US 20100038935A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2010/0038935 A1

(43) Pub. Date: Feb. 18, 2010

Walter

(54) MULTIPURPOSE FURNITURE ASSEMBLY

(76) Inventor: **Bruce Walter**, Columbia Falls, MT (US)

Correspondence Address:
BRUCE WALTER
THE AMISH FURNITURE GALLERY
900 9TH STREET S.
GREAT FALLS, MT 59405 (US)

(21) Appl. No.: **12/228,765**

(22) Filed: **Aug. 14, 2008**

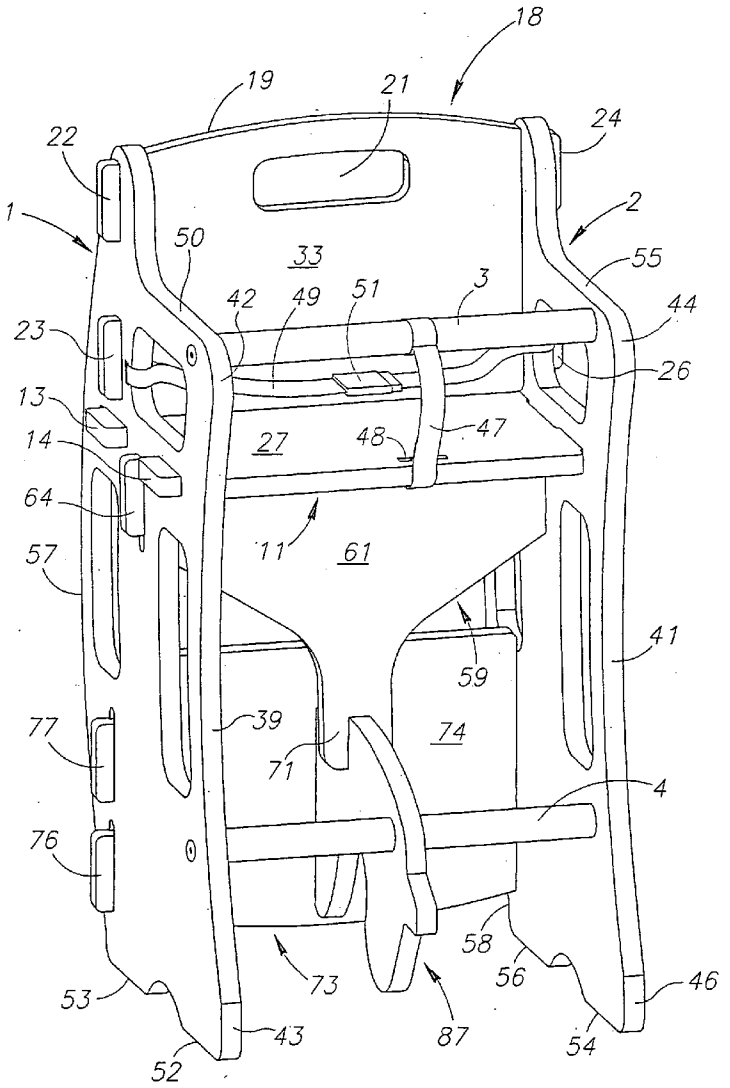
Publication Classification

(51) **Int. Cl.**
A47C 13/00 (2006.01)

(52) **U.S. Cl.** **297/130**

(57) **ABSTRACT**

A multipurpose furniture assembly which includes a dining chair mode in an upright position combined with a rocker configuration or a desk chair configuration by rotating the assembly about a horizontal axis. Cross panels engage and are connected between side frames by means of mating projections and slotted openings in the side frames. Cross panels and side frames are locked in a rigid configuration by positioning of a center panel which holds key cross panels in engaged position relative to the side frames. Side frames are ultimately held against cross panels by cross rods or dowels, one of which is connected to the center panel to secure it in place. Cross rods or dowels are secured by simple screw fasteners.



