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Inventor(s)	Kaveh; Sassan et al.

Personal use container

Abstract

A personal use container, such as for containing and transporting pills, has a base which is configured to engage a cap, where the base and cap both have open and closed ends and when engaged, define a closed interior of the container. The cap and base may include inter-engaging members, such as a rib and groove, to retain them in their connected position. The container may have at least one flat side surface and a flat end surface to permit position of the container on a support surface. The container may include visual indicators and at least one portion may be transparent to permit viewing into the interior.

Inventors: Kaveh; Sassan (Las Vegas, NV), Kaveh; Daniel Kiarash (Las Vegas, NV), Kaveh; Ashton Ashkan (Las Vegas, NV)

Applicant: Kaveh; Sassan (Las Vegas, NV); Kaveh; Daniel Kiarash (Las Vegas, NV); Kaveh; Ashton Ashkan (Las Vegas, NV)

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Primary Examiner: Chu; King M

Attorney, Agent or Firm: Snell & Wilmer L.L.P.

Background/Summary

FIELD OF THE INVENTION

(1) The present invention relates to devices for holding personal items, such as medicants or similar pills.

BACKGROUND OF THE INVENTION

(2) The majority of adults require daily medications, and it is not always possible to administer these necessary medications while at home. Some do-it-yourselfers wrap pills in paper napkins, cellophane or foil before placing them in a pocket or purse. Unfortunately, such wrappings are easily undone or lost entirely before it is time to administer the pill.

(3) There is always the temptation to take the entire bottle of pills, using the protective container as a portable pill capsule. Not only does such use risk loss of the entire container, for maintenance medications, the majority are now provided in 90-day supplies, making the container bulkier to carry and the potential loss expensive.

(4) Most commercially available pill containers are intended for organizing daily medications over a week's time span. They are seldom designed for easy portability, have no area for writing pill identification information, and are not configured for easily carrying in a pocket or to fit in a smaller compartment in a purse or handbag. The closures for the individual compartments are not robust, and most easily come open, spilling their carefully divided contents within the pocket, purse or handbag.

(5) Similar problems exist relative to other personal items. The present invention is directed to overcoming these and other problems.

SUMMARY OF THE INVENTION

(6) Aspects of the invention comprise a holder or container, particularly configured for personal use, such as for removably storing a plurality of pills, and methods of making and using the same.

(7) In one embodiment, the invention comprises a two-piece container that is small and easily

carried, yet the two pieces are securely connectable, so as to be water and child-resistant. In one configuration, one of the container pieces has a reduced diameter portion that is insertable into the second container piece, there the two pieces are securable using a mating ridge (formed on one of the pieces) and groove (formed in the other piece) connection.

(8) In one embodiment, the container may have a capsule shape, having a generally cylindrical main portion with generally hemi-spherical ends, thus facilitating location of the container in a person's pocket or the like.

(9) In one embodiment, a flattened surface may be defined on an exterior side of the container, providing a location for attachment of adhesive stickers on which users can write information, such as identifying the contents (such as medications), dosages, time for taking, with/without food, and other drug use information, and aiding in preventing the container from rolling. In some embodiments, one or both ends of the container may define a generally planar surface, such as for supporting the container in an upright position.

(10) The container may be provided in a variety of sizes, such as designed to hold a number of pills for a certain period of time, such as one day, a few days, or a week. The container(s) may include a visual indicator, such as a color indicator, corresponding to different sized containers. At least one portion of the container may be generally transparent to permit viewing of the contents thereof.

(11) Further objects, features, and advantages of the present invention over the prior art will become apparent from the detailed description of the drawings which follows, when considered with the attached figures.

