

No. 797,841.

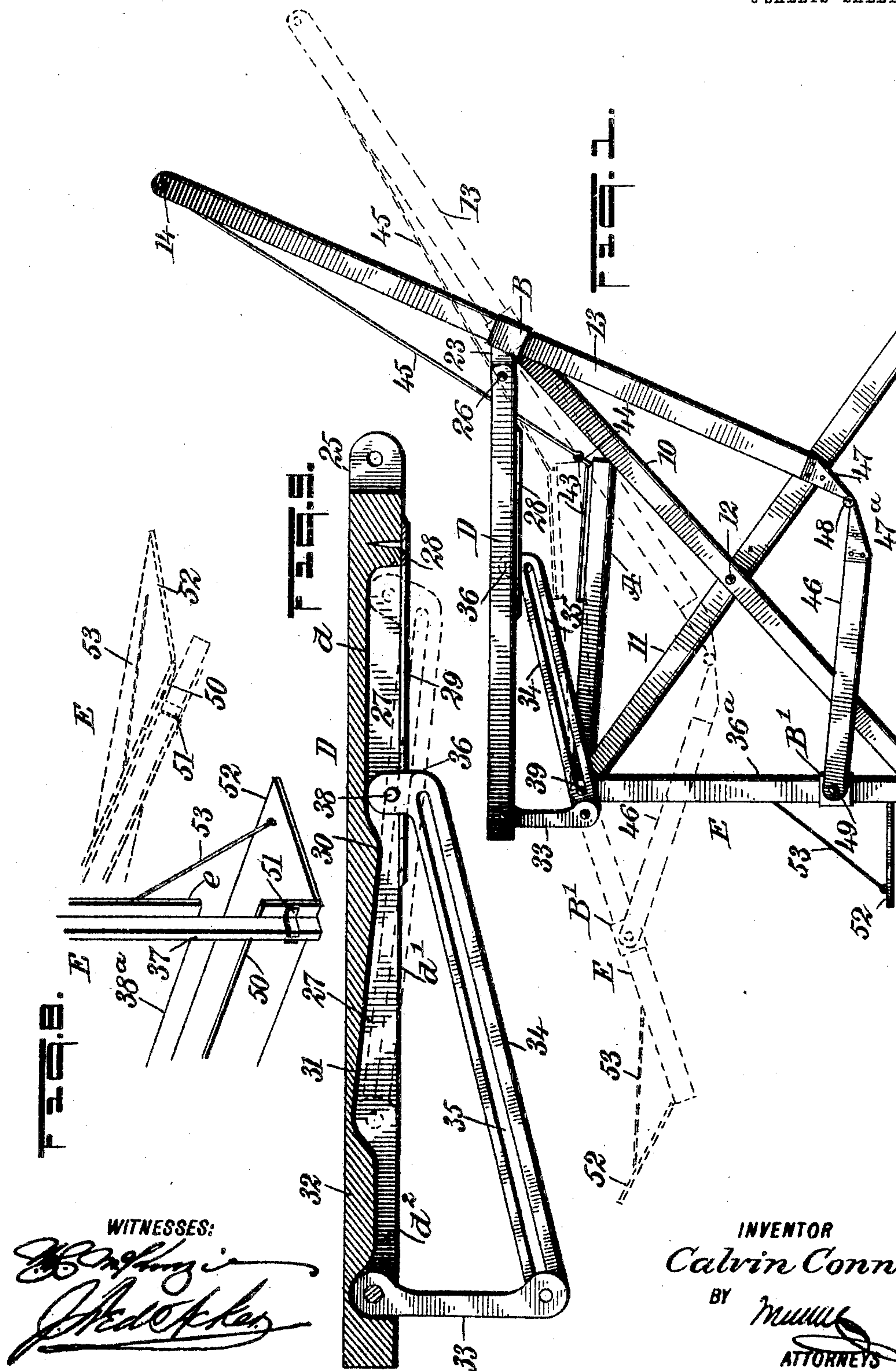
PATENTED AUG. 22, 1905.

C. CONN.

RECLINING CHAIR.

APPLICATION FILED NOV. 2, 1904.

3 SHEETS—SHEET 1.



ANDREW. B. GRAHAM CO. PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.



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RECLINING CHAIR.  
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3 SHEETS—SHEET 2.

FIG. 2.

