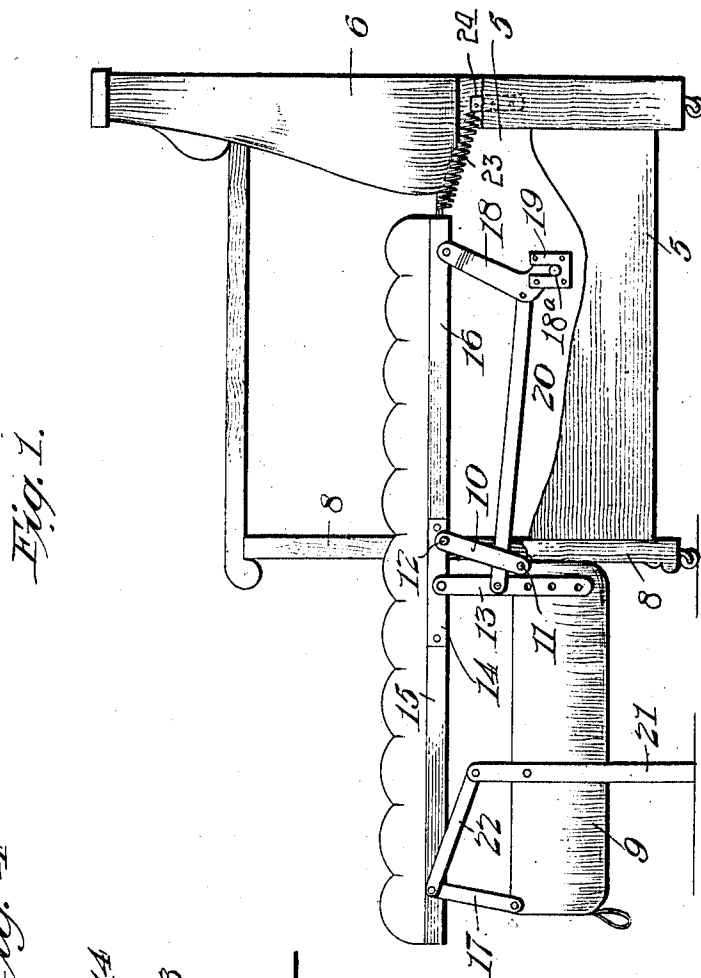


SOFA BED.

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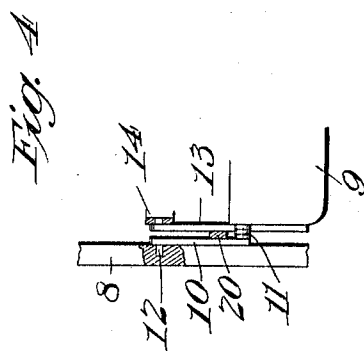


Fig. 4

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980,289.

Patented Jan. 3, 1911.

2 SHEETS-SHEET 2.

Fig. 2.

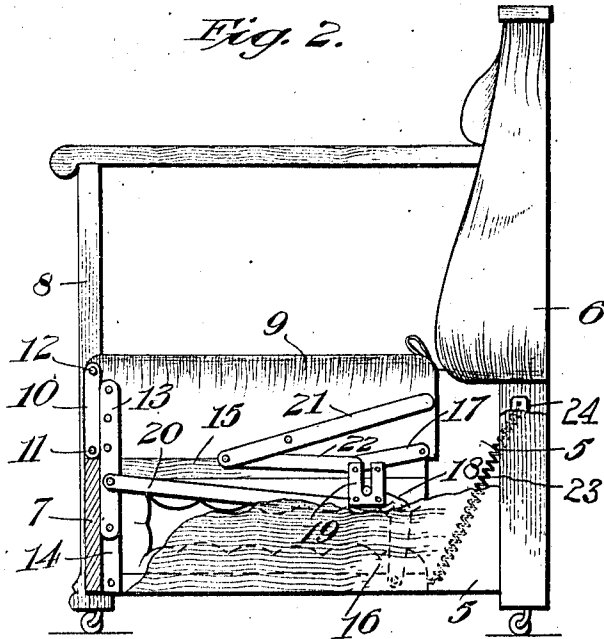
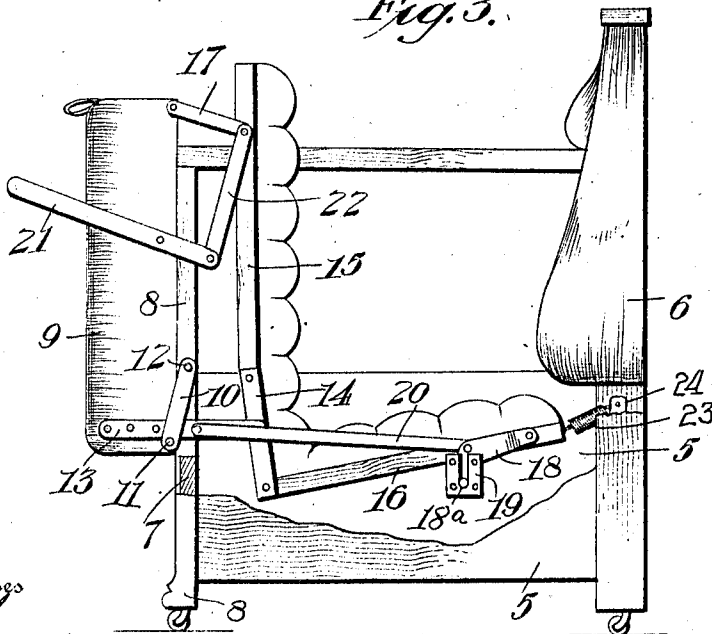


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SOFA-BED.

