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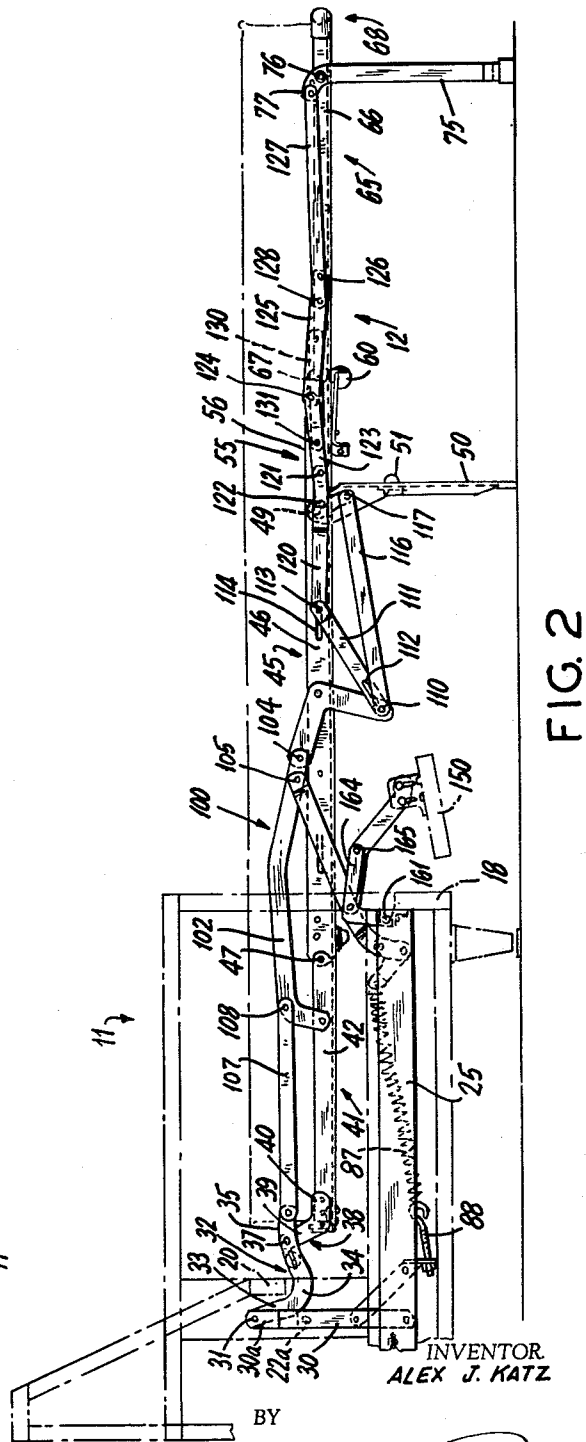
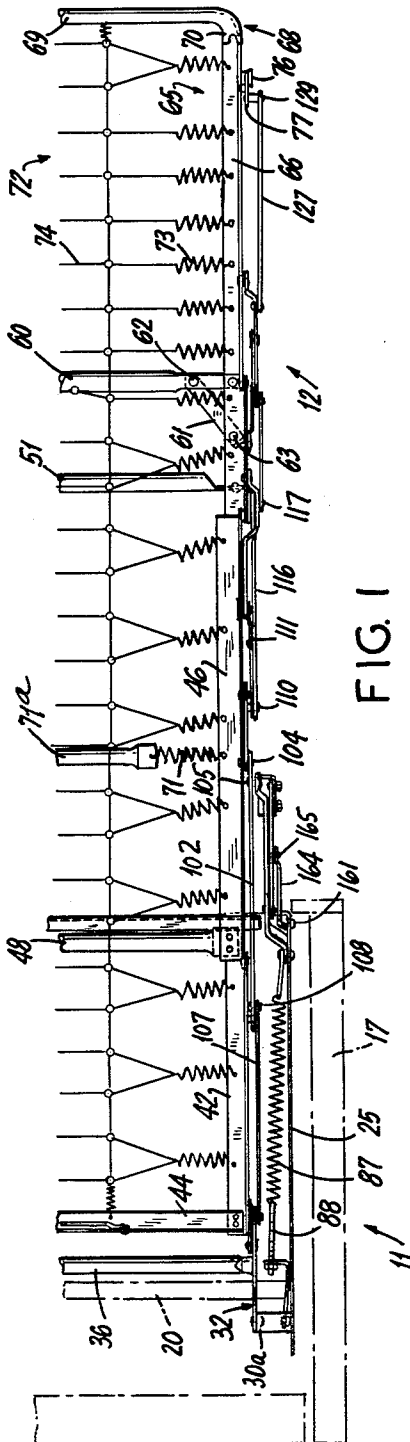
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3,173,154

