S. USIEVICH.

BED DAVENPORT.

APPLICATION FILED OCT. 27, 1915.

1,260,485.

Patented Mar. 26, 1918.

3 SHEETS—SHEET 1.

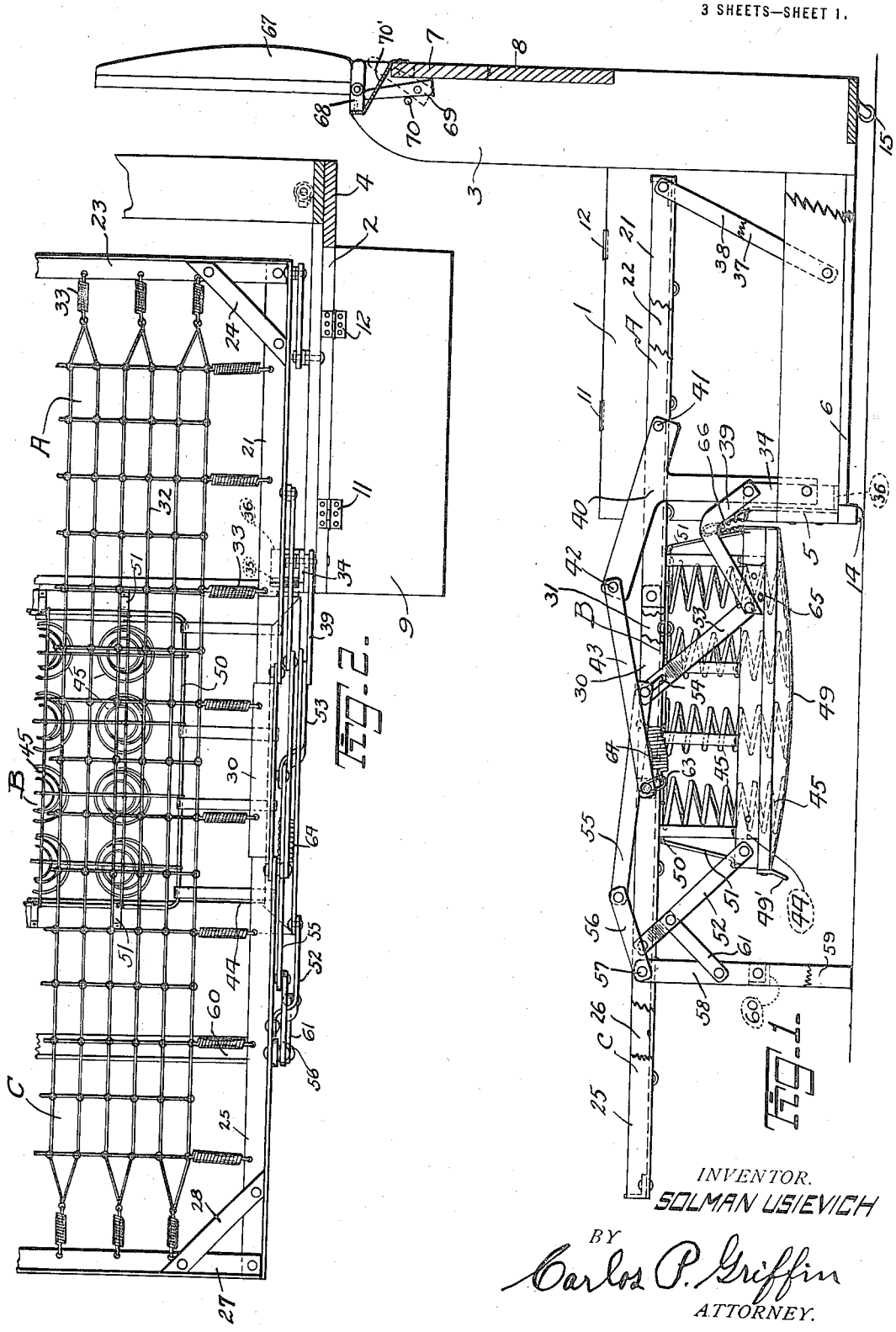


FIG. 2.

FIG. 1.

