June 1, 1954 N. E. BLANKE ET AL 2,679,653

DIVAN-BED

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FIG. 1

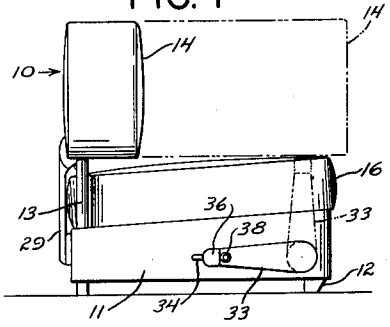


FIG. 2

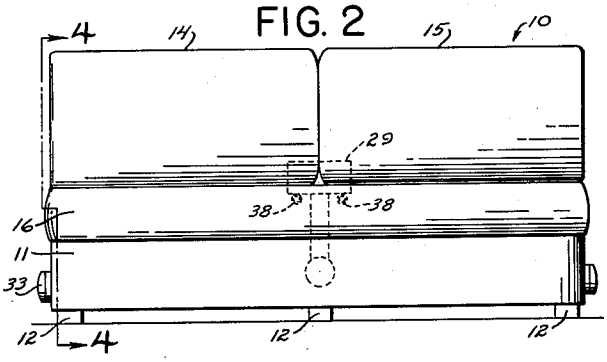


FIG. 3

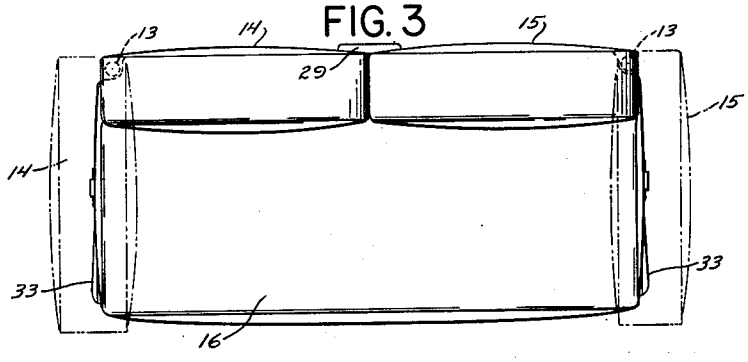


FIG. 4

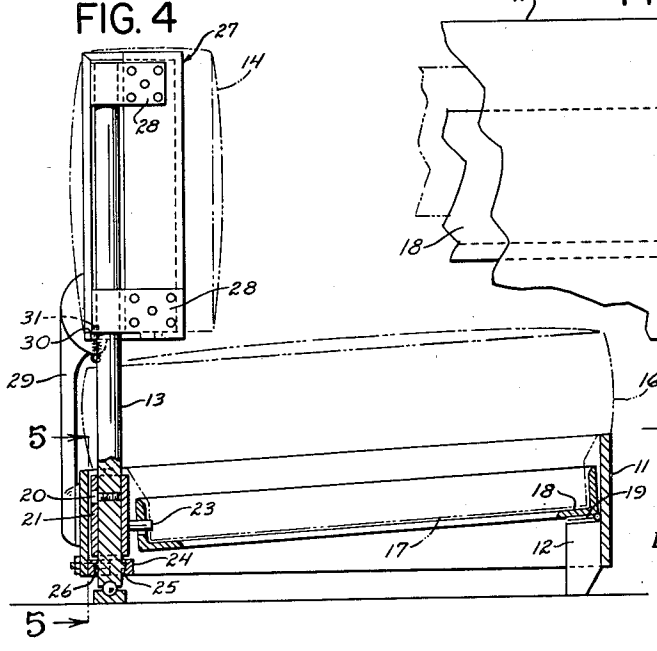
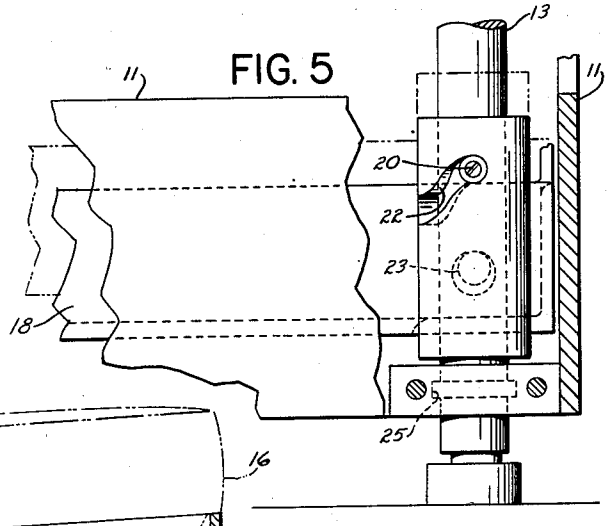