980,289.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed July 23, 1909. Serial No. 509,102.

To all whom it may concern:

Be it known that I, PETER E. KROEHLER, a citizen of the United States, residing at Naperville, in the county of Dupage and State of Illinois, have invented a Sofa-Bed, of which the following is a specification.

This invention is an improvement in sofa-beds, and relates more especially to a combination davenport and bed.

The primary object of the invention is the production of a device of this character of such construction that when arranged to form a sofa or davenport there will be nothing in its appearance to indicate that it is convertible into a bed, and when arranged in the form of a bed a wide mattress is brought into position and firmly supported for use, with the upholstered seat of the sofa or davenport turned down and located under the front portion of the mattress so as to be out of the way and protected during the use of the device as a bed.

With this principal object in view the invention consists in the particular construction and arrangement of parts constituting the combination davenport and bed; all as hereinafter fully described and specifically set forth in the appended claims.

In the accompanying drawings, which form a part of this specification: Figure 1 is an end view of a sofa-bed or combination davenport and bed, constructed in accordance with my present invention, the parts being arranged in bed form and the rear end of the sofa or davenport partly broken away to show the operating devices. Fig. 2 is a similar view, with the parts arranged in bed form. Fig. 3 is a similar view, illustrating the operation of the parts in converting the device from one form to the other. Fig. 4 is a detail view, showing the connections between the seat, the sofa-frame, and the mattress-frame.

Like numerals of reference indicate like parts in all the figures of the drawings.

In carrying out my invention I employ in the first instance an ordinary form of sofa frame or davenport frame, comprising the end pieces 5, 5, upholstered back 6, and front rail 7, the end pieces and front rail being connected by front corner-posts 8, as is usual. This frame may be made up in any suitable design, the box-like base being intended to support the upholstered seat of the sofa or davenport and receive the mattress sections, the latter being adapted to be

folded below the seat when not in use, as hereinafter fully described. The upholstered seat 9 is supported in the frame in such manner as to swing into and out of the same, and in the present instance the swinging connection is by means of a pair of opposite links 10, which are pivoted at their lower ends, as at 11, to the upholstered seat at what are normally the front corners thereof; and at their upper ends by the pivot pins 12 to the corner-posts 8 of the sofa frame, whereby said seat is not only permitted a free pivotal movement upon the pivots 11, but also may swing laterally a slight distance. As will be seen, therefore, this particular form of link connection allows the upholstered seat to be disposed in an inverted horizontal position in front of the sofa-frame when swung out of the same, and to be located entirely within said frame when arranged to form the seat of the sofa or davenport. This form of connection possesses advantages over the ordinary hinge, usually employed, as it is stronger, more durable, and is invisible.

Secured near the ends of the upholstered seat and projecting beyond and at right angles to the inner side thereof are standards or supporting-bars 13, to the outer ends of which is medially pivoted the center section 14 of the mattress frame, the latter comprising said center section and opposite end sections 15 and 16 pivoted thereto. The front mattress-frame section 15 may be connected by links 17 to the free end of the upholstered seat, while the rear mattress-frame section 16 is connected to a pair of supporting bell-crank levers 18 preferably pivotally mounted in slotted plates 19 attached to the inner sides of the end pieces of the sofa frame. The pivotal connections between the bell-crank levers and plates are by means of pins or studs 18^a engaging in the bottoms of the slots in said plates. By reference to the drawings it will be seen that the outer ends of the longer members of these bell-crank levers are pivoted to the mattress-frame section near its rear, while the outer ends of the shorter members are pivoted to the aforesaid plates; and that the angles of said bell-crank levers are loosely connected to rods 20 extending from the standards or supporting-bars 13. The bell-crank levers serve to properly support the rear mattress-frame section in both its elevated and lowered positions, and the con-

nections of the rods to said levers serve to operate the same during the swinging of the upholstered seat so as to gradually raise and lower the rear mattress-frame section, as will be obvious. Furthermore, said rods act on the seat to move it bodily forward and backward as it is raised and lowered.

For the purpose of supporting the outer or free end of the upholstered seat when the device is arranged in bed form I pivot a supporting-leg 21 at each end of said seat, and connect that end of the leg that projects above the seat to a link 22 extending from the front mattress-frame section 15, so that when said mattress-frame section moves toward the upholstered seat as the latter is swung into the sofa frame it will operate through the medium of the links to close the legs alongside of the seat, thus concealing the legs when the device is in sofa form, as illustrated in Fig. 2.

