Jan. 16, 1940. J. W. BOWERSOX 2,187,713

FURNITURE

Filed April 29, 1939 3 Sheets-Sheet 1

Fig. 1.

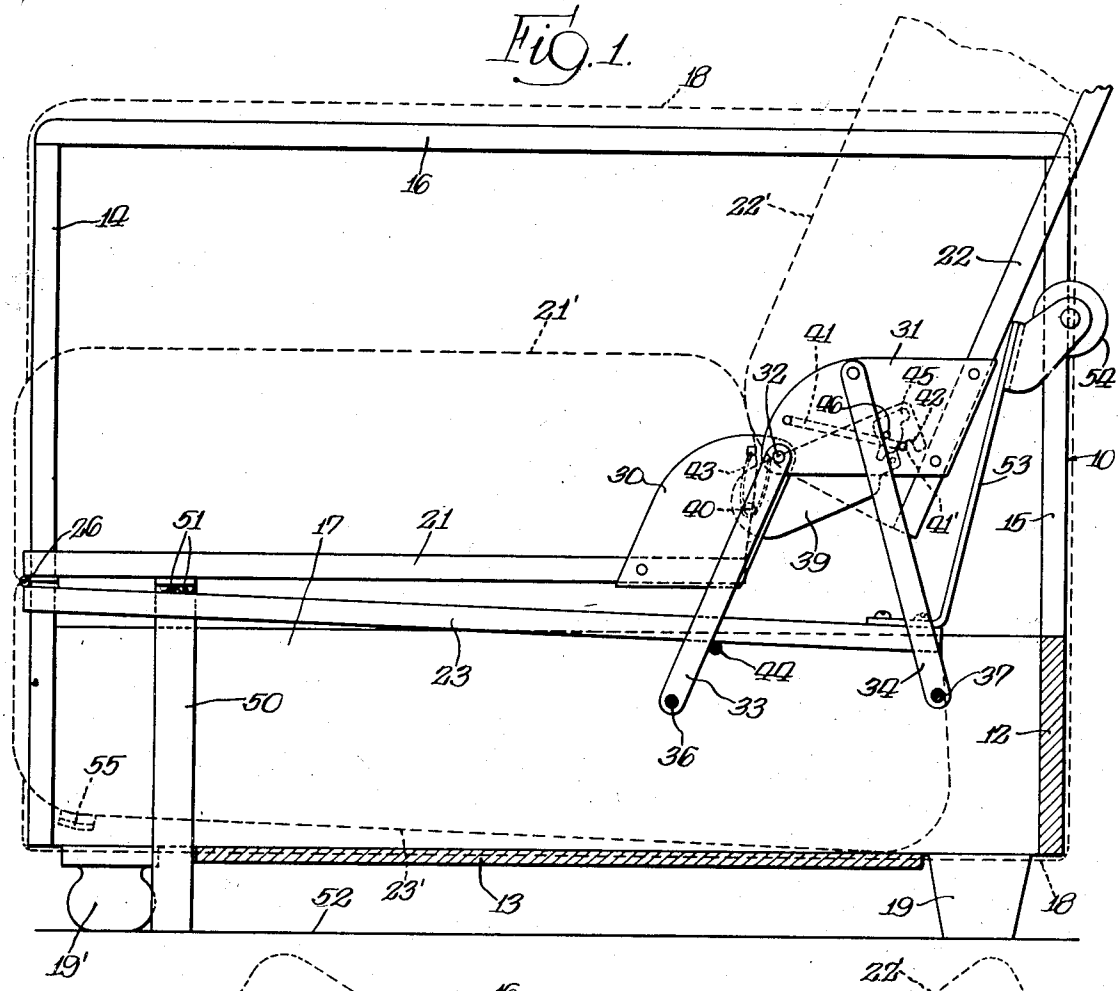
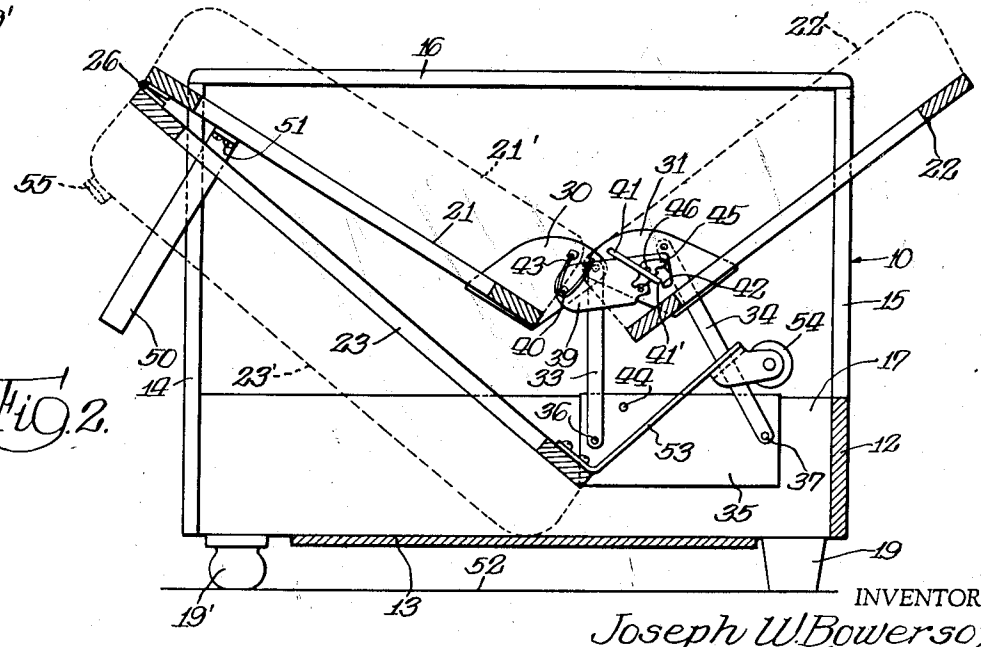



