

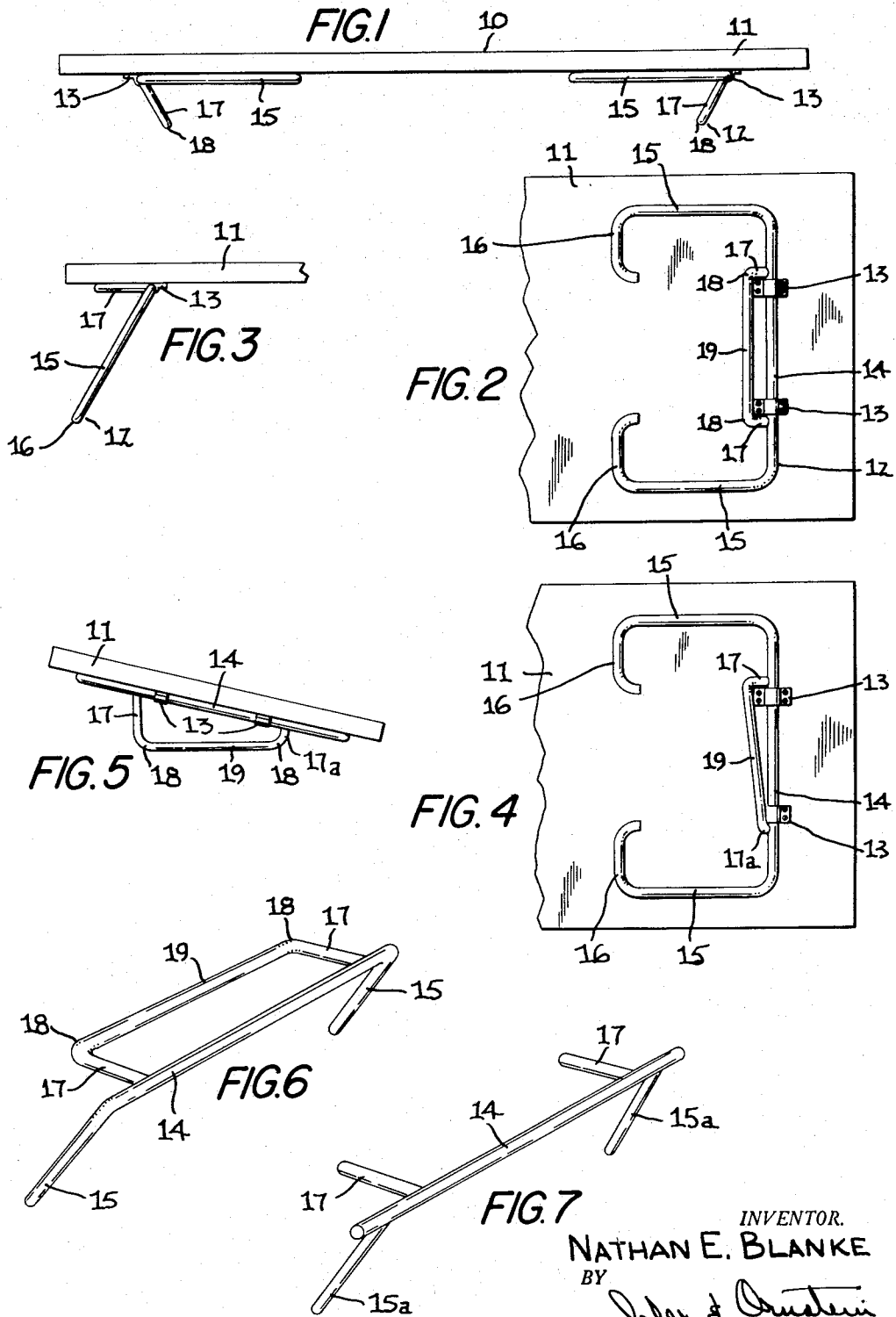
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ADJUSTABLE LEG STRUCTURE FOR BED FRAME OR THE LIKE

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ADJUSTABLE LEG STRUCTURE FOR BED FRAME OR THE LIKE

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This invention relates in general to bed-frames and the like, and more particularly to a supporting structure for such frames.

It is known to provide two bed-frames or bed-steads which are designed to be nested, one under the other. This permits one bed-frame to be stored underneath the other bed-frame when it is not being utilized. When it is desired to utilize the stored bed-frame, it is removed from its stored position and is then elevated to the same level as the other bed-frame by means of a foldable supporting structure. The beds can then be utilized independently of each other, as twin beds, or they can be placed adjacent each other to simulate a double bed.

