April 28, 1942. J. D. BELL 2,281,085

CHAIR BED

Filed June 19, 1939

Fig. 1.

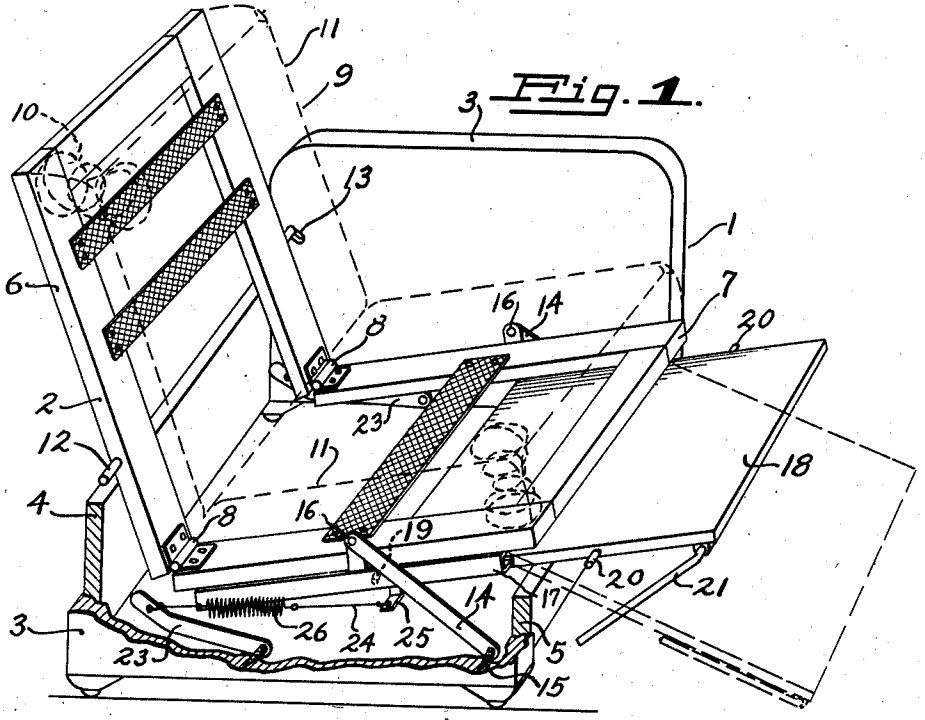
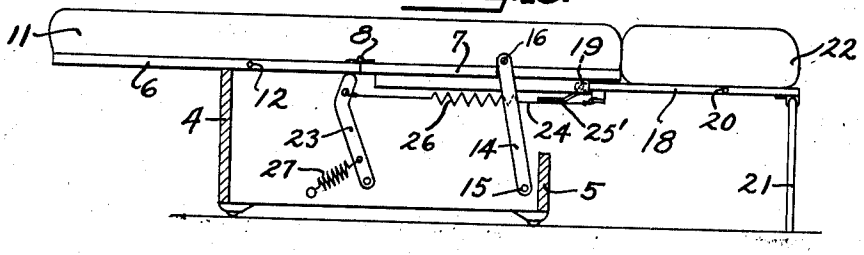


Fig. 2.



INVENTOR.

Joseph D. Bell

Patented Apr. 28, 1942

2,281,085

UNITED STATES PATENT OFFICE

2,281,085

CHAIR BED

Joseph D. Bell, San Francisco, Calif.

Application June 19, 1939, Serial No. 279,943

6 Claims. (Cl. 5—47)

The present invention relates to improvements in chair beds and its principal object is to provide a chair bed in which a back and seat are hinged together and mounted in such a manner that they may be easily moved from a position of relative angularity to a position of horizontal alinement to serve as a chair and as a bed respectively.

A further object of the invention is to arrange the mounting of the back and seat in such a manner, that when in chair position the seat is relatively low and allows of the use of an extra cushion for raising it to normal chair height, while in bed position the seat is disposed at normal bed height.

A still further object of my invention is to provide a front extension for the seat which is movable from a concealed position underneath the seat to an extended position in front of the seat and which is provided with folding legs allowing of a certain amount of rocking action of the extension on the legs in response to a similar rocking action of the back and seat on their mounting means.

It is further proposed to provide a prop for the hinged connection between the back and the seat, such prop to be normally inactive when the back and the seat occupy chair position and to be adapted for movement into active supporting position when the back and the seat are moved into a position of horizontal alinement.

It is further proposed in the present invention to provide means whereby the prop may be operated for movement into active and inactive position respectively by operation of the extension into concealed and extended position respectively.

And finally it is proposed to provide for mounting the back and seat in a simplified manner with the principal point in view of raising the seat from a relatively low chair position to a higher position when the device is used as a bed.

Further objects and advantages of my invention will appear as the specification proceeds and the novel features thereof will be set forth in the claims hereto appended.

The preferred forms of my invention are illustrated in the accompanying drawing forming part of this application, in which:

Figure 1 shows a perspective view of the preferred form of my invention, certain portions being broken away and the upholstery being shown in skeleton form, and

Figure 2, a side elevation of the same form of my invention, certain portions being omitted to illustrate the principle more clearly.

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, my chair bed comprises in its principal features, a box frame 1 and a movable frame 2 mounted therein with freedom of movement between bed and chair positions respectively.

