(No Model.) 2 Sheets—Sheet 1.

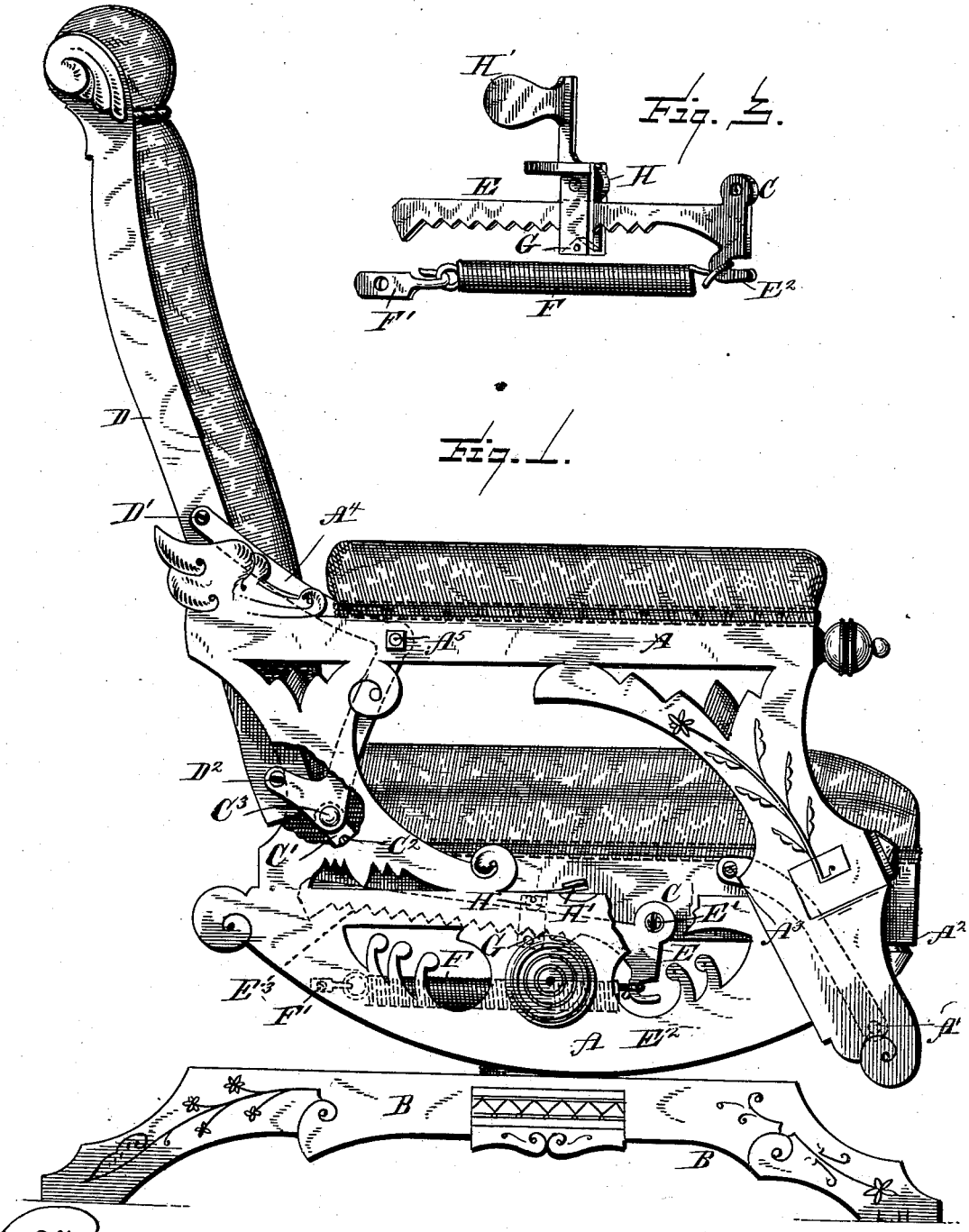
F. D. WILT.

RECLINING CHAIR.

No. 343,654. Patented June 15, 1886.

Fig. 2.

Fig. 1.



Witnesses
L. C. Mills
Wm. S. Thrall

Inventor
Frank D. Wilt
By his Attorney
E. B. Stocking

(No Model.) 2 Sheets—Sheet 2.