Fig. 2.




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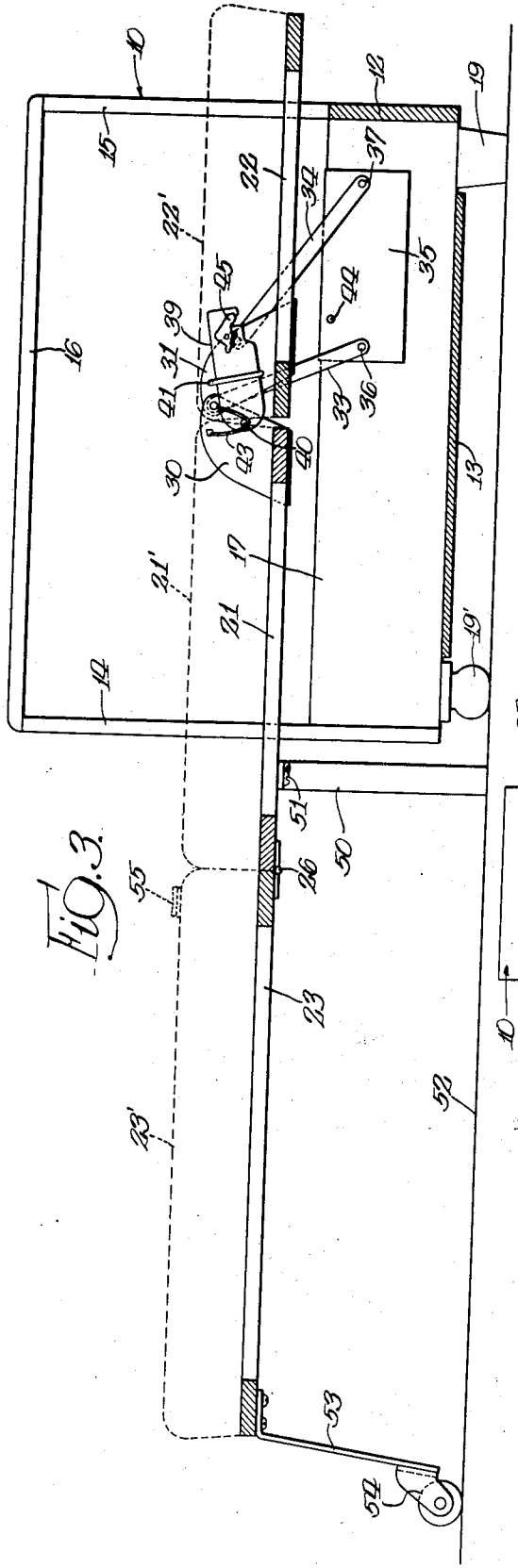


FIG. 3.

