

(No Model.)

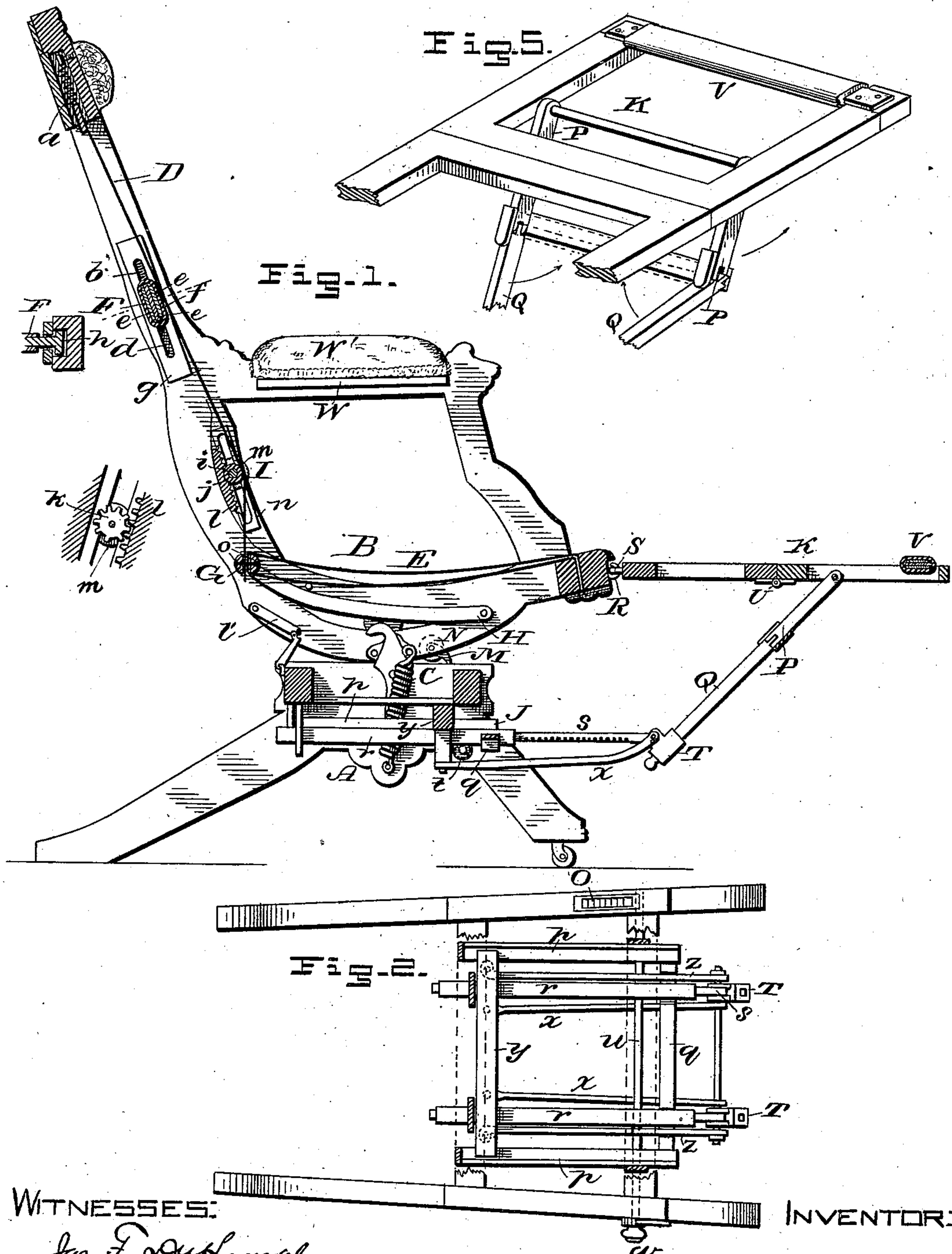
2 Sheets—Sheet 1

G. C. WINCHESTER.

CHAIR.

No. 293,833.

Patented Feb. 19, 1884.



WITNESSES:

Geo. F. Outland
Walter S. Dodge.

INVENTOR:

George C. Winchester,
by Dodge & Son,
Attys.

