



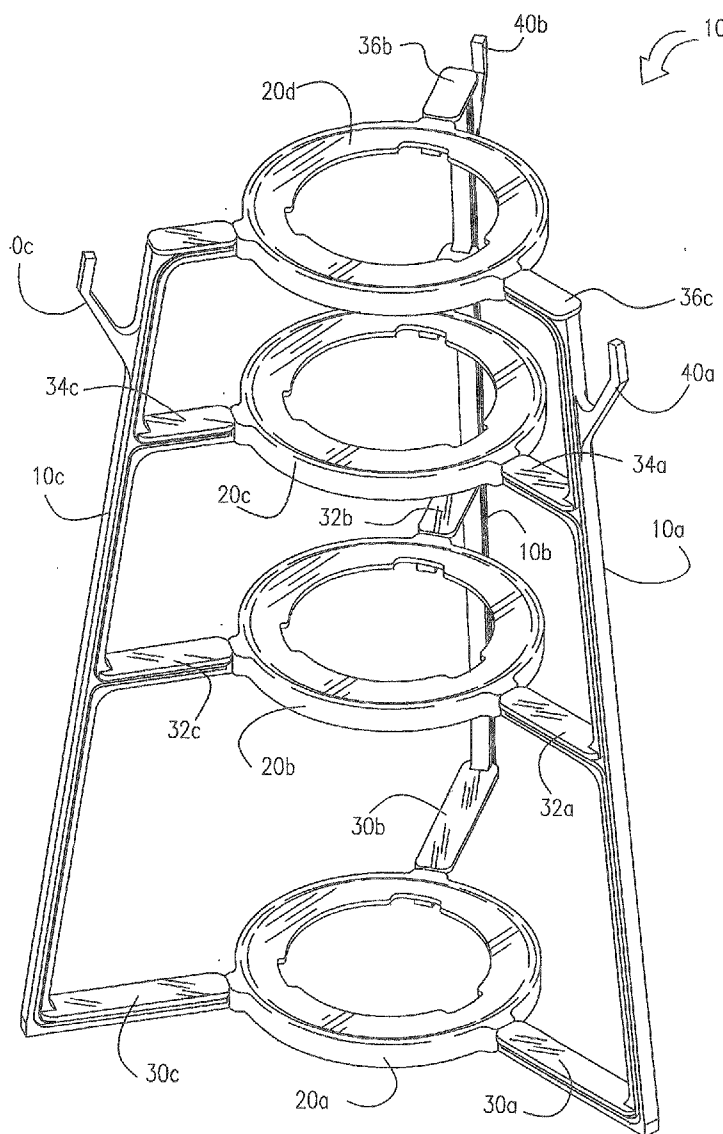
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(19) **United States**(12) **Patent Application Publication**
Anker(10) **Pub. No.: US 2007/0295675 A1**(43) **Pub. Date: Dec. 27, 2007**(54) **NOVEL POT AND PAN STORAGE UNIT**

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HOLLYWOOD, FL 33022**Publication Classification**(51) **Int. Cl.**
A47F 7/00 (2006.01)(52) **U.S. Cl.** **211/31**(21) Appl. No.: **11/734,338**(22) Filed: **Apr. 12, 2007****Related U.S. Application Data**(63) Continuation-in-part of application No. 11/426,378,
filed on Jun. 26, 2006.(57) **ABSTRACT**

The present invention is an article for storing and supporting pots and pans that is simple to manufacture and assemble where the article is assembled without the use of tools or hardware, having at least two identical vertical members, and at least two identical horizontal shelves.