The operation of converting the device from a sofa or davenport to a bed, and vice versa, will be readily understood from the drawings, in connection with the foregoing description, and it will be noted that when the device is in its normal condition, or sofa form, the end sections of the mattress frame will be disposed horizontally one above the other beneath the upholstered seat with the center section disposed vertically immediately in the rear of the front rail of the sofa, and that when the upholstered seat is swung out of the frame to an inverted horizontal position in front of the rail the mattress sections will be firmly supported at the center by the standards or bars 13, at the outer or front end by the links 17 extending from the sofa seat, and at the inner or rear end by the bell-crank levers 18; the upholstered seat which supports the center and front mattress frame sections being supported at its inner end by the suspension-links 10, and at its outer end by the supporting-legs.

In order to assist in the operation of opening the device into bed form I may provide a lifting-spring 23, connected at one end to the rear mattress-frame section and at its other end to an eye-plate 24 attached to the inner side of the rear corner-post of the sofa-frame.

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

1. In a sofa-bed, the combination with a sofa frame and movable seat, of supporting links for the seat pivoted to and suspended at their upper ends from the sofa frame above the front rail and at their lower ends pivoted to said seat so that the latter may swing laterally above the front rail, together with foldable mattress frame sections connected to the sofa-frame and to the seat.

2. In a folding-bed, the combination with

a sofa-frame and movable seat, of supporting-links for the seat pivoted to and suspended at their upper ends from the sofa-frame above the front rail and at their lower ends pivoted to said seat so that the latter may swing laterally above the front rail, together with foldable mattress-frame sections connected to the sofa-frame, and means for supporting the outer frame-section above the seat when the latter is opened and inverted.

3. In a sofa-bed, the combination with a sofa frame and seat, the former having front corner posts and a front rail, of links pivoted to and suspended at their upper ends from the corner-posts above the front rail and at their lower ends pivoted to the outer corners of the seat, whereby said seat may be turned upon its pivots and swung bodily out of the frame; together with foldable mattress frame sections connected to the sofa-frame and to the seat.

4. In a sofa-bed, the combination with a sofa-frame and movable seat, of supporting-links for the seat pivoted to and suspended at their upper ends from the sofa-frame above the front rail and at their lower ends pivoted to the seat, foldable mattress-frame sections, of standards or supporting-bars rising from the seat and connected to the center mattress-frame section, bell-crank levers connected to the rear mattress-frame section and to the sofa frame, and rods connected to the bell-crank levers and to the standards or supporting-bars, the front mattress-frame section being connected to the seat.

5. In a sofa-bed, the combination with a sofa frame, a seat pivoted in said frame so as to swing out of the same, and mattress-frame sections, of standards or supporting-bars connected to the seat and to the center mattress frame section, bell-crank levers, each pivoted at one end to the rear mattress-frame section and at the other end to the sofa-frame, and rods connected to the angles of the bell-crank levers and to a movable part of the device.

6. In a sofa-bed, the combination with a sofa-frame, a seat pivoted in said frame so as to swing out of the same, and mattress-frame sections, of standards or supporting-bars connected to the seat and to the center mattress frame section, bell-crank levers, each pivoted at one end to the rear mattress frame section and at the other end to the sofa-frame and rods connected to the angles of the bell-crank levers and to the standards or supporting-bars.

7. In a sofa-bed, the combination with a sofa-frame and seat adapted to be swung into and out of the same, of suspension-links pivoted at their upper ends to the sofa-frame and at their lower ends to the seat, standards or supporting-bars secured to the

pivot-end of the seat so as to project beyond the inner side of said seat, a central mattress-frame section pivoted to the outer end of the standards or supporting-bars, a front 5 mattress-frame section connected at one end to the center section and at the other end to the seat, a rear mattress-frame section connected at one end to the center section, bell-crank levers, each pivoted at one end to said 10 rear mattress-frame section and at the other end to the sofa-frame, and rods connected to the angles of the bell-crank levers and to the aforesaid standards or supporting-bars.

8. In a sofa-bed, the combination with a 15 sofa-frame, a seat pivoted in said frame so as to swing out of the same, and loosely connected mattress-frame sections, of standards or supporting-bars connected to the seat and to the center mattress-frame section, bell-crank levers, each pivoted at one end to the 20 rear mattress-frame section and at the other end to the sofa-frame, and rods connected to the bell-crank levers and to the standards or

supporting-bars together with a lifting-spring connected to the rear mattress-frame 25 section and to the sofa-frame.

9. In a sofa-bed, the combination with a sofa-frame and a reversible seat located at and connected to the front thereof, of a foldable mattress-support comprising an in- 30 termediate-section and two end sections, means for supporting the two end-sections above the plane of the sofa-seat, when the latter is inverted, standards rising from said seat and pivoted to the intermediate-section, 35 near its center, and loose links connected to and suspended from the sofa-frame and pivotally connected to the reversible seat.

In testimony whereof I have signed my name to this specification in the presence of 40 two subscribing witnesses.

PETER E. KROEHLER.

Witnesses:

KATHRYN BURKE,
WERNER PETTERSON, Sr.