June 19, 1923. 1,459,201

J. FREEMAN

CONVERTIBLE FURNITURE

Filed Dec. 7, 1921 2 Sheets-Sheet 1

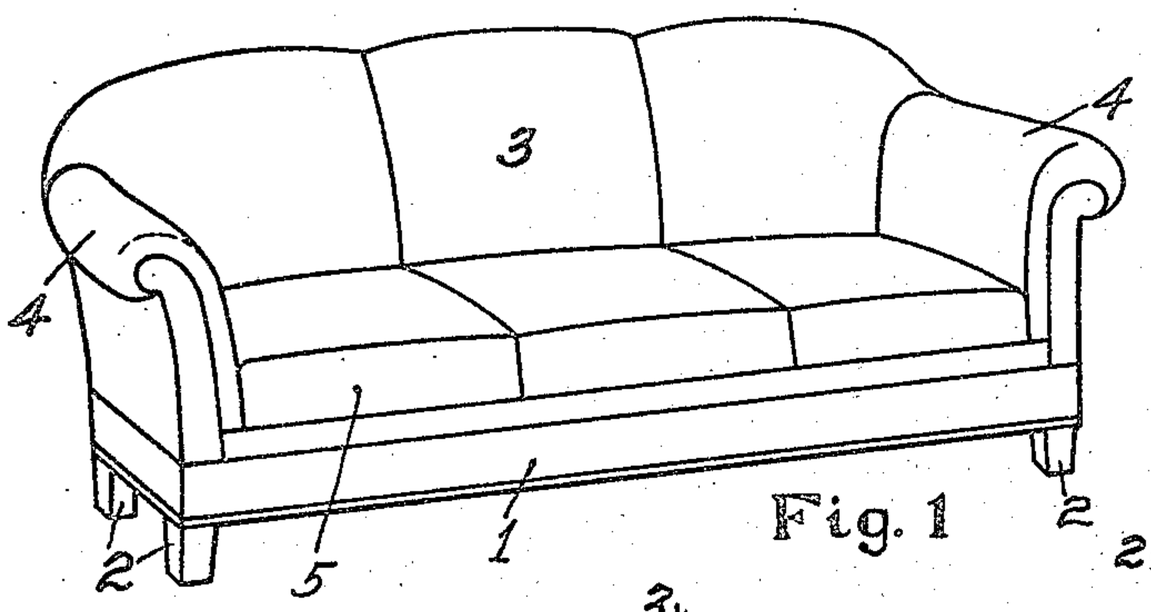

