

No. 641,988.

Patented Jan. 23, 1900.

J. J. MCINTYRE.  
FOLDING BED.

(Application filed Apr. 6, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

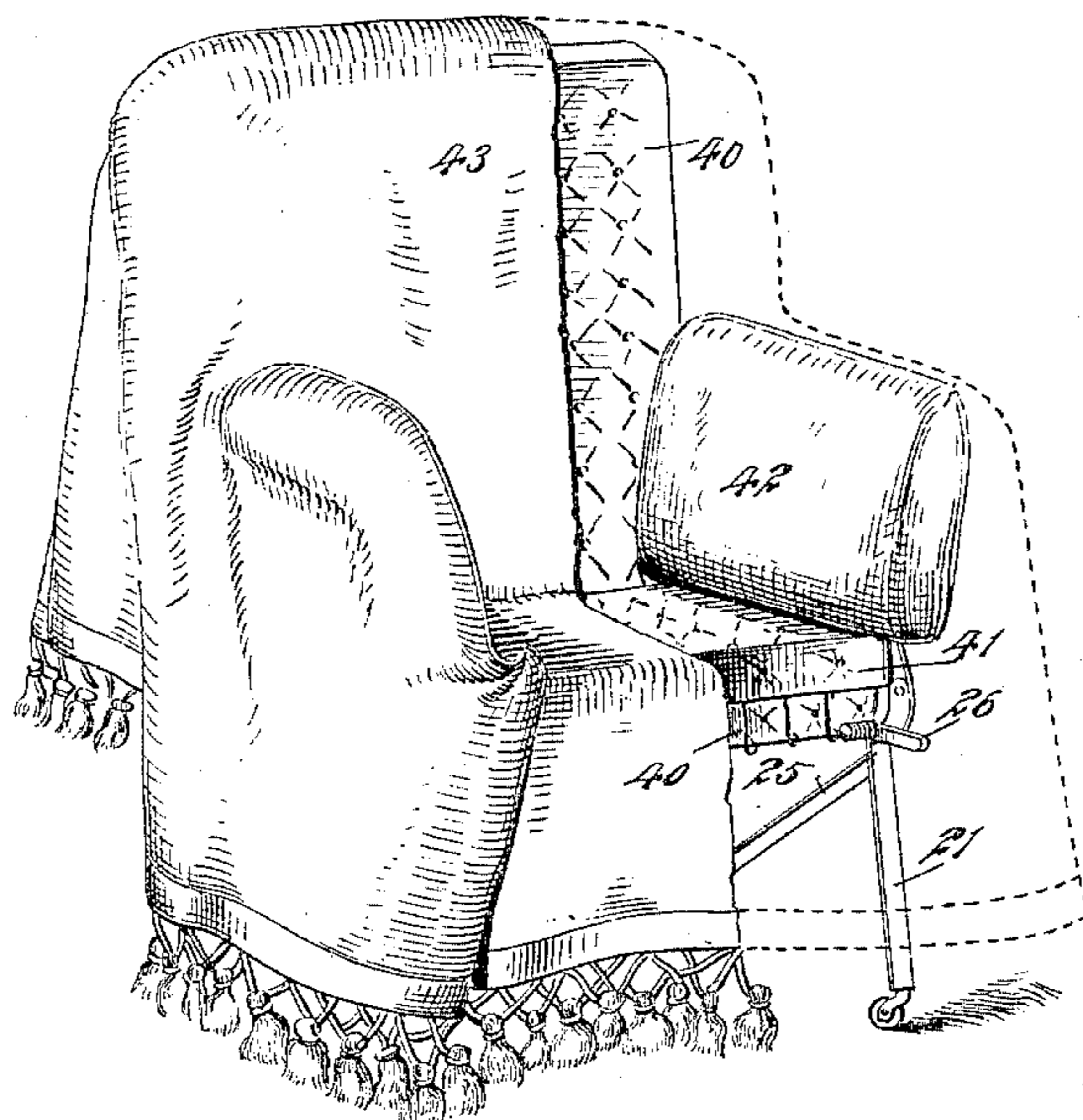


Fig. 3.

