No. 648,740. Patented May 1, 1900.

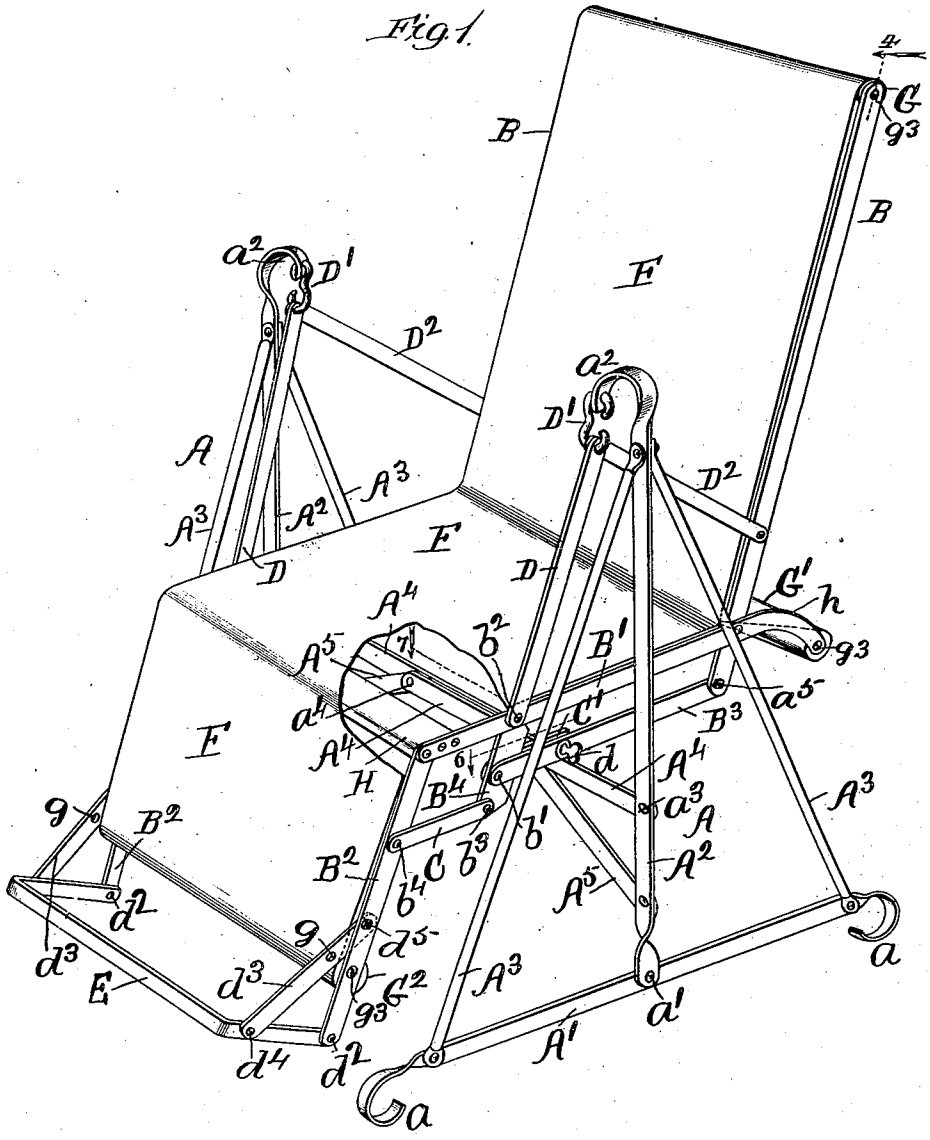
J. D. HAGGARD & H. H. MARCUSSON.

RECLINING AND SWINGING CHAIR.

