

(No Model.)

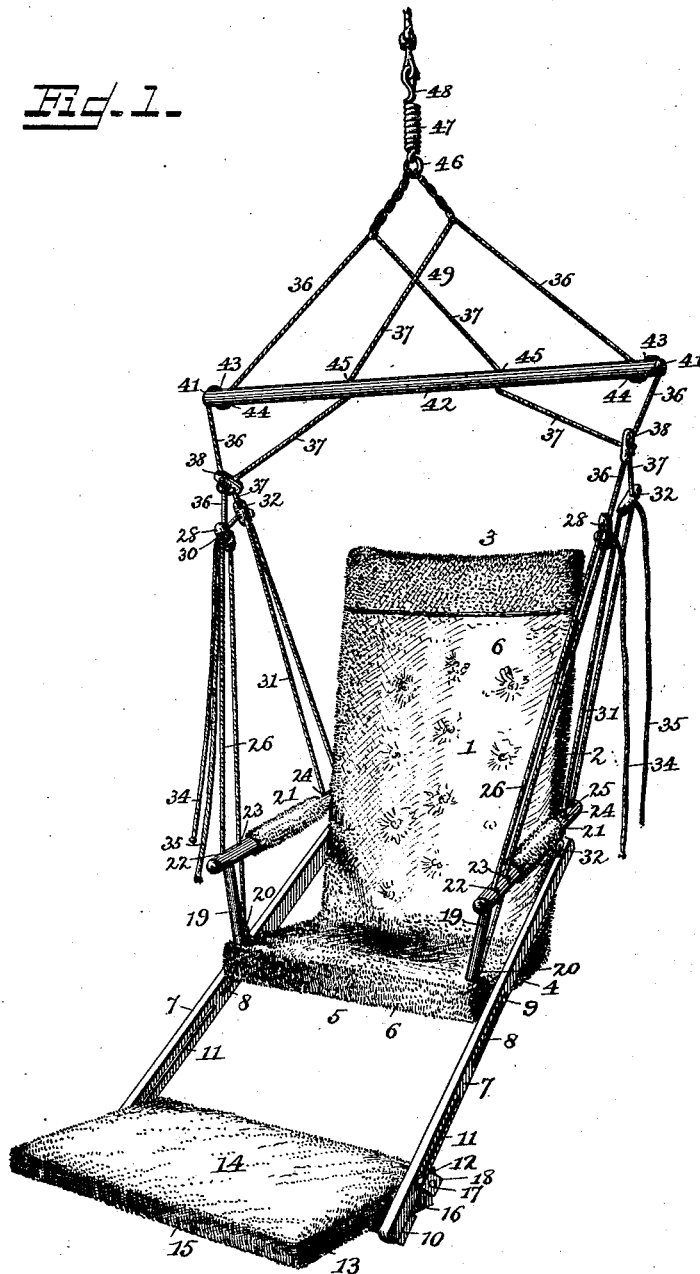
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M. A. HART.  
SUSPENDED CHAIR.

No. 491,172.

Patented Feb. 7, 1893.

Fig. 1.



