Articles of furniture and home décor formed of a single panel of unfinished honeycomb cardboard cut in a compressed state along a first plane to have a predefined shape and expanded along a second plane; and fixing means for fixing the cut honeycomb cardboard in an expanded state. In preferred embodiments, the compressed honeycomb cardboard may be cut in the first plane to have the profile of a sofa, a chair, a table, a vase, or a tray, such that when the honeycomb cardboard is expanded it takes on a three-dimensional form thereof.
FURNITURE, HOME DECOR, AND OTHER ITEMS OF MANUFACTURE FORMED OF CELLULAR MATERIAL

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

The present invention relates generally to articles of manufacture having a lightweight cellular construction and, more particularly, to articles of furniture and home décor formed substantially or entirely of one or more panels of lightweight cellular material.

[0002] 2. Description of Related Art

There has long been a need for articles of furniture and home décor that are lightweight, inexpensive to manufacture, easily transported, stored, assembled and disassembled, and inexpensive enough to purchase so that they may be discarded after a desired period of use.

[0003] Although the manufacture of furniture with lightweight materials that are stable and strong is generally well known, the materials used in such constructions have been somewhat limited. For instance, lawn furniture formed of hollow-core aluminum members or resin materials are well known. Likewise, the concept of providing easily assembled furniture formed of fiberboard or other composite materials is generally well known.

[0004] Although cardboard has found widespread use in many storage and delivery applications, the use of cardboard or other heavy, wood-based types of paper in furniture construction has been somewhat limited. Some cardboard furniture constructions utilize cardboard arranged in the form of an egg crate divider structure made from a crisscross pattern of interlocking, flat sheets or strips of cardboard. Cardboard materials arranged in such an egg crate pattern have been used to form core members of various articles of furniture, such as desktop work surfaces and seat portions of chairs and sofas. In the case of such constructions, the cardboard core members are generally concealed by decorative surface materials such as fiberboard, composite or laminate surfaces, plastics, leather or textiles.

[0005] The use of cardboard egg crate divider core members or laminated corrugated cardboard in furniture construction is known to decrease the weight and manufacturing cost of such furniture while providing sufficient structural integrity to enable use of the furniture for its intended purpose. However, aside from a modest decrease in the manufacturing cost over the use of wood or other conventional materials, the use of cardboard core structures does not result in an appreciable difference in the structure of the furniture from the viewpoint of the purchaser and/or user of the furniture. Such furniture is no easier to transport, store, assemble and disassemble, and dispose of than furniture formed of more conventional materials. Nor is such furniture significantly less costly to purchase than other traditional constructions.

[0006] The use of cardboard as an element of furniture design (rather than core structure) has been limited. Some design efforts have involved the use of corrugated cardboard to form structural furniture members such as legs, seats, seat backs and working surfaces with enhanced strength and rigidity.

[0007] For example, a currently-available line of cardboard-based modern furniture designed by renowned architect Frank Gehry is constructed of multiple laminated layers of corrugated cardboard held together by hidden screws and fiberboard surfaces. In one commercial embodiment of this furniture line, a chair is fabricated of sixty layers of corrugated cardboard and held together by concealed screws and fiberboard edging. Although the strength of the corrugated cardboard is significantly enhanced by laminating multiple layers, the resulting furniture is costly and is not lightweight or easily transported. Nor can it be disassembled or easily stored.

[0008] Other efforts at producing furniture with reinforced paper or cardboard constructions have been generally unsuccessful. Many of the resulting articles of cardboard furniture have proven to be of unstable construction and unable to support adequate weight to serve their intended or desired purposes. Purchasers of many of these articles of furniture are required to exercise caution in their use to avoid bumping into them and causing them to collapse.

[0009] To the extent previous designs have satisfied the need for reduced cost, ease of assembly/disassembly, storage, and the like, the resulting designs are aesthetically unappealing. For example, one attempt to meet the foregoing needs involves constructions in which multiple sheets of solid flat or corrugated cardboard are stacked or folded atop each other to achieve increased structural strength. The resulting furniture has a visual appearance similar to that of a corrugated cardboard crate or box and is generally unacceptable from an aesthetic standpoint.