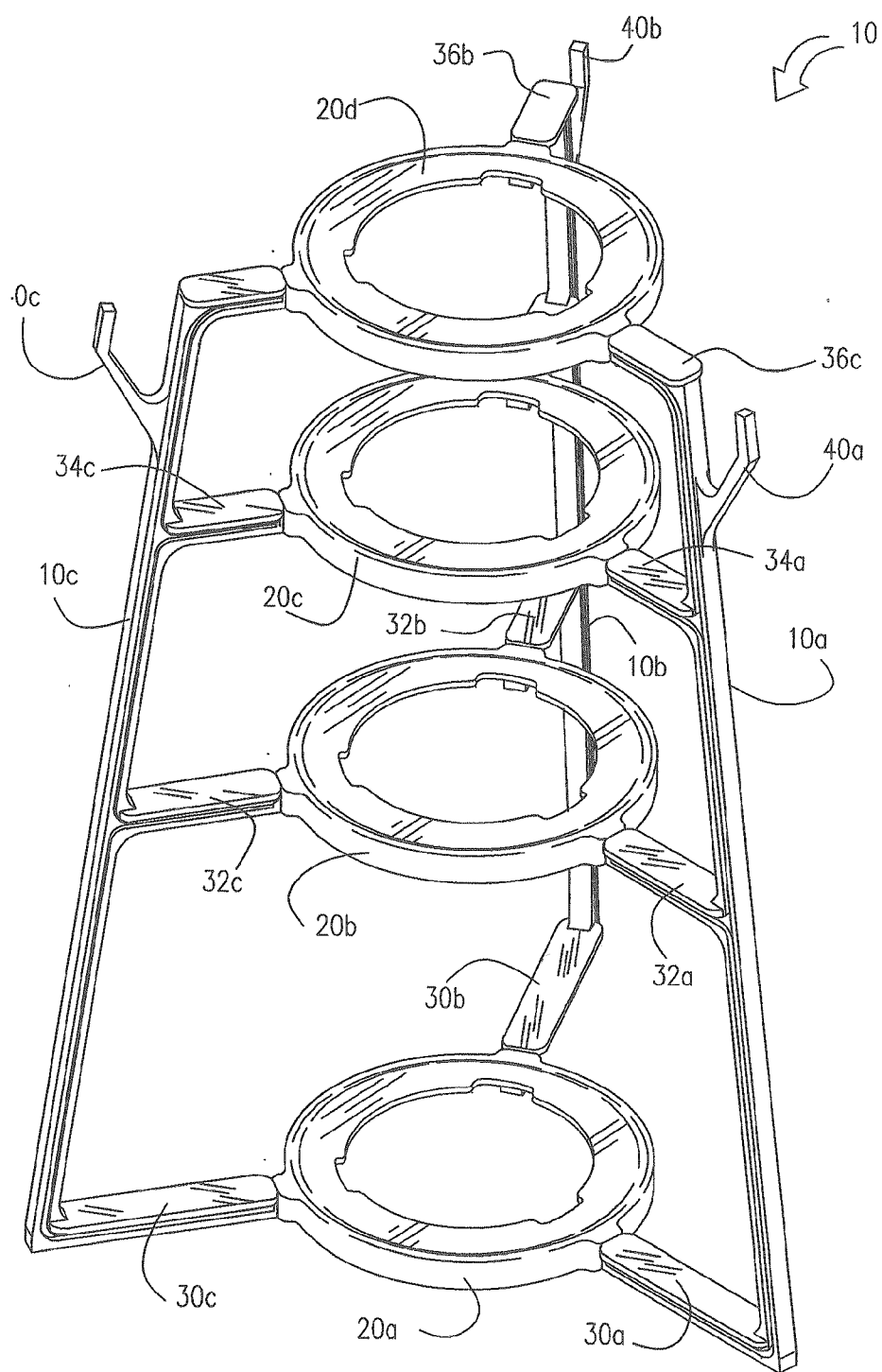


FIG. 1

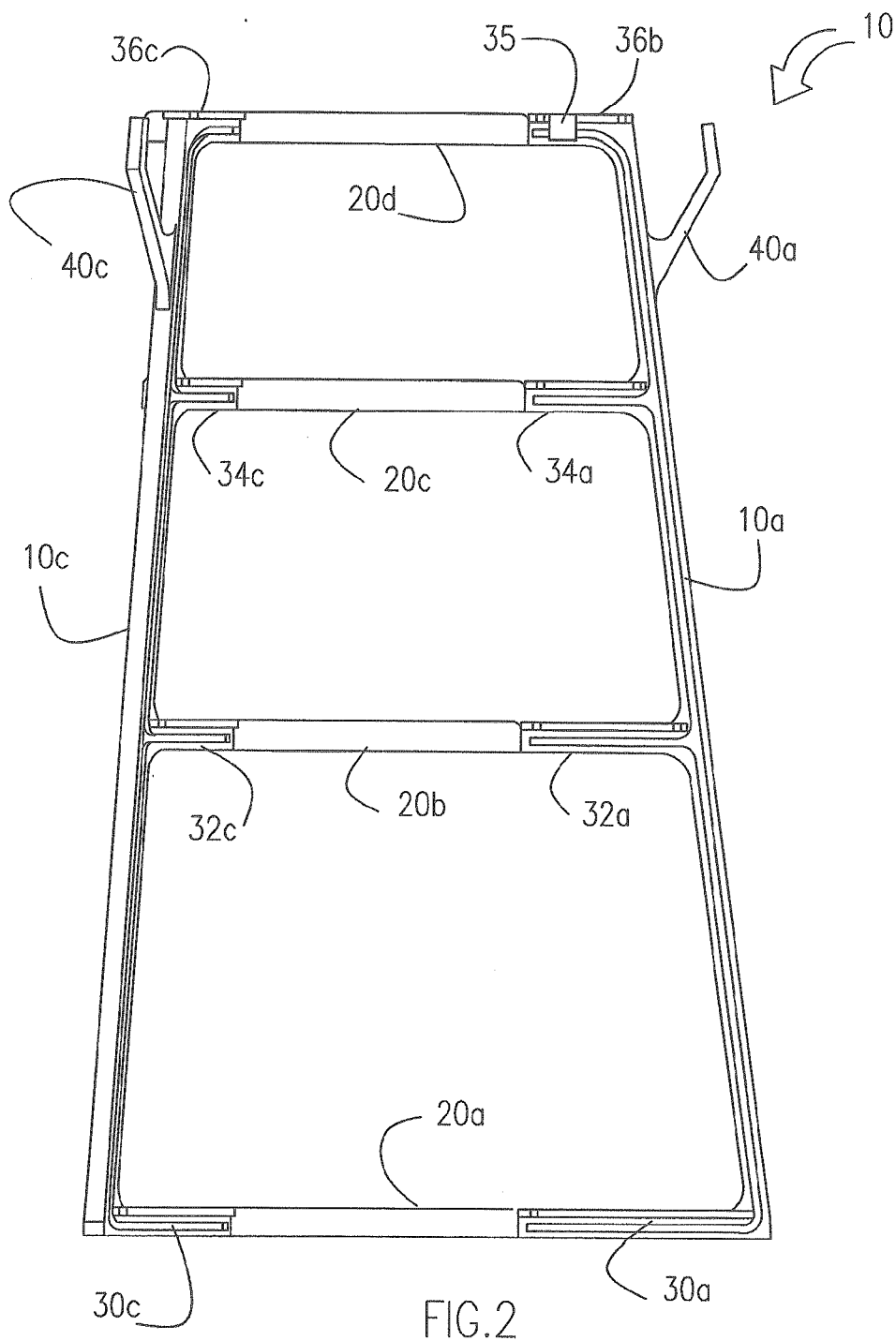
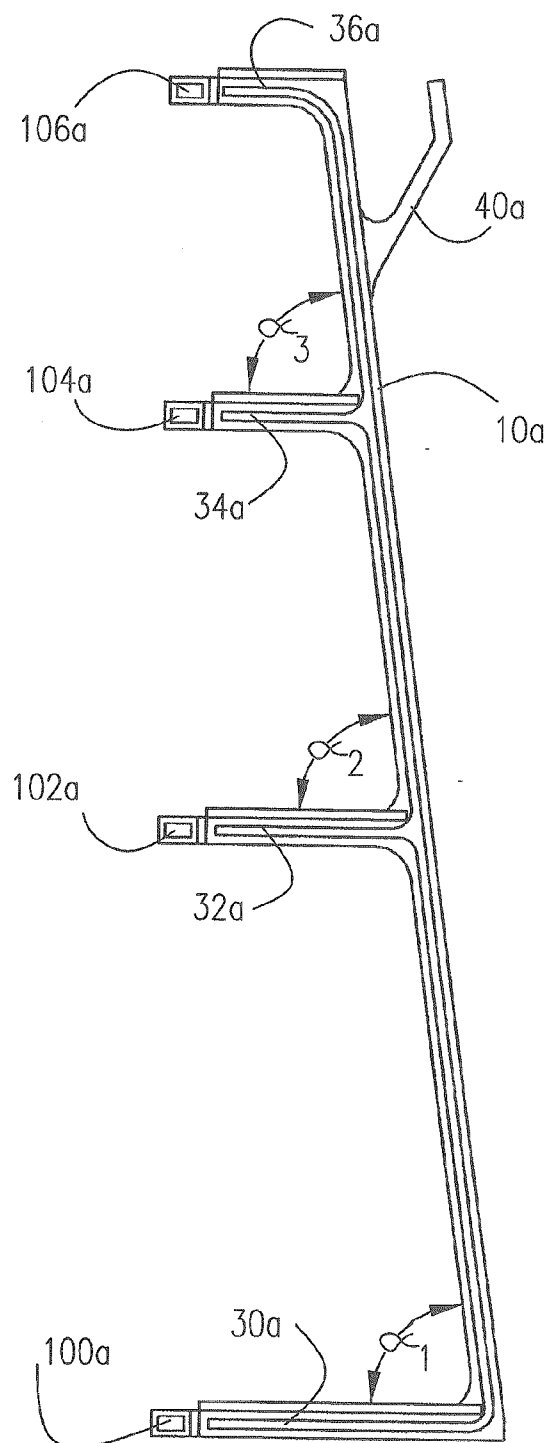