Witnesses

Chas. H. Curand

Chas. B. Ayer

Inventor

Mark A. Hart

By his Attorneys,

C. A. Snow & Co.

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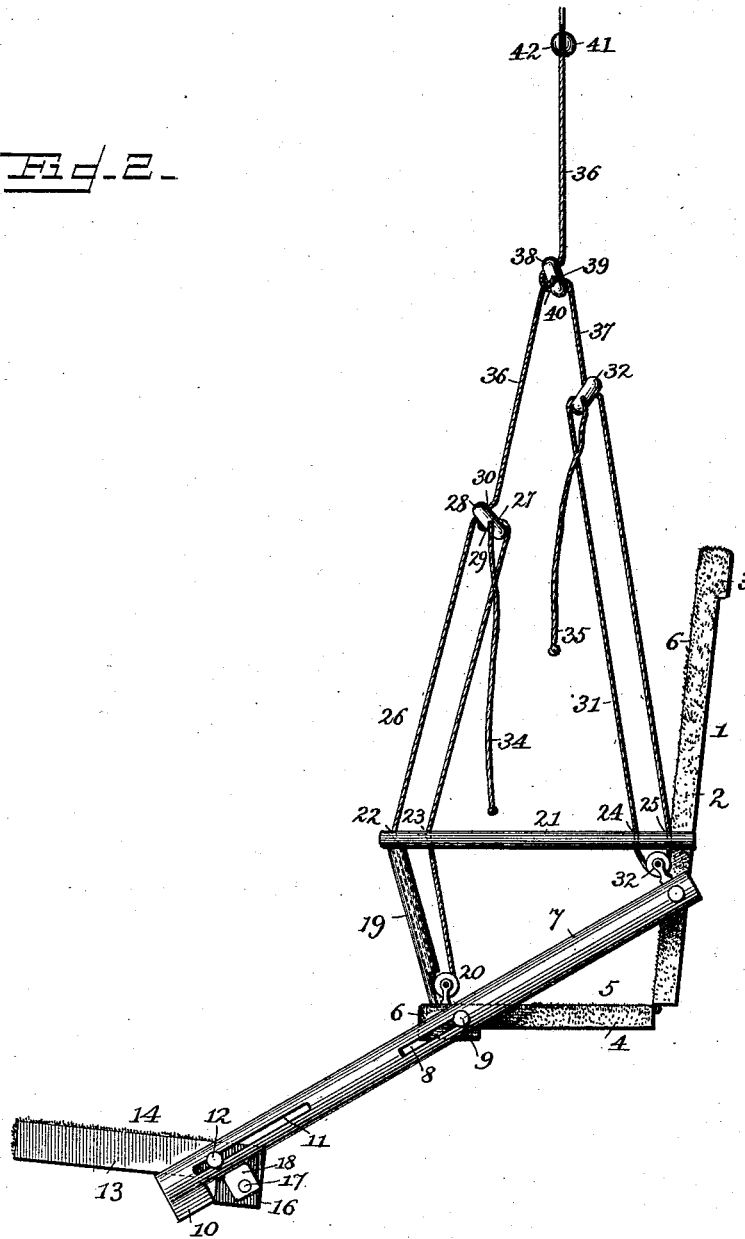
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M. A. HART.  
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Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

MARK ALBERT HART, OF SCRIBNER, CALIFORNIA.

## SUSPENDED CHAIR.

SPECIFICATION forming part of Letters Patent No. 491,172, dated February 7, 1893.

Application filed June 20, 1892. Serial No. 437,279. (No model.)

### *To all whom it may concern:*

Be it known that I, MARK ALBERT HART, a citizen of the United States, residing at Scribner, in the county of Humboldt and State of California, have invented a new and useful Suspended Chair, of which the following is a specification.

This invention relates to certain new and useful improvements in chairs, and consists of the construction, arrangement, and combination of the several parts as a whole and in detail, as will be more fully hereinafter described and claimed.

The object of this invention is to provide a chair adapted to be suspended, and wherein the parts may be readily adjusted to any position desired by the person reclining or sitting in the chair, and with which is combined a foot-rest, which is also adjustable.

In the drawings:—Figure 1 is a perspective view of the improved chair shown in suspended position. Fig. 2 is a side elevation.

Similar numerals of reference are employed to indicate like parts in both figures.