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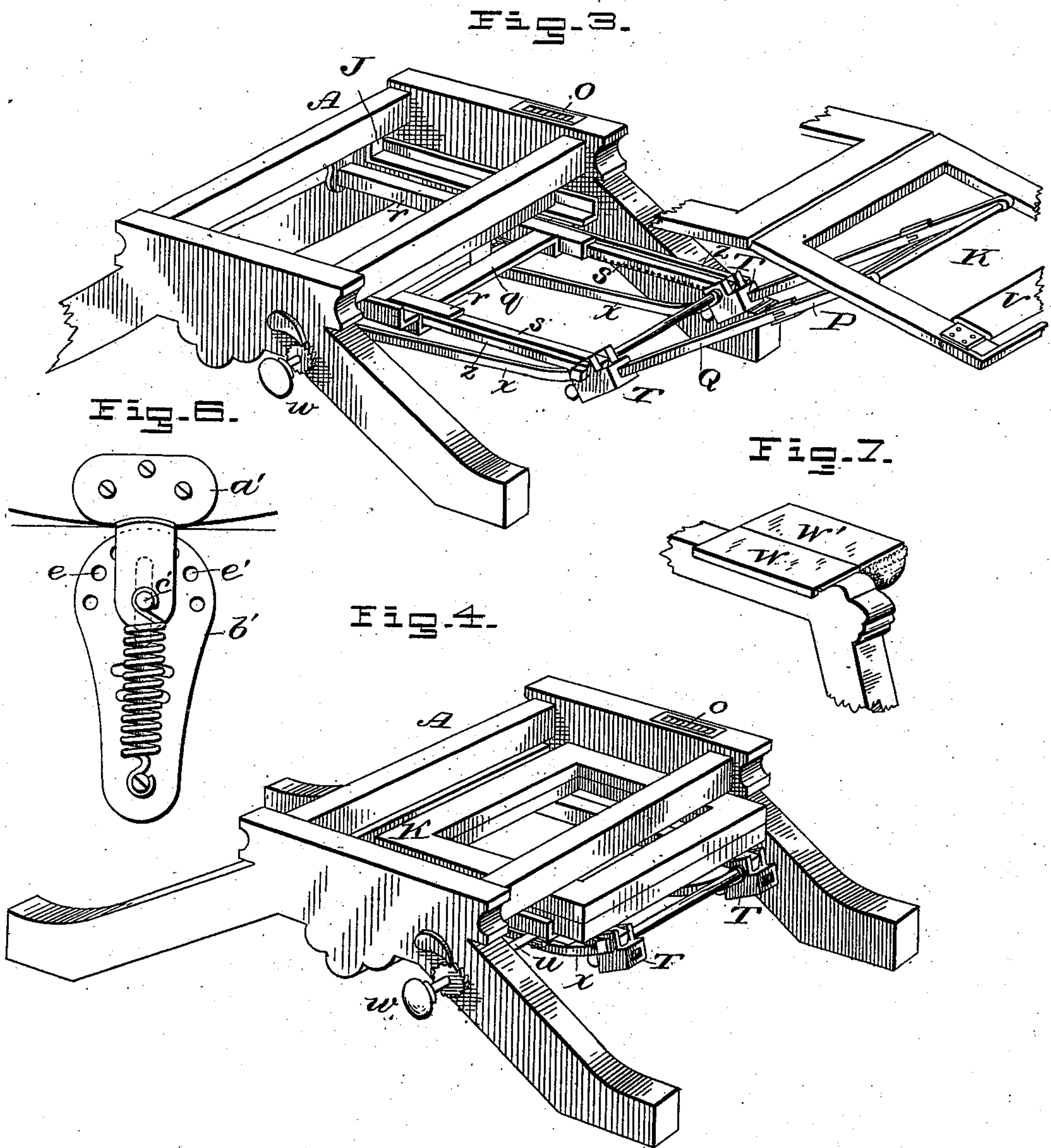
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UNITED STATES PATENT OFFICE.

GEORGE C. WINCHESTER, OF NEW YORK, N. Y.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 293,833, dated February 19, 1884.

Application filed September 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. WINCHESTER, of New York, in the county of New York and State of New York, have invented certain
5 Improvements in Chairs, of which the following is a specification.

My invention relates to chairs; and the improvements are mainly designed for application to rocking-chairs, in which a rocking
10 body is mounted upon a stationary base.

The invention consists in a novel manner of hanging and sustaining a flexible back and seat; in an adjustable support at the lower part of the back; in a foot-rest of novel construction, and in a novel manner of applying and
15 operating the same; in a lock or fastening to hold the body of the chair against rocking, and in various features and details, hereinafter more fully explained.

20 In the accompanying drawings, Figure 1 represents a vertical section taken through the chair from front to rear; Fig. 2, a plan view of the base; Fig. 3, a perspective view of the base, with the foot-rest extended and
25 secured in position for use; Fig. 4, a similar view, but with the rest out of use. Fig. 5 is a view of the rest detached; Figs. 6 and 7, views illustrating details of construction.

