ADJUSTABLE CHAISE LOUNGE

Ted T. Danciart, Arcadia, and David Dunder, Glendora, Calif., assignors to Calpatio Co., Monrovia, Calif., a corporation of California.

Filed Nov. 24, 1958, Ser. No. 775,273
13 Claims. (Cl. 297—371)

Our invention relates generally to the type of adjustable lounge chairs or chaise lounges which are favorite articles of garden and swimming pool-side furniture, although not necessarily restricted to such uses.

Such lounges are provided with a horizontal bed frame to receive a body supporting pad, and with an adjustable back-rest, the inclination of which back-rest to the horizontal frame may be varied, usually by operation of the arm rests that extend generally parallel to the frame and which are connected to the back-rest, and release catch and lock means to secure the back-rest in desired adjusted position. A rack arrangement connecting the back-rest and arm rests is commonly provided to hold the back-rest in adjusted position.

In such known constructions a common drawback was that weight placed on an arm rest, for instance, by a person sitting down on an arm to visit the occupant or an unintentional downward force on the arm rests would release the adjustment holding the rack and pin of the back-rest and destroy the adjusted position of the back-rest relative to the frame.

Another common disadvantage was that springs employed to aid in raising the back-rest from a recumbent to erect position often times slipped off the mounting means for such springs and became lost, or they at times had a tendency to "fly" and cause serious injury when so disengaged, to persons that may be struck thereby.

A further drawback was that numerous bolts and nuts were heretofore utilized to secure the various parts together and such bolts and nuts commonly worked loose requiring frequent tightening which usually was overlooked until the bolt dropped out, due to the loss of the nut.

An object of our invention is to provide a novel chaise lounge construction whereby the above disadvantages and objectionable features are eliminated, and in which the means for holding an adjustable back-rest in adjusted position is so arranged that novel means holding the back in a selected adjusted position cannot become accidentally disengaged.

Another object of our invention is to provide a novel arrangement of the springs means tending to raise the back-rest from a recumbent position whereby such springs are concealed and positively retained in assembled position, and further cannot contact the skin or catch and injure the body in an erect or adjusted position of the back-rest of the lounge. A further object is to provide a novel adjustable chaise lounge in which the springs used for tensioning the back-rest in an elevated position are not under tension when the back-rest is in folded or collapsed position.

Other objects, advantages and features of invention may appear from the accompanying drawings, the subjoined detailed description, and the appended claims.

The accompanying drawings illustrate the invention in some of the forms we at present deem preferable.

FIGURE 1 is a side elevation of the lounge chair or chaise lounge of our invention in erected position but without a seat or body supporting pad associated therewith.

FIG. 2 is a top plan view of the chaise lounge illustrated in FIG. 1.

FIG. 3 is a fragmentary side elevation, drawn on a larger scale, showing the chaise lounge in folded position.

FIG. 4 is a fragmentary plan view of the parts in the position, and on the same scale, as shown in FIG. 3.

FIG. 5 is a fragmentary side elevation, drawn on a larger scale, of the back-rest positioning means.

FIG. 6 is a fragmentary sectional view on line 6—6, FIG. 5 and looking in the direction of the arrows.

FIG. 7 is a fragmentary side elevation of a modified form of the chaise lounge in folded position.

FIG. 8 is a fragmentary side elevational view on a larger scale, of the back-rest adjusting means of the modified form shown in FIG. 7, and with the back-rest partially moved to upright position; and

FIG. 9 is a transverse sectional view taken on line 9—9, FIG. 8.

Referring now to FIG. 1, the chaise lounge A of our invention comprises a longitudinal horizontal bed frame member 9 of light angle material, such as aluminum, the frame being in the form of a U, with its base at the front of its open end at the rear, and adapted to receive a body supporting pad (not shown). The frame 10 is supported on, and connected to, a wheeled frame 11 in any suitable manner, as for instance by having the side rails thereof welded at intervals to the longitudinal side member 12 of frame 11 which is also of U shape in plan.

