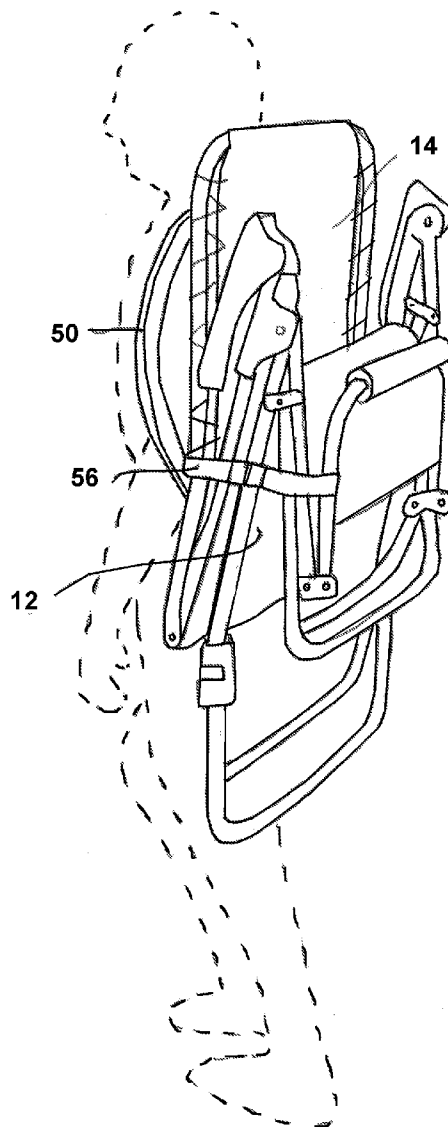


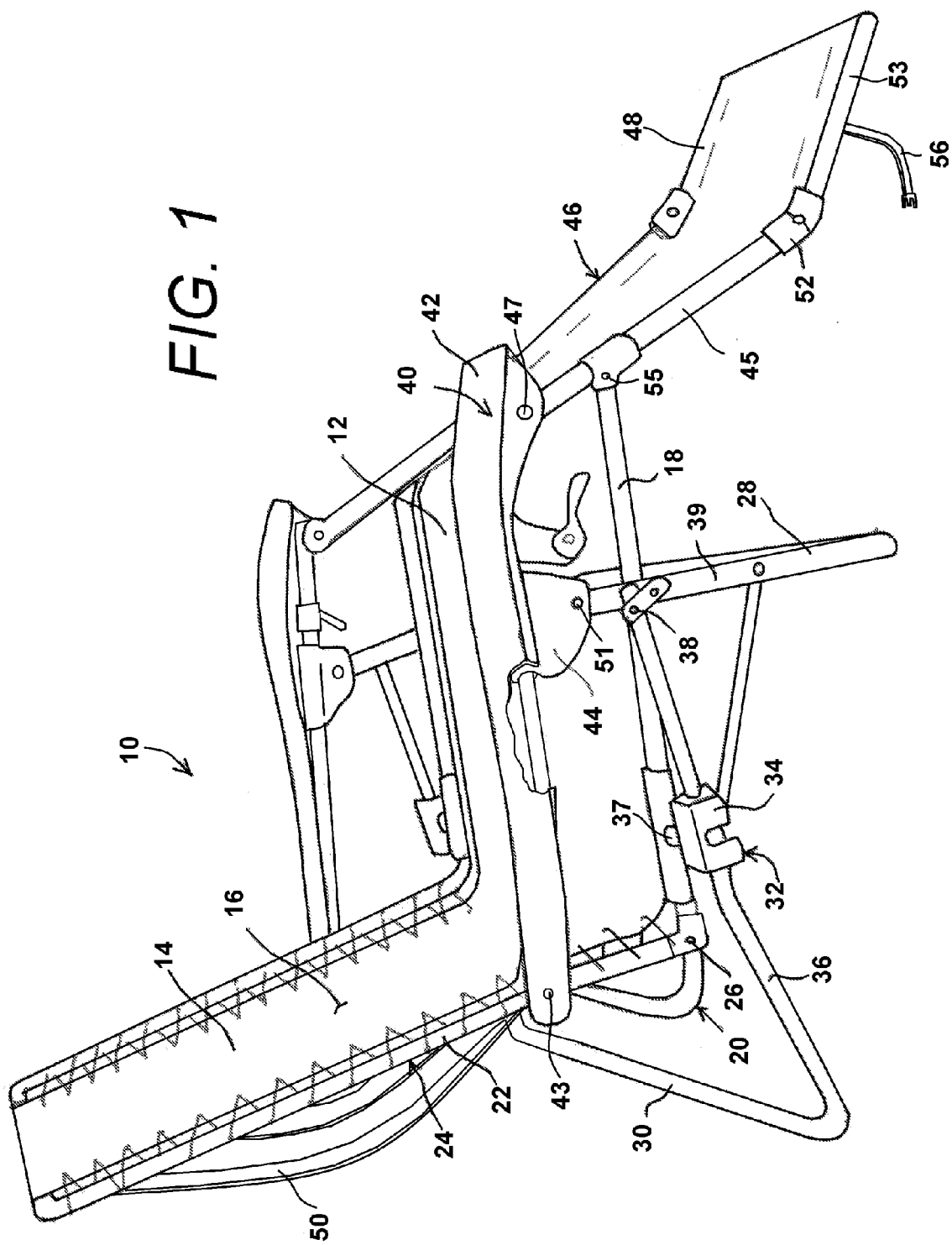


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(19) **United States**(12) **Patent Application Publication**
Cohen(10) **Pub. No.: US 2012/0286544 A1**(43) **Pub. Date: Nov. 15, 2012**(54) **COLLAPSIBLE LOUNGE CHAIR WITH
BACKPACK STRAPS**(52) **U.S. Cl. 297/30; 297/16.1**(76) **Inventor: Warren Cohen, Philadelphia, PA
(US)**(21) **Appl. No.: 13/470,295**(22) **Filed: May 12, 2012****Related U.S. Application Data**(60) **Provisional application No. 61/485,605, filed on May
12, 2011.****Publication Classification**(51) **Int. Cl. A47C 4/00 (2006.01)**(57) **ABSTRACT**

A folding chair assembly that is configurable between an open configuration and a folded configuration. The folding chair assembly has a backrest frame that supports a backrest surface. A seat frame supports a seating surface. The backrest surface can be folded against the seating surface. A leg support structure is coupled to the seat frame. The leg support structure folds under the seating surface when it is in the folded configuration. As such, the seating surface becomes interposed between the backrest surface and the leg support structure. A foot support structure is coupled to the leg support structure. The foot support structure folds against the leg support structure when it is in the folded configuration. Legs are provided for supporting the seat frame at a predetermined height. Backpack straps can be used to carry the folding chair assembly on a person's back.