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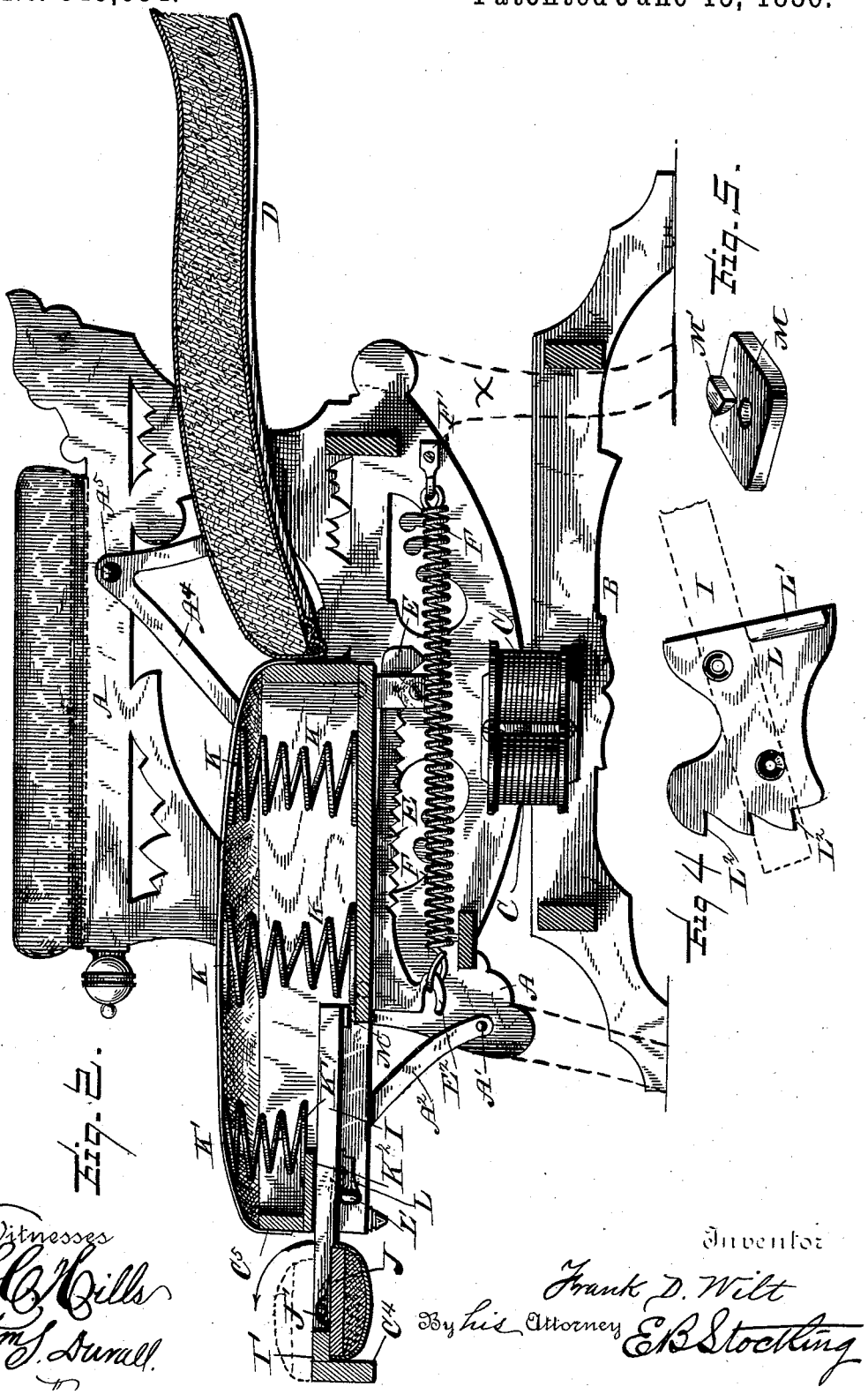

Fig. 2.

Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANK D. WILT, OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR TO BENNO F. SCHLEGEL, OF SAME PLACE.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 343,654, dated June 15, 1886.

Application filed December 31, 1885. Serial No. 187,272. (No model.)

To all whom it may concern:

Be it known that I, FRANK D. WILT, a citizen of the United States, residing at Allentown, in the county of Lehigh, State of Pennsylvania, have invented certain new and useful Improvements in Reclining-Chairs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to reclining-chairs of that particular construction which embodies a suspended seat and back portion pivotally connected to each other, and provided with means for adjustably retaining the seat and back in a desired position.