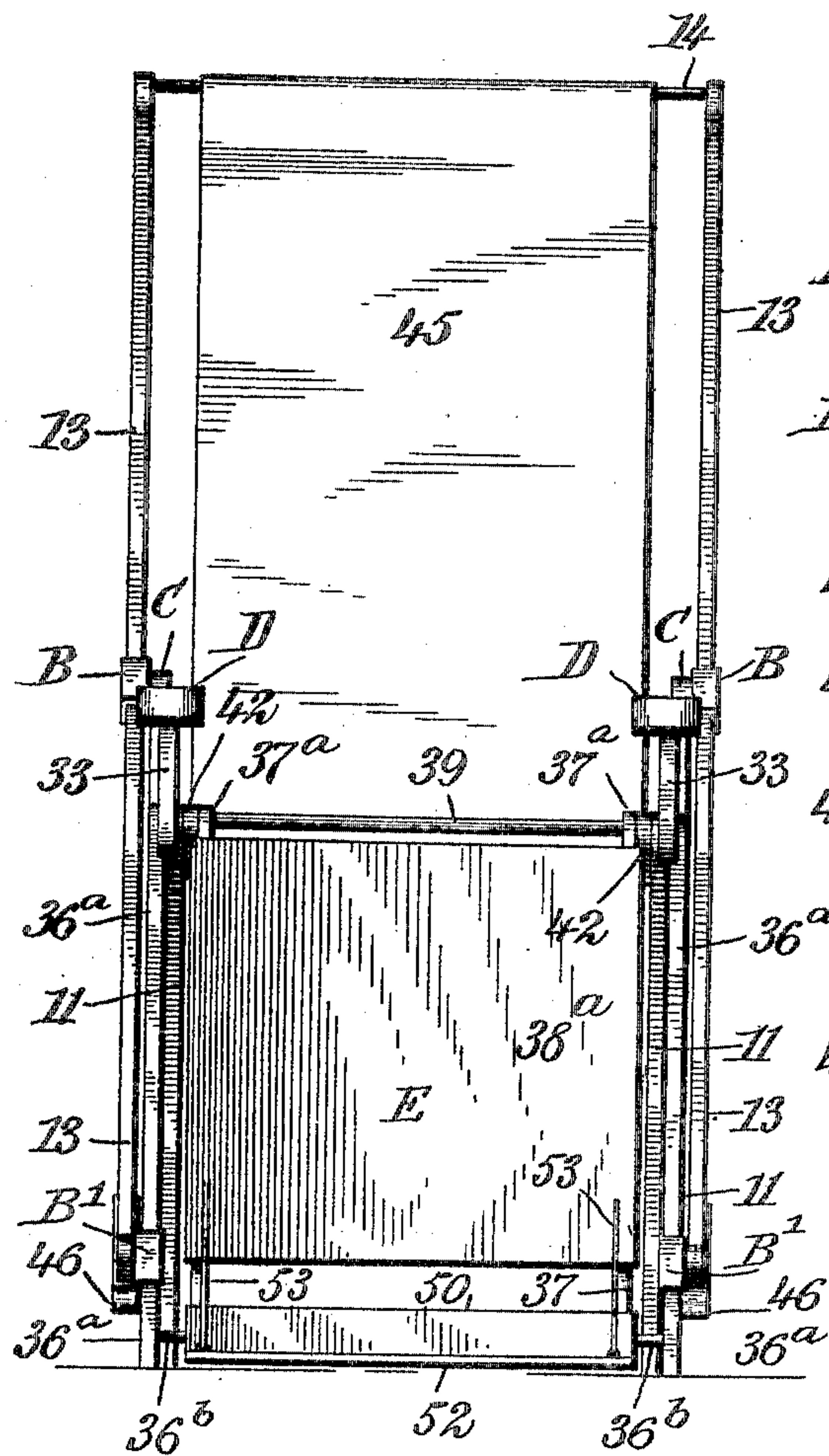


FIG. 3.