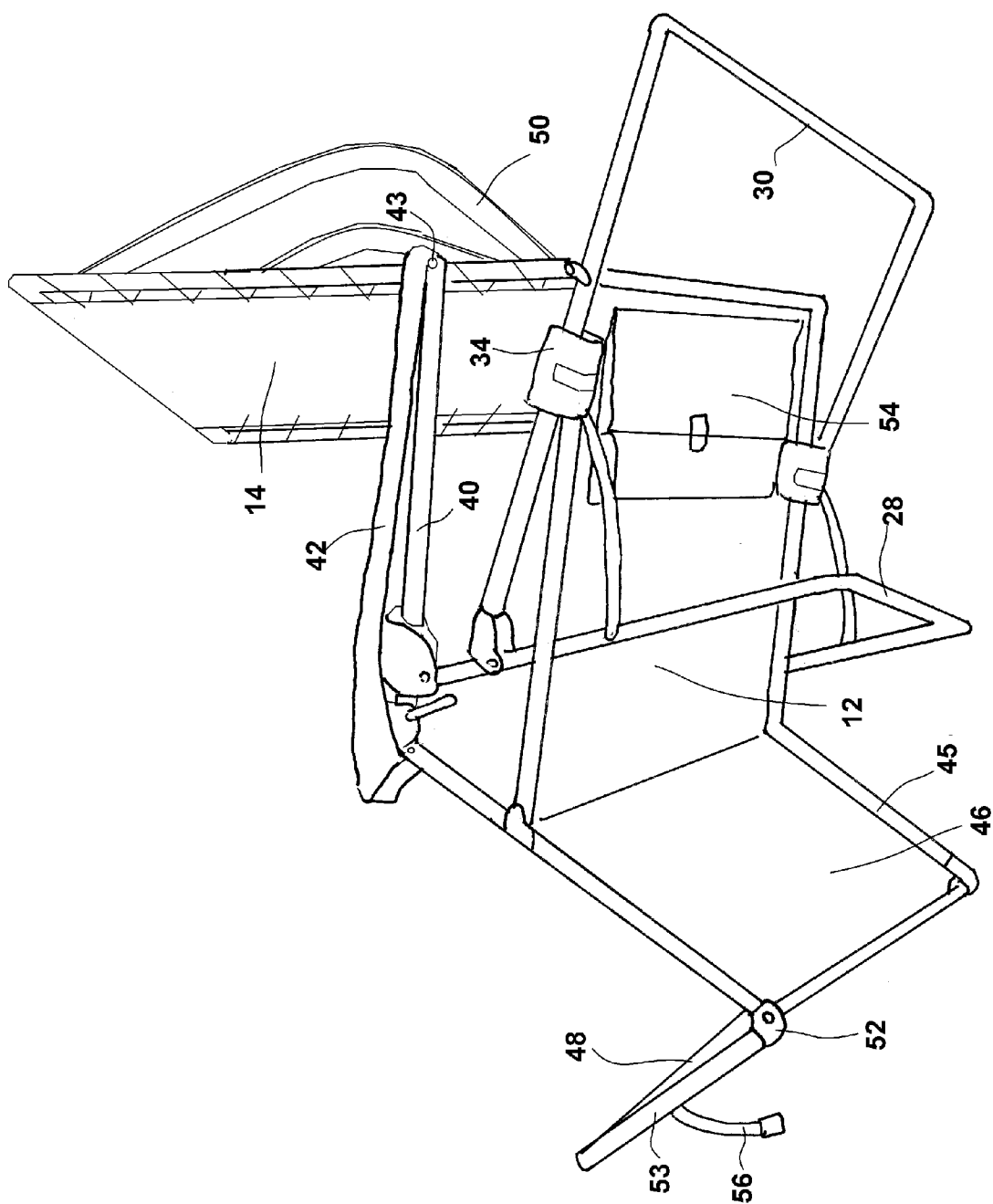


FIG. 2

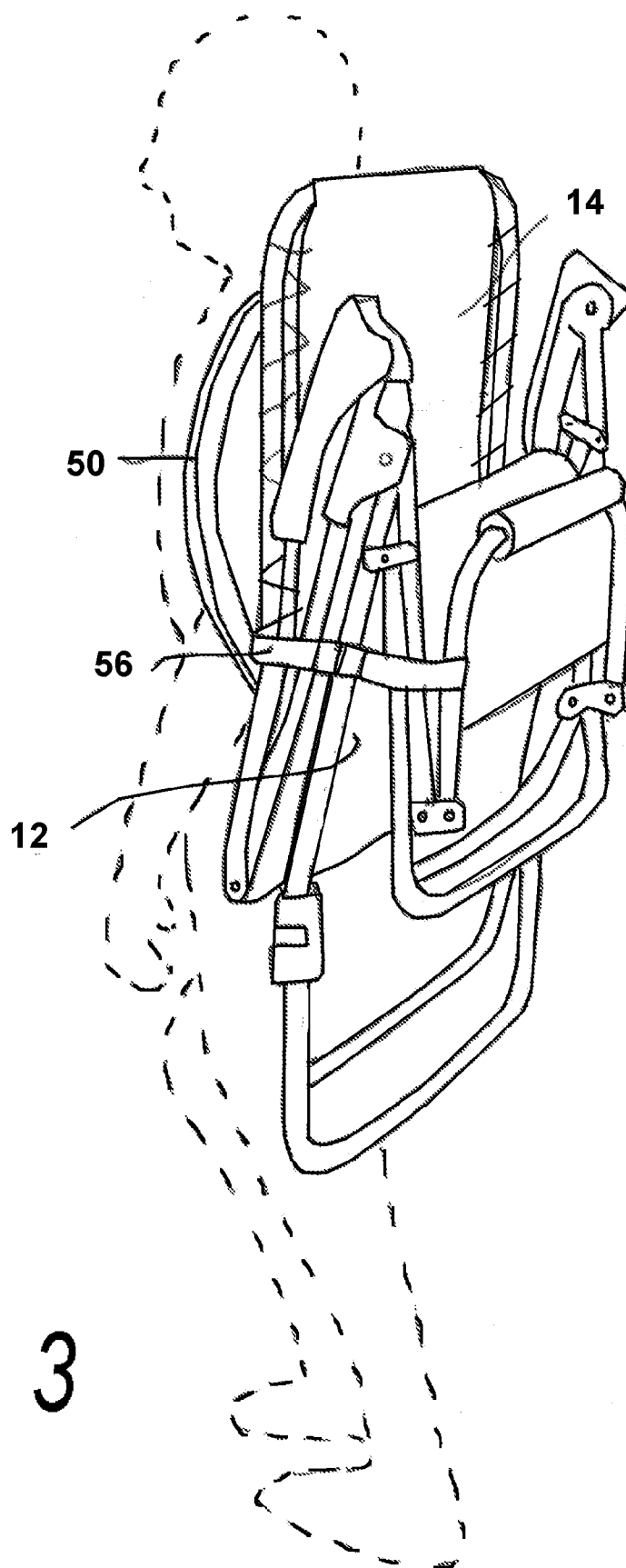


FIG. 3

COLLAPSIBLE LOUNGE CHAIR WITH BACKPACK STRAPS

RELATED APPLICATIONS

[0001] This application claims the priority of U.S. provisional patent application No. 61/485,605, filed May 12, 2011 and entitled Collapsible Lounge Chair With Backpack Straps, the disclosure of which is incorporated into this specification by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field Of The Invention

[0003] In general, the present invention relates to the structure of folding chairs. More particularly, the present invention relates to folding chairs configured as loungers that can provide full support to elevated legs.

[0004] 2. Prior Art Description

[0005] Many people carry folding chairs to the beach, parks, and other outdoor destinations. Typically, the folding chair is a simple small chair. However, some people would prefer the comfort of a larger lounge-style chair that provides support to the legs. Although many lounge chair designs exist, most are too large and too bulky to be comfortably carried for any significant period of time. Accordingly, lounge-style chairs are rarely transported farther than the patio in a user's backyard.

[0006] In the prior art, there are many lounge chairs that fold into smaller sizes. Typically, a lounge chair has a backrest that can fold flush against the seat of the lounge. Such folding abilities make the lounge chairs easier to store and stack when not in use. Such lounge chairs are exemplified by U.S. Pat. No. 5,246,265 to Nagan, entitled Lounge Chair. Although such prior art lounge chairs can fold to some degree, the lounge chairs remain very bulky and difficult to transport.