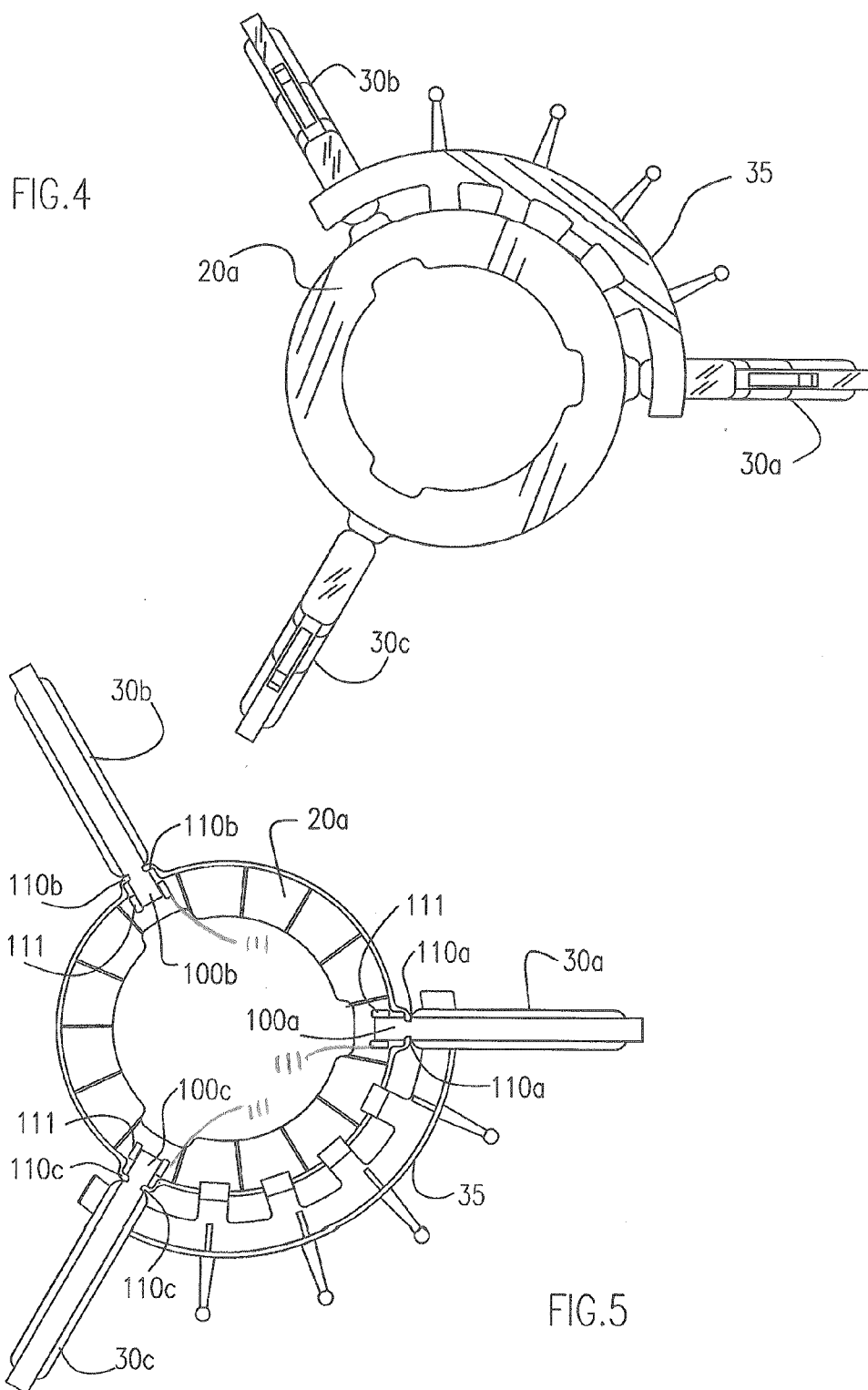
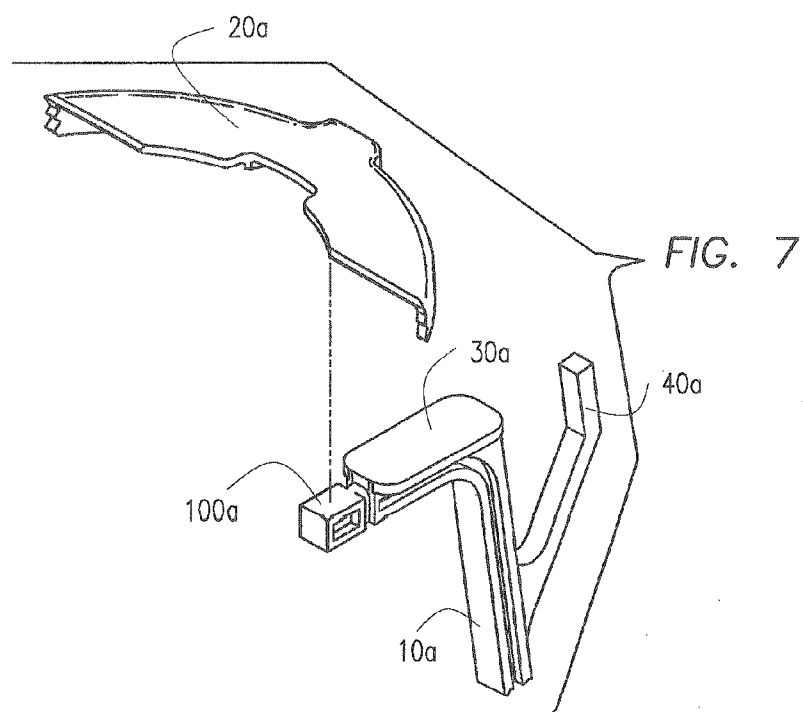
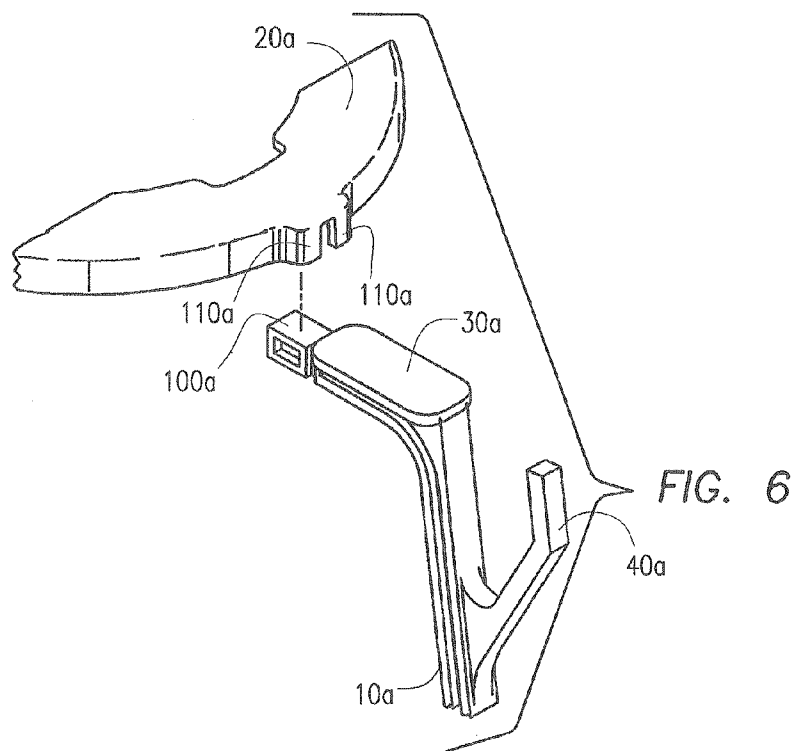
