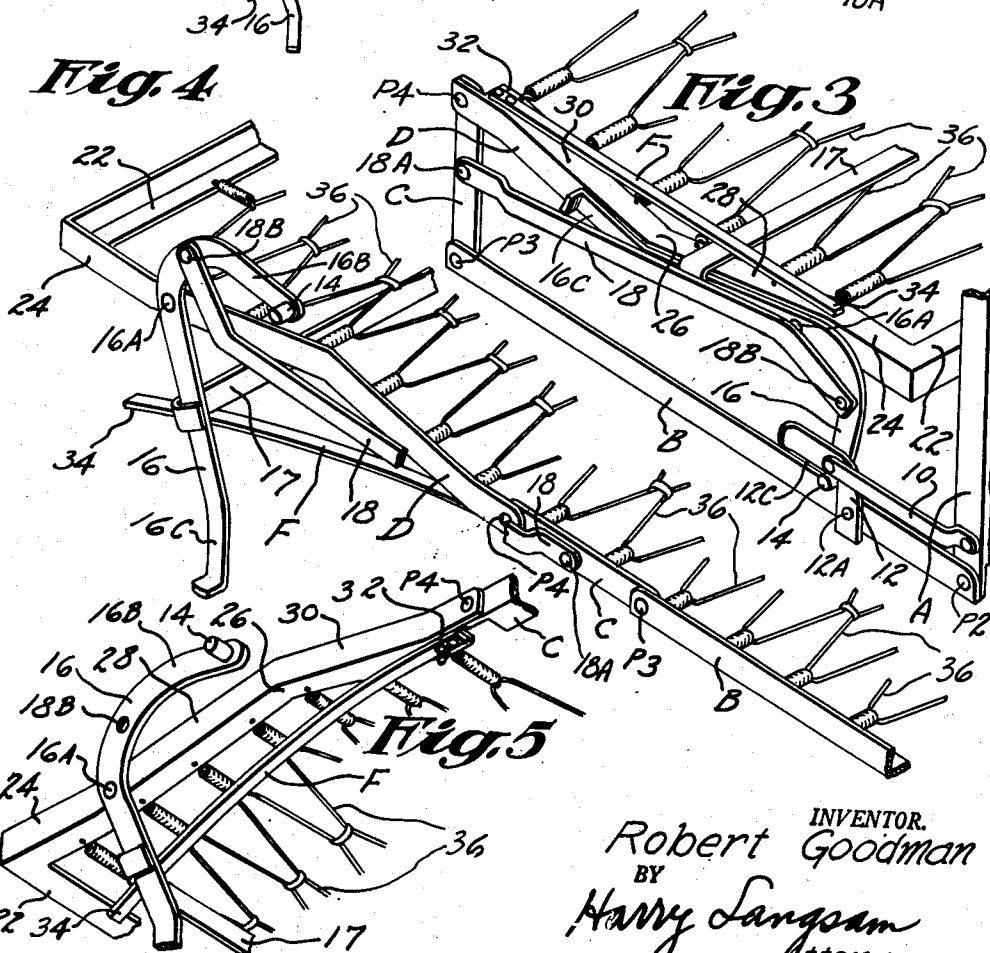
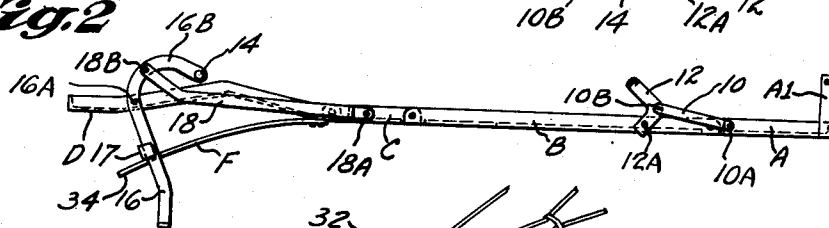
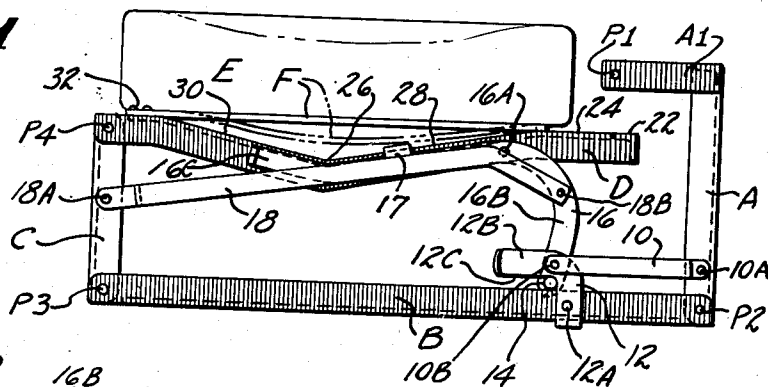


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DAVENPORT WITH SECTION LOCK AND SUPPORT

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DAVENPORT WITH SECTION LOCK AND SUPPORT

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My invention relates to a davenport or a convertible unit which may be used either as a bed or a sofa; and relates particularly to mechanism wherein the sofa cushion is resiliently supported and wherein the mechanism which will automatically lock or latch the davenport in sofa position to prevent accidental opening will not be affected.