[0007] Recognizing the problem of transporting lounge chairs, some manufacturers have designed lounge chairs that collapse into very small sizes. The collapsed lounge chair can then be carried in a bag. Such prior art collapsible lounge chairs are exemplified by U.S. Pat. No. 5,429,413 to Levy, entitled Folding Lounge Chair and U.S. Pat. No. 6,062,648 to Adler, entitled Foldable Lounge Chair. The problem associated with such prior art lounge chairs is that the lounge chairs must be assembled every time they are used and disassembled whenever they are to be transported. The need to assemble and disassemble the chairs makes such prior art chairs inconvenient to use and commercially unsuccessful.

[0008] A need exists for a collapsible lounge chair that is specifically designed to be carried by a user, yet requires no assembly or disassembly other than the need to unfold the chair into an open configuration. Such a collapsible lounge chair needs to be lightweight and collapsible into a convenient size and have lifting features that enable the chair to be comfortably carried. These needs are met by the present invention as described below.

SUMMARY OF THE INVENTION

[0009] The present invention is a folding chair assembly that is configurable between an open configuration and a folded configuration. The folding chair assembly has a backrest frame that supports a backrest surface. A seat frame is provided that supports a seating surface. The backrest frame is joined to the seat frame by hinge connections that enable

the backrest surface to be folded against the seating surface when the assembly is in the folded configuration.