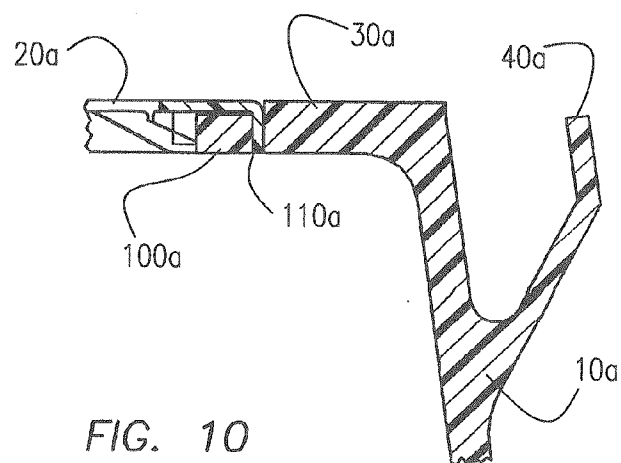
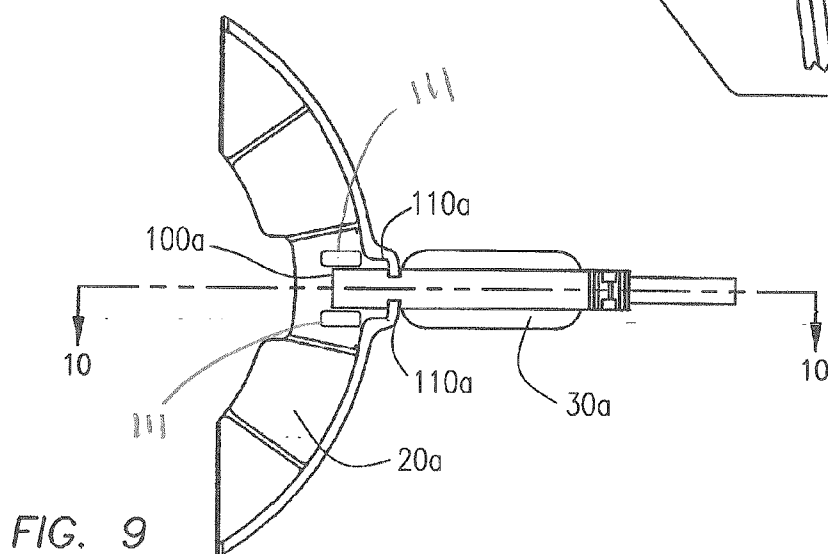
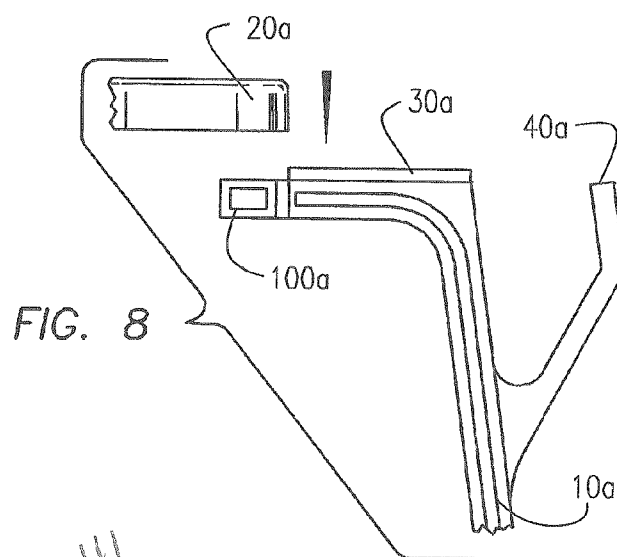


