

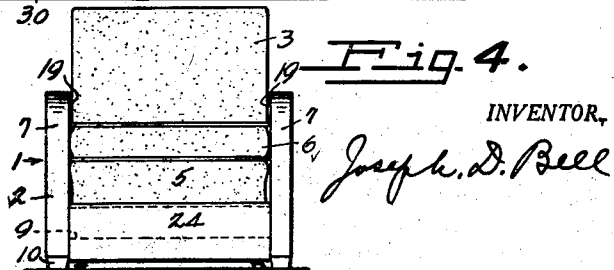
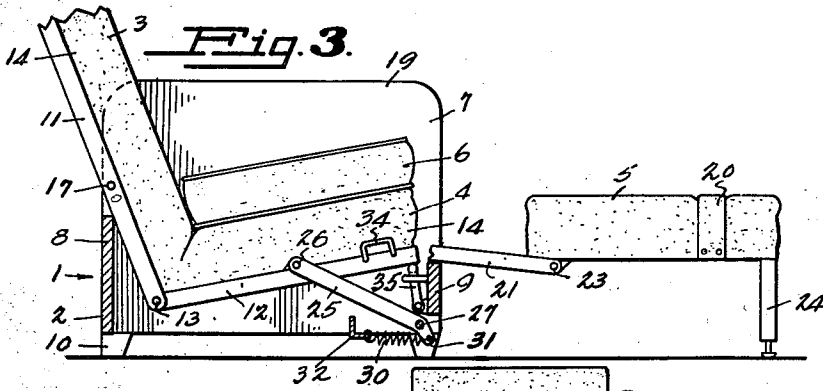
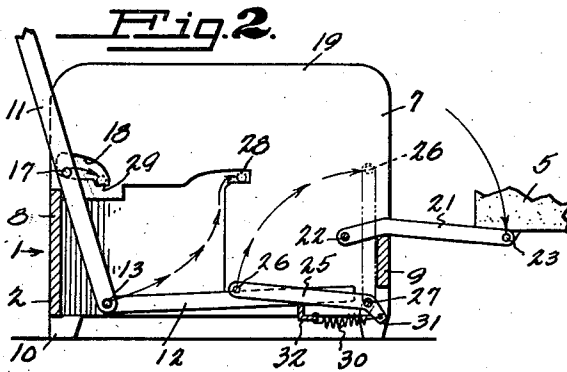
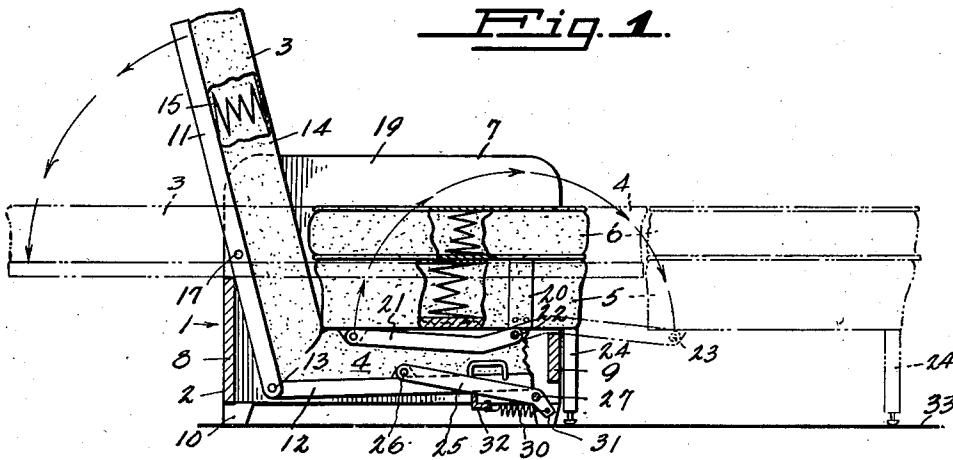
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COMBINED CHAIR AND BED

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COMBINED CHAIR AND BED

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The present invention relates to improvements in a combined chair and bed, and has particular reference to an article of furniture, which may be readily converted into either a chair or a bed.

It is particularly proposed to provide a chair 5 having a back and a main seat adapted to be moved into alignment with each other to form a bed, and I make use of novel means for retaining the back and main seat in rigid relationship relative to one another upon being aligned. The parts 10 may be readily returned to a chair-forming position to provide a comfortable easy chair, preferably of the overstuffed variety.

As a further object I propose to provide an auxiliary seat, which normally is arranged to conceal 15 the main seat therebeneath and to give added height and resiliency thereto. This auxiliary seat may be moved into a position to give added length to the bed, or may be used as a foot rest in front of the chair. The main seat is supported in such 20 a manner that it can be tilted so as to give greater comfort to the chair.

