A housing for holding a plurality of plastic storage containers in aligned proximity with associated lids in a combined compact, stacked configuration, wherein each of the containers includes a top opening having a common width and length dimension, and a height dimension extending from the opening to a bottom portion of the storage container. Corresponding lids have common width and length dimensions configured for use with the containers for positioning over the container openings. This housing more specifically comprises (i) a lid storage compartment having a bottom wall, side walls and a back wall joined together to define a holding area for a stack of the lids, the lid storage compartment having width and length dimensions slightly larger than the width and length dimensions of the stack of lids, and a height dimension extending along a common axis of the stack of lids that is longer than the stack of the lids to be held therein. A second portion of the housing includes (ii) a container holding area for storing a nested stack of the plastic storage containers along the common axis adjacent to, but separate from the lids.
STORAGE UNIT FOR STACKING MULTIPLE CONTAINERS WITH LIDS

BACKGROUND OF THE INVENTION


[0002] 1. Field of the Invention

[0003] The present invention relates generally to a storage system for maintaining plastic containers and associated lids in close relationship to facilitate quick access of the correct lid with a desired container. More particularly, the present invention pertains to maintaining correct size relationships among a group of plastic containers of different size with appropriate lids of correct size.

[0004] 2. Related Art

[0005] The variety of plastic storage containers that can be sealed by positioning a lid over an opening of the container has proliferated into virtually every type of application. Perhaps the dominant use of such storage containers is the common food container suited for storing left-over food items in a refrigerator. Because of the variety of sizes needed for different quantities and shapes of food items, a typical consumer buys many different shapes of storage containers to have on hand, thereby permitting timely selection of that container most suited to food to be preserved. These containers are usually stored on a shelf or in a drawer and become randomly mixed and typically disassociated with the proper sized lid. The consumer must then rummage through the various containers available, hoping that an appropriate lid can be identified to seal the food content.

[0006] In an effort to assist in maintaining some order to this array, various configurations have been applied to the container and/or lid to facilitate stacking. For example, U.S. Pat. No. 3,967,731 illustrates the concept of stacking the container with attached lid by having nesting indentations in the lid that enable stable positioning of one sealed container on top of another. This configuration consumes substantial space, however, because the volume within the container takes up most of the storage space. U.S. Pat. No. 5,409,126 modified the lid of the container so that it could be inverted in an attached position and extend partially into the container volume. This enabled a reduction in wasted space because the stacked containers with attached lids were able to sit within the inverted lid space.

[0007] U.S. Pat. No. 5,769,229 introduced the concept of sizing the array of lids and containers so that each common sized container could nest within another, with the lids providing a receiving volume that allowed the bottom of the container to conveniently nest therein. A second set of containers and lids were similarly configured, but with enough container space to receive the previous smaller nested containers and lids. U.S. Pat. No. 5,799,792 modified this concept by providing an attachment flange at the bottom of each container to enable each lid to be coupled to its appropriate container. The lid was therefore retained with its container, and the various smaller containers could then conveniently be stored within larger containers in a space-saving configuration. This arrangement allowed stacking of a variety of containers with associated lids, however, accessing a particular container size required disassembly of the full array of containers. This nuisance factor leads to spreading the various containers over a larger storage area and wasting valuable storage space. Before long, the lids become disassociated from their containers, and the age-old problem of randomly stored containers and lids returns.

[0008] What is needed, therefore, is a system for providing a more user-friendly container storage system that provides convenient access and storage of lids with their respective containers.

SUMMARY OF THE INVENTION

[0009] It has been recognized that it would be advantageous to isolate a lid storage section in association with corresponding containers, but separate lids from the containers to enable multiple stacking of both containers and lids. One embodiment of this invention is represented by a housing for holding a plurality of plastic storage containers in aligned proximity with associated lids in a combined compact, stacked configuration, wherein each of the containers includes a top opening having a common width and length dimension, and a height dimension extending from the opening to a bottom portion of the storage container. Corresponding lids have common width and length dimensions configured for use with the containers for positioning over the container openings. This housing more specifically comprises (i) a lid storage compartment having a bottom wall, side walls and a back wall joined together to define a holding area for a stack of the lids, the lid storage compartment having width and length dimensions slightly larger than the width and length dimensions of the stack of lids, and a height dimension extending along a common axis of the stack of lids that is longer than the stack of the lids to be held therein. A second portion of the housing includes (ii) a container holding area for storing a nested stack of the plastic storage containers along the common axis adjacent to, but separate from the lids.

[0010] Additional features and advantages of the invention will be apparent from the detailed description which follows, taken in conjunction with the accompanying drawings, which together illustrate, by way of example, features of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a perspective view of an elevational, perspective view in accordance with an embodiment of the present invention.

[0012] FIG. 2 is a plan view of a back side of the embodiment of FIG. 1.

[0013] FIG. 3 is a frontal, plan view in accordance with another embodiment of the present invention.

[0014] FIG. 4 is a frontal, plan view in accordance with another embodiment of the present invention.

[0015] FIG. 5 shows a plan view embodiment forming a wall unit configuration.