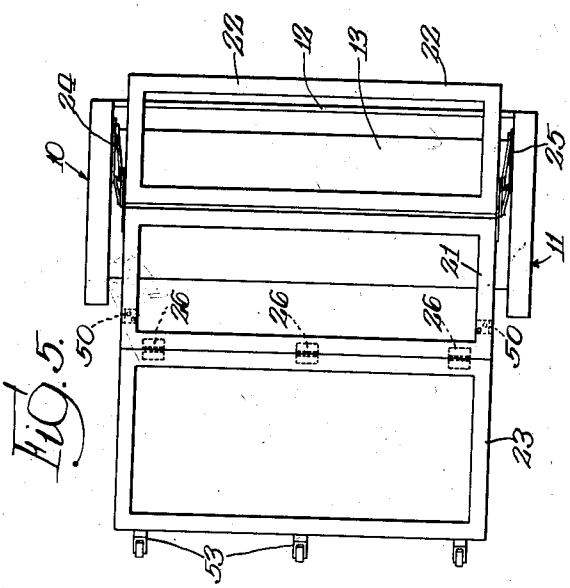


FIG. 5.

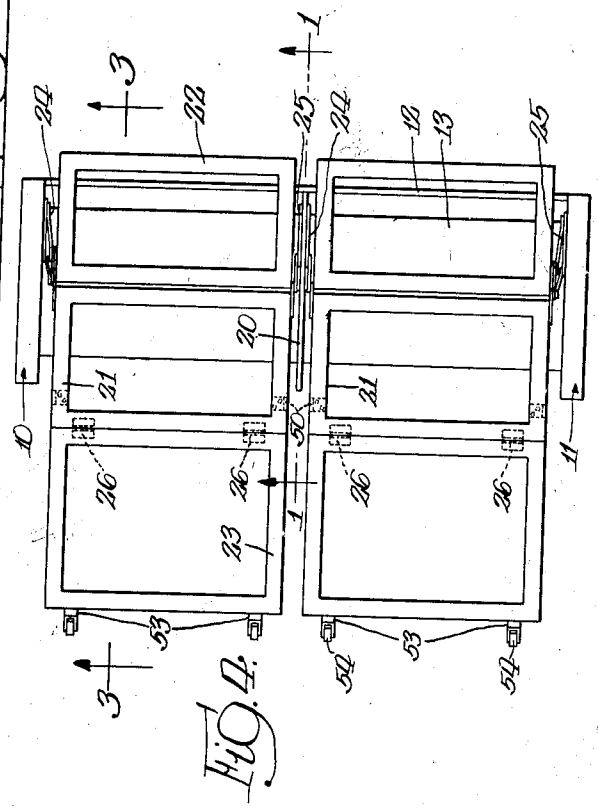


FIG. 4.

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Fig. 6.

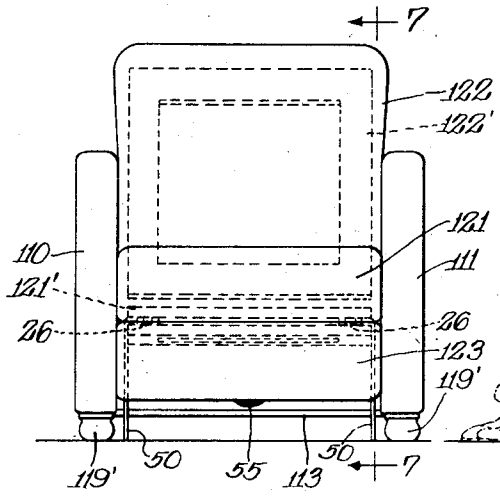



Fig. 7.

