READY TO ASSEMBLE ADJUSTABLE TABLE AND METHOD FOR PACKAGING SAME

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ABSTRACT

A vertically adjustable table height system having a first assembled configuration for seating and a second unassembled configuration for storage and shipping, having a horizontal seat, a support frame having leg assembly members and interchangeable legs that assemble quickly and disassemble into a configuration that optimizes space when shipped.
READY TO ASSEMBLE ADJUSTABLE TABLE AND METHOD FOR PACKAGING SAME

INDEX TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 13/021,804 filed Feb. 7, 2011 which is a continuation of U.S. patent application Ser. No. 12/029,819 filed Feb. 12, 2008 the disclosures of which are incorporated herein by reference in their entirety.

BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to ready-to-assemble (“RTA”) furniture. More specifically, the present invention relates to RTA adjustable height tables configured for rapid assembly to a fully assembled state after shipping and storage stages.

BRIEF SUMMARY OF THE INVENTION

[0003] The present invention is an adjustable height tables constructed and arranged for minimizing packaging volume for rapid assembly to a fully assembled state with minimal effort and tools.

[0004] In one embodiment, the present invention is an adjustable height table system having a first assembled configuration and a second unassembled configuration for storage and shipping.

[0005] The system includes a horizontal table top, a support frame having leg assembly members and interchangeable legs. The leg assembly may be configured with three, four, or five support frame members, as desired. Preferably, the interchangeable legs attach to the lower portion of the support frame in a male-female connecting arrangement. The interchangeable legs may have varying sizes shapes and other configurations that may be selected as desired by a user.

[0006] In one preferred embodiment an interchangeable leg is provided such that the assembled table height is adjustable selected as desired by a user.

[0007] In one embodiment, a longer interchangeable leg may be used such that the table of the present invention resembles that of a conventional table.

[0008] The unassembled configuration is substantially rectangular. In order to achieve the substantially rectangular configuration, the interchangeable legs must be removed from their respective leg frames.

[0009] The assembly also has a first support ring for structural support. The support ring is typically positioned on the upper portion of the assembly below the tabletop. A second support ring is typically positioned on the lower portion of the assembly.

[0010] Preferably, the support frame attaches to the second support ring about the perimeter of the ring.

[0011] In one embodiment the invention is an adjustable height table system comprising: (a) a first assembled configuration for seating; (b) a second unassembled configuration for storage and shipping, comprising: (i) a horizontal tabletop; (ii) support frame attached to a first support ring about the perimeter of the first support ring and a second stabilizing support ring, said support frame having leg assembly members, wherein said leg assembly members are constructed with openings on a lower end of said members to be female connectors to receive interchangeable legs in a male-female connecting arrangement, said openings are substantially coplanar with said second support ring when said system is in the first assembled configuration; (iii) interchangeable legs; wherein said interchangeable legs have a male attachment configuration on an upper end to mate with the openings on said leg assembly members of said support frame, said interchangeable legs and said leg assembly members abut in a single horizontal plane that is substantially coplanar with a bottom surface of said second support ring when said system is in the first assembled configuration.

[0012] It has been discovered that when providing a piece of RTA furniture that has an adjustable and/or changeable height, the position of a stabilizing ring or stabilizing structure at or near the same horizontal plane as the openings of leg assembly members provides a significantly more stable article that is less likely to tip over.

[0013] In one embodiment, the term “substantially coplanar” is not intended as an exact geometric configuration, but refers to the insertion opening for the adjustable/changeable leg members into the frame assembly legs being in the same horizontal plane ± 5% vertical distance based on the overall frame height. For example, if the frame is 30 inches and the opening for the adjustable/changeable leg members into the frame assembly legs is 5 inches from the floor, the support ring is positioned between 3.5 and 6.5 inches off the floor.

[0014] Also contemplated are methods of shipping Ready to Assemble (RTA) bar stool assemblies with interchangeable legs having the steps of:

[0015] (a) providing RTA components of comprising:

[0016] (i) a horizontal table top;

[0017] (iv) support frame having leg assembly members;

[0018] (v) interchangeable legs;

wherein said interchangeable legs attach to the lower portion of the support frame by a male-female connection.

[0019] (b) arranging said RTA components such that said components form a rectangular configuration;

[0020] (c) packaging said RTA furniture into a conventional shipping container such that each unit forming said rectangular frame efficiently utilizes the available shipping space of a conventional shipping container.

In another embodiment, the present invention is:

[0021] A method of shipping Ready to Assemble (RTA) adjustable height table with interchangeable legs comprising the steps of:

[0022] (a) providing RTA components of said table comprising: (i) a horizontal table top; (ii) support frame attachable to a first support ring and a second stabilizing support ring, said support frame attached about the perimeter of each ring, said support frame having leg assembly members, wherein said leg assembly members are constructed with openings on a lower end of said members to be female connectors to receive interchangeable legs in a male-female connecting arrangement, said openings are substantially coplanar with a bottom surface of said foot ring when said RTA components are in a first assembled configuration; (iii) wherein said interchangeable legs have a male attachment configuration on an upper end to mate with the openings on said leg frame, said interchangeable legs and said leg assembly members about in a single horizontal plane that is substantially coplanar with said second stabilizing support ring when said system is in the first assembled configuration; (b) arranging said RTA components such that said components form a rectangular configuration.
(c) packaging said RTA furniture into a conventional shipping container such that the rectangular configuration efficiently utilizes the available shipping space of the conventional shipping container.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a side partial cross section view of the assembled configuration.