[0010] A leg support structure is coupled to the seat frame. The leg support structure folds under the seating surface when the assembly is in the folded configuration. As such, the seating surface becomes interposed between the backrest surface and the leg support structure when the folding chair assembly is in its folded configuration.

[0011] A foot support structure is coupled to the leg support structure. The foot support structure folds against the leg support structure when the assembly is in the folded configuration. Furthermore, legs are provided for supporting the seat frame at a predetermined height when the folding chair assembly is in its open configuration. Backpack straps can be used to carry the folding chair assembly on a person's back while it is in its folded configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] For a better understanding of the present invention, reference is made to the following description of an exemplary embodiment thereof, considered in conjunction with the accompanying drawings, in which:

[0013] FIG. 1 is a top perspective view of an exemplary embodiment of a folding lounge chair assembly in an open configuration;

[0014] FIG. 2 is a bottom perspective view of the exemplary embodiment of the folding lounge chair assembly shown in a partially folded configuration; and

[0015] FIG. 3 is a perspective view of the exemplary embodiment of the folding lounge chair assembly shown in a fully folded configuration and being carried as a backpack.

DETAILED DESCRIPTION OF THE DRAWINGS

[0016] Although the present invention folding lounge chair can be embodied in many ways, only one exemplary embodiment of the folding lounge chair is illustrated. The exemplary embodiment is selected in order to set forth one of the best modes contemplated for the invention. The illustrated embodiment, however, is merely exemplary and should not be considered a limitation when interpreting the scope of the appended claims.

[0017] Referring to both FIG. 1 and FIG. 2, a lounge chair assembly 10 is shown. The lounge chair assembly 10 has a seating surface 12 and a backrest surface 14. In the shown embodiment, both the seating surface 12 and the backrest surface 14 are made from a single fabric panel 16. However, it will be understood that two separate panels can also be used.

[0018] The seating surface 12 is suspended between the arms 18 of a tubular U-shaped seat frame 20. Likewise, the backrest surface 14 is suspended between the arms 22 of a tubular U-shaped backrest frame 24. The arms 22 of the backrest frame 24 are connected to the arms 18 of the seat frame 20 at two hinge connections 26. The hinge connections 26 enable the backrest frame 24 to fold against the seat frame 20 when the lounge chair assembly 10 is manipulated into its folded configuration.

[0019] The seat frame 20 is supported above the ground by legs. The legs include a front leg frame 28 and a rear leg frame 30. Both the front leg frame 28 and the rear leg frame 30 are also made from U-shaped elements of bent tubing. Consequently, the rear leg frame 30 has two parallel arms 36. Likewise, the front leg frame 28 has two parallel arms 39.

[0020] Two pivot slides 32 are provided, one on each side of the seat frame 20. Each of the pivot slides 32 includes a slide block 34. The arms 36 of the rear leg frame 30 extend through the slide blocks 34. The slide blocks 34 are free to slide back and forth along the arms 36 through the blocks 34. Each of the pivot slides 32 includes a slide block 34. The slide blocks 34 are free to move back and forth along the length of the arms 36 of the rear leg frame 30. Each of the slide blocks 34 is also connected to the arms 18 of the seat frame 20 with a pivot connection 37. The pivot connections 37 join the slide blocks 34 to the arms 18 of the seat frame 20, yet enable the slide blocks 34 to rotate in place relative to the seat frame 20. The arms 36 of the rear leg frame 30 terminate at short linkage connectors 38 that connect the rear leg frame 30 with the front leg frame 28.

[0021] The chair assembly 10 has two armrests 42. Under each of the armrests 42 is a rod 40. The rear of both the armrests 42 and the underlying rods 40 are coupled to the backrest frame 24 at pivot connections 43. The front of both the armrests 42 and the underlying rods 40 are coupled to leg extension frames 45 at pivot connections 47.

[0022] A locking slide 44 is provided under each armrest 42. The locking slide 44 reciprocally moves along each of the rods 40 that extend under the armrests 42. Each of the locking slides 44 has a manual locking lever 49 that can be manually manipulated between a locked condition and an unlocked condition. When in the locked condition, the locking slides 44 are locked in place along the rods 40. When in the unlocked condition, the locking slides 44 can reciprocally move along the rods 40.

