Aug. 25, 1942. J. D. BELL 2,293,964

CHAIR BED

Filed Oct. 14, 1940

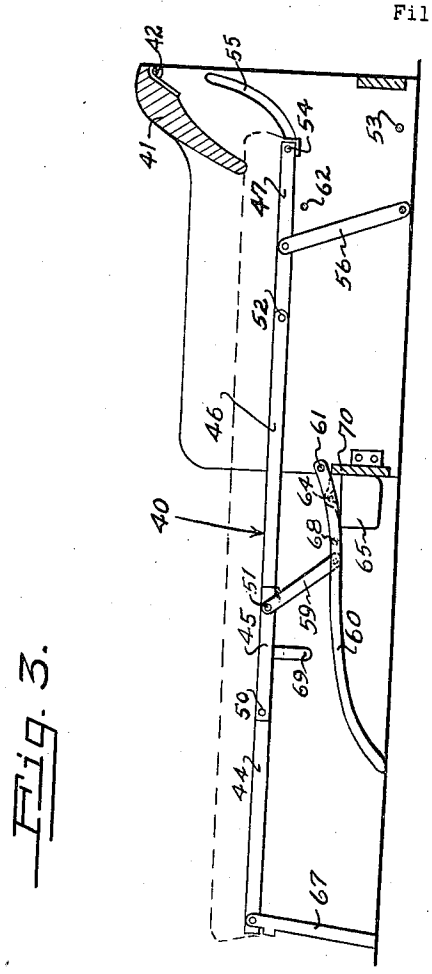


Fig. 3.

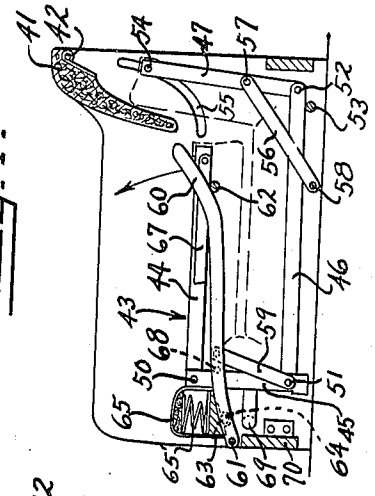


Fig. 1.

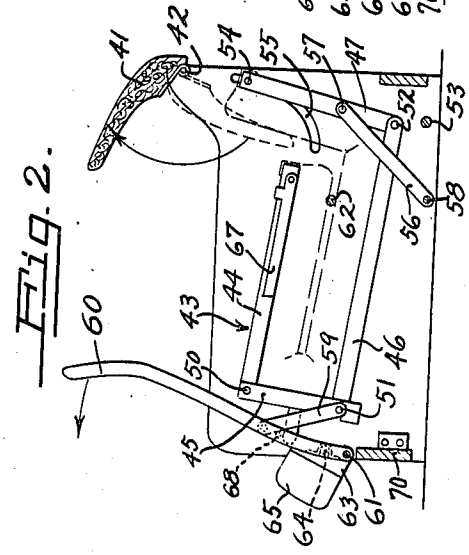


Fig. 2.

INVENTOR,

Joseph D. Bell

Patented Aug. 25, 1942 2,293,964

UNITED STATES PATENT OFFICE

2,293,964

CHAIR BED

Joseph D. Bell, San Francisco, Calif.

Application October 14, 1940, Serial No. 361,059

3 Claims. (Cl. 5—13)

The present invention relates to improvements in chair beds and its principal object is to provide a piece of furniture of the character described that may be readily converted from a bed into a chair and vice-versa, from a chair into a bed.

More particularly it is proposed to provide a foldable mattress and mounting means for the same whereby the mattress may be supported horizontally in its entire length to provide a sleeping surface or may be folded into a compact unit of reduced length to form a seat surface for a chair or a lounge.

It is further proposed to provide a chair bed in which the conversion from chair to bed and vice-versa may be brought about with a minimum of effort, the different parts being so well balanced that a slight pressure brought to bear in one direction or another will bring about the desired change.

Further objects and advantages of my invention will appear as the specification proceeds.

The preferred form of my invention is illustrated in the accompanying drawing in which

Figure 1 shows a longitudinal section through my chair bed, in chair position;

Fig. 2 a view similar to that of Fig. 1, but showing the operating mechanism in a midway position, and

Fig. 3 a similar view showing the chair bed in bed position.

While I have shown only the preferred form of my invention, I wish to have it understood that various changes or modifications may be made within the scope of the claims hereto attached without departing from the spirit of the invention.

Referring to the drawing in detail, the main frame 40 may be of any suitable form and has an upper back portion 41 hinged thereto as at 42.

The mattress 43 is divided into four sections, a front section 44, two intermediate sections 45 and 46 and a rear section 47, the sections being hinged together as at 50, 51, and 52 and being dimensioned to substantially form a rectangle when folded in the manner shown in Fig. 1, with the upholstery, indicated in dotted lines, confined in the rectangle.