[0010] Heretofore, there have been very few articles of furniture or home décor formed using bare, un laminated cardboard as a structural material because of the lack of rigidity, structural stability and low level of consumer acceptance of cardboard as an aesthetic element of design. There have also been very few articles of furniture and home décor formed using bare cardboard as an element of design because of the displeasing appearance of bare cardboard.

SUMMARY OF THE INVENTION

[0011] In view of the foregoing, it is an object of the present invention to provide articles of manufacture including but not limited to furniture and home décor formed of a material which has relatively great rigidity and structural strength, which is capable of bearing relatively large loads and stress, and which has an attractive and desirable aesthetic appearance.

[0012] It is another object of the present invention to provide articles of manufacture such as furniture and home décor that are easily manufactured and transported.

[0013] Still another object of the present invention is to provide articles of manufacture such as furniture and home décor that are lightweight, inexpensive to manufacture, easily transported, easily stored, easily assembled and disassembled, and inexpensive enough to purchase so that they may be discarded after a desired period of use.

[0014] Yet another object of the present invention is to provide articles of manufacture such as furniture and home décor that are lightweight, inexpensive to manufacture, easily transported, easily stored, easily assembled and disassembled, and inexpensive enough to purchase so that they may be discarded after a desired period of use.

[0015] Yet another object of the present invention is to provide articles of manufacture such as furniture and home décor having components that are formed substantially or entirely of a single panel of bare honeycomb cardboard that is pre-cut and expanded to take on the shape of a desired article of furniture or home décor.

[0016] Still yet another object of the present invention is to provide articles of manufacture such as furniture and home décor having components that are formed substantially or entirely of multiple panels of laminated honeycomb cardboard that are pre-formed to be fitted together in combination to form secure and structurally sound articles of furniture or
home décor such as dining tables, coffee tables, drafting tables, desks, bookcases, vases, and the like.

[0018] A further object of the present invention is to provide articles of furniture and home décor of the type described above in collapsed or kit form, wherein individual components may be quickly and easily assembled and joined in a solid and strong construction.

[0019] Still yet a further object of the present invention is to provide articles of furniture and home décor of the type described above in collapsed or kit form, wherein individual components are light in weight, compact for easy storage, and inexpensive to purchase.

[0020] Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings. Throughout the drawings, like reference numerals refer to like parts.

[0021] The foregoing objects of the invention, and others, are achieved in accordance with the present invention by providing inexpensive, lightweight, structurally sound articles of furniture and home décor out of nothing but honeycomb cardboard.

[0022] According to the present invention, articles of furniture and home décor can be inexpensively manufactured because they are formed substantially or entirely of pre-cut panels of finished or unfinished honeycomb cardboard. The articles of furniture and home décor can be easily assembled without the use of special tools, fasteners, adhesives or the like. In accordance with a first aspect of the present invention, articles of furniture or home décor formed of multiple pre-cut panels of finished honeycomb cardboard can also be sold as a kit and assembled by merely sliding the individual, pre-cut panels together. Because of the use of finished honeycomb cardboard, the resulting furniture is rigid and structurally sound. In accordance with a second aspect of the present invention, articles of furniture or home décor having components formed of a single panel of unfinished honeycomb cardboard can be sold as a kit and assembled by merely unfolding or expanding the single panel of unfinished honeycomb cardboard and securing its ends together to form the completed component.

[0023] More specifically, in accordance with the first aspect of the present invention, an article of furniture, such as a table or a desk, is formed of a plurality of panels of finished honeycomb cardboard and comprises: a base constructed of one or more panels of finished honeycomb cardboard; a top constructed of one or more panels of finished honeycomb cardboard and provided on the base; a fixing member constructed of one or more panels of finished honeycomb adhered to the top member for fixing the top to the base and preventing lateral movement therebetween; and a shelf constructed of one or more panels of finished honeycomb cardboard provided below the top and having slots formed therein for engaging the base.