Frame 11 has its open end at the rear of the lounge A, where the free ends 13 are bent downwardly to form supporting means for wheels 15. The lower ends or extremities of the ends 13 are drilled to receive a rod 14 which acts to space the free ends or legs 13 and also serve as an axle on the outer ends of which said wheels 15 are mounted and retained by caps 16.

The front end or base 18 of the U shaped wheeled frame 11 is bent downwardly whereby the forward portions of the side members 12 form front legs 17. The frame 10 is preferably a continuous U-shaped tubular member, and the closed or base member 18 thereof rests upon the ground level and maintains the side members 12 in a substantially horizontal position.

The bed of the frame 10 is formed of a plurality of spaced metal slats 19 having holes 20 through whose ends into which are hooked one end of coiled tension springs 21, the other ends of the springs 21 being hooked into holes 21' drilled or punched in the horizontal flange 50 of frame member 10.

The vertical flange 51 on each side of the frame member 10 is provided with a notch 22 near the rear end thereof for a purpose which will be hereinafter described.

A back-rest B in the form of a U-shaped metal tubular member 23 has its arms 23' pivoted adjacent its free ends to the frame member 10 by means of a spreader bar member 25 that has cranked ends 24 (FIG. 6) extending at each end into a hole drilled or punched through the lower end of the arms 23' of the tubular member 23 that forms the back-rest B, and which also extend through holes 26 drilled or punched through the vertical flange 51 of the bed frame 10.

Bar member 25 also acts as a spreader for the free
ends of the U shaped bed frame 10, the side rails thereof being under an inward pull due to the tension of springs 21. A combined spacing collar and bearing member 27 is loosely mounted on the ends 24 of spacer bar member 25 and is positioned thereon to engage the inner face of vertical flange 51, and such collar 27 engages the bend 25 of spacer bar member 25 and is thereby prevented from moving inwardly on spacer bar 25, thus maintaining the free ends in proper spaced position and the side rails of bed frame 10 in substantially parallel position relative to each other.

A coiled torsion spring 28 is mounted on the bearing member 27 which acts as a bushing to receive and support the center or coil 28' of spring 28 in addition to acting as a spacing member for the side rails of the frame member 10. The center or coil 28' of spring 28 on its inner diameter is approximately of the same diameter as the member 27 so that it is operably and loosely mounted thereon, and such spring 28 is also thereby prevented from "tilting" and is maintained in an upright position.

The torsion spring 28 has one end 29 cranked and entered through a hole 30 formed in the side of one arm 23' of the back-rest B and has its other end 29' bent and entered into a hole 30' formed in the tube forming the side member 12 of the wheeled frame 11.

When the back-rest B is moved downwardly from the second position the spring 28 is tensioned and when the back-rest is folded down upon the mattress frame 10 the spring 28 is not under tension, the operation of which is hereinafter referred to.

Since the mattress frame member 10 is of relatively light weight material, the inward pull of the tension springs 21 is preferably resisted by an additional spacer rod 31 positioned adjacent the seat portion of the frame and which takes most of the weight of a person when using the lounge.

Spacer rod 31 has its ends cranked similarly to rod 25, and the cranked ends are held in clips 32 riveted to the horizontal flange 50 of the angle side rails of the frame member 10. It will be noted that the extremities of spacer rod 31 engage the inner surface of vertical flange 51 of frame member 10 and prevent inward bowing of the side rails at such point of contact.

Preferably the slats 19 at the upper end of the bed are stabilized by cross-bracing slats 33, as shown in FIG. 2.

The back-rest B is provided with slats 34 similarly to the frame 10 to support a back cushion (not shown).

An arm rest member C in the form of a U shaped tubular member has its arms 35 on the side rails 36 pivotally connected as at 36 adjacent the base or closed end 52 thereof, to the rear open ends of the side rails of the bed frame 10. The arms 36 of arm rest C are bent intermediate their length, as at 53, and the free ends 35 thereof extend forwardly and spaced along the sides of the bed frame 10 in substantial parallelism thereto when the arm rest C is in engagement with the back-rest lock means D hereinafter described. Hand grip members 37 are secured in any suitable manner, as by screws 37 (FIG. 3), to the free ends 35 of arm rest arms 36.