FIG. 5



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FIG. 6

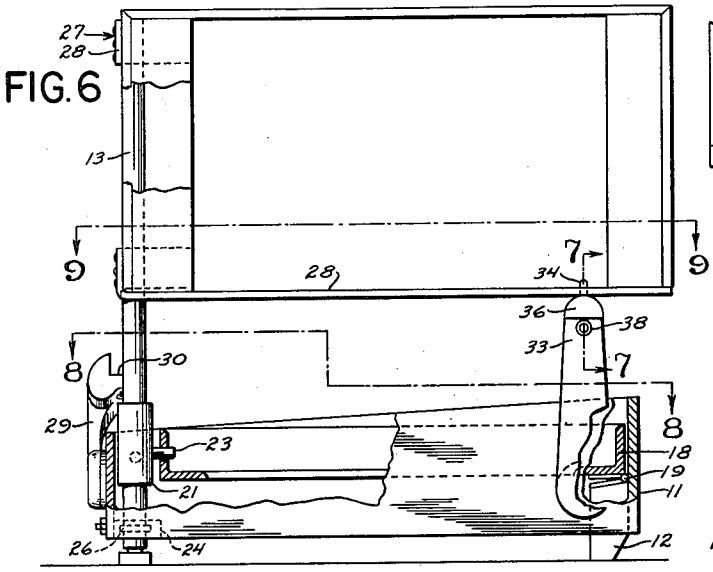
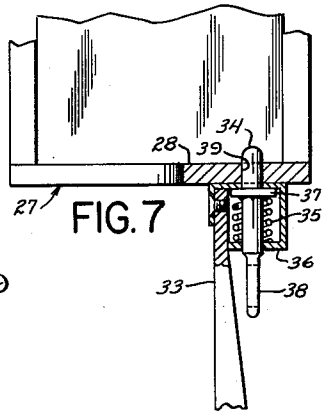


FIG. 7



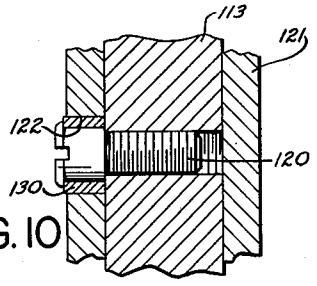
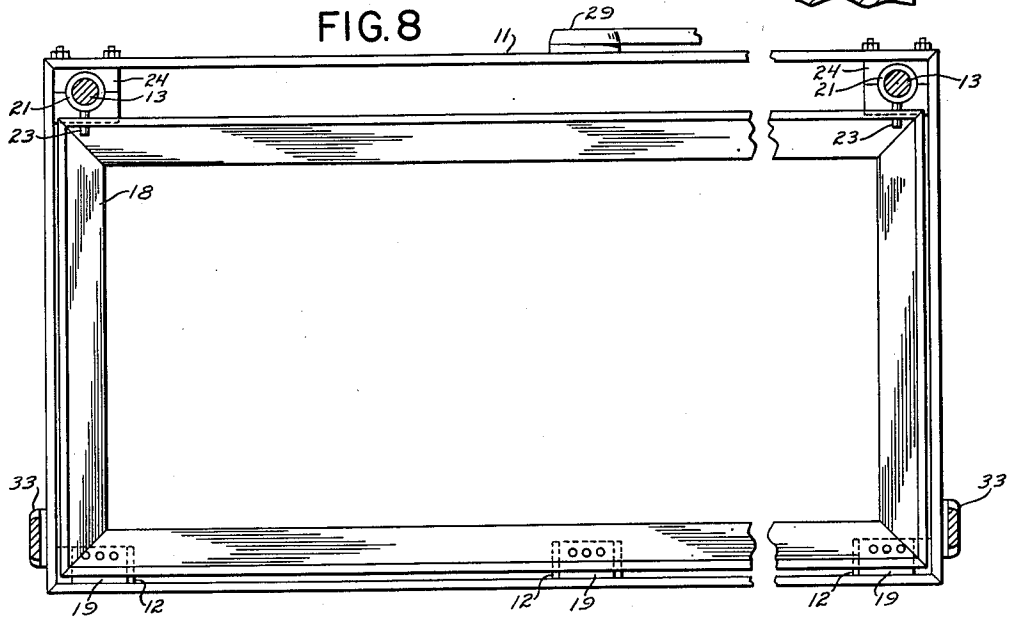


