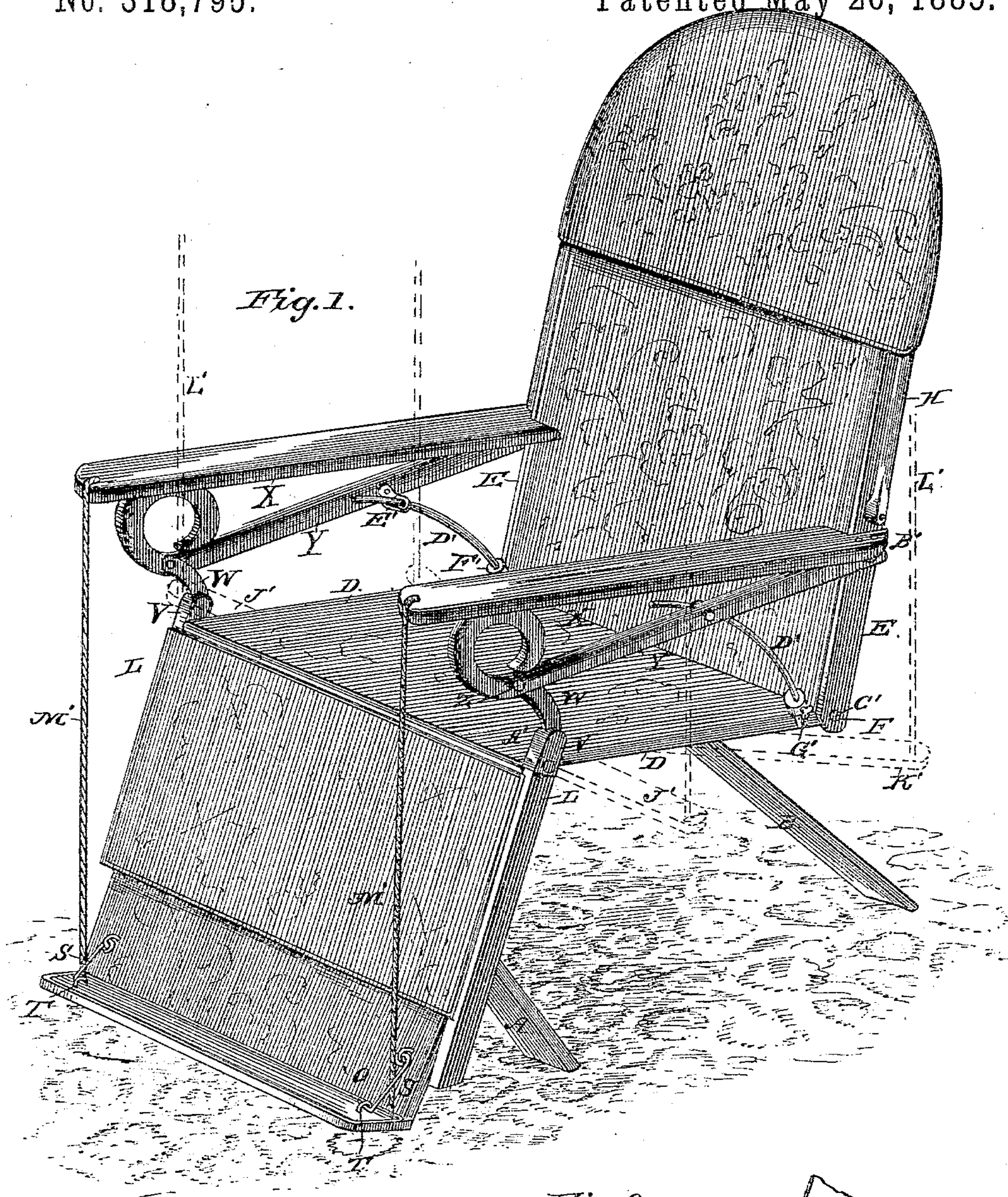
(No Model.)

3 Sheets—Sheet 1.

F. H. PLUMMER.
RECLINING CHAIR.

No. 318,795.

Patented May 26, 1885.



WITNESSES:

Fred. L. Dieterich.
Wm. Bagger

Frank H. Plummer,
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ATTORNEYS.