EXTENSIBLE PULL OUT OR DAVENPORT BEDS

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3 Sheets-Sheet 1



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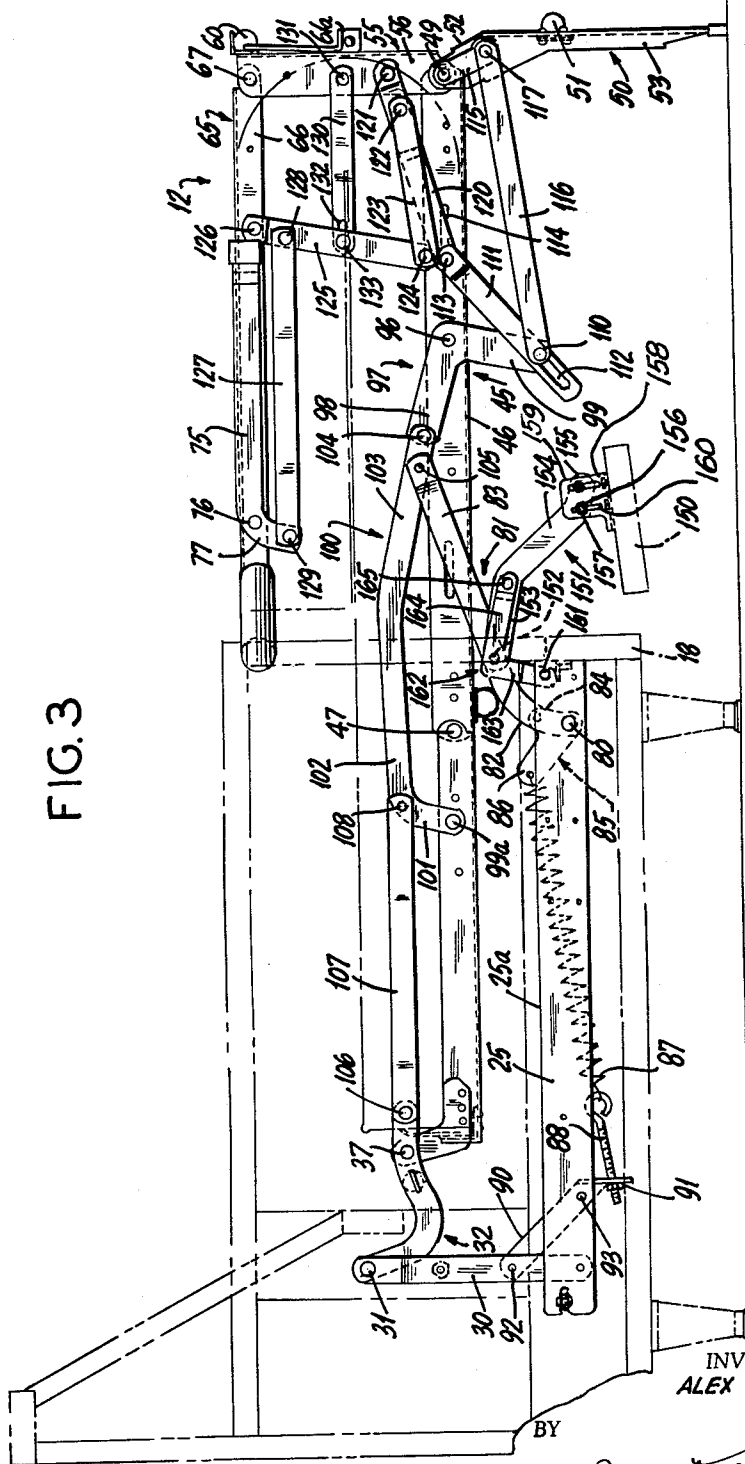
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EXTENSIBLE PULL OUT OR DAVENPORT BEDS

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3 Sheets-Sheet 2

FIG. 3



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EXTENSIBLE PULL OUT OR DAVENPORT BEDS
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11 Claims. (Cl. 5-13)

This invention relates to extensible, pull out or davenport beds.