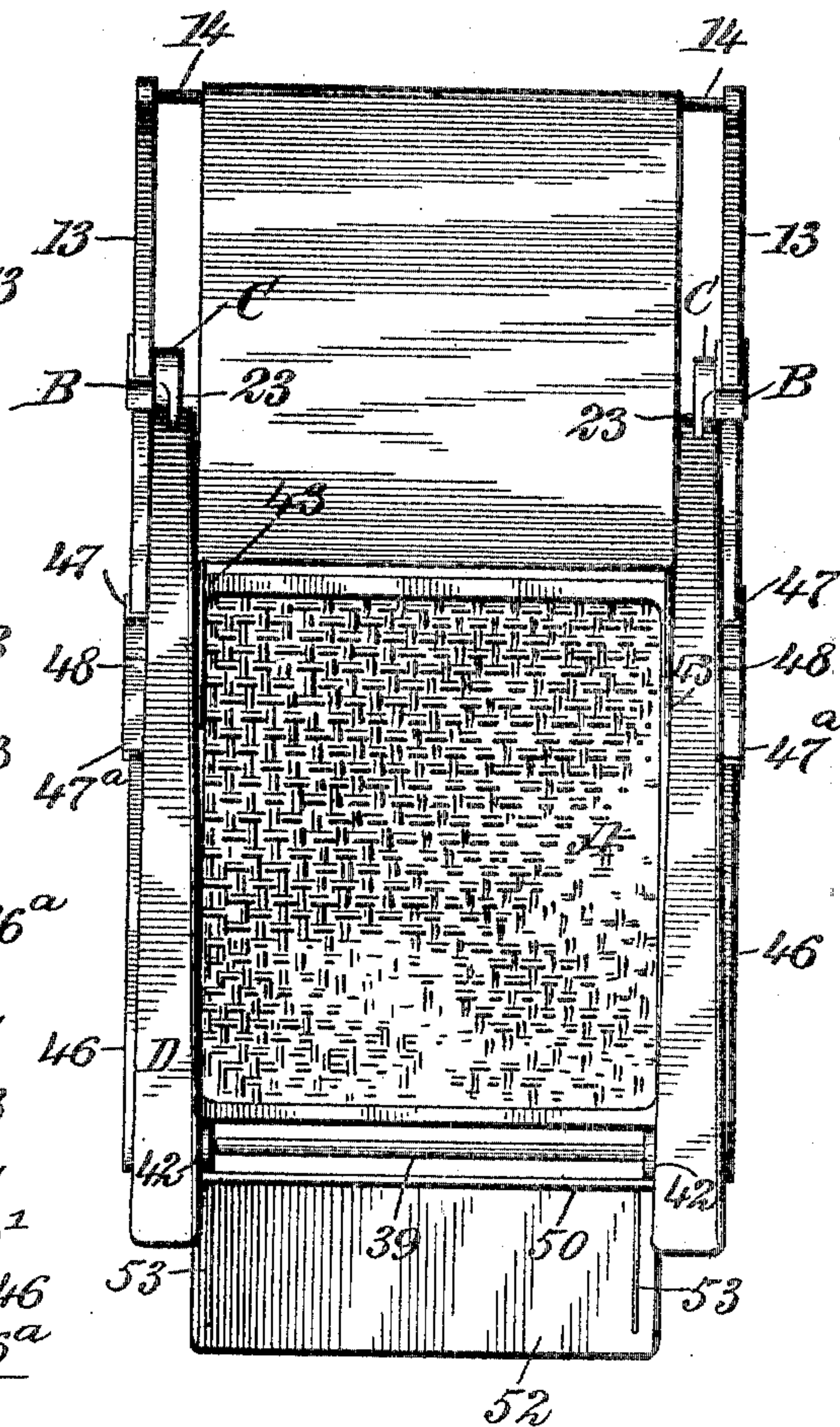
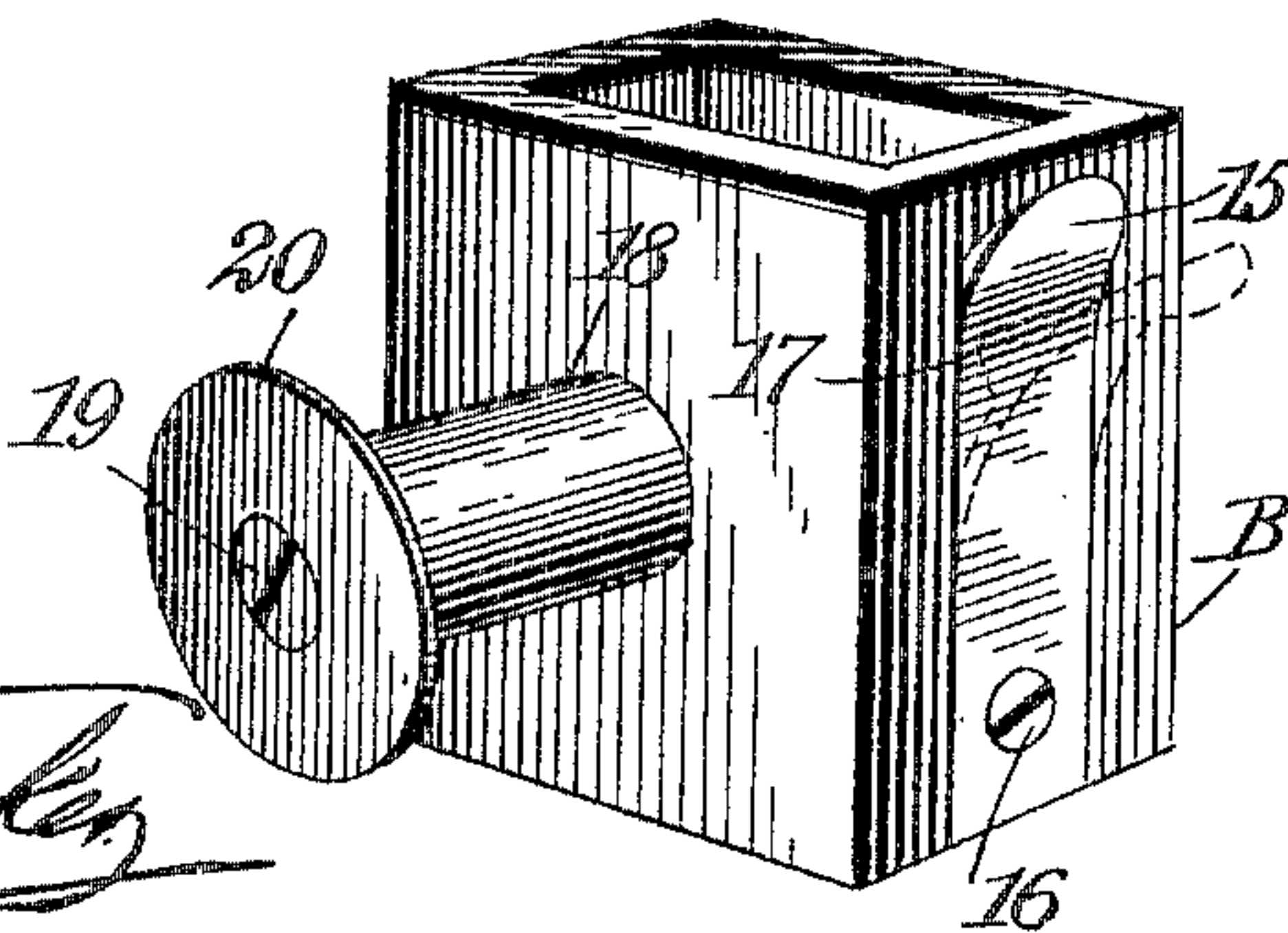