FIG. 10

FIG. 8



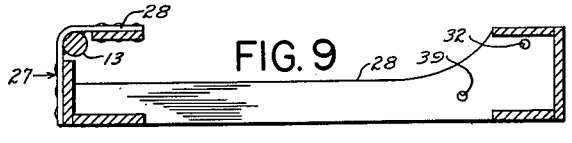


FIG. 9

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DIVAN-BED

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12 Claims. (Cl. 5—12)

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This invention relates to convertible furniture, particularly to a divan-bed article of furniture.

In our modern living conditions, it usually is necessary to effect a maximum utilization of a minimum amount of space. One way to effect such maximum utilization of space is by the use of convertible furniture, such as a divan-bed.

Different types of divan-beds have been suggested heretofore, all of which articles of furniture endeavor to provide a comfortable divan which can be readily and easily converted at any desired time into a bed and can thereafter be reconverted into a divan for interchangeable use of such piece of furniture. In such convertible furniture, the desired degree of comfort is frequently not realized, in either of the uses for the convertible piece of furniture. Also, some of such convertible furniture has been relatively complicated in construction, or has been expensive, or it may have been objectionable for other reasons.

The general object of this invention is to provide a novel type of a divan-bed which is characterized by the comfort provided thereby when used either as a divan or as a bed.

Another object of the invention is to provide a relatively compact, sturdily constructed, inexpensive type of a divan-bed.

Yet another object of the invention is to provide a divan-bed wherein the bed is provided by the seat portion of the divan but with the bed having greater width than the divan.

Yet another object of the invention is to vary the height of the rear portion of an article of furniture when changing it from a divan to a bed.

Still another object of the invention is to utilize a rotatable support post for the rear portion of a divan-bed and to carry the rear part of the furniture support frame on such rear support post for varying the vertical positioning of the rear portion of the furniture frame with variation in use of the article of furniture.

The foregoing and other objects and advantages of the invention will be made more apparent as the specification proceeds.

In order to show the features of the invention, one presently known form thereof is completely illustrated in the accompanying drawings, wherein:

Fig. 1 is an end elevation of a divan-bed embodying the principles of the invention, showing it in its divan arrangement and with the bed arrangement being partially indicated in broken lines on this drawing figure;

Fig. 2 is a front elevation of the divan-bed of Fig. 1;

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Fig. 3 is a plan of the divan-bed of Fig. 1 with the bed positioning of the divan back cushions being indicated;

Fig. 4 is a vertical section of the divan-bed of Fig. 1, taken on line 4—4 thereof, with the cushioning removed;

Fig. 5 is an enlarged fragmentary vertical section taken on line 5—5 of Fig. 4;

Fig. 6 is an end elevation of the frame shown in Fig. 4, with portions thereof being shown in vertical sections and with other portions thereof being broken away;

Fig. 7 is a fragmentary vertical section taken on line 7—7 of Fig. 6;

Fig. 8 is a broken horizontal section taken on line 8—8 of Fig. 6 with the rear stop member rotated to its down position;

Fig. 9 is a horizontal section taken on line 9—9 of Fig. 6; and

Fig. 10 is an enlarged vertical section through a modified type of a coupling between a rear support post and a sleeve carried thereby.

When referring to corresponding parts in the following specification, corresponding numerals will be used in both the specification and accompanying drawings to represent the same part whereby identification between such corresponding members is facilitated.

With reference to the details of the structure shown in the drawings, a divan-bed is indicated as a whole by the numeral 10. This divan-bed 10 usually includes an enclosure frame 11 which is positioned adjacent the lower portion of the article of furniture and which has any suitable supports provided therefor, such as one or more front leg supports 12 that are suitably secured to a portion of the enclosure frame 11. The rear portion of the enclosure frame 11 is shown as being supported by a pair of rear corner posts, or supports, or support members 13, which rear corner posts engage with the enclosure frame in a manner described hereinafter in detail.