Pull out beds have been made with drop boards which were connected to the short fold section of the collapsible bed frame. Sometimes these drop boards did not fit properly in place when the bed frame was collapsed into the sofa frame.

It is therefore an object of this invention to provide a bed frame from a pull out bed in which the drop board is connected to the sofa frame without interconnection to the sections of the bed frame, the arrangement being such that the board moves forwardly and down, away from the sofa frame and out of the way to permit movement of the bed frame from fully collapsed condition out of the sofa frame, and moves into proper position on the sofa frame, after the bed frame is fully collapsed.

In prior pull out beds, sway of the bed, or if arms of sofa frame were too close to the drop board, would cause the drop board to tear or rub the upholstery fabric. There is friction between the board, which is upholstered, and the inside of the arms of the sofa frame, which also are upholstered, causing such rubbing. To avoid this rubbing, a gap was left between the ends of the fallaway or drop board and the inside of the arms of the sofa frame, which gap is unsightly.

By moving the drop board, as in the present construction, forwardly and down when the bed is opened up, there are no problems with the board moving into other parts of the sofa bed frame, as would be encountered if the board had to be moved up and rearwardly, like the usual drop board. Thus, there are many styles of beds which can be made with the present construction, which could not be made with the old construction. We can now have rearwardly extending wings on the present board, which could not be used if the board was connected as heretofore to the fold section of the bed frame, and had to move up and rearwardly. The present board can have portions beneath portions of the arms, and yet the board moves forwardly and out of the way. The board could not move up because of the arms, if connected as heretofore, to the short fold section of the bed frame.

The board must extend outwardly several inches on each side beyond the metal bed frame. With old construction, these extensions move forwardly to about the mid-point of the length of the bed, when the bed frame is opened up, and are hence positioned where people easily bang their legs on such extensions. The new board, when extended, is low and close to the sofa frame, and out of the way and not likely to hurt anyone.

Any irregularity that develops in use of the metal bed frame causes distortion of the position of the drop board in prior constructions. With the new present construction, since the drop board is mounted on the sofa frame and not on foldable sections of the bed frame, such irregularities will not cause misplacement of the position of the drop board when the bed is fully collapsed into the sofa frame.

The present bed frame construction is for use with sofa frame with high legs which reduces height of space available for a mattress. The bed frame should not be unduly exposed from beneath, yet the seat has to be a predetermined distance above the floor. Thus the mat-

tress area must be reduced. When you have a reduced mattress area (reduced vertical height), you have the problem of providing a linkage system that will operate in a more confined area. This problem eliminates the possibility of use of slots in the fold section of the bed frame because the fold section must be of less length.

The second problem encountered was to reduce the exposure of the metal parts under the sofa frame, especially at the front. You now have considerable space beneath the sofa frame and you don't want to have lots of hardware showing and exposed. In order to raise the position of the hardware, when the bed frame is folded, the pivot for the spring loaded main operating lever had to be raised above its position in prior constructions. Such change would cause a conflict between the main operating lever and the rear throwout bell crank which pivotally connects the head section of the bed frame to the chassis, because there would not be enough space for both moving in a common plane. With the new linkage and construction embodying the invention, means is provided for the head section to move up from the fully collapsed position thereof (at right angles to the floor), before it starts swinging down and out, allowing raising of the intermediate section without bind, so that it can move out of the sofa frame.

Another object of this invention is to provide a pull out bed of the character described in which the drop board is adjustably mounted on its supporting members, to allow for adjustment and accurate positioning of the drop board relative to the sofa frame.

Still another object of this invention is to provide in a pull out bed of the character described, a collapsible bed frame which is rugged and durable, relatively inexpensive to manufacture, easy to manipulate, and which shall yet be practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown an illustrative embodiment of this invention,

FIG. 1 is a top view of one side of a pull out bed embodying the invention, and showing the bed frame in fully extended condition;

FIG. 2 is a side elevational view of the structure shown in FIG. 1;

FIG. 3 is a view similar to FIG. 2 but showing the foot and fold sections of the bed frame folded, and with the head and intermediate sections of the bed frame extended; and

FIG. 4 is a view similar to FIG. 3 but showing the bed frame fully collapsed into the sofa frame.

Referring now in detail to the drawing, 10 designates a pull out bed embodying the invention, said bed comprises a sofa frame 11 for a collapsible bed frame 12.