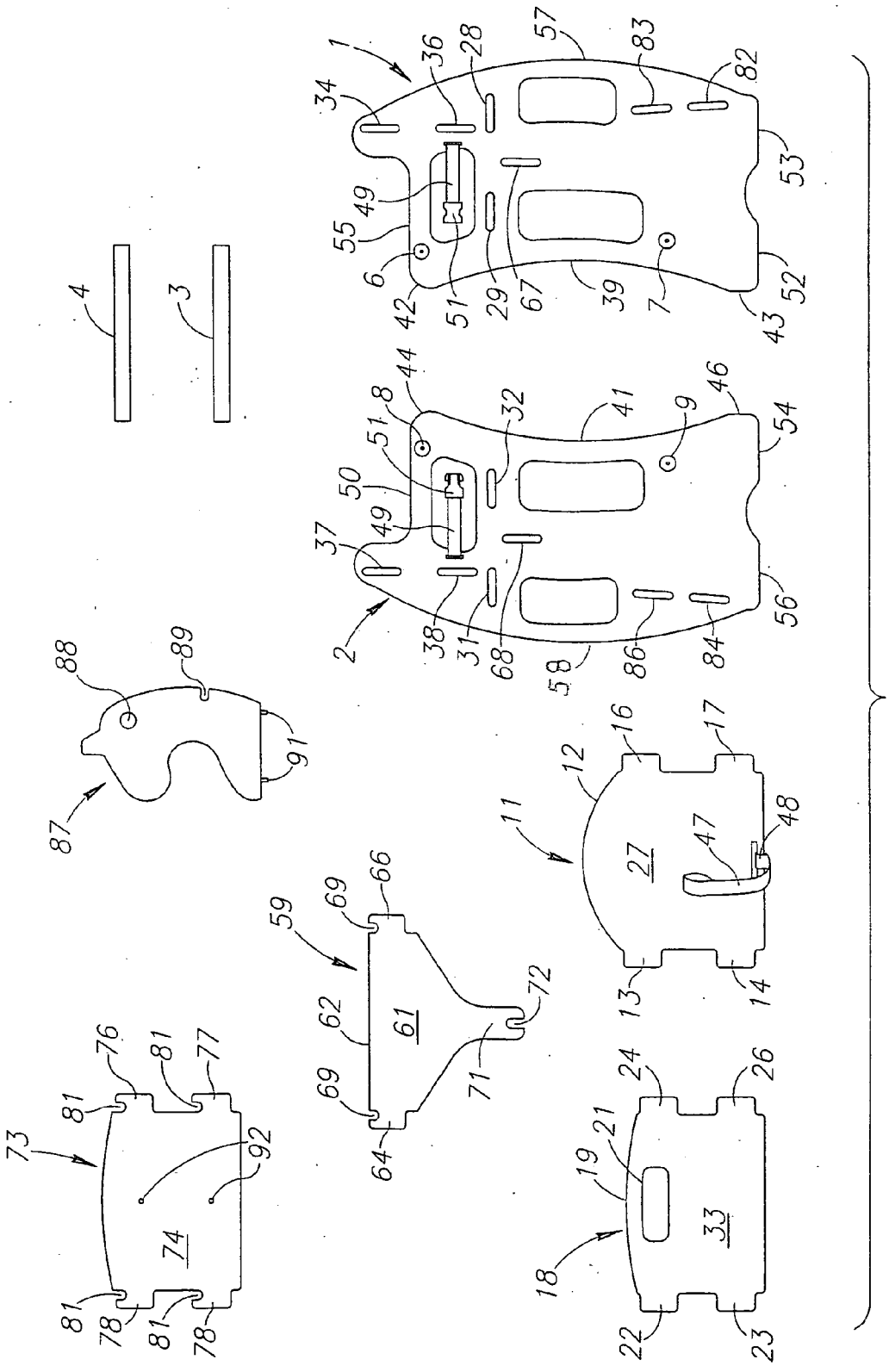

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FIG.1

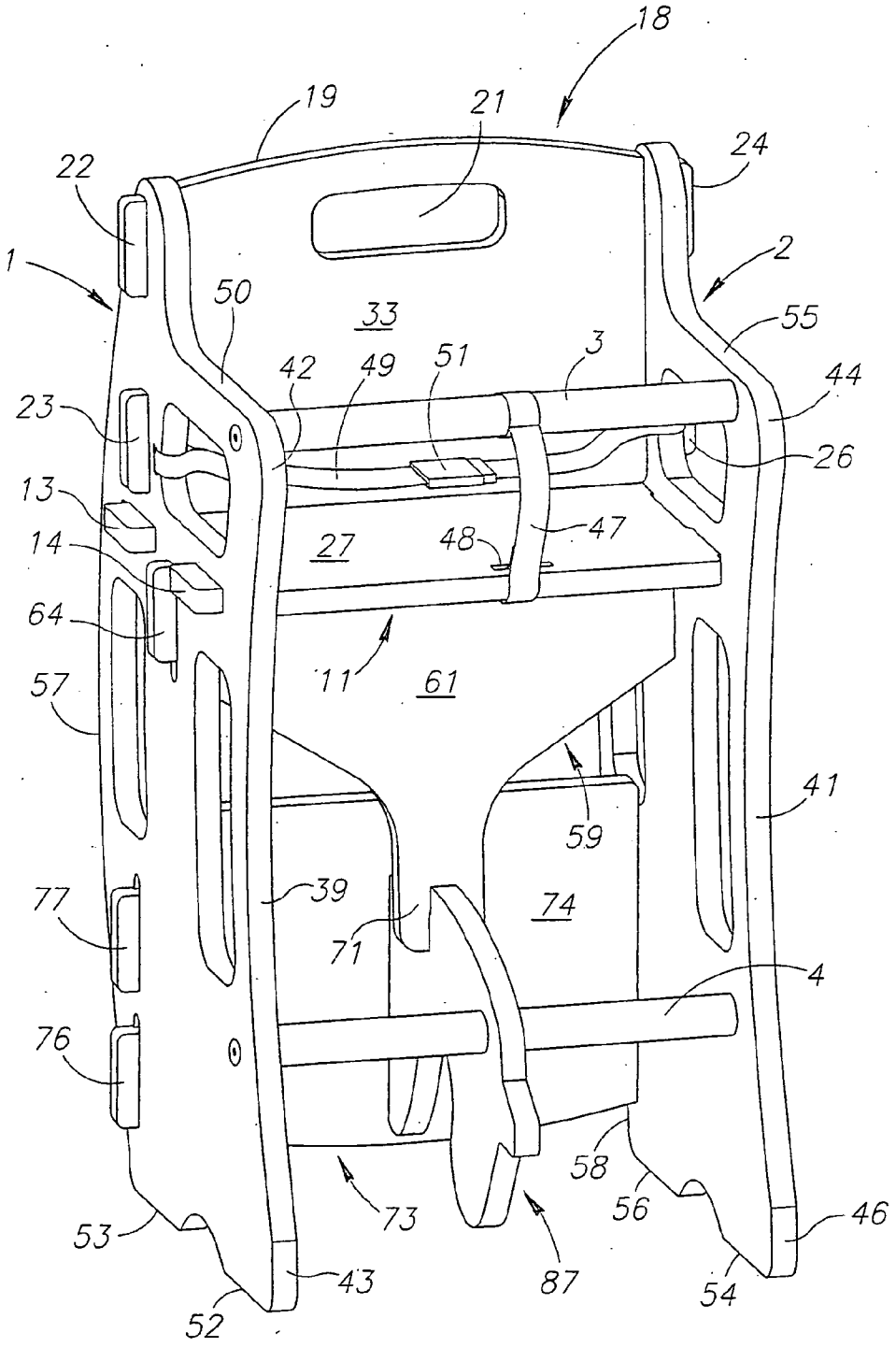
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FIG.2

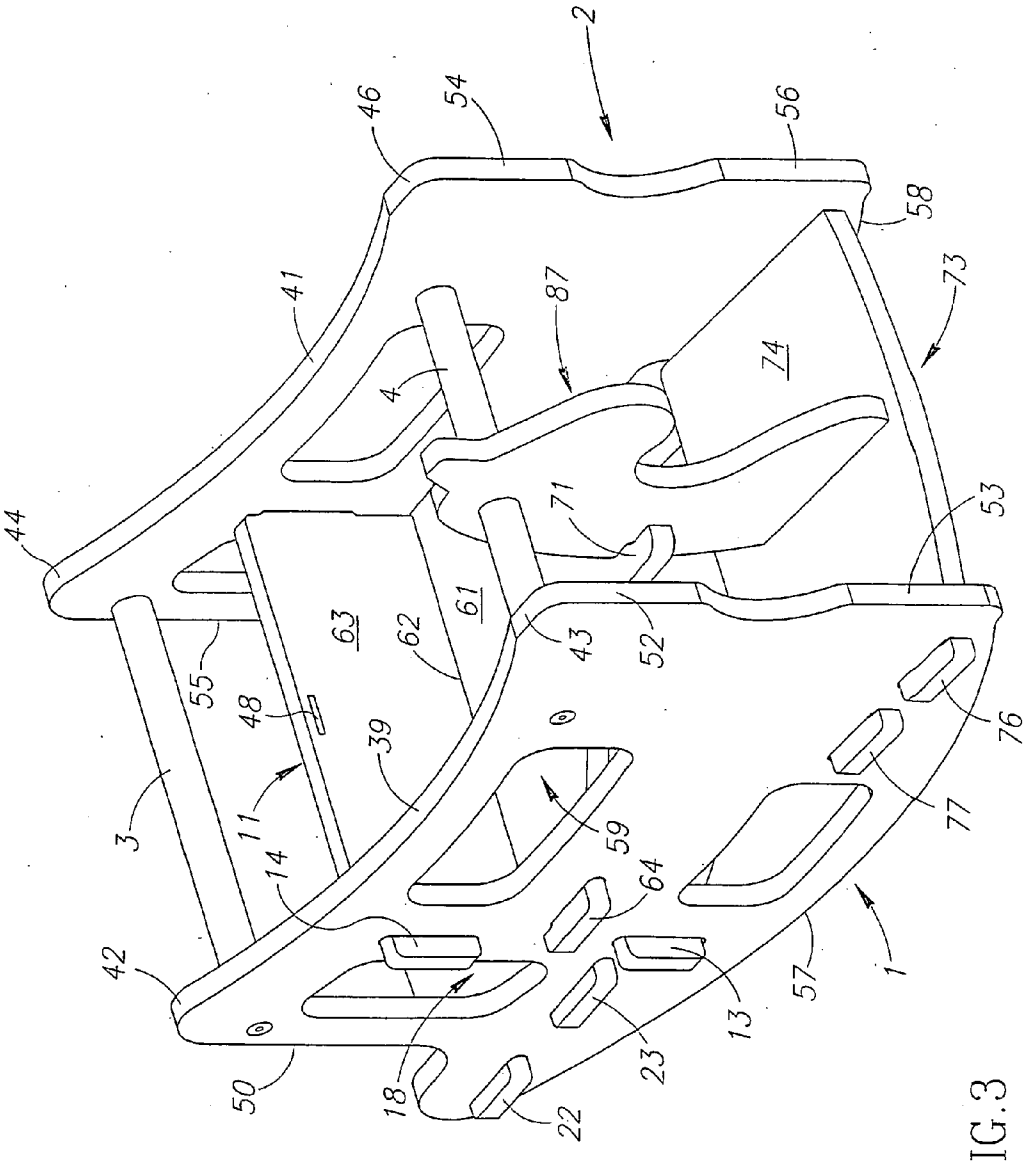
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FIG.3

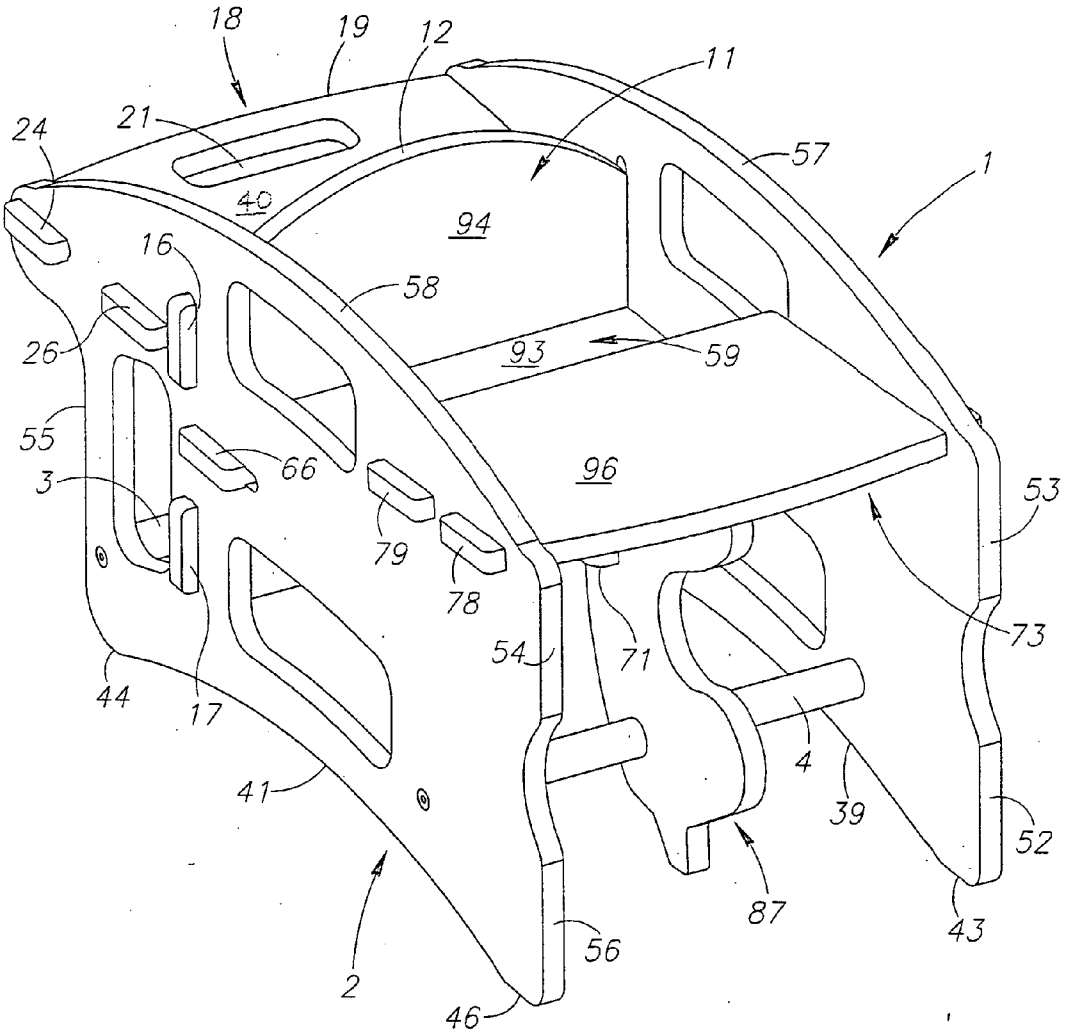
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FIG.4