In my prior filed patent application Serial No. 231,460 filed June 14, 1951, I have disclosed a davenport which when folded becomes a sofa or which may be opened into a bed. The aforementioned davenport embodies therein a locking device which will retain the sofa in a locked position but which may be unlatched by the user pulling on the davenport in the customary manner to open it.

In the prior art the framework of the davenport bed and sofa has been made of heavy angle iron and when the cushion is placed upon the folded framework the edges of the cushion are rigidly supported with the center of the cushion being relatively soft and resilient.

It is an object of my invention to provide a framework for a davenport wherein the cushion for a sofa is resiliently supported.

Another object of my invention is to provide a framework for a davenport which will function in the customary manner but wherein the cushions will be resiliently supported.

Another object of my invention is to provide a heavy angle iron framework for a davenport and a self locking unit which will retain the sofa in a locked position together with a resiliently cushioned support.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly effective in operation.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

Fig. 1 is a side elevational view of a davenport frame in closed position having a cushion thereon.

Fig. 2 is a side view of the davenport in opened position.

Fig. 3 is a fragmentary perspective view of the davenport frame shown in Fig. 1 in a closed position.

Fig. 4 is a fragmentary perspective view of the davenport frame shown in Fig. 4 in an open position.

Fig. 5 is another perspective view of the davenport frame in open position wherein the locking-arm-tie-rod has sprung the cushion supporting spring arm.

Referring now in detail to the drawing, where-

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in similar reference characters refer to similar parts and, also, bearing in mind that the frame work has parallel sides, I show a convertible bed comprising a head section, generally designated as A, a body section, generally designated as B, an intermediate section, generally designated as C, and a foot section, generally designated as D, all of the aforementioned sections being articulated together and being adapted to lie in substantially the same plane when serving as a bed.

It is to be noted that the head member A, is rigidly mounted to a short support A1, which is pivoted at P1 and that the foot section D and the body section B when in a closed position serving as a sofa are parallel to one another; and that the intermediate section C and the head section A are parallel to one another but vertical to the foot section D.

The head section A and the body section B are pivoted together at P2, and the body portion B is pivotally connected at P3 to the intermediate section C, while the intermediate section C is pivotally connected at P4 to the foot section D. The customary upholstery supporting frame for supporting the bed has been omitted from the drawing for the sake of clarity, but it is clearly illustrated in my previously filed co-pending patent application Serial No. 231,460, filed June 14, 1951.

The safety holding member or latch whereby the sofa is safely held without danger of accidental opening is attached to each side of the davenport frame and comprises a link or lever 10 pivoted at one end to the head section A, its other end pivoted to a keeper holding hook 12. The keeper or hook being pivotally connected to the body portion B at 12A. The free end 12B of the hook 12 is the portion which overlies a bolt stud, or lug, or lateral projection 14 at the free end 16B of a combined leg and pivoted lever 16, the latter being pivoted at 16A to the foot section D. The underside 12C of the end 12B may be engaged by the lug 14 to prevent the accidental upward movement of the foot section D when it is in sofa position. It should be noted that a tie rod 17 connecting the legs 16 abuts the upper edge of the foot section D, in sofa position, to keep the legs 16, 16 from collapsing. The bolt 14 abuts the upper edge of one side of the body portion B as Fig. 1 is viewed in order to have the lever 16 serve as an additional support or brace for the foot section D. The arm 16B is pivoted at 16A to the foot section D while the bolt 14 rigidly affixed to the free end of the arm 16B abuts the upper edge of the body portion B so that a heavy person sitting upon the sofa cannot depress the free end of the foot section D because of the brace 16B. The other end 16C of the latch member or leg 16 serves as a supporting leg when the bed is opened, see Figs. 2 and 4. A link or control lever 18 for actuating

the leg 16 has one end pivoted to the intermediate section C at 18A and its other end is pivoted at 18B to the bolt holding lever leg 16B.