Another object of my invention is to provide a combined chair and bed, which is simple in construction, durable and efficient for the purposes 25 intended.

For a better understanding of my invention, reference should be had to the accompanying drawing, forming part of the application, in which:

Figure 1 is a transverse sectional view of my combined chair and bed with parts broken away to disclose the interior construction, and further illustrating by dotted lines the position assumed 30 by the various parts upon being converted into a bed;

Figure 2 a view in transverse section with the upholstery omitted, and showing the direction of movement of several parts when the chair is being converted into a bed;

Figure 3 a sectional view showing the device being used as a chair and the auxiliary seat extended to form a leg rest;

Figure 4 a front elevation of Figure 1 on a reduced scale.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the claims hereto attached without 50 departing from the spirit of the invention.

In carrying out my invention I provide a combined chair and bed indicated generally at 1, and including in its structural features a supporting frame 2, a back 3 having a main seat 4 secured 55

thereto, an auxiliary seat or leg rest 5 and a removable cushion 6.

It will be noted that the supporting frame 2 is fashioned with two side arms 7 that are held in spaced and parallel relation with respect to each other by means of a rear rail 8 and a relatively lower front rail 9, the ends of the rails being secured to the side arms. Feet 10 may be provided at the bottom of the arms for resting on the supporting surface.

The back 3 and the main seat 4 are provided with frame sections 11 and 12, respectively, which are hingedly fastened together as at 13. A mattress 14 is mounted on these frame sections, and the mattress is coextensive with the length and width of the back and of the main seat, the mattress being formed as one continuous unit.

The back 3 may be swung into horizontal position as shown in Figure 1, and for permitting this movement I provide trunnions 17 on the back, which ride in recesses 18 formed in confronting faces 19 of the side arms. The back rests on the top of the rear rail 8 when moved into horizontal or bed-forming position.

Referring now to Figure 1, it will be seen that the auxiliary seat 5 normally overlies the main seat 4 so as to entirely conceal the latter. When it is desired to convert the chair into a bed, the cushion 6 is first removed, and the operator then 30 grasps the flexible strap 20 attached to the auxiliary seat and lifts the latter into the position illustrated in Figure 3.

For supporting the auxiliary seat, I provide links 21 at each side thereof, and these links are swingably connected to the side arms of the chair at 22 and to the auxiliary seat at 23. It will be noted that the links 21 rest upon the top of the front rail 9 when the auxiliary seat 5 is being used as a leg rest. A leg 24, in the nature of a rail, depends from the other end of the auxiliary seat to complete the support of the latter. It will be noted from Figures 2 and 3 that the links 21 are of sufficient length to permit the auxiliary seat 5 to be positioned in front of the main seat 4 and in spaced relation therewith. This provides leg room between the main seat and the extended auxiliary seat for a person.

Upon lowering the back 3 into a reclining position, the main seat 4 is raised above its normal level by means of links 25, which are pivoted to the main seat as at 26 and to the side arms as at 27. When the main seat is fully raised, it is brought into horizontal alignment with the reclined back 3 in the manner shown by broken

lines in Figure 1, and the links 25 bear against the front rail 9.

In order to hold the back 3 and the main seat in bed-forming relation, I extend the hinge pins 13 laterally so as to engage with notches 28 formed in the confronting faces of the side arms 7. As the pins 13 enter the notches the trunnions 17 on the frame section 11 move down the inclined recesses 18 and enter cupped portions 29. The back 2 and the main seat 4 are thus supported in aligned relation with respect to each other by the trunnions 17, pins 13 and the links 25. Upon lifting the outer or upper end of the back 3 from the dotted line position in Figure 1 toward the full line position thereof, the upper inclined walls of the recesses 18 and the trunnions 17 cause the hinge pins 13 to be withdrawn from the notches 18.

In order to counterbalance the weight of the main seat 4 and to aid in moving the latter into raised position, I interpose springs 30 between the lower arms 31 of the links 25 and an angle bar 32 extending transversely between the side arms 7 or other suitable anchoring means for the spring.

From the foregoing description of the various parts of the device the operation thereof may be readily understood. In converting the device from a chair into a bed, the cushion 6 is first removed. The auxiliary seat is then moved into the broken line position in front of the chair, with the leg 24 disposed on the floor 33 and the links 25 bearing against the front rail 9.

The back 3 is now lowered into horizontal position upon the rear rail 8, and the lowering of the back automatically raises the main seat 4 into alignment with the reclining back to form a bed section. If additional length of bed is desired, the cushion 6 is placed on the auxiliary seat 5, since the latter is stepped below the level of the bed section formed by the back and the main seat.