Fig. 1

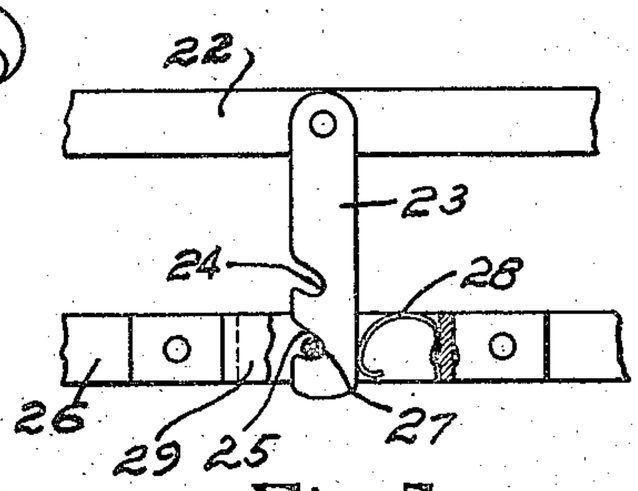

Fig. 5

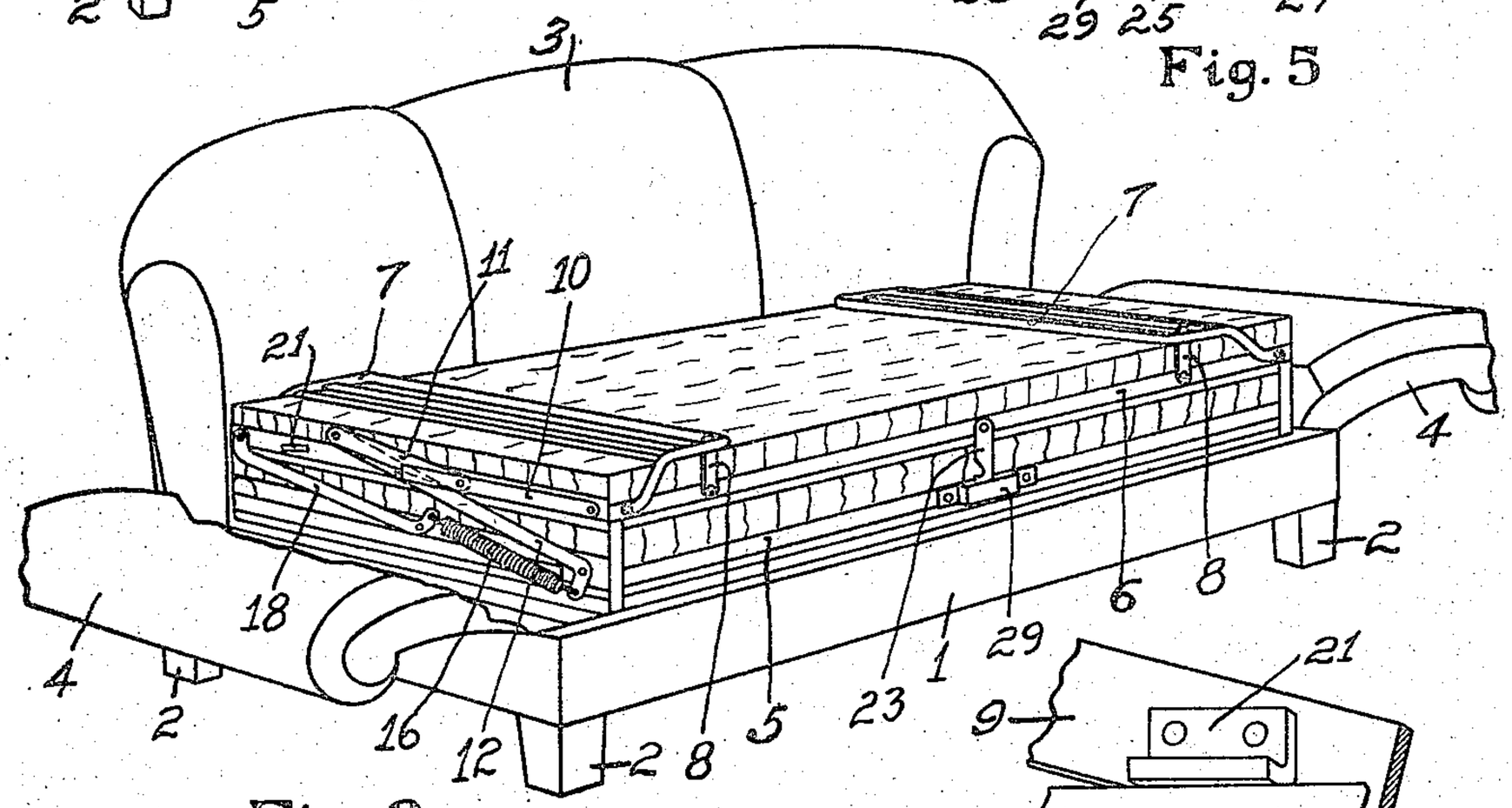

Fig. 2