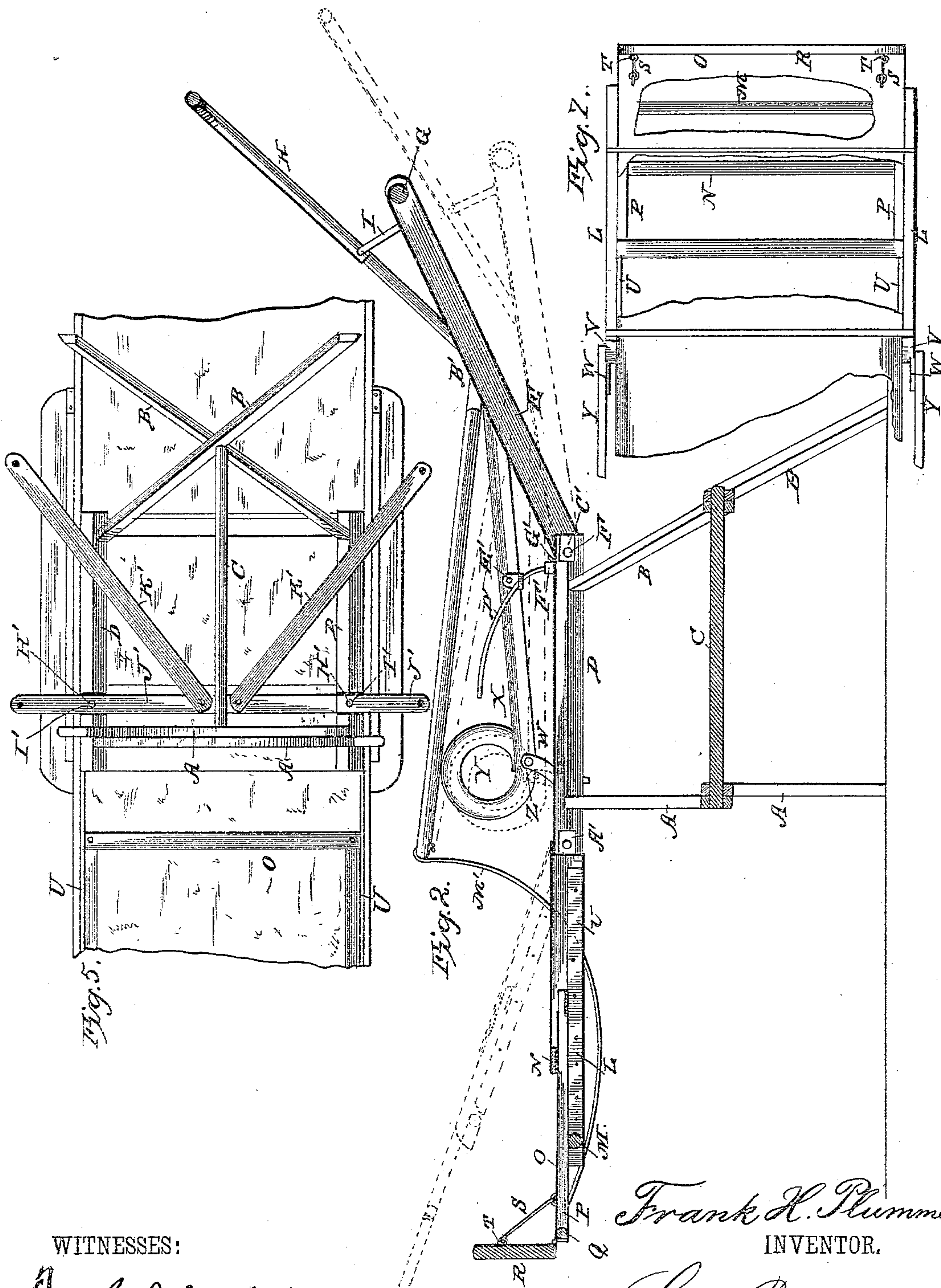
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Med. S. Dietrich.
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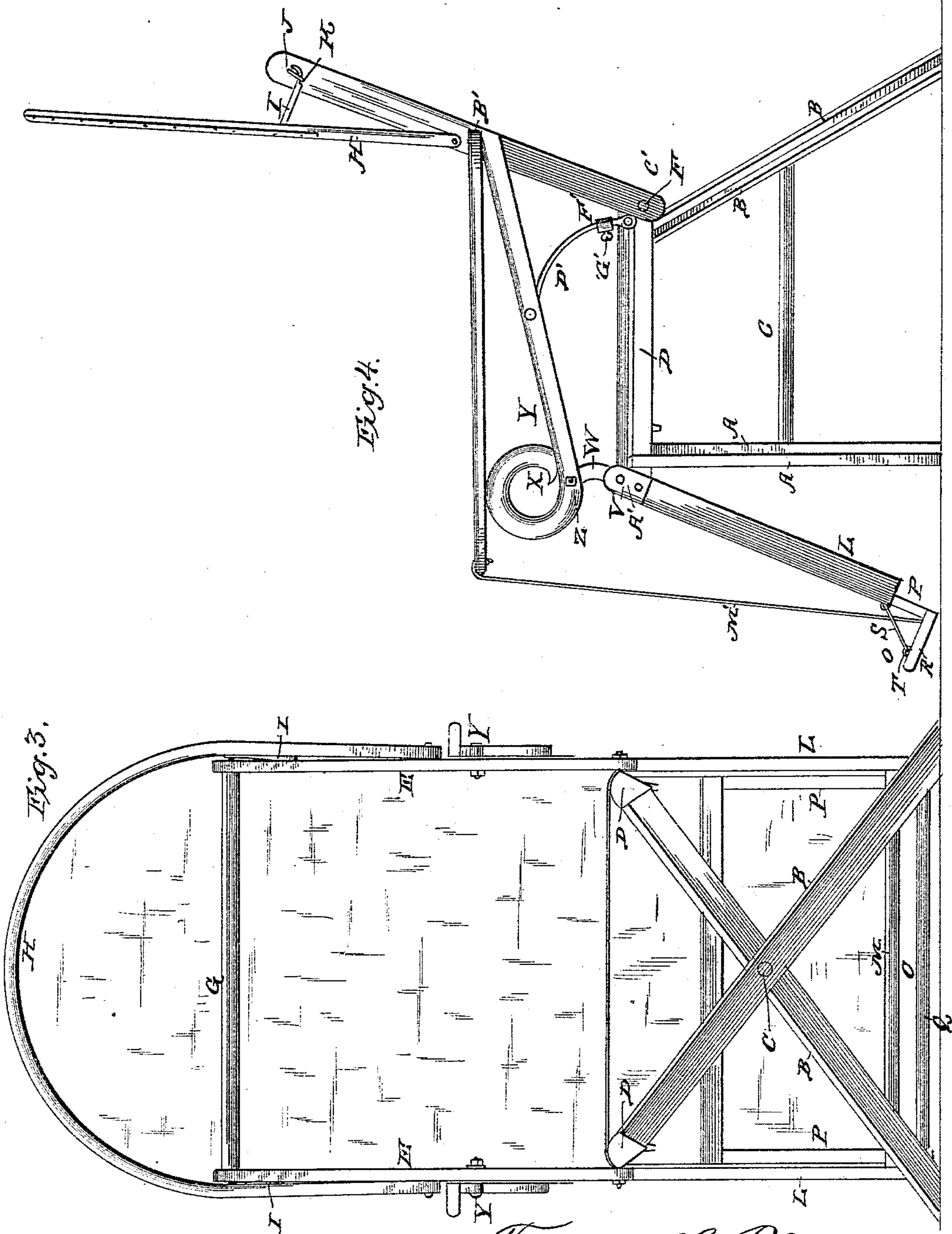
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WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK H. PLUMMER, OF HENNIKER, NEW HAMPSHIRE.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 313,795, dated May 26, 1885.