It is the primary object of my invention to provide an improved adjustable leg structure which may be utilized in a nested bed-frame arrangement of the character described.

Another object of my invention is to provide a leg structure which will provide two levels of elevation for the frame.

Still another object of my invention is to provide a leg structure which is adapted especially to permit the frame to be utilized either as a bed or as a settee or the like.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side elevation of a settee or bed-frame embodying a supporting structure in accordance with my invention.

Fig. 2 is a fragmentary bottom plan view of the leg structure shown in Fig. 1.

Fig. 3 is a fragmentary side elevation, similar to Fig. 1, but showing the alternate position of the leg structure.

Fig. 4 is a view similar to Fig. 2, but showing a modified form of leg structure.

Fig. 5 is an end elevation showing a frame supported by the leg structure shown in Fig. 4.

Fig. 6 is a perspective view of a modified form of leg structure.

Fig. 7 is a perspective view of still another modified form of leg structure.

Referring more particularly to Figs. 1-3 of the drawings, I have shown a body-supporting structure 10 which may be a bed-stead or a settee or any similar unit of furniture on which persons can sit or lie. The unit 10 includes a body-supporting surface or frame 11 which is maintained at an elevated position above floor level by means of ground-engaging support members 12 which are pivotally secured to the underside of the frame 11 by means of U-shaped clips or brackets 13.

Each of the members 12 includes an axially rotatable cross-bar or hinge-bar 14 which is embraced by the spaced clips 13. Projecting laterally from the cross-bar 14 are a pair of parallel or coplanar horizontally spaced ground-engaging legs 15 which preferably terminate in rounded

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or curved caster portions 16 which will slide readily over the floor surface when it is desired to move the unit 10 from one location to another.

The members 12 are symmetrically disposed adjacent opposite ends of the frame 11, and the legs 15 serve to limit the rotation of the member 12 in one direction by abutment with the underside of the frame 11, as shown in Fig. 1. Thus, the clockwise rotation of the right hand member 12 (Fig. 1) and the counterclockwise rotation of the left-hand member 12 are each limited by the abutment of the respective legs 15 with the underside of frame 11.

Also projecting laterally from the cross-bar 14 are a second pair of parallel or coplanar legs 17 which are of shorter length than the legs 15. The common radial plane of the legs 17 is angularly disposed relative to the common radial plane of the legs 15, and preferably these planes define an included angle of less than 90 degrees. This angle is preferably in the range of 30 to 60 degrees, and I have found it more generally desirable, from the standpoint of stability of the unit 10, not to exceed an angle of 45 degrees.

Each pair of legs 17 serves to limit the rotation of its member 12 in a direction opposite to that in which the legs 15 are effective, as above described. This is best seen in Fig. 3 wherein the legs 17 of the left-hand member 12 are shown in abutment with the underside of the surface 11. I have also found it desirable from the standpoint of stability, to so dispose the legs 17 relatively to the legs 15 as to have the opposite pairs of shorter legs 17 convergent when in ground-engaging position whereas the opposite pairs of longer legs 15 are divergent when in ground-engaging position. Thus the longer legs 15 provide a larger supporting base for the unit 10 when it is in its maximum position of elevation and its center of gravity is higher than it is when legs 17 are being utilized.

The legs 17 may terminate in rounded or curved caster portions 18, which, in the particular form shown, are provided or formed by a common cross-member 19 which is readily slidable over a floor surface and which also serves to add strength and rigidity to the leg structure.

Although I have shown, for the purpose of simplicity, that the supporting surface 11 is a continuous solid piece, it will be understood by those skilled in the art that the part 11 may be merely a skeletal frame or may take any one of a wide variety of shapes or forms, provided that the frame or portions thereof extend into the path of movement of the supporting members 12 so as to provide the abutments which limit the rotation thereof in the manner heretofore described.

There are no latches, locks or similar releasable fastening devices required in connection with the disclosed leg structure. Due to the acute angularity of the legs 15 or 17 relative to the ground or floor, any significant load on the supporting surface 11, such as would result from a person sitting or lying thereon, creates a locking torque or leverage on the legs 15 or 17, as the case may be, which resists any tendency of the members 12 to rotate in a direction opposite to that in which the abutments are then operative.

When the unit 10 is in its lowered position, as in Fig. 1, it may be nested under a companion unit 10 which is elevated, as in Fig. 3, thus providing a twin-bed or double-bed convertible furniture piece, as heretofore described. When the unit is in the lowered position, it may also be used as a lawn settee or the like. If only one of the supporting members 12 is rotated to its alternate position, as in Fig. 3, and the other is permitted to remain in the low position, as in Fig. 1, the frame or surface 11 will be sloped or inclined in a longitudinal direction and can thus be utilized as a chaise longue or the like.