The object of my invention is to produce a
30 rocking-chair having substantially the ordinary appearance of such chairs, but possessing the advantages and comforts of the more expensive reclining-chairs, together with all the advantages of an ordinary rocking-chair,
35 and other desirable qualities not found in any chair of which I have knowledge. With this object in view, I provide a base, A, and I mount thereon a rocking body, B, connecting the one with the other by any usual or convenient style of spring-fittings, C, as shown.
40 The back and seat D and E, I prefer to make continuous, and either of one piece or of two separate pieces joined together. Heretofore, where the back and seat have been made continuous, or connected one with the other, it
45 has been found that the seat bags down, and the back draws in an unpleasant and undesirable manner upon the occupant, and for this reason the continuous back and seat are seldom
50 used. In order to overcome this objection, I attach the forward edge of the seat material

(preferably heavy canvas) to the forward side of the seat-frame, and sustain the upper edge of the back material either by springs
a at the top of the back-frame, or by like 55 springs, b, carrying a cross-bar, F, at a point below the upper edge, in which latter case, if the springs a be omitted, braces or supports should be carried from the cross-bar upward to the upper edge of the back material; and
60 I apply a rod or bar, G, to the line of meeting or union of the seat and back, and mount the ends of said rod or bar in pivoted arms or braces H, the pivots of which are secured to the body B at a point lower than the rod
65 or bar G, as shown. The braces or arms H permit the seat to rise and fall with the back, the descent being limited, however, by reason of the pivots being below the line of the seat, which arrangement causes the seat to draw
70 taut when weight is brought upon it sufficient to overcome the lifting-power of the springs by which the back and seat are sustained. The seat is preferably made of two thicknesses of material, each free and independent
75 of the other, except at the front and back edges, whereby a space or pocket is afforded between them, into which may be placed any desired form of cushion—as air, water, or stuffed cushion—to adapt it to different require-
80 ments. The back may be made in the same way, though it is not deemed necessary, ordinarily, to do so. The seat and back may either or both be upholstered, covered, or otherwise
85 finished in any desired style, and of any suitable or usual materials; or they may be, either or both, formed of carpeting or other fabric, presenting a neat and handsome appearance in itself.

In order to give proper support to the back
90 of the chair, and prevent its being pressed out by the body of the occupant, I provide a cross-bar, F, the ends of which extend into slots d in the side posts of the back-frame, and are preferably suspended from springs b, as above
95 mentioned. This feature I do not broadly claim in the present application, but the construction of said cross-bar I do claim. As shown in Fig. 1, this cross-bar will be seen to consist of three flat strips of steel, e e e, laid
100 face to face, free at their ends, and incased in a rubber sheath, f, which latter is formed of

heavy tubing drawn tightly over the strips *e*, and preferably made fast thereon by the bolts or rivets which unite the said strips. The number of strips may be varied as desired, though I prefer ordinarily to use three, and to slightly bow or curve the two outer or rear ones, to give a slight hollow or curvature to the back, while the front one is made straight, to give greater elasticity, or the latter curved in reversed direction. As pressure against the cross-bar or back-support would tend to draw its ends out of the slots *d*, I provide said ends with heads or buttons, and place over the slots metal plates *g*, of suitable thickness, and having slots narrower than the thickness of the heads or buttons *h*, which consequently cannot be drawn out through the plates. The buttons or heads are, however, set far enough inside of the plates to permit considerable play or bending of the cross-bar *F* before they come into contact with the plates.

Many chairs, if not all, fail to give the proper support to the small of the back of an occupant, and as the point where such support is most needed varies with the height of the person, a chair suited to one is not suited to another. To provide a proper support at this point, and one which shall answer for all persons, I make use of a second cross-bar, rod, or roll, *I*, preferably formed of a light steel rod, *i*, encircled by a heavy rubber sheath or covering, *j*, the rod being furnished with small pinions *k*, which travel up and down upon toothed racks *l*, secured in slots in the sides of the back-frame, as shown in Fig. 1. One end of the rod projects past the side of the frame or body, and is furnished with a knob or hand-piece, *m*, by which it may be rotated and caused to travel up or down, as required. In practice I prefer that the racks shall be slightly curved, and, if desired, a friction-spring or other device may be employed to prevent the rod or roll from falling by gravity. Both the cross-bar *F* and the roll or support *I* are placed behind the back proper. The pinions *k* serve the same purpose as the heads or buttons *h*, slotted plates *n* being provided to prevent their drawing out of the frame.