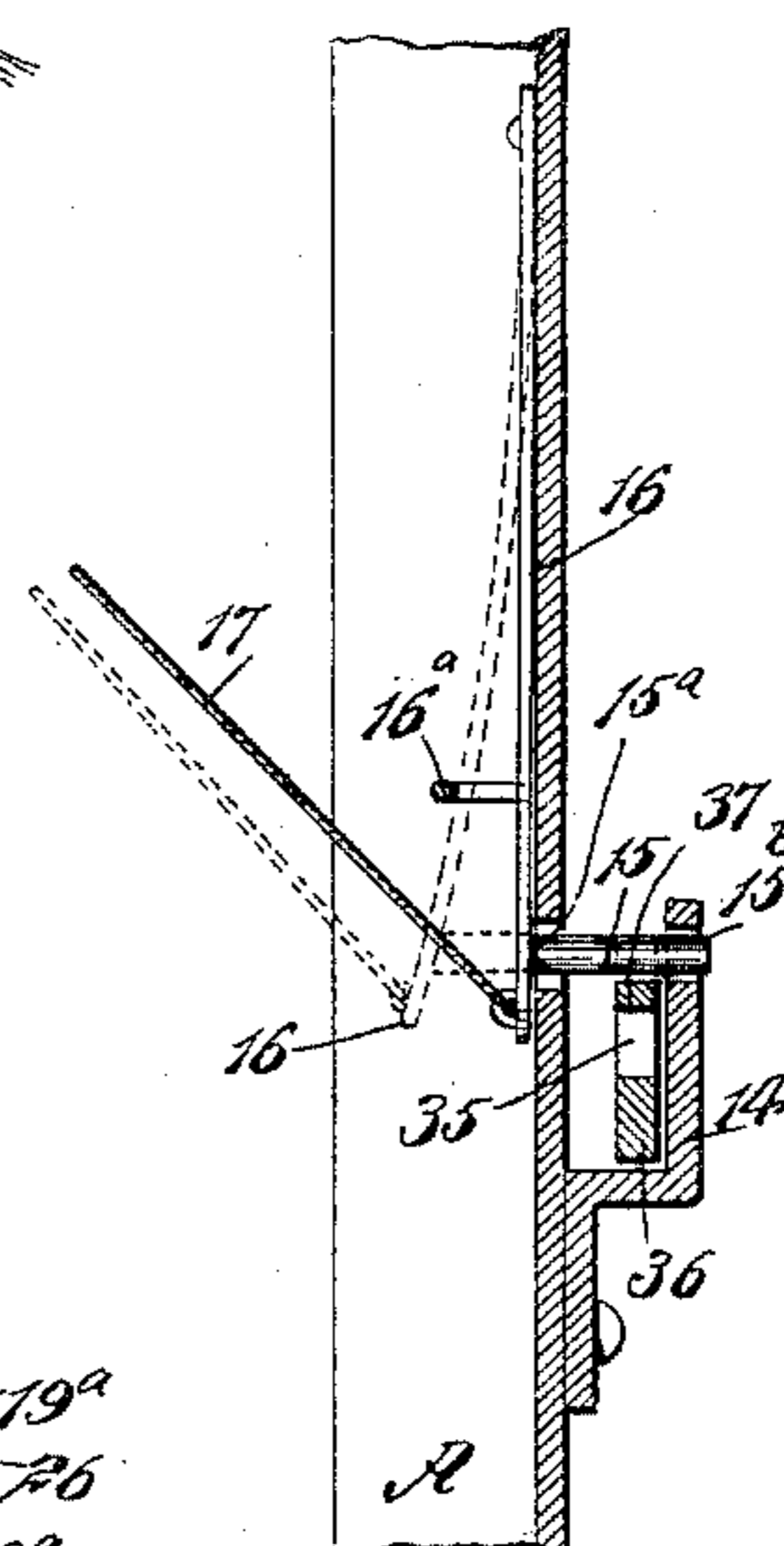