FIG. 3









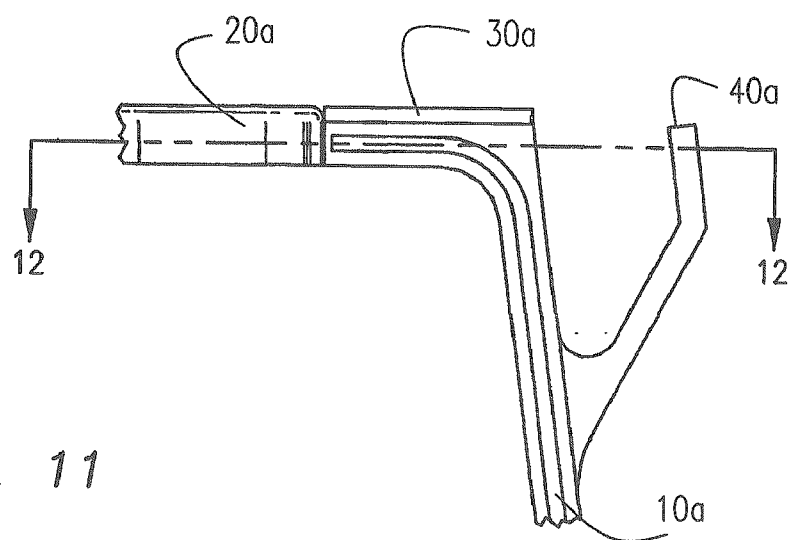


FIG. 11

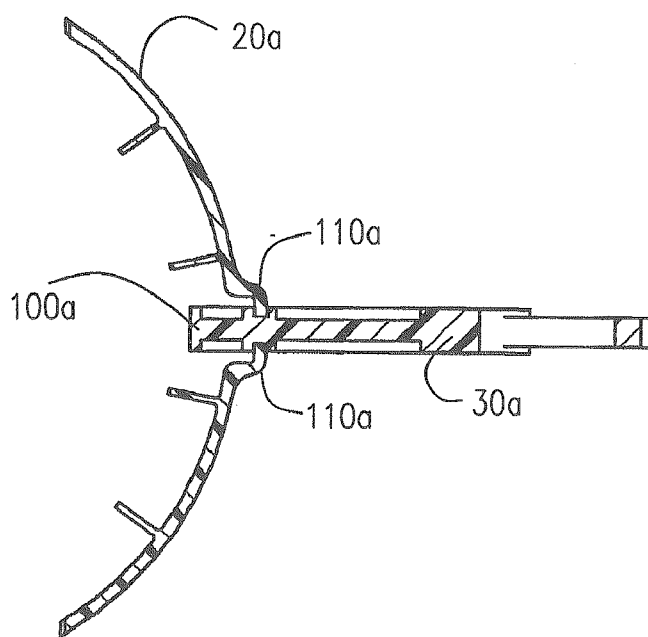


FIG. 12

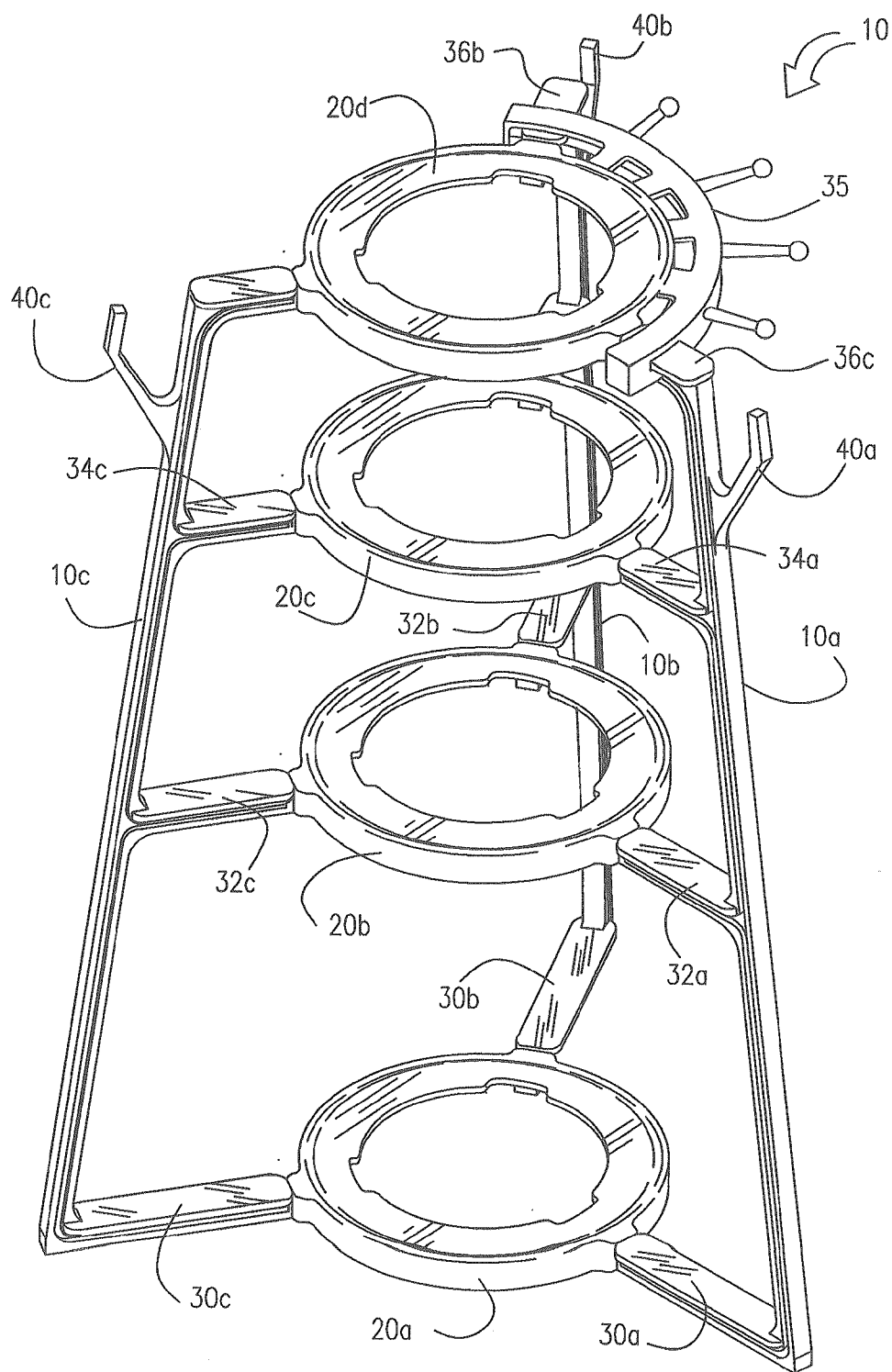


FIG.13

NOVEL POT AND PAN STORAGE UNIT

INDEX TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 60/827,092, filed Sep. 27, 2006, and is a Continuation-In-Part of U.S. patent application Ser. No. 11/426,378, filed Jun. 26, 2006, the disclosures of which are incorporated herein by reference in their entirety.