Application filed February 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. PLUMMER, a citizen of the United States, and a resident of Henniker, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Reclining-Chairs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved reclining-chair, showing the same in position with the back raised and with the foot-rest lowered. Fig. 2 is a longitudinal vertical sectional view of the same with the back lowered and the foot-rest raised, with dotted lines showing the head-rest raised and the foot-rest lifted above the level of the seat. Fig. 3 is a rear view of the chair, showing the same in the position illustrated in Fig. 1. Fig. 4 is a side view. Fig. 5 is a bottom view of the chair provided with the hammock attachment. Fig. 6 is a detail view on a larger scale of one of the arm-rests, showing its connections with the seat, back, and leg-rest; and Fig. 7 is a detail view of the leg and foot rests, parts of the same having been broken away for the purpose of illustrating the construction more clearly.

The same letters refer to the same parts in all the figures.

This invention relates to that class of reclining-chairs in which the back and the leg-rest are hinged or pivoted, respectively, at the front and rear ends of the seat, and in which the arm-rests form pivotal connections between the back-frame and the leg-rest frame, so that when the back-frame is tilted back the leg-rest shall be automatically swung to a raised or elevated position; and it has for its object to produce a chair of this class in which the leg-rest frame shall swing upward at a greater rate of speed than the back-frame tilts back, in which the leg-rest frame shall be capable of being automatically raised to and sustained at a greater elevation than the seat without the use of separate braces or supports, in which the leg-rest shall be provided with a simple and convenient extension and

foot-rest, and in which the extent to which the back and leg-rest frames may be tilted or swung can be conveniently regulated.