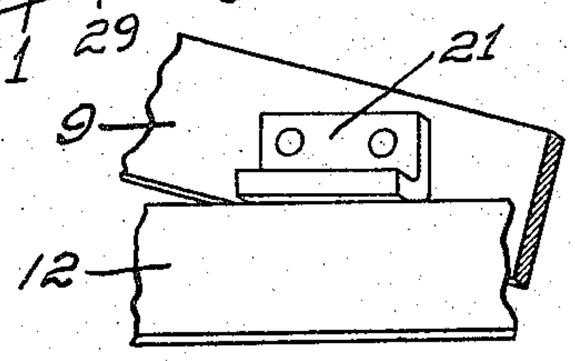

Fig. 6

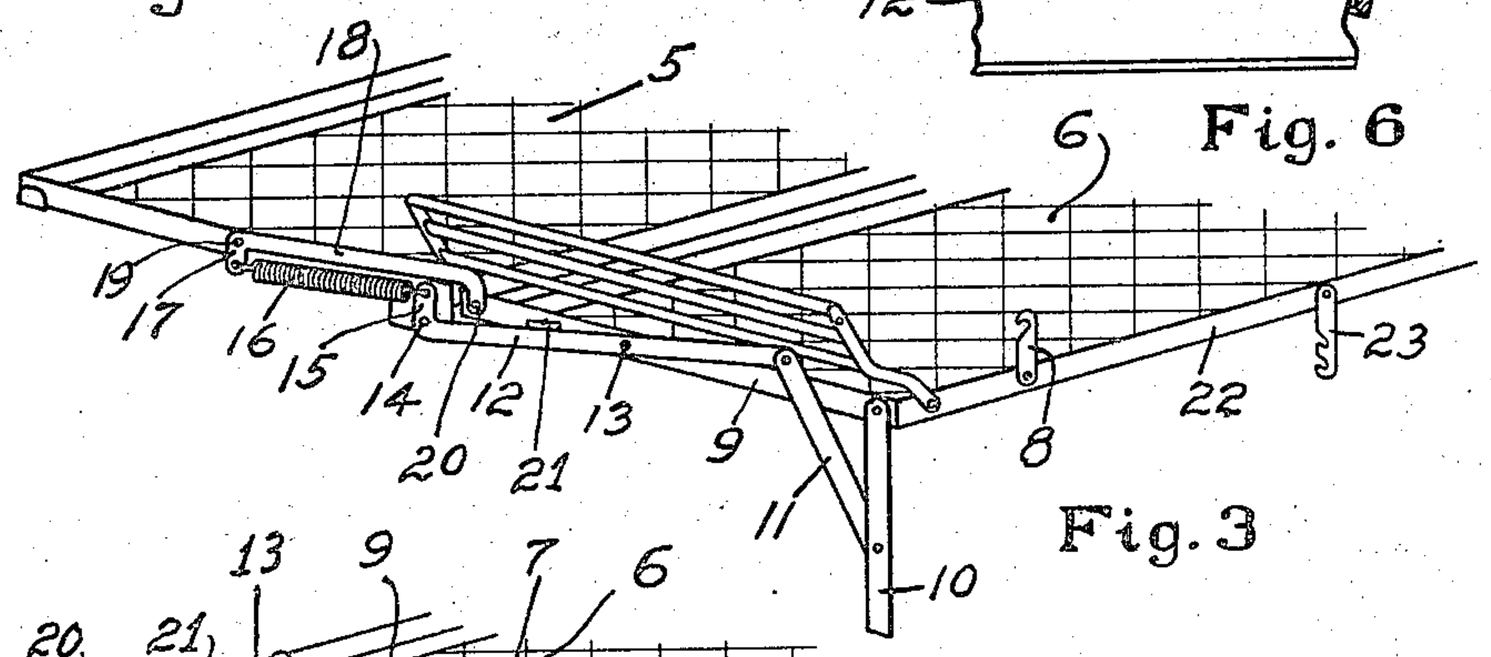

Fig. 3

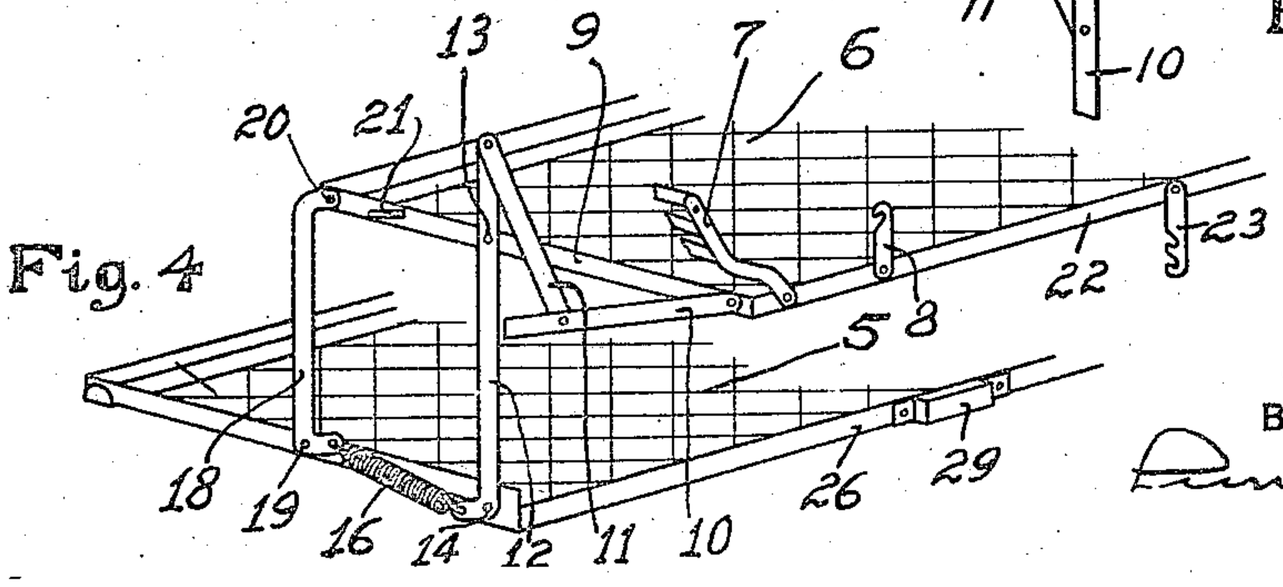

Fig. 4