The divan-bed 10 includes a pair of rear cushions 14 and 15 that are carried by and supported from the rear corner posts 13. A conventional seat cushion 16 completes the supporting cushions of the invention and this cushion 16 will normally extend the length of the divan-bed 10. The seat cushion 16 is usually supported by a box spring 17 which in turn is carried on a frame 18. This frame 18 may be of substantially rectangular shape, as is the enclosure frame 11, and the front portion of this frame 18 is suitably supported on means, such as the enclosure frame 11 or the front leg supports 12. In this instance, the frame 18 is secured to the enclosure frame 11

by one or more hinges 19 to facilitate the vertical adjustment of the rear portion of the frame 18, as hereinafter described. There are no supports provided for the end portions of the frame 18 whereas the rear side or section of this frame 18 is supported on the rear corner posts 13.

The principles embodied in the support of the rear portion of the frame 18 comprise one of the important features of the present invention by which the level of the seat cushion 16 is changed when used as a bed and as a divan. The rear corner posts 13, as indicated in Fig. 4, have suitable studs 20 in threaded engagement therewith with the heads of the studs extending therefrom. A sleeve 21 is telescopically and rotatably received by or engaged with each of the rear corner posts 13 and Fig. 5 shows that a substantially vertically but angularly inclined slot 22 is formed in each of the sleeves 21. These slots 22 each receive one of the studs 20 therein in order to provide certain limited but fixed relative movement between the sleeves and the support members provided therefor. In some instances, it may be desired to reverse the arrangement of the stud 20 and the slots 22 and in such instance the slot member could be provided in the rear corner post, while some protuberance could be provided in the bore of the sleeve 21 so that, if the sleeves 21 are held against rotary or arcuate movement, arcuate movement of the rear corner posts 13 will effect a vertical movement of the sleeve either upwardly, or downwardly, depending upon the particular correlation of the stud 20 and the slot 22 at such time.

Figs. 4 and 6 of the drawings show that usually some kind of a stud, pin or protuberance 23 is secured to or formed integrally with each of the sleeves 21 and extends forwardly therefrom. These pins 23 engage with the rear portion of the frame 18 to support the frame on the sleeve. Likewise, the pins 23 retain the sleeves 21 against arcuate movement with the rear corner posts when such members are moved arcuately of the divan-bed 10 of the invention and insure the desired vertical movement of the frame 18.

Fig. 4 of the drawings shows the sleeves 21 supporting the rear portion of the frame 18 in its lowest position whereas Fig. 6 of the drawings illustrates the vertical position of the sleeve 21 and rear part of the frame 18 when the divan-bed is positioned for use as a bed. At such time, it will be noted that the frame 18 is horizontally positioned whereas in Fig. 4, when adapted for use as a divan, the frame 18 slants appreciably downwardly of the divan-bed from front to rear thereof.

The rear portion of the enclosure frame 11 may be secured to the rear corner posts 13 by means of split collars 24 one of which is carried by each of the posts 13. Each of the collars 24 is provided with a circumferentially extending recess 25 that lies in a horizontal plane when the collar 24 is engaged with the post 13 and these recesses 25 receive therein studs 26 formed on each of the rear corner posts 13. Thus the collars 24 can be fixedly secured to the enclosure frame 11 and can be supported by the rear corner post but permit relative arcuate movement of the corner posts.

Each of the rear cushions 14 and 15 has a frame indicated generally by the numeral 27 provided therefor and with each such frame 27 having a plurality of plates or bars 28 secured thereto and also suitably secured, as by welding, to the rear corner posts 13 whereby the cushions

are fixedly secured to and supported by such rear corner posts. The rear cushion frames 27 each have a bottom plate or board 28 provided therein.

In order to prevent undesired movement of the rear cushions 14 and 15 when positioned at either extremity of their arc of movement, a support arm 29 is pivotally secured to or otherwise carried on the enclosure frame 11 at the rear thereof. This support arm 29 has a shoulder 30 formed on the upper surface thereof that engages the bottom plates 28, of the rear cushion frames 27 adjacent the free ends thereof. Support arm 29 also carries a pair of locking pins 31 which are resiliently urged up beyond the upper surface of the shoulder 30 for releasable engagement with a hole 32 provided in each bottom plate 28 adjacent the free end thereof. Thus the rear cushions 14 and 15 can be fixedly positioned in their longitudinally extending positions, at which time the rear cushions 14 and 15 are longitudinally aligned and are adjacent but above the rear portion of the enclosure frame 11. In some constructions, it may not be necessary to use the locking pins 31, or some other type of a device could be provided for limiting rearward movement of the rear cushions 14 and 15 and preventing distortion or movement of same when one or more persons sits upon the divan-bed 10 and leans backwardly against a rear cushion. A similar support arm 33 is pivotally secured to each end section of the enclosure frame 11 adjacent the front corner thereof. These support arms 33 each carry a locking pin or stud 34 that is urged outwardly or longitudinally of the support arm 33 by a coil spring 35 with which each such pin 34 is engaged. Fig. 7 best shows that the springs 35 may be positioned within a little compartment 36 that is secured to the free end of each support arm. The pins 34 are shown as having flanges 37 that engage with one end of the spring 35 and are urged outwardly of the compartment 36 thereby. Preferably a finger receiving loop 38 is provided at the exposed end of the pin 34 to make it easier to engage such pin for movement thereof. When the rear cushions 14 and 15 are positioned in their bed forming places, the pins 34 of the support arm 33 can extend through second holes 39 that are provided in the bottom plates 28 of the frames 27 and be releasably engaged therewith.

