

Oct. 18, 1955

W. R. BROWN

2,720,659

FURNITURE CONSTRUCTION

Filed March 17, 1953

2 Sheets-Sheet 1

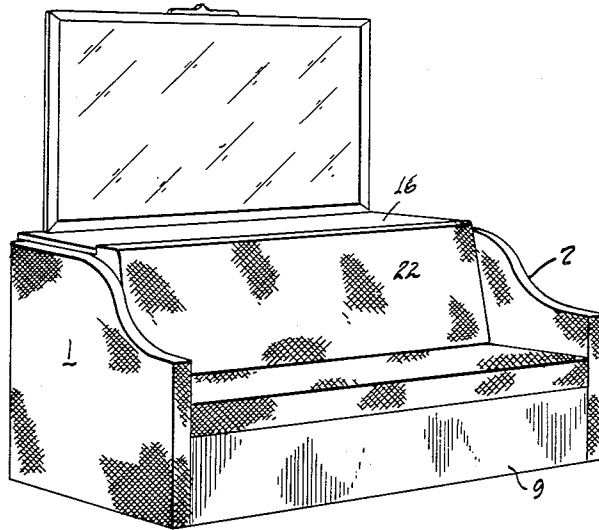


FIG. 6

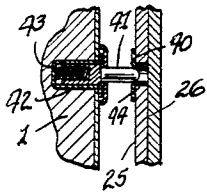


FIG. 1

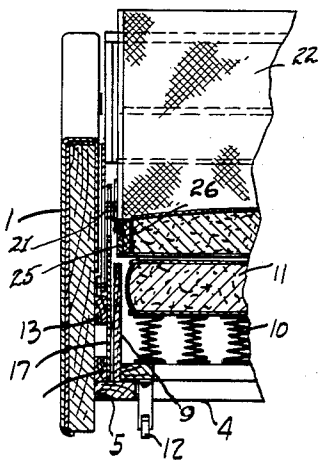


FIG. 3

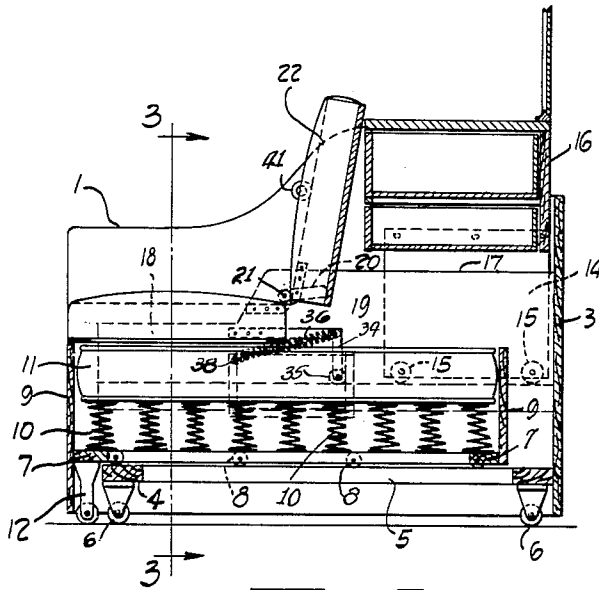


FIG. 2

INVENTOR.
WILLIAM R. BROWN

BY

William H. Owen

ATTORNEY

Oct. 18, 1955

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2 Sheets-Sheet 2

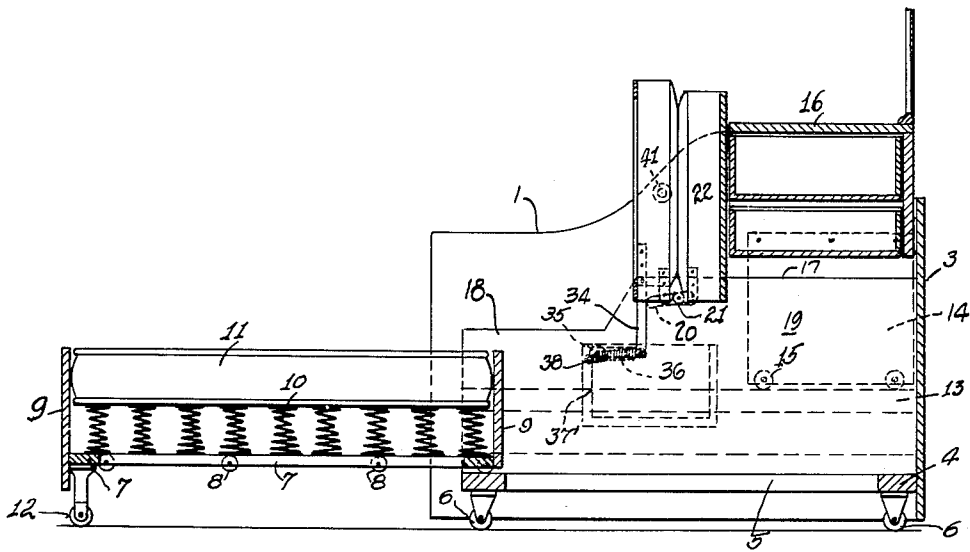


FIG. 4

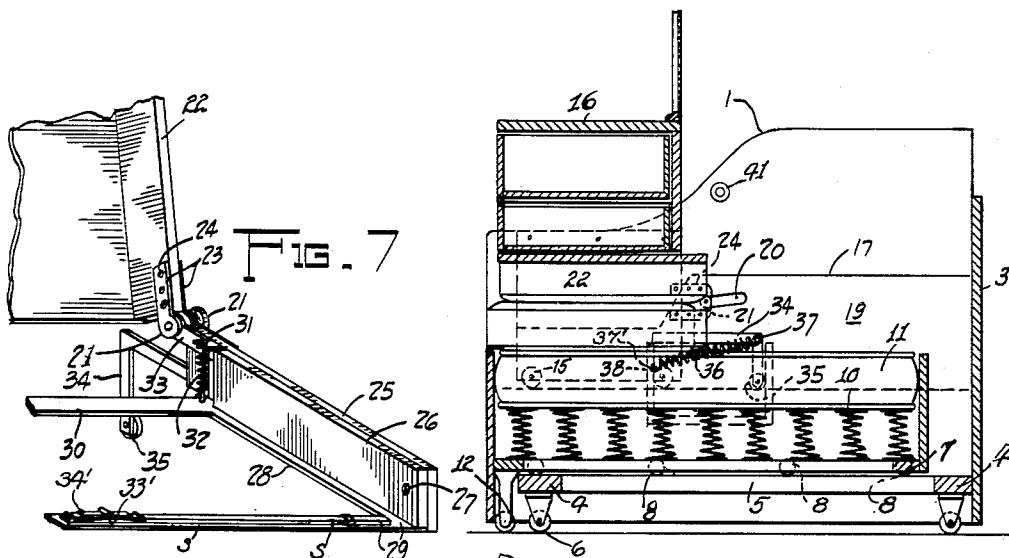


FIG. 5

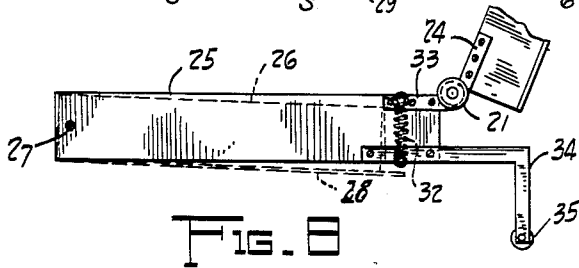


FIG. 6

INVENTOR.
WILLIAM R. BROWN

BY
Arthur H. New Horn
ATTORNEY

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2,720,659

FURNITURE CONSTRUCTION

William R. Brown, Cleveland, Ohio

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14 Claims. (Cl. 5—2)

My invention is an improvement in combination furniture and relates more particularly to an article of furniture which combines the features of a bed, davenport and dresser.

It is one of the objects of this invention to provide an article of furniture which affords the combined facilities of a davenport and bed as well as a dresser, if desired.

A further object of this invention is to provide an article of furniture of the above named character which in respect to its combined functions is relatively simple of construction and which is sturdy and particularly adapted for use in restricted areas, such as hotel rooms, motor courts or the like.