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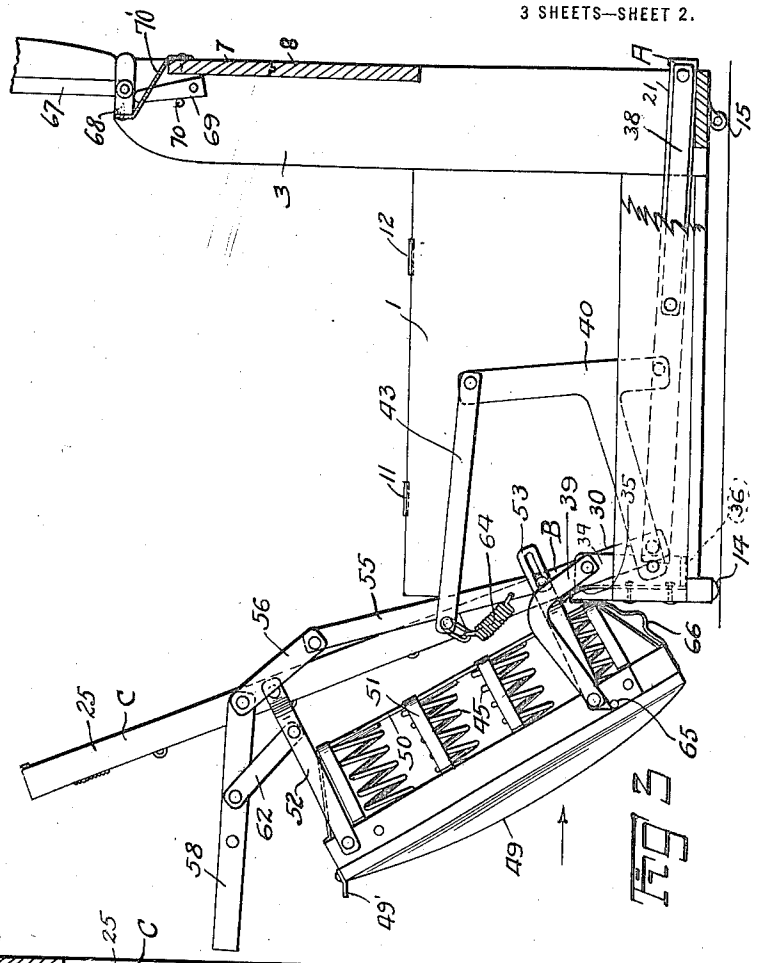


FIG. 3.

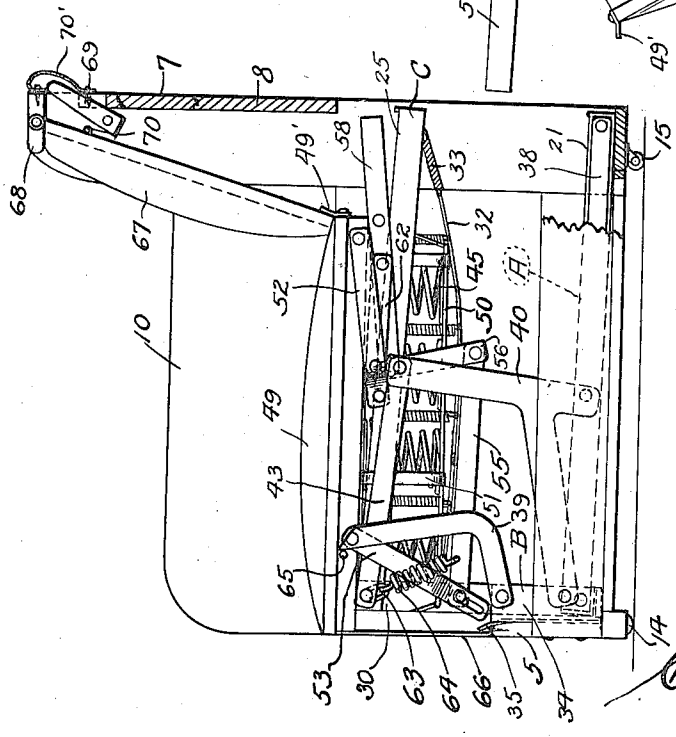


FIG. 4.

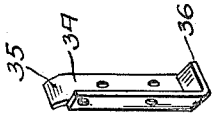


FIG. 5.

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3 SHEETS—SHEET 3.

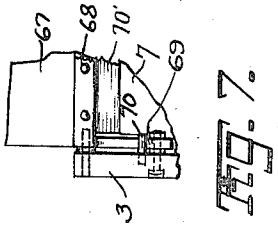



FIG. 7.

