FURNITURE FRAME AND CONSTRUCTION

Inventors: Lawton H. Crosby, (US); John Lawton Crosby, Santa Rosa, CA (US)

Correspondence Address:
BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60611 (US)

Assignee: Victor DeGuchy

Appl. No.: 09/957,088

Filed: Sep. 19, 2001

Publication Classification

Int. Cl. ................................. A47C 7/02
U.S. Cl. ................................. 297/452.52

ABSTRACT

A seat base assembly including a declivity in one or both side rails. A resilient member spans the declivity. Uplift, resilience and support is provided at the side rail as well as a clean, crisp defined upholstery line.
FURNITURE FRAME AND CONSTRUCTION
FIELD OF THE INVENTION

[0001] This invention relates in general to furniture seat base assemblies. It relates particularly to seat base frame and spring assemblies for modular furniture.

BACKGROUND OF THE INVENTION

[0002] Modular seat units of furniture, commonly called “pit groups” in the trade, have become a major factor in furniture sales during the past ten years. In some markets, the volume of modular furniture sales exceeds that of traditional sofas, loveseats, lounge chairs and other upholstered furniture.

[0003] Modular furniture, either motion or stationary, consists of upholstered chairs, loveseats, sofas and center wedges, for example, which do not have arms or have only one arm. By virtue of this, the furniture can be arranged in various combinations, as desired.

[0004] When upholstered furniture has an arm or arms, the buttocks and thighs of the sitter are automatically directed inwardly from the side rail of the furniture, under the arm. As a result, the side rail is not felt along the outside of the sitter’s thighs or buttocks. When there is only one arm or no arms in a piece of upholstered furniture, however, the sitter frequently, and unpleasantly, feels the hard side rail right through the cushioning along the entire distance between the buttocks and the knee. To date, no furniture manufacturers have been able to deal with this problem satisfactorily.

SUMMARY OF THE INVENTION

[0005] An object of the present invention is to provide an improvement in a furniture seat base assembly.

[0006] It is another object to provide an improvement in a seat base assembly for modular, upholstered furniture.

[0007] It is a further object to provide an improvement in a modular furniture seat base assembly which produces a generous, soft and comfortable yield along the side rails, comparable with a luxury seat in the center.

[0008] It is still another object to provide an improvement in a seat base assembly for modular assembly which eliminates the pandemic hardness and produces ample softness, long-lasting uplift, resilience and firm graduated support at the side rail.

[0009] The foregoing and other objects are realized by providing a seat base assembly including a declivity in one or both side rails. Spanning the declivity is a resilient member. In a first embodiment the member is a single helical spring attached by clips to the ends of the declivity. In a second embodiment it is a paper covered wire with eyes at opposite ends, connected to clips by helical springs. In a third embodiment, the paper covered wire and helical springs of the second embodiment are mounted in a modified side rail construction. Regardless, the construction provides not only the uplift, resilience and support which is desired, but also a clean, crisply defined upholstery line along the side rail.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The invention, including its construction and operation, is illustrated more or less diagrammatically in the drawings, in which:

[0011] FIG. 1 is a plan view of a modular furniture unit seat base assembly embodying features of a first form of the present invention;

[0012] FIG. 2 is a sectional view taken along line 2-2 of FIG. 1;

[0013] FIG. 3 is an enlarged perspective view of the clip and rail connection seen in FIGS. 1 and 2;

[0014] FIG. 4 is a sectional view, similar to FIG. 2, showing a seat base assembly embodying features of a second form of the present invention;

[0015] FIG. 5 is a sectional view, similar to FIG. 2, showing a seat base assembly embodying features of a third form of the present invention;

[0016] FIG. 6 is an enlarged view of a clip mounting in the assembly of FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] Referring now to the drawings, and particularly to FIG. 1, a seat base assembly for a modular furniture unit seat base is seen generally at 10. The seat base assembly 10 has a square, ottoman-like configuration, with generally uniform side dimensions. The seat base assembly 10 includes a seat frame 11 and a sinuous spring band arrangement 15 mounted in the manner illustrated and described in U.S. Pat. No. 4,586,700, which issued to the same inventor. The frame 11 includes a front rail 16, a back rail 17, and identical side rails 18. Each of the side rails 18 incorporates an improvement in the seat base assembly 10, which improvement is seen generally at 20 in a first embodiment.