Another object of my invention is to provide an article of furniture of the above named character which affords a high degree of comfort to the user whether the same is used as a bed or davenport.

Another object of the invention is to simplify the construction of the same without detracting from its appearance or its ease of manipulation from one of its designed uses to another.

Another object of my invention resides in the provision of a main frame having an auxiliary frame which is adapted to be housed within the main frame when the device is used as a davenport or as a dresser and to also provide a novel seat and backrest construction.

Other objects and advantages of my invention will become apparent as the following description of an embodiment thereof progresses, reference being made to the accompanying drawings in which like reference characters are employed to designate like parts throughout the same.

In the drawings:

Figure 1 is a perspective view of the article of furniture set up as a davenport;

Figure 2 is a vertical section through the article of furniture shown in Figure 1 and which is taken transversely of the same from front to rear on a line adjacent one end of the article;

Figure 3 is a section taken on line 3—3 of Figure 2;

Figure 4 is a view similar to that shown in Figure 2 in which the auxiliary frame is shown extended beyond the main frame while the seat cushion and its frame are disposed in a substantially vertical position against the substantially vertically disposed backrest in which position the article of furniture is adapted for use as a bed;

Figure 5 is a view similar to that shown in Figure 2 in which the article of furniture is set up to be used as a dresser and the backrest and the seat member are disposed in a substantially horizontal position, one above the other, and the dresser member is moved forward of the main frame, as shown;

Figure 6 is a sectional view through one of the end members of the main frame and through a portion of the seat, cushion and frame illustrating a form of separable latching means whereby the seat may be releasably latched in an upright position when it is desired to extend the auxiliary frame forwardly to use the device as a bed;

Figure 7 is a fragmentary view of an end of the seat

and backrest frame members shown in perspective; and Figure 8 is a side view of the seat and backrest end frame members shown in Figure 7.

In carrying out my invention, I have provided a main frame for the article of furniture which includes opposed end members 1 and 2, a back wall 3, and an internal supporting frame indicated generally at 4 and 5. Rollers or casters 6 are carried by the supporting frame whereby the article of furniture may be moved about from place to place on the floor as a unit.

I also provide an auxiliary frame indicated generally at 7 which is provided with a series of rollers 8 along its bottom side rails. This auxiliary frame includes front, rear and side members indicated at 9 which house within them a conventional mattress spring 10 and a mattress 11 superimposed upon the spring. The entire auxiliary frame assembly is supported on the supporting frame 4 and 5 of the main frame and is provided with forward casters 12 so that when the auxiliary frame is moved forwardly as in Fig. 4 to use the article as a bed, it will be provided with supports on the front as well as rear and intermediate supports along the side rails 5 of the supporting frame. Side rails 13 are disposed along each inner side of the ends 1 and 2. The upper surface of said rails provides space for a track upon which is supported an upright supporting member or plate 14. The supporting member or plate 14 carries along its upper edge a unit of furniture 16 which may be in the form of a dresser unit and which acts to position, support, and hold in position the backrest hereinafter described. The supporting action of unit 16 is illustrated in Figs. 2 and 4. Thus the unit 16 is supported by plates which, when equipped with rollers 15 along the lower edge thereof is adapted to move forwardly and rearwardly on the side rails and along the main frame side members, as indicated in Figs. 2 and 5.

End plates 17 extend vertically adjacent the inner sides of the end members 1 and 2 and are preferably secured to the rails 13 as shown in Fig. 3 and extend upwardly therefrom and rearwardly toward the rear of the combined article of furniture. The forward portion of these plates is of less height than the rear portion thereof, as indicated in Figs. 2 and 4, the forward portion being indicated at 18 and the rear portion at 19.

Each of these end plates is provided with guide means such as a rearwardly and upwardly inclined slot 20 which is adapted to receive the supporting members 21 extending outwardly on the ends of the combined seat and backrest shown in Fig. 7. Thus these combined frames are supported and guided for movement from one adjusted position to another in the end plates 17, the supporting members 21 representing the axis of the hinge about which the backrest and seat frames are relatively movable.

The backrest and frame are represented generally at 22 and this frame is secured to the hinge member 23 as at 24.