In order that the pinions may turn freely, notwithstanding a slight curvature of the rod *i*, the pinions or the racks should be slightly rounded. The back and seat thus sustained and supported afford a very easy, elastic, and comfortable support for the body, and the sagging and drawing usual with continuous or connected seats and backs arranged to move in unison are entirely overcome, the angle of meeting of the seat and back being perfectly preserved by the rod *G* and braces or arms *H*.

When the seat and back are made separate and united, or when of one continuous piece, I provide for their attachment, or for the application of the sustaining-braces *H*, by applying to opposite sides of the material—that is,

to the front and back—rods or strips of iron, *o*, preferably flat on their opposing faces and rounded on the outside, which rods are connected by rivets or bolts passing through them and through the intervening material. The rods, or one of them, is furnished or formed with journals or rounded ends to enter the ends of the braces *H*.

Beneath the base *A*, I secure ways or guides *J*, to receive and support a folding foot-rest, *K*, which may be supported upon the links *z* in its folded shape, as shown in Fig. 4, or may be opened out and applied to the chair, as presently described. The ways or guides *J* consist merely of two strips of angle-iron, *p*, or their equivalents, connected by cross ties or strips *q*; but in order to provide a proper support for the foot-rest when in use, I also mount beneath the base, supporting the same upon the cross-strips *q*, two tubular guides, *r*, preferably of rectangular form in cross-section, and in these tubes or guides I arrange sliding rods or toothed racks *s*, which are moved into and out of the tubes *r* by pinions *t*, mounted upon a cross shaft or rod, *u*, extending beneath the base and carried out through one side thereof, where it is furnished with a knob or hand-piece, *w*, by which it may be rotated, thus enabling the occupant of the chair, while sitting therein, to move the racks in or out, as required. The forward ends of the racks *s* are braced and supported by irons or braces *x*, extending backward and downward to a block secured to the lower side of a cross-bar, *y*, connected by links *z*, Fig. 3, to the forward ends of the rack-bars *s*, and therefore moving in and out therewith. The foot-rest *K*, when folded, lies upon the links *z*, and is moved in and out therewith, and when thus folded and lying upon the extended racks and links affords a rest for the feet or heels of an occupant of the chair, enabling him to rock back into an easy and comfortable position, and to rest his feet in a very agreeable manner. It will also be found very serviceable in this shape for ladies, where work is held in the lap, it being made to protrude more or less, as desired.

In order to hold the chair in the inclined or tilted position and prevent rocking, when so desired, I provide one or both rockers with a pawl, *M*, Fig. 1, which may be turned by a knob or button, *N*, to project beneath the rocker, and to engage with a plate, *O*, which like the cam or eccentric, will be serrated.

The foot-rest *K* consists of a frame divided midway of its length, and hinged to fold together in compact shape, and also adapted, by reason of the joint thus formed, to yield, adapt itself to the limbs of the occupant of the chair, and to partake of the motions of the latter, as will be presently explained.

P represents a frame jointed to and arranged to fold within the frame of the foot-rest, and to the opposite sides of this frame are hinged legs or arms *Q*, which are arranged to fold in-

ward upon each other within the frame P, as indicated in Fig. 5, before the latter is folded into the main frame of the foot-rest. The front of the seat-frame is furnished with hooks

5 R. The rear edge of the foot-rest is provided with eyes S, and the rack-bars s carry pivoted socket-pieces or cups T at their outer or forward ends. When, therefore, it is desired to place the foot-rest in position, the racks are
10 run out, the foot-rest is unfolded, the legs are opened out, and the eyes S hooked upon the hooks R, and the legs or braces Q are stepped in the sockets or cups T. The rest is thus made ready for use, and as the body of the
15 chair rocks back and forth upon the base, the foot-rest moves with it, the motion being taken up partly by the socket-pieces T, partly by the hooks and eyes, and in some degree by the joint or hinge U.

20 The foot-rest will be covered with canvas, leather, carpet, or other suitable material, and is preferably furnished at its forward edge with a spring heel-support, V, composed of flat steel springs covered with rubber, in the same
25 manner, essentially, as the cross-bar or support F.

It is desirable to provide a small table or leaf upon which to place paper for writing or sketching, but which shall not be cumbersome
30 or unsightly. This I accomplish by making one of the arms in two parts, W and W', Fig. 7, the latter hinged to the former, and adapted to be turned over to form a table or leaf of double the width of the arm in its natural
35 shape. When not in use for writing, the top may be turned back to place and secured in any convenient manner, thus presenting the ordinary appearance of a common chair-arm.

It will be seen that many of the features
40 herein described are susceptible of application to other forms of chairs than that shown and described; hence I do not limit myself to any particular form, style, or construction of the chair proper.