Description

DESCRIPTION OF THE DRAWINGS

(1) In order that the advantages of the invention will be readily understood, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments that are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments of the invention and are not therefore to be considered to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings, in which:

(2) FIG. 1 is perspective view of a container in accordance with a first embodiment of the invention;

(3) FIG. 2 is an exploded view of the container illustrated in FIG. 1;

(4) FIG. 3 is a cross-sectional view of the container illustrated in FIG. 2, taken along line 3-3 therein;

(5) FIG. 4 is an assembled view of the container illustrated in FIG. 3, illustrated with one or more pills therein;

(6) FIG. 5 is a cross-sectional view of the container illustrated in FIG. 3, taken along line 5-5 therein;

(7) FIG. 6 is a perspective exploded view of a container in accordance with another embodiment of the invention;

(8) FIG. 7 is an exploded cross-sectional view of the container illustrated in FIG. 6;

(9) FIG. 8 is an assembled view of the container illustrated in FIG. 7, illustrated with one or more pills therein; and

(10) FIGS. 9a-d illustrate different sizes of containers in accordance with the invention.

DETAILED DESCRIPTION OF THE INVENTION

(11) In the following description, numerous specific details are set forth in order to provide a more thorough description of the present invention. It will be apparent, however, to one skilled in the art, that the present invention may be practiced without these specific details. In other instances, well-

known features have not been described in detail so as not to obscure the invention.

(12) FIG. 1 shows a container **20** in accordance with one embodiment of the invention. The container **20** is preferably configured for personal use, such as for storing and transporting person items. In a preferred embodiment, such items may be medicants, such as in pill or capsule form. However, the container **20** may be used to store and transport other items. Further, the personal use configuration of the container **20** is preferably designed to allow the container to be easily transported by a person, such as a pocket.

(13) As illustrated in FIG. 2, the container **20** comprise two pieces: a first piece or cap **22** and a second piece or base **24**. In one embodiment, the cap **22** comprises a generally cylindrical body having a first open end **26a** and a second closed end **26b**, where the second closed end is generally hemi-spherical in shape. Likewise, the base **24** comprises a generally cylindrical body having a first open end **28a** and a second closed end **28b**, where the second closed end is generally hemi-spherical in shape. In one embodiment, as best illustrated in FIG. 3, the body of the cap **22** is defined by a wall **30** (where the wall of the cap thus has a terminus or distal portion which defines the open end **26a**), and the body of the base **24** is defined by a wall **32** (where the wall of the base also has a terminus or distal portion which defines the open end **28a**). In one embodiment, the cap **22** and body **24** may be formed from a polymer, and preferably synthetic polymers, such as plastic (such as polypropylene or polyethylene), such as in a molding process, and so as to be generally rigid.

(14) The cap **22** and body **24** are selectively connectable to one another and selectively disconnectable from one another. As illustrated in FIG. 1, when the cap **22** and body **24** are connected, the container **20** comprises a generally closed body which is capsule-shaped, such as having a first end, a second end and a middle portion therebetween, where the middle portion is generally cylindrical. As illustrated in FIG. 4, the container **20** defines a generally closed interior **34**, such as to house one or more pills P (or medicants in other forms, other personal items, etc.) therein.

(15) As indicated, the cap **22** and body **24** are preferably connectable and disconnectable. In one embodiment, at least one of the cap **22** or body **24** has a reduced dimension portion or extension for fitting into the other. For example, as illustrated in FIGS. 2 and 3, the base **24** may have a reduced dimension portion **36** at the open end **28a** thereof for fitting into the open end **26a** of the cap **22**.

(16) In one embodiment, the reduced dimension portion **36** may be formed by a reduced thickness in the wall **32** of the base **24**, where the wall thickness reduction may result in a ledge or step **38** on an exterior of the base **24**, or where the reduced dimension portion **36** comprises an extension of the base **24**, having such a reduced dimension characteristic (in relation to the cap **22** into which it fits, as detailed herein). In one embodiment, the cap **22** may define an inset area **40** for matingly accepting the reduced dimension portion **26** of the base **24**, such as an area of reduced wall thickness which similarly results in a step or ledge **42** on the interior of the cap **22** (again, the inset area **40** might be configured as an extension portion of the cap **22** and have such characteristics).

