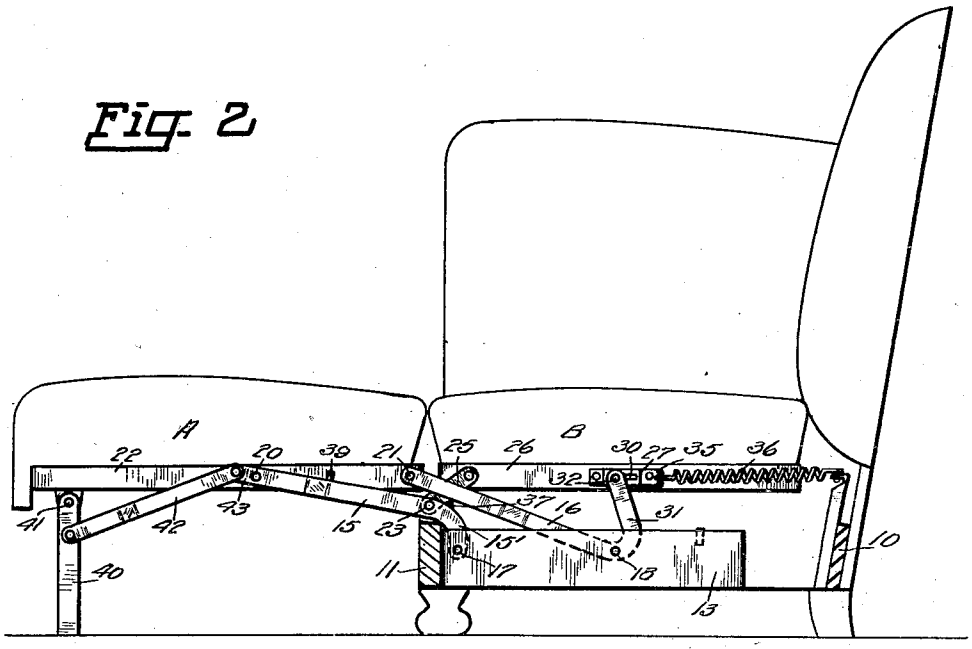
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DAVENPORT BED