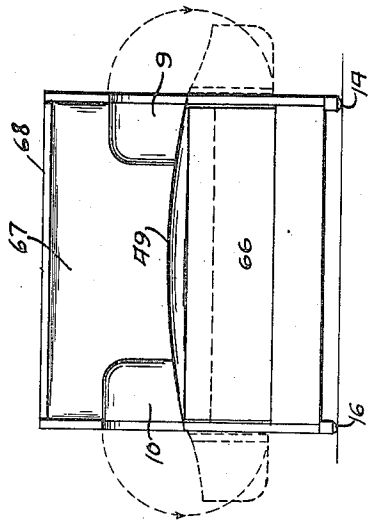



FIG. 9.

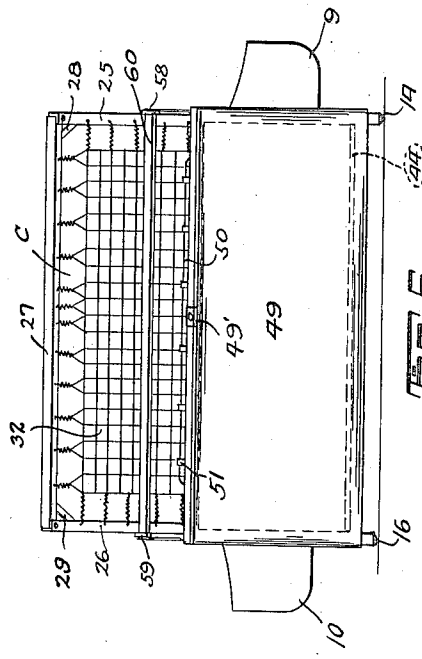



FIG. 6.

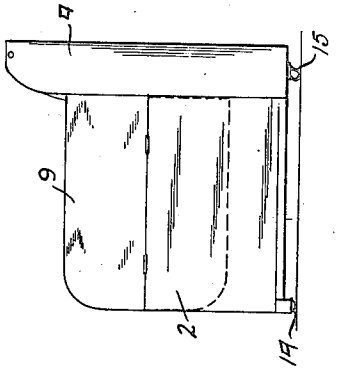



FIG. 8.

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## BED-DAVENPORT.

1,260,485. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed October 27, 1915. Serial No. 58,135.

*To all whom it may concern:*

Be it known that I, SOLMAN USIEVICH, a citizen of the United States, residing at San Francisco, in the county of San Francisco, State of California, have invented a new and useful Bed-Davenport, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to a bed davenport and its object is to produce a folding bed capable of use during the day time as a davenport, which will have means for supporting the center of the bed fabric in such a manner as to avoid the necessity of stretching the bed fabric to such an extent as is made necessary by the ordinary unsupported bed fabric.

Another object of the invention is to provide a seat for the davenport which will have deep spiral springs to cushion it, which spiral springs on their opposite ends contact with the underside of the bed fabric when the bed is opened to support the bed and mattress.

Another object of the invention is to provide means whereby the seat springs will move away from the bed fabric so as to prevent the bed fabric and seat springs from becoming entangled with each other when the bed is being opened.

Another object of the invention is to provide a special form of bell crank lever which will support and operate the bed frame when the bed is to be opened.

Another object of the invention is to provide a spiral spring for assisting the user in opening the bed, the spring operating to lift the bed until a portion thereof has become overbalanced, whereupon the spring ceases to operate and the seat and a portion of the bed frame then assist in balancing up the remaining portion of the bed frame.

Another object of the invention is to provide a special form of operating levers which will not injure or interfere with the covering of the davenport.

Other objects of the invention will appear as the description proceeds.

An embodiment of the invention is shown in the drawing in which the same reference numeral is applied to the same portion throughout, but I am aware that there may be many modifications thereof,

Figure 1 is a view of the davenport as it appears when opened,

Fig. 2 is a plan view of one side of the davenport when opened,

Fig. 3 is an end elevation of the davenport as it appears when partially unfolded and at the time when the seat and front portion of the bed counter-balances the back portion of the bed,

Fig. 4 is an end elevation of the davenport as it appears when folded up, the end of the davenport body being removed for purposes of illustration,

Fig. 5 is a perspective view of one of the angle iron link supports,

Fig. 6 is a view in elevation showing the bed in the position shown in Fig. 3 and looking in the direction of the arrow on Fig. 3,

Fig. 7 is a detail view showing the lock for holding the back of the davenport up when the bed is in use.

Fig. 8 is an end elevation of a chair davenport, and

Fig. 9 is a front elevation of the chair davenport illustrated in Fig. 8 of the width of a three quarter bed.