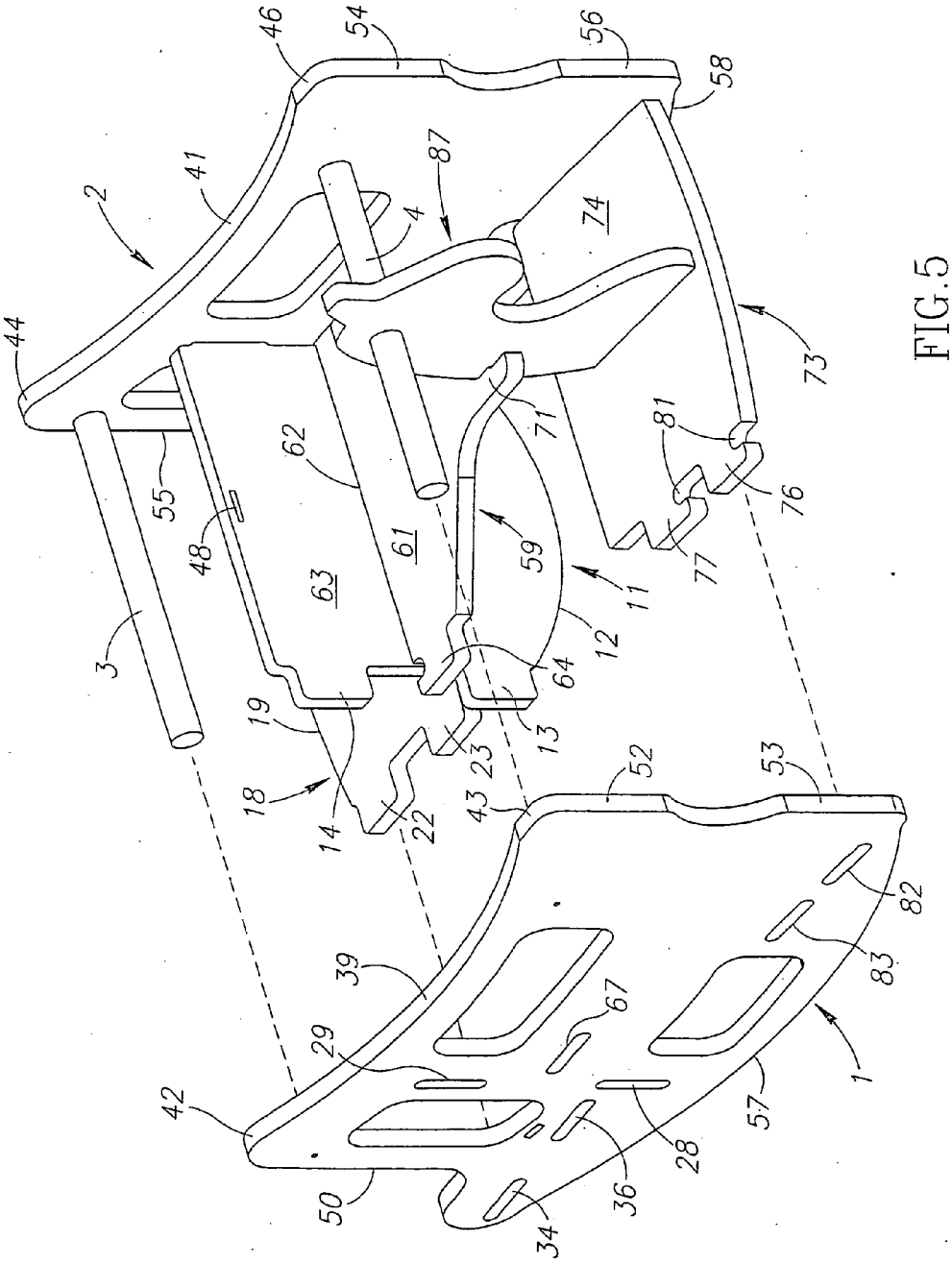
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FIG.5

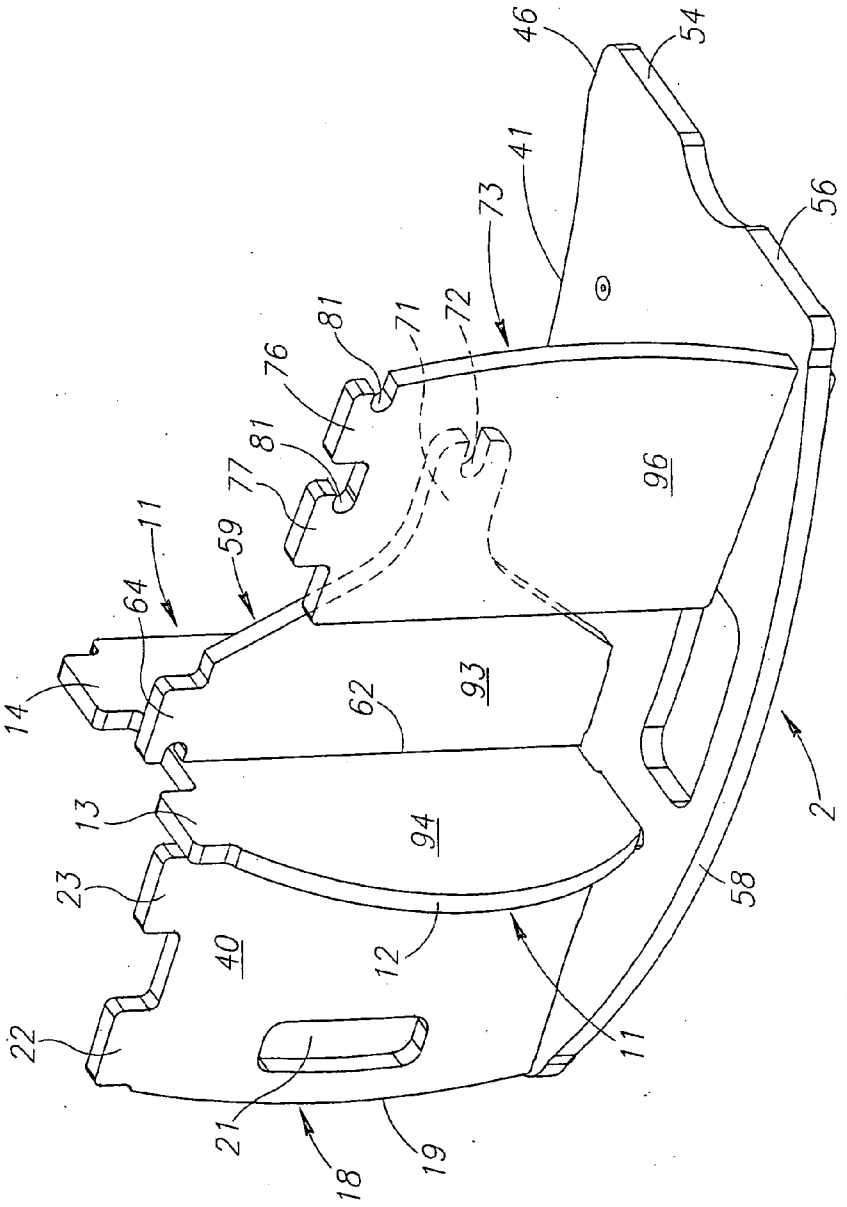
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FIG. 6