The seat frame preferably includes side rails 25 to which auxiliary frame members 26 are pivotally attached by means of a pin 27 located in the forward end of the respective fixed side members 25. The auxiliary and pivoted side frame members are carried upon the side rails of the rectangular seat frame indicated by the side rails 28 and the front and rear flat frame members 29 and 30.

In order to afford additional comfort to the seat, I have provided a limited spring suspension for the rearward portion of the seat frame which includes a hanger 31 mounted on the fixed side rail 25 and extending inwardly of the seat frame directly over the rear back frame member 30. A coil spring 32 is connected at its ends to the hanger and to the rear frame member 30. By this construction, when the seat cushion is under load

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 conditions, the springs 32 carried by each end member of the seat frame are placed under tension. This is indicated more clearly in Fig. 8, thus allowing the seat frame 28 and 30 to move downwardly a limited distance with its load. When the load is removed, the spring will of course return the seat frame to the position shown in Fig. 7.

Inasmuch as the front and rear flat frame members 29 and 30 are of relatively thin metal, I have found it necessary, if the seat cushion is to operate efficiently, to reinforce the front frame member by attaching to the upper surface thereof a relatively small but rigid steel strap S divided into sections, as indicated at 33' in Fig. 7, and so joined by spring hinges 34' that upon pressure in an upward direction the said front frame member is made to be relatively rigid, but upon an application of downward pressure thereon, such frame member is relatively flexible.

The seat frame and the side members 25 are of course hinged to the backrest side members by complementary hinge members 33 and 23 which are carried by the seat and backrest end members 25 and 22, respectively, and which move about the axis 21 of the hinge.

One purpose of the supporting members 21 operating in the inclined slots 20 is to guide the combined seat and backrest members along the slots as the seat cushion is rotated upwardly from its substantially horizontal position as in Fig. 2 toward the upright position as in Fig. 4. In so moving the seat cushion, the arms 34 will move to a position whereby the rollers 35 will engage the rigid wall 37', thus causing the seat and backrest assembly to be guided up along the slots in which they are supported by the supporting members 21 to the position shown in Fig. 4. In such position, the seat cushion will be free of support on the mattress 11.

The side rails 25 of the seat frame are also provided with rearwardly extending L-shaped arms 34 which in turn are provided at their ends with rollers 35. The purpose of these arms is to effect a movement of the supporting members 21 and the associated seat and backrest assembly along the guide or slots 20 when the seat cushion is rotated upwardly or downwardly about the members 21. A spring 36 may be connected at one end to the arm at 37 and at its other end to a wall 37' as at 38. In order to retain the seat in a substantially vertical position against the backrest, a releasable latching means may be provided, complementary parts being carried by the seat and the end members 1 and 2, and indicated at 40 and 41, respectively. Specifically, the latch may include a spring pressed plunger carried in each of the end members 1 and 2 which is normally extended inwardly of the article of furniture by means of a spring 42 housed within a cylindrical body 43. A female fitting 40 is provided in the outer seat frame member 25 to receive the latch bolt indicated at 41.

Thus when the seat frame is raised to the position shown in Fig. 4, the plunger 41, upon engaging the fitting 44, will be depressed against the spring 42 until the fitting and plunger are in alignment whereupon the spring will force the plunger into the fitting and thus serve as a releasable latching means for maintaining the seat frame in the position shown in Fig. 4.

I claim:

1. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, and means intermediate the seat frame and the respective end plates to urge the said frame and supporting

members upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position.

2. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, and a backrest pivotally connected with said seat frame, and movable with said seat frame along the inclined slots in the end plates.

3. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, and a backrest pivotally connected with said seat frame on an axis defined by said supporting members operating in said slots, said backrest being movable with said seat frame along the inclined slots in the end plates and adapted to rotate between substantially vertical and horizontal positions.

4. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support adaptable to slide on said tracks and above said auxiliary frame, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, and a backrest pivotally connected at its base with the rear of said seat frame and movable with the seat frame along inclined slots in said end plates.

5. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, said seat

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frame including a cushion supporting base, opposed upright side members, and a pair of opposed auxiliary side members carried by the base and pivotally connected near one end with said side members.

6. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, said seat frame including a cushion supporting base, opposed upright side members, a pair of opposed auxiliary side members carried by the base and pivotally connected near one end with said first side members, and resilient means connecting one of said side members of the seat frame with said base to normally urge said respective side members in side by side alignment.

7. In an article of furniture, a main supporting frame, upright end members on said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each main frame end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, end plates carried by said main frame, said end plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective end plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, a backrest pivotally connected with said seat frame and movable with said seat frame along the inclined slots in the end plates, and complementary releasable latching means carried by said backrest and said end members for releasably retaining said seat frame in upright substantially parallel relation to said backrest.

8. In an article of furniture, a main supporting frame, end members extending vertically from said frame, an auxiliary frame slidably supported on the main frame, a track on the inner side of each end member, a backrest support slidable on said tracks and adapted to slide above said auxiliary frame, a seat frame, said backrest support being slidable over and above the seat frame and backrest when said backrest and seat frame are moved to a substantially horizontal position to be supported on said auxiliary frame, plates carried by said main frame end members, said plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective plates to urge the said frame upwardly and rearwardly along the inclined slots when said seat frame is lifted from a horizontal toward a vertical position, said seat frame including a cushion supporting base, opposed upright side members, and a pair of opposed auxiliary side members carried by the base and pivotally connected near one end with said side members.

9. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a back rest, a backrest support, a seat frame, end plates carried by said main frame end members, aligned inclined guide means in said respective end plates, supporting members carried by the seat frame and back rest and

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engaged along said guide means whereby the seat frame and the back rest may be swung between substantially horizontal and vertical positions, and means intermediate the seat frame and the respective end plates to urge the seat frame and back rest as an assembly along the inclined guide means when said seat frame is moved between horizontal and vertical positions.

10. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a backrest, a backrest support, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members engaged in said slots and constituting a common axis for said seat and backrest whereby said seat and backrest are hinged together for movement about said axis, means intermediate the respective end plates and the seat frame to urge the supporting members along the inclined slots, said last named means being responsive to movement of said seat frame between substantially horizontal and vertical positions.

11. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a backrest, a backrest support, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined slots, supporting members engaged in said slots and constituting a common axis for said seat and backrest whereby said seat and backrest are hinged together for movement about said axis, means intermediate the respective end plates and the seat frame to urge the supporting members along the inclined slots, said last named means comprising cooperating members on said seat frame and said end plates and responsive to movement of said seat frame between substantially horizontal and vertical positions.

12. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a backrest, a backrest support, a seat frame, end plates carried by said main frame end members, said end plates respectively having aligned inclined guide means, supporting members carried by the seat frame and engaging said guide means for movement therealong, said supporting members constituting a common axis for said seat and backrest whereby said seat and backrest are hinged together for movement about said axis, means intermediate the respective end plates and the seat frame to urge the supporting members along the inclined guide means, said last named means being responsive to movement of said seat frame between substantially horizontal and vertical positions.

13. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a seat frame, plates carried by said main frame end members, said plates respectively having aligned inclined slots, supporting members carried by the seat frame and engaged in said slots whereby the seat frame may be swung between substantially horizontal and vertical positions, means intermediate the seat frame and the respective plates to urge the said frame along the inclined slots, said seat frame including a cushion supporting base, said seat frame base including a front frame member, superimposed aligned strap sections secured on said member whereby to normally retain said front member substantially rigid when said seat is lifted from its horizontal position but permitting flexibility of said member under seating load.

14. In an article of furniture, a main supporting frame, end members extending vertically from said frame, a backrest, a backrest support, a seat frame, end plates carried by said main frame end members, aligned inclined guide means in said respective end plates, supporting members carried by the seat frame and backrest and engaged along said guide means whereby the seat frame and the backrest may be swung between substantially horizontal and vertical positions, and means intermedi-

ate the seat frame and the respective end plates to urge the seat frame and backrest as an assembly along the inclined guide means when said seat frame is moved between horizontal and vertical positions, said seat frame including a cushion supporting base, said seat frame base including a front frame member, superimposed aligned strap sections secured on said member whereby to normally retain said front member substantially rigid when

said seat is lifted from its horizontal position but permitting flexibility of said member under seating load.

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