A modular sofa includes a hollow base frame, upholstered back and armrest members, and a plurality of mounting units. Each mounting unit includes an mounting seat secured to a respective one of the back and armrest members, and a hook plate extending from the mounting seat so as to define an insert space. The base frame includes a rear side wall and a pair of lateral side walls, each of which is inserted into the insert space of a respective mounting unit. A threaded rod extends through the hook plate and through a respective one of the rear sidewall and the lateral side walls, and engages threadedly a mounting hole in the mounting seat for fastening the respective one of the back and armrest members to the respective side wall of the base frame.
FIG. 4
FIG. 5
MODULAR SOFA

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a modular sofa, more particularly to a modular sofa which includes upholstered seat, back, and armrest elements that can be assembled by fastening to a four-sided hollow frame through a relatively simple operation.

[0003] 2. Description of the Related Art

[0004] In U.S. Pat. No. 5,890,767, there is disclosed a modular sofa which includes a rectangular hollow frame, an upholstered back frame having a lower end portion fastened to a back wall of the hollow frame, a pair of upholstered armrest frames fastened to a pair of lateral side walls of the hollow frame, and a seat frame disposed on top of the hollow frame. A first fastener is provided for fastening the back frame to the back wall of the hollow frame, and includes four screw rods secured to the back frame. The four screw rods extend through four fastener holes in the back wall and engage nuts disposed within the hollow frame. A pair of second fasteners are provided for fastening the armrest frames to the lateral side walls of the hollow frame. Each of the second fasteners includes four screw rods secured to a respective one of the armrest frames. The four screw rods extend through four fastener holes in a respective one of the lateral side walls and engage nuts disposed within the hollow frame. During assembly of one of the back frame and the armrest frames to a corresponding one of the back wall and the lateral side walls of the hollow frame, the four screw rods must be aligned simultaneously with the four fastener holes in the corresponding wall of the hollow frame such that they can be inserted simultaneously through the four fastener holes. This makes the assembly operation relatively difficult to conduct.

SUMMARY OF THE INVENTION

[0005] Therefore, the object of the present invention is to provide a modular sofa which can be easily assembled.

[0006] Accordingly, the modular sofa of the present invention includes a hollow base frame, an upholstered back member, a pair of upholstered armrest members, an upholstered seat member, and a plurality of mounting units. The base frame has front and rear side walls, and a pair of lateral side walls interconnecting the front and rear side walls. Each of the rear side wall and the lateral side walls is formed with at least one fastener hole. The back member has a lower end portion disposed adjacent to the rear side wall of the base frame, and an inner side facing the base frame. Each of the upholstered armrest members has a lower end portion disposed adjacent to a respective one of the lateral side walls of the base frame, and an inner side facing the base frame. The upholstered seat member is disposed on top of the base frame. Each of the mounting units includes a mounting seat secured to the lower end portion of a respective one of the upholstered back member and the upholstered armrest members at the inner side of the respective one of the back member and the armrest members, and an L-shaped hook plate extending from the mounting seat so as to cooperate with the mounting seat to define an insert space. The mounting seat is formed with a threaded mounting hole. The hook plate is formed with a through hole aligned with the mounting hole. The rear side wall and the lateral side walls are inserted respectively into the insert spaces of the mounting units so as to align the fastener holes with the through holes and the mounting holes in the mounting units. Each of the mounting units further includes a threaded rod which extends through the through hole in the hook plate, and through the fastener hole in a respective one of the rear side wall and the lateral side walls of the base frame, and which engages threadedly the mounting hole in the mounting seat for fastening a respective one of the upholstered back member and the upholstered armrest member to the corresponding one of the rear side wall and the lateral side walls of the base frame.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Other features and advantages of the present invention will become apparent in the following detailed description of the preferred embodiment with reference to the accompanying drawings, of which:

[0008] FIG. 1 is an exploded perspective view of a preferred embodiment of the modular sofa according to the present invention;

[0009] FIG. 2 is an exploded perspective view of the modular sofa of the preferred embodiment, where upholstiers on the armrest frames are illustrated in phantom lines;

[0010] FIG. 3 is a fragmentary perspective view, illustrating one mounting unit of the modular sofa of the preferred embodiment;

[0011] FIG. 4 is a fragmentary partly sectional view to show the mounting unit; and

[0012] FIG. 5 is a fragmentary partly sectional view to show another mounting unit of the modular sofa of the preferred embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] Referring to FIGS. 1 and 2, the preferred embodiment of the modular sofa of the present invention is shown to include a rectangular hollow base frame 3, an upholstered seat member 4, an upright upholstered back member 5, a pair of upright upholstered armrest members 6, and a plurality of mounting units 7.