The box frame comprises two side members 3 which furnish the arm rests for the chair, a rear supporting member 4 and a front supporting member 5, the former being preferably higher than the latter.

The movable frame 2 comprises a back 6, a seat 7 and a hinged connection 8 between the same, the latter allowing the back and the seat to occupy relative positions of angularity and horizontal alinement. The back and seat are covered by a unitary upholstery 9 including springs 10 and a padding 11 covering the springs and extending throughout the length of the movable frame so as to form an uninterrupted flat surface when the back and seat are in alinement, as in Figure 2.

The springs are mounted relative to the hinge line so as to be disposed on opposite sides thereof, and so that adjacent rows of springs may collapse when the back and seat are made to occupy relative angular position.

The back is supported with freedom of teetering motion by means of a rod 12 fixed to the back and taking bearing in slots 13 provided in the side members 3 of the box frame, the slots allowing of a certain amount of movement of the rod in a forward and backward direction.

The front edge of the seat may be supported on the front supporting member 5 of the box frame and an intermediate portion of the seat is carried by a pair of links 14 having their lower ends pivoted to the side members 3 near the front supporting member and in the lower part of the box frame, as shown at 15, and having their upper ends pivoted to a central portion of the seat, as at 16, so that the seat is substantially balanced on the links.

When the movable frame is moved from the chair position of Figure 1 to bed position, the links 14 swing forward and come to rest in substantially vertical position, the links being di-

mensioned to swing the seat upward to a position of horizontal alinement with the back.

The seat has two channels 17 underneath the same to form guides for the sliding extension 18, which latter is formed with two spaced pairs of projecting pins 19 and 20 slidable in the channels.

When the extension is in retracted position, both pairs of pins are in the channels and hold the extension underneath the seat and in parallel relation thereto. As the extension is pulled forward, the front pair 20 of the pins becomes free of the channels and allows the extension, after it has advanced sufficiently far, to swing downward on the rear pins 19 and to occupy the slanting position shown in dotted lines in Figure 1.

The front edge of the extension is provided with folding legs 21, which when moved into supporting position, raise the front of the extension substantially to the height of the seat frame so that a superimposed cushion 22 will bring it to a level with the seat upholstery.

It will be noted that when my chair bed is used as a chaise longue, with the back in upright positions and the extension advanced and supported on the folding legs, the latter hold the extension substantially in alinement with the guide rails and when the occupant rocks the back and seat to effect different angularities, the extension is free to similarily rock on its folding legs while the lower ends of the latter remain stationary due to friction with the supporting surface, as a rug or the like. The bottom ends of the legs may be provided with rubber tips to increase friction.

To provide a prop or support for the hinge section, when back and seat are in alinement with one another, I use a link 23, the lower end of which is pivoted to the sides 3 of the box frame, preferably at a point slightly forward of the vertical plane of the hinge in bed position.

This link normally reclines backward in inactive position, as in Figure 1, but is connected, by means of a cord 24, to a bracket 25 projecting from the rear portion of the extension 18, so that when the extension is moved forward, it will pull the link 23 into upright position to serve as a prop for the hinge.

The cord 24 has a spring 26 incorporated therein which allows the extension to move without actuating the link when the back is in upright position.

When the extension is moved backward into the concealed position underneath the seat the bracket 25 through a rearward extension 25' strikes the link 23 and initiates its movement into inactive position which is aided by a second spring 27 tending to pull the link backward.

I claim:

1. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, an extension carried by the seat section and being movable from a position underneath the seat section to a position in front thereof, releasable means for supporting the hinge connection when the second frame is in bed position and means operable by movement of the extension for actuating the hinge supporting means.

2. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, an extension carried by the seat section and being movable from a position underneath the seat section to a position in front thereof, releasable means for supporting the hinged connection when the second frame is in bed position, and means operable by movement of the extension for moving the hinge supporting means into supporting position when the extension is moved forward and into inactive position on a reverse movement of the extension.

3. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, releasable means carried by the main frame for supporting the hinge connection when the second frame is in bed position and means operable from in front of the seat section for actuating the hinge supporting means.

4. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, releasable means carried by the main frame for supporting the hinge connection when the second frame is in bed position and means operable from in front of the seat for moving the hinge supporting means into active and inactive positions.

5. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, an extension slidably carried by the seat section and being movable from a position underneath the seat section to a position in front thereof, a link pivoted to the main frame at a point underneath the hinge connection when the movable frame is in bed position, means urging the link toward a rearwardly inclined position and a flexible connection between the link and the extension whereby the link is pulled into upright position for supporting the hinge connection when the extension is moved forward.

6. In a chair bed, a main frame, a movable frame comprising a back section, a seat section and a hinged connection between the same, means for supporting the latter frame on the former with freedom of movement between chair and bed positions, the said means being operable to support the seat section in an inclined plane when in chair position and in a higher horizontal plane when in bed position, guide rails mounted underneath the seat section, an extension member slidable on the rails immediately underneath the seat and movable to a position in front of the seat, and a folding leg at the front edge of the extension member, the leg being dimensioned to raise the front edge of the extended extension member substantially into the inclined plane of the guide rails when the seat is in chair position and into the horizontal plane of the guide rails when the seat is raised to bed position.

JOSEPH D. BELL.