Heretofore chairs of the particular kind to which my invention is, in this instance, applied, have been constructed with a supporting-link pivoted to the front portion of the frame-work and to the sides of the seat-frame near its front edge, the links serving to support the seat and permit of a forward and rearward movement of the same, while the back corners of the seat and the adjacent lower edge of the back were also suspended from the frame-work by links, of which one was connected at two points to the frame-work of the back and at one point to the main frame-work—that is, at a point in the arm portion thereof—while the other of said links was secured to the side of the seat-frame and to its companion link, whereby, in any inclination of the back, the seat is carried forward, so that these two portions of the chair could be brought into the same horizontal plane.

The device employed for retaining the parts in a desired position comprised a rack-bar having coarse teeth connected to the seat portion, arranged centrally thereunder, and passing over a rod arranged transversely under the rack-bar, so that the rod could be raised into the path of the rack-bar to take into one of the teeth thereof, where it was intended to be held merely by the friction of the rod and bar upon each other.

It has been found by experience that the devices described for retaining the chair in a desired inclined position were unreliable, in that by a slight movement of the sitter the rod would fall by gravity out of connection with the rack-bar, and, by reason of the weight of the sitter, the seat and back of the chair were thrown out of a desired position.

Reclining-chairs have also been constructed with a base having curved upper edges, upon which the seat-frame is mounted, and provided with one member of a rack-and-pawl mechanism, the other member of which was arranged in the base, whereby the seat portion could be adjustably secured in a desired position.

The primary object of my invention is to provide more satisfactory devices for maintaining the moving parts of the chair in a desired adjusted position. I also provide other means than the weight of the sitter for returning the back and seat from an inclined to their normal position, and a compactly-arranged foot-rest; and my invention consists in certain features of construction hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation with portions broken away, and Fig. 2 is a central vertical section of a chair provided with my improvements. Figs. 3, 4, and 5 are details hereinafter described.

Like letters of reference indicate like parts in all the figures.

In this instance, what I designate as the "frame-work" A of the seat portion of the chair is mounted upon a base, B, the lower edges being rounded off to form rockers, and the usual coiled springs, C, are employed to make the proper connection between the base and the frame-work. If desired, however, the frame-work may be extended in the form of legs, when it is desired to have other than a rocking-chair, as shown by the dotted lines X X, Fig. 2.

To the seat portion of the frame-work A, as at A′, and upon each side of said frame, is pivoted the supporting-link A^2, the opposite end of which is pivoted to the seat-frame C at A^3, while the link A^4 is pivoted to the same frame-work at A^5, and rigidly secured, as at D′ D^2, to the frame of the back D. A short link, C′, is pivotally secured, as at C^2, to the seat C, and to the link A^4 at C^3. This arrangement of suspension-links is duplicated at each side of the seat and back, so that when the back is downwardly inclined the seat

moves to the front, as hereinbefore mentioned. I lay no claim to the particular arrangement of the suspension-links above described.

One feature of my invention has particular reference to the retaining rack-bar E, which is pivoted to the seat-frame at E′, and extended opposite the pivot to form a hook or arm, E^2, the lower edge of the bar being provided with ratchet-teeth E^3. At the hook E^2 is connected a coiled or it may be any other suitable form of spring, F, which is extended rearwardly and connected to the frame-work—for example, by means of a hook, F′. The rack-bar passes over a fixed tooth, G, secured to the inner surface of the frame-work, where, also, is provided a cam-lever, H, having a thumb-piece, H′, arranged above the bar E, so that the same may be operated to force the bar downwardly upon the fixed tooth G.

By the construction thus far described it will be seen that the single rack-bar arranged at one side of the seat, and between the frame thereof and the frame-work of the chair, is adapted to perform the desired functions in the following manner: When desired to change the inclination of the back of the chair, the cam-lever H is raised to a vertical position, as shown in Fig. 3, when, by the tension of the spring F, the free end of the bar is elevated so that the teeth on the lower edge thereof pass over the fixed tooth G, whereby free movement of the rack-bar and a forward or backward movement of the seat is possible. Now, it will be noticed that as the back is downwardly inclined and the seat moved to the front, the tension or strain upon the spring F is increased, and when the chair is brought to the desired adjustment—as to the inclination of its back—the same is retained in position by simply turning down the cam lever H, whereby the bar is depressed and brought and retained in firm contact with the fixed tooth. It will be further noticed that when it is desired to bring the back upward to or nearly to an upright position, simply raising the cam-lever H releases the bar from contact with the fixed tooth and the tension of the spring serves the desired purpose, whether the chair is occupied by a sitter or not. When the rack-bar is once forced down upon the fixed tooth by the action of the cam-lever, the weight and movements of an occupant cannot possibly release the bar, nor can the inclination of the chair be changed by any ordinary use of the same, so that this objectionable feature is completely overcome.