[0018] Referring now also to FIG. 2, each of the side rails 18 illustrated in the seat frame assembly 10 is a hardwood board, approximately twenty-four inches deep, five inches high and three-quarters of an inch wide. The upper edge 21 of the board is level with the top of the frame 11. The ends 22 and 23 of the board abut against the front rail 16 and back rail 17, respectively, and are fastened thereto in a suitable manner.

[0019] Formed downwardly from the upper edge 21 of each board rail 18, normally by band-sawing, is a declivity 28. The declivity 25 is defined by an inclined front edge 26, a bottom edge 27 and an inclined back edge 28.

[0020] The front edge 26 of the declivity joins the top edge 21 of the rail 18 about three inches from the front rail 16. Similarly, the back edge 28 joins the top edge 21 of the rail 18 about three inches from the back rail 17. The bottom edge 25 is two and one-half inches below the top edge 21 of the rail 18, making the declivity 25 two and one-half inches deep.

[0021] Referring now also to FIG. 3, fastened to the top edge 21 of the rail adjacent each of the front and back edges 26 and 28 of the declivity 25 are identical attachment clips 31 (only back edge clip shown in FIG. 3). The clips 31 are mounted in opposed relationship and fastened to the rail 18 in a manner hereinafter discussed. Extending between the clips 31 is an elongated helical spring 33.

[0022] Each clip 31 comprises a pair of depending legs 36 and 37 interconnected by a roof 38. The roof 38 includes a tongue 39 which protrudes to one side of the legs 36 and 37.
The tongue 39 is inclined downwardly at an angle of 300 to the roof 38 between the legs 36 and 37.

[0023] The leg 36 is three-quarters of an inch long while the leg 37 is one inch long. One-eighth of an inch from the free end of each leg 36 and 37 are two, spaced staple holes 41. The staple holes 41 in opposed legs 36 and 37 are thus offset from each other, as will be seen.

[0024] The clips 31 are fastened to the upper edge 21 of the rails 18 adjacent corresponding declivities 25 with the tongues 39 facing toward each other. Staples 45 are hammered into the rail 18 through the holes 41 to anchor the clips 31 and 32. The tongues 39 are inclined downwardly into the declivity 25 so that connector holes 48 formed in their free ends are positioned about three-sixteenths of an inch below the top edge 21 of the rail.

[0025] The open eye hooks 51 of the conventional helical spring 33 are seated in the connector holes 48. The spring 33 is eight and one-half inches long in its relaxed state. When the spring 33 is stretched and the hooks 51 are seated in the connector holes 48 of corresponding clips 31, it is about sixteen inches long. In this state it provides a firm yet resilient side edge for the seat base assembly 10 at the level of the top edge of the rail, the latter being so because of the positioning of the connector holes 48.

[0026] Referring now to FIG. 4, a second embodiment of the improvement is seen at 120 in the context of a seat base assembly 110.

[0027] The seat base assembly 110 is similar in construction to the assembly 10 hereinbefore discussed and, where components are identical, the same reference numerals plus one-hundred digits are used.

[0028] In the improvement 120, the elongated helical spring 33 is replaced by two short helical springs 175 and 1761 between which a paper-covered wire 177 is connected. The paper covered wire 177 has eyes 178 formed at each end so that the inner hooks 180 of the springs 175 and 176 can be seated in them. The outer hooks 181 on the springs 175 and 176 seat in corresponding connector holes 148 in the ends of the clip tongues 139.

[0029] This embodiment is preferred where relatively deep furniture frames are involved, i.e., when the side rails 118 are thirty inches or more long, for example. Resilient rail support is still provided while avoiding excess softness near the center of the rail.

[0030] Referring last to FIGS. 5 and 6, a third embodiment of the improvement is seen at 220 in the context of a seat base assembly 210. Here, the assembly 210 is different from the assemblies 10 and 110 hereinbefore discussed in that a different type of frame 255 is employed.

[0031] The seat frame 255 comprises front rail 256, back rail 257 and side rails 258. The side rails 258 and the front rail 256 are joined at vertical front legs 259. The front legs 259 each have a leg section 260 which protrudes above the side rails 258 by about three inches.

[0032] The side rails 258 and back rail 257 are joined at vertical back legs 261. The back legs 261 each extend upwardly to form the sides of a chair back, for example.