DETAILED DESCRIPTION

[0016] Reference will now be made to the exemplary embodiments illustrated in the drawings, and specific language will be used herein to describe the same. It will nevertheless be understood that no limitation of the scope of
the invention is thereby intended. Alterations and further modifications of the inventive features illustrated herein, and additional applications of the principles of the inventions as illustrated herein, which would occur to one skilled in the relevant art and having possession of this disclosure, are to be considered within the scope of the invention.

[0017] As illustrated in FIGS. 1 and 2, a housing 10 is provided for holding a plurality of differently sized, plastic storage containers 12, 30, 31 and 34 in aligned proximity with associated lids 14, 15 and 32. The housing enables a combined compact, stacked configuration, wherein each of the containers of common size includes a top opening having a common width W and length L dimension, and a height dimension h extending from the opening to a bottom portion of the storage container. The lids also have common width and length dimensions configured for use with the corresponding containers for positioning over the container openings. These lids are stored in a lid storage compartment 13, 17 and 19 having a bottom wall, side walls and a back wall joined together to define a holding area for the stack of the lids, with each of the lid storage compartments having width and length dimensions slightly larger than the width and length dimensions of the stack of lids placed therein, and a height dimension extending along a common axis A, B, or C of the stack of lids that is longer than the stack of the stored lids is high.

[0018] A container holding area 21, 23 and 25 is provided for storing a nested stack of the plastic storage containers 12, 30, 31, 34-38 adjacent to but separate from the lids, along one of the common respective axes A, B and C. This proximate relationship in storage space maintains the useful association between lid and container because of the common alignment of each size container with an appropriately sized lid. Storage containers of common opening size are all nested in the container holding area aligned with the lids, ready for use. Once a container is selected, a proper lid is extracted from the lid storage compartment having a common alignment A, B or C. Confusion is avoided because the correct lid is readily accessible in the coordinated storage area. After use, the container is easily nested with the other common containers within the container storage area and the lid restored to its aligned compartment.

[0019] The illustrated embodiment will now be discussed in detail. It comprises a housing 10 that includes sidewalls 16, an intermediate vertical dividing wall 26, a bottom wall 18, a top wall 20, and an intermediate horizontal dividing wall 24. This configuration forms two vertical storage areas for containers and lids. Storage areas 13 and 21 respectively house narrow containers 12 and lids 14 in a stacked, nested configuration. Maximum use of storage space is enabled because each of the containers resides in the contained volume of another storage container. Although five nested containers 12 are illustrated, a dozen can readily be stored when the containers have common dimensions with the same taper in the container body. In this instance, the containers could be densely packed. The lids are conveniently segregated above the containers in the lid storage compartment 13 and are always ready for use without need for searching through various sized lids to identify the correct shape to couple to the container.

[0020] Similarly, the second storage area 23 includes containers 30, 31 in stacked array. This stack illustrates larger containers of differing depths. Although the respective dimensions of container openings sizes and lids 15 are the same, container 30 is more shallow than container 31. Accordingly, any degree of variation in depth can be accommodated, as long as the total length of the stacked array of containers does not exceed the height of the storage area 23.

[0021] Referring to FIG. 2, an array of five containers 34-38 illustrates an embodiment having maximum variety in container depth. Specifically, the depth of container 34 is the shallowest and depth of container 38 is the deepest in volume. Container 35 rests on the bottom of container 34, and container 36 extends to the bottom of 35, etc. In this configuration, the total storage volume of the containers is approximately three times the actual volume of the storage area 25.

[0022] As was previously indicated, this stack of containers 33 is larger in opening size than the adjacent stack of containers 12. Accordingly, the lid dimensions in compartment 17 are larger than adjacent lids 14. A user has no difficulty distinguishing the correct lid to use with a container because the array of respective containers 12, 33 and stacked lids 14, 17 respectively have common alignment. The height of the lid stack will depend, of course, on the number of containers stored in the storage area 25 below. Note also that this alignment could be horizontal if desired, as opposed to the vertical orientation illustrated.

[0023] FIGS. 1 and 2 depict the configuration wherein the lid storage compartments 13, 17, and 19 include a bottom wall 24 that cooperates with side 16 and back walls 28 to form the surrounding enclosure for the stack of lids, except for a forward insert opening for inserting and removing lids from storage. The container holding areas 21, 23, and 25 provide container storage compartments having opposing side walls 16 and 22, a back wall 28, and a bottom wall 18 having width and depth dimensions slightly larger than the common width and length dimensions of the storage container top openings and a vertical length dimension corresponding to at least a total length of the nested stack of plastic storage containers. Wall structure may be plastic, card-board or other suitable materials. The structure may be solid, mesh, grid-like or any configuration capable of providing container and lid support.

[0024] FIGS. 1 and 2 illustrate how a plurality of housings can be integrally coupled in side-by-side array. It will be apparent that the three integrated compartments of this embodiment representing stacking axes A, B and C could be configured in other geometries, providing different compartment shapes (round, square, rectangular, etc.) as well as different numbers of integrated compartments. The housing could provide 360 degrees of access to containers, or it could be configured as an array of integral compartments forming a storage wall 80 as shown in FIG. 5 providing access from a single side of the housing.