The davenport has the end boards 1 and 2 which are connected at the back to the upwardly extending end boards 3 and 4. At the front there is a longitudinally extending board 5 which connects the two end boards while on the bottom the floor 6 connects the two boards forming the end frames. The uprights 3 and 4 at the back of the bed are connected by means of suitable boards 7 and 8, which with the front board 5 and floor 6 form a rigid frame for the support and concealment of the bed frame. The end frames 1 and 2 have arms 9 and 10 connected therewith by means of suitable hinges as indicated at 11 and 12, there being two hinges for each arm.

The davenport frame is provided with suitable casters 14, 15, 16 and 17 for supporting it and moving it about. The bed frame proper is made of three sections A, B and C, the section A being composed of two side angle irons 21 and 22 connected by a cross angle iron 23 and suitably braced with corner braces 24, while the section C is composed of two side angle irons 25 and 26 joined by a cross angle iron 27 and braced at the corners with the plates 28 and 29. The two sections A and C are reversely

positioned and are joined by two short angle irons 30 and 31 which form the middle section of the bed frame.

The bed fabric 32 is made in any suitable manner and is connected with the angle irons forming the bed frames by means of a plurality of short spiral springs 33, there being such a number of the spiral springs as is deemed necessary to adequately support the fabric 32. At each front corner of the davenport frame there is an angle iron 34 which has a curved over top 35 and an inwardly bent portion 36 at the bottom to provide a suitable bearing for the angle iron on the floor 6. Said corner piece has holes therein and is suitably secured in place by means of screws extending into the end and front of the davenport frame. At the back of the davenport frame there are pivoted two links 37 and 38 which links are pivoted at their upper ends to the back of the bed section A.

The plates 34 at the front corners of the davenport frame each have a hook shaped link 39 and a double bell crank lever 40 pivoted thereto the pivot pin for the latter being indicated at 40'. The double bell crank lever 40 is pivoted at 41 to the bed section A while at its front end it is pivoted at 42 to the center link 43, which center link is pivoted to the bed section C at the same pivot point as the bed section B.

The seat frame is an open rectangular frame as indicated at 44, Fig. 6, in which frame there are mounted a number of deep spiral springs 45. The spiral springs 45 are supported at one end by means of a suitably heavy fabric 49 and at the other end they are all connected to a wire frame 50, which frame in turn is connected to the seat frame 44 by means of a series of straps 51.

The result of the construction just outlined with respect to the seat is that the seat covering when used in the position shown in Fig. 1 supports the springs 45, while the frame 50 and straps 51 serve to support the springs when the davenport is used in the position illustrated in Fig. 4.

The seat frame 44 is supported by two links 52 and two links 53, which latter links have slots 54 at their upper ends. The links 52 are pivoted at their upper ends to the frame members 25 and 26, while the links 53 are pivoted at their upper ends to two links 55 duplicated at opposite sides of the bed frame. The links 52 are preferably bent or off-set, as shown, near their points of connection with the frame-bars, so that when the bed-frame is folded, said off-set portions of the links will be immediately above and therefore rest upon the then upper ends of the rearwardly swung bell-cranks 40. The links 55 are pivoted to the center section B at opposite sides of the bed, while the links 43 are pivoted to the bed frame by means of the pivots that join the section B with the section C. At the other end the links 55 are connected with two short links 56 which links are in turn connected with the bed section C at each side thereof by the pivot pins 57 which secure the legs 58 and 59 in position. The links 53 bear on the top of the plate 34 to prevent the seat from falling down when the bed is being opened and in the position shown in Fig. 3, as well as to enable the seat to counter-balance the weight of section A and assist in lifting it from the position shown in Fig. 3 to the position shown in Fig. 1.

It will be noted, see Fig. 4, that when the bed is folded that the side frames 25 which are hinged to the side frames 30 form with the links 55 and 56 a rectangular figure and as these parts are all pivoted together, the ultimate distance between the pivot points on the side frames 34 and the side frames 25 increases with the opening of the bed, this lazy tongs action bringing the parts 55 and 56 down almost into contact with the side frames 25 as indicated in Figs. 1 and 3, this action projecting the two pivot points sufficiently far away from each other to bring them into a straight line with the pivot pin which connects the side frames 34 with the side frames 25, it being understood, of course, that the links and side frames are duplicated at each side of the bed. The sides 21 and 30 are also pivoted together and pivoted to the links 43 and 40, thereby also producing a further lazy-tongs effect with the other links 55 and 56 and bed section 25, the result of which is to advance the bed section 25 and ultimately bring the links 55, 56 and 43, 40 down very close to the line of the several bed sections when the bed is opened.