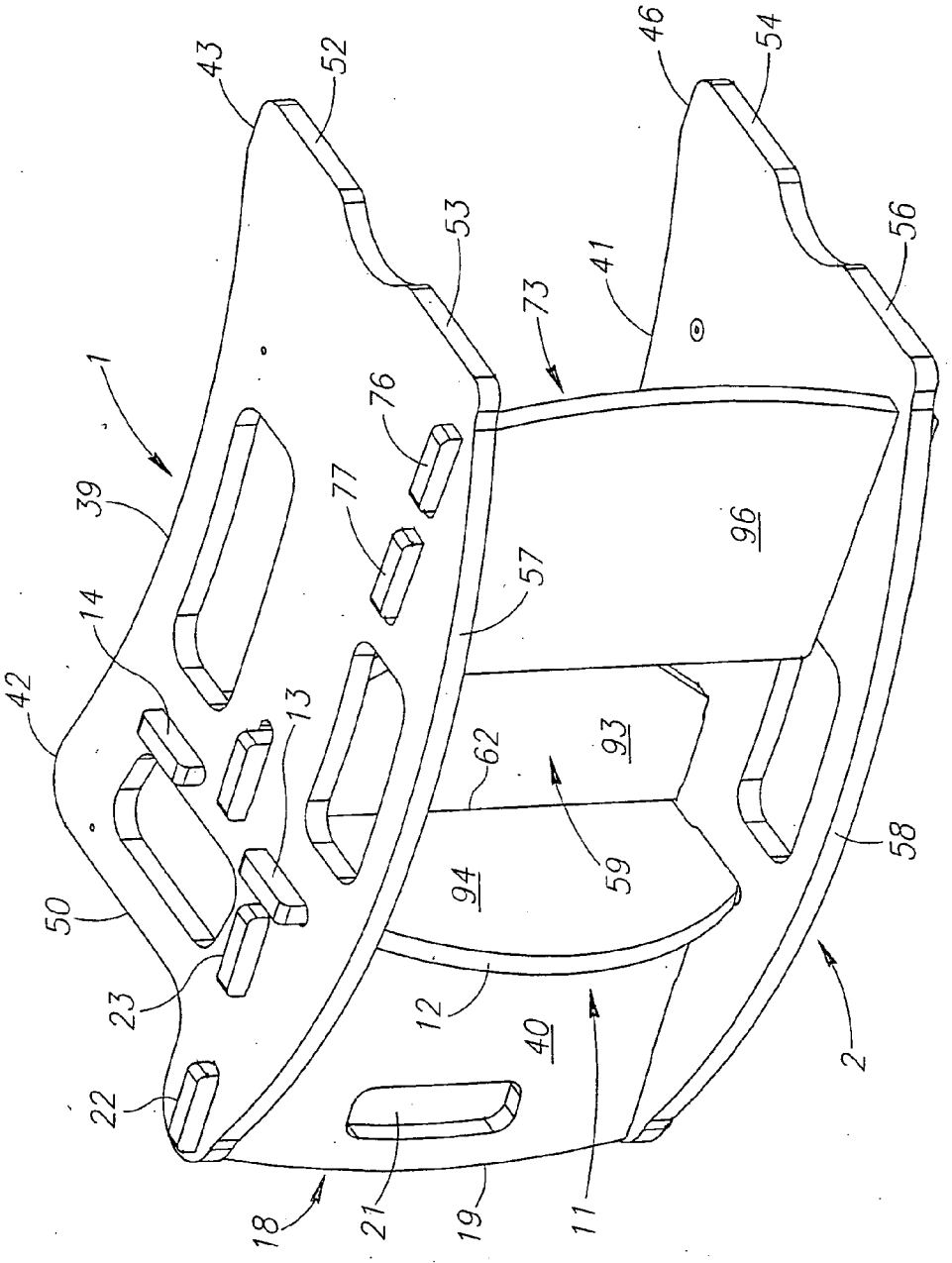
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FIG. 7