(17) In such a configuration, when the cap **22** and base **24** are connected, as best illustrated in FIG. 4, the reduced dimension portion/extension **36** of the base **24** may fit into the inset area/extension **40** of the cap **22**, with the base **24** abutting (contacting or located adjacent to) the step or ledge **42** in the cap **22**, and with the cap **22** abutting (contacting or located adjacent to) the step or ledge **38** on the exterior of the base **24**.

(18) In one embodiment, the container **20** may define a generally planar exterior area, such as along an exterior portion of the middle section thereof. The generally planar exterior area may comprise a flattened section **44** of at least one of, and preferably both, the cap **22** and base **24**, as illustrated in FIGS. 2 and 5. The generally planar or flattened surface or section **44** stabilizes the holder on flat surfaces, preventing roll-off. The generally planar or flattened surface or section **44** may also be used to receive adhesive labels identifying the drug(s) placed inside, or writing directly onto the container **20**. Of course, the size and shape of the generally planar exterior section **44** may vary,

including just on the cap **22** or base **24**, and the container might include more than one such section or area, such as approximately 180 degrees from one another around the container **20**.

(19) In one embodiment, the cap **22** and base **24** may remain connected to one another via friction therebetween, such as between the reduced dimension portion **36** of the base **24** against the inset area **40** of the cap **22**. However, in a preferred embodiment of the invention, the container **20** may include a means for connecting or engaging the cap **22** and base **24**. As illustrated in FIGS. **6-8**, the cap **22** and base **24** may be connected via mating connectors. In one embodiment, the connectors comprise a raised rib, ridge or ring on one portion of the container **20**, which rib, ridge or ring is configured to engage a groove on the other portion of the container **20**.

(20) For example, as illustrated, a raised rib or ring **50** extends outwardly from the exterior of the base **24**, and is preferably located at the reduced dimension portion **36** thereof. A mating groove **52** may extend into the interior of the cap **22**, and is preferably located at the inset area **40** thereof. When an end of the base **24** is configured to abut the step or ledge **42** of the cap **22**, the ring **50** is preferably located the same distance from the open end **28a** of the base **24** as is the groove **52** from the step or ledge **42** of the cap **22**.

(21) In one embodiment, the rib or ring **50** causes the base **24** to have an exterior dimension which the same as or slightly greater than the open end **26a** of the cap **22**, thus requiring the base **24** to be press-fit into the cap **22**, preferably to the point where the rib or ring **50** fits into the groove **52**, thus connecting the cap **22** and base **24** and resisting disconnection thereof.

(22) In one embodiment, the rib or ring **50** and mating groove **52** extend circumferentially around the cap **22** (interior) and base **24**. In other embodiments, however, the rib or ring **50** (or other engaging elements) might comprise individual nubs or bumps or the like, such as for engaging a contiguous groove **52** or mating depressions.

(23) In a preferred embodiment, as illustrated in both FIGS. **2** and **7**, the length of the base **24** exceeds the length of the cap **22**, thus providing a container **20** having greater volume for storage than where both holder pieces are of substantially the same length. In one embodiment, for example, the base **24** is about 25-50%, and most preferably about 40% percent longer than the cap **22**.

(24) The container **20** may have a variety of configurations. As one example, for a container **20** having a length of 76.27 mm and a width/diameter of 31.83 mm, the base **24** may have a length of 63.35 mm, with the reduced dimension portion **36** having a length of 25 mm. The raised ring **50** may be 2.3 mm in width and have a height of 1.08 mm and be positioned 11.74 mm from the open end **28a** and 13.06 mm from step or ledge **38**. The height of the step or ledge **38** may be about 2.42 mm and the generally planar area **44** of the base **24** may measure 14.48 mm in width. The cap **22** may be 38.11 mm in length and 31.41 mm in width, with the generally planar area **44** having a width of 14.48 mm. The stop or ledge **42** of the cap **22** may be positioned about 26.45 mm from the open end **26a** and have a height of 2.58 mm. The groove **52**, also formed in the interior surface of the cap **22** may have a width of 2.36 mm and a central depth of approximately 0.44 mm. The centerline of the groove **52** may be about 13.10 mm from the open end **26a** of the cap **22**. The thickness of the walls **30,32** may be about 1.22 mm, except in the reduced dimension section **36** and inset area **40**.