The invention also relates to the improved construction of an adjustable head-rest and the braces or supports for the same.

With these ends in view the invention consists in the improved construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A A and B B designate, respectively, the front and rear legs of my improved chair, which are arranged, as shown, in pairs, crossing each other, and connected by the central pivoting-bar, C. The upper ends of the legs are firmly secured to the side rails, D D, forming the seat-frame. The rear legs are set in a rearwardly-inclined direction, so as to afford braces to prevent the chair from tilting over when in use by the weight of the upper part of the body of the occupant. It will be seen that by arranging the leg-frames transversely instead of longitudinally to the seat-frame the side rails of the latter are forced apart, the flexible seat or cover is stretched, and all necessity for the use of transverse rungs or rounds is avoided.

The side rails, E E, of the back-frame are pivoted upon bolts F at the rear ends of the seat-rails D, and are connected at their upper ends by a round or brace, G.

To the sides of the back-rails E E are pivoted the ends of a bow, H, forming the frame of the head-rest. The inner sides of the legs of the said bow are provided with pivoted braces I I, sliding in staples J J upon the back-rails E E, and having upturned outer ends, to prevent their escaping from the said staples. Said braces are also provided near their outer ends with notches or shoulders K, to engage the staples and retain the head-rest frame when swung forward for operation. The upper part of the bow forming the head-rest, as well as the back-frame and the seat, is to be covered with canvas or other suitable flexible or textile material. It will be observed that the covering of the head-rest will be supported upon the upper portion of the back-frame, so as to prevent the head-rest frame from swinging back of the latter. When the head-rest is not in use, the braces drop down

between its sides and the side rails of the back-frame, so as to be completely out of the way.

Pivoted to the front ends of the seat-rails are the side rails, L L, of the leg-rest, which are connected at their lower ends by a cross-brace, M, and near their lower ends by a metallic strap, N, which latter serves principally as a guide for the extension-piece O. The latter consists of side pieces, P P, connected by braces Q Q, and to the lower ends of which is hinged a foot rest or support, R, which may be sustained at right angles to the frame O by means of hasps S S, attached to the side rails P P, and engaging staples T T in the hinged piece R. The frame O, which is covered with canvas or the like, is arranged to slide upon cleats U U, upon the inner sides of the rails L L, which are likewise provided with a flexible covering, under which the extension-frame slides.

The upper ends of the rails L L are provided with sockets V V, having forwardly-extending curved or segmental arms W W, which are pivotally connected with the arm-rests X X near the front ends of the latter. The said arm-rests are pivoted to the side rails of the back-frame some distance above the points at which the latter are pivoted to the seat-rails, and they are provided with forwardly and downwardly extending scrolls Y Y, to the lower front ends of which the arms W W are pivoted. It will be noticed that by this construction and arrangement of parts the points Z, at which the arm-rests are connected with the arms or levers W, are comparatively close to the points A', at which the leg-rest frame is pivoted to the seat-rails, and which form the fulcrum of the lever-arms W, while the points B', at which the rear ends of the arm-rests are pivoted to the side rails E of the back-frame, are comparatively at a considerable distance from the points C', at which the said back-frame is pivoted to the rear ends of the seat-rails. It follows that when the back of the chair is tilted in a rearward and downward direction the connecting-rods formed by the arm-rests will pull upon the levers W, so as to raise the leg-rest at a greater rate of speed, which is proportioned by the difference in distance or leverage between the points B' C' and Z A', relatively. Thus the leg-rest will assume a horizontal position before the back of the chair, and by the time the latter assumes a position approximately horizontal the free end of the leg-rest frame will be raised or lifted above the level of the seat, as shown in dotted lines in Fig. 2 of the drawings. When the chair is in this position, the head-rest frame may be raised, as shown, so as to support the head of the occupant of the chair.

D' D' designate a pair of curved arms or rods, pivoted to the seat-rails near their rear ends, and extending forwardly through a pair of perforated lugs, E' E', pivoted to the sides of the arm-rests. The rods D' are provided with collars F', adjustable by means of set-

screws G', or in some other suitable manner, so as to form stops, which, by intercepting the lugs E' at any desired point, will serve to arrest the tilting motion of the chair, and enable it to be sustained by the occupant in any desired position. These stop devices may, however, be dispensed with, when desired, without departing from the spirit of my invention.