In converting the bed back into a chair, the back 3 is raised, which results in drawing the main seat 4 back into the confines of the supporting frame 2. The auxiliary seat 5 is replaced so as to conceal the main seat 4 therebeneath and to give added height and resiliency thereto. The cushion 6 may now be placed on the top of the auxiliary seat to add further comfort to the chair.

It should be noted that the auxiliary seat 5 may also be utilized as a leg rest. The main seat 4 can be moved into a slightly inclined position by means of a handle 34, and a yoke-shaped member 35 attached to the front rail 9 is adapted to be engaged under the front end of the main seat 4 to retain the latter in inclined position. Any other suitable means may be provided for inclining the main seat without departing from the spirit of my invention.

I claim:

1. In a combined bed and chair, a supporting frame, including spaced side arms and means connecting the arms together, links pivoted to the front lower part of the side arms and arranged to swing into raised position, a seat carried by the links and being movable above its normal level when the links are raised, a foot rest made to overlie and conceal the seat, means movably connecting the foot rest to the supporting frame for movement of the former into a position in front of the latter, whereby the seat may be elevated through the space previously occupied by the foot rest, means for retaining the

seat in raised position, and a back movable into a reclined position and into alignment with the raised seat to form a bed.

2. In a combined chair and bed, a frame, including spaced side arms and means connecting the arms together, links pivoted to the front part of the side arms and arranged to swing into raised position, a seat carried by the links and being movable above its normal level when the links are raised, a back swingably connected to the frame near the rear of the latter, the back being movable into a reclining position and into alignment with the raised seat to form a bed, a hinge between the back and the seat to raise the latter when the back is being reclined, extensions at the hinge connection, and supporting means having a horizontal portion over which the extensions are freely movable from below when the lower part of the back is elevated into a position of alignment with the raised seat for holding the hinge against downward collapse.

3. In a combined bed and chair, a frame forming an enclosure, a mattress frame composed of two rigid sections pivotally connected together having holding members at approximately the pivotal connection thereof, one of the sections being horizontally positioned in the enclosure to serve as a seat, the other section being positioned substantially upright at the rear of the enclosure to serve as a back, means swingable supporting the upright section for movement into a horizontal position with a limited rear to front travel relative to said enclosure, means on the inside of the enclosure with which the said holding members are engageable after the lower part of the back is elevated and moved forwardly for holding the pivotal connections against swinging movement, means in said enclosure near the front thereof for guiding and supporting the front of the seat section in a forward course as the tilting of the top of the back section rearwardly and downwardly moves forward the pivotal connections of the two sections to force the said seat bodily forward and the two sections into horizontal alignment.

4. In a chair bed, a supporting frame, a back swingably mounted intermediate the top and bottom thereof to the supporting frame, a main seat hinged to the back and being movable into angular positions with respect thereto, means for raising the main seat bodily above its normal position and forward thereof in response to rearward and downward pressure exerted against the top of the back, an auxiliary seat resting on the top of the main seat to conceal the latter, and means movably connecting the auxiliary seat to the supporting frame for movement with the main seat when the latter is raised and lowered.

5. In a chair bed, a main frame, a rest frame composed of two rigid sections pivotally connected together, said sections being made to be positioned substantially L-shaped within the main frame and being movable into alignment with each other for use as a bed, one section normally being arranged horizontally in the bottom of the main frame and the other section substantially upright in the back thereof, the main frame having confronting recesses with their bottom walls sloping forwardly and terminating in notches in the bottom thereof, the upper walls of the recesses commencing at the forward edges of said notches and continuing upwardly and rearwardly over the notches and said bottom walls, trunnions projecting from the sides of the back section into said recesses, and means oper-

able by rocking the top of the back section rearwardly and downwardly on the trunnions to elevate and align the seat section with the back section said movement permitting the trunnions to move forwardly into the notches and to be releasably locked thereby against rearward movement.

6. In combination with a seat frame comprising a seat and back section of approximately the same size hingedly connected together to make one frame having free front and rear edges, a main frame supporting the latter, one of the sections being positioned normally in the rear of the main frame to form a back for a seat, the other section being positioned in the lower part of the frame and extending forwardly horizontally from said back to form a seat, bearing members, one on the back section on which it may be rocked and the other on the seat section, means connected to the main frame, one at the rear and the other at the front for supporting the said members with freedom of limited travel of the member on the back section forwardly and of the member on the seat section forwardly and upwardly in relation to the main frame, the said means being operable for coaxing with the back section for guiding the seat section bodily and substantially upward and both sections into horizontal alinement with each other, with the rear portion of the seat section on a substantially higher plane than the normal plane of its front portion, and means engageable with the hinge portion of the alined sections to support said portion against downward collapse, the free edges of said sections projecting substantially over the outer margins of the front and back of the main frame.