INVENTOR
JOHN FREEMAN
BY
ATTORNEY

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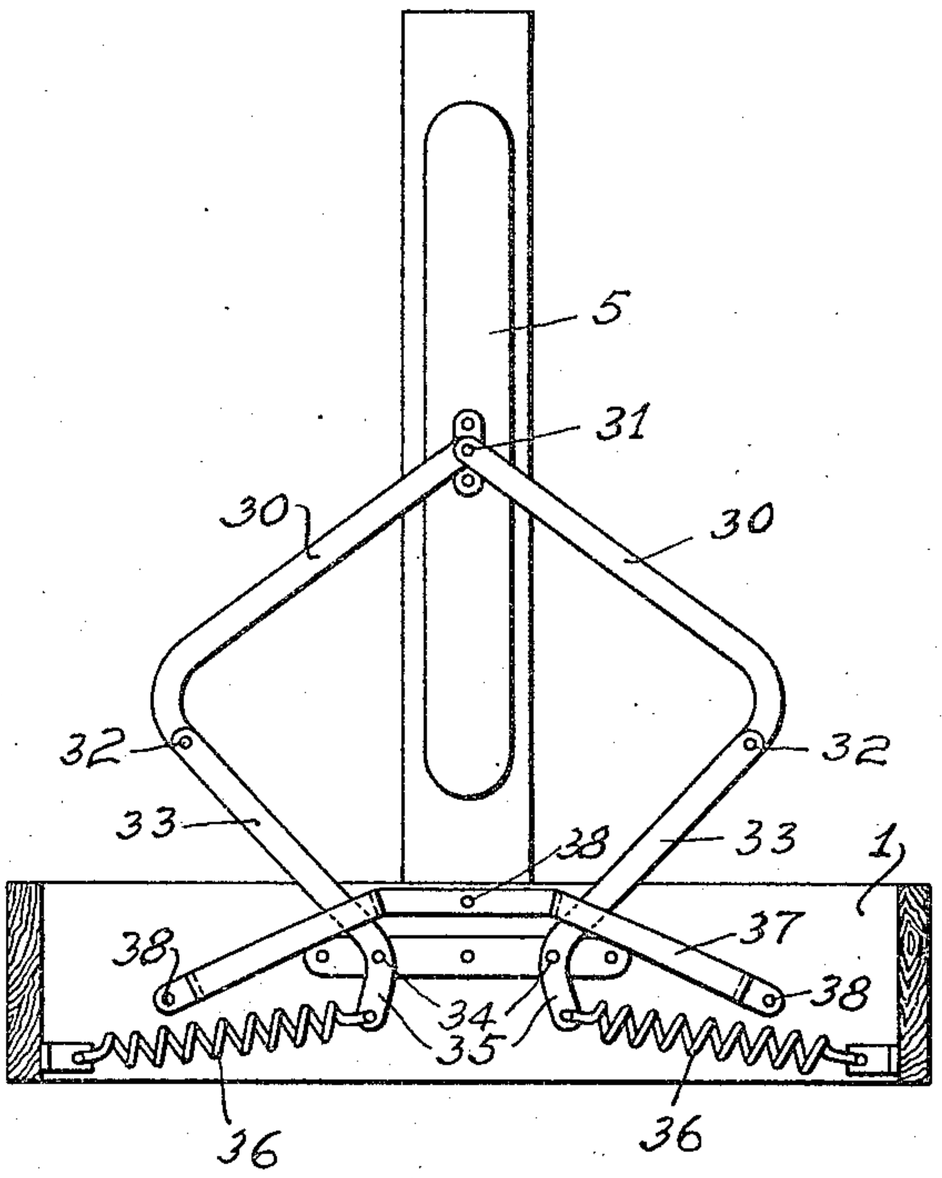