The sofa frame 11 comprises front legs 13 and rear legs 14 supporting a wood frame 15 which may be of usual construction, and may comprise a rear transverse rail 16, end walls 17, and front transverse rail 18 having an upper edge 18a. Side arms 19 are connected to rail 18 and back frame 21, and are connected to end walls 17 by vertical posts 22. A cross rail 20 located above and forwardly of the back rail 16, interconnects posts 22.

The back frame 21 extends up from the back rail 16 and is connected by inclined end frame portions 23 to the cross rail 20, and to side arms 19. The level of edge 18a of rail 18 is below the level of the upper edges of rail 16 and of end walls 17.

Fixed to the inner sides of end walls 17 are inner side support chassis plates 25 disposed in vertical planes but extending horizontally from rail 18 rearwardly to points short of back rail 16. Fixed to the inner surface of front rail 18 below upper edges 25a of support chassis plates 25, is a transverse horizontally extending angle 26 having a horizontal rearwardly extending upper flange 27 disposed substantially at the level of edge 18a of said front rail 18.

The bed frame 12 is symmetrical on opposite sides of a vertical longitudinal plane disposed centrally thereof. Hence one side of the bed frame will be described, it being understood that the opposite side is similar and symmetrically disposed. The parts of the structure will be described with respect to the fully extended position of the bed frame as shown in FIGS. 1 and 2.

Fixed to the rear ends of chassis plate 25 and to the inner side of posts 22 as by rivets 22a, are chassis uprights 30. Pivoted to the inwardly offset upper end 30a of each upright 30, as on rivet 31, is a rear throwout bell crank 32. Bell crank 32 has a portion 33 which is inclined downwardly and forwardly from rivet 31 (with bed frame 12 extended). Extending from portion 33 is a forwardly and upwardly curved portion 34 passing beneath rail 20, and from which extends a forwardly directed portion 35. Portions 35 of bell cranks 32 are interconnected by a horizontal, transverse, anti-sway tube 36.

Pivoted to extending portion 35, rearwardly of its end, as in rivet 37 is a rear pivot plate 38, comprising a downwardly extending portion 39 from which extends forwardly a horizontal portion 40 (with the bed frame fully extended or pulled out).

Fixed to portions 40 of plate 38 is the head or rear section 41 of the bed frame 12. Said head section 41 comprises horizontal, rear, side angles 42 having lower inwardly extending horizontal flanges and outer upwardly extending vertical flanges. The forwardly extending portions 40 of plates 38 are riveted to the vertical flanges of angles 42 at the rear ends of the latter. Said angles 42 at their rear ends are interconnected by a back rail 44 which may also be in the form of an angle, and it may be riveted to the rear ends of the horizontal flanges of the side angles 42. When the bed frame is fully pulled out, the forward ends of side angles 42 are short of the front of the sofa frame 11 as shown in FIG. 2.

Connected to the forward end of the head section 41, is an intermediate or main bed frame section 45. The latter comprises horizontal forwardly extending side angles 46 pivoted at their rear ends, by rivets 47, to the forward ends of side angles 42. Said side angles 46 are interconnected at their rear ends by a cross tube 48. Side angles 46 extend forwardly beyond the sofa frame 11.

Pivoted to the forward end of side angles 46, as on shoulder rivets 49, are center legs 50 interconnected by a transverse, horizontal leg tube 51. The upper ends 52 of legs 50 are rearwardly and upwardly inclined, as shown, so that the lower vertical portions 53 of the legs are forwardly offset from rivets 49.

Pivotally connected to the forward end of the intermediate or main section 45, is a short fold or center section 55 comprising side angles 56 pivoted on said rivets 49 to the forward ends of side angles 46. Said section 55 also extends forwardly, horizontally when the bed frame is fully pulled out. The forward ends of said angles 56 are interconnected by a transverse, horizontal raised tube 60. Said tube 60 is braced to the angles 56 by inclined braces or gussets and supports 61 riveted to flattened ends of said tube, as at 62, and to the horizontal flanges of angles 56, as at 63. Gussets 61 have offset feet 61a at their outer ends for the purpose hereinafter appearing.

Pivoted to the forward end of the fold or center section 55, is the foot or front section 65. Said section 65 comprises horizontal side angles 66 pivoted at their rear ends, as by rivets 67 to the front ends of angles 56 of fold or

center section 65. The front ends of side angles 66 are interconnected by a front tube 68 having a front transverse portion 69 at the ends of which are rearwardly curved portions 70 fixed to the front ends of said side angles.

Side angles 46 of the intermediate or main bed section 45 are connected by short coil tension springs 71 to a stabilizer tube 71a.