Referring to the drawings, the numeral 1 designates the back, having suitable side strips 2 and an upper end strip 3, the said side strips 2 being hinged to side strips 4 of a seat 5, which has a front cross strip 6, which is secured to the said side strips 4, and by this means the seat and back are movably connected and are free to be adjusted in any desired position. The said back 1 and seat 5 are provided with an upholstery 6<sup>x</sup>, of suitable material and arranged thereon in suitable manner. Connected to the back 1, on each side thereof are bars or braces 7, having slots 8 therein, loosely and adjustably engaged by headed studs or pins 9, projecting outwardly from the front side portions of the seat 2. The lower ends of the said bars or braces 8 are connected by a cross piece 10 at their lower ends, and adjacent to said lower ends of the bars or braces are formed slots 11, in which headed studs or pins 12 projecting from the side rails 13, of a foot-rest 14, engage and have free movement. The front portions of the said side rails 13 are connected by a cross strip 15, and the rear ends of the said side rails are enlarged as at 16, and have a rod 17 journaled in openings therein, and which is provided at its ends with heads 18, adapted to be turned and bear against the

bars or braces 7 to sustain the foot-rest in adjusted position when the chair is arranged as shown in Fig. 1. When the foot-rest is folded closely against and between the said bars or braces 7, the heads 18 are turned in such position that this operation may be readily accomplished.

Vertically disposed tubular uprights or posts 19 are mounted in connection with the front portion of the seat, and have pulleys 20 adjacent to the lower portions thereof. These uprights or posts 19 are adapted to have arms 21 resting thereon, and the said arms are provided with a suitable padding or upholstering, as may be found desirable and best adapted for the purpose, and also formed with openings 22, 23, 24 and 25, extending vertically therethrough.

On each side of the chair is mounted a cord 26, which is passed down through the front openings 22 in the ends of each of the arms 21, and through the tubular upright posts 19, over the pulleys 20, then upward through the openings 23 adjacent to the openings 22, and through an opening 27 in a button or slide 28, which is situated vertically, and given a half hitch or loop around the said button or slide and passing through a horizontal opening 29, and by which means the ends of the said cords 26 are connected at this point against movement. The opposite portion of each of the cords 26, is freely movable through a vertical opening 30, in each of the buttons or slides 28, and extends upward above the latter. The rear portions of the arms 21 are provided with a similar construction, and cords 31 are employed, each of which has the two parts of the lower loop thereof, passing through the rear openings 24 and 25 in the said arms, and around pulleys 32, secured to the upper rear portions of the bars or braces 7. The said portions of the cords 31 extend upward and engage a button or slide 32 in precisely the same manner as the cords 26 engage the buttons or slides 27, and the ends of said cords 26 and 31, extend downward as at 34 and 35 a considerable length, in order that adjustment of the said cords may be made when so desired. A portion 36 and 37 of the cords 26 and 31 extend above their buttons 27 and 32 and the portions 36, of the cords 26, extend partially around a button or slide 38, arranged

on each side immediately above the buttons 27 and 33, as shown in Fig. 1, and through horizontally disposed openings 39 therein, and the portion 37 of each of the cords 31, extends through vertical openings 40, in each of the buttons 38, and is looped over a portion of that part of the other cord 36, which passes around the said button or slide. The said portions 36, of the cords 26, extend above the buttons 38, and engage the grooved ends 41 of a spreader 42, and then pass down through openings 43, to the under portion of the said spreader and then upward through openings 44 therein, while the similar portions 37 of the cords 31 are extended inward at an angle, and passed upward through vertical openings 45, arranged nearer the center of the said spreader. The portions 36 of the cords 26, extend above the said spreader, and are attached to an eye 46, of a coiled spring 47, having a snap hook 48, secured to the upper end thereof. The portions 37 of the cords 31, are in like manner extended above the spreader 42, and are crossed as at 49, to form a crotch, and the ends of the same are secured to the adjacent portion 36 of the cords 26. This construction not only provides for a ready adjustment of the cords, and a consequent variation in the position of the chair, but at the same time the manner in which the several cords engage the spreader 42, provides for holding the several parts in proper position with relation to each other. A further advantage of this construction resides in the facility with which the chair may be held in equilibrium and supported in proper position, as well as the readiness with which the several parts of the chair may be adjusted by the occupant thereof, and while sitting therein.