[0024] The term “finished honeycomb cardboard” refers to honeycomb cardboard material that has continuous planar opposing surfaces. In a preferred embodiment, the planar surfaces comprise first and second substantially planar outer sheets formed of flat paper, cardboard, plastic, or the like, which may be in a laminated or bare form. A honeycomb core structure is prepared, for example, by laminating a plurality of paper materials shaped to form honeycomb cells to provide a honeycomb core material, then forming honeycomb units by cutting the laminate of the paper materials in a direction perpendicular to the honeycomb cells while the latter are closed to form an open panel of desired height, and successively connecting the honeycomb units, with upper and lower faces bonded together, to provide an elongated honeycomb core. The planar sheets are bonded to one or both cut faces (front and rear sides) of the elongated honeycomb core to provide the “finished honeycomb cardboard” structure.

[0025] In a preferred embodiment, the base of the article of furniture comprises a pair of vertically oriented leg members each constructed of a single panel of finished honeycomb cardboard. Slots formed in the shelf member are spaced apart so as to respectively engage the leg members. The fixing member comprises a panel of honeycomb cardboard affixed to a lower surface of the top to fit within opposing upper side portions of the leg members so as to maintain the top in place and prevent lateral movement between the top and the leg members. Assembling the finished honeycomb cardboard panels in the foregoing manner results in furniture that is rigid and structurally sound.

[0026] In accordance with the second aspect of the present invention, an article of manufacture which may be furniture or home décor, such as a table, a desk, or a vase, comprises: a single panel of “unfinished honeycomb cardboard,” and comprises: a single panel of unfinished honeycomb cardboard cut along a given plane to a predefined shape plane and expanded in a direction to the plane to expand the honeycomb structure.

[0027] The term “unfinished honeycomb cardboard” refers to honeycomb cardboard material that has open surfaces. In a preferred embodiment, a honeycomb structure is prepared by laminating a plurality of paper materials shaped to form honeycomb cells, then forming honeycomb units by cutting the laminate of the paper materials in a direction perpendicular to the honeycomb cells while the latter are closed and successively connecting the honeycomb units, with upper and lower faces bonded together, to provide an elongated honeycomb core of desired height. Unlike finished honeycomb cardboard, planar sheets are not bonded to opposing surfaces of the honeycomb structure, thereby providing an unfinished honeycomb structure that may be easily compressed and expanded due to the flexible nature of the individual honeycomb cells.

[0028] In a preferred embodiment, a panel of unfinished, compressed honeycomb cardboard is cut along a given plane to have the profile of an article of furniture. When the compressed honeycomb cardboard is expanded, it becomes elongated to take on the three-dimensional shape of the article of furniture. The shape taken on by the expanded honeycomb cardboard depends upon the shape into which the compressed honeycomb cardboard is cut and the way it is expanded. If the compressed honeycomb cardboard is cut in the given plane to have the side profile of a sofa, it will take on the three-dimensional form of a sofa when expanded. If expanded somewhat less, it will take on the three-dimensional shape of a chair. Alternately, the compressed honeycomb cardboard may be cut in the given plane to have the side profile of a table. When expanded, it will take on the three-dimensional shape of a table. By cutting the compressed honeycomb cardboard in the appropriate manner, it can acquire the three-dimensional shape of any desired article of manufacture.

[0029] In accordance with a third aspect of the present invention, a panel of unfinished compressed honeycomb cardboard is cut along a given plane and expanded such that opposite ends of the cut honeycomb cardboard are attached to each other to provide a resulting article that has a generally
cylindrical shape. Articles such as round tables, desks, stools, round benches, vases, baskets, placemats, and the like, may be produced in this manner.

In accordance with another aspect of the present invention, the article of furniture or home décor of the second and third aspects of the invention further comprises fixing means for fixing the single panel of expanded honeycomb cardboard in the expanded state. The nature of the fixing means depends upon the shape in which the panel of cut honeycomb cardboard is expanded. In articles having a generally cylindrical shape in which the opposite ends of the honeycomb cardboard are held in contact with each other, the fixing means may comprise a mechanical element such as a clip or other fastening device for maintaining opposite ends of the expanded honeycomb cardboard together, or an adhesive or Velcro® layer or member for serving this purpose. In articles in which the opposite ends of the honeycomb cardboard are not held in contact with each other, such as sofas, chairs, tables, and the like, the fixing means may comprise one or more solid elements such as a rod or wire extending through the expanded honeycomb cardboard, or any additional structure that serves this purpose, such as a removable or fixed covering structure, including a hardened laminated coating.