[0014] The base frame 3 is made of extruded aluminum, and has front and rear side walls 30, 31, and a pair of lateral side walls 32 interconnecting the front and rear side walls 30, 31. Each of the rear side wall 31 and the lateral side walls 32 is formed with two fastener holes 33 at two opposite end portions thereof.

[0015] The upholstered back member 5 includes a back upholstery 52 with a flat surface 520 that faces forwardly, and a rectangular back frame 51 secured to the flat surface 520. The back upholstery 52 includes a back plate (not visible) and a piece of cloth or leather enclosing the back plate. The back frame 51 includes a pair of vertical mounting rods 512, and a pair of horizontal rods 514 interconnecting the vertical mounting rods 512. The back member 5 has a lower end portion disposed adjacent to and posteriorly of the rear side wall 31 of the base frame 3, and has an inner side facing the base frame 3.
The armrest members 6 flank the lateral side walls 32 of the base frame 3. Each of the armrest members 6 has an inner side facing the base frame 3, and a lower end portion disposed adjacent to a respective one of the lateral side walls 32 of the base frame 3. Each of the armrest members 6 includes an upright interior armrest frame 61 and an armrest upholstery 62 enclosing the armrest frame 61. Likewise, the armrest upholstery 62 includes a soft cushion material, and a piece of cloth or leather enclosing the cushion material. The armrest frame 61 includes upright front and rear frame portions 611 that are parallel to each other, a pair of upper horizontal bars 612 extending between upper ends of the front and rear frame portions 611, a pair of lower horizontal bars 612' extending between lower ends of the front and rear frame portions 611, and a pair of vertical mounting rods 613 which are spaced-apart in a front-to-rear direction and which extend between the upper and lower horizontal bars 612, 612'. A pair of foot members 63 is mounted on the bottom of a respective one of the armrest members 6.

A first pair of the mounting units 7 is provided on the lower end portion of the back member 5 for mounting the back member 5 on the rear side wall 31 of the base frame 3. A second pair of the mounting units 7 is mounted on the lower end portion of one of the armrest members 6 for mounting said one of the armrest members 6 on an adjacent one of the lateral side walls 32 of the base frame 3. A third pair of the mounting units 7 is mounted on the lower end portion of another one of the armrest members 6 for mounting said another one of the armrest members 6 on an adjacent one of the lateral side walls 32 of the base frame 3.

Referring to FIGS. 3 to 5, each of the mounting units 7 includes a hollow mounting seat 71 which is secured, such as by welding, to a lower end portion of a respective one of the mounting rods 512, 513 of the upholstered back member 5 and the upholstered armrest members 6. The mounting seat 71 includes a U-shaped hollow frame which has a parallel pair of upright wing plates 712 and an upright mounting plate 711 interconnecting the wing plates 712. The mounting plate 711 is formed with an internally threaded mounting hole 713. An L-shaped hook plate 72 extends from the mounting plate 711, and cooperates with the mounting plate 711 to define a vertically extending insert space 73. The hook plate 72 has a connecting portion 722 connected to the mounting plate 711, and a hook portion 721 which extends transversely from the connecting portion 722 and which is substantially parallel to the mounting plate 711. The insert space 73 is formed among the connecting portion 722 and the hook portion 721 of the hook plate 72 and the mounting plate 711 of the mounting seat 71. The hook portion 721 of the hook plate 72 is formed with a through hole 723 aligned with the mounting hole 713. The insert space 73 has an open end 731 opposite to the connecting portion 722 of the hook plate 72.

In this embodiment, the insert space 73 in each of the first pair of the mounting units 7 opens downwardly, as shown in FIG. 5. The insert space 73 in each of the second and third pairs of the mounting units 7 opens upwardly, as shown in FIGS. 3 and 4.

Each of the rear side wall 31 and the lateral side walls 32 of the base frame 3 is inserted into the insert spaces 73 of a corresponding pair of the mounting units 7, and abuts against the connecting portions 722 of the hook plates 72 of the corresponding pair of the mounting units 7 so as to align the fastener holes 33 with the through holes 723 and the mounting holes 713 in the corresponding pair of the mounting units 7. The hook portion 721 of the hook plate 72 of each of the mounting units 7 has a distal end 725 which is opposite to the connecting portion 722 and which is bent outwardly away from the mounting plate 711 to widen the open end 731 of the insert space 73 so as to facilitate insertion of the respective one of the rear side wall 31 and the lateral side walls 32 of the base frame 3 into the insert space 73.

Each of the mounting units 7 further includes a threaded rod 74 which extends through a respective one of the fastener holes 33 in one of the rear side wall 31 and the lateral side walls 32 of the base frame 3, and through the through hole 723 in the hook plate 72, and which engages threadedly the mounting hole 713 in the mounting plate 711 of the mounting seat 71 for fastening the respective one of the back member 5 and the armrest members 6 to the respective one of the rear side wall 31 and the lateral side walls 32 of the base frame 3.

