A storage container system of stackable containers for storage and transport of assemblable toys or puzzles. The device features a container with hinged first and second halves forming an interior cavity when releasably engaged. Each container has a plurality of projections extending from one exterior surface adapted for cooperative frictional engagement into the recesses in the opposite side of a similar sized container stacked upon it. In addition to storage, the containers provide depictions of the stored toy allowing identification by non-reading children, and an organized working surface for toy assembly.
INTERLOCKING STORAGE AND TRANSPORT APPARATUS

FIELD OF THE INVENTION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/724,702, filed Oct. 7, 2005. The disclosed device relates to portable storage components. More particularly it relates to a system of containers adapted for containment of toys and the like in an organized fashion. Additionally each container in this system is adapted for stacked engagement of all others, and, each container also provides means for identification of the contents to a non-reading child thereby allowing the child to access a desired toy or puzzle on the interior without the need to consult an adult or sibling for help in identifying the contents.

BACKGROUND OF THE INVENTION

[0002] Children have always enjoyed puzzles and toys requiring construction. Toys such as jigsaw puzzles are an especially popular item with kids and parents alike since they frequently engage both the child and parent in quality time play during puzzle assembly.

[0003] Other toys abound that have dozens if not hundreds of interlocking components that allow a child, teen, or parent and child team, to assemble models and replicas of real world items. One such popular toy is the Lego brand of interlocking tiles and components where each tile and supplied component is adapted to engage on top of a surface of another of the kit of components. Items like the Erector Sets are a child’s construction set based on square girders that allow children to build various miniature versions of real world objects and mechanisms, by employing the beams with screws, bolts, pulleys, and gears similar to those used during real construction.

[0004] A vexing problem for parents and children alike arises when one or a plurality of the many pieces of a puzzle or assembly-type toy are misplaced or lost. A puzzle cannot be completed if all the pieces are not accounted for. A miniature version or representation of a house or vehicle using assembled parts cannot be assembled if some of the parts go missing or unaccounted for.

[0005] Of further irritation to parent and child alike occurs when toy pieces and parts end up strewn all over the house or the play area due to lack of organized storage space. Parents, ever pressed for time in the modern world, can become irritated with their children for the mess and disorganization that occurs in areas of the home when parts of toys, kits and puzzles are left about. Kids, too, can become frustrated with the inability to assemble their desired puzzle or toy when parts are lost, and from listening to parents nagging them to clean up their mess.

[0006] However, without an organized system providing a place for everything so children may position everything in a proper place, a repeating cycle will occur with children losing patience with children for a problem of their own making. If the parents provided the children with proper means for storage, identification, and inventorying toys, puzzles and kits of components which are assembled to models and toys, frustration of both parent and child can be reduced. Resulting quality time with the child can be enjoyed actually assembling the puzzle or toy, instead of looking for its parts and complaining about components strewn far and wide.

[0007] However, such a storage system must take into consideration a number of factors, chief of which is the person purchasing it probably won’t be the person using it since parents generally buy things used by their children. Consequently, a storage system that might be fine for an adult, will fail miserably if a child is unable to ascertain what is stored, or where a toy kit or puzzle is to be stored. Small children who cannot read are unable to use a system that does not provide some visual means of container contents identification without the need to read. Further, instructions and pictures of the proper assembled puzzle or model need to be readily available to the child for use in case the parent is not engaged in the puzzle or kit building endeavor to help ascertain the ultimate goal of the assembly process.

[0008] Still further, it would be most helpful if the storage component itself, provided means for stacking or engagement in a vertical disposition to save on valuable storage space in a playroom or small child’s bedroom. Such a stacking ability must however take into consideration, and prevent, the danger to children from falling storage containers in the event that an earthquake or horesplay by the children should impact the stacked containers.

[0009] Finally, the storage components should provide easy means for handling by the child or adult during transport, and ideally a platform on which to assemble the contents during use which encourages keeping all the parts in one area.

[0010] Accordingly, there is an unmet need for a device and method of storage adapted to contain and maintain complete sets of components for puzzles, kits, assembly-type toys and the like. Such a device should be light enough for transport by a child, yet strong enough to endure the potential impacts children can provide to containers. Such a device should be adapted to seal, and unseal easily to allow a child to operate it to sealably house the many components of a puzzle or assembled toy to maintain the integrity of the kit for future use. Additionally, such a device should provide the most possible organized storage, using the least possible floor space available in playrooms and small children’s bedrooms. Additionally, such a device should provide stacked storage to maximize floor space but employ counter measures to prevent higher stacked containers from falling upon infants and small children if bumped or vibrated. Finally, such a storage device being sealed, should provide a non-reading child the ability to ascertain the contents of the sealed container, and, a visual guide to the proper or potential assembly of the contents of the container so that the toy may be found, and used, without adult assistance.