Fulfillment of the foregoing and other objects of the invention will become apparent upon complete reading of the specification and claims taken in conjunction with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1A is a perspective view showing a completely assembled embodiment of a typical cardboard table in accordance with the present invention.

FIG. 1B is a view of the individual components of the cardboard table of FIG. 1A.

FIG. 2 is a perspective view showing a completely assembled embodiment of a typical project table in accordance with the present invention.

FIG. 3 is a perspective view showing a completely assembled embodiment of a typical coffee table in accordance with the present invention.

FIGS. 4A and 4B are fragmentary exploded perspective views of honeycomb cardboard panels used in various embodiments of the present invention.

FIG. 5 is a perspective view showing a completely assembled embodiment of a cardboard room divider in accordance with the present invention.

FIG. 6A is a perspective view showing a completely assembled embodiment of a cardboard shelf unit in accordance with the present invention.

FIG. 6B is a view of the individual components of the cardboard shelf unit of FIG. 6A.

FIG. 7 is a perspective view showing a length of honeycomb cardboard in a compressed state.

FIG. 8A is a side plan view showing compressed panels of honeycomb cardboard cut in the profile of a chair or sofa.

FIG. 8B is a perspective view showing the compressed panel of cut honeycomb cardboard of FIG. 8A expanded to form a sofa; and

FIGS. 9A and 9B are perspective views showing compressed panels of cut honeycomb cardboard expanded to form various articles of furniture or home décor.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The honeycomb cardboard furniture according to the present invention, how it can be provided and assembled by a purchaser or user, and how it differs from previously known cardboard furniture can be best explained and understood with reference to the attached drawings.

As will be described below, various articles of furniture and home décor can be inexpensively manufactured according to the present invention because they are formed substantially or entirely of pre-cut panels of finished or unfinished honeycomb cardboard. The articles of furniture and home décor can be easily assembled without the use of special tools, fasteners, adhesives or the like. Thus, articles of furniture or home décor having components formed of a single panel of unfinished honeycomb cardboard can be sold as a kit and assembled by merely unfolding or expanding the single panel of unfinished honeycomb cardboard and optionally securing its ends together to form the completed component. Articles of furniture or home décor formed of multiple pre-cut panels of finished honeycomb cardboard can also be sold as a kit and assembled by merely sliding the individual, pre-cut panels together. Because of the use of honeycomb cardboard, the resulting furniture is rigid and structurally sound.

A first aspect of the present invention will now be described, in which a plurality of panels of honeycomb cardboard are pre-cut to be fitted together in combination to form secure and structurally sound articles of furniture or home décor such as dining tables, coffee tables, drafting tables, desks, shelf units, and the like.

FIG. 1A is a perspective view illustrating a typical table according to the present invention. The table is generally designated by the reference numeral 10. The table 10 is formed of a plurality of individual pre-cut panels of finished honeycomb cardboard, including a base comprised of a pair of long legs 12, 12'; short legs 13, 13' and a shelf 14, each constructed of one or more panels of finished honeycomb cardboard, and a top member 16 constructed of a single panel of finished honeycomb cardboard and provided on the legs 12, 12'.

In this embodiment, the top member 16 and base members including tall legs 12, 12', small legs 13, 13' and shelf 14 of the table 10 are each formed entirely of pre-cut panels of finished honeycomb cardboard. The individual members of the table base, which in this embodiment includes the pair of tall legs 12, 12', the pair of small legs 13, 13' and the shelf 14, are slotted periodically to slide together to form the table base in the manner described below and shown in the drawings.

Further, a fixing member 18 comprised of a single panel of finished honeycomb cardboard is adhered to a bottom surface of the top member 16 for fixing the top member 16 to the base and preventing lateral movement therebetween. More specifically, the fixing member 18 is dimensioned to fit within opposing sides 20, 20' of the tall legs 12, 12' at an upper portion thereof so as to prevent lateral movement between the top member 16 and the tall legs 12, 12'.

In accordance with the present invention, the manufacture of lightweight and inexpensive furniture is facilitated by constructing the table top 16, base members (legs 12 and
12, 13 and 13' and shelf 14) and fixing member 18 entirely of individual panels of pre-cut, finished honeycomb cardboard.