The foot section D of the davenport is made of angle iron and the cross piece 22 is of the conventional type. However, the side pieces 24, 24 have a depressed center 26 as Figs. 1, 3 and 4 are viewed. The angle iron 24 at the junction of the cross piece 22 is at the same level but is inclined at 28 until the center 26 is reached when another portion 30 rises.

A flexible metal strip, generally designed as F overlies the depression caused by the converging of the side portions 28, 30 at the center 26. One end 32 of the strip F is rigidly affixed to the frame adjacent the junction of the foot section D and intermediate section C adjacent the pivot P4 while the end 34 is free to be flexed away from the frame piece 24.

The purpose of the flexible strip F is to resiliently hold the edges of a cushion E in the same plane so that when a person sits upon the cushion E the side supports F, F bend instead of remaining rigid. The cushion rests upon spring cross wires 36 which are connected to the side pieces of the bed frame in the conventional manner shown in Fig. 5. These cross wires also support a mattress (not shown) when in bed position.

With the above construction the sofa is more flexible and more comfortable to sit upon.

The legs 16C 16C are connected by the tie rod 17 which fits between the converging portions 28, 30 and the flexible rod F when the davenport is in a sofa position. However, when the bed is formed the legs 16C take the position shown in Fig. 2 and the tie rod 17 flexes the strip F as shown in Figs. 2, 4 and 5.

In operation when the davenport is formed to a sofa the keeper 12B overlies the bolt 14 to serve as a safety latch, with lever 12 fixed in position by the head section A which is pivoted at P2 to the body section B, and by the pivots 10A and 10B of the arm 10; the arm 10B of the leg 10 is in a predetermined position by virtue of the right angle of the intermediate section C and the foot section D, as well as the pivots 10A and 10B of the arm 10.

When the sofa is to be converted to a bed it is necessary for the latching unit to open and the unlatching occurs as follows: when the sections A and B are pulled to spread apart about the pivot P2 the free end 12B of the keeper is pulled away from its locking position over the bolt 14 by the arm 10 so that the other sections A, B, C and D may be moved apart in their customary manner as shown and described in my prior filed co-pending application Serial No. 231,460, filed June 14, 1954.

The leg 16C which is part of the latching unit supports the foot section D when the davenport is converted into a bed and the crank arm 16B supports the bolt 14 of the latch. It is to be noted that the single lever 13 serves to be part of the latching unit and to bring the leg 16C into position.

The supporting frame (not a part of this invention) retains the pivot P1 so that when the head, the body, the intermediate, and foot sections are forwardly unfolded to bed position the sections are arranged in substantially coplanar relationship with the head and foot sections at the ends of the bed, one end of the foot section being adjacent the head section and the intermediate section being adjacent the foot section

and wherein the foot section forms a seat cushion support (Fig. 1). The foot section is parallel to and spaced above the body section with the head section extending upwardly and at right angles to the body section. The right angle keeper has its horizontally extending portion 12B engage the bolt 14 to pull the foot section D towards the body section B against the tension of any mattress that may be on the bed when the bed is converted to sofa position. The keeper 12 also keeps the stud 14 on the frame section B to provide a brace in order to prevent the foot section from moving downwardly against the body section when the sofa is formed.

Although my invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim as my invention:

1. A foldable bed frame for a sofa bed comprising head, body, intermediate, and foot sections pivotally connected in end to end relationship and adapted to be forwardly unfolded to a bed position wherein the sections are arranged in substantial coplanar relationship with the head and foot sections at the ends of the bed, the body section adjacent the head and the intermediate section adjacent the foot section and being adapted to be rearwardly folded to a seat position wherein the foot section forms a seat cushion support and is parallel to and spaced above said body section with said head section extending upwardly and at right angles to said body section, a substantially L-shaped leg pivoted intermediate its ends to the free end of the foot section, said leg having a short arm which extends above and rearwardly along said frame in bed position, a laterally extending bolt fixed to said short arm, a first link having an end pivotally joined to said intermediate section and its other end pivotally joined to said leg, above its pivot which is connected to the foot section, a right angle keeper pivotally attached to said body section, a second link having one end pivotally connected to said head section and the other end pivotally connected to said keeper whereby relative pivotal movement of said head and body sections will rock said keeper, and said bolt being adapted to be hooked by said keeper when all of said sections are folded into sofa position in order to keep said foot section from accidentally moving upwardly when it forms the seat section of the sofa, and said bolt being adapted to rest directly upon said body section to serve as a brace in order to prevent said foot section from moving downwardly against said body section when the sofa is formed.

2. The invention of claim 1 wherein said bolt directly engages said keeper and the top of said frame when the sofa is formed.

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