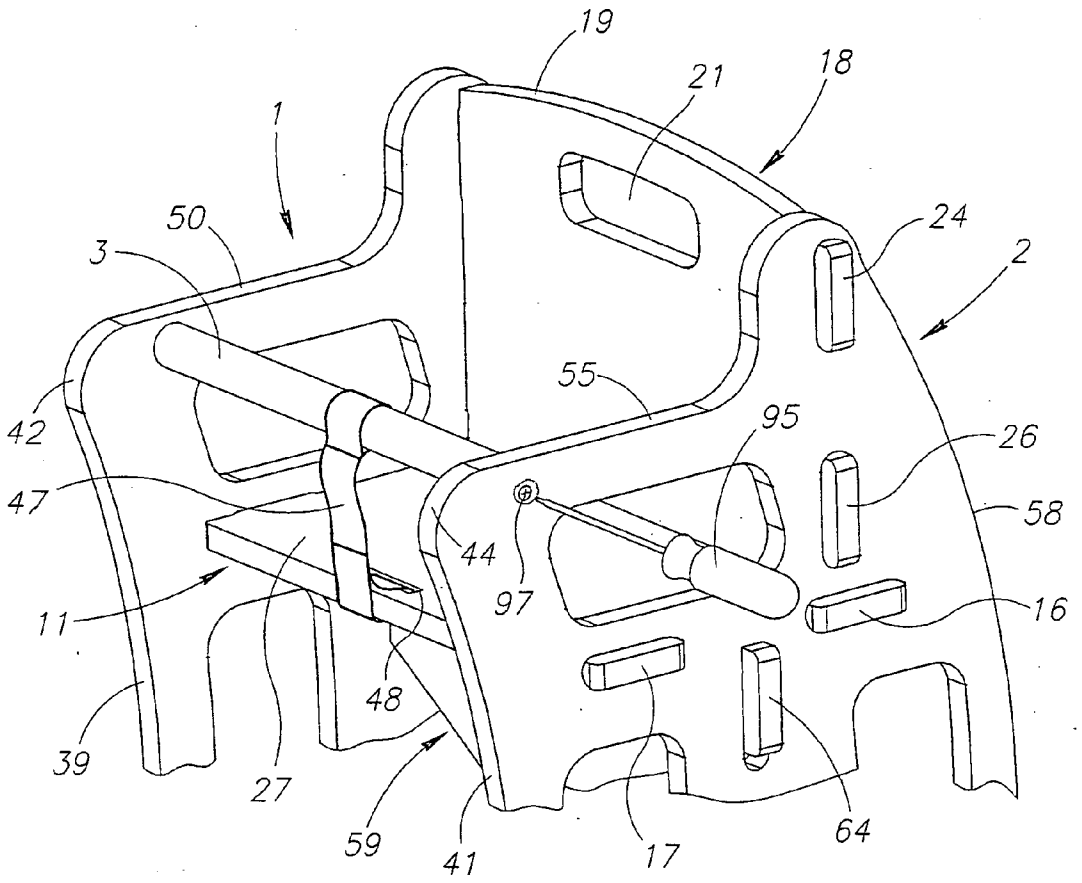

FIG.8

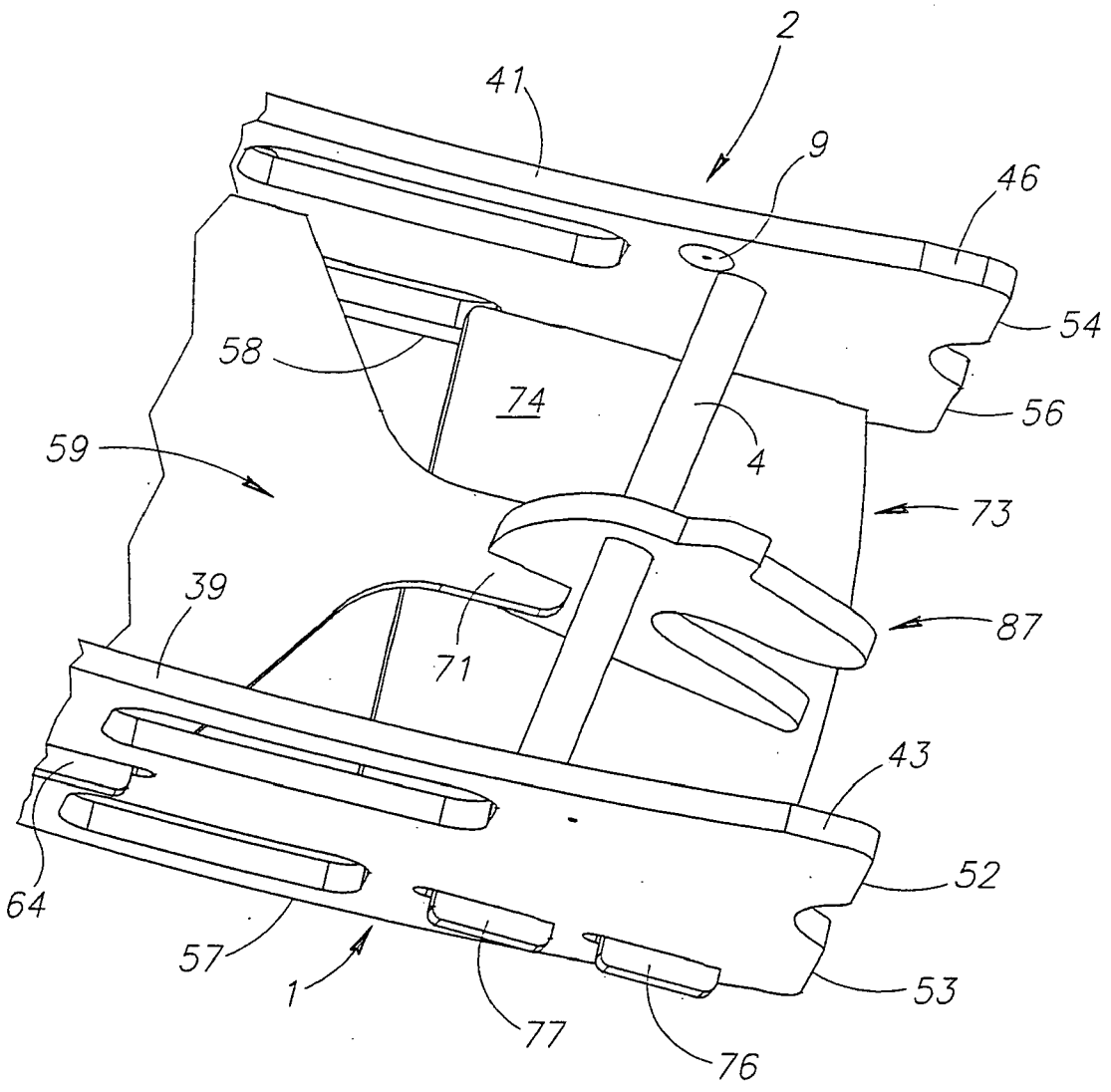

FIG.9

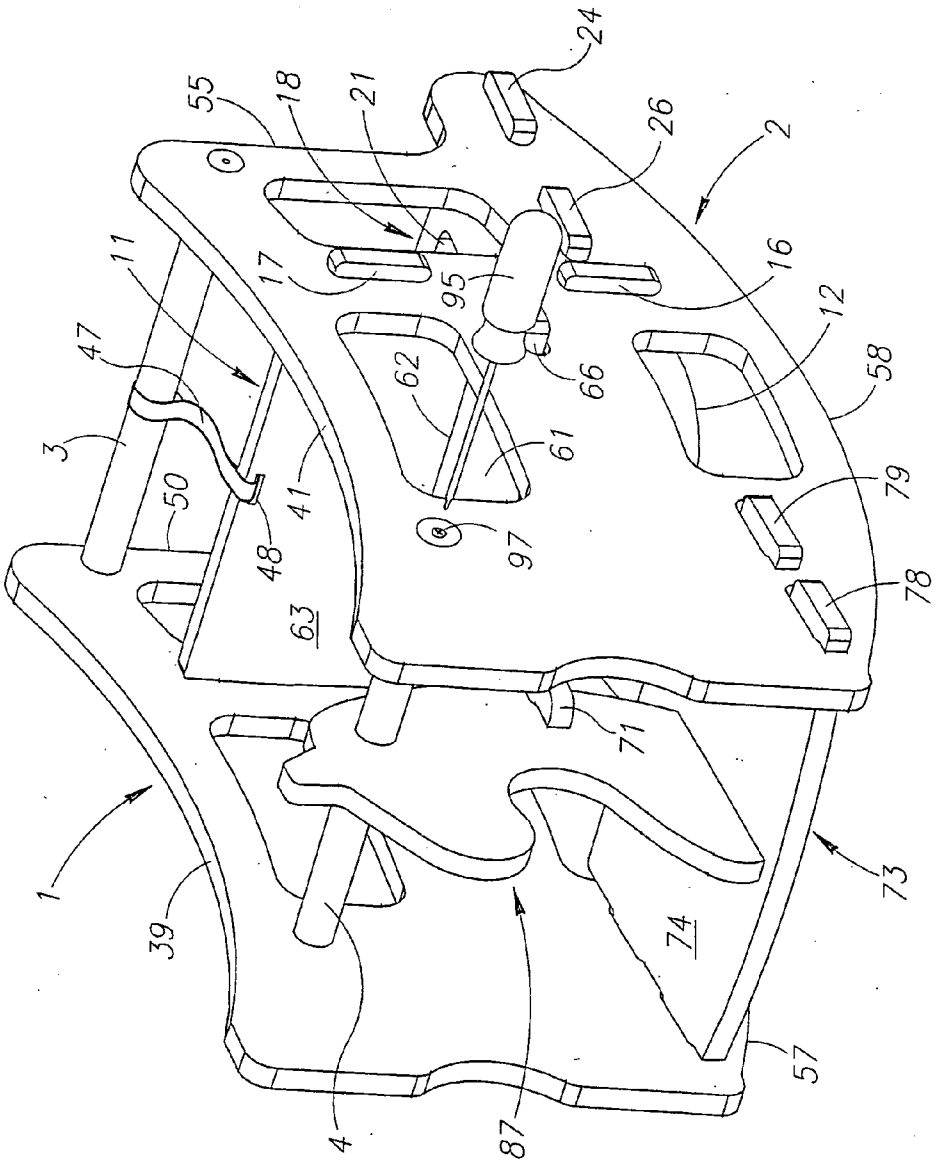
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FIG.10

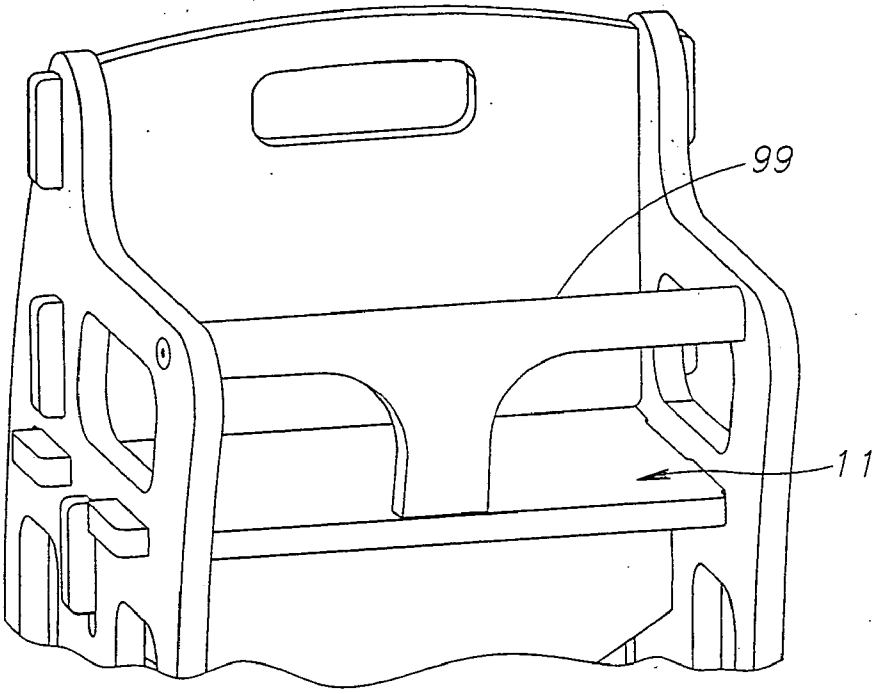

FIG.11

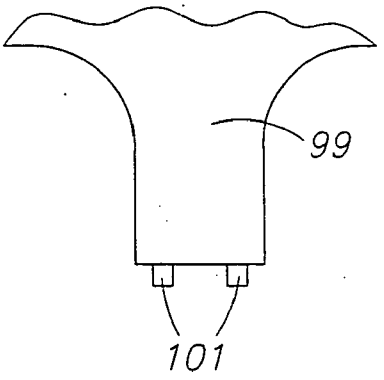

FIG.11A

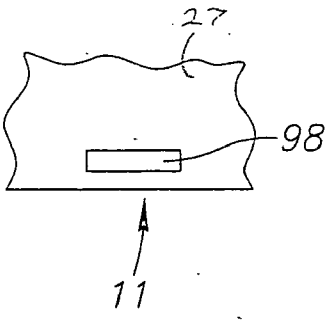

FIG.11B

MULTIPURPOSE FURNITURE ASSEMBLY

FIELD OF THE INVENTION

[0001] The present invention relates to multipurpose furniture and more particularly to a knock-down assembly of parts forming a chair unit which may be reoriented on a supporting surface to provide different functional positions or modes. The chair unit provides an easily assembled combination of interfitting cross panels and side frames forming a single rigid structure.

BACKGROUND

[0002] Many types and varieties of multipurpose furniture assemblies are known in the art for providing different seating functions, depending upon the positioning or orientation of the unit on a support surface. Most notably, such assemblies are particularly adapted to such functions as a regular or specialized seating or chair such as, but not limited to, a child's chair, an amusement rocker or rocking chair or a desk or table and chair mode. Although not necessarily so limited, this type of convertible multiuse assembly adapts itself easily to a child's high chair, an amusement rocking horse (or other simulations) mode and a child's desk mode. Although not necessarily true with all such devices, the concept of a knock-down assembly of parts for easy transport or storage has also been developed in the art. U.S. Pat. No. 7,152,918 to Berkes and U.S. Pat. No. 5,415,454 to Chuo Fu Tsung are examples of such multipurpose chair assemblies. U.S. Pat. No. Des. 357,128 to Watson et al and U.S. Pat. No. Des. 248,516 to Johansson are also examples of multipurpose furniture assemblies adapted particularly to child use and include alternately a child's high chair configuration, a child's amusement rocker and a child's desk unit as the assembly is rotated between several positions about a horizontal axis. This type of multipurpose furniture construction and assembly has distinct advantages as far as space saving by the elimination of several different and separate items of furniture. Additionally, such structures may be adapted for knock-down type assembly to permit easy storage and packaging for initial shipping and handling. It is also highly advantageous to provide simplified methods of assembly and to avoid complexity in the configurations of the various parts as well as a reduction of the number of parts to be assembled while keeping in focus the need for rigidity of the assembled structure for safety reasons. Avoiding the need for several separate unites of furniture also has obvious economic advantages.