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Fig. 2



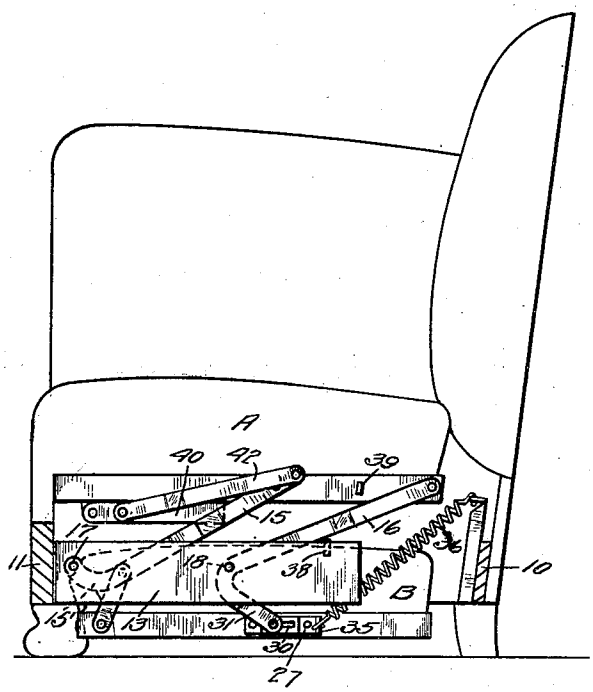


Fig. 1

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DAVENPORT BED

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Fig. 3

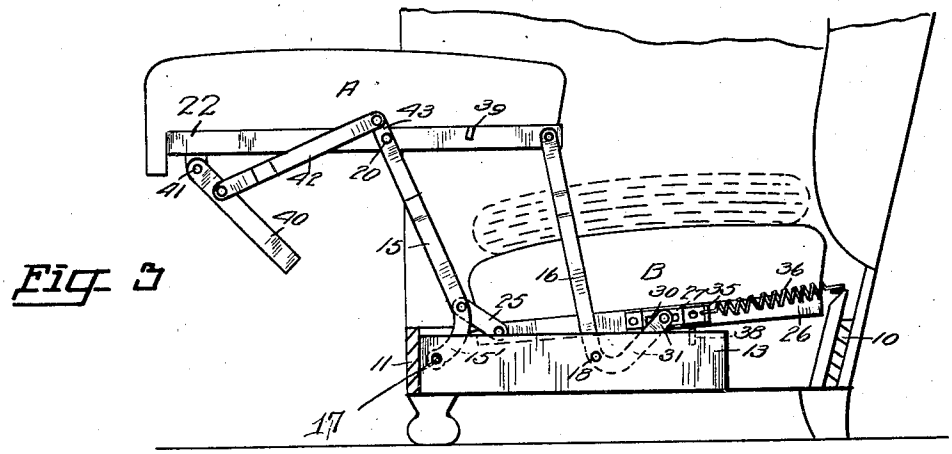


Fig. 4

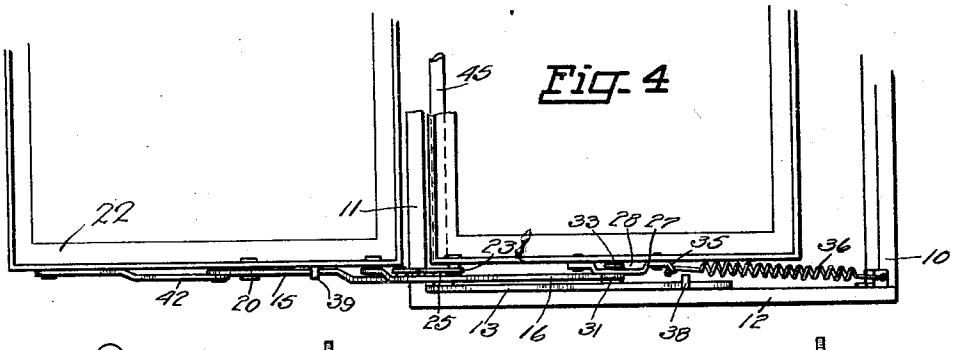


Fig. 5

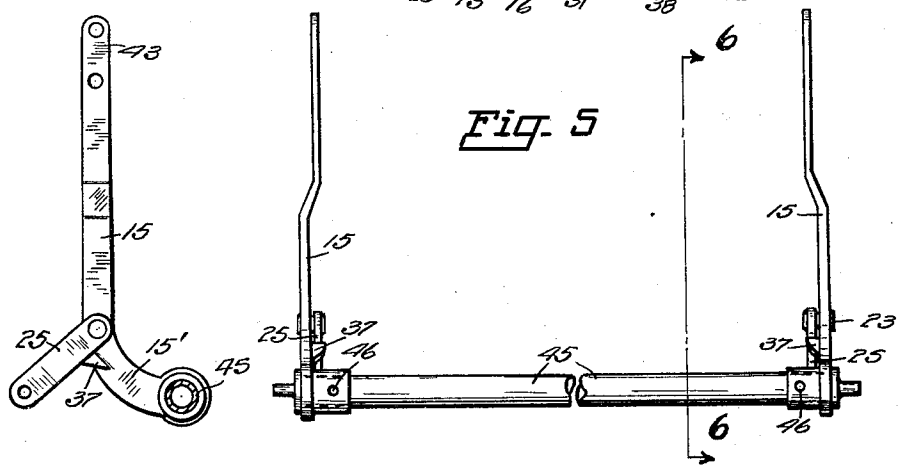


Fig. 6

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UNITED STATES PATENT OFFICE

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DAVENPORT BED

Application filed May 3, 1926. Serial No. 106,258.

This invention relates to improvements in combination furniture.

The principal object of my invention is the provision of an article of furniture which, when closed, will assume the form of a davenport or day-bed and which, when opened, will provide a comfortable double bed.

A further object of the invention is the provision of a davenport-bed of the class described having two sections, a lower bed-section and an upper seat-section, disposed in their day form in superposed relation and movable in unison into their laterally disposed horizontal bed-positions through the agency of improved suspension apparatus whereby the lower bed-section is elevated in a subtantially vertical path whereby said lower bed-section will require less space to its rearward side in its movements so that a more compact arrangement of the frame and bed may be obtained, adapting the apparatus particularly for furniture of the day-bed type and where a compact article of furniture is desired while still affording a luxurious depth to the seat.