The angle of inclination of the back-rest B to the mattress frame member 10 may be adjusted and maintained in position by a lock plate 38 mounted on the arm rests, as for instance by the bolts 39 (FIGS. 5 and 6), said lock plate 38 being engaged by lock pins 40 mounted in the arms 36 of the back-rest B.

As shown in FIGS. 4 and 6, the lock pins 40 may be formed by the outwardly projecting ends of bolts held in holes 40' drilled through the arms 23' of back-rest B, and said pins 40 are securely held in fixed position therein by nuts 41 threaded onto the inner threaded portion of such bolts to clamp the collar 54, and which is integral with the bolts forming the lock pin 40, against the arm 35'.

The mattress frame 44 is mounted on a wheeled
frame 45 that is constructed in the same manner as described with reference to FIGS. 1 and 2, and like parts in FIGS. 7 and 9 will be designated with like numerals as in FIGS. 1-6 for the sake of clarity and convenience.

The mattress frame 44 is fitted with any suitable spring connected slat or supporting surface construction (not shown) and it may be similar to that shown and described with reference to FIG. 2. The attachment of the tension springs (not shown), but similar in construction to those designated 21 in FIG. 2, being well understood by those skilled in the art.

The tubular side rails 44 are positioned on the longitudinal tubular side members 45 by U shaped clips 49 which are riveted to the side rails 44 and to the side members 45 by rivets 60 and 61.

The rear clip 49 only, is shown in FIGS. 7, 8, and 9, and this clip is mounted on the end up with the ends 62 extending sufficiently above the tubular frame 44 to enable the back-rest 63 formed similarly to the back-rest B previously described, to be pivoted, between the ends 62 of the clip 49, on the straight end portions 64 of a cracked rod 65 serving also to space the open ends of the tubular mattress frame 44, the said end portions 64 of rods 65 pass through aligned holes drilled in the clip 49 and in lower ends of the arms 63 of the back-rest 63.

Coiled torsion springs 56 are mounted on the straight end portion 54 and are also mounted on a bearing member 57 and positioned as previously described with reference to the structure shown in FIG. 6. One end 57 of the spring 56 is cramped and inserted through a hole 57 into the tubular back-rest frame 63 while the other end 58 is hooked at 58 and engaged with the rear edge of clip 49 between tubes 44 and 45.

A U-shaped arm rest 59 is pivoted at its closed end on the outside of the rear ends of the mattress frame 44 by bolt 70. The arm rest member 59 is formed in all respects similar to that previously described with reference to FIGS. 3 and 4, being provided with lock plates 71 in which pins 72 mounted in the back-rest are engaged and which may be disengaged by pulling the arm rests apart, as hereinafter described.

The chaise lounge of our invention is assembled with a minimum of fasteners, such as nuts and bolts, by utilizing the inward pull of the slat securing springs on the side rails of the chaise lounge to maintain the parts in assembled position, and securely hold the end portions 64 of the cracked spacing rods 65 in assembled position in the clips 49 and arms 63.

The cracked ends 64 of the rods 65 prevent inward movement of the side rails of the tubular frame 44, and this construction has the added advantage that when the chaise lounge is to be shipped or stored with its mattress pad and back cushion, the cracked rods 65 may be rotated, so as to have the offset central portion of rods 65 positioned in the plane of the side rails, thereby affording maximum space under the frame 44 to receive the mattress pad and back cushion.

The chaise lounge constructed according to our invention is easily fabricated, quickly assembled, and readily folded for shipping or storage, but is exceptionally safe and satisfactory in use, one advantage being that it cannot be accidentally collapsed while in use, since the arm rest member and back-rest member remain engaged by the lock plates until disengaged by positive outward movement of the arm rest member C.

While we have specifically described and shown embodiments of the invention at present deemed preferable by us, it is to be understood that changes in the described embodiments may be made by those skilled in the art without departing from the scope of the invention as defined in the appended claims.