It will be seen that only one rope is used to support the chair at the upper portions of the same and thereby provides means for readily hanging the chair up in position. Further, the chair being suspended or hung by one rope at the center, with the front ropes tight from the crotch, and buttons or slides to the back ropes or cords, gives the chair a stiff support, and the front cords or ropes crossing each other above the spreader 42, and connected with the back cords or ropes below the spring and snap hook or swivel, provides a braced construction which gives the chair an additional stiffness. When the ropes are pulled up through the buttons or slides in a loose manner, a side motion of the chair is permitted, and the least movement of the occupant of the chair gives it a different position thereby making a very comfortable easy chair, which is always in motion when an occupant is seated therein. The leverage is such that when the back is put down the foot-rest will come up or rise, and the latter being adjustable can be readily positioned to suit the length of limb of various persons.

It will be seen by reference to Fig. 2 of the drawings that the arms 21 are not connected to the back at their rear ends, nor are the

tubular uprights or posts 19 secured to the seat. It is therefore apparent that the back may be moved or inclined independently of any movement of the arms 21 or the uprights or posts 19, and that the bars or braces 7 being pivotally connected to the opposite edges of the back, and also adjustably attached to the opposite edges of the seat, through the medium of the slots 8 and pins or studs 9, and to the foot-rest in the manner hereinbefore fully set forth, a thorough and sensitive adjustment can readily be acquired. Furthermore, the front ends of the arms 21 not being secured to the uprights or posts but merely resting on the latter and also having the cords or ropes passing through openings therein, and said uprights or posts being tubular and movable vertically on the cords or ropes 26, said arms and uprights or posts can be readily adjusted to proper position, and the arms can be raised on the ropes passing there-through and thereby accommodate the device to various adjustments.

The cost of manufacture is exceedingly small, and the device is thereby readily obtainable at a small cost price.

Having thus described the invention, what is claimed as new is:—

1. In a chair of the character set forth, the combination with the back and seat hinged to each other, of a spreader having grooves in the ends thereof, a pair of openings adjacent to the said ends and extending transversely through the said spreader at each end thereof, and other openings nearer the center of said spreader and extending transversely therethrough, a series of cords or ropes attached to said back and seat and arranged on each side of the latter, a portion of said cords or ropes on each side passing over the grooved end of the spreader and downward and up through the pair of openings adjacent to the said grooved end and extending up to a fastening device, and the remaining portion of said cords or ropes passing upward through the openings nearer the center of the spreader and crossing each other and attached to the aforesaid cords or ropes, and buttons below the said spreader through which the said ropes or cords pass and by means of which they may be freely adjusted to raise and lower the chair, the arrangement of the cords or ropes with the said spreader preventing entanglement and twisting of the same, substantially as described.

2. In a chair of the character set forth, the combination with a seat and back hinged to each other, of braces pivoted to the said back on opposite sides and adjustably attached to the seat and movably carrying a foot-rest, a pair of cords or ropes on each side movably attached to the seat and the upper ends of said braces and adjustable, whereby the foot-rest may be adjusted simultaneously with the adjustment of the back and seat by contracting or extending the length of the said cords or ropes, a series of buttons on said ropes or

5 cords for attaining the adjustment when desired, the free ends of the cords depending on opposite sides in proximity to the back and seat, and a spreader through which said cords  
10 or ropes continuously extend and a portion of which cross each other above said spreader at the inner portion of the latter and are attached to a hanging device, substantially as described.

10 3. In combination with the chair of the character set forth having suspending cords or ropes, and headed studs or pins projecting from the seat portion thereof, bars or braces having slots therein to engage said headed  
15 studs or pins, a foot-rest also having headed studs or pins fitted in a portion of the slots

of said bars or braces, a rod journaled in the said foot-rest, and heads on the ends of said rod adapted to engage said bars or braces to hold the foot-rest in proper position at an angle to the said bars or braces, or be adjusted to permit the said foot-rest to be folded down between the said bars or braces, substantially as described.

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

MARK ALBERT HART.

Witnesses:

GEO. H. KIMBALL,  
J. V. GILLET.