[0023] The arms 39 of the front leg frame 28 are connected to the locking slides 44 at pivot connections 51. Accordingly, when the locking slides 44 move along the rods 40, the front leg frame 28 also changes orientation.

[0024] A leg support structure 46 is provided. The leg support structure 46 contains two parallel leg extension frames 45. A foot support structure 48 is provided. The foot support structure 48 contains two parallel foot support frames 53. The leg extension frames 45 are joined to the foot support frames 53 at hinge joints 52. As has been previously mentioned, the opposite ends of the leg extension frames 45 are joined to the rods 40 under the armrests 42 at pivot connections 47. Furthermore, the leg extension frames 45 are also joined to the arms 18 of the seat frame 20 with pivot connections 55 at points just above the midsection of the leg extension frames 45.

[0025] The front leg frame 28 and the rear leg frame 30 support the seat frame 20 at a preferred height of no more than eighteen inches above the ground. This low elevation is popular for use at the beach. The height of the seat frame 20 is lower than the height needed to accommodate both the leg support structure 46 and the foot support structure 48. When the backrest frame 24 of the lounge chair assembly 10 is reclined, the leg support structure 46 and the foot support structure 48 have the room needed to extend straight. However, if the backrest frame 24 is set fully erect, the leg support structure 46 with the foot support structure 48 are too long to remain straight. It is for this purpose that the leg support structure 46 and the foot support structure 48 are joined by the hinges 52. The leg extension frames 45 of the leg support structure 46 is shorter than the front leg frame 28. As such, there is room to retract the leg extension frames 45 under the seat frame 20. The hinges 52 enable the foot support frames 53 of the foot support structure 48 to fold up to ninety degrees relative the leg extension frames 45.

[0026] When the chair assembly 10 is in its open configuration, as is shown in FIG. 1, it will be understood that the leg

support structure 46 and the foot support structure 48 can be selectively raised and lowered. To raise or lower the leg support structure 46 and the foot support structure 48, a person sitting in the chair assembly 10 would loosen the manual locking levers 49 on the locking slides 44. This enables the locking slides 44 to move along the rods 40 under the armrests 42. As the locking slides 44 move, they also move the front leg frame 28. The front leg frame 28 is attached to the leg extension frames 45. Consequently, as the front leg frame 28 moves, the leg extension frames 45 will either pivot up or pivot down about the pivot connections 47. The leg support structure 46 with the foot support structure 48 can therefore be selectively raised or lowered by a person resting in the chair assembly 10.

[0027] In FIG. 2, it can also be seen that a pouch 54 can be sewn to the underside of the seating surface 12. The use of this pouch 54 is preferred, but optional. Furthermore, two backpack straps 50 are provided behind the backrest surface 14. The backpack straps 50 enable the chair assembly 10 to be carried on a person's back, like a backpack, when the chair assembly 10 is in its folded configuration. In addition to the backpack straps 50, a set of closure straps 56 are provided.

[0028] Referring to FIG. 3 in conjunction with both FIG. 2 and FIG. 1, it will be understood that the chair assembly of FIG. 1 can be folded closed into the configuration of FIG. 3, with FIG. 2 being at a midway configuration. To move an open chair assembly 10 into a closed configuration, the foot support frames 53 are folded flat against the leg extension frames 45 using the hinges 52. The backrest frame 24 that supports the backrest surface 14 is folded against the seat frame 20 that supports the seating surface 12. Both the leg extension frames 45 and the foot support frames 53 are then folded flush under the seat frame 20.

[0029] Once the chair assembly 10 is folded closed, the closure straps 56 are secured. Once secured, the closure straps 56 retain the chair assembly 10 in its folded configuration. After the chair assembly 10 is secured in its folded configuration, it can be lifted onto a person's back using the backpack straps 50. The backpack straps 50 enable a user to lift the folded lounge chair assembly 10 and carry the assembly as a backpack.

[0030] When the chair assembly 10 is worn as a backpack, the pouch 54 is oriented in an upright position. Secondary items can therefore be stored and carried in the pouch 54 as the chair assembly 10 is being carried. Thus, the chair assembly 10 not only can be carried as a backpack, but it can be used as a backpack to carry other items.