FIG. 10.



WITNESSES:

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INVENTOR  
Calvin Conner  
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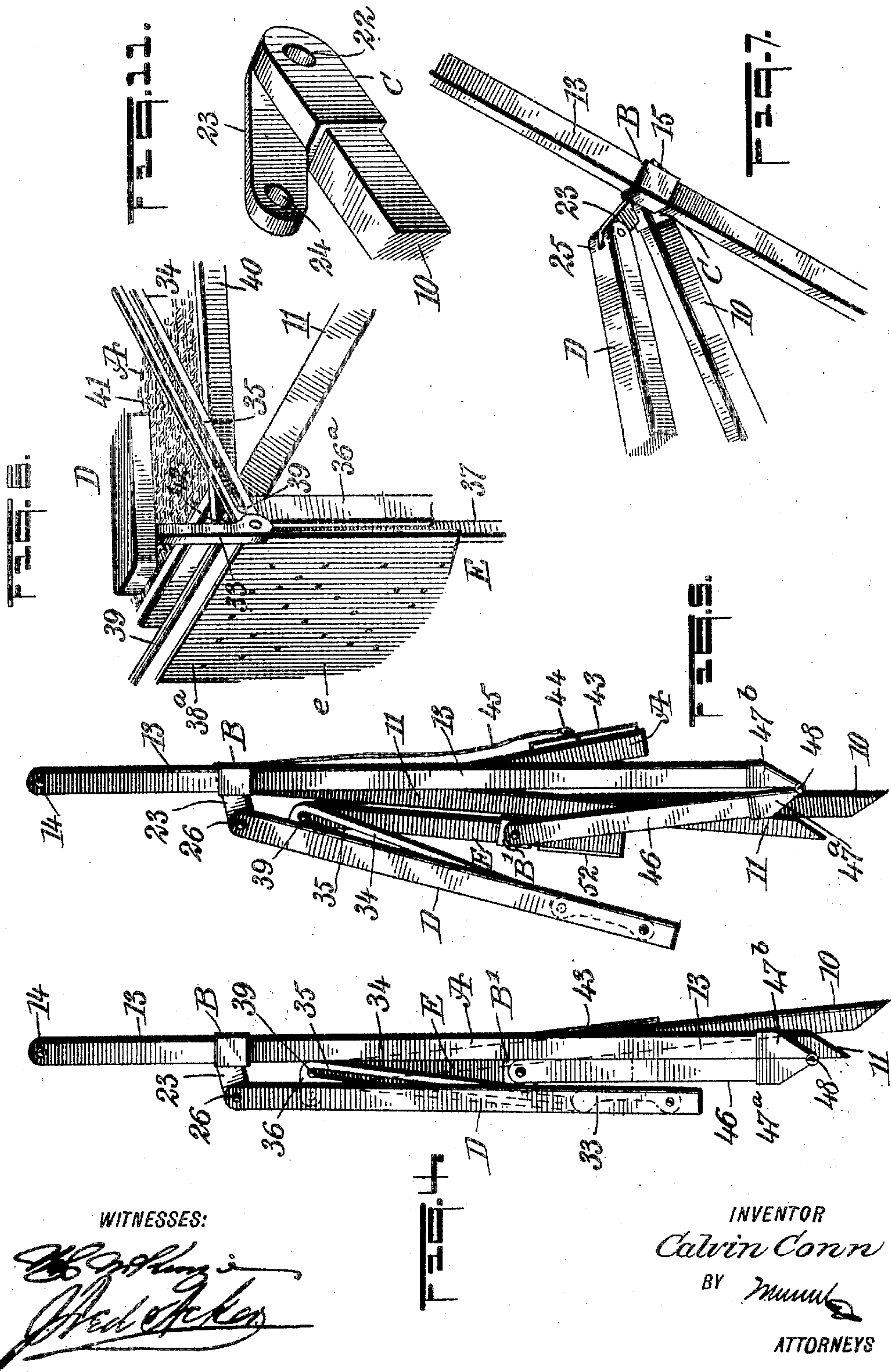


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# UNITED STATES PATENT OFFICE.