SUMMARY OF THE INVENTION

[0011] The disclosed device and method provide a storage and carrying case for interlocking toy sets such as Legos and Erector sets and for assembleable puzzle pieces. The containers themselves can be provided in a number of sizes which are adapted to the storage task at hand.

[0012] Each container will provide a handle adapted in size for the hand of a child and parent alike, which is rotationally deployable from a mount on a side edge of the
container. In a particularly preferred mode of the device, a plastic pocket formed of a transparent sidewall will be located on a side edge preferably adjacent to the handle, to provide a means of engagement of a drawing or a photo of the toy that is contained inside the container. In addition in a particularly preferred mode of the device, a similar but larger transparent pocket is located in the interior of the container for storage of directions or photos of the finished project the assembled toy or puzzle will yield. The two transparent display components thus provide easy means for insertion of photos or drawings that will allow a child who does not read, to discern the contents of the container, and once engaged in play, discern the ultimate goal of the assembly process, all without the input of an adult or older reading child.

In a preferred mode of the device found to be adapted for puzzles and assembly toys, and, will fit in the confines of a small bedroom easily. The container has a 12" width, 6" height, and 3" inch depth. This size is well suited for placement against walls between furniture and such.

For a stackable engagement that helps prevent dislodgement of higher stacked containers which might injure small children, a plurality of recesses is formed in a bottom surface of each container. On an opposite side of each container, a plurality of protrusions rise from the exterior sidewall in positions adapted to engage the recesses of any adjacent container. These protrusions allow for interlocking of the containers when stacked and also provide a means of elevation of the container from the floor or other support surface.

Means for engagement of the two hinged sidewalls forming the container are provided by a latch that is biased to engage a clip when the container sidewalls are closed to seal the container. The latch would be depressed slightly to disengage the clip to open the container. When injection molded as a unitary structure the top and bottom sidewalls forming the container can also have the latch and clip formed as part of the sidewalls thereby lowering manufacturing cost.

In this respect, before explaining at least one embodiment of the storage and transport device and method herein in detail, it is to be understood that the invention is not limited in its application to the details of construction, and to the arrangement of the components or method steps set forth in the following description or illustrated in the drawings. The invention is thus capable of other embodiments and of being practiced and carried out in various ways and in different orders of execution. Also, it is to be understood that the phrasing and terminology employed herein are for the purpose of description and should not be regarded as limiting.

As such, those skilled in the art will appreciate that the conception, upon which the device and method is based, may readily be utilized as a basis for the designing of other stackable engageable containers for carrying out the purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent construction insofar as they do not depart from the spirit and scope of the present invention.

It is an object of this invention to provide a storage container adapted to contain and maintain as a complete set, toys such as puzzles and assembly toys.

It is a further object of the invention to provide such a container that is light enough for carrying by a child.

A further object of this invention is the provision of a container that has a small footprint and is stackable in an engaged fashion with each container engaged to adjacent containers.

Yet another object of this invention is the provision of such a storage device that also provides a toy or puzzle assembly area and component assembly area, recessed into an exterior surface.

Yet a further object of this invention is the provision of such a storage container, with pockets for photographs of the contained toy to allow identification by non-reading children of the contents.

A further object of this invention is the provision of such a container which also has an interior transparent holder for depictions of the completed toy or puzzle formed by the stored toy components to allow a child user to ascertain the goal of assembling the stored toy components.

These together with other objects and advantages which will become subsequently apparent reside in the details of the construction and method as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part thereof, wherein like numerals refer to like parts throughout.

BRIEF DESCRIPTION OF DRAWING

FIG. 1 depicts a perspective view of an especially preferred embodiment of the device featuring a surface engageable to adjacently located containers and adapted to provide a working surface for the puzzle or toy.

FIG. 2 depicts a view of the device showing the opposite surface from figure one having a plurality of projections adapted for engagement in recesses of adjacent containers.

FIG. 3 depicts the interior of a preferred embodiment showing a first half adapted to hold puzzles or assembled toys and a vertically disposed half having a transparent display for pictures and toy assembly instructions.