A still further object of the invention is the provision of means for suspending the two sections in their superposed positions to admit of the lower bed-section being mounted sufficiently low in the frame to afford an unusually spacious distance between the upper and lower sections for the storage of bedding therebetween and, at the same time, provide a sufficient upward travel of the lower bed-section to bring it into parallel with the upper seat-section when in bed-position.

A still further object of the invention is to provide two sections each of which is upholstered upon comfortable springs together with the provision of suspension devices that will bring the two contiguous edges of the sections together when in bed-position into close relation so that no perceptible space may be felt between the sections by the occupants of the bed.

A still further object of the invention is the provision of means whereby the lower bed-section in the course of its upward travel to lie alongside of the upper seat-section and reversely on its downward path will be caused to tilt downwardly at its forward edge as it passes the upper seat-section in its corresponding movements to provide sufficient clearance so that the bedding positioned upon the lower bed-section through a considerable thickness will not be disarranged through interference with the upper seat-section.

Other objects and advantages of my invention, and objects relating to details of construction and arrangement of parts thereof will be readily apparent in the course of the detailed description to follow.

The accompanying drawings illustrate by way of example one form in which my invention may be embodied, wherein:

Figure 1 is a view in side elevation of a davenport-bed embodying my invention, with one end member of the frame thereof removed and shown in its closed position.

Fig. 2 is a view similar to Fig. 1 shown in open position.

Fig. 3 is a view similar to Figs. 1 and 2 shown in an intermediate position.

Fig. 4 is a fragmentary top plan view of my improved davenport-bed in its extended position with the upholstery removed.

Fig. 5 is a detailed view in plan of one of the operative elements.

Fig. 6 is a view in side elevation of a portion of Fig. 5 taken on line 6—6 thereof.

Referring to said views the reference numeral 10 indicates the rear horizontal member of the frame of a davenport-bed of my invention and 11 the parallel front member thereof, which are connected together at their ends by side-pieces 12 formed in a rigid frame of rectangular configuration. A metal plate 13 is rigidly secured to each of said side-pieces 12.

Parallel bars 15 and 16 are pivoted at 17 and 18 respectively in horizontal spaced relation to each of said plates at either end of the bed-frame and are similarly connected at 20 and 21 respectively to the end member 22 of an upper seat-section A in similar spaced horizontal relation.

The bars 15 at each end are formed adjacent their connection with the plate 13 with a curved extremity portion 15′ whereby the bars 15 and 16, while acting in the manner

of parallel bars due to the passing of their pivotal points will be disposed in somewhat varying angular relation.

Approximately at the point of merger of the curved portion 15′ with the straight portion of the bar 15, as at 23, a link 25 is pivotally connected at one end and at its other end is pivotally connected to the respective end frame-member 26 of the lower bed-section B and adjacent the forward end thereof.

To the rearward approximately midway of the frame-members 26 a metal strap 27 is rigidly secured in parallel relation offset outwardly from said frame-member to provide a space 28. A horizontally disposed slot 30 is formed in said strap.

The bar 16 extends beyond the pivot 18 in somewhat acute angular relation in the bar portion 31 terminating in a stud 32 extending through the slot 30 into the space 28 where it is formed with a head 33 to prevent its removal.

At the inner extremity of the strap 27 a lug 35 is formed to which a coil spring 36 is connected at one end with its opposite end connected to the rear member 10 of the main frame in such manner that, when the sections are in open position as shown in Fig. 2, said spring will lie in about horizontal position.

Integral or rigidly connected to each of the curved bar portions 15′ and extending inwardly therefrom are stop-lugs 37 which are spaced from the respective link 25 so that upon the initial movements of the sections in opening the links will swing freely upon the bars 15 in the elevation of the bed-section B but that in intermediate portions of the travel of the sections to their open position said links will engage the lugs 37 and subsequently will, in effect, form a rigid portion of bars 15 in the elevation of the bed-section B, as will be more fully described hereinafter.