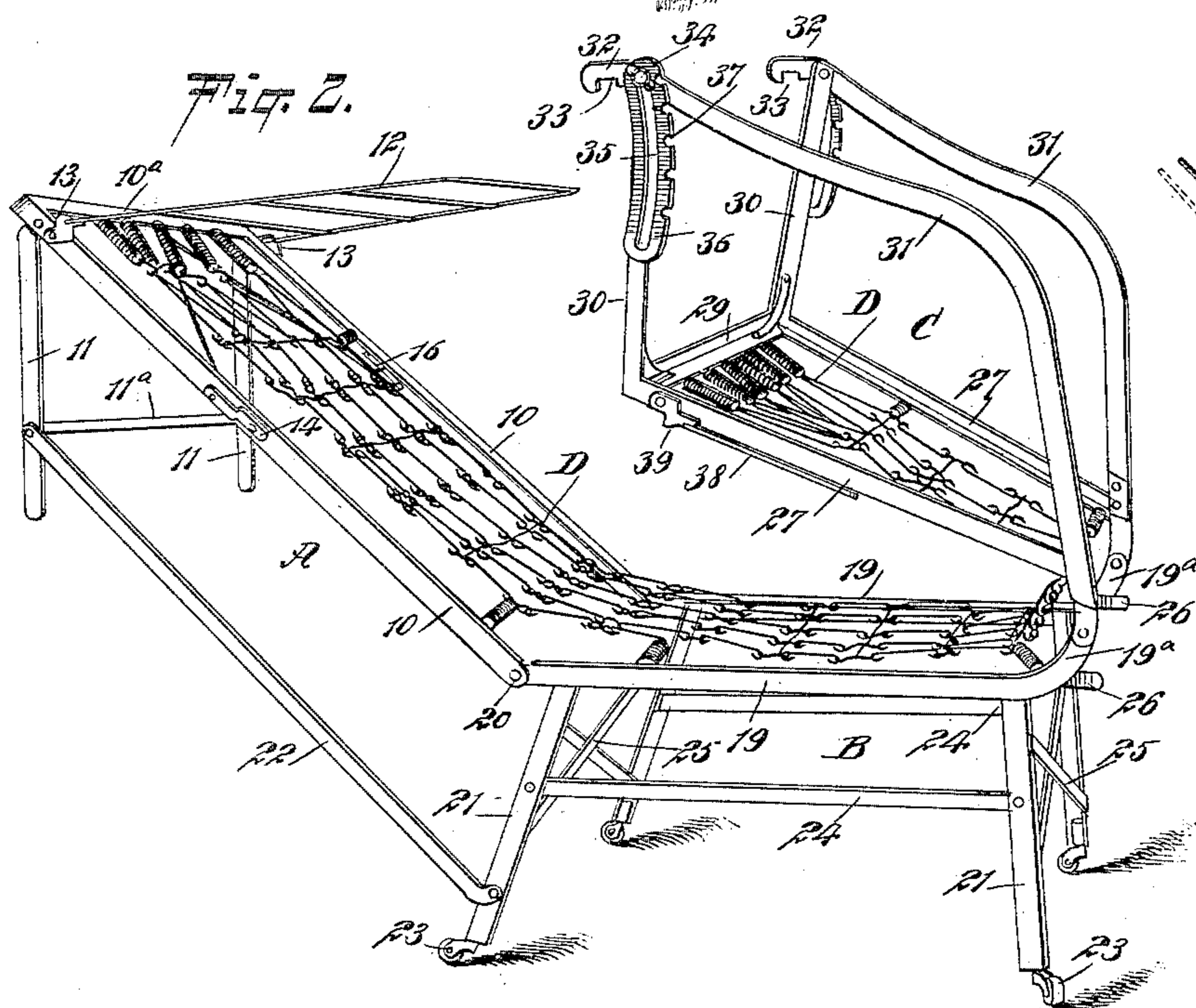