CALVIN CONN, OF BREMERTON, WASHINGTON.

## RECLINING-CHAIR.

No. 797,841.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed November 2, 1904. Serial No. 231,087.

*To all whom it may concern:*

Be it known that I, CALVIN CONN, a citizen of the United States, and a resident of Bremerton, in the county of Kitsap and State of Washington, have invented a new and Improved Reclining-Chair, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, durable, and economic form of chair which can be used as an ordinary chair or instantly and conveniently converted into a reclining-chair simply by the movement of the body of the occupant.

Another purpose of the invention is to provide such a construction of chair that the occupant may assume a full or a partially reclining position at will and so that the parts will remain in their adjusted position as long as desired and will so remain when the chair is vacated until the adjusted parts are purposely disturbed.

A further purpose of the invention is to so construct the chair that it will be light yet strong and free from all springs and controlling devices adapted to be manipulated by the occupant in assuming different positions in the chair and also to so construct the improved chair that the parts thereof may be quickly, readily, compactly, and flatly folded without disconnecting any of the parts.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the chair, showing the chair in ordinary position in positive lines and in reclining position in dotted lines. Fig. 2 is a front elevation of the chair as shown by positive lines in Fig. 1. Fig. 3 is a plan view of the chair as shown in Figs. 1 and 2. Fig. 4 is an edge view of the chair folded. Fig. 5 is an edge view of the chair partially folded. Fig. 6 is a detail perspective view illustrating the manner in which the seat and leg-rests and front portions of the chair at the said parts are connected. Fig. 7 is a detail perspective view illustrating the manner in which a leg, a side bar of the back, and an arm are connected. Fig. 8 is a detail perspective view of a part of the lower portion of a leg-rest and a portion of the foot-rest,

illustrating the said parts in normal position in positive lines and in reclining position in dotted lines. Fig. 9 is a longitudinal section through an arm of the chair, drawn on an enlarged scale, and a side elevation of a combined brace and connecting-link carried by the arm. Fig. 10 is a detail perspective view of one of the couplers employed in connecting sundry of the parts of the chair, and Fig. 11 is a detail perspective view of a part of the upper rear portion of one of the legs and a tip or cap fitted thereto.

The legs of the chair are four in number, being two at each side, and these legs are designated, respectively, as 10 and 11. The legs are crossed at each side of the chair, and each set of legs are pivotally connected by a pivot-pin 12. The legs 10 are longer than the legs 11, and the said legs 10 extend from the lower front portion of the chair upward to the back portion at a point above the seat A, to be hereinafter described, while the legs 11 extend from the forward portion of the seat A downward and rearward to an engagement with the floor or other support.

The back of the chair consists, mainly, of two side bars 13, which extend some distance above and below the seat A, heretofore mentioned, and these side bars 13 of the back are connected at the top by a cross-bar 14.

A coupling-block B is mounted to slide on each of the side bars 13 of the back, and the said coupling-blocks are preferably constructed as is shown in detail in Fig. 10, wherein a block is provided with a recess in one side, preferably the rear side, and in this recess a spring-tongue 15 is fitted, secured in place by a screw 16 or its equivalent, and at the upper or free end of this tongue 15 a head is formed, and on the inner face of the said head a transverse lip 17 is produced, as is shown by dotted lines in the said Fig. 10, and the recess in which the tongue 15 is placed is so made that a lip 17 will extend into the chamber of the coupling-block and engage with the rear face of the side bar 13 of the back on which the coupling-block is fitted. This coupling-block is adapted to slide on the side bar 13 of the back to which it is applied and is held in adjusted position by the engagement of the said lip or rib 17 of the said spring-tongue 15 with the side bar; but when sufficient force is employed the said coupling-blocks may be made to slide on the bars 13, upon which they are mounted, irrespective of the engagement of



the lip 17; but as soon as the force has ceased to be exerted the spring-tongues will hold the said coupling-blocks firmly in place.

A trunnion 18 is made integral with the inner face of each coupling-block B, and the ends of the trunnions 18 are adapted to receive machine-screws 19 or their equivalents, and the said screws are adapted to hold washers 20 in place.

A cap or tip C is located at the upper end of each leg 10, and the said cap or tip, as is best shown in Fig. 11, is provided with an aperture 22, extending transversely therethrough. Said aperture 22 of a cap or tip C is adapted to receive a trunnion 18 of a coupling-block B, and after the trunnion of a coupling-block has been passed through the aperture 22 of a tip or cap the washer 20 is applied to the trunnion and is secured in place by the screw 19.