We claim:

1. In a chaise lounge having a horizontally extending main frame; an adjustable back-rest member, and an arm rest member; both said back-rest and arm rest members being pivotally connected to said main frame; means adjustable connecting said back-rest member to arm rest member and engaging; a lock plate securing to each side of said arm rest member and having an elongate slot with a plurality of notches along the upper side of and opening into said slot; a pin projecting from opposite sides of said back-rest member and normally being in engagement with an associated lock plate to securely maintain said back-rest member in a predetermined and selected reclining position relative to said main frame; said arm rest member having forwardly extending arm portions sufficiently resilient to enable said arm portions to be sprung apart to permit said pins to be withdrawn from the lock plates whereby the chaise lounge back-rest member and the arm rest member may both be folded upon the main frame member.

2. A chaise lounge as set forth in claim 1, and in which said notches are longer than the opening connecting each notch with said elongate slot whereby inadvertent movements of said arm rests will not release back-rest from adjusted position.

3. A chaise lounge as set forth in claim 1, in which the main frame is a U shaped member of L angle material, one flange being horizontal and the other flange being vertical, the U-frame including side rails connected at one end and having its open end at the rear of the lounge, the arm rest member being of U-shape and pivotally connected near its closed end to the rear ends of the main frame side rails; said adjustable back-rest member being of U shape with its open end pivotally connected to the main frame member; said main frame member also comprising: a spacer bar extending between the opposite parallel side rails of the main frame and through holes formed in the vertical flanges of said main frame; said spacer bar also serving as pivot means for the back-rest; bushing members mounted on said spacer bar and held against axial movement on said spacer bar; a torsion spring having its coil portion around said bushing member and effective to normally urge the back-rest forwardly and maintain the back-rest pins in engagement with a selected one of said notches in the lock plate.

4. A chaise lounge having a horizontally extending main frame including side rails, a back-rest and an arm rest member both pivotally mounted relative to said frame; back-rest locking means cooperatively fixed to said back-rest and to said arm rest members to lock said back-rest in a selected one of different reclining positions relative to said frame; a spreader bar extending between said side rails and provided with an abutment adjacent to each of its ends effective to hold the opposite sides of said main frame apart and said back rest detachably assembled to said main frame; said spreader bar ends providing a shaft on which said back-rest is pivoted, said abutments and said spreader cooperating with said frame to hold the main frame and back assembled; and a torsion spring having a coil intermediate its ends encircling said spreader bar and having its end operably connected to said frame and to said back rest member to normally urge said back-rest forwardly relative to said frame.

5. A chaise lounge as set forth in claim 4, and in addition, a spool-like bushing supported within the coil of said torsion spring and means normally urging said side rails toward each other and said bushings against an adjacent abutment on said spreader bar.

6. A supporting member comprising a horizontally extending seat frame; a U-shaped arm member pivotally connected adjacent its closed end to the rear portion of said seat frame, and having an elongated notched pin receiving orifice therein which orifice has a continuous perimeter, and the side portions of said U-shaped arm member extending forwardly to form arm rest members; a back-rest member extending upwardly from said seat frame and having a pin extending therefrom and adapted to be assembled into and disassembled from said orifice by axial movement into and out of said orifice; and the
free ends of said arm rest members being adapted to be sprung apart to disengage the pin axially from said orifice.

7. A chaise lounge comprising a horizontally extending main frame member; a back-rest pivotally mounted upon the main frame; a unitary arm rest member having a pair of parallel arm rest portions pivotally mounted on said main frame; and adjustment means interconnecting said back-rest member and said arm rest member and cooperating with each other to releasably secure said back-rest member in a selected one of a number of different reclining positions; said adjustment means being operable to permit said arm rest portions to be manually disengaged from and re-engaged with said back rest member by lateral movement of said arm rest portions and of said back rest member relative to one another.

8. A chaise lounge as set forth in claim 1, and including means being operable to normally bias said back-rest member forwardly into substantially upright position.

9. A chaise lounge as set forth in claim 1, and including spring means being operable to normally bias said back-rest member forwardly into substantially upright position when said first mentioned means are in cooperative engagement with each other, and without destroying the selected predetermined reclining position of said back-rest member, and said spring means not being under tension when said first mentioned means are disengaged from each other.

