PORTABLE ELASTIC PILL CONTAINER

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Applied No.: 13/764,714

Filed: Feb. 11, 2013

Related U.S. Application Data

Provisional application No. 61/597,094, filed on Feb. 9, 2012.

Publication Classification

Int. Cl. A45F 5/00 (2006.01)
U.S. Cl. CPC: A45F 5/00 (2013.01)
USPC: 224/219

ABSTRACT

An elastic wristband including a strap and an elastic receptacle for receiving a plug. The plug includes a cavity for holding one or more pills and is configured to fit into the receptacle of the wristband in a water-tight manner.
Figure 4
Figure 11
PORTABLE ELASTIC PILL CONTAINER

BACKGROUND

[0001] Many patients need medications on an urgent basis upon the occurrence of specific symptoms that cannot necessarily be predicted or timed. For example, taking an aspirin during or immediately after a stroke or heart attack can help mitigate the damage caused by such events. Medication in pill form is not always easily accessible, even when placed nearby in a house, car, purse, or briefcase.

SUMMARY

[0002] The present invention provides a solution to the need for a readily accessible pill receptacle by providing a slip-on, durable, and comfortable pill container with its own pill receptacle that is waterproof and easy to open. The present pill container comprises a wristband formed from an elastic material and a plug. The wristband includes a longitudinal strap, a receptacle integrally molded with the strap and connected at opposing lateral ends to respective longitudinal ends of the strap, and an inwardly extending, horizontal, circumferential rim in the lower end of the receptacle. The plug includes an upper flange, a lower flange, and an inner receptacle for containing pills. The upper flange is a circumferential, outwardly extending flange on the upper end of the plug and is sized to form a friction fit with the inner surface of the wristband receptacle. The lower flange is a circumferential, outwardly extending flange on the lower end of the plug and has an upper surface designed to contact the lower surface of the rim of the wristband when the plug is inserted into the wristband receptacle. The receptacle of the plug includes a lower surface and upwardly extending inner walls, which together form the inner surface of the plug.

[0003] Preferably, the inner surface of the wristband receptacle and the lateral surface of the upper flange of the plug form a water-tight seal. The wristband and plug can in some embodiments be formed from the same material, such as silicon, but in other embodiments the plug can be formed from a different and/or inelastic material. In yet another embodiment, the wristband can further comprise a fastener between the first end and second end of the longitudinal strap, in the manner of a wristwatch.

FIGURES

[0004] FIG. 1 is a top perspective view of an embodiment of the present pill container.
[0005] FIG. 2 is a bottom perspective view of the pill container of FIG. 1.
[0006] FIG. 3 is a sectional view along line 3-3 of FIG. 1.
[0007] FIG. 4 is an exploded side elevation view of the pill container of FIG. 1.
[0008] FIG. 5 is a sectional view along line 5-5 of FIG. 4.
[0009] FIG. 6 is a side elevation view of the plug used with the pill container of FIG. 1.
[0010] FIG. 7 is a perspective view of the plug used with the pill container of FIG. 1.
[0011] FIG. 8 is an exploded perspective view of another embodiment of the present pill container including a purse strap.
[0012] FIG. 9 is an exploded side elevation view of the pill container of FIG. 7.
[0013] FIG. 10 is a top plan view of the pill container of FIG. 7.

DESCRIPTION

Definitions

[0014] As used herein, the following terms and variations thereof have the meanings given below, unless a different meaning is clearly intended by the context in which such term is used.
[0015] “Down,” “downward,” and “below” refer to a direction which is toward a support surface on which the present device or a component thereof is placed when in use, such as on the skin of a subject. “Up,” “upward,” and “above” refer to the opposite direction, i.e., away from a support surface such as the skin of a subject.
[0016] “Flange” refers to a protruding rim, edge, or collar used to attach a component of the present device to another object.
[0017] “Horizontal” refers to an orientation extending toward or away from a central axis of a component, and generally approximately parallel to a support surface on which the component is supported when in use, such as on the skin of a subject. “Vertical” refers to an orientation parallel to the central axis of a component and extending toward or away from a support surface.
[0018] “Lower” refers to the relative position of a component of the present apparatus which is closer to or toward a support surface on which the present apparatus is placed when in use, such as on the skin of a subject. “Upper” refers to the relative position of a component in which is further from a support surface such as the skin of a subject.
[0019] “Outward” and “outwardly” mean in a direction away from the horizontal or vertical center of the apparatus or of a component part of the apparatus. “Inward” and “inwardly” mean in a direction toward the horizontal or vertical center of the apparatus or of a component part of the apparatus.
[0020] “Plug” refers to a component for closing an opening in a structure or component of a device.
[0021] “Receptacle” refers to a structure or component of a device comprising a space for receiving and holding an object or another structure or component of the device.
[0022] “Wristband” refers to a length of flexible material, generally used to secure another component.
[0023] “Wristband” refers to a length of flexible material which is designed to encircle the wrist of a subject.
[0024] The term “comprise” and variations of the term, such as “comprising” and “comprises,” are not intended to exclude other additives, components, integers or steps. The terms “a,” “an,” and “the” and similar referents used herein are to be construed to cover both the singular and the plural unless their usage in context indicates otherwise.