SUMMARY

[0003] A multipurpose furniture assembly is provided which includes a dining chair mode in a primary upright position combined with a rocker configuration or a desk chair configuration by simply rotating the assembly about a horizontal axis. The disclosed primary preferred embodiment includes opposite side frames and a plurality of multi-functioning interrelated cross panels which function as seat surfaces, back rests and other functions, dependent upon the position and functional mode of the assembly. The cross panels are engaged and connected between the two side frames by means of mating projections on the panels and slotted openings in the side frames. The cross panels and side frames are ultimately locked in a rigid configuration by the positioning of a center panel or unit which holds the cross panels in position. The two side frames are ultimately held against the cross panels by cross member such as dowels or the like located along first parallel edges of the side frames, one of the cross members being connected to the center panel to secure it in place. The opposite parallel edges of the side frames are held together by the interaction of the cross panel projections and slotted openings in the respective side frames. This structure provides for a minimum total number of parts, since each cross panel serves alternate functions in the different functional modes of the assembly. Rigidity is accomplished by interacting slotted projections and mating slotted openings, a key locking central panel member and simple cross members and fastener elements. This arrangement and order of connecting the parts permits easy assembly and disassembly for storage, packaging and transporting. For use with smaller children, safety straps may be utilized in the high chair mode for restraining the occupant. In an alternate embodiment, a rigid safety bar configuration may be incorporated into one of the cross rods or dowels for increased safety considerations, either with or without additional straps.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] FIG. **1** is a collective view of the disassembled parts of the furniture assembly;

[0005] FIG. **2** is a perspective view of the furniture assembly in the high chair position;

[0006] FIG. **3** is a perspective view of the furniture assembly in the rocking chair position;

[0007] FIG. **4** is a perspective view of the furniture assembly in the desk position;

[0008] FIG. **5** is an expanded view of the assembly with one of the side frames removed to show the relationship of the parts;

[0009] FIGS. **6-10** are perspective views illustrating the order of assembly of the side and cross panels to form the rigid structure;

[0010] FIG. **11** is a partial perspective view of the assembly in the high chair position, illustrating a second embodiment comprising a child's safety restraint bar;

[0011] FIG. **11**A is a partial plan view of the bottom end portion of the restraint bar of FIG. **11**; and

[0012] FIG. **11**B is a partial plan view of a section of the forward portion of the high chair seating panel, illustrating the slotted receptacle for the restraint bar.

DETAILED DESCRIPTION OF THE PRIMARY PREFERRED EMBODIMENT

[0013] The multipurpose furniture assembly is illustrated as a child's high chair unit in FIGS. **1-10** which may be rotated about a horizontal axis to present additional seating mode positions or presentations of a rocker or rocking horse as illustrated in FIG. **3**, and a child's seat and desk mode as shown in FIG. **4**. To enable a clear understanding of the structural relationship of the various panels, the terms "bottom" and "back" are used to describe a seat bottom or a seat back and it will be appreciated that a seat bottom in one mode may become a seat back in another mode. The terms "front", "rear", "upper", "lower", "left" and "right" are all determined by an occupant using the unit in a high chair position, such as shown in FIG. **2**, unless another position is clearly stated. It will also be understood that the material for constructing the various panels and side frames may be varied. Although the preferred material of construction is injection molded or otherwise formed plastic using known methods, other materials

such as plywoods, hardwoods, particle board, metal or any other suitable material chosen on the basis of strength, durability, safety, as well as the expense of construction may be utilized.

[0014] FIG. **1** is a collective plan view showing the essential elements or members that make up the chair unit, prior to assembly. Referring to FIG. **1**, the units of the assembly include identical, essentially planar side frames **1** and **2**. The side frames **1** and **2** may be identical in structure, from a manufacturing standpoint, or may be mirror images for reasons presently to be described. A pair of identical dowels or cross rods **3** and **4** are provided, the ends of which are designed to be seated in upper and lower circular recesses **6-7** and **8-9** in the inside surfaces of the side frames **1** and **2** respectively.

[0015] The high chair seat **11** is a generally rectangular flat panel which may have a curved rear edge **12**, the curvature of which is a matter of choice or design. The seat panel **11** is not limited to any particular edge design configuration but will include projections **13** and **14** on the right side and projections **16** and **17** on the left side. The high chair back or back rest **18** also comprises a generally rectangular planar panel with a curved top edge **19**, the curvature of which is optional, and an optional hand grip opening **21** for lifting purposes as desired. The panel **18** includes upper right and lower right side projections **22** and **23** and upper and lower left side projections **24** and **26** respectively.

[0016] Referring to FIG. **2**, the assembly is shown in the high chair mode with the high chair seat panel **11** having its bottom seating surface **27** facing upwardly, the panel being supported by the projections **13-14** and **16-17** which extend through appropriately positioned through slots **28-29** and **31-32** respectively in the side frames **1** and **2** respectively. The high chair back or back rest **18** is positioned with the back rest surface **33** extending upwardly and substantially normal relative to the seat surface **27**, being held in position by the projections **22-23** and **24-26** which engage in the corresponding through slots **34-36** and **37-38** respectively in the frames **1** and **2** respectively as illustrated in FIG. **1**. As seen most clearly in FIGS. **2**, **6** and **7**, the back rest panel **18** terminates adjacent the high chair seat surface **27** at a location in the approximate mid portion of the panel **11**. This configuration creates a shelf-like area formed by the rear portion of the panel **11** and the back surface **40** of the panel **18**, see FIGS. **6** and **7**. The shelf may be used for storage during use of the assembly as a dining chair.

[0017] The side frames **1** and **2** are held together by means of the upper cross rod **3** and the lower cross rod **4**, both of which are located adjacent the front parallel edges **39** and **41** of the side frames **1** and **2** respectively. As aforementioned, the ends of the cross rods or dowels **3** and **4** are seated in appropriate recesses **6**, **7**, **8** and **9** in the inside surfaces of the side frames **1** and **2** for a purpose presently to be described. It will also be noted that the front edges **39** and **41** are both curved inwardly with the terminal ends of the edge **39** providing support surfaces or legs **42** and **43** on its upper and lower ends respectively, the exact curvature of the surface being a matter of design. Likewise, the edge **41** terminates at its upper and lower ends with the support surfaces or legs **44** and **46** respectively for a purpose presently to be described. In the alternative the front edges of the side frames may have a straight line configuration.

[0018] The child high chair configuration may also include the usual restraint harness such as the crotch strap **47** which, in the present embodiment, is connected at one end about the upper dowel **3** and engages a suitable slotted opening **48** in the front edge of the chair seat **11** at its opposite end. Additional safety restraint is provided by the two-piece belt **49** in the nature of a seat belt connected by any suitable connector, such as the bayonet type connector **51**. The ends of the belt **49** will be suitably anchored in the walls of the side frames **1** and **2** as illustrated in FIGS. **1** and **2**. It will be understood that any form or design of well known restraint harness, such as known three-piece straps and buckles, may be adapted for use with and suitably anchored to the seat structure without departing from the spirit and scope of the disclosure.

[0019] As seen most clearly in FIG. **2**, the bottom or lower ends of the side panels **1** and **2** respectively are provided with support legs or surfaces **52-53** and **54-56**. These support surface contact areas will be spaced on each frame to provide sufficient support and stability contact points to prevent any chance of tipping. In the alternative, the bottom edges of each of the side frames could be a continuous surface as desired. The upper ends of the side frames **1** and **2** include edge surfaces **50** and **55** respectively, the height of which will be chosen to fit beneath the conventional table height to permit the high chair assembly to be placed in a position to allow the chair occupant to use the table surface.