(Application filed Oct. 7, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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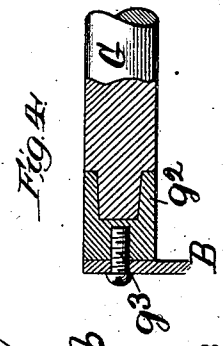
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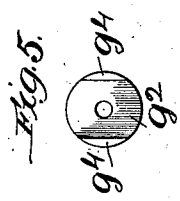
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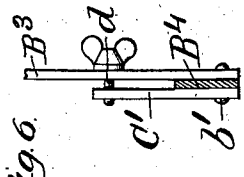
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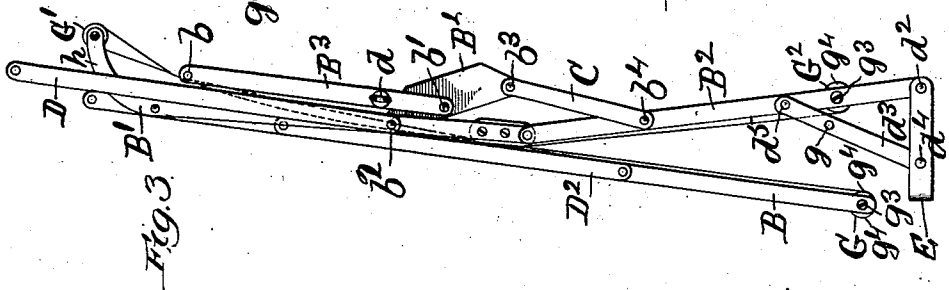
RECLINING AND SWINGING CHAIR.

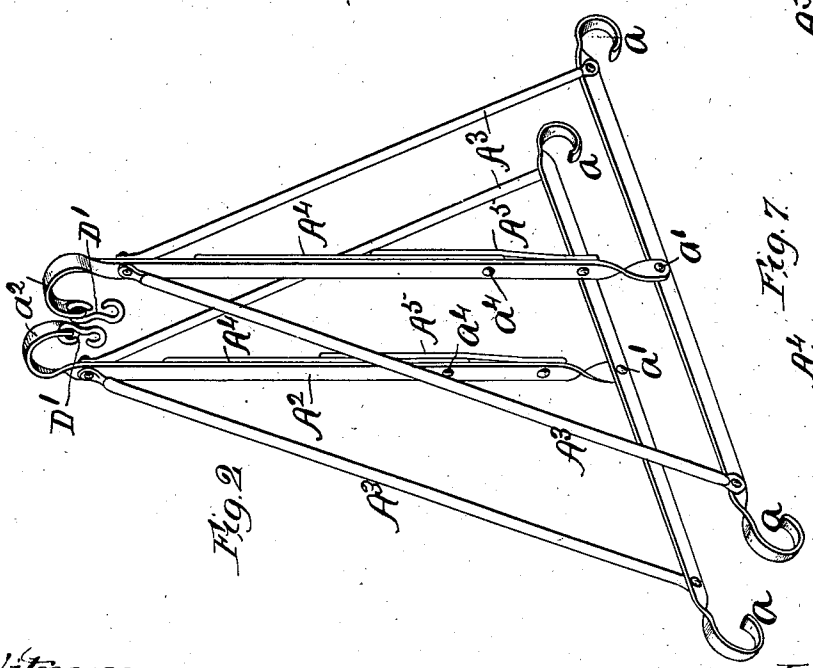
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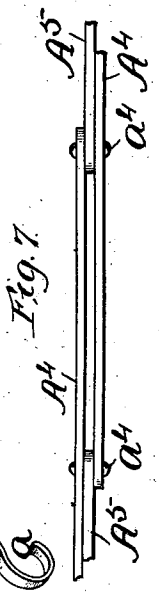












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UNITED STATES PATENT OFFICE.

JOHN D. HAGGARD AND HENRY H. MARCUSSON, OF CHICAGO, ILLINOIS.

RECLINING AND SWINGING CHAIR.

SPECIFICATION forming part of Letters Patent No. 648,740, dated May 1, 1900.

Application filed October 7, 1898. Serial No. 692,884. (No model.)

To all whom it may concern:

Be it known that we, JOHN D. HAGGARD and HENRY H. MARCUSSON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reclining and Swinging Chairs; and we do hereby 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.

This invention relates more especially to improvements in that class of chairs that are designed for out-of-door use, and has for its objects to simplify the construction, increase the convenience and comfort, and to provide a device of this character that will fold up compactly for storage or shipment.