FIG. 4 depicts the stacking capability of all embodiments of the device where a plurality of containers are stacked and engaged with projections for stability.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to the drawings, FIGS. 1-4 disclose modes of the device 10 featuring a plurality of containers 12 each adapted for cooperative removable engagement with adjacently located containers 12. The containers 12 may be formed in any dimension that adapts well to the puzzle or assembleable toy 14 it houses in the interior cavity 16 formed between first and second halves engaged along one edge using means for pivoted engagement such as a hinge 18. The device 10 if formed of plastic may be injection molded and formed into a unitary construction with the hinge 18 formed as part of the entire container 12 and holding the two halves in a registered rotational engagement such that they operatively engage.
Each container 12 in the preferred mode provides means for carrying with the hand of a user shown as a handle 20 which in the preferred mode of the device would be adapted in size to allow gripping by the hand of a child. Of course other types of handles and grips may be employed and such are anticipated. Also in the preferred mode of the device 10 a transparent holder is provided in the form of pocket 22 preferably adjacent to the handle 20, and adapted for insertion of a photo or drawing of the toy housed by the device 10 inside. This allows for insertion of a graphic depiction of the stored toy that a child may discern without the need to consult an adult or older child who can read. Also provided in the device 10 best adapted for use by children and adults alike, is a larger transparent display pocket 24 adapted to allow insertion of a page of drawings or pictures 25 of the toy 14 in assembled form, to let the user see the ultimate toy and aid in their quest to assemble it.

Particularly important in all modes of the device 10 are a plurality of projections extending from one side surface of each container 12 at positions to engage similarly positioned recesses 28 formed into the opposite surface of adjacent containers 12. To provide a stable mount to maintain the stacked containers in line on top of lower stacked containers 12, at least two projections 12 and preferably four projections are provided. Four projections 12 are preferable as it allows the projections 12 to also serve as legs for the container 12 to elevate it above a working surface in a level fashion. This level elevation with the opposite side surface of the container 12 positioned above the projections 12 provides a level working surface 30 for the user to assemble a puzzle or other assembleable toy upon. In a particularly preferred mode of the device 10 the working surface 30 is recessed below the perimeter edge of the side surface which thereby provides an edge wall 31 surrounding the working surface 30 to keep all of the parts of the toy being assembled from sliding off the working surface 30. Optionally, but in a highly preferred mode, the depression in the side surface forming the recessed working surface 30 may be divided by a dividing member 34 and separating the recessed portion into two sections. One section would serve as the working surface 30 and the other as a storage cavity 38 for the pieces of the toy not yet used during assembly. In a most versatile mode of the device 10 allowing for great user adaptability to the task at hand, the dividing member 34 would be slidably engaged with the edge wall 31 to allow a means to adjustably bifurcate the recessed working surface 30 to adjust the size of the working surface 30 used to assemble, and the size of the storage cavity 38 used to hold unused parts. Sliding the dividing member 34 back and forth will allow for enlarging and concurrently reducing the size of the adjacent working surface 30 and storage cavity 38. Engagement of the dividing member 34 with the edge wall 31 would be with means for slidable engagement such as a tongue and groove engagement.

Releasable closure of the device 10 with the two halves mated around their respective perimeters, is provided by means for releasable closure currently formed as a latch 40 that has a flap component 41 on one engaging edge of one half of the container 12 which is biased to engage a clip portion 42 on the other edge of the other half of the container 12. When injection molded as a unitary structure the top and bottom sidewalls forming the container 12 may also have the latch 40 formed as part of the sidewalls thereby lowering manufacturing cost.

As shown in FIG. 4 and noted earlier, the containers 12 are each adapted on one side surface with projections 26 which are positioned and sized to frictionally engage depressions 28 on the opposite side surface of each container 12. In this fashion any number of containers 12 may be stacked above lower engaged containers 12 allowing a very stable storage system limited only by the ceiling height in the room. The engaged projections 26 and recesses 28 keep the containers from sliding off the stack and consequently are especially important in all embodiments of the device 10 since it is for use around children and infants that can be easily injured by a falling container 12.

While all of the fundamental characteristics and features of the method and apparatus for the interlocking storage and transport containers have been described herein, with reference to particular embodiments thereof, a latitude of modifications, various changes and substitutions are intended in the foregoing disclosure and it will be apparent that in some instance, some features of the invention will be employed without a corresponding use of other features without departing from the scope of the invention as set forth. It should be understood that such substitutions, modifications, and variations may be made by those skilled in the art without departing from the spirit or scope of the invention. Consequently, all such modifications and variations are included within the scope of the invention as defined herein.

What is claimed is:

1. A storage container for an assembleable toy or puzzle, comprising:
   a first half section having a first planar portion surrounded by a first projecting sidewall from a perimeter edge;
   a second half section having a second planar portion surrounded by a second projecting sidewall from a second perimeter edge;
   means for rotational engagement a portion of said first projecting sidewall to said second projecting sidewall;
   said storage container having a closed position wherein said first projecting sidewall contacts said second projecting sidewall forming a storage cavity defined between said first and second projecting sidewall and said first and second planar portions;
   releasable means to hold said storage container in said closed position;
   a plurality of projections extending from said first planar portion in a direction opposite said first projecting sidewall;
   a plurality of recesses formed into said second planar portion, said recesses sized and positioned for engagement with said plurality of projections; and
   said plurality of projections providing a means for engagement of a lower positioned said container placed with its second planar surface contacting an underlying support surface, with said recesses formed in a respective said first planar portion of any above-positioned additional said container stacked thereon, wherein any number said containers may be stacked with its respective projections engaging respective recesses formed in
an underlying said container thereby providing means to prevent sliding of all said containers in said stack, off of said stack.