The legs 58 and 59 are connected by means of a cross bar 60 and each of them is provided with a brace as indicated at 61, which braces are pivoted at their other ends to the links 52. A chain link 63 and heavy spiral spring 64 are used at opposite ends of the davenport to assist in lifting the bed from the folded to the open position, the lower end of the spring 64 being connected with the links 55 and the upper end being connected with the pivot point between the bed sections C and B. The spring 64 is under tension in Fig. 4 sufficient to substantially balance the weight of the seat, bed frame and mattress supported thereby and thereby assist in lifting the same until the seat frame is raised about 90 degrees, at which time the seat frame, springs and bed begin to lift the bed section A, whereupon their weight is sufficient to balance up the remaining bed section without the necessity of help from the spring 64 whereupon it hangs loosely as indicated in Fig. 1.

It is to be noted that the hook shaped link 39 is connected with the angle iron 34 below the top of the front rail 5 and at its upper end to the seat frame at the same pivot point as the link 53. The object of the hook shaped link is to pull the seat back toward the davenport frame when the bed is opened, the links 52 and 53 at the same time forcing the seat and springs carried thereby up into contact with the bed spring fabric, and it is to be noted that the seat spring and bed spring fabric do not contact with each other save when in the closed position, see Fig. 4, or near the full open position of Fig. 1, the object being to prevent the seat springs from becoming entangled with the bed springs when such parts are moving relatively to each other.

It is also to be noted that the seat frame has a stop 65 at each end upon which the hook shaped links bear, the object being to prevent the seat frame from falling down when the bed is being opened from the position shown in Fig. 4 to the position shown in Fig. 3. A stop 49′ is provided for the back to prevent it from going too far back, when in the position shown in Fig. 4.

The davenport may be suitably covered and the front is provided with a covering 66 which conceals the opening between the seat frame and the front rail 5.

The davenport back is shown at 67 and it is provided with a rail 68 extending longitudinally of the back, which rail is pivoted to the upper ends of the posts 3 and 4. A lock 69 is provided on one of the posts to hold the back up in the position illustrated in Fig. 1 when the bed is in use. A stop pin 70 prevents the lock from falling too far forward and when the bed is to be folded up the lock is turned back to the position indicated in Fig. 4. A strip of fabric 70′ prevents the back from turning over too far.

The bed shown in Figs. 1 to 7 inclusive may be of the ordinary width of the double bed, but in Figs. 8 and 9 the relative scale of a chair width bed or three quarter bed is illustrated. In these figures the parts are precisely identical in position and numbered as in the preceding figures, except that the bed is narrower than the one shown in the preceding figures.

The operation of the davenport is as follows: When in the position illustrated in Fig. 4 the arms 9 and 10 are first turned outwardly over the ends to the position shown in Fig. 2 whereupon the user lifts the back up to the position shown in Figs. 1 and 3 and locks it in that position. Then the user lifts the back of the bed section C, at which time the spring 64 is under such tension as to substantially balance the weight of the seat frame and bed section C, together with the attached bedding. The bed section is lifted up and as soon as the spring 64 is released the bed section C and seat frame are sufficiently over their pivot points to assist in lifting the bed section A, which then begins to rise and move to the position shown in Fig. 1. During the latter part of the movement of the bed sections C and B the hook shaped links 39 pull the seat frame back toward the davenport frame, while the other links connected to said seat frame cause it to rise and come into contact with the underside of the bed spring fabric thereby supporting it at its middle.

It is also to be noted that when the davenport is closed as illustrated in Fig. 4 that the seat springs bear on and stretch the bed spring fabric which also assists in lifting the seat frame.

It is to be noted that the bed section C and the bed section B when opened up to the position shown in Fig. 3 form a pair of levers with fulcrums on the top of the plates 34 with which the bed section A can be raised.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is as follows, express reservation being made of permissible modifications:

1. In a bed davenport, a frame, a spring seat movably mounted therein, a bed frame therein capable of being unfolded to form a bed, a spring fabric supported by the bed frame, and means to draw the seat frame up when the bed is unfolded to support the spring fabric of the bed frame.

2. In a davenport bed, the combination with a main-frame, a spring upholstered seat, and means for inverting the same in front of the main-frame, of an articulated sectional bed-frame mounted in the main-frame and adapted to unfold into bed-form above the inverted seat and to fold and be stored in the main-frame below the seat, and means for elevating the seat into supporting contact with the fabric of the bed-frame when the latter is unfolded into bed-form, for lowering the seat upon the fabric when the bed is folded, and for spacing the seat and fabric apart during the operation of folding and unfolding of the bed-frame.