In this position the rear section 47 is supported by a suitable stop 53 and is guided, at its upper end, by means of pins 54 riding in curved slots 55 in the side members of the main frame, while an intermediate portion of the section is guided by links 56 pivoted to the section as at 57 and to the bottom of the main frame as at 58.

The hinge 51 is supported by links 59 the upper ends of which are pivoted in handles 60 pivotally supported at one end in the front end of the main frame as at 61, and resting, at their free ends, on suitable stops 62. The handles 60 are interconnected by a cross rod 64, which carries, on a suitable supporting strip 63, a narrow strip of upholstery 65 having a row of springs 65'. The top of the upholstery comes even with or rises slightly above the front edge of the frame section 44 so that when a cushion is placed on the latter section, the front edge of the cushion rests on the upholstery instead of the sharp corner formed by the frame sections. It should be understood that the cushion strip may be made up of any resilient or springing substance. The front frame section 44 lies horizontally over the section 46 and may be supported by legs 67 (shown in folded position) or in any other suitable manner.

The handles are provided with suitable stops 68 which limit the rearward swing of the links 59.

The section 45 is preferably reinforced by a cross-yoke 69 connecting opposite sides thereof, the yoke also serving as a handgrip to facilitate manipulation of the section.

In operation, as the handles 60 are swung upward in a forward direction from the position shown in Fig. 1, the links 59 first raise the front edge of section 46 until the links 59 and the section become substantially alined, as in Figure 2. The upholstery strip 65 moves out of place with the handles. On continuation of the forward swing, section 46 is pulled forward, causing the hinge 52 to move forward. This involves a raising of the rear section 47 until the latter and the links 56 become alined, at which time the hinge 52 passes the links 56. On further continuation of the forward pull the lower end of the rear section 47 rises and the upper end of the section descends in the slot 55 until the section reaches the horizontal position shown in Figure 8. The section 46 in the meantime travels to assume a position of horizontal alinement with the rear section, the stops 68 on the handles serving to pry the links 59 upward while the handles pass across the center of their pivotal movement. At the end of the movement the handles come to a stop on the floor as shown in Figure 3, and the links 59 serve to support the hinge 51. The two other sections 44 and 45 may now be swung outwardly and the legs

67 swung downwardly to give support to the front section. The cushion strip 65, during this operation, moves to an out-of-the-way place adjacent the front board 70 of the main frame.

For a reverse movement, the two front sections 44 and 45 are first folded over section 46, whereupon the handle is swung backward. The links 59 raise the front edge of the third section 46, and the combined weight of the three sections, aided by the pressure of the operator, serve to force the back hinge 52 to its initial position shown in Figure 1.

I claim:

1. In a sofa bed, a main frame, a pair of companion handle bars pivotally supported therein in spaced and parallel relation to one another and near the front edge of the same for swinging movement between substantially horizontal positions in the frame and forward of the frame, a narrow and deep cushion strip mounted on the handle adjacent their pivotal support to form a resilient front edge for a seat when the handles are positioned within the frame, a mattress having a plurality of frame sections hinged together, and means for supporting the mattress in the frame with one of the frame sections in inverted position and in horizontal alinement with and behind the upper portion of the cushion strip to form a substantially continuous seat surface therewith.

2. In a sofa bed, a main frame, a pair of companion handle bars pivotally supported therein in spaced and parallel relation to one another and near the front edge of the same for swinging movement between substantially horizontal positions in the frame and forward of the frame, a narrow and deep cushion strip mounted on the handles adjacent their pivotal support to form a resilient front edge for a seat when the handles are positioned within the frame, a mattress having a plurality of frame sections hinged together, and means for supporting the mattress in the frame with one of the frame sections in inverted position and in horizontal alinement with and behind the upper portion of the cushion strip to form a substantially continuous seating surface therewith, the cushion strip being operable by the handles to be swung outside the frame to clear the mattress for unfolding operations.

3. In a sofa bed, a main frame, a pair of companion handle bars pivotally supported therein in spaced and parallel relation to one another and near the front edge of the same for swinging movement between substantially horizontal positions in the frame and forward of the frame, a narrow and deep cushion strip mounted on the handles adjacent their pivotal support to form a resilient front edge for a seat when the handles are positioned within the frame, a mattress having a plurality of frame sections hinged together, and means for supporting the mattress in the frame with one of the frame sections in inverted position and in horizontal alinement with and behind the upper portion of the cushion strip to form a substantially continuous seat surface therewith, the cushion strip being operable by the handles to be swung outside the frame to clear the mattress for unfolding operations, and the handle bars having means connected to the mattress for initiating such unfolding operation, when the handle bars are swung outside the frame.

JOSEPH D. BELL.