FIG. 2 shows a side partial cross section view of the assembled configuration.

FIG. 3 shows a side view of the assembled configuration.

FIG. 4 shows a disassembled view of the components.

FIG. 5 shows a perspective view of the support components.

FIG. 6 shows a side cross-section view of the tabletop connection from FIG. 1.

FIG. 7 shows a side cross-section view of the first support ring connection from FIG. 1.

FIG. 8 shows a side cross-section view of the second stabilizing support connection ring from FIG. 1.

FIG. 9A is a side view of one leg member.

FIG. 9B is a front view of one leg member.

FIG. 10A is a side view of one leg member.

FIG. 10B is a front view of one leg member.

FIG. 11 is a perspective view of the second support ring.

FIG. 12 is a perspective view of one embodiment of the first support ring.

FIG. 13 is a perspective view of one embodiment of the first support ring.

FIG. 14 is a side view showing connection of frame and leg.

FIG. 15 is a bottom view of the assembled table. FIG. 16 is a bottom view of the table.

DETAILED DESCRIPTION OF THE INVENTION

Table system 10 has frame assembly 15 that supports tabletop 28. Each individual frame assembly 15 is arranged around the perimeter of at least one support ring. In an embodiment where only one support ring is used, second support ring 22 being a stabilizing support ring is utilized.

Although as used herein, the support structures are referred to as “rings” it is not required in every configuration that they be round. The support assembly 15 has frame assembly legs 16 constructed and arranged with an upper end that mounts to tabletop 28 and a lower end configured with an opening to receive adjustable/interchangeable leg support 18.

In one embodiment, a user can interchange leg support 18 to achieve a desired overall height. Table height, as understood herein is the approximate height from the floor to the upper surface of the tabletop. By way of non-limiting example, the leg can be selected to impart a 30 inch tall table which is comparable to a conventional kitchen or dining room table; a 36 inch tall table which is comparable to a counter height table; or a 42 inch tall table which is comparable to a bar height.

Alternatively, leg support 18 is adjustable to impart/change table height as desired including, but not limited to the 30 inch, 36 inch, and 42 inch table heights discussed above.

In one embodiment, mounting screw 30 secures second support ring 22 to support leg 16 that assembles frame assembly 15 at frame assembly mounting support 34. Each lower portion of frame assembly leg 16 has a female cavity 40 that receives male connector 42 that is incorporated onto interchangeable leg 16.

Interchangeable leg 16 may have protective cap 36 affixed to the lower end of interchangeable leg 16.

The table system of the present invention provides not only a cost savings in shipping, but also a savings in labor for assembling. Once the article is unpacked from shipping configuration, it comprises simple components and assemblies quickly.

The system of the present invention is advantageous because the interchangeable leg extension allows a user to select a table height. Typically, tables are varying heights are separate items. The system of the present invention allows a user to purchase a single table and interchange the legs as desired. This reduces the number of tables needed for display inventory and further allows display inventories to demonstrate varying styles without having to display separate models.

Assembly of the system of the present invention on a commercial scale is also economized because any assembly line processes can be done quickly.

While the invention has been described in its preferred form or embodiment with some degree of particularity, it is understood that this description has been given only by way of example and that numerous changes in the details of construction, fabrication, and use, including the combination and arrangement of parts, may be made without departing from the spirit and scope of the invention.

1 claim:
1. An adjustable height table system comprising:
(a) a first assembled configuration;
(b) a second unassembled configuration for storage and shipping, comprising:
(i) a horizontal tabletop;
(ii) support frame having frame assembly legs configured with female receiving openings for support legs;
(iii) a stabilizing support ring;
(iv) support legs;

wherein said support legs attach to said receiving openings in a position at or near the height of said stabilizing ring.

2. The furniture system of claim 1, wherein said unassembled configuration is substantially rectangular.

3. The furniture system of claim 1, wherein said support legs are adjustable height or are interchangeable to impart differing heights for said table system.

4. The furniture system of claim 2, wherein said support frame attaches to the support ring about the perimeter of said support ring.

5. The furniture system of claim 1 wherein said leg support interconnects and secures to the support frame by a male-female connection.

6. A method of shipping Ready to Assemble (RTA) bar stool with leg support comprising the steps of:
(a) providing RTA components of comprising:
(i) a horizontal seat;
(ii) support frame having leg assembly members; and
(iii) interchangeable legs;

wherein said interchangeable legs attach to the lower portion of the support frame by a male-female connection;

(b) arranging said RTA components such that said components form a rectangular configuration;
(c) packaging said RTA furniture into a conventional shipping container such that each unit forming said rectangular frame efficiently utilizes the available shipping space of a conventional shipping container.

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