Figure 1 is a view in perspective of a chair embodying the improved features. Fig. 2 is an elevation in perspective of the companion supporting-standards. Fig. 3 is a side elevation showing the chair folded compactly for storage or shipment, the independent supporting-standards being omitted. Fig. 4 is a broken-away longitudinal section of an adjustable roller for keeping the covering fabric taut on line 4, Fig. 1, looking in the direction indicated by the arrow. Fig. 5 is an end view of the same. Fig. 6 is a broken-away plan section on line 6, Fig. 1; and Fig. 7, a broken-away plan of the detachable connections of the independent standards on line 7, Fig. 1.

The framework comprises a system of levers and bars composed of thin flat metal pivoted or otherwise joined together and adapted to have an automatic movement and adjustment in gradually changing from a sitting to a reclining or recumbent position.

A A may represent a pair of independent supporting-standards separably connected together and between which the chair proper is supported in a suspended swinging position. These standards comprise the horizontal foot-bars A′ A′, having the respective ends coiled under to form the feet a, the vertical center bars A^2 A^2, rigidly secured at their lower ends to the longitudinal center of the foot-bars, as at a', their upper ends being bent over and inwardly, as at a^2, from which point the chair is suspended, and the inclined braces A^3 A^3, connecting the horizontal and vertical bars, as shown in Figs. 1 and 2. This form of a standard is not particularly new; but the manner of detachably connecting the two standards together is one of the improved features and will be next described.

The connecting cross-bar is in two parts instead of being a single piece and is braced and stayed. The horizontal cross-bar in this instance consists of the companion sections A^4 A^4, which extend part way across under the seat. The respective outer ends of these bars are pivoted, as at a^3, to the vertical bars A^2, the inner ends overlapping in parallel planes, as shown in Figs. 1 and 7, a portion of the seat-covering being broken away in Fig. 1, showing the relative position of the connections. The outer ends of the companion diagonal braces A^5 A^5 are pivoted to the lower part of the center bars of the standards and their inner upper ends inserted between the two-part cross-bar and detachably secured thereto by bolts a^4, as shown in Fig. 7. It will be noted that the two parts forming the cross-bar overlap approximately one-half their length, so that the bolts a^4, making the two joints, pass through the longitudinal center of one part through the ends of the diagonal braces and the end of the other overlapping part. By taking out the two bolts a^4 one part and one brace may be folded up parallel with the vertical bars A^2 and the standards disconnected, as shown in Fig. 2, so that they may be arranged compactly for storage or transportation.

The chair-frame comprises the back side bars B, the seat-bars B′, and the leg-bars B^2, all pivoted together at their junction, so that they may be made to assume different angles relative to each other in the adjustment of the chair from one position to another. The lower ends of the back side bars extend below the seat-bars and are secured to the rear ends of companion clamping-bars B^3 by a bolt a^5, inserted through bolt-holes b, Fig. 3. The front ends of bars B^3 are pivoted, as at b', to the longitudinal center of the lever-plates B^4, normally in a vertical plane. The upper ends of these lever-plates are pivoted, as at b^2, to the respective seat side bars B′. The back ends of companion links C are con-

nected by a pivot b^8 to the lower end of the lever-plates and the front ends pivoted to the leg-bars, as at b^4. The front ends of companion clamping-bars C' are attached to the lever-plates B^4 by the pivot b', passing through the front ends of the bars B^3. The back unattached ends of these clamping-bars are provided with a screw-threaded aperture for the engagement of a screw-threaded hand-bolt d, inserted through the bars B^3 from the outside and having a clamping-head bearing against the surface thereof, as shown in Figs. 1 and 6. By tightening or slacking up on this bolt the pressure is increased or lessened on the pivot-joints at this point and the adjustment or movement of the chair parts regulated. When new, the pivot-joints do not work too freely and the clamping-bars are left slack. As the joints loosen up from use the clamping-bolt may be tightened and a proper tension maintained. These different parts are all in duplicate, the opposite side of the chair from that illustrated in Fig. 1 being the same.