The sections of the bed frame, in the usual manner carry a mattress supporting platform 72 comprising helical coil springs 73 connected to the bed frame sections and to wires 74.

Front legs 75 are pivoted, as on rivets 76, to the side angles 66 of foot or front section 65, close to but rearward of the front tube 68. Said legs 75 have upward and rearward extensions 77 at their upper ends rising above angles 66, for the purpose hereinafter appearing.

The bed frame, as will appear hereinafter, is collapsible fully into the sofa frame 11 as illustrated in FIG. 4.

The front foot section may first be swung up to vertical position to be at right angles to the fold or center section. Then both foot and fold sections can be swung together about an angle of 90° to the position of FIG. 3, from which position the bed frame may be further moved to the fully collapsible position of FIG. 4.

Control means is provided to enable such movement to be carried out. To this end, there is pivoted to the chassis plates 25, rearwardly of their front ends, as on pivot 80, main levers 81. Said main levers, in the fully extended position of the bed frame, have portions 82 curved upwardly and forwardly and from which extend upwardly and forwardly inclined portions 83 projecting above front rail 18 of the sofa frame, and crossing angles 46 of section 45 to a point just above said angles. Fixed to said portion 82 of main lever 81, by rivet 84, also pivoted on rivet 80, is a main lever spring clip 85 having a short arm 86 inclined upwardly and rearwardly, projecting just above chassis plate 25, and connected by main helical spring 87 to an eyebolt 88 having a shank passing through a hole in a chassis gusset 90 and to which is screwed a nut 91. The gusset 90 is inclined downwardly and forwardly and is riveted to the upright 30 at 92, and to the chassis plate 25, as at 93. Said gusset 90 has an offset transverse flange portion which is formed with the hole through which the shank of eyebolt 88 passes.

Springs 87 tend to rotate the main levers in a counterclockwise direction, looking at FIGS. 1 and 3 of the drawing.

Pivoted to the vertical flange of angle 46 of section 45, just rearwardly of the longitudinal mid-point of said angle, as on rivet 96, is main bell crank 97 having an upwardly and rearwardly inclined arm 98 and a downwardly and rearwardly inclined arm 99 extending at substantially right angles to arm 98.

Pivoted to the vertical flange of angle 42 of the head or rear section 41, rearwardly of pivot 47, as on rivet 99a, is a main bell crank link 100. Said link 100 comprises an arm 101 extending up but slightly inclined forwardly from pivot 99a, and extending forwardly from said arm is a substantially horizontal portion 102 spaced above the sections 41, 45. From the forward end of portion 102 extends a somewhat downwardly and forwardly inclined portion 103 forming a dog leg with portion 102. The forward end of portion 103 is pivoted by rivet 104 to the rear end of arm 98 of bell crank 97. The rivet 104 is located just above the level of the angle 46. The forward upper end of arm 83 of main lever 81 is pivoted, as by rivet 105, to portion 103 of link 100 just rearwardly of pivot 104.

The forward end of rear throwout bell crank 32, is pivoted by rivet 106 to a rear throwout link 107 extending horizontally at the height of portion 102 of main bell crank link 100. The forward end of link 107 is pivoted to said main bell crank link as by rivet 108 located at

the junction of arm 101 and said portion 102 of said main bell crank link.

Fixed to the lower end of arm 99 of main bell crank 97 is a rivet or pin 110. A slotted lock link 111 has a longitudinal slot 112 at its lower end slidably receiving said rivet 110. Link 111 is inclined upwardly and forwardly and carries at its upper end, a rivet 113 slidable in a longitudinal slot 114 formed in the vertical flange of angle 46. In the fully extended position of the bed frame 12, rivet 110 is at the lower end of slot 112 of link 111, and rivet 113 is at the right end of slot 114, as shown in FIG. 2 of the drawing.

Fixed to rivet 49 on which center leg 50 is pivoted, is a short downwardly and forwardly inclined arm 115 lying alongside portion 52 of center leg 50. Pivoted to rivet 110 is a center leg link 116 which inclines upwardly and forwardly and is pivoted as on shoulder rivet 117 to the lower end of arm 115. Thus rotation of the main bell crank 97 in a clockwise direction will rotate the leg 50 in a clockwise direction to bring said leg against the underside of the main or intermediate section 45.