In order to provide a simple and satisfactory foot-rest, I remove the lower portion, C^4, of the front board, C^5, of the seat, and attach the same to a frame comprising opposite side rails, I, and a front rail, I′. I also secure the foot-board proper, J, which may or may not be upholstered, as shown, to the inner surface of the side rails, L, as at J′, so that said foot-board may turn upon its pivots upwardly between the side rails and over onto the end rail, I′, and front board, C^5, as shown in dotted lines, Fig. 2. No rear cross-rail is employed, in order that the side rails may move within and along the inner surfaces of the seat-frame, and because said rear cross-rail would interfere with the springs K of the seat. The springs K′ of the seat—those arranged near its front—are supported upon a cross-board or cleat, K^2, whereby a recess is formed for the reception of the foot-board and its adjacent supporting parts when moved inwardly or closed after the manner of a drawer, and when so closed the front of the seat proper presents an unbroken, finished appearance. I support the foot-rest by passing said rails I thereof over lugs, L′, formed on the castings L, secured to the inner surface of each of the side rails of the seat-frame beneath the cleat K^2. At the end of each side rail, I, is secured a casting, M, having a lug, M′, adapted to take into notches or teeth L^2, formed in the rear edge of the castings L, so that when the foot-rest is withdrawn the lugs M′ come into contact with the edge of the casting L, and by placing the lugs into one or the other of the teeth L^2 different inclinations of the foot-rest with relation to the seat may be secured, as clearly indicated by dotted lines, Fig. 4. I do not, however, claim the construction of the foot-rest shown and described.

As before indicated, I do not limit my invention to reclining-chairs mounted upon a base, as a rocker; nor do I limit myself to the exact details of construction herein shown and described and not claimed, but reserve my right to vary the same in any manner and to any extent, provided any changes and modifications which I may make are the result solely of mechanical skill of persons conversant with the construction of articles of furniture of this class. By reason of the arrangement of the links A^2 A^4, the former being below and the latter above the movable seat portion, said portion moves in an irregular line, and therefore the rack-bar E must be pivotally connected with either the movable or the fixed portion of the chair. Heretofore, as is possible, a fixed rack-bar has been secured to the movable portion, but said movable portion was supported upon or moved in the arc of a true circle, to which the fixed rack-bar conformed.

Having thus fully described my invention, its operation and construction, what I claim, and desire to secure by Letters Patent, is—

1. In a chair of the class described, a rack-bar pivotally secured to a movable seat-frame, supported by pivotal links, as described, a rigid tooth secured to a fixed part of a seat-frame, and a lever arranged above the free end of the rack-bar for forcing said bar upon said tooth, substantially as specified.

2. In a reclining-chair, the combination, with the fixed frame-work and the movable seat portion supported by pivotal links, as described, of a rack-bar pivotally connected to the seat portion at its side, and a rigid tooth mounted on the fixed frame-work adjacent to

said side of the seat portion, and a lever pivoted above said tooth and projecting over said rack-bar, whereby the rack-bar is by the lever forced upon the tooth to retain the back at a desired inclination, substantially as specified.

3. In a reclining-chair, the combination, with the frame-work and the movable seat portion, of a rack-bar pivotally connected to the seat portion at its side, and a fixed tooth mounted on the frame-work adjacent to said side of the seat portion, and a device, substantially as described, for locking the rack-bar upon the tooth, and a spring secured at one end to the frame-work and at the other end to the rack-bar, substantially as specified.

4. The combination of the rack-bar E, pivoted, as at E′, to the seat C, and having the lateral projection or hook E^2, with the fixed tooth G, cam-lever H H′, and the spring F, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK D. WILT.

Witnesses:

EDWARD X. RENINGER,

JACOB D. BURGER.