[0031] It will be understood that the embodiment of the present invention being illustrated is merely exemplary and that a person skilled in the art can make many variations to that embodiment. For example, the length, width and height of the lounge chair assembly can be varied as desired. Likewise, any number of pockets can be sewn to the fabric panel. All such variations and alternate embodiments are intended to be included within the scope of the present invention.

What is claimed is:

1. A folding chair assembly that is configurable into an open configuration and a folded configuration, said folding chair assembly comprising:

- a backrest frame that supports a backrest surface;
- a seat frame that supports a seating surface, wherein said backrest frame is joined to said seat frame by hinge connections that enable said backrest surface to be folded against said seating surface when in said folded configuration;
- a leg support structure coupled to said seat frame, said leg support structure folding under said seating surface

- when in said folded configuration, wherein said seating surface becomes interposed between said backrest surface and said leg support structure when said folding chair assembly is in said folded configuration;
- a foot support structure coupled to said leg support structure, wherein said foot support structure folds against said leg support structure when in said folded configuration; and
- legs for supporting said seat frame at a predetermined height when said folding chair assembly is in said open configuration.
2. The assembly according to claim 1, further including backpack straps anchored to said backrest structure for carrying said folding chair assembly as a backpack when in said folded configuration.
3. The assembly according to claim 1, further including closure straps for retaining said folding chair assembly in said folded configuration.
4. The assembly according to claim 1, further including a pouch affixed to said seating surface, wherein said pouch is interposed between said seating surface and said leg support structure when said folding chair assembly is in said folded configuration.
5. The assembly according to claim 1, further including a mechanism for selectively raising and lowering said leg support structure and said foot support structure relative said seating surface when said folding chair assembly is in said open configuration.
6. The assembly according to claim 5, further including a locking mechanism for locking said leg support structure in a set position relative said seating surface.
7. A folding chair assembly, comprising:
- a backrest frame that supports a backrest surface;
 - a seat frame that supports a seating surface, wherein said backrest frame is coupled to said seat frame to enable said backrest surface to be selectively folded against said seating surface;
 - a rear leg frame for supporting said seat frame at a predetermined height;
 - a front leg frame for supporting said seat frame at said predetermined height;
 - armrest rods that are coupled to said backrest frame; and
 - slides that selectively run along at least part of said armrest rods that interconnect said armrest rods to said front leg frame.
8. The assembly according to claim 7, further including locking mechanisms for selectively locking said slides into fixed positions on said armrest rods.
9. The assembly according to claim 7, further including a leg support structure that is coupled to said seat frame and

said armrest rods, wherein said leg support structure raises and lowers as said slides move along said armrest rods.

10. The assembly according to claim 9, further including a foot support structure that is coupled to said leg support structure.

11. The assembly according to claim 10, wherein said foot support structure is joined to said leg support structure with hinges that enable said foot support structure to be adjusted to a variety of angles relative said leg support structure.

12. The assembly according to claim 7, further including slide blocks that are selectively movable along sections of said rear leg frame.

13. The assembly according to claim 12, wherein said slide blocks are connected to said seat frame with pivot connections.

14. The assembly according to claim 7, further including backpack straps coupled to said backrest surface.

15. A folding chair assembly, comprising:

- a backrest frame that supports a backrest surface;
- a seat frame that supports a seating surface, wherein said backrest frame is coupled to said seat frame to enable said backrest surface to be selectively folded against said seating surface;
- a rear leg frame;
- a front leg frame;
- armrest rods that are coupled to said backrest frame;
- slides that interconnect said armrest rods to said front leg frame; and
- a leg support structure that is coupled to said seat frame and said armrest rods, wherein said leg support structure raises and lowers as said slides move along said armrest rods.

16. The assembly according to claim 15, further including locking mechanisms for selectively locking said slides into fixed positions on said armrest rods.

17. The assembly according to claim 16, further including a foot support structure that is coupled to said leg support structure.

18. The assembly according to claim 17, wherein said foot support structure is joined to said leg support structure with hinges that enable said foot support structure to be adjusted to a variety of angles relative said leg support structure.

19. The assembly according to claim 15, further including backpack straps coupled to said backrest surface.

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