Pivoted to pivot rivet 113, is the rear end of a main lock link 120. The forward end of said link 120 is pivoted, as by rivet 121, to angle 56 of fold or center section 55, at a point spaced forwardly of pivot 49 and closer to said pivot than to pivot 67. Pivoted to main lock link 120, as on rivet 122 close to rivet 121, is a lock link 123, pivoted at its forward end, as in rivet 124, to the rear end of a lock link 125, which is pivoted at its forward end, by rivet 126, to the angle 66 of the foot or front section 65.

The upwardly and rearwardly curved arm 77 of the front leg 75 is connected by link 127 to link 125. Said link 127 thus is pivoted to a rivet 128 on link 125, near pivot 126, and to a rivet 129 on the end of arm or extension 77 of the front leg.

Rivet 129 is a double ended stud separating link 127 outwardly from arm 77 of the front leg 25, as shown in FIG. 1.

A lock pull link 130 is pivoted, as on rivet 131, at its rear end, to the middle of the vertical flange of angle 56, and its forward end is formed with a short slot 132 slidably receiving a rivet or pin 133 fixed to the middle of link 125.

When the bed frame 12 is in fully extended condition, links 120, 123, 125, 127 and 130 all lie substantially alongside of the angles 46, 56 and 66.

When the foot or front section is swung up to vertical position about pivot 67, front leg 75 is swung toward said foot section by link 127. Link 127 is moved by link 125 which in turn is moved by link 123. During this up movement of the foot or front section, pin or rivet 133 moves to the inner end of slot 132 in link 130, because the foot section swings on pivot 67 whereas link 130 swings on rivet 131 which is spaced from pivot 67.

Further swinging movement of the foot or front section toward collapse is only accomplished together with fold or center section 55 to the position of FIG. 3. During this movement, rivet 133 moves out to the outer end of slot 132, rivet 113 moves to the left in slot 114, and link 111 slides down on rivet 110, thereby moving said rivet to the upper right end of said slot, without moving link 116 or bell crank 97.

At the same time, link 123 rotates in a counterclockwise direction relative to center section 55, looking at FIG. 3, about pivot 122, and link 125 rotates in a clockwise direction relative to the foot section about pivot 126, thereby moving rivet 133 to the outer end of slot 132.

Movement of the bed frame 12 from the position of FIG. 3 to the position of FIG. 4, causes swing of the main lever 81 about its pivot 80 in a counter-clockwise direction to tension spring 87, swing of rear throwout bell crank 32 about its pivot 31 in a clockwise direction, and swing of main bell crank 97 about its pivot 96 in a clockwise direction, thereby sliding pin 110 to the left in slot 112.

Head section 41 is thus brought to the rear of the sofa frame being inclined downwardly and somewhat rearwardly, as shown in FIG. 4, with intermediate or main section 45 in horizontal position just below rails 16 and 18, with the fold or center section in vertical position just inside of rail 18, with center leg 50 against the underside of the main or intermediate section, with the rivet 129 resting on portion 102 of link 100 to establish the height of the seat support (foot section) above the floor, and with arm 99 of bell crank 97 in horizontal position extending rearwardly alongside main or intermediate section 45, with pin 110 at the outer end of slot 112 of link 111, and with arm 98 of crank 97 extending upwardly, as shown in FIG. 4. Also as shown in FIG. 4, link 107 extends down from pivot 106, and arm 101 still extends up to the pivot point 108. An outer end portion of arm 83 of the main lever 81 now overlaps the forward end of the link 100.

The present bed has high legs. The location of the foot section above the floor must keep its dimension. Since it is desirable not to show too much hardware below the sofa frame, less height is available for the mattress. Hence the center or fold section is of less length and cannot be made with slots. In the present construction, the center or fold section is not made with slots.

To raise the position of the hardware so that it does not extend too low and be exposed below the sofa frame, the pivot for the main operating lever is raised above its position in prior constructions. Such movement upwardly of this pivot point would cause a conflict between the main operating lever and the rear throwout bell crank. However, with the present linkage, or control means, the head or rear section moves up from fully collapsed position before it starts swinging down and out, thereby allowing the intermediate or main section to rise without bind, so that it can move out of the sofa frame.

It will be noted that in the fully collapsed position of the sofa frame, the feet 61a of the gussets 61 contact and rest on the transverse angle 26 which is fixed to the inner side of front rail 18, thereby supporting the front of the collapsed bed frame.