Fig. 7

Fig. 8

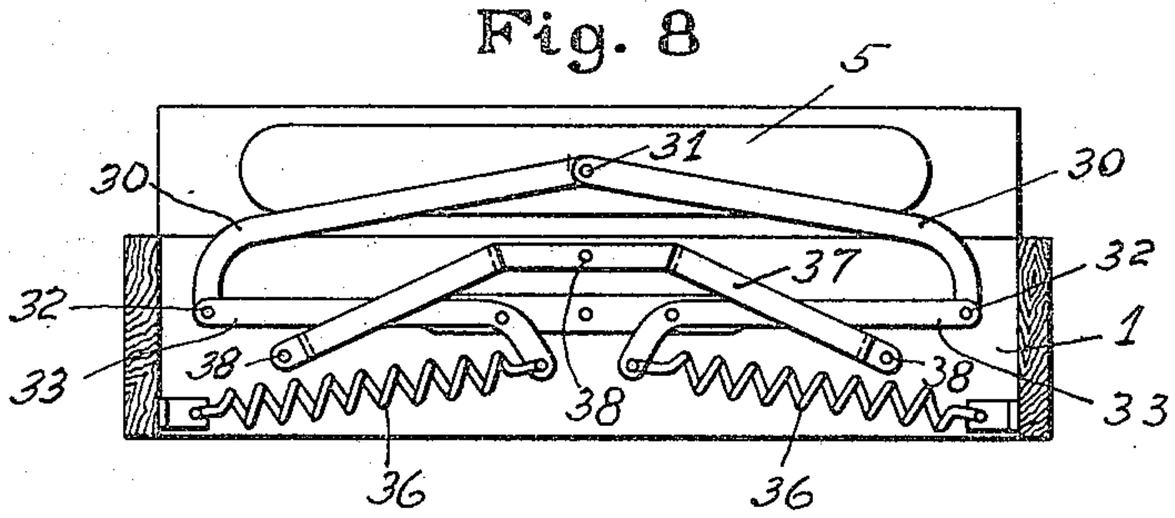
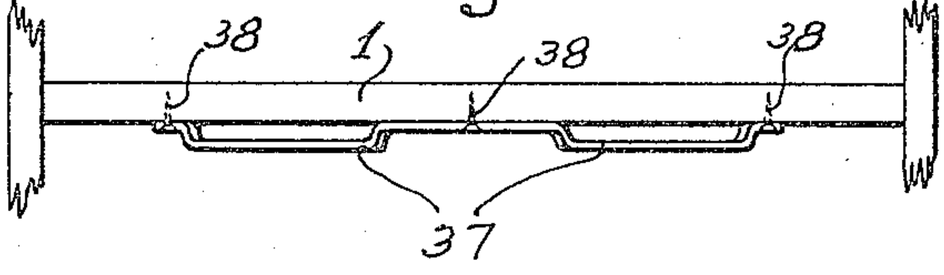