Fig. 2.



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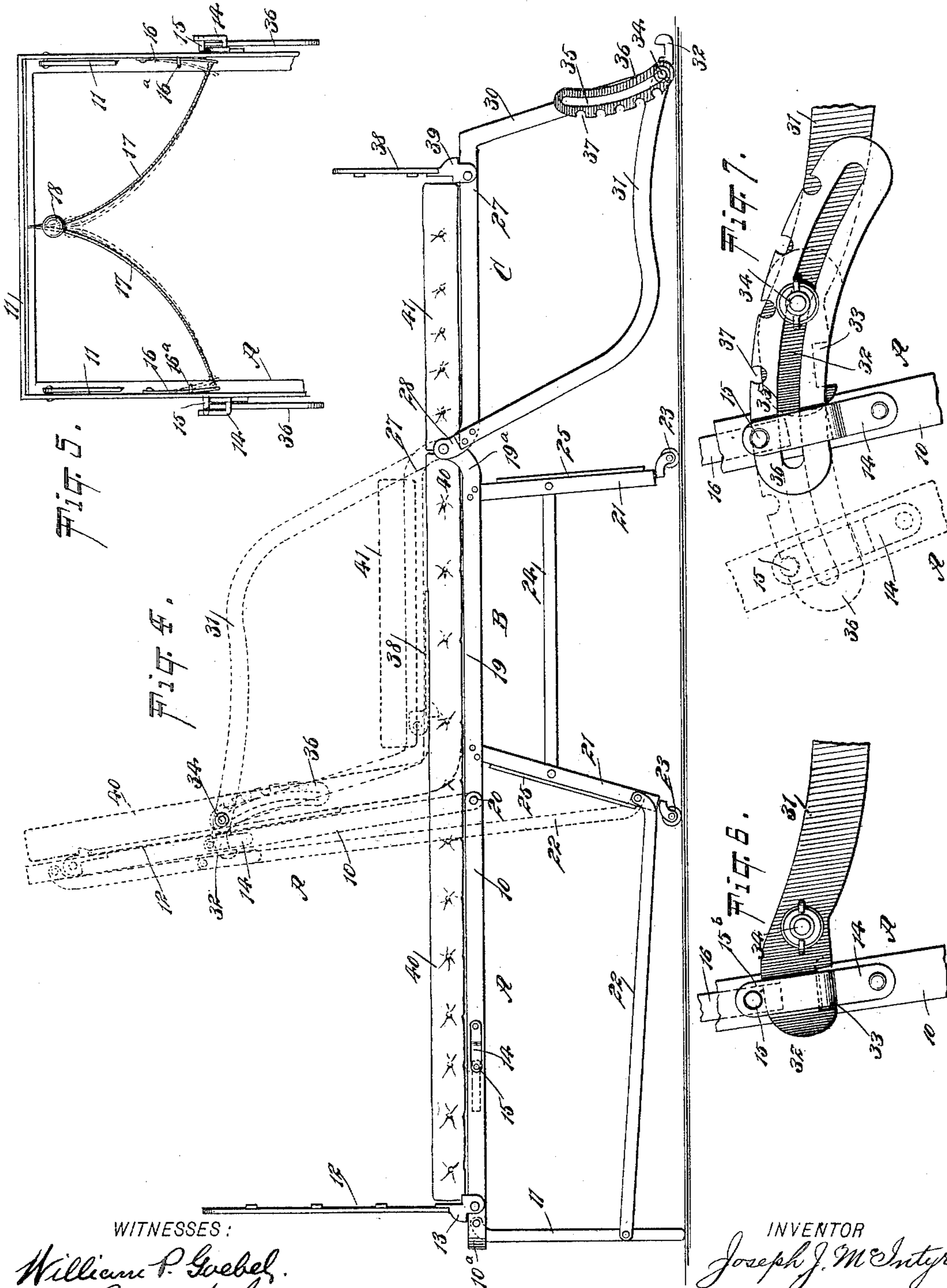
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

JOSEPH JOHN MCINTYRE, OF NEW YORK, N. Y.

## FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 641,988, dated January 23, 1900.

Application filed April 6, 1899. Serial No. 711,951. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH JOHN MCINTYRE, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Folding Beds, of which the following is a full, clear, and exact description.

One object of my invention is to provide a folding bed so constructed that when not required for sleeping purposes it may be folded together in a manner to form an easy-chair, provision being made in folding for the accommodation of the mattress and pillows.

A further object of the invention is to provide a means whereby when the bed is folded to form a chair the back of the chair may be adjusted to any desired inclination in like manner to the back of a reclining-chair.

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 perspective view of the bed folded to form a chair, a part of the covering of the chair being broken away. Fig. 2 is a perspective view of the improved bed, illustrating the position of the bed when partially folded to form a chair. Fig. 3 is an enlarged longitudinal section through one of the side bars of the head member of the bed. Fig. 4 is a side elevation of the bed in position for use as such, the bed being shown in dotted lines as folded to form a chair. Fig. 5 is a rear elevation of a portion of the head member of the bed. Fig. 6 is a side elevation of a portion of the head member of the bed and a portion of the foot member thereof, illustrating the manner in which these two parts are connected when the bed is formed into a chair; and Fig. 7 is a view similar to Fig. 6, illustrating, however, the attachment to the foot-section that enables the head-section to be adjusted when constituting the back portion of a chair.