[0051] FIG. 1B illustrates the individual components of the table 10, including the small tall legs 12, 12', the small legs 13, 13', the shelf 14, the top member 16 and the fixing member 18 (shown by dotted lines). As illustrated, the individual members of the table base, which in this embodiment includes the tall legs 12, 12', the small legs 13, 13' and the shelf 14, are periodically slotted 22 to allow the legs 12 and 12', 13 and 13' and the shelf 14 to slide together to form a stable table base.

[0052] As best seen in FIGS. 4A and 4B, the construction of the honeycomb cardboard employed in the present invention includes first and second substantially planar outer sheets 102, 104 formed of flat cardboard, as in FIG. 4B, or having a posterboard-type construction 116, as in FIG. 4A. A honeycomb core structure 108 is prepared by laminating a plurality of paper materials for forming honeycomb cells to provide a honeycomb core material, then forming honeycomb units by cutting the laminate of the paper materials in a direction perpendicular to the honeycomb cells while the latter are closed, successively connecting the honeycomb units, with upper and lower faces bonded together, to provide an elongated honeycomb core 108, and bonding the planar outer sheets 102, 104 to a cut face (front and rear sides) of the elongated honeycomb core 108 to provide the honeycomb cardboard structure.

[0053] To enhance the substantial and solid appearance of the item, an outer sheet (102, 104) may have an overlay of simulated wood, or other material. Alternatively, the outer surface may be finished in a fiberboard or laminate material such as Formica® or other rigid material which is able to withstand liquids and the shocks of normal bumps, nicks, and scrapes.

[0054] FIG. 2 illustrates another embodiment of a table according to the present invention. The table is generally designated by the reference numeral 103. The table 103 is formed of a plurality of individual pre-cut panels of finished honeycomb cardboard, including a base comprised of legs 12B, 12B' and a shelf 14B, each constructed of one or more panels of finished honeycomb cardboard, a top member 16B constructed of a single panel of finished honeycomb cardboard and provided on the legs 12B, 12B', 18B. The table 103 is generally similar in construction to the table 10 of FIG. 1A. However, as can be seen, the project table 103 further includes a back brace 24 having spaced apart slots for engaging corresponding slots formed in the legs 12B, 12B'.

[0055] The top member 16B, base members including legs 12B, 12B' and shelf 14B, and the back brace 24 of the table 10B are each formed entirely of pre-cut sheets of honeycomb cardboard. The individual members of the table base, which in this embodiment includes the legs 12B, 12B' and the shelf 14B are slotted periodically 22B to slide together to form the table base. A fixing member 18B comprised of a single panel of finished honeycomb cardboard is adhered to a bottom surface of the top member 16B for fixing the top member 16B to the base and preventing lateral movement therebetween. More specifically, the fixing member 18B is dimensioned to fit within opposing sides 20B, 20B' of the legs 12B, 12B' at an upper portion thereof so as to prevent lateral movement between the top member 16B and the leg members 12B, 12B'.

[0056] FIG. 3 illustrates another embodiment of a table according to the present invention. The table is generally designated by the reference numeral 10C. The table 10C is formed of a plurality of individual pre-cut panels of finished honeycomb cardboard, including a base comprised of legs 12C, 12C' and a shelf 14C, each constructed of one or more panels of finished honeycomb cardboard, a top member 16C and a fixing member 18C constructed of a single panel of finished honeycomb cardboard and provided on the legs 12C, 12C'. The table 10C is generally similar in construction to the table 10 of FIG. 1A.

[0057] The top member 16C, base members including legs 12C, 12C', 26, 26' and top member 16C, of the table 10C are each formed entirely of pre-cut sheets of honeycomb cardboard. The individual members of the table base, which in this embodiment includes the legs 12C, 12C' and the shelf 14C are slotted periodically 22C to slide together to form the table base.

[0058] FIG. 5 illustrates a cardboard room divider in accordance with the present invention. The room divider is generally designated by the reference numeral 30. The room divider 30 is formed of a plurality of individual pre-cut panels of finished honeycomb cardboard. The room divider includes end members 32, 34 which are cut in the same way, a first center member 36 and a second center member 38. By providing additional center members 36, 38, a room divider of any desired length may be formed.