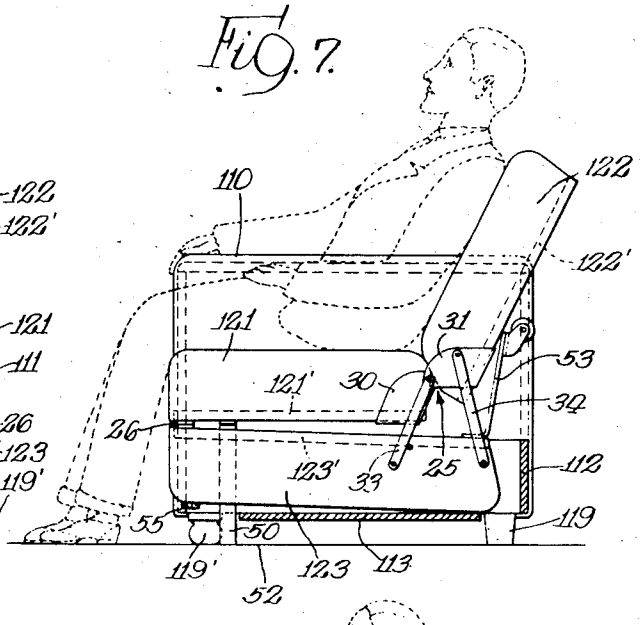



Fig. 8.

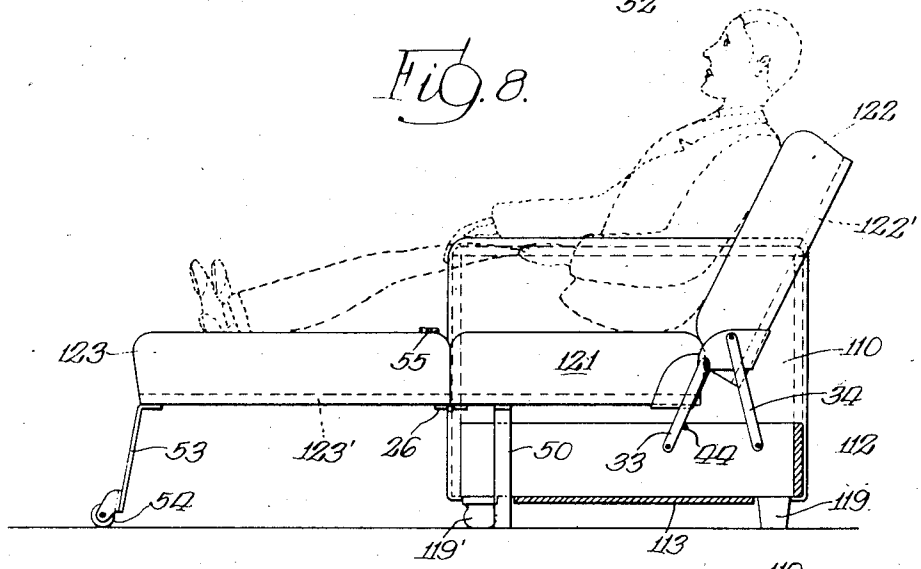
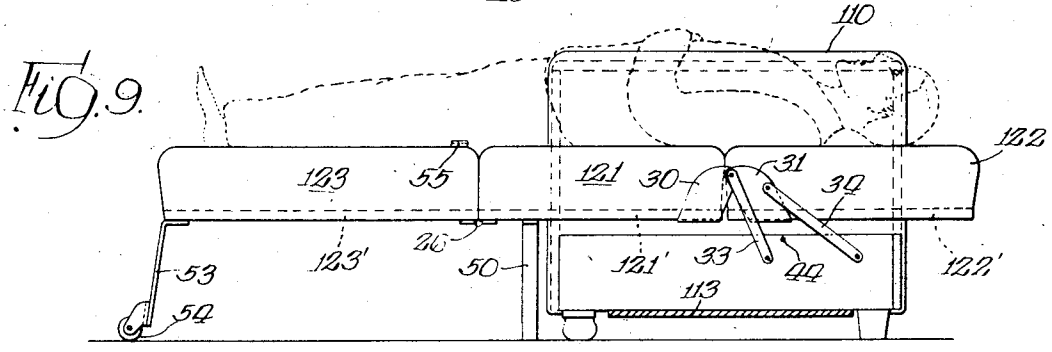



Fig. 9.




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Patented Jan. 16, 1940 2,187,713

# UNITED STATES PATENT OFFICE

2,187,713

## FURNITURE

Joseph W. Bowersox, Glen Ellyn, Ill., assignor to Superior Sleeprite Corporation, Chicago, Ill., a corporation of Illinois

Application April 29, 1939, Serial No. 270,896

2 Claims. (Cl. 155—49)

The invention relates generally to furniture which can readily be adjusted for sitting and, alternatively, for reclining, and more particularly to articles such as davenports and chairs which are readily adjustable to form beds. It is the general object of the invention to provide a new and improved article of furniture of this type.