10. A chaise lounge comprising a horizontally extending main frame member; a back-rest pivotally mounted on said main frame; an arm rest member pivotally connected to said main frame at points spaced lengthwise of said frame from said pivot mounting for said back rest; latch means adjustably interconnecting said back-rest member and said arm rest member for securing said back-rest in a selected one of a number of different reclining positions; and a coiled torsion spring having the coil portion thereof encircling and mounted loosely on said pivotal connection between said back rest and said main frame members, said latch means including means operable to disengage said arm rests therefrom so as to permit said back rest and arm rests members to pivot freely and independently of one another and of said latch means to facilitate compact folding of said chaise lounge for storage and packaging.

11. A chaise lounge comprising a horizontally extending U-shaped main frame member having its open ends at the rear of the lounge; a back-rest pivotally mounted upon said main frame; a resilient U-shaped arm rest member pivotally adjacent its closed end to said main frame, and being bent so that its side portions extend forwardly of said main frame to provide arm rests; a lock plate secured to each side of said arm rest member and having a series of open-ended notches spaced lengthwise thereof; a latch pin fixed to and extending outwardly from the back-rest member for seating in a selected one of said notches, said pin being disengageable from and re-engageable with the notches of said lock plate by forcibly springing the outer ends of arm rests laterally of said chaise lounge and to the extent to disengage and re-engage said latch pin with respect to said notches; means operative to normally bias said back-rest members forwardly with respect to said main frame; and the upper rear edges of said main frame being recessed to receive said pin when said back-rest is moved forwardly to a substantially horizontal position with said main frame.

12. A chaise lounge comprising a horizontally extending U-shaped main frame member including side rails having its open ends at the rear of the lounge; a back-rest pivotally mounted upon said main frame; a resilient U-shaped arm rest member pivotally adjacent its closed end to said main frame, and being bent so that its side portions extend forwardly of said main frame to provide arm rests; a lock plate secured to each side of said arm rest member and having a series of open-ended notches spaced lengthwise thereof; a pair of latch pins fixed to and projecting laterally from the opposite sides of said back-rest member for seating in a selected one of said notches; means being operable to normally bias said back-rest member forwardly with respect to said main frame, the arm rest ends of said resilient U-shaped arm rest member being movable laterally relative to one another to disengage and re-engage said latch pins in the notches of said lock plate; and the upper rear edges of said main frame being recessed to receive said latch pin when said back-rest is moved rearwardly to a substantially horizontal position with said main frame; there also being recesses in said side rails to receive said latch pin when the same is disengaged from said lock plate and said back-rest member is moved forwardly and onto said main frame for storage and shipping.

13. A chaise lounge comprising a horizontally extending main frame member; a back-rest member; a single unitary means pivotally connecting said back-rest member to said main frame member and normally held assembled to said main frame by reason of its overall length being in excess of the width of said main frame; an arm rest member pivotally connected to said main frame; latch means associated with said back-rest member and said arm rest member for securing said back-rest in a selected one of a number of different reclining positions; and a coiled torsion spring having its coil portion mounted on said means pivotally connecting said back-rest and main frame members, and having its ends in engagement with said back-rest and main frame members to normally bias said back-rest member forwardly into substantially upright position and toward said main frame member, and said single unitary means pivotally connecting said back-rest member to said main frame being disengageable from and re-engageable with said main frame by temporarily and forcibly springing the opposite sides of said main frame away from one another.

References Cited in the file of this patent

UNITED STATES PATENTS

172,291 Seng ------------------ Jan. 18, 1876
301,913 Miller ------------------ July 15, 1884
505,821 Druet ------------------ Oct. 3, 1893
597,480 Fellows ------------------ Jan. 18, 1898
875,760 White ------------------ Jan. 7, 1908
969,099 Fuchs ------------------ Aug. 30, 1910
1,296,612 Bartlett ------------------ Mar. 11, 1919
1,309,049 Syrett ------------------ July 8, 1919
2,477,155 Vincent ------------------ July 26, 1949
2,787,009 Hagerty ------------------ Apr. 2, 1957
2,812,013 Kreciglova ------------------ Nov. 5, 1957
2,916,085 Panacci ------------------ Dec. 8, 1959

FOREIGN PATENTS

338,293 Germany ------------------ June 17, 1921