3. A bed davenport comprising a main frame, a seat movably mounted therein having springs capable of resilient action in opposite directions, a bed frame capable of being unfolded to form a bed, a spring fabric supported by the bed frame, links connected with the seat and bed frame, and other links connected to the seat and main frame to pull the seat up so its springs will support the bed spring fabric at the center of the bed.

4. A bed davenport comprising a main frame, a seat therein having spiral springs

supported in the seat capable of acting as a cushion for the seat when the bed is closed and acting in the reverse direction to resiliently support the bed fabric when the bed is unfolded, a bed frame carrying a spring fabric capable of being unfolded to form a bed, links connecting the seat and bed frame, other links pivoted to the bed frame to cause it to move upwardly and forwardly when the bed frame is unfolded, and other links connected to the davenport frame and seat frame to pull the seat frame so that the springs carried thereby will contact with the bed spring fabric adjacent the center thereof.

5. In a bed davenport, a main frame, a foldable bed frame therein carrying a spring fabric, suitable linkage to effect the unfolding of the bed frame, a movably mounted seat frame having springs adapted to support the bed fabric when the bed is unfolded and to resiliently support a person on the seat when the bed frame is closed, links connected with the bed frame and seat frame for supporting the seat frame, and a hook shaped link for pulling the seat frame toward the main frame when the bed frame is unfolded whereby the springs of the seat will support the center of the bed spring fabric.

6. In a bed davenport, a main frame, a bed frame therein, suitable linkage to effect the unfolding and raising of the bed frame and its attached spring fabric, a movably mounted spring seat frame pivotally connected with the bed frame, legs pivotally connected to the bed frame, means to draw the spring seat frame up so that its spring will contact with the underside of the bed spring fabric, and means operated by the movement of the seat frame to hold the legs at substantially a right angle to the bed frame when the same is unfolded.

7. A bed davenport, comprising a main-frame, a sectional bed-frame comprising, when folded, upper and lower sections and a vertical connecting section, the three sections being loosely connected at their meeting edges, opposite pairs of pivotally jointed links connected pivotally at one end to the said vertical bed-section and at the opposite end to the upper bed-section, said pairs of pivotally jointed links, vertical and upper bed-sections combining when the bed is folded to form a rectangle, and a coiled lifting spring connected to the pivotal connection between the upper and vertical bed-sections and to the lower link, whereby said springs are placed under tension when the bed is folded and tend to aid in raising the same as the bed is unfolded.

8. In a davenport bed, the combination with a main-frame comprising the opposite ends and the front connecting cross-bar, of the opposite elbow-levers pivoted at their inner ends to the ends of the main-frame immediately in rear of the cross-bar and adapted when swung outward on their pivots to rest on said cross-bar, a seat, carrying a bank of springs, pivoted to the outer ends of the elbow-levers, a superimposed foldable sectional bed disposed above the seat, rear links connected to the seat and at their upper ends slotted and connected to the bed, front links pivoted to the seat and bed, pivoted supporting-legs for the outer end of the bed, links connecting the legs with the front links between the seat and bed, short links pivoted to the outer bed-section, links connected to the rear ends of the short links and adjacent their rear ends eccentrically pivoted to the middle section of the bed frame with relation to the elbow-levers, a pair of opposite three-arm bell-crank levers pivoted in the main-frame, a pivotal connection between one arm of each of said levers and the rearmost bed-section, links connecting the remaining arms of the bell-cranks with the pivotal points between those two bed-sections immediately in advance of the rearmost bed-section, and a pair of supporting-links pivoted in the main-frame and to the rear end of the rearmost bed-section.

9. A bed davenport comprising the combination of a frame, a seat therein having springs supported for opposite resilient action at each end, a bed frame capable of being unfolded to form a bed, links connecting the bed frame and seat frame, and means to draw the seat frame up so that its springs will support the bed spring fabric when the bed is unfolded.

10. A bed davenport comprising the combination of a main frame, a spring seat therein, a bed frame therein capable of being unfolded to form a bed, a spring seat frame pivoted to the bed frame, links connecting one section of the bed frame with the main frame, and stops on the main frame, over which one section of the bed frame is movable and which stops hold the seat frame up while the bed is being unfolded.

In testimony whereof I have hereunto set my hand this 20th day of October A. D. 1915.

SOLMAN USIEVICH.