A stop-lug 38 is provided extending from the rear portions of the plates 13 which are engaged by the bars 16, when the sections are in their closed positions, to support the upper seat-section A in operative condition as a davenport seat, and a similar stop 39 is provided on the end members 22 to engage the bars 16 when the sections are in open position.

A leg 40 is pivotally connected at 41 adjacent the forward edge of the upper seat-section at each side thereof and is connected by a link 42 with an extension 43 of each said bar 15 in such manner that the legs will be controlled by the movements of said bars to unfold from their closed positions, as best seen in Fig. 3, and assume erect positions in the open condition of the upper seat-section, as seen in Fig. 2, where they will afford support for the forward edge of said seat-section.

It will be understood that the suspension apparatus just described is duplicated in each end of the apparatus and to cause the mechanism at each end of the sections to operate in unison regardless of the point at which the power to open or close them may be applied I have provided a rod 45 which extends longitudinally of the bed and is keyed at each end as by key-pins 46 in the axis common to the pivots 17.

The operation of my invention may be briefly described as follows:

With the parts in closed position, as indicated in Fig. 1, it will be seen that the springs 36 are positioned under tension in an angular position giving an upwardly rearward pull upon the lower bed-section and maintaining the stud 32 at the forward end of the slot 30.

To open the apparatus to form a bed the operator may grasp the forward portion of the upper seat-section and by giving a relatively slight upward pull to the same cause said seat-section to rise upon the parallel bars 15 and 16. As the seat-section is lifted and swung forwardly the link 25 attached to the bar 15 and the angular portion 31 of the bar 16 will lift the bed-section to a somewhat lesser degree and in nearly straight upward movement yielding only rearwardly, the arc described by the stud 32 not being communicated in its entirety to the bed-section but being limited by the lesser arc of the swinging link 25, the stud 32 being accommodated in the slot 30 to travel relatively rearwardly therein and admit of the bed-section being lifted practically straight upward.

In the closed position of the apparatus the bed-section will remain parallel with the seat-section, the tension of the springs 36 in their upward pull having no effect to tilt the bed-section owing to the direct tensional restraint upon the links 25. Soon after the bed-section begins its upward movement the link 25 connecting the forward end of the bed-section and the lever 15 will be retarded somewhat from the rate of travel of the bar-portion 31 due to the tension of the spring 36 tending to depress the forward end of the bed-section using the stud 32 as a fulcrum.

Such action causes the forward end of the bed-section to be depressed in the early opening movements of the apparatus and, as indicated in Fig. 3, until the stop-lugs 37 engage the links 25, which will be at a point about as seen in said view, whereupon the links 25 will move rigidly in the opening movements.

The difference in length of the bar-portions 31 and the links 25 at this point of the travel are compensated by the division of the slot 30 which allows the studs 32 of the longer bar-portions 31 to move therein and from this point onward the bed-section will rise practically straight up as the seat-section attains its most forward position, the links

25 having a faster upward movement at the latter end of their travel than the studs 32 so that the bed-section will attain a level position after the seat-section has passed thereover to maintain them both in horizontal relation.

In closing the sections the operator will exert a slight upward pressure upon the outer edge of the seat-section A, whereupon the initial movement of the seat-section will be accompanied by a downward movement of the bed-section with the first stages of the latter being a depression of the forward edge of the bed-section due to the more rapid movement of the links 25 downwardly and tilting of the bed-section upon the studs 32 at a fulcrum under tension of the springs 36. After this the bed-section will continue to drop in relatively vertical lines until the arms 16 rest upon the stop-lugs 38 when the bed-section will be again directed in horizontal positions due to the faster travel of the studs 32 than the links 25.

The springs 36 serve the double purpose of assisting in the initial movements of opening and closing the sections and also in retarding the final movements of the bed-section in coming to rest in opening and closing. Also the springs exert a rearward tension upon the bed-section at all times and exert a leverage upon the links 25 in utilizing studs 32 as fulcrums to cause the bed-section to partake of such described tilting motion.