[0020] FIG. **3** illustrates the amusement rocker or hobby horse rocker mode for the child's chair and is attained by rotating the assembly rearwardly about a horizontal axis from the FIG. **2** position such that the entire assembly is then supported on the curved edges **57-58** of the side frames **1** and **2** respectively as shown in FIG. **3**. A rocker seat panel **59** is located midway in the assembly and extends in a generally horizontal direction normal to and at substantially right angles to the bottom surface of the dining chair seat panel when the assembly is in the mode shown in FIG. **3**. The rocker seat includes a rocker seat bottom surface **61**, which may be generally triangular in shape as shown in FIG. **1**, and a back edge **62** which abuts the high chair seat panel **11**, the bottom surface of which forms the rocker seat back rest surface **63**. The rocker seat panel **61** includes the projections **64** and **66** on opposite sides which engage through the elongated slots **67** and **68** in the side frames **1** and **2** respectively. It will be noted that the projections **64** and **66** are provided with slider slots **69** which allow the panel **59** to be moved into abutment with the back rest surface **63** of the panel **11** such that the slots **69** interlock with the walls of the side frames I and **2**. This relationship is shown most clearly in FIGS. **2**, **3** and **5**. The remaining two side edges of the panel **59** terminate in a projecting apex **71** with an edge which includes a slot **72** the purpose of which will be presently described. A foot rest panel **73** is positioned adjacent the bottom ends of the side panels **1** and **2** and below the level of the rocker seat panel **59** in the position shown in FIG. **3** and provides a foot rest surface **74** for a child seated on the rocker seat bottom **61**. The foot rest panel **73** includes projections **76** and **77** on one side and projections **78** and **79** on the opposite side, each of which includes a slot **81** for engagement with the walls of the respective side frames **1** and **2** in the manner described for the rocker seat panel **59**. It will be noted that the elongated slots **81** allow panel projections **76-77** and **78-79** to pass through the elongated slots **82-83**, **84-86** of the side frames and the panel **73**, see FIG. **1**, to be slid forwardly, as viewed in FIG. **3**, in the opposite direction from the direction of sliding of the rocker seat panel **59** for a purpose presently to be described.

[0021] A center panel **87** is utilized as a multi-functioning panel which serves to support the forward end of the rocker panel **59**, to engage positively with the foot rest panel **73** and to receive the cross rod or dowel **4** so as to constitute the final locking link in rigidifying the cross panels and the side frames. The panel **87** is located midway between the side frames **1** and **2** and extends parallel to the side frames. This panel may take the shape of a rocking horse head as in the present embodiment for child amusement or may be formed in any other representation as desired. The panel **87** includes circular opening **88** for reception of the dowel **4**, a notch or slot **89** for engaging the slot **72** in the rocker seat, and spaced projecting pins or pegs **91** on the bottom edge thereof for engagement with the holes or recesses **92** in the foot rest panel **73** as seen in FIG. **1**. Other forms of removable positive engagement between the panel **87** and the panel **73** are also possible and the size and shape of such may be varied. This positive engagement of the central panel serves to lock the rocker seat panel **59** and the foot rest panel **73** in their engaged positions so as to rigidify the assembly. With the panels arranged in this mode, the child will be seated on the seat bottom **61** and against the back rest **63** with feet resting on the panel surface **74**, utilizing the cross dowel **4** for hand holds.

[0022] FIG. **4** illustrates the assembly in the third functional mode of a child's desk and seat. This functional mode is obtained by simply rotating the assembly from the position shown in FIG. **2** forwardly, such that the entire assembly is then supported on the surfaces **42-43** and **44-46**. In this position, the bottom side of the rocker seat panel **59** provides a seat bottom surface **93** and the rear portion of the bottom side of the panel **11** provides a back rest **94**. In this position the surface **40** on the back side of the panel **18** and the rear surface portion of the high chair seat panel **11** opposite the surface **94** create a shelf-like area for storage during use of the assembly as a desk. The bottom side of the foot rest panel **73** provides the desk top surface **96** and the child seated on the seat bottom **93** may also use the cross dowel **4** as a foot rest.

[0023] FIGS. **6-10** illustrate the procedure for quick assembly of the furniture unit utilizing the interlocking projections and mating slots. Referring to FIG. **6**, one side frame, in this instance the side frame **2**, is preferably placed in a horizontal position and the chair seat **11** and high chair back rest panel **18** are placed in position with their appropriate projections inserted into the mating slots in the side frame. The rocker seat panel **59** is then placed in position with the edge **62** adjacent the bottom surface **94** of the high chair seat panel **11** with one of its side projections **66** inserted into the elongated slot **68** in the side frame **2**. Likewise the foot rest panel **73** is positioned with its curved edge facing outwardly and with the spaced holes **92** facing inwardly, as viewed in FIG. **6**. Referring to FIG. **7**, the second side frame **1** is laid on top of the assembly, insuring that the slots in the side frame are aligned with the projections on the cross panels. While holding the frame together, the chair is then stood upright as shown in FIG. **8** and the panels **59** and **73** are moved in opposite directions so that the slotted portions of their projections engage and capture the side walls of the side frames **1** and **2**. Panel **59** must be moved upwardly so that its edge **62** seats against the surface **94** as seen in FIG. **7** and the panel **73** is slid in the opposite direction to bottom out the slotted projections **76-79**. Referring to FIG. **8**, the dowel **3** is passed through the end of the crotch strap **47** and the dowel is inserted into the recesses **6** and **8** in the side frames and the ends of the dowel **3** are solidly connected to the side frames **1** and **2** with hardware such as screw threaded members **97**, using a standard screw driver **95** as shown in FIG. **8**. Screw threaded fasteners **97** are used on both ends of the dowel **3** and may include standard washers as illustrated. It will also be understood that any suitable alternative fastener means may be substituted for the screw threaded fasteners disclosed without departing from the intended spirit and scope of the invention. The assembly may then be positioned in the rocking chair mode, as shown in FIG. **9**, and the central panel **87**, with the dowel **4** extending through the hole **88**, is placed between the side frames **1** and **2**. The slot or notch **89** in the central panel is engaged with the slotted portion **72** of the rocker seat panel **59** and pegs **91** of the central panel aligned with the holes **92** in the foot rest panel **73**. Central panel **87** is carefully pushed into place and the dowel **4** moved to snap into the recesses **7** and **9**. The dowel **4** is then secured with screw threaded members **97** on both ends as previously described, utilizing a standard screw driver. The assembly is then ready for use in all three modes described. The cross rod dowels **3** and **4** serve to secure the two side frames together along the front edges **39** and **41** while the slotted projections on the panels **59** and **73** serve to secure the opposite side edges of the side frames together. The center panel **87** and its connections with the panels **59** and **73** and its engagement on the rigid cross rod or dowel **4** serve to hold the panels **59** and **73** in their engaged positions. It will also be noted that the dimensions of the various slotted openings in the side frames **1** and **2** will be such as to receive the various projections on the cross panels with a snug fit. The present disclosure thus presents improvements over known knock-down furniture units of the character described requiring no glue, bolts, clamps, wedging connectors, or reinforcing members and relies on a minimum number of simple fastener means and a conventional tool to complete the assembly.

[0024] FIGS. **11**, **11**A and B illustrate a second embodiment of the disclosure wherein a safety restraint bar is utilized to protect the occupant. In this embodiment a "T" shaped restraint bar **99** is incorporated into the top cross member or dowel **3** and extends between the side panels as shown in FIG. **11**. It will be understood that the remaining panels and frames may remain in the same configuration described and that the restraint bar **99** may be formed of the same material as previously described. Likewise, the ends of the bar **99** may be seated in the side frame recesses **6** and **8** and secured with the screw threaded fasteners **97** or their equivalent as previously described for the cross dowel **3**. In order to anchor the restraint bar **99**, a groove **98** is formed in the high chair seat surface **27** as shown in FIG. **11**B and will be dimensioned and positioned so as to snugly receive the extensions or projections **101** on the bottom end of the bar **99** as shown in FIG. **11**A. It will be understood of course that the configuration and order of both the projections **101** on the bottom of the bar **99** as well as the groove or recess **98** in the high chair seat surface may be altered to suit the purpose of removably anchoring the bottom end of the restraint bar when in the engaged position between the side frames **1** and **2**. Referring to FIG. **8** and the assembly steps previously described, the restraint bar **99** will be placed in position and secured in the same manner as cross dowel **3**. Additional safety straps or harness may of course be used with the restraint bar **99** if desired or required for any particular purpose.

[0025] Although the present invention has been described with reference to the primary preferred embodiment, it will be apparent that alternative structural or mechanical details, as

well as variations in-design, may be made in order to accomplish the objects of the invention. The detailed configuration of the various seat and back rest panels as well as the side frames may be changed to suit different intended functions or aesthetic preference and the center rocker panel **87** may be plain or take the shape of any desired simulation. The scope of the invention therefor, is only to be limited by the claims appended hereto. The embodiments of the invention in which an exclusive property is claimed are defined as follows.