BACKGROUND OF THE INVENTION

[0002] The kitchen is a place where convenience is always examined and attempts are made to improve. One particular area that receives constant attention is kitchen storage. There have been many articles that have attempted, with varying levels of success, to improve upon convenience and storage in the kitchen.

[0003] U.S. Pat. No. 1,211,269 relates to a storage rack comprising interconnected wire material. While this may be suitable for plates or small pans, the arrangement would not be stable for larger pots and pans.

[0004] U.S. Pat. No. 5,765,700 relates to a storage rack that has a flanged base to provide stability of the article while in use. However, the hooks intended for hanging the pots and pans would cause difficulties where storage space is not plentiful.

[0005] U.S. Patent Application Publication No. 2004/0099617 addresses the issue of storage space. This application proposes an article that is placed over a kitchen sink comprising storage area within the perimeter of the article and hooks for hanging pots on the outer perimeter. This may not be aesthetically pleasing to have this article permanently in view over the kitchen sink.

[0006] There is a need for a simple, low cost article for safely and effectively storing pots and pans that does not take up much space and may, if needed be either hidden from view, or placed in an inconspicuous area.

SUMMARY OF THE INVENTION

[0007] The article of the present invention addresses many of the limitations found in prior attempts. The present article may be inexpensively produced because there are only two distinctly shaped components. The vertical member components of the present invention each have identical size and shape. Likewise, the horizontal shelf components each have identical size and shape. Thus manufacturing costs and inventory costs are reduced. Therefore, the present invention may be inexpensively and easily produced by well-known means, such as injection molding, and only two distinct shapes need be made.

[0008] In a preferred embodiment, the present invention relates to an article for storing pots and pans comprising:

[0009] (a) vertical members with engaging interlocks; and

[0010] (b) horizontal shelves with receiving interlocks that attach in concert with said engaging interlocks to secure the shelves into a fixed position.

[0011] The article stores pots or pans with their respective lids in position over the opening. This would eliminate the need for utilizing a separate lid holding apparatus.

[0012] Additionally, each horizontal shelf has a receiving interlock suitable for interacting with a single interlock of said engaging interlocks.

[0013] In a preferred embodiment, each of said horizontal shelf supports is of equal size.

[0014] Alternatively, one may configure the article wherein each said horizontal shelf supports is a different size.

[0015] In a preferred embodiment, each horizontal shelf support has an identical configuration.

[0016] Each horizontal shelf has an inner cavity for receiving pots and pans.

[0017] Further the article comprises (3) three identically shaped vertical members.

[0018] In one embodiment, the article comprises four identically shaped horizontal shelves and three identically shaped vertical members.

[0019] The article has a base on which to stand. To form the base, each vertical member has a horizontal shelf attached on its lowermost horizontal shelf support extending along the bottom of the article to form a base.

[0020] In a preferred embodiment each horizontal shelf support forms an acute angle with the vertical member.

[0021] The horizontal shelves are connected with interlocks to each of the vertical members.

[0022] In another preferred embodiment, the present invention is a storage shelf system comprising:

[0023] (a) vertical members with engaging interlocks; and

[0024] (b) horizontal shelves with receiving interlocks that attach in concert with said engaging interlocks to secure the shelves into a fixed position, wherein said vertical members are identically shaped and said horizontal members are identically shaped.

[0025] In another preferred embodiment, the article is assembled and arranged to fit within an existing cabinet position.

[0026] The article of the present invention is produced and assembled in a manner superior to other articles. Each vertical member is identical as is each shelf. Therefore, in the molding process, the fabricators only need two molds for the two required shapes. The present invention is therefore desirable over other similar articles in that the manufacturing costs are greatly reduced. Further, the article of the present invention is more desirable for the user. Unlike other articles that require assembling numerous discrete components, often with various tools and hardware to achieve the completed article, the article of the present invention only has two discrete shaped components and assembles without tools or hardware.

[0027] In a preferred embodiment, the horizontal shelf support that extends from the lowermost point on the vertical member will form a base for the article. Attaching each lowermost horizontal shelf support to a single shelf will form the base. The horizontal shelf support will be formed in relation to the vertical member such that an acute angle is created. The acute angle provides stability for the assembled article by lowering the center of gravity of the loaded article to prevent the article from tipping. In a preferred embodiment the said acute angle is between 50° and 85°. In a most preferred embodiment the acute angle

[0028] In another preferred embodiment, the article of the present invention assembles without tools. The assembly is accomplished through incorporated interlocks. Each shelf comprises three regions that have incorporated into the structure a complimentary interlock that interacts with a grasping interlock incorporated into the distal end of each

horizontal shelf support. When assembling, the user will line up the complimentary interlock with the grasping interlock and apply gentle pressure until the interlock is engaged. Once engaged, the interlock will hold the shelf into position. The interlock is so formed such that it takes application of pressure to disassemble in order that the completely assembled article be stable in the environment of use.

[0029] In another preferred embodiment, the article comprises three vertical members that are connected about the perimeter of the shelves.

[0030] In another preferred embodiment, the article comprises three vertical members that are connected about the circumference of the shelves.

[0031] It is an object of the present invention to provide an article for the storage of pots and pans.

[0032] It is an object of the present invention to provide an article for the storage of pots and pans with respective lids in place.

[0033] It is another object of the present invention to provide an article for the storage of pots and pans that is easily assembled.

[0034] It is another object of the present invention to provide an article for the storage of pots and pans that is inexpensive to produce.

[0035] It is another object of the present invention to provide an article for the storage of pots and pans that assembles by using components of two distinct configurations.

[0036] It is another object of the present invention to provide an article for the storage of pots and pans that assembles without the use of hardware.

[0037] It is another object of the present invention to provide an article for the storage of pots and pans that remain assembled without the use of hardware.

BRIEF DESCRIPTION OF THE DRAWINGS

[0038] FIG. 1 is a perspective view of the assembled article.

[0039] FIG. 2 is a side view of the assembled article.

[0040] FIG. 3 is a side view of one of three vertical members of the article.

[0041] FIG. 4 is a top view of the top shelf attached to the horizontal supports.

[0042] FIG. 5 is a bottom view of the top shelf attached to the horizontal supports.

[0043] FIG. 6 is an enlarged partial view of a shelf in position to be connected to the horizontal support.