(25) In one embodiment, the container **20** may be configured in different sizes, such as illustrated in FIG. **9a-d**, such as to provide differing holder volumes, meeting the varying storage and transport requirements of the user. Such volumes might be configured, for example, to allow a user to store a number of medicants, such as pills, for one day, a few days, several days, or a week:

(26) TABLE-US-00001 Length (inches) Width (inches) L1 1.200 W1 0.434 L2 2.000 W2 0.620 L3 2.250 W3 0.879 L4 3.000 W4 1.250

(27) In this regard, the container **20** is preferably configured so that the interior area **34** will accept therein one or more, and preferably a plurality of, pills (which pills may have a variety of shapes and sizes, and may have tablet, capsule or other configurations, such as is well-known in the art

relative to existing medicants).

(28) The container **20** of the invention has a number of advantages and may have other configurations or features.

(29) As described, one or both ends of the container **20** (as defined by the closed end **26b** of the cap **22** and the closed end **28b** of the base **24**) may be generally hemispherical, such as to provide greater mechanical resistance to deformation and to present smooth exterior surfaces to the user and for storage (such as to facilitate location of the container **20** into a pocket or the like). In one embodiment, however, and as illustrated in FIGS. **7** and **8**, at least one end of the container **20**, such as the closed end **28b** of the base **24**, may define a generally flat portion **54** (such as a generally circular-shaped planar end which lies in a plane which is generally perpendicular to a centerline through the container **20** from end-to-end, such as to permit the container to sit upright on a support surface (such as a counter, a shelf of a medicine cabinet, etc.).

(30) As described above, in one embodiment, the raised ring **50** and groove **52** are preferably formed about the entire circumference of the base **24** and cap **22**. Their respective lateral positions are so located on the cap and body that mating occurs upon the extension terminus of the base **24** reaches the step or ledge **42** inside the cap **22**. Full insertion also places the open end **26a** of the cap **22** against the step or ledge **38** of the base **24**. This (along with engagement of the ring and groove), prevents inadvertent separation or opening of the container **20**, assists in forming a water resistant connection, and opening the joined pieces likely requires motor skills that exceeds the abilities of most children.

(31) In one embodiment, as illustrated in FIG. **9a-d**, at least one portion of the container **20** may include an identifier, such as a visual identifier, and preferably a color. In one embodiment, the base **24** may include a color identifier, such as where the bases **24** of different sized containers **20** comprises a different color identifier (such as colors C1, C2, C3 and C4 for the different sized containers in this example). The color indicators may be defined by a color of the molded polyethylene or other material, for example). The color indicator allows a user to more easily identify the different sized pill containers **20**, such as when selecting a particular sized container **20** for a particular use (such as from a group of the containers having different sizes).

(32) Further, at least one other portion of the container **20**, such as the cap **22**, may be generally transparent, thus allowing the user to see through the cap **22** into the interior **34** of the container **20**. This allows a user to see, for example, the pills (or other contents) which are inside the container **20**. Of course, in other embodiments, the generally transparent area might be a portion of the container **20**, such as a window.

(33) It will be understood that the above described arrangements of apparatus and the method there from are merely illustrative of applications of the principles of this invention and many other embodiments and modifications may be made without departing from the spirit and scope of the invention as defined in the claims.