Another object is to provide a new and improved davenport which can readily be converted into a double bed.

Another object is to provide a new and improved davenport which can readily be converted into twin beds.

Another object is to provide a chair which can readily be converted into a bed or, alternatively, into a combination chair and ottoman.

A further object is to provide an article of furniture such as a davenport or chair which is convertible into a bed and in which the joints between cushions run crosswise of the bed.

Other objects will become readily apparent from the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary section through a preferred form of the invention, approximately along the line 1—1 of Fig. 4 but with the invention adjusted to form a davenport.

Fig. 2 is a vertical sectional view on a reduced scale, showing the parts in positions assumed during the operation of converting this form of the invention from a davenport to a pair of twin beds, and otherwise approximately along the line 3—3 of Fig. 4.

Fig. 3 is a vertical sectional view of the invention when converted into a bed, approximately along the line 3—3 of Fig. 4.

Fig. 4 is a plan view, on a smaller scale, of the invention when converted into twin beds.

Fig. 5 is a plan view of a modified form of the invention which is convertible from a davenport to a double bed.

Fig. 6 is a front elevation of still another form of the invention convertible from a chair to a combination chair-ottoman and also to a bed.

Fig. 7 is a vertical sectional view approximately along the line 7—7 of Fig. 6.

Fig. 8 is a similar sectional view showing this form of the invention adjusted to form a combination chair-ottoman.

Fig. 9 is a similar sectional view showing this form of the invention adjusted to form a bed.

For purposes of disclosure, I have illustrated in the drawings and shall hereinafter describe in detail a preferred form of the invention, together with a modified form thereof, with the understanding that I do not intend to limit the invention to the particular constructions and arrangements shown, it being contemplated that various changes may be made by those skilled in the art without departing from the spirit and scope of the appended claims.

As illustrated in Figs. 1 to 4, the invention is in the form of a davenport which is convertible into twin beds. This davenport comprises upright end frames 10 and 11 secured in laterally spaced relation by a rear base board 12 and a bottom board 13. The end frames have vertical front members 14 and vertical rear members 15, horizontal top members 16 and horizontal base boards 17, all secured together by glue or other means to form rectangular frames. These are generally covered with padding and cloth as indicated by dotted lines 18 in Fig. 1. Feet 19 extend downwardly from the rear ends of the end frames, and feet 19' are secured to and support the front ends thereof. An intermediate frame 20 in the form of a board extends forwardly from the rear base board 12 and upwardly from the bottom board 13 and is preferably glued to both.

Movably supported and adjustable on the frame structure just described are pairs of seat frames 21, back frames 22 and holding frames 23, all of which are upholstered and covered as indicated by the dotted outlines 21', 22' and 23', respectively. Each seat frame 22 is connected to a back frame 21 by means of a pair of automatic hinges 24 and 25 of well known construction, and each folding frame 23 is secured to the front edge of a seat frame 22 by means of a plurality of hinges 26 with the result that each set of connected frames may be adjusted independently from the positions shown in Fig. 1 (wherein they form a davenport) to the positions shown in Figs. 3 and 4 (wherein they form twin beds).

Each automatic hinge comprises metal brackets 30 and 31, secured as by means of screws to the end portions of the seat frame 21, and back frame 22. These brackets are pivotally connected together by headed pins 32 to form a hinge joint. Links 33 and 34 have their lower ends pivotally secured to a metal bracket 35 by headed pivot pins 36 and 37, respectively, and have their upper ends secured respectively to the headed pin 32 and a headed pivot pin 38 on the bracket 31. These links serve as a supporting means for the seat frame 21 and back frame 22, the brackets 35 being mounted one on each end frame base board 17 and two on the intermediate frame board 20. The hinged brackets 30 and 31 of each automatic

hinge are normally secured in the relative positions shown in Fig. 1 by means of a hook member 39, pivoted on the bracket 30 by a headed pin 40. The free end of the hook rides flat against the bracket 31 and under a U-shaped staple 41 secured to said bracket. The free end of the hook member 39 has a notch 42 therein arranged to receive one leg 41' of the staple and thereby hold the back frames 22 in the upwardly inclined position shown in Fig. 1. A suitable spring 43 is carried on the bracket 30 and serves to pivot the hook 39 in a clockwise direction, as shown in Fig. 1, to insure engagement of the notched end of the hook with the staple leg 41'. A pin 44 extending from the stationary bracket 35 limits the clockwise movement of the link 33, as shown in Fig. 1, and enables the links to determine the positions of the seat and back frames.