As shown in Figs. 4 and 5, one leg of a pair of legs may be of greater or lesser length than the other leg so as to produce a transverse inclination or sloping of the frame 11, if desired. Customarily, the frame would then be provided with a suitable back-rest or the like, somewhat in the nature of a bench or lawn seat or sofa. In the specific embodiment of this form of the invention illustrated in Figs. 4 and 5, I have shown a pair of short legs 17 and 17a in which the leg 17a is shorter than the leg 17, the leg structure being otherwise the same as disclosed in Figs. 1-3. This illustrated structure is merely exemplary of this modified form of the invention, as it is a matter of choice as to which of the legs or pairs of legs 15 or 17 shall be made of unequal length.

In Fig. 6, I have shown a slightly modified form of the invention wherein the bent ground-engaging portions 16 of the legs 15, disclosed in Fig. 2, are eliminated.

In Fig. 7, I have shown another modification of the invention wherein the cross-member 19 of legs 17 is eliminated and, additionally, the legs 15a are not bent extensions of the hinge-bar 14 as in Figs. 2, 4 and 6, but instead are individual elements which are welded or otherwise fixedly secured to the hinge-bar 14.

From both the manufacturing and structural standpoint, I prefer that tubing be used for the supporting member 12, although rods or bars of metal or wood could be utilized, if desired.

It is to be understood that the forms of my invention, herewith shown and described, are to be taken as preferred examples of the same, and that various changes in the shape, size, and arrangements of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a body-supporting unit of the character described, the combination of a first pair of ground-engaging legs pivotally secured to said unit, a second pair of ground-engaging legs pivotally secured to said unit for rotation about an axis common to said pairs of legs, one of said pairs of legs being of greater length than the other of said pairs of legs, and one leg of one of said pairs being of greater length than the other leg of said one pair.

2. In a body-supporting unit of the character described, the combination of a first pair of ground-engaging legs pivotally secured to said unit, a second pair of ground-engaging legs pivotally secured to said unit for simultaneous rotation with said first pair of legs about an axis common to said pairs of legs, said first pair of legs being angularly disposed relatively to said second pair of legs, said first pair of legs being of greater length than said second pair of legs, and one leg of one of said pairs of legs being of greater length than the other leg of said one pair.

3. In a leg structure for a bedstead or the like, the combination of an axially rotatable hinge-bar, a first unitary pair of ground-engageable legs fixedly secured to

said hinge-bar for angular rotation therewith, a second unitary pair of ground-engageable legs fixedly secured to said hinge-bar for angular rotation therewith, said second pair of legs being disposed angularly relatively to said first pair of legs, said first pair of legs being of greater effective length than said second pair of legs, and one leg of one of said pairs of legs being of greater effective length than the other leg of said one pair of legs.

4. In a leg structure for a bedstead or the like, the combination of a rotatably mounted U-shaped member having a bight portion defining a hinge-bar and having side portions defining a first pair of ground-engageable legs, a second pair of ground-engageable legs fixedly secured to said hinge-bar for angular rotation therewith, said second pair of legs being disposed angularly relatively to said first pair of legs, said first pair of legs being of greater effective length than said second pair of legs, and one leg of one of said pairs of legs being of greater effective length than the other leg of said one pair of legs.

5. In a leg structure for a bedstead or the like, the combination of a rotatably mounted U-shaped member having a bight portion defining a hinge-bar and having side portions defining a first pair of ground-engageable legs, a second U-shaped member fixedly secured to said bight portion for angular rotation therewith and having side portions defining a second pair of ground-engageable legs, said second pair of legs being disposed angularly relatively to said first pair of legs, and one leg of one of said pairs of legs being of greater effective length than the other leg of said one pair of legs.

6. In a body-supporting unit of the character described, the combination of a horizontal body-supporting member, a pair of leg assemblies pivotally secured to said member in horizontally-spaced relationship, each leg assembly including a first unitary U-shaped member having a bight portion defining an axially rotatable hinge-bar and having spaced coplanar side portions defining a first pair of ground-engageable legs, each leg assembly including a second unitary U-shaped member having spaced coplanar side portions fixedly secured to said hinge-bar and defining a second pair of ground-engageable legs, the plane of said second pair of legs being at an acute angle to the plane of said first pair of legs, said second U-shaped member including a bight portion connecting the ground-engaging portions of said second pair of legs, and one of said pairs of legs being of greater effective length than the other of said pairs of legs.

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