Fig. 10 of the drawings shows a slight modification of the invention wherein a rear corner post, or support 113, is provided and which carries a sleeve 121 thereon. This sleeve 121 has a suitable slot 122 therein that extends angularly upwardly, or vertically of the sleeve 121 with relation to its longitudinal axis. The sleeve and support 113 are secured to each other for a predetermined and limited amount of relative vertical movement therebetween by means of a stud 120 that is in threaded engagement with the support post 113 and with the enlarged head of the stud 120 having a bearing portion provided thereon that carries a suitable roller bearing 130 or other bearing device thereon to facilitate a rolling or sliding movement of the stud 120 with relation to the slot 122 and sleeve 121.

It will be realized that the vertically extending slots used in the sleeve members of the invention may be of any desired contour but that such slots should only be of 90° in arcuate length. The ends of these slots may be substantially horizontally directed for short distances to provide end locks in the device of the invention.

The rear cushions 14 and 15 may be of any

desired thickness and it will be appreciated that when used as a divan, the depth of the rear cushions 14 and 15 effectively reduce the seating depth of the divan-bed and provide a more comfortable seating action, particularly when taken in conjunction with the vertical movement of the seat cushion 16 of the divan-bed. That is, the seat cushion 16 of the divan-bed is slanted downwardly of the article of furniture when it is being used as a divan. However, when the rear cushions are swung to their positions adjacent the ends of the divan-bed, then the rear cushions 14 and 15 merely serve more or less as head and foot boards of the resultant bed.

It will be noted that in some instances the frame 18 need not be provided and any spring means used to support the seat cushion 16 can be suitably supported by the front portion of the divan-bed and have the rear support means for such seat cushion 16 be engaged with and carried by the sleeve 21 in any desired manner.

While one specific type of a rotatable support is shown for the seat portion of the bedframe, it will be realized that any other similar device may be used to support the rear of the seat of the divan-bed in a vertically adjustable manner. Hence one post could support the frame 11 and carry a second post that would support both the seat cushion 16 and the back cushions 14 and 15 with the second post being rotatable and movable vertically with relation to the first post. It may be desired to move the support posts through arcs as great as 180° in some instances although a 90° swing of the back cushions is usually all that is desired. When referring to the slot 22 being angularly vertically directed, it means that the slot 22 extends in a direction having both axial and circumferential components. The slot 22 need not be either straight or be on an arc and may extend in a substantially axial direction in the center portion thereof.

In some instances, it may be preferred to have the corner posts positioned in different relation to the cushions that they support so that the entire length of the divan cushion 16 is available for use as a bed, when desired.

It will be noted that a novel combination furniture piece has been provided by the invention and that the objects thereof have been achieved.

While two complete embodiments of the invention have been disclosed herein, it will be appreciated that modifications of these particular embodiments of the invention may be resorted to without departing from the scope of the invention as defined by the appended claims.

Having thus described our invention, what we claim is:

1. A divan-bed comprising a frame, a front support for said frame, hinge means pivotally securing said frame to said front support, a pair of rear support members for said frame, a sleeve member in rotatable telescoped association with each of said rear support members, said sleeve members and said rear support members being engaged with each other by a protuberance on one member being received in an angularly vertically directed slot of 90° in length formed in the other member, a projecting member secured to each said sleeve on the outer surface thereof, the rear portion of said frame being engaged with said projecting members to be supported thereby, and means for rotating said rear support members through arcs for varying the vertical height of the positioning of the rear portion of said frame, each of said rear support members being movable in arcs extending forwardly and longitudinally outwardly of said frame to raise the rear of said frame.