The lower ends of the suspending-bars D are secured to the side seat-bars by the pivot b^2, the upper perforated ends detachably engaging with the lower hook end of the double hooks D' and the upper hook end engaging with the bent-around ends of the vertical standard-bars A^2. The outer lower ends of the suspending-bars D^2 are pivoted, as at d', to the side bars of the back, the inner perforated ends also detachably engaging with the lower hook ends of the hooks D'. By simply disengaging the upper ends of the suspending-bars D and D^2 the chair proper may be lifted out from between the supporting-standards and folded inwardly flat upon itself, bringing the head part and foot-rest into the relative position illustrated in Fig. 3. The bolts b^5 at each side, connecting the lower ends of the back side bars and the rear ends of the bars B^3, should be removed preparatory to folding up.

The angle-bar E of the foot-rest has its respective right-angle ends pivoted, as at d^2, to the lower ends of the companion leg-bars B^2. The lower ends of the companion inclined braces d^3 are pivoted to the opposite ends of the foot-rest, as at d^4, the upper ends being detachably secured to the leg-bars by bolts b^5. These inclined braces may be provided with a number of apertures g, disposed at intervals, so that the foot-rest can be adjusted to different positions or folded up flatly by removing the bolts d^3.

The covering fabric F will ordinarily be of canvas and is kept taut by a number of tension or stretching rollers G G' G^2. These rollers are all of the same construction, and a description of roller G, located in the upper end of the chair and illustrated in Figs. 4 and 5, will answer for the others. The upper end of the canvas cover is mounted on the roller G, provided with a ferrule g^2 on each end thereof and which is provided with a screw-threaded aperture for the reception of the locking-screws g^3, inserted through the upper ends of the back side bars. The outer ends of the ferrules g^2 are provided with companion lugs g^4, adapted to embrace the edges of the frame-bars and prevent the rollers from turning accidentally. By slacking back on the screws g^3 far enough to free the lugs g^4 from engagement the roller may be turned to take up the slack in the chair-covering. The roller G' is located in the rear of the junction of the back and seat parts and is supported by the rearwardly-extended curved ends h of the side seat-bars B'. The roller G^2 is supported between the leg-bars and has the lower end of the chair-covering mounted thereon. Ordinarily after the covering has been set taut the proper tension may be maintained with the lower roller only.

The chair structure is strengthened and braced at the junction of the seat and leg bars by a cross-bar H.

The construction and connections are such as insure an easy automatic adjustment entirely controlled by the movement of the body and any position assumed between an upright sitting position and a recumbent one.

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

1. In a chair of the class described, the combination with the independent supporting-standards, of the connecting two-part cross-bar, consisting of companion sections, the inner ends of which overlap each other about one-half their length, the companion diagonal braces, the outer ends of which are connected to the respective standards and the inner ends joined to each of the two-part cross-bars, and the joining-bolts inserted through the inner ends and the longitudinal center of the two parts of the cross-bar and through the inner ends of said braces and forming a rigid connection as a whole, substantially as described.

2. In a chair of the class described, the combination with the supporting-standards, of the two-part cross-bar, detachably connecting said standards, the inner ends of said cross-bar overlapping each other approximately one-half their length, the diagonal braces, secured at their outer ends to said standards and their inner ends to the cross-bar and the joining-bolts, each of which pass through the end of one part of the cross-bar, through the inner end of one of the braces and through the longitudinal center of the other part of the cross-bar, forming a rigid connection, substantially as described.

3. In a chair of the class described, the combination with the supporting-standards, of the chair-frame, comprising the back side bars, the seat-bars, the leg-bars, the companion clamping-bars, having their rear ends secured to the lower ends of said side bars, the lever-plates, to which the front end of said clamping-bars are pivoted; the lever-plates being pivoted at their upper ends to the seat

side bars, the companion links, connecting said lever-plates and the leg-bars, the clamping-bars C', and the clamping hand-bolt *d*, all combined and operating substantially as described.

4. In a chair of the class described, the combination with the chair frame and covering, of a roller or rollers, the ferrules, mounted on the respective ends of said rollers and provided with lugs adapted to embrace the edges of the frame parts, and a locking-screw, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN D. HAGGARD.
HENRY H. MARCUSSON.

Witnesses:
L. M. FREEMAN,
L. B. COUPLAND.