[0059] FIGS. 6A and 6B illustrate a cardboard shelf unit in accordance with the present invention. The shelf unit is generally designated by the reference numeral 40. The shelf unit is formed of a plurality of individual pre-cut panels of finished honeycomb cardboard. The shelf unit 40 includes leg members 42 provided with spaced apart slots 44, a top member 46 with a fixing member 48 adhered to the lower surface thereof, and a bottom member 50 with a fixing member 52 adhered to the lower surface thereof. A plurality of shelves 54 are provided with slots 56 to slide together with the leg members 42 to form the shelf unit. The leg members 40, 42, top member 46, bottom member 50, shelves 54 and fixing members 46, 48 of the shelf unit 40 are each formed entirely of pre-cut sheets of honeycomb cardboard.

[0060] As illustrated by the foregoing embodiments, the present invention facilitates the manufacture of lightweight, inexpensive furniture by constructing the individual elements entirely of individual panels of pre-cut finished honeycomb cardboard.

[0061] Further embodiments of the invention are formed of a single panel of unfinished honeycomb cardboard. In the preferred embodiments, the unfinished honeycomb cardboard has the construction of the honeycomb core structure 108 shown in FIGS. 4A and 4B. Unlike the finished honeycomb cardboard shown in the drawings, no planar sheets are bonded to opposing surfaces of the honeycomb core structure, thereby providing an unfinished honeycomb structure that is collapsible and expandable.

[0062] FIG. 7 is a perspective view showing a length of unfinished honeycomb cardboard 60 in a compressed state with opposite ends 62, 64 urged toward each other. As will be seen below, the honeycomb cardboard 60 is expandable from its compressed state in a flexible manner so that it may take on any desired elongated shape.

[0063] FIG. 8A is a plan view showing a compressed panel of honeycomb cardboard 66 cut along a first plane to have the profile of a chair or sofa. As shown in FIG. 8B, when the compressed honeycomb cardboard panel 66 is expanded, it becomes elongated to take on the shape of a chair or sofa 68, depending upon the amount of expansion.
The shape taken on by the expanded honeycomb cardboard depends upon the manner in which the compressed honeycomb cardboard is cut and expanded. Thus, when the panel of compressed, unfinished honeycomb cardboard 62 cut in the first plane to have the side profile of a chair or sofa is expanded, it takes on the three-dimensional form of a chair or sofa. If the panel compressed, unfinished honeycomb cardboard 62 were cut to have the side profile of a table, it would take on the three-dimensional shape of a table when expanded.

In the embodiments shown in FIGS. 9A and 9B, various articles are formed with a generally cylindrical shape by expanding the cut panel of unfinished honeycomb cardboard such that opposite ends thereof are attached to each other. For instance, as shown in FIG. 9A, the unfinished honeycomb cardboard is cut to have the side profile of a round bench. When expanded such that opposite ends of the honeycomb cardboard are attached, the finished article has the three-dimensional shape of a round bench 70. Similarly, FIG. 9B shows an expanded article with the shape of a stool or table base.

Thus, as shown in FIGS. 8A-8B and 9A-9B, when compressed panels of unfinished honeycomb cardboard are cut in a desired manner and expanded, they take on the shape of a desired article of manufacture. The shape taken on by the expanded honeycomb cardboard depends upon the manner in which the compressed honeycomb cardboard is cut and expanded. Thus, when a panel of compressed, unfinished honeycomb cardboard cut in the first plane to have the side profile of a chair is expanded, it takes on the three-dimensional form of a chair or sofa. When the panel of compressed, unfinished honeycomb cardboard cut in the first plane to have the side profile of a table is expanded, it takes on the three-dimensional form of a table. In a like manner, when the panel of compressed, unfinished honeycomb cardboard cut in the first plane to have the side profile of a tray is expanded, it takes on the three-dimensional form of a tray. Similarly, when the panel of compressed honeycomb cardboard cut in the first plane to have the side profile of a vase or round table is expanded, it takes on the three-dimensional form of a vase or round table.