The body of the bed is preferably made in three sections or members—namely, a head-section or member A, an intermediate section or member B, and a foot section or mem-

ber C. All of the members are preferably made of metal, and the parts may be in the form of angle-iron, as shown, tubular, or may be straight or channel bars, or may be otherwise formed in cross-section, as in practice may be found most desirable. The head-section A comprises two side bars 10, connected by an outer end bar 10<sup>a</sup>, and at or near the outer end bar 10<sup>a</sup> a leg 11 is pivotally attached to each of the side bars 10, the said legs being connected with a brace 11<sup>a</sup> of any description.

A headboard 12, which may be of skeleton form and likewise constructed of metal, is pivotally attached to the side bars 10 of the head-section near its outer end, and said headboard is usually provided at each side with lugs 13, that engage with the upper edges of the side bars of the head-section when said headboard is in a perpendicular position, as shown in Fig. 4.

A bracket 14 is firmly attached to the outer face of each side bar 10 of the head member or section of the bed, the bracket being open at the end that faces the outer end of the said head member of the bed. A pin 15 is adapted to slide through a suitable opening 15<sup>a</sup> in each side bar 10 of the head member of the bed and to enter an opening 15<sup>b</sup> in the open end portion of each bracket 14, as shown particularly in Fig. 3. Each pin 15 is attached to a spring 16, and the springs are secured at one end to the inner faces of the side bars 10 of the head members of the bed, as is shown in Figs. 3 and 5, the ends of the springs to which the pins 15 are secured being free to move, and cords 17 are secured to the free ends of the springs 16, which cords are connected with the end of the head member of the bed, and a ball or block 18 is mounted to slide upon the cords, so that by moving the ball or block 18 downward upon the cords the pins 15 will be drawn inward from the brackets 14, as shown in dotted lines in Fig. 5, and said pins will assume their normal position when the ball or block 18 is carried in an upward direction.

The intermediate or central section or member B of the bed comprises two side bars 19, that are attached by pivot-pins 20 to the inner ends of the side bars of the head member or section A, and each side bar 19 of the central member of the bed is provided with an

upwardly-curved section 19<sup>a</sup> at its rear end, as is particularly shown in Figs. 2 and 4, and legs 21 are rigidly attached to the front and rear portions of the side bars 19 of the central member or section, the legs being preferably inclined in opposite directions, and the forward legs 21 are pivotally attached to the connecting-bars 22, which bars are likewise pivotally secured to the legs 11 of the head member of the bed. Casters 23 are usually provided for the legs 21, and side braces 24 are likewise provided for said legs, together with front and rear cross-braces 25; but the character of the braces may be changed, if desired. A horizontal projection 26 is provided for each side bar 19 of the central section or member at its inner end, and these projections are adapted as supports or stays for the rear or foot section or member C of the bed. This rear or foot section C consists of two side bars 27, having their forward ends 28 upwardly curved and pivotally connected with the upwardly-curved portions 19<sup>a</sup> of the side bars of the intermediate section or member B.

The side bars 27 of the foot member or section C are connected at their outer ends by a cross-bar 29, and legs 30 are located at the said cross-bar 29, and said legs preferably constitute an integral portion of the side bars 27. Bottom bars or rests 31 are secured to the side bars 27 of the foot-section near their pivot ends, and these side bars or rests extend from the said bars and are carried to a connection with the lower ends of the legs 30 of the foot-section C. These rest-bars 31 are so shaped that they constitute the arms of the chair when the bed is folded to produce an article of that kind.

Horizontal projections 32 are located at the junction of the rest-bars with the legs 30, and each projection is provided with a recess 33, so that these projections constitute latches adapted, when the bed is folded to form a chair, to enter between the brackets 14 and the sides of the head section or member A, the recesses 33 receiving the bottom portions of the brackets 14, as is shown in Fig. 6. The pins 15 engage with the upper surfaces of the brackets when the bed is in simple chair form, thus preventing dislocation of the arm-sections 31 of the chair when said chair is raised from the floor, and where the rest bars or arms connect with the legs 30 a set or thumb screw 34 is located. Each set-screw is adapted to pass through a longitudinal slot 35, formed in a curved plate 36, and one longitudinal edge of each of said plates 36 is provided with a series of recesses 37, as shown in Figs. 2 and 7. A footboard 38 is pivotally attached to the side bars 27 of the foot section or member C, and at the pivot ends of the footboard lugs 39 are formed, arranged for engagement with the upper edges of said side bars 27 when the footboard is in its normal or vertical position, as shown in Fig. 4.