2. The storage container of claim 1 additionally comprising:

said projections positionable on a support surface to position said container in an operating position with said second planar portion above said first planar portion and providing means for elevation of said first planar portion, above said support surface.

3. The storage container of claim 2 additionally comprising:

said projections engaged with said support surface additionally providing means for additional elevation of said second planar portion above said support surface.

4. The storage container of claim 3 additionally comprising:

a working surface formed by said first planar portion when said container is positioned in said operating position;

said working surface providing a working area elevated above said support surface for assembly of said toy or puzzle.

5. The storage container of claim 4 additionally comprising:

a pocket positioned on an exterior surface of one of said first or second projecting sidewalls;

said pocket having a substantially transparent sidewall and an interior cavity behind said sidewall adapted for insertion of a graphic depiction of said toy or puzzle, thereby providing means to identify a contents of said container to a non-reading user.

6. The storage container of claim 4 additionally comprising:

a second pocket positioned on an interior surface of said second planar portion in said storage cavity;

said second pocket having a substantially transparent sidewall and a holding cavity between said sidewall and said interior surface; and

said holding cavity adapted for engagement with graphic depictions of said toy or puzzle during or after assembly, thereby providing a viewable guide to a user for assembly of said toy or puzzle.

7. The storage container of claim 5 additionally comprising:

a second pocket positioned on an interior surface of said second planar portion in said storage cavity;

said second pocket having a substantially transparent sidewall and a holding cavity between said sidewall and said interior surface; and

said holding cavity adapted for engagement with graphic depictions of said toy or puzzle during or after assembly, thereby providing a viewable guide to a user for assembly of said toy or puzzle.

8. The storage container of claim 4 additionally comprising:

a recess formed into an exterior side of said second planar portion, said recess forming said working surface surrounded by an edge wall;

said edge wall surrounding said working surface providing means to prevent components of said toy or puzzle being assembled, from sliding from said working surface.

9. The storage container of claim 5 additionally comprising:

a recess formed into an exterior side of said second planar portion, said recess forming said working surface surrounded by an edge wall;

said edge wall surrounding said working surface providing means to prevent components of said toy or puzzle being assembled, from sliding from said working surface.

10. The storage container of claim 6 additionally comprising:

a recess formed into an exterior side of said second planar portion, said recess forming said working surface surrounded by an edge wall;

said edge wall surrounding said working surface providing means to prevent components of said toy or puzzle being assembled, from sliding from said working surface.

11. The storage container of claim 7 additionally comprising:

a recess formed into an exterior side of said second planar portion, said recess forming said working surface surrounded by an edge wall;

said edge wall surrounding said working surface providing means to prevent components of said toy or puzzle being assembled, from sliding from said working surface.

12. The storage container of claim 8 additionally comprising:

a dividing member communicating between parallel sections of said edge wall; and

said dividing member bifurcating said recess into said working surface, and an adjacent storage cavity for temporary positioning of unused of said components of said toy or puzzle.

13. The storage container of claim 9 additionally comprising:

a dividing member communicating between parallel sections of said edge wall; and

said dividing member bifurcating said recess into said working surface, and an adjacent storage cavity for temporary positioning of unused of said components of said toy or puzzle.

14. The storage container of claim 10 additionally comprising:

a dividing member communicating between parallel sections of said edge wall; and

said dividing member bifurcating said recess into said working surface, and an adjacent storage cavity for temporary positioning of unused of said components of said toy or puzzle.
15. The storage container of claim 11 additionally comprising:

a dividing member communicating between parallel sections of said edge wall; and

said dividing member bifurcating said recess into said working surface, and an adjacent storage cavity for temporary positioning of unused of said components of said toy or puzzle.

16. The storage container of claim 12 additionally comprising:

said dividing member slidably engaged between said sections of said edge wall; and

sliding said dividing member providing means to adjust the size of said working surface and said storage cavity.

17. The storage container of claim 13 additionally comprising:

said dividing member slidably engaged between said sections of said edge wall; and

18. The storage container of claim 14 additionally comprising:

said dividing member slidably engaged between said sections of said edge wall; and

sliding said dividing member providing means to adjust the size of said working surface and said storage cavity.

19. The storage container of claim 15 additionally comprising:

said dividing member slidably engaged between said sections of said edge wall; and

sliding said dividing member providing means to adjust the size of said working surface and said storage cavity.

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