45 The elevation of the foot-rest may be varied by moving the rack-bars s in or out, as desired, and a pawl or equivalent device will be employed to retain said bars at any desired point. The foot-rest may be upholstered, if
50 desired.

It is sometimes desirable to lock the body of the chair rigidly in position, and for that purpose I use a hinged stay or link, l', as shown in Fig. 1, this stay being formed with
55 a shoulder at its central point, as shown, so that when straightened out it will be locked and rigid, in which case it will serve as a rigid brace, and will prevent the body B from rocking backward on its base, the cam or pawl M
60 at the same time preventing it from rocking forward.

In Fig. 6 is shown a spring device which I have designed for connecting the body and base, and which also serves as an adjustable
65 stop to limit the movement of the body both forward and back. The upper plate, a', is se-

cured rigidly to the body B, and at its lower end carries a pin or stud, c', which plays loosely in a slot formed in the lower plate, b', which is pivoted at its lower end to the base A. 70

In the plate b' a series of holes, e', are made, as shown, so that by inserting pins in any two of the holes on opposite sides the movement of the body B may be limited both forward and back, as desired. 75

I am aware that notched bars have been attached to the rocking body of a chair to engage with studs or pins on the stationary base and hold the body in a fixed position. This I do not claim; but I am not aware that ec-
80 centrics have ever before been concealed wholly within one of said parts, and arranged, when thrown out, to bear directly upon the other. This construction is simple, neat, and strong. 85

I am also aware that the front edge of a seat has been supported by links in a manner similar to that in which the rear of my seat is supported, and therefore I do not claim, broadly, this method of supporting the seat; but by
90 thus sustaining the rear side of the seat I am enabled to combine with the supporting-links suspending or sustaining springs, and thus to secure a yielding and elastic seat.

All features herein shown and described, 95 and not specifically claimed, are reserved as the subject-matter of separate applications.

Having thus described my invention, what I claim is—

1. In a chair, the combination of a main 100 frame, a flexible seat attached at its forward edge to said frame, links pivoted to the frame below the seat, in advance of its rear edge, and connected with said rear edge, substantially as shown, and springs, also connected 105 with said rear edge, all substantially as shown and described.

2. In combination with a seat-supporting frame, seat E, attached at its forward edge to said frame, rod G, applied to the rear edge of 110 the seat, links H, pivoted to the frame beneath the seat and forward of the rear edge thereof, and having rod G mounted in their free ends, and springs a, connected with the rod G, substantially as set forth. 115

3. In combination with a seat-supporting frame and a back-frame, back D, seat E, springs connecting the back-frame and the back, the seat connected at its front edge to the supporting-frame, a cross-bar, G, secured to the 120 seat and back at the point of unison, and pivoted arm H, connected to the bar G and the seat-supporting frame, substantially as shown and described.

4. In combination with a chair-frame and a 125 flexible back arranged therein, the support F, consisting of elastic strips e, connected to the back-frame, substantially as described, and rubber sheath or covering f, as and for the purpose explained. 130

5. In combination with frame B and flexible back D, the elastic support F, provided with

heads or buttons *h*, and slotted plate *g*, substantially as and for the purpose described.

6. In combination with stationary base A and rocking body B, foot-rest K, jointed to the rocking body, supporting-legs Q, and pivotal supports for said legs applied to the base of the chair, substantially as shown and described, whereby the rest is permitted to move with and in substantially the same manner as the body of the chair.

7. In combination with frame B and back D, the elastic rod *i*, connected with the back-frame, substantially as described, and provided with rubber roll or sheath *j*.

8. In combination with the back B, recessed and provided with racks *l*, the rod *i*, provided with pinions *k* and knob *m*, and flexible covering D, as set forth.

9. In combination with a chair, tubular guides *r*, toothed racks *s*, shaft *u*, provided with pinions *t* and knob *w*, cross-bar *y*, and links *z*, with rods *x* and slides *p*, all combined and operating as explained, whereby the turn-

ing of the knob causes the racks, links, and cross-bar to move in or out, according to the direction of rotation.

10. In combination with base A and with the racks *s*, applied thereto, and provided with pivoted sockets T, the rocking body B, provided with hooks R, and the foot-rest K, provided with eyes S and with pivoted legs Q, all substantially as shown and described.

11. The herein-described folding foot-rest, for use in connection with a chair, provided with supports, such as shown and described, consisting of main frame K, jointed across its middle, frame P, hinged, substantially as shown, to fold within frame K, and legs Q, hinged, substantially as shown, to fold inward across frame P from opposite sides, as and for the purpose set forth.

GEO. C. WINCHESTER.

Witnesses:

WALTER S. DODGE,
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