The mattress is made in two sections 40 and

41, the section 40 being of sufficient length to extend from the head end of the head member or section A to the foot end of the intermediate or central section or member B, while the smaller section 41 of the mattress is fitted to the upper surface of the foot section or member C. It will be understood that a flexible spring D of any suitable description is fitted to the various sections of the frame of the bed. This spring may extend continuously from the head to the foot of the bed or may be made in two sections corresponding practically in length to the sections 40 and 41 of the mattress.

In operation when the device is to be used as a bed all of the legs of the frame are made to engage with the floor, thus bringing all of the body portions of the frame in horizontal alignment, and the head and foot boards 12 and 38 are carried to the upright position, and the sections 40 and 41 of the mattress are placed in position on the spring, as illustrated in positive lines in Fig. 4. Under such a construction a simple, strong, and economic bed is obtained, which while shown in a single form may be made three-quarters or of full width, as desired. When the device is not in use as a bed, it is manipulated to form an easy-chair. (Shown in Fig. 1 and in dotted lines in Fig. 4.) In bringing about such a formation the head and foot boards are folded down upon the springs beneath the sections of the mattress. The head section or member A is then carried to an upright position, the bottom section 41 of the mattress is removed, and the foot member C of the frame of the bed is folded over upon the central section or member B, as illustrated in Fig. 2, and is made to rest upon the mattress on said central section, the bars 31 forming arms for the chair, and if the back of the chair is not to be adjustable the latches 32 are brought in direct engagement with the keeper-brackets 14 and the spring-pins 15, as shown in Fig. 6. In this manner the various parts of the bed are rigidly held in position to produce a chair. The smaller bottom or foot section 41 of the mattress is then placed in position upon the folded foot-section and constitutes a cushion for the bottom of the chair, that portion of the mattress that is on the head-section of the bed forming a back-cushion for the chair, and pillows 42 are placed against the inside of the arm or rest bars 31, as shown in Fig. 1, forming cushions therefor. The chair may be rendered very attractive and exceedingly comfortable by placing a suitable cover 43 over the arms, the seat, and the back of the chair, as illustrated in Fig. 1.

When it is desired to incline the back or use the chair as an easy-chair, the slotted plates 36 are attached to the foot member or section C in the manner heretofore described and as shown in Figs. 2, 4, and 7, and an end of each plate 36 is passed between a bracket 14 and the side bars of the front of the head-

section of the bed, and the pins 15 are made to enter any one of the recesses 37 in the said plates. By simply drawing the cords 17 outward it is evident that the pins 15 may be changed from one recess 37 to the other, thus giving the back of the chair more or less inclination, or the inclination of the back of the chair may be controlled by simply entering the pins 15 in the rear recesses 37 of said plates 36, as shown in positive lines in Fig. 7, and loosening the set-screw 34, tightening the said screw when the proper adjustment of the back has been obtained.

It will be understood that when the back of the chair is to be rendered adjustable the latches 32 are not brought in engagement with the brackets 14. It is also obvious that the bed may be economically, yet durably, constructed and that it will be cleanly, since all parts are easy of access and metal is employed, and that any person of moderate strength may expeditiously and conveniently convert the bed into a chair or reconvert the same from a chair into a bed.

In order that the inward movement of the springs 16 may be limited, staples 16<sup>a</sup> are secured to the head section or member A of the frame, through which staples the said springs pass, as shown in Figs. 3 and 5.

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

In a combined folding bed and chair, the combination of an intermediate section, a head-section pivoted thereto, a foot-section pivoted to the intermediate section opposite the head-section, a bracket mounted on the head-section, a spring-sustained pin movably engaged with the bracket, a latch-plate having a slot therein, and a screw carried by the foot-section and projected through the slot of the latch-plate, whereby to adjustably mount the latch-plate, the latch-plate having notches capable of engaging the pin of the bracket.

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