[0044] FIG. 7 is an enlarged partial view of a shelf and the connector on the terminal end of a horizontal support.

[0045] FIG. 8 is an enlarged partial side view with directional notation of a shelf in position to be connected to a horizontal support.

[0046] FIG. 9 is a partial bottom view of a shelf connected to a horizontal support.

[0047] FIG. 10 is a partial view in section along lines 10-10 from FIG. 9 of a shelf connected to a horizontal support.

[0048] FIG. 11 is a partial side view of a shelf connected to a horizontal support.

[0049] FIG. 12 is a partial sectional view along line 12-12 of a shelf connected to a horizontal support, from FIG. 11.

[0050] FIG. 13 is an embodiment of the assembled article with an optional member attached to the uppermost horizontal shelf with projections for hanging lids or utensils.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0051] The present invention is a storage rack assembly 10 for holding pots and pans. The storage rack comprises a first vertical member 10a, a second vertical member 10b, and third vertical member 10c. Each said vertical item is identical in size and shape.

[0052] Each vertical member is attached to a first horizontal shelf 20a, a second horizontal shelf 20b, a third horizontal shelf 20c, and fourth horizontal shelf 20d. Each said horizontal shelf is identical in size and shape.

[0053] Each vertical member includes horizontal supports. Vertical member 10a has horizontal support 30a, horizontal support 32a, horizontal support 34a, and horizontal support 36a.

[0054] Vertical member 10b has horizontal support 30b, horizontal support 32b, horizontal support 34b, and horizontal support 36b.

[0055] Vertical member 10c has horizontal support 30c, horizontal support 32c, horizontal support 34c, and horizontal support 36c. Each vertical member also includes an external hook.

[0056] Vertical member 10a has external hook 40a.

[0057] Vertical member 10b has external hook 40b.

[0058] Vertical member 10c has external hook 40c.

[0059] Each vertical member, in addition to having horizontal support, has an engaging interlock. Each vertical member is identically configured and one complete view of a vertical member is depicted in FIG. 3.

[0060] Although only one vertical member 10a, is discussed, as stated above, all vertical members have identical size, shape, and configuration. Member 10a has an engaging interlock 100a, engaging interlock 102a, engaging interlock 104a, and engaging 106a. Each engaging interlock is paired with a receiving interlock. As seen FIG. 5, FIG. 6, FIG. 8, FIG. 9, FIG. 10, and FIG. 12.

[0061] As seen in FIG. 5 engaging interlock 100a is paired with receiving interlock 110a.

[0062] Engaging interlock 100b is paired with receiving interlock 110b.

[0063] Engaging interlock 100c is paired with receiving interlock 110c.

[0064] Each horizontal shelf 20a, 20b, 20c, and 20d further includes a pair of stabilizing ribs 111 on the underside of each shelf. As seen in FIG. 5, each of pair of stabilizing ribs 111 are positioned on the underside of horizontal shelf (shelf 20a being shown in FIG. 5). The stabilizing ribs 111 contact engaging interlocks, for example, 100a, 100b, and 100c, as seen in FIGS. 5 and 9, and prevent any lateral movement, when engaging interlocks 100a, 100b, and 100c, are interconnected with receiving interlocks 110a, 100b, 110c.

[0065] The present invention is a storage rack for holding pots and pans. Storage rack 10 is assembled of two distinct part configurations. This unique configuration provides storage rack 10 to be easy to manufacture and assemble as only 2 distinct shapes are present.

[0066] Vertical members 10a, 10b, and 10c are placed about the perimeter of each shelf 20a, 20b, and 20c. The vertical members have incorporated into the structure, hori-

zontal shelf supports. Member **10a** has supports **30a**, **32a**, **34a**, and **36a**; member **10b** has supports **30b**, **32b**, **34b**, and **36b**; and member **10c** has supports **30c**, **32c**, **34c**, and **36c**. Horizontal shelf supports may be perpendicular or angular in relation to the line formed by the main body of the vertical member. Each of the vertical members have an identical size and shape. The horizontal shelf supports are configured such that an acute angles (shown as α_1 , α_2 , and α_3 , in FIG. 3) are formed at the vertex with the main vertical body of the vertical members **10a**, **10b**, and **10c**. The vertical member may have two or more horizontal shelf supports. Each shelf support has an attached end and a detached end. The detached end includes a means for securing a shelf to the horizontal shelf support. The attaching means is an engaging interlock. The engaging interlock of the embodiment depicted in the figures is rectangular protrusion with a notch configuration for interacting with a complimentary receiving interlock of each shelf (see FIGS. 5-12).

[0067] A perspective view of an embodiment of the present invention **10** is shown in FIG. 1. In the embodiment depicted, each vertical member **10a**, **10b**, and **10c**, will form the outer frame of the article. The user will assemble the article by attaching each vertical member to shelves **20a**, **20b**, **20c** and **20d**. The user will hold vertical member **10a** perpendicular to the assembling surface. Horizontal support **30a** connects to shelf **20a** through incorporated interlocks. Vertical member **10b** is then raised perpendicular to the assembling surface. Horizontal support **30b** connects to shelf **20a** through incorporated interlocks. Vertical member **10c** is then raised perpendicular to the assembling surface. Horizontal support **30c** connects to shelf **20a** through incorporated interlocks. Each of horizontal supports **30a**, **30b**, and **30c**, acting in concert, with shelf **20a** will form the base of the article.

[0068] Each horizontal support **32a**, **32b**, and **32c**, are connected to shelf **20b** through incorporated interlocks (an example shown in FIG. 5). Each horizontal support **34a**, **34b**, and **34c** are connected to shelf **20c** through incorporated interlocks. Finally, each horizontal support **36a**, **36b**, and **36c** is connected to shelf **20d** through incorporated interlocks. Once the article is assembled, it is stood up such that it rests on a base formed by horizontal supports **30a**, **30b**, and **30c**, connected to shelf **20a**.

[0069] The depicted embodiment further shows hooks **40a**, **40b**, and **40c** for supporting a pot or pan lid (not shown) or other item desired to be hung from the pot and pan storage unit **10**, that are incorporated into the upper, outer sides of each of vertical members **10a**, **10b**, and **10c** respectively.