Fig. 9



INVENTOR
JOHN FREEMAN.
BY
Ann A. Greenthal
ATTORNEY

Patented June 19, 1923. 1,459,201

UNITED STATES PATENT OFFICE.

JOHN FREEMAN, OF NEW YORK, N. Y., ASSIGNOR TO SAVE-A-ROOM FURNITURE MANUFACTURING COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

CONVERTIBLE FURNITURE.

Application filed December 7, 1921. Serial No. 520,556.

To all whom it may concern:

Be it known that I, JOHN FREEMAN, a citizen of the United States, residing at 2 East 181st Street, New York city, in the county of Bronx, State of New York, have invented certain new and useful Improvements in Convertible Furniture; and I 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.

The present invention relates to couch beds having relatively collapsible spring-supporting sections adapted to be extended to form a double-width bed and to be collapsed to form a couch, particularly in reversible couch beds for day and night use.

In my Patent No. 1,381,293, granted June 14, 1921, couch beds of this general kind are shown, but the legs of the extensible section, being rigidly fastened to the structure, are unsightly and may interfere when the sections are collapsed, particularly if the couch bed is reversible. Now, whether or not the couch bed is reversible, I have made the legs retractible so as to be drawn into an unobtruding position, preferably by pivoting them on the cross bars and connecting them with the mechanism for collapsing and extending the spring-supporting sections, so that the retraction and extension of the legs is automatically controlled by the actuation of the sections, and so that the legs lie alongside the collapsing levers when retracted.

Irrespective of this retractible feature, the improvements herein also comprehend means for more rigidly and simply supporting the rear of the extensible section in extended position, by providing an abutment carried by one section and adapted to engage the collapsing lever in extended position, preferably at the two ends of the couch bed, so as to form the two sections when extended into a rigid structure between the supports therefor.

I have found that in collapsible beds of this kind, the two sections can be held securely in collapsed position by a lock at the front only, even if the couch bed is reversible. So also, by making the lock adjustable, and by properly connecting and arranging the collapsing mechanism, different thicknesses of bedding may be accommodated between the sections. In this way opening and closing of the couch bed is simplified and the need for removing some of the bedding when the sections are to be collapsed is avoided.

When the couch bed is reversible, the improvements herein also comprehend guiding and restraining means for the reversible mechanism, so that the links thereof, though of lighter section, are of ample strength and furthermore prevent undue longitudinal movement and strain during the operation of reversal.

In the accompanying drawings illustrating the preferred embodiment of each feature of my invention in application, as an example, to a reversible day and night couch bed,

Fig. 1 represents a perspective view of a couch arranged for day use; Fig 2 represents in perspective on an enlarged scale, but partly broken away, the spring-supporting sections reversed on the base for use as a single width bed or preparatory to extension to a double width bed; Fig. 3 represents, partly broken away, the two relatively collapsible sections in fully extended position; Fig. 4 represents the two relatively collapsible sections in a position intermediate of the collapsed and extended positions; Fig. 5 represents, on an enlarged scale, the adjustable lock for holding the two collapsible sections against relative movement from collapsed position; Fig. 6 represents, in perspective on an enlarged scale and broken away, the abutment at one end of the collapsible section for supporting it in extended position from the other section; Figs. 7 and 8 represent end elevations of the reversing mechanism when the spring-supporting sections are respectively in vertical position during reversal and in seated position; and Fig. 9 represents a top elevation of the guiding and restraining means for the reversing links.