An upwardly and forwardly extending lug or fin 23 is made integral with each cap or tip C, and the fins or lugs 23 are adapted to enter between the members of the bifurcated rear ends 25 of arm-rests D, one of which arm-rests is shown in detail in Fig. 9, and each of the lugs or fins 23 is provided with an aperture 24 at its outward or forward end adapted to receive a pivot-pin 26, which pivot-pin is passed likewise through the bifurcated rear end of the arm-rest, being connected as is shown in Figs. 4 and 5.

A longitudinal chamber 27 is produced in the under face of each arm-rest D, and this chamber extends nearly from end to end of the arm-rest, and at the rear portion of the said chamber 27 a plate 28 is secured to the bottom portion of the arm-rest, which plate has a longitudinal slot 29 made therein, extending through the forward end of the plate.

Slightly back of the forward end of the plate 28 a shoulder 30 is produced in the said chamber 27 of an arm-rest D, and the upper wall of the chamber from the shoulder to a point near the forward end of the chamber is upwardly inclined, as is shown at 31 in Fig. 9. Between the terminal of the upper inclined surface 31 and the forward end of chamber 27 a longitudinal projection 32 is formed, having its ends tapering or inclined, as is also shown in Fig. 9. Thus the chamber 27 of an arm-rest is divided into practically three sections—a rear section  $\mathcal{A}$ , an intermediate section  $\mathcal{A}'$ , and a forward section  $\mathcal{A}''$ .

A link 33 is pivoted at one end in the forward end portion of the chamber 27 of each arm-rest D, adapted to normally extend downward from the said arm-rest, and a guide-bar 34 is pivoted at its forward end to the said link 33 at the end which is opposite that pivoted to the arm-rest. The guide-bar 34 is provided with a longitudinal slot 35, extending nearly from end to end, and at the rear end of each of the guide-bars 34 an upwardly-extending member 36 is formed, which extends through the slot 29 of the plate 28 of an arm-

rest into the rear section  $\mathcal{A}$  of the chamber 27 of said arm-rest. A pin 38 is passed through this upwardly-extending member 36 at a point above the upper face of the plate 28, as is shown in Fig. 9.

When a link 33 is folded up in an arm-rest D, it fits snugly in the forward section  $\mathcal{A}''$  of the chamber of said arm-rest, as is shown by dotted lines in Fig. 9, and at such time the guide-bar 34, connected with the link, will be moved backward at its rear end to the rear portion of the rear section  $\mathcal{A}$  of the said chamber 27 of the arm-rest, as is shown by dotted lines in Fig. 9, and the said guide-bar will at such time substantially rest in the intermediate and rear sections of the chamber. The forward and rearward movement of the guide-bar 34 is limited by reason of the upwardly-extending member 36 of the bar engaging in its extreme rearward movement with the rear wall of the chamber 27 in the arm-rest and at its extreme forward movement engaging with the shoulder 30, as is likewise clearly shown in Fig. 9.

In connection with the parts just named I employ a leg-rest E, which is at the front portion of the chair. This leg-rest consists of two main side bars 36<sup>a</sup>, which in the normal position of the chair serve as front legs and occupy a vertical position, as is indicated in Fig. 1, and between these main side bars 36<sup>a</sup> the body  $e$  of the said leg-rest section is located. This body  $e$  consists of side members 37 parallel with the main side bars 36<sup>a</sup>, yet spaced therefrom, and a board or a covering 38<sup>a</sup>, which is secured to the said side members 37 in any suitable or approved manner. The said body-board or covering 38<sup>a</sup> terminates short of the lower ends of the side members 37, as is shown in Fig. 8.

The upper ends of the side members 37 of a leg-rest E are provided with ears 37<sup>a</sup>, and a cross-bar 39, which is in the form of a rod, is passed loosely through the said ears 37<sup>a</sup> on the side members 37 and through the upper ends of the main side bars 36<sup>a</sup>, the ends of the cross rod or bar 39 being made to loosely pass through the slots 35 in the guide-bars 34, as is best shown in Fig. 6. The seat A consists of a suitable frame 40, usually rectangular in shape, and a covering 41 is secured to this frame. The said frame at its forward end is provided with forwardly-extending lugs 42, preferably integral with its side members, as is shown in Figs. 2 and 6, and the said front transverse rod or bar 39 is passed loosely through suitable apertures in the said forwardly-extending lugs 42 of the seat. The said rod 39 is likewise passed through the upper ends of the legs 11 of the chair or those legs which extend from the lower rear portion of the chair upwardly and forwardly. Thus the rod or bar 39 connects the upper portion of the leg-rest E, the legs 11, and the forward end of the seat A with the guide-



bars 34, the connecting medium 39 for said parts having sliding movement in the said guide-bars. The said guide-bars, as has been stated, have sliding movement in the arm-rests D.

A yoke 43 is secured longitudinally to the upper face of the side portion of the seat-frame 40 at its rear, as is shown in Figs. 1 and 5, and these yokes 43 are adapted to receive rings 44, which are secured to the lower end portion of the back 45, which back may be of any suitable material, preferably a pliable material. The upper end portion of the back 45 is secured in any suitable or approved manner to the cross-bar 14, connecting the side bars 13 of the back-section of the chair.