A cam member 45 is pivoted on each hook 39 on a pin 46 and is arranged to pivot from the position shown in Figs. 1 and 2 to the position shown in Fig. 3 for the purpose of disengaging the hook 39 and permitting the seat and back frames to be straightened out. Since the automatic hinges are in themselves old and well known, it will suffice to say that the hinges 24 and 25 are duplicates with the exception that one is left-hand and the other right-hand, and there is one pair of hinges for each seat frame.

The front end of the seat frames are herein shown in Figs. 1 to 4 as supported by legs 50 which have horizontal portions at their upper ends secured to the seat frame by screws 51. The lower ends of the legs 50 extend downwardly to rest on the floor indicated at 52 at a point rearwardly of the legs 19' when the frames are in the positions illustrated in Fig. 1. The front ends (when extended) of the folding frames 23 are provided with a plurality of legs 53, the lower ends of which carry casters 54 which rest upon the floor. Preferably, a strap handle 55 is secured to the upholstered portion 23' of the folding frame to facilitate handling.

When the invention of Figs. 1 to 4 is in use as a davenport, the parts are in the positions shown in Fig. 1. To convert the davenport into twin beds, a handle 55 is grasped and the corresponding folding frame 23 is pulled forwardly and upwardly through the position shown in Fig. 2 to a position in which the folding frame is swung outwardly from the bottom board 13 and the back frame 22 is substantially horizontal. A slight additional clockwise movement of the seat frame 21 then permits the cam members 45 of the automatic hinges to move partly over the notches 42 of the hooks 39 so that upon a reverse or counter-clockwise movement of the seat frame 21, the hooks 39 slip out of engagement with the staple leg 41' and the seat and folding frames can assume the positions shown in Fig. 3, wherein they are stretched out to form a bed. Due to the movement of the links 33 and 34, the legs 50 are now positioned forwardly of the legs 19'. By repeating these operations on the other set of frames, the other twin bed may be obtained.

To change back to a davenport, the handle 55 of one folding frame is grasped and pulled upwardly until the hooks 39 of the automatic hinges are engaged, and the folding frame 23 is then swung back under the seat frame before the seat frame is lowered into position. The lowering of the seat frame to its horizontal position raises the back frame to the position of Fig. 1. This operation is then repeated on the other set of frames.

In the form illustrated in Fig. 5, the invention is shown as having end frames 10 and 11 connected by a rear base board 12 and a bottom board 13. A single set of adjustable frames are provided comprising a seat frame 21, a back frame 22 and a folding frame 23. The seat frame 21 and back frame 22 are connected together and supported on the end frames by hinges 24 and 25 and hinges 26 connect the folding frame to the front edge of the seat frame. The principal difference between the form of the invention illustrated in Fig. 5 and the form of Figs. 1 to 4 is in the provision of a single set of folding frames 21, 22 and 23 instead of two sets. By making the base frame and folding frames relatively long, as shown in Fig. 5, the invention serves, alternatively, as a davenport and as a double bed. By making the frames somewhat shorter, this form of the invention would be convertible from a chair to a twin sized bed or day-bed. Under these conditions, the invention is also convertible into a combination chair and ottoman, the folding frame 23 forming an extension to the seat frame and serving as an ottoman.

In Figs. 6 to 9, the invention is embodied in a chair which is convertible from the chair form, shown in Figs. 6 and 7, to a combination chair-ottoman form, as shown in Fig. 8, and, alternatively, is convertible into a bed, as shown in Fig. 9. Since certain of the frame parts in these figures are shown covered or as having upholstered cushions thereon, a brief description thereof follows.