In the fully collapsed position of the bed frame, the center or fold section cannot swing clockwise, because pin 110 is at left end of slot 112, so that link 111 cannot move to the right, and it holds link 120 against movement to lock the center or fold section 55 against movement, unless the bed frame is first moved out to the position of FIG. 3.

In the fully collapsed position of the bed frame, as well as in the position of FIG. 3, the front or foot section cannot swing up relative to the center or fold section, because links 123 and 120 are substantially in alignment; and said section cannot swing down relative to said fold or center section because pin 133 is at the outer end of slot 132. From the position of FIG. 3, the center or fold section together with the foot or front section, can be swung together about pivot 49 through an angle of 90° in a clockwise direction, after which foot or front section 65 can be swung alone about pivot 67 for 90° to horizontal position.

The bed frame 12 is provided with a drop or fall out board 150 which, in the fully collapsed position of the bed frame, is located in the plane of and above front rail 18 to cover the front of the collapsed bed frame.

Means is provided to cause said board 150 to move forwardly and then downwardly of the sofa frame 11, when the bed frame is extended from the fully collapsed position to the position of FIG. 3. To this end, a board throwout link 151 is pivoted as on rivet 152 to arm 83 of main lever 81, at a point near curved portion 82 of said lever. When the bed frame is extended to the positions of FIG. 2 or FIG. 3, the pivot 152 is located above the rail 18 and substantially in the plane of the

inner surface of said rail. Link 151 is of dog-leg shape having an inner portion 153 inclined slightly downwardly and forwardly from pivot 152, and from its outer end extends a portion 154 inclined down and forwardly at a greater angle. Extending from portion 154, is a foot 155 less inclined to the horizontal than portion 154. Portion 155 carries a pair of bolts 156 with lock washers and hex nuts 157. Fixed to the inner side of board 150 is an adjustable board angle or bracket 158, provided with a flange 159 formed with parallel slots 160 through which the bolts 156 pass. Thus the board 150 may be adjusted on link 151 to properly locate it relative to the rail 18.

Pivoted to chassis plate 25 adjacent rail 18 and above angle 26, as on rivet 161, is a board throwout control link 162, having an arm 163 extending up and slightly inclined forwardly. Extending from arm 163 at right angles thereto, is an arm 164 extending forwardly and slightly inclined downwardly, and said latter arm is pivoted, as by rivet 165, to the board throwout link 151, substantially at the junction of arms 153, 154 of said throwout link. In the extended position of the bed frame 12, to either positions of FIG. 2 or FIG. 3, arm 164 of link 162 lies alongside arm 153 of throwout link 151. When the bed frame 12 is fully collapsed from the position of FIG. 3 to the position of FIG. 4, the main lever 81 swings in a counter-clockwise direction relative to the sofa frame about pivot 80, thereby causing link 162 to swing in a counter-clockwise direction about pivot 161, and link 151 to swing about pivot 152 to bring the board 150 into the plane of and directly above rail 18, as shown in FIG. 4.

Heretofore drop or fallaway boards have been connected by links to the center or fold section of the bed frame. With such construction, sway of the bed, or if the side arms of the sofa frame are too close to the ends of the drop board, often causes tearing and rubbing of fabric covering the ends of the drop board and the inside of the sofa frame arms. To avoid such damage to the upholstery fabrics, unsightly gaps were left between the drop board and the side arms of the sofa bed.

With such prior constructions, the drop board, following the movement of the fold or center section, moved up and rearwardly, and then forwardly. To allow for such movement, styling of the sofa frame was limited, as it was not possible to have any part of the side arms of the sofa frame above the drop board and it was not possible to have rearwardly extending wings on the drop board. Since in the present construction, the drop board, when the bed frame is extended, moves first forwardly and then down, a much greater choice of furniture or sofa frame styling is permitted.

Furthermore, since the drop board normally extends beyond the sides of the bed frame, when such board was connected to the fold section, the board moved forwardly about half-way the length of the bed, and people would often walk into the extensions of the drop board. This difficulty is avoided with the present construction, because the drop board, when extended, is close to the sofa frame and is located low so as not to interfere with persons walking near the extended bed frame.