Claims

1. A personal use container comprising: a cap comprising a wall having an exterior and an interior, said cap having a first open end and a second closed end, an inset area extending inwardly from said first open end into said interior and defining a step in said interior, and a groove located in said inset area; and a base comprising a wall having an exterior and an interior, said base having a first open end and a second closed end, a reduced dimension portion extending along a portion of said exterior to a step, and a ring extending outwardly from said reduced dimension portion; wherein a length of said base from said first open end to said second closed end is longer than a length of said cap from said first open end to said second closed end thereof; and wherein said reduced dimension portion of said base is configured to be positioned in said inset area of said cap with said ring located on said base located in said groove of said cap, whereby said exterior of said wall of said

cap is coplanar with said exterior of said wall of said base when said end of said wall of said cap abuts said step of said base, and said cap and base cooperate to define a generally closed and sealed interior space configured to hold one or more personal items; wherein said closed end of said cap and said closed end of said base are generally hemispherical in shape and said closed end of at least one of said cap and base has a flat area configured to allow said personal use container to be positioned upright on a support surface, and wherein when said cap and base are connected said personal use container has a first end and a second end and a middle section, said middle section being generally cylindrical in shape, at least a portion of said middle section being generally planar to inhibit rolling of said personal use container when located on said support surface.

2. The personal use container in accordance with claim 1, wherein said base comprises a first visual color indicator.

3. The personal use container in accordance with claim 2, wherein said cap is generally transparent.

4. The personal use container in accordance with claim 1, wherein when said cap and base are connected, an end of said wall of said base abuts said step in said interior of said cap and an end of said wall of said cap abuts said step at said exterior of said base.

5. A plurality of personal use containers comprising: a first personal use container comprising: a first cap comprising a wall having an exterior and an interior, said first cap having a first open end and a second closed end, an inset area extending inwardly from said first open end into said interior and defining a step in said interior, and a groove located in said inset area; and a first base comprising a wall having an exterior and an interior, said first base having a first open end and a second closed end, a reduced dimension portion extending along a portion of said exterior to a step, and a ring extending outwardly from said reduced dimension portion; wherein said reduced dimension portion of said first base is configured to be positioned in said inset area of said first cap with said ring located on said first base located in said groove of said first cap, whereby said first cap and first base cooperate to define a generally closed and sealed interior space configured to hold one or more personal uses, and wherein said first personal use container has a first length, a first width and said interior space has a first volume, and wherein at least a portion of said first personal use container includes a first color identifier; and a second personal use container comprising: a second cap comprising a wall having an exterior and an interior, said second cap having a first open end and a second closed end, an inset area extending inwardly from said first open end into said interior and defining a step in said interior, and a groove located in said inset area; and a second base comprising a wall having an exterior and an interior, said second base having a first open end and a second closed end, a reduced dimension portion extending along a portion of said exterior to a step, and a ring extending outwardly from said reduced dimension portion; wherein said reduced dimension portion of said second base is configured to be positioned in said inset area of said second cap with said ring located on said second base located in said groove of said second cap, whereby said second cap and second base cooperate to define a generally closed and sealed interior space configured to hold one or more personal uses, and wherein said second personal use container has a second length, a second width and said second interior space has a second volume, and wherein at least a portion of said second personal use container includes a second color identifier, said second length exceeding said first length, said second width exceeding said first width, said second volume exceeding said first volume, and said second color identifier being different than said first color identifier.

6. The plurality of personal use containers in accordance with claim 5, wherein said first personal use container has a first end and a second end and said second personal use containers has a first end and a second end, and wherein at least one end of each of said first and second personal use containers is generally flat.

7. The plurality of personal use containers in accordance with claim 5, wherein at least a portion of the first cap or first base between said first and second ends thereof is generally planar and wherein at least a portion of said second cap or second base between said first and second ends thereof is

generally planar.

8. The plurality of personal use containers in accordance with claim 5, wherein said at least a portion of each of said first and second personal use containers is generally transparent.

9. The plurality of personal use containers in accordance with claim 5, wherein said first personal use container has a first end and a second end and a middle portion, said middle portion being generally cylindrical in shape.

10. The plurality of personal use containers in accordance with claim 9, wherein at least one of the first and second ends of said first personal use container is generally hemi-spherical in shape.