Thus, as will be appreciated, when a compressed honeycomb cardboard panel of appropriate height is cut in an appropriate manner, it can acquire the three-dimensional shape of any desired article of manufacture.

Fixing means may be used for maintaining or fixing the single panel of expanded, unfinished honeycomb cardboard in an expanded state. The nature of the fixing means depends upon the shape in which the panel of cut honeycomb cardboard is expanded. In cylindrical articles such as stools, benches, table bases, vases, baskets, and the like, in which the opposite ends of the honeycomb cardboard are held in contact with each other, the fixing means may comprise a mechanical element such as a clip or other fastening device for maintaining opposite ends of the expanded honeycomb cardboard together, or an adhesive layer or Velcro® member for serving this purpose. In articles in which the opposite ends of the honeycomb cardboard are not held in contact with each other, the fixing means may comprise one or more solid elements such as a rod or wire extending through the expanded honeycomb cardboard, or any additional structure that serves this purpose, such as covering structure, such as a hardened laminated coating.

The embodiments of the invention described above are illustrative of the principles of the invention and are not intended to limit the invention to the particular embodiments described. For example, in other embodiments, the honeycomb cardboard may be utilized to form articles of manufacture other than furniture or items of home décor. Accordingly, as used herein, the term “cardboard furniture” is intended to refer to articles of furniture and home décor formed partly, substantially or entirely of cardboard or heavy wood-based types of paper. However, as used herein, the term “cardboard furniture” includes other utilitarian objects that are typically constructed of wood, plastics, composite materials, metal, or a combination of these and/or other materials. The embodiments described can be easily modified by those skilled in the art without undue experimentation. Accordingly, the embodiments of the invention described above are illustrative of the principles of the invention and are not intended to limit the invention to the particular embodiments described. While the preferred embodiment of the invention has been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention.

What is claimed is:

1. A cardboard table, comprising: a base constructed of one or more panels of honeycomb cardboard; a top member having a substantially planar upper surface provided on the base and comprising a panel of honeycomb cardboard; a fixing member provided on a lower surface of the top member and comprising a panel of honeycomb cardboard for fixing the top member to the base member to prevent lateral movement therebetween; and a shelf member comprising a panel of honeycomb cardboard provided below the top member and having slots formed therein for engaging the base.

2. A cardboard table according to claim 1; wherein each panel of honeycomb cardboard comprises first and second substantially planar outer sheets and an inner core of material having a honeycomb construction secured to the first and second planar sheets.

3. A cardboard table according to claim 1; wherein the base comprises a pair of leg members each constructed of a single panel of honeycomb cardboard and the slots are formed in the shelf to engage the leg members.

4. An article of cardboard furniture, comprising: a single panel of honeycomb cardboard cut in a compressed state along a first plane to have a predefined shape and expanded along a second plane; and fixing means for fixing the cut honeycomb cardboard in an expanded state.

5. An article of cardboard furniture according to claim 4; wherein the honeycomb cardboard comprises a honeycomb structure comprised of a plurality of laminated paper materials shaped to form honeycomb cells.

6. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard is cut in the first plane to have a profile of a sofa, such that when the honeycomb cardboard is expanded it takes on a three-dimensional form of a sofa.

7. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard is cut in the first plane to have a profile of a chair, such that when the honeycomb cardboard is expanded it takes on a three-dimensional form of a chair.

8. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard is cut in the
first plane to have a profile of a table, such that when the honeycomb cardboard is expanded it takes on a three-dimen-
sional form of a table.

9. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard is cut in the first plane to have a profile of a vase, such that when the honeycomb cardboard is expanded it takes on a three-dimen-
sional form of a vase.

10. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard is cut in the first plane to have a profile of a tray, such that when the honeycomb cardboard is expanded it takes on a three-dimen-
sional form of a tray.

11. An article of cardboard furniture according to claim 4; wherein the compressed honeycomb cardboard cut in the first plane is expanded such that opposite ends thereof are brought into contact with each other; and the fixing means fixes the oppose ends to each other.

12. An article of cardboard furniture according to claim 4; wherein the fixing means comprises adhesive.

13. An article of cardboard furniture according to claim 4; wherein the fixing means comprises a mechanical fixing element.

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