[0070] A side view of a single vertical member **10a** is shown in FIG. 3. Each of horizontal supports **30a**, **32a**, **34a**, and **36a** are parallel to each other and connected to vertical support **10a**. Each of the horizontal shelf supports **30a**, **32a**, **34a**, and **36a** form congruent interior angles α_1 , α_2 , α_3 . The interior angles α_1 , α_2 , α_3 are acute angles. Preferred angled are from 50-85°. Most preferred interior angles α_1 , α_2 , α_3 from measurements between 70-85°. Further, the terminal ends, as demonstrated in FIG. 3 are the ends not in contact with vertical support **10a**, of each of horizontal shelf supports **30a**, **30b**, **30c**, and **30d**, and include corresponding interlocks **100a**, **100b**, **100c**, and **100d** respectively.

[0071] A top view of a single shelf **20a** that is connected to horizontal supports **30a**, **30b**, and **30c** is shown in FIG. 4.

[0072] A bottom view showing one embodiment of the connection of shelf **20a** with horizontal shelf supports **30a**,

30b, and **30c** is shown in FIG. 5. In this embodiment, shelf **20a** has six receiving interlock regions that are positioned to form 3 pairs of interlocks **110a**, **110b** and **110c**. Each pair creates a single receiving interlock. The distal end of each of supports **30a**, **30b**, and **30c** have interlocks **100a**, **100b**, and **100c** that act in concert with the receiving interlock pairs **110a**, **110b**, and **110c**.

[0073] The top surface portions of shelves **20a**, **20b** and **20c** may include a texture surface (not shown) to limit sliding or skidding of any container on said shelves **20a**, **20b** and/or **20c**. The texture would have an approximate depth of 0.0045 inches, as is known in the art.

[0074] The interconnection of the assembly is detailed in the drawings. For example, shelf **20a** with incorporated paired interlocks **110a** is attached to interlock **100a** that is part of the distal end of horizontal support **30a** as seen in FIG. 6. An enlarged partial view of the interlock **100a** on the terminal end of a horizontal shelf support **30a** is seen in FIG. 7. An enlarged partial side view of horizontal shelf support **30a** placed underneath shelf **20a** with directional notation of moving horizontal shelf **20a** downward in position to be connected to a horizontal support **30a** through interaction of incorporated interlock **100a** is seen in FIG. 8. A bottom partial view of a shelf **20a** connected to a horizontal shelf support **30a** through interaction of paired interlocks **110a** with interlock **100a** is seen in FIG. 9. FIG. 9 further shows a transversing line showing the depiction of cut made in the figure that is depicted in FIG. 10.

[0075] A partial sectional view along line 10-10 of a shelf **20a** connected to a horizontal shelf support **30a**, through interaction of interlocks **100a** and **110a** is seen in FIG. 10.

[0076] A partial side view of shelf **20a** connected into position that shows connection with horizontal shelf support **30a** as seen in FIG. 11. The figure further shows a transversing line showing the depiction of cut made in the figure that shows the view depicted in FIG. 12.

[0077] A partial cross sectional view of a shelf **20a** connected to a horizontal shelf support **30a**, whereby said connection is by the interaction of interlocks **110a** with interlock **100a** as seen in FIG. 12.

[0078] Another embodiment provides the article of the present invention with increased stabilization. The underside of each horizontal shelf has complimentary pair of stabilizing ribs **111** located proximate to the receiving interlocks and perpendicular to the horizontal plane that is the underside of the shelf. For example, as in FIG. 5, when the engaging interlocks **110a**, **110b**, and **110c**, are positioned to interact with the receiving interlocks **100a**, **100b**, and **100c** each pair of stabilizing ribs **111** further engage the engaging interlocks **110a**, **100b**, and **110c** to secure the engaging interlocks into a fixed position. Stabilizing ribs **111** restrict the horizontal movement of the fully assembled article and provide for a more stable article. Stabilizing ribs **111** are in pairs and are identical in size shape and relative placement to each of the receiving interlocks on the underside of each horizontal shelf **20a**, **20b**, **20c**, **20d**.

[0079] 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.

I claim:

1. An article for storing pots and pans comprising:
 - (a) vertical members with engaging interlocks; and
 - (b) horizontal shelves with receiving interlocks that attach in concert with said engaging interlocks to secure the shelves into a fixed position
2. The article of claim 1 wherein each vertical member further comprises horizontal shelf supports with engaging interlocks.
3. The article of claim 1 wherein each said horizontal shelf support is of equal length.
4. The article of claim 1 wherein each said horizontal member is a different length.
5. The article of claim 1 wherein each vertical member has an identical configuration.
6. The article of claim 1 wherein each said shelf is the same size and shape.
7. The article of claim 1 comprising at least one identical vertical member.
8. The article of claim 1 comprising identically shaped horizontal shelves.
9. The article of claim 1 comprising at least one identically shaped horizontal shelves.
10. The article of claim 1 wherein each said vertical member has a horizontal shelf support extending along the base.
11. The article of claim 10 wherein each said extending horizontal shelf support forms an acute angle with the vertical member.
12. The article of claim 10 wherein each said shelves is connected with interlocks to each of said vertical members.
13. The article of claim 1 wherein each said horizontal shelf is circular.
14. An article for storing pots and pans comprising:
 - (a) vertical members with engaging interlocks; and
 - (b) horizontal shelves with:

- (i) receiving interlocks that attach in concert with said engaging interlocks to secure said horizontal shelves into a fixed position; and
 - (ii) stabilizing ribs, that are perpendicular to a horizontal plane on the underside of said horizontal shelf, wherein said stabilizing ribs are placed proximate to said receiving interlocks.
15. The article of claim 14 wherein each horizontal shelf has a receiving interlocks suitable for interacting with a single interlock of said engaging interlock.
16. The article of claim 14 wherein each vertical member further comprises horizontal shelf supports with engaging interlocks.
17. The article of claim 14 wherein each vertical member has an identical configuration.
18. The article of claim 14 wherein each said shelf is the same size and shape.
19. The article of claim 14 comprising 3 identical vertical members.
20. A method for assembling an article for storing pots and pans comprising the steps of:
 - (a) providing at least one vertical member with engaging interlocks on a terminal end of a shelf support;
 - (b) providing at least one horizontal shelf with:
 - (i) receiving interlocks that attach in concert with said engaging interlocks to secure said horizontal shelves into a fixed position; and
 - (ii) stabilizing ribs, that are perpendicular to a horizontal plane on the underside of said horizontal shelf, wherein said stabilizing ribs are placed proximate to said receiving interlocks.
 - (c) attaching each of said engaging interlock to a receiving interlock integral with said horizontal shelf; and
 - (d) standing the assembled article on a base configured from the underside of a horizontal shelf.

* * * * *