[0025] This wall embodiment 80 includes many sizes of containers 82, each with its appropriate lids 84 in coordinated location along a vertical access. It should be noted that some of the containers and lids 86 can be aligned along other directions (such as horizontal) where space configurations dictate. Such a configuration could be placed against a kitchen wall or in a cabinet against a back wall to be out of the way, yet able to keep all the various sized containers organized.
FIG. 3 illustrates a modified version of the invention wherein a single housing 40 provides the aligning enclosure for both the lids 42 and the containers 44. In this embodiment, the housing comprises side walls 46, a top wall 48, bottom wall 50 and back wall 52. These walls are configured to provide a common lid and container storage compartment slightly larger in length and width dimensions that the stacked array of lids. A disadvantage of this housing embodiment is that the full stack of containers must be moved to easily retrieve a lid. Otherwise, the common alignment of lids and containers is maintained in accordance with the principles of the present invention.

FIG. 4 shows another embodiment wherein the housing 60 comprises opposing side walls 62, a bottom wall 64 and a top wall 66. The lid storage compartment 67 is formed by the opposing sidewalls, bottom wall and top wall of the housing. A stacked array of lids 68 is conveniently stored in this lid compartment 67. The container storage area is formed above the top wall of the lid storage compartment, and is bounded on the sides by opposing sidewalls 62b and second opposing sidewalls 62c (back wall not shown). This configuration simply allows the containers to be stacked in the open volume 72 formed between the respective sidewalls 62. In this embodiment, the bottom wall of the container storage area also comprises the top wall of the lid storage compartment. A housing as defined in example 4, wherein the container storage compartment further includes a top wall that cooperates with the bottom, side and back walls to form a surrounding enclosure for the nested stack of containers, except for a forward insert opening for inserting and removing containers from storage.

It is to be understood that the above-referenced arrangements are only illustrative of the application for the principles of the present invention. Numerous modifications and alternative arrangements can be devised without departing from the spirit and scope of the present invention. While the present invention has been shown in the drawings and fully described above with particularity and in connection with what is presently deemed to be the most practical and preferred embodiment(s) of the invention, it will be apparent to those of ordinary skill in the art that numerous modifications can be made without departing from the principles and concepts of the invention as set forth herein.

1. A housing for holding a plurality of plastic storage containers in aligned proximity with associated lids in a combined compact, stacked configuration, wherein each of the containers include a top opening having a common width and length dimension, and a height dimension extending from the opening to a bottom portion of the storage container, said lids having common width and length dimensions configured for use with the containers for positioning over the container openings, said housing comprising:
   a. a lid storage compartment having a bottom wall, side walls and a back wall joined together to define a holding area for a stack of the lids, said lid storage compartment having width and length dimensions slightly larger than the width and length dimensions of the stack of lids, and a height dimension extending along a common axis of the stack of lids that is longer than a height of the stack of the lids to be held therein; and
   b. a container holding area for storing a nested stack of the plastic storage containers along the common axis adjacent to but separate from the lids.

2. A housing as defined in claim 1, wherein the lid storage compartment includes a top wall that cooperates with the bottom, side and back walls to form a surrounding enclosure for the stack of lids, except for a forward insert opening for inserting and removing lids from storage.

3. A housing as defined in claim 1, wherein the container holding area comprises at least one container storage compartment having opposing side walls, a back wall, and a bottom wall having width and depth dimensions slightly larger than the common width and length dimensions of the storage container top openings and a length dimension corresponding to at least a total length of the nested stack of plastic storage containers.

4. A housing as defined in claim 2, wherein the container holding area comprises a container storage compartment having opposing side walls, a back wall, and a bottom wall configured with width and depth dimensions to hold a bottom portion of the nested stack of plastic storage containers.

5. A housing as defined in claim 3, wherein the bottom wall of the container storage compartment comprises the top wall of the lid storage compartment.

6. A housing as defined in claim 4, wherein the container storage compartment comprises a single storage container integrated with the lid storage compartment.

7. A housing as defined in claim 4, wherein the container storage compartment further includes a top wall that cooperates with the bottom, side and back walls to form a surrounding enclosure for the nested stack of containers, except for a forward insert opening for inserting and removing containers from storage.

8. A housing as defined in claim 8, wherein the container storage compartment includes a top wall that corresponds to the bottom wall of the lid storage compartment.

9. A housing as defined in claim 1, further comprising a plurality of housings integrally coupled in side-by-side array.

10. A housing as defined in claim 9, wherein the plurality of housings having differing dimensions to enable storage of a plurality of containers and lids having differing dimensions.

11. A housing as defined in claim 1, further comprising a nested stack of containers positioned within the container storage area and a stack of lids for the containers positioned in stacked array within the lid storage compartment.

12. A housing as defined in claim 10, wherein the housing further comprises a portion of a shipping container for the nested stack of containers and the stacked array of lids.

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