In prior constructions, any irregularity that developed in the use of the metal bed frame often caused distortion of the position of the drop board. With the present construction, this difficulty is avoided because the drop board is mounted on the sofa frame and not on portions of the bed frame sections which are extended from the sofa frame.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that

all matter herein set forth or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In combination, a chassis adapted to be fixed to a sofa frame, a main lever pivoted to said chassis, spring means to connect said lever to said chassis, a bell crank pivoted to said chassis, a bed frame comprising a head section pivoted to said bell crank, an intermediate section pivoted to said head section, a fold section pivoted to said intermediate section, a foot section pivoted to said fold section, a first link pivoted to said head section, a second link interconnecting said bell crank and first link, said main lever being pivoted to said first link between the ends of the latter, a second bell crank pivoted to said intermediate section and having a first arm pivoted to said first link, said intermediate section being formed with a slot, said second bell crank being provided with a second arm carrying a pin, a third link carrying a pin slidable in the slot in said intermediate section, and being formed with a slot slidably receiving the pin on said second arm of said second bell crank, a fourth link pivoted to the pin on said third link, and also pivoted to said fold section.

2. The combination of claim 1, a support on said chassis, and means on the fold section adapted to rest on said support when the bed frame is fully collapsed.

3. The combination of claim 1, a center leg pivoted to the pivotal connection of said intermediate and fold sections, and means connected to the pin on the second arm of said second bell crank to swing said center leg toward said intermediate section.

4. The combination of claim 1, a fifth link pivoted to the fourth link, a sixth link pivoted to said fifth link and to said foot section and a seventh link pivoted to said fold section and having a slot slidably receiving a pin on said sixth link.

5. The combination of claim 4, an eighth link pivoted to said main lever, a drop board mounted on the eighth link, and a ninth link pivoted to said chassis and to said eighth link.

6. The combination of claim 4, and means on the foot section adapted to rest on the first link when the bed frame is fully collapsed.

7. The combination of claim 4, a front leg pivoted to said foot section and an eighth link connecting said front leg to said sixth link.

8. In combination, a support, a forwardly extensible bed frame comprising a head section, an intermediate section pivoted to said head section, a fold section pivoted to said intermediate section, a foot section pivoted to said fold section, control means connecting said sections to said support, to permit movement of the bed frame from fully extended condition with said sections in coplanar, horizontal positions, to a fully collapsed condition with the head section extending up and down, with the intermediate section extending forwardly from the lower end of said head section, with the fold section extending up from the forward end of said intermediate section, and with the foot section extending rearwardly from the upper end of the fold section, said control means including a member pivoted to said support, spring means connecting said member to said support, a bell crank pivoted to said intermediate section and having a pair of arms, a first link connecting one arm of said bell crank to said head section, said pivoted member being pivoted to said link, said intermediate section being formed with a slot, a second link carrying a pin slidable in said slot, and said second link being formed with a slot, a pin carried by the other arm of said bell crank and slidably received in the slot of said second link, a third link pivoted to said second link about the axis of the pin which slides in the slot on said intermediate section, said third link being pivoted to said fold section.

9. The combination of claim 8, a fourth link pivoted

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to said third link, a fifth link pivoted to said foot section and to said fourth link, and a sixth link pivoted to said fold section and having a slot, a pin on said fifth link and slidably received in said slot in said sixth link.

10. The combination of claim 8, and means on said fold section to rest on said support when the bed frame is in fully collapsed condition.

11. In combination, a sofa frame having a front rail, a lever pivoted to said sofa frame on an axis disposed below the upper end of said front rail, a pull out bed comprising a head section, means to connect said head section to said sofa frame, an intermediate section pivoted to said head section, a fold section pivoted to said intermediate section, means controlled by said lever for moving said bed sections from a coplanar horizontal extended bed position to a collapsed bed position within said sofa frame and in back of said front rail, said lever moving from a position projecting rearwardly from its pivot to the frame, when the bed is in collapsed condition, and said lever projecting forwardly and upwardly over the upper end of said front rail when said bed is in extended condition, a first member pivoted to said sofa frame on an axis below the upper end of said front rail and extending rearwardly when the bed is collapsed, and projecting up and over the front rail and forwardly thereof when the bed is in extended condition, a second member pivoted to said lever and to said first pivoted member, a front board disposed above

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and in the vertical plane of said front rail when the bed is collapsed, means to attach said board to said second member, the pivotal connection of said second member to said lever being disposed above said front rail when the bed is in extended condition, and said second member projecting from its pivotal connection to said lever, forwardly of said front rail and the pivotal connection of said second member to said first member being disposed forwardly of said rail, in the extended position of the bed, and said board being spaced forwardly away from said front rail and below the upper end of said front rail, when the bed is in extended position.

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FRANK B. SHERRY, *Primary Examiner.*