7. In combination with a bed chair, a main frame, a back section and a seat section with a deck of coil springs mounted thereon supported by the main frame, an auxiliary seat section detachably mounted upon the main seat, the latter section serving as a weight distributor over the springs of the main seat and to elevate the seating surface thereof, means actuated by movement of the back section for elevating the main seat through the space normally occupied by the auxiliary seat to substantially the normal top plane thereof, and means for supporting the auxiliary seat in front of the main seat for utilizing in one horizontal plane the combined length of the three sections for use as a bed.

8. In a combined bed and chair, a frame having spaced side arms and a front rail connected thereto, a back section arranged in substantially upright position at the rear of the frame, a seat section horizontally disposed in the lower part of the frame below the level of the front rail so as to be concealed by the latter, one end of the seat being hinged to the lower edge of the back section and the other end thereof terminating adjacent the front rail, means supporting the back section intermediate the top and bottom thereof for swinging movement into a horizontal position, whereby the seat section is raised and advanced forwardly, means for guiding the seat section over the front rail and into alinement with the lowered back section, and means for retaining the two sections against downward collapse at the hinged connection when the sections are alined.

9. In a combined bed and chair, a frame including spaced side arms arranged in parallel relation and formed with recesses in the con-

fronting faces thereof, the recesses being at the rear of the arms and inclined downwardly toward the front of the frame, a substantially upright back positioned near the rear of the frame and having trunnions rotatably and slidably disposed in the inclined recesses, the back being swingable into horizontal position, a seat, hinges connecting the back and the seat together and having pins extending therefrom, and means for moving the seat into horizontal alinement with the lowered back to form a bed, the side arms having notches to receive the hinge pins when the back and the seat are alined and the trunnions are shifted downwardly in the recesses.

10. In a sofa bed, a supporting frame and a movable mattress frame supported thereby, said mattress frame being composed of two sections hinged together, one section being adapted to supply a seat and the other section to supply a back, projections on each side of the mattress frame located at the junctions of the hinge connections thereof, ledges located on the inside of the supporting structure intermediate the front and rear thereof and above the normal location of the hinge connections for receiving said projections to support the hinge portion of the mattress frame against downward collapse, means swingably mounting the back section for movement into horizontal position and arranged to carry the projections upwardly and onto the ledges upon lowering the back section, and means operated by the lowering of the back for elevating the seat section and alining the latter with the lowered back.

11. In a combined chair and bed, a frame forming an enclosure, a structure comprising a back having pivots intermediate its height supported in the rear of the frame with freedom of forward movement and of swinging movement into a horizontal position, and a seat hinged to the lower end of the back to extend forwardly thereof and being normally housed within the enclosure frame, pins projecting laterally from said structure, means for elevating the seat above its normal level and into alinement with the back when the latter is lowered to form a bed, means on the frame above the top of the plane of the normally housed seat for receiving and retaining the pins against downward collapse when the back and the seat are moved into bed-forming position, and means for supporting the back and the seat in a position of rest intermediate their normal position and bed-forming position.

12. In a combined bed and chair, a frame, a structure comprising an upright back and a seat mounted therein, hinges connecting the seat to the lower end of the back, means swingably mounting the back for movement about an intermediate pivot thereof into a horizontal position with limited front and rear motion relative to the frame, pins projecting laterally from the structure, means for elevating the seat in response to the lowering of the back, pin receiving and supporting means on the frame into which the pins are movable upon lowering the back and shifting the latter relative to the frame for retaining the hinges against swinging movement, and means overlying the mounting means to cause a rearward movement of the back to withdraw the pins from the pin receiving means when the upper end of the back is again raised.

13. In a device of the character described, a pair of spaced frame members, a rest having an intermediate portion suspended between the

frame members with freedom of teetering and of forward and rearward travelling motion in a substantially horizontal plane, and a support and guide means for arresting the upward tilt of the forward end of the rest when the latter is in a substantially horizontal plane and for holding said end against downward collapse, the suspending means for the rest comprising pins mounted in recesses with walls so curved that when the pins are pressed up on the curved walls the rest is drawn rearward and its forward end is released from the support and guide means.

14. In a combined bed and chair, a supporting frame including spaced side arms, links pivoted to the side arms near the bottom and normally leaning backward and upward and ar-

ranged to swing into vertical position, a seat carried by the links and being normally positioned below seat height and being movable above its normal level when the links are raised, a foot rest made to overlie and conceal the seat and to provide a seating surface at a higher elevation, and a pair of normally horizontal links connecting a rear portion of the foot rest to a front portion of the supporting frame and permitting the former to move into a position in front of the latter at the same level and without being inverted, whereby the seat may be elevated through the space previously occupied by the foot rest to a level above that of the latter.

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