As shown in FIG. 1, in each of the upholstered armrest members 6, the armrest upholstery 62 encloses the interior armrest frame 61 (see FIG. 2) and the mounting seats 71 while permitting extension of the hook plate 72 out of the armrest upholstery 62. Each armrest upholstery 62 is formed with access holes 722 to permit insertion of the threaded rods 74 into the mounting holes 713 in the mounting seats 71.

Referring back to FIG. 1, the seat member 4 is disposed on top of the base frame 3, and includes a horizontal seat portion 41, a front cover 43 extending downwardly from a front edge of the seat portion 41 for covering the front side wall 30 of the base frame 3, and a backrest portion 42 extending upwardly from a rear edge of the seat portion 41 and disposed in front of the back member 5. Two positioning strips 44 (only one is shown) extend downwardly from a bottom side of the seat portion 41. The positioning strips 4 are disposed at inner surfaces of the lateral side walls 32, and abut against the hook plates 72 of a pair of the mounting units 7 that are disposed proximate to the front side wall 30 of the base frame 3 in order to prevent sliding movement of the seat member 4 relative to the base frame 3 in forward and lateral directions.

While the present invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that this invention is not limited to the disclosed embodiment but is intended to cover various arrangements included within the spirit and scope of the broadest interpretation so as to encompass all such modifications and equivalent arrangements.

I claim:
1. A modular sofa comprising:
   a hollow base frame having front and rear side walls and a pair of lateral side walls interconnecting said front and rear side walls, each of said rear side wall and said lateral side walls being formed with at least one fastener hole;
an upholstered back member having a lower end portion disposed adjacent to said rear side wall of said base frame and an inner side facing said base frame;

a pair of upholstered armrest members, each of which has a lower end portion disposed adjacent to a respective one of said lateral side walls of said base frame, and an inner side facing said base frame;

an upholstered seat member disposed on top of said base frame;

a plurality of mounting units, each of which includes a mounting seat secured to said lower end portion of a respective one of said upholstered back member and said upholstered armrest members at said inner side of the respective one of said back member and said armrest members, and an L-shaped hook plate extending from said mounting seat so as to cooperate with said mounting seat to define an insert space, said mounting seat being formed with a threaded mounting hole, said hook plate being formed with a through hole aligned with said mounting hole;

said rear side wall and said lateral side walls being inserted respectively into said insert spaces of said mounting units so as to align said fastener holes with said through holes and said mounting holes in said mounting units;

each of said mounting units further including a threaded rod which extends through said through hole in said hook plate, and through said fastener hole in a respective one of said rear side wall and said lateral side walls of said base frame, and which engages threadedly said mounting hole in said mounting seat for fastening a respective one of said upholstered back member and said upholstered armrest members to the corresponding one of said rear side wall and said lateral side walls of said base frame.

2. The modular sofa as claimed in claim 1, wherein said insert space in a first one of said mounting units that is mounted on said back member opens downwardly, said insert space in a second one of said mounting units that is mounted on one of said armrest members opens upwardly, and said insert space in a third one of said mounting units that is mounted on another one of said armrest members opens upwardly.

3. The modular sofa as claimed in claim 1, wherein said mounting seat of each of said mounting units includes a U-shaped hollow frame which has a parallel pair of upright wing plates secured to the respective one of said back member and said armrest members, and an upright mounting plate interconnecting said wing plates and formed with said mounting hole, said hook plate including a connecting portion connected to said mounting plate, and a hook portion extending transversely from said connecting portion and substantially parallel to said mounting plate, said hook portion being formed with said through hole, said insert space being formed among said connecting portion and said hook portion of said hook plate and said mounting plate of said mounting seat and having an open end opposite to said connecting portion of said hook plate.

4. The modular sofa as claimed in claim 3, wherein said hook portion of said hook plate has a distal end opposite to said connecting portion of said hook plate, said distal end being bent in a direction away from said mounting plate to widen said open end of said insert space so as to facilitate insertion of the respective one of said rear side wall and said lateral side walls of said base frame into said insert space.

5. The modular sofa as claimed in claim 3, wherein each of said rear side wall and said lateral side walls of said base frame abuts against said connecting portion of said hook plate of the respective one of said mounting units.

6. The modular sofa as claimed in claim 1, wherein each of said upholstered armrest members includes an upright interior armrest frame and an armrest upholster enclosing said interior armrest frame, said hook plate of a pair of said mounting units that are mounted respectively on said armrest members extending out of said armrest upholster of a respective one of said armrest members, said armrest upholster of each of said armrest members being formed with an access hole aligned with said mounting hole in said mounting seat of a corresponding one of said pair of said mounting units to permit extension of said threaded rod into said mounting hole via said access hole.

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