What is claimed is:

1. A multipurpose furniture assembly comprising;

a pair of spaced upright side frames having front edges and convexly curved rear edges and a plurality of matching elongated side frame slots,

a dining seat cross panel including a bottom surface, an upwardly facing dining seat surface and at least one projection on each opposite side edge thereof extending into mating side frame slots to support the seat between the side frames,

a dining seat back rest panel extending upwardly from said dining seat surface, said back rest panel including at least one projection on each opposite side edge thereof extending into mating side frame slots to support the panel between the side frames,

a rocker seat panel having a bottom surface and a rocker seat surface extending downwardly from the bottom surface of said dining seat panel and terminating in a bottom edge, said rocker seat panel including at least one projection on each side edge thereof adjacent the dining seat panel and extending into mating side frame slots,

said rocker seat panel projections including slotted portions positioned to engage and capture the respective side frames when the rocker seat is moved into abutment with the bottom surface of said dining seat panel,

a foot rest cross panel including a bottom surface and a foot rest surface positioned to support the feet of an occupant seated on said rocker seat, said foot rest surface being substantially parallel with said rocker seat panel and spaced therefrom with at least one projection on each opposite side edge thereof extending into mating side frame slots adjacent the curved rear side edges of the side frames,

said foot rest panel projections including slotted portions movable to an engaged position to capture the respective side frames,

a locking panel located between and substantially parallel to said side frames and substantially normal to said rocker seat panel, said locking panel having a first edge removably attached to said foot rest surface and a second edge removably attached to and supporting the bottom edge of said rocker panel,

first and second cross members connected between the top and bottom portions of the front edges respectively of said side frames, said locking panel being mounted on said second cross member, said second cross member being positioned to provide hand grip surfaces for an occupant seated on said rocker seat surface,

whereby said rocker panel and said foot rest panel are locked in engagement with said side frames adjacent the rear edges thereof and said cross members connected adjacent the front edges of the side frames to maintain the furniture assembly rigid,

said furniture assembly presenting a dining chair mode in the upright position, and a rocker chair mode when rotated about a horizontal axis to rest on said curved rear edges of the side frames, the bottom surface of said rocker seat panel providing a desk seat and the bottom surface of said foot rest panel providing a desk surface when the assembly is rotated about a horizontal axis from the upright position to rest on the front edges of said side frames, said second cross member being positioned to provide an occupant's foot rest.

2. The furniture assembly of claim **1** wherein;

said rocker seat panel is moved into abutment with the bottom surface of said dining seat panel in a first direction,

said foot rest panel is moved into the engaged position in a second opposite direction,

said locking panel and said foot rest panel being connected by means of a pin and slot connection,

said locking panel and said rocker seat panel including interfitting mating slots providing support for said rocker seat panel, and

said second cross member extending through the body of said locking panel to fix the locking panel in position.

3. The furniture assembly of claim **2** wherein said elongated side frame slots comprise through openings in the side frames, said cross panel projections extending therethrough.

4. The furniture assembly of claim **3** wherein said dining seat panel, said dining seat back rest panel and said foot rest panel all include multiple spaced projections for extending through mating side frame slots.

5. The furniture assembly of claim **2** wherein said locking panel comprises a simulated amusement configuration.

6. The furniture assembly of claim **2** wherein said front edges of the side frames are convex forming support surface legs on the opposite ends thereof.

7. The furniture assembly of claim **4** wherein the opposite ends of said first and second cross members are seated in conforming recesses formed in the respective surfaces of said side frames, and

the opposite ends of said first and second cross members being connected to the respective side frames with screw threaded fasteners when seated in said conforming recesses,

said first cross member providing hand grips and a safety restraint for an occupant seated on the dining seat surface.

8. The furniture assembly of claim **7** wherein said first cross member comprises a T configuration with a horizontal extent connected between the side frames and a vertical extent anchored in the dining seat surface providing a safety restraint for an occupant seated on the dining chair surface astraddle the cross member vertical extent.

9. The furniture assembly of claim **7** wherein said dining seat panel includes a rear portion extending beyond said dining seat back rest panel,

whereby said dining seat back rest panel and the dining seat rear portion provide a storage shelf in the dining seat and desk chair modes, the dining seat bottom surface providing a rocker seat back rest in the rocker seat mode.

10. The furniture assembly of claim **7** wherein said assembly is erected by the steps including;

first inserting the projections on the dining chair seat panel and the dining chair back rest panel into mating slots in one of said side frames,

then placing the rocker seat panel and the foot rest panel in position with their projections inserted into mating slots in the side frames,

then aligning the appropriate side frame slots and placing the other side frame onto the assembled cross panels,

then positioning the frames in the upright position and moving the rocker seat panel and foot rest panel in opposite directions to engage the slotted projections into engagement to capture the respective side walls,

then inserting the first cross member into the recesses in the side panels and connecting the cross member to the side panels with appropriate fasteners,

then positioning the assembly in the rocker chair mode with the second cross member passing through said locking panel,

then engaging the locking seat panel and rocker seat notches and engaging the pin and slot connection between the locking panel and the foot rest panel and snapping the second cross member into the recess in the respective side panels and connecting the second cross member to the side frames with appropriate fasteners.

11. In a multipurpose furniture assembly having dining seat and back rest cross panels extending between upright side frames, said side frames having a plurality of elongated slots and front edges and convexly curved rear edges, said dining seat having a bottom surface and a top dining seat surface, a rocker and desk panel locking structure comprising;

a rocker seat cross panel extending downwardly substantially normal to the bottom surface of said dining seat panel and terminating in a bottom edge, said rocker seat panel including a rocker seat surface on one side thereof and at least one projection on each side edge thereof adjacent the dining seat panel extending into mating side frame slots,

said rocker seat panel projections including means for locking engagement to capture the respective side frames when moved into an engaged position,

a foot rest cross panel extending substantially parallel to said rocker seat panel and spaced therefrom with at least one projection on each opposite side edge thereof extending into mating side frame slots adjacent the curved rear edges of the side frames, said foot rest panel including a foot rest surface on one side thereof positioned to support the feet of an occupant seated on said rocker seat,

said foot rest panel projections including means for locking engagement to capture the respective side frames when moved to an engaged position,

a locking panel located between and substantially parallel to said side frames, said locking panel having a first edge removably attached to said foot rest surface and a second edge removably attached to and supporting the bottom edge of said rocker panel,

a cross member connected between the bottom portions of the front edges of said side frames, said locking panel being fixed relative to said cross member, said cross member being positioned to provide hand grip surfaces for an occupant seated on said rocker seat surface,

whereby, when in the engaged position, said rocker seat panel, said foot rest panel, said locking panel and said cross member maintain the furniture assembly rigid,

said furniture assembly providing a dining chair mode in the upright position, a rocker chair mode when supported on said curved rear edges of the side frames and a desk chair mode when supported on the front edges of the side frames, the reverse surfaces of said rocker seat panel and said foot rest panel providing a desk seat and desk working surface respectively.

12. The furniture assembly of claim **11** wherein;

said rocker seat panel is moved into abutment with the bottom surface of said dining seat panel in a first direction,

said foot rest panel is moved into the engaged position in a second opposite direction,

said locking panel and said foot rest panel being connected by means of a pin and slot connection,

said locking panel and said rocker seat panel including interfitting mating slots providing support for said rocker seat panel, and

said second cross member extending through the body of said locking panel to fix the locking panel in position.

13. The furniture assembly of claim **12** wherein said elongated side frame slots comprise through openings in the side frames, said cross panel projections extending therethrough.

14. The furniture assembly of claim **13** wherein said assembly includes first and second cross members connected between the top and bottom portions of the front edges respectively of said side frames,

the opposite ends of said first and second cross members being seated in conforming recesses formed in the respective surfaces of said side frames, and

the opposite ends of said first and second cross members being connected to the respective side frames with screw threaded fasteners when seated in said recesses,

said first cross member providing hand grips and a safety restraint for an occupant seated on the dining seat surface.

15. The furniture assembly of claim **14** wherein said first cross member comprises a T configuration with a horizontal extent connected between the side frames and a vertical extent anchored in the dining seat surface providing a safety restraint for an occupant seated on the dining chair surface astraddle the cross member vertical extent.

16. The furniture assembly of claim **14** wherein said assembly is erected by the steps including;

first inserting the projections on the dining chair seat panel and the dining chair back rest panel into mating slots in one of said side frames,

then placing the rocker seat panel and the foot rest panel in position with their projections inserted into mating slots in the side frames,

then aligning the appropriate side frame slots and placing the other side frame onto the assembled cross panels,

then positioning the frames in the upright position and moving the rocker seat panel and foot rest panel in opposite directions to engage the slotted projections into engagement to capture the respective side walls,

then inserting the first cross member into the recesses in the side panels and connecting the cross member to the side panels with appropriate fasteners,

then positioning the assembly in the rocker chair mode with the second cross member passing through said locking panel,

then engaging the locking seat panel and rocker seat notches and engaging the pin and slot connection between the locking panel and the foot rest panel and snapping the second cross member into the recess in the

respective side panels and connecting the second cross member to the side frames with appropriate fasteners.

17. In a multipurpose furniture assembly having cross panels including a dining seat panel extending between upright side frames, said dining seat having a bottom surface and a top dining seat surface, a rocker and desk panel locking structure comprising in combination;

a rocker seat cross panel extending substantially normal to the bottom surface of said dining seat panel and including means for capturing the respective side frames when moved to an engaged position,

a foot rest cross panel spaced from and substantially parallel to said rocker panel and positioned to support the feet of an occupant seated thereon, said rocker panel including means for capturing the respective side frames when moved to an engaged position,

a locking panel located between and extending substantially parallel and positioned to support one edge of the rocker seat panel,

said locking panel including means to removably connect said foot rest panel and said rocker seat panel thereto in fixed engaged position, and

a cross member connected between the edges of said side frames and fixed to said locking panel,

whereby, when in the engaged positions, said rocker seat panel, said foot rest panel, said locking panel and said cross member maintain the furniture assembly rigid.

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