Generally, the chair comprises upright end frames 110 and 111 connected in laterally spaced relation by a rear base board 112 and a bottom board 113. Feet 119 extend downwardly from the rear ends of the end frames, and feet 119' are secured to and support the front ends thereof. Movably supported and adjustable on the frame structure just described is a seat 121, a back 122, and a folding cushion 123, including, respectively, a seat frame 121', a back frame 122', and a folding frame 123'. The seat frame is connected to the back frame by means of a pair of automatic hinges identical with those illustrated and described in connection with Figs. 1 to 4, so that the hinge visible in Fig. 7 bears the numeral 25 and parts thereof bear the same numbers as corresponding parts in Figs. 1 to 4 inclusive. For purposes of clearness, certain of the parts have not been illustrated in Figs. 7 to 9. These hinges function in the manner hereinbefore described to support the seat and back frames either in the relative positions shown in Figs. 7 and 8 or, alternatively, in the relative positions shown in Fig. 9.

The front end of the seat frame is shown in Figs. 6 to 9 as supported by legs 50, and the folding frame 123' is secured to the front edge of the seat frame 121' by means of a plurality of hinges 26. The lower ends of the legs 50 extend downwardly to rest on the floor indicated at 52 at a point rearwardly of the legs 119' when the frames are in the positions illustrated in Figs. 6, 7 and 8. The front end of the folding frame 123 is provided with a plurality of legs 53, the lower ends of which carry casters 54 which rest on the floor when the parts are in the positions shown in Figs. 8 and 9. These legs 53 extend upwardly behind the back frame 122' when the parts form a chair, as shown in Fig. 7. A strap handle 55 is preferably secured to the folding cushion 123 to facilitate changing the chair into an ottoman-chair or bed, or vice versa.

When the invention in the form illustrated in Figs. 6 to 9 is in use as a chair, as shown in Figs. 6 and 7, it may readily be converted into the chair-ottoman combination of Fig. 8 by grasping the handle 55 and pulling forwardly and upwardly thereon until the folding cushion 123 swings out of the space under the seat cushion 121, so that it may be straightened out to the position shown in Fig. 8. While the folding cushion is being pulled out, care is taken so as not to operate the automatic hinges 24, 25, thus leaving the back cushion 122 in the position shown in Fig. 8. To change into the bed illustrated in Fig. 9, the seat cushion is swung upwardly in a clockwise direction, as viewed in Fig. 8, until the automatic hinges are operated, in the manner hereinbefore described, to release the hooks 39 and thereby permit the frames to assume positions shown in Fig. 9.

In either form of the invention, when converted into a bed, the joints between the folding frames run crosswise of the bed and are, therefore, much less noticeable to a sleeper than if they ran lengthwise of the bed.

I claim as my invention:

1. A chair comprising a pair of end frames, means for supporting said frames in laterally spaced upright position, a seat cushion, a back cushion, hinge devices including a releasable latch normally connecting said seat cushion and said back cushion in rigid relation but permitting the back cushion to be placed in a horizontal position upon release of said latch by lifting said seat cushion to a predetermined position, and returning said seat cushion in alignment with said back cushion, means connecting said hinge devices to said end frames, a folding cushion pivotally connected to the forward end of said seat cushion and normally underneath said seat cushion and movable in alignment therewith upon raising of said seat cushion to a height short of the position for actuation of said latches, and means for supporting said folding cushion when in aligned position to provide a chaise lounge, the chair seat, the chaise lounge and the bed being each of the same height when respectively converted thereto for such use.

2. A chair comprising a pair of end frames, means for supporting said frames in laterally spaced upright position, a seat cushion, a back cushion, hinge devices connecting said seat cushion and said back cushion, said hinge devices being operative to normally hold said seat cushion and said back cushion in rigid relation, said hinge devices being further operative upon lifting said seat cushion to a predetermined position to permit said back cushion to be placed in a horizontal position and said seat cushion to be returned in alignment therewith, means connecting said hinge devices to said end frames, a folding cushion pivotally connected to the forward end of said seat cushion and normally underneath said seat cushion and movable in alignment therewith upon raising of said seat cushion to a height short of the predetermined position for actuation of said hinge devices, and means for supporting said folding cushion when in aligned position to provide a chaise lounge, the chair seat, the chaise lounge and the bed being each of the same height when respectively converted thereto for such use.

JOSEPH W. BOWERSOX.