The couch bed comprises a base 1 with legs 2, an upholstered back 3, and adjustable end or head pieces 4 of any suitable kind such as shown in my Patent No. 1,334,365, granted March 23, 1920.

The two spring-supporting sections comprise the section 5 seated on the base 1 and a relatively collapsible section 6 carrying pillow supports 7 with latches 8. These two spring-supporting sections, when collapsed, are reversible on the base 1 by means of any suitable reversing mechanism such as that described hereinafter, so that the upholstered seating surface of the section 5 may

be exposed to form the day couch of Fig. 1, and so that when reversed the relatively collapsible section 6 may be extended to form the juxtaposed spring-supporting section lying in substantially the same plane, as shown in Fig. 3.

Pivoted to the cross bar 9 at each end of the collapsible section 6, is a retractible leg 10 which is loosely connected by a lever 11 to the outer end of the bell crank lever 12, said lever 12 being pivoted at 13 to the cross bar 9 and at 14 to the other section 5. The tail 15 of the bell crank lever 12 is connected by a coil spring 16 to the tail 17 of the lever 18, which is pivoted at 19 to section 5 and at 20 to the section 6. As a result of this construction, not only is the collapsible section 6 guided in movements of substantial parallel translation relatively to the section 5 between the superposed position shown in Fig. 2 and the juxtaposed position shown in Fig. 3, as described in further detail in connection with the embodiment shown particularly in Figs. 6 to 10 of my aforesaid Patent No. 1,381,293, but the retractible legs 10 are so actuated by the levers 12 that in collapsing the sections, the legs 10 are retracted from their downwardly depending position for supporting the section 6 to the unobtruding position alongside the cross bars 9.

Riveted or otherwise attached to the cross bar 9 at each end of the collapsible section 6 is an angle iron 21, or other suitable form of abutment, adapted to rest on the lever 12 when the collapsible section 6 is fully extended, thereby supporting at each end the rear of the collapsible section.

The section 6 has pivoted to its front stringer 22 a bar 23 notched at two or more places as at points 24 and 25, whereas the other section 5 has fastened to its front stringer 26 a pin 27 adapted to engage in one of the notches in the bar 23, the spring 28 acting to hold the bar in locked position. The section 5 also carries a bent member 29 serving to form a handle for reversing the two sections 5 and 6 when collapsed. The plurality of notches provides means for holding the two sections against relative movement from collapsed position irrespective, as a practical matter, of the thickness of the bedding between them.

As more fully described in my aforesaid Patent No. 1,381,293, the reversing mechanism comprises the links 30 pivoted on the pivot 31 carried by the section 5. These links are jointed at 32 to bell crank levers 33 which are pivoted at 34 to the base 1 and have their tails 35 connected to coil springs 36. These springs have their other ends attached to the base, through tension adjusters if desired, and are so arranged in relation to the reversing mechanism that when the section 5 is seated on the base (Fig. 8), the springs are extended and when the section 5 attains the vertical position during reversal (Fig. 7), the springs are unstressed, thereby assisting the raising of the section and opposing its fall during the reversal of the couch bed.

During reversal, the section 5, and the extensible section if carried by it, may tend to sway longitudinally, particularly if the reversing mechanism is not extremely strong against that movement. The bent strap 37 fastened to the base at the three points 38 guides and restrains the reversing mechanism so as to reduce this tendency to the minimum and thereby not only makes the reversing operation smoother and easier, but also makes it possible to use lighter links in the reversing mechanism.

Having thus described my invention, what I claim is:

In a couch bed, a spring-supporting section, a relatively collapsible section adapted to be superposed upon and opened out in juxtaposition to and in substantially the same plane with the first mentioned spring-supporting section, pairs of bell crank levers connected to pivotal points of the respective ends of said sections to guide said collapsible section, relatively to the other section, in movements of substantial parallel translation when the position of said collapsible section is changed, and retractible legs connected to the collapsible section and actuated by said bell crank levers.

In testimony whereof I affix my signature.

JOHN FREEMAN.