The side rails of the seat are provided near their front ends with downwardly-extending lugs H', adapted to enter perforations I' in a cross-bar, J', which may be arranged transversely under the seat, beyond which the ends of the said cross-bar project, as shown in Fig. 5, and in dotted lines in Fig. 1 of the drawings. Pivoted about centrally to the under side of the said cross-bar J' are a pair of arms, K' K', extending diagonally in a rearward direction under the side rails of the seat directly in front of the pivotal points of the back-frame.

To the ends of the bars J' and K' K' are attached ropes or cords L', by means of which the chair may be suspended, so as to do service as a so-called "hammock-chair." When the chair is used in this manner, the cross-bar J' serves to space the side rails of the seat and keep them apart, thus preventing any tendency in the seat to collapse. When the chair rests upon the ground, the seat is kept stretched by the action of the crossed legs, which are arranged, as described, transversely under the seat, so that any weight upon the latter will have a tendency to spread the legs and stretch the seat. It will be observed that the suspension attachment does not in the least interfere with the tilting or swinging motion of the back and leg-rest of the chair, which is capable of adjustment in precisely the same manner as when standing upon the ground.

Secured to the lower end of the extension-frame of the leg-rest, at the corners of the same, are a pair of cords, M', the upper ends of which are suitably attached to the upper front ends of the arm-rests, so that as the leg-rest is elevated the said extension-frame may slide in an outward direction. The length of the cords is so calculated as to prevent the extension-frame from sliding entirely out of its bearings. By this arrangement, when the leg-rest is lowered, the cords will pull or draw the extension-frame back therein. Should the extension-frame prove too short for the comfort of the occupant, he may with his feet easily unhitch the hasps S S from the staples T T, thus causing the foot-rest to swing out in a line with the extension-frame, to which it is hinged, as shown in Fig. 2.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my improved reclining-chair will be readily understood.

The construction is simple, and makes it possible to manufacture the chair in a useful and durable form at a small expense.

The chair may be readily adjusted to a variety of comfortable positions, and may, when desired, be used as a hammock-chair with-

out detracting from its capability of adjustment.

When the chair stands upon the ground, the rearwardly-inclined rear legs obviate all danger of its tilting over under the weight of the occupant. The head-rest and extension leg-rest are simple in construction, easily and partly automatically adjusted, and under no circumstances liable to get out of order.

It is also worthy of notice that the chair may be easily and quickly taken apart or put together, and may be packed in a small space for shipment.

In this case I disclaim all matter which has been claimed in my application Serial No. 155,069, of even date with the present application; nor do I claim, broadly, the arrangement of the crossed legs under the seat-frame, or the arrangement for locking the several adjustable parts in their adjusted position by means of holding-clamps, as I am well aware that it is not new in this class of chairs to arrange stops or clamps of different construction in such a manner that the adjustment of the several adjustable parts of the chair may be effected simultaneously and in such a manner as to bring said parts into their proper relative position.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a reclining-chair, the combination of the seat-rails, the back-frame, and leg-rest frame, hinged or pivoted, respectively, at the rear and front ends of the same, and the crossed legs arranged in pairs transversely under the seat, having their upper ends attached to the front and rear ends of the seat-rails and connected by the central pivoting-bar, the rear legs being set in a rearwardly-inclined position, so as to brace the chair, substantially as set forth.

2. The combination of the seat-frame, the

legs or supports, the hinged back-frame, the leg-rest frame hinged at the front ends of the seat-rails, and having sockets provided with forwardly and upwardly curved lever-arms, the arm-rests connecting the latter pivotally with the sides of the back-frame, the extension-frame arranged to slide on cleats upon the inner sides of the side rails of the leg-rest frame proper, and cords connecting the lower corners of said extension-frame with the upper front ends of the arm-rests, substantially as and for the purpose set forth.

3. In a reclining-chair, substantially as described, the leg-rest frame consisting of side rails, connected by cross-bars or braces having cleats upon their inner sides, and covered with flexible or textile material, in combination with the extension-frame covered with flexible material arranged to slide upon the cleats and under the covering of the main frame, and having a foot-rest hinged to its lower edge and adapted to be retained at right angles to the frame by means of hasps, and the operating-cords, all arranged and operating substantially as set forth.

4. The combination of the seat-frame, the legs or supports, the hinged back-frame, the hinged leg-rest frame having forwardly and upwardly extending lever-arms, the arm-rests connecting the latter pivotally with the back-frame, perforated lugs pivoted to the sides of the arm-rests, and curved rods pivoted at the rear ends of the seat-rails, extending through said perforated lugs and provided with adjustable stop-collars, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

FRANK H. PLUMMER.

Witnesses:

AUGUST PETERSON,
WM. SECHER.