Shifting arms 46 have a hinged connection with the lower ends of the side bars 13 of the back-section of the chair, as is best shown in Fig. 1. This hinged connection is made usually by securing socket members 47 and 47<sup>a</sup> to the adjacent ends of the said shifting members 46 and the side members 13 of the back-section, and the said socket members at their outer portions are more or less triangularly shaped, and the hinge connection 48 between the socket members 47 and 47<sup>a</sup> is substantially that of a rule-joint.

The forward ends of the shifting members 46 are pivotally connected with the main side bars 36<sup>a</sup> of the leg-rest E of the chair by means of a coupling-block B', and these coupling-blocks have sliding movement on the said main side bars 36<sup>a</sup>, as is shown in Fig. 1. Each of the coupling-blocks B' is provided with a trunnion extending from its outer side, the said trunnions 49 being passed through suitable apertures in the forward end portions of the shifting members or arms, as is also shown in Fig. 1.

A foot-rest is employed in connection with the leg-rest. This foot-rest consists of a board 50, which extends in front of the side boards 37 of the body portion of the leg-rest somewhat below the body member 38<sup>a</sup>, as is shown in Fig. 8, and the said board 50, which may be termed a "backboard," is provided with socket members 51, loosely embracing the side members 37, as is also shown in Fig. 8, so that the backboard 50 may be slid upward or downward on the said members 37.

A footboard 52 has a hinged connection with the forward lower portion of the backboard 50 by means of chains or cables 53, which are secured at one of their ends to the body-section *e* of the leg-support of the chair and at their other ends are attached to the footboard 52. When this footboard is to be straightened out, as shown in Fig. 8, which may be desirable when the parts of the chair are carried to the inclined position, the backboard 50 must be slid upward on the members 37, as the tie chains or cables 53 are not expansible, nor have they elastic connection with the parts to which they are applied.

It may here be stated that the coupling-blocks B' are provided with spring-tongues, preferably at their front portions, corresponding to the spring-tongues 15 described in connection with the coupling-blocks B.

It will be observed that all of the parts of the chair are more or less connected and that it is possible for all of the parts to remain thus connected, no matter whether the chair is folded or whether it is carried from one position to another. When the chair is in its normal position and a person is seated therein, it may be carried to the inclined position by the occupant simply shifting the weight of the body more or less in direction of the back-section of the chair, whereupon the back-section will act on the trunnions 18 of the coupling-blocks B, which serve as pivots, and the connected parts of the chair will then assume the position shown in dotted lines in Fig. 1 or a position more or less inclined.

When the parts of the chair have been adjusted by the occupant, the weight of the occupant will preserve the chair in its adjusted position, and when the occupant leaves the chair the spring-tongues on the coupling-blocks will serve to retain the parts in adjustment until said parts are purposely readjusted.

In folding the chair it is simply necessary to carry upward the rear ends of the arm-rests D, whereupon the forward ends of the arm-rests D will drop downward and the front lower portion of the chair will be carried rearward and upward, and the parts of this portion of the chair will be folded one upon the other and against the back-section, including the legs 10 and 11. Finally the arm-rests are dropped down against the folded parts, bringing, for example, the arm-rests in a flat position to the front and the side bars of the back to a flat position at the rear, and the other parts will necessarily occupy a flat folded position intermediate of the said arm-rests and the side bars of the back, as is clearly indicated in Figs. 4 and 5.

It has not been previously stated how the lower ends of the side members 37 of the leg-rest E are connected with the main side bars 36<sup>a</sup>. Such connection is effected through the medium of tie-rods 36<sup>b</sup>, which extend from the members 37 of the said leg-rest to the main side bars 36<sup>a</sup>, as is clearly shown in Fig. 2, the connection between these two parts at the upper portion of the leg-rest being effected through the medium of the pivot-rod 39.

I desire it to be understood that while the forward and rear legs of the chair are shown of different lengths said legs may be of the same length without departing from the spirit of the invention.

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

1. In a reclining-chair, folding, pivotally-connected legs, a back having slidable and



pivotal connection with the rear legs, arm-rests pivoted to the rear legs, guides having folding and pivotal connection with the arm-rests, a seat having sliding and folding connection with the back, a leg-rest, hinged extensions from the side bars of the back, sliding and pivotal connections between the said extensions and the leg-rest, a member mounted to slide in the guides, and pivotal connections between the front legs, the front of the seat and the leg-rests, and the said sliding member.

2. In reclining-chairs, folding pivotally-connected legs, a back having slidable and pivotal connection with the rear legs at their upper ends, arm-rests pivoted to the same portions of the rear legs, guides located below the arm-rests and having sliding, folding and pivotal connection with said arm-rests, a seat, a sliding connection between the seat and the back, a leg-rest, shifting members hinged to the lower portion of the back and having sliding and pivotal connection with the leg-rest, a member mounted to slide in the said guides, pivotal connections between the front legs, the front of the seat and the leg-rest, and the said sliding member, a foot-rest consisting of a body-section mounted to slide upon the leg-rest, a supporting-section hinged to the body-section, and flexible connections between the body and supporting sections of the foot-rest, controlling the relative positions of the two sections.