2. A divan-bed comprising a frame, a front support for said frame, a pair of rear support members for said frame, a sleeve member in rotatable telescoped association with each of said rear support members, each of said sleeve members and the said rear support members which it encompasses being engaged with each other by a protuberance on one member being received in a vertically angularly directed slot formed in the other member, means on each said sleeve on the outer surface thereof engaged with the rear portion of said frame to support said frame thereby, and means for rotating said rear support members through arcs for varying the vertical height of the positioning of the rear portion of said frame by moving said sleeve members vertically on said rear support members.

3. A divan-bed as in claim 2 wherein said means includes a cushion frame secured to each of said rear support members and positioned for arcuate movement from a position in substantial longitudinal alignment with the rear of said frame and extending longitudinally inwardly thereof to a position extending substantially normally from the end portions of said frame.

4. A divan-bed comprising a frame, a front support for said frame, a pair of rear support members for said frame, and a sleeve member in rotatable telescoped association with each of said rear support members, each of said sleeve members and said rear support members being engaged with each other by a protuberance on one member being received in a vertically angularly directed slot formed in the other member, the rear portion of said frame being engaged with said sleeve members to be supported thereby, said rear support members being movable through arcs for varying the vertical height of the positioning of the rear portion of said frame.

5. A divan-bed as in claim 4 wherein the said protuberance and slot comprise one stud of a pair of studs which is individually engaged with each of said rear support members so that each support member has a stud engaged therewith and protruding therefrom, and a roller bearing is carried by each of said studs and engages the slot which is formed in the said sleeve engaged therewith.

6. A divan-bed comprising a substantially rectangular frame, front supports for said frame, hinge means pivotally securing said frame to said front supports, a pair of rear support posts for said frame, a stud projecting from each said support post, a sleeve having a vertically angularly directed slot therein in telescoped association with each of said posts with said studs engaging said slots to limit relative rotation between said sleeves and said posts, a projecting member secured to each said sleeve on the outer surface thereof, the rear portion of said frame being engaged with said projecting member to be supported thereby, and means for rotating said support posts through arcs for varying the vertical height of the positioning of the rear portion of said frame.

7. A divan-bed comprising a substantially rectangular frame, front supports for said frame, a pair of rear support posts for said frame, a stud projecting from each said support post, and a sleeve having a vertically directed slot therein in telescoped association with each of said posts with said studs engaging said slots to limit rela-

tive rotation between said sleeves and said posts, the rear portion of said frame being engaged with said sleeves to be supported thereby, said support posts being rotatable through arcs for varying the vertical height of the positioning of the rear portion of said frame.

8. A divan-bed as in claim 7 wherein means are provided for moving said support posts through arcs and comprise a cushion secured to each of said support posts and positioned for arcuate movement from a position in substantial longitudinal alignment with the rear of said frame and extending longitudinally inwardly thereof to a position substantially superimposed on the end portions of said frame.

9. A divan-bed comprising a front support, a rear support member, said front support and rear support members being adapted to support a seat cushion thereon, and a support leg member engaging said rear support member to position same, said support leg and rear support members being relatively rotatable, one of said support leg and rear support members having a protuberance thereon and the second member having an angularly vertically directed slot formed therein and receiving said protuberance to produce relative vertical movement between said support leg and rear support members on relative rotation therebetween.

10. In a divan-bed, a frame for the divan-bed, a back cushion, post means secured to said back cushion to support it for pivotal movement, and means securing said back cushion at its extremities of movement, said means comprising a pivotal support arm operatively associated with said frame at a rear portion thereof, and means on said support arm for engaging a rear portion of said back cushion to limit rearward movement thereof.

11. In a divan-bed, a frame for the divan-bed, a back cushion, post means secured to said back cushion to support it for pivotal movement, and means securing said back cushion at its extremities of movement, said means comprising a frame for said back cushion having an aperture in a lower portion thereof, an arm pivotally carried by said divan-bed frame at a front part of a side of same, a locking pin on said arm, and resilient means urging said locking pin outwardly of said arm for engaging the aperture in said back cushion frame to limit forward and outward pivotal movement of said back cushion.

12. In a divan-bed, a back cushion, post means secured to said cushion to support same, a bedframe of substantially rectangular shape, front support means for said bedframe, and slotted sleeve and pin means operatively connected between said post means and the rear part of said bedframe to support it, said sleeve having a vertically angularly directed slot therein and said pin means engaging said slot to provide vertical movement between the rear part of said bedframe and said back cushion on arcuate movement of said back cushion.

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