Due to such tilting of the bed-section and its practically vertical lift considerably more space can be provided between the two sections when closed for the accommodation of bed-clothing, pillows, or the like, without interference upon the part of the seat-section in opening or closing the bed and the two sections may be brought together when in open position in closed relation so that no perceptible opening between the sections may be felt by one sleeping thereon.

From the foregoing description taken in connection with the accompanying drawings the advantages of the construction and application of my improved davenport-beds will be readily apparent, but, while I have described the principle of operation of the invention together with the devices which I now consider the best embodiment thereof, it will be understood that the structures shown are merely illustrative, and that such changes may be made therein as will lie within the scope of the following claims.

Having described my invention, what I claim, is:

1. A davenport-bed, comprising a frame, a seat-section and a bed-section, parallel bars at each end of said frame pivotally connected at their opposite ends to said frame and to said seat-section, a swinging link secured at one end to each of said forward bars intermediate its said pivoted connections and at its opposite end pivotally connected to the forward end of said bed-section, a stop on said forward parallel bars to engage said link at an intermediate point of its travel in opening the sections to cause said link to act as a rigid lever for the remainder of its travel, an angularly directed lever-portion extending from the rearward of said parallel bars at its point of connection with said frame and terminating in a laterally directed stud, a strap rigidly connected at each end of said bed-section having a slot in which said stud is received, and a spring connected at each end of said frame and to said bed-section.

2. A davenport-bed, consisting in a frame, a seat-section and a bed-section, a pair of parallel bars pivotally connected at one end to said frame and at their opposite ends to said seat-section at each end of the frame, a slotted strap secured to each end of said bed-section, the rearmost of said bars each having an angular portion provided with a stud operative in the slot of each said strap, the others of said bars being each provided with a swinging link connected to the bar and pivotally connected to the forward end of said bed-section, a stop-lug on each said last named bar adapted to engage said links intermediate the opening movements of the sections, and springs connected to the frame at one end and to the bed-section to the rear of said straps.

3. A davenport-bed, consisting in a frame, a seat-section and a bed-section, parallel bars connected at one end to said frame and at their opposite ends to said seat-section at each end thereof, one of said bars at each end having a portion inclined at an acute angle with a laterally projecting stud at its end extending in a slot in said bed-section, the others of said bars each having a link pivoted thereto and connected at one end to said bed-section, and springs connected to said frame and to said bed-section.

4. A davenport-bed, consisting in a frame, a seat-section and a bed-section, a pair of parallel bars at each end of said frame pivotally connected at their outer ends to said seat-section and at their inner ends to said frame, a link connecting each of one of said pairs of bars with the forward end of the bed-section, each of the other said bars having an angularly directed portion at its end opposite its pivotal connection with the seat-section provided with a stud, a strap secured to each end of said bed-section formed with a slot in which the respective studs are received, and a spring connected at one end to each said bed-section to the rear of said straps and at its other end to said frame.

5. A davenport-bed, consisting in a frame, a seat-section and a bed-section, parallel bars having means by which they are pivotally connected at one end to said frame and at their opposite ends to said seat-section at each end thereof, one of said bars at each end

extending at an angle from its pivotal connection with the frame and having means by which it is slidably connected with the bed-section, the other of said bars having a link pivoted thereto and connected at one end to said bed-section, and springs connected to said frame and to said bed-section.

6. A davenport-bed, consisting in a frame, a seat-section and a bed-section, a pair of parallel bars at each end of said frame pivotally connected at their outer ends to said seat section and at their inner ends to said frame, one of each said pair of bars being pivotally connected with the frame intermediate its length and means by which it is slidably connected to the bed-section at its inner end, a link connecting each of the other bars with said bed-section, and a stop on each of said last-named bars engaged by the respective said link to cause the link to serve as a rigid part of the bar during a portion of its travel.

7. A davenport-bed, consisting in a frame, a seat-section and a bed-section, a pair of parallel bars at each end of said frame pivotally connected at their outer ends to said seat-section and at their inner ends to said frame, one of each said pair of bars having an angularly direction portion extending from its pivotal connection with the frame and having means by which said portion is slidably connected at its outer end in said bed-section, a link connecting each of the other of said bars with said bed-section, and a spring connected to said frame and to said bed-section.

ORNAN A. HONSINGER.