3. In reclining-chairs, folding pivotally-connected legs, arm-rests pivoted to the rear upper portions of the legs, coupling-blocks likewise pivoted to the same portions of the legs, a back-frame, comprising side bars and a back between the bars, free at its lower end and connected with the side bars at its upper end, the side bars of the back-frame being mounted to slide in the coupling-blocks, a seat adjustably supported by the lower portion of the body of the back, guides having folding and sliding relation to the arm-rests, a leg-rest, means for pivotally and slidably connecting the leg-rest, the front portion of the seat and forward upper portion of the legs with the said guides, and shifting members hinged to the side bars of the back and having slidable and pivotal connection with the leg-rest.

4. In reclining-chairs, pivotally-connected crossed legs, a back comprising a frame and a flexible body secured at its upper end to the frame, coupling-blocks pivoted to the upper rear ends of the legs, the side bars of the said back passing loosely through the said coupling-blocks, a leg-rest, coupling-blocks mounted to slide on the side bars of the leg-rest, shifting members having hinged connection with the lower ends of the side bars of the back-frame, and a pivotal connection with the coupling-blocks on the leg-rest, latches for the coupling-blocks, arm-rests pivoted to the upper rear portions of the legs, slotted guide-

bars pivotally suspended from the arm-rests and having folding and slidable relation thereto, a seat adjustably supported at its rear by the lower portion of the body of the back, and a pivot-rod passed through the upper forward ends of the legs, the upper end of the leg-rest and the forward end of the seat, the ends of which rod pass loosely through the slots in the guide-bars.

5. In reclining-chairs, pivotally-connected crossed legs, a back comprising a frame and a flexible body secured at its upper end to the frame, coupling-blocks pivoted to the upper rear ends of the legs, the side bars of the said back passing loosely through the said coupling-blocks, a leg-rest, coupling-blocks mounted to slide on the side bars of the leg-rest, shifting members having hinged connection with the lower ends of the side bars of the back-frame, and pivotal connection with the coupling-blocks on the leg-rest, latches for the coupling-blocks, arm-rests pivoted to the upper rear portions of the legs, slotted guide-bars pivotally suspended from the arm-rests and having folding and slidable relation thereto, a seat, longitudinal yokes secured to the side portions of the seat at its rear, rings mounted to slide on the said yokes, which rings are secured to the lower end of the body portion of the back, a foot-rest having slidable and folding connection with the lower portion of the leg-rest, flexible suspension members connecting the said leg-rest with the folding portion of the foot-rest, and a pivot-rod passed through the forward upper ends of the legs, the upper end of the leg-rest and forward end of the seat, the ends of the pivot-rod passing loosely into the slots in the said guide-bars.

6. In reclining-chairs, a leg-rest comprising depending side bars pivoted at their upper ends to the upper front side of the chair to swing thereupon and a transverse section connecting said side bars and extending downwardly from the top thereof and terminating short of the lower end thereof, a foot-rest comprising a transversely-extending backboard at the lower end of the side bars on the front side thereof in the same plane with the leg-rest and spaced therefrom, socket members rigidly secured to the rear side of said backboard and adapted to loosely embrace said side members to slide up and down thereupon, a hinged footboard extending outwardly from said backboard, and flexible connections between the forward side of the footboard and the transverse section of the leg-rest.

7. In a reclining-chair, crossed pivotally-connected legs, a back comprising a frame and a flexible body attached at its upper end to the frame, a seat, a supporting and slidable connection between the body of the back and the rear portion of the seat, a leg-rest, shifting members hinged to the lower ends of the side bars of the frame of the back and pivot-



ally and slidably connected with the leg-rest, a pivoted coupling-block carried by the upper rear end portions of the legs, through which blocks the side members of the back-frame are loosely passed, arm-rests pivoted at their rear ends to the upper rear portions of the legs, the arm-rests being provided with longitudinal chambers in their bottom portions, slotted plates located longitudinally at the rear portion of the bottom of said chambers, links pivoted to the arm-rests at the forward end portions of the chambers, guide-bars having longitudinal slots therein, pivoted to the said links and provided with upturned rear ends which pass through the slots in the plates of the said arm-rests and into the chambers of the same, means for holding the extended

portions of the guide-bars in the said chambers of the arm-rests, and a pivot-rod loosely passed through the upper end of the leg-rest, the forward end of the seat, the upper forward portions of the legs and through the slots in the said guide-bars, whereby the parts of the chair may be placed in reclining positions, or in normal position, and folded without disconnecting any of the parts.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CALVIN CONN.

Witnesses:

G. B. BENSON,

J. J. ALLTON.