Pill Container

[0025] The present invention is a portable container for carrying medication in a water-tight, quickly accessible manner so that critical medications can be accessed when needed. The container is in the form of a bracelet or wristband with a pop-open lid (plug) facing a user’s the wrist. The invention allows a user quick and immediate access to pill(s) in the
device by simply pulling the plug away from the wristband in order to reveal the contents of the plug. Current alternative products designed to hold pills typically have an enclosure system in which the pills would need to be accessed by rotating a threaded cap or unlatching a more complicated enclosure system cover, which may be problematic for individuals in an emergency or who have decreased function in their fingers due to arthritis. This device features the added benefit to the user of simply needing to pull a plug from the wristband, thus greatly reducing the time needed to access medication, which in the case of an emergency can make a significant difference in the effectiveness of the product.

[0028] The present device generally comprises a wristband portion 5 and a plug 20. The wristband portion includes a base strap 3 and a receptacle 8 for receiving the plug 20. At least the receptacle portion 8 of the wristband 5 is made from a material which is elastic and can hold the plug 20, thereby serving as a “negative” flange/gasket. Preferably, the strap 3 and receptacle 8 are formed from the same material and are integrally molded. The material used for both the wristband 5 and plug 20 should be appropriate for being worn on the body, such as silicon. The plug 20 can be formed from a similarly elastic material, or alternatively can be formed from an inelastic material, preferably also a polymer, in order to better protect a pill or other medication inside the plug. The use of an inelastic material for the plug 20 is preferred when a water-tight seal is desired in the present device 1. The nature of the inelastic material of the wristband portion 20 allows the strap 3 to stretch in order to allow the plug 20 to be inserted into the receptacle 8 and then snap back to its original shape, thereby creating and sustaining a tight, waterproof connection between the plug 20 and the receptacle 8. For purposes of the present disclosure, “waterproof” and “water-tight” refer to the ability of the present device to prevent the ingress of water into the plug receptacle 30 where pills are stored when the present device 1 is exposed to water, such as rain or a flow of water from a faucet or shower, at normal atmospheric pressure. In preferred embodiments, the present device is able to prevent the ingress of water in the plug receptacle 30 when the device 1 is submerged in 3 feet or less of water for up to 30 minutes.

[0029] As shown in FIGS. 1-5, strap 3 of the wristband 5 is attached at a first longitudinal end 2 to the receptacle portion 8, in this case to one lateral side of the receptacle 8, while the second longitudinal end 3 is attached to another portion of the receptacle 8, in this case to the opposite lateral side of the receptacle 8. Attachment in the illustrated embodiments is accomplished due to the integral molding of the strap 3 and receptacle 8 of the wristband 5, although attachment by other means is also possible.

[0030] The receptacle 8 comprises a cover portion 12 which covers the opening 32 of the receptacle 30 of the plug 20. The cover 12 has an upper surface 17 and a lower surface 11, which is in the interior portion of the receptacle 8. The lower surface 11 extends circumferentially downwardly to form a lateral interior surface 15 in the interior cavity 9 of the receptacle 8, which is shaped to contact and form a friction fit, preferably in a water-tight manner, with the upper surface 25 of the plug 20. The receptacle portion 8 further includes an inwardly extending, horizontal, circumferential flange or rim 14 having a lower surface 13 at the lower end of the receptacle 8, adjacent the longitudinal ends 2 and 3.

[0031] As shown in FIGS. 3-7, the plug 20 comprises an upper end 22, a lower end 24, and a medial portion 26 therembetween. The upper end 22 includes a circumferential, outwardly extending upper flange 25 having an upper surface 21. The lower end 24 includes a circumferential, outwardly extending lower flange 27 having an upwardly facing upper surface 29 and a lower surface 23 forming the lower surface of the plug 20. Within an opening 32 at the upper end 22 of the plug 20 is a plug receptacle 30, which can be designed to hold a single pill or multiple pills. The receptacle 30 comprises a lower surface 31 and a wall or walls 35 which extend upwardly from the lower surface 31, which together form the interior surface of the plug receptacle 30.

[0032] The outer surface of the upper flange 25, preferably including upper surface 21, is designed to contact the lateral interior surface 15 in the interior cavity 9 of the receptacle 8 and/or the lower surface 11 of the cover portion 12 of the receptacle 8. The upper surface 29 of the lower flange 27 is also configured to contact the lower surface 13 of the lower rim 14 of the receptacle 8. The elastic receptacle 8 is preferably sized so that the fitting features of the plug 20 are slightly larger than the corresponding features of the receptacle 8, so that when force is placed on the receptacle 8 by the placement of the plug 20 within the receptacle 8, and when such force is then relaxed to allow the elastic material of the receptacle 8 to return toward its shape prior to being stretched, the elastic material of the receptacle 8 then continues to exert pressure on at least some corresponding structures of the plug 20 with which it comes into contact, such as the lateral surface 28 of the upper flange 25 thereby allowing a seal between the plug 20 and the receptacle 8 to be formed. This allows pills or other materials to be retained within the plug receptacle 30, and preferably also prevents the ingress of water.

[0033] In addition to containing one or more pills, the present device 1 can be used to contain powders or other items, such as small keepsakes. In other embodiments, the strap 3 can comprise a plurality of receptacles 10. While it is preferred that a user wear the present device 1 on the wrist, another usage of the present device 1 is also possible, such as a wearing it on an ankle or around the neck of a user. Alternatively, the present device 1 can be attached to other products such as purse straps or handles, belt loops, key chains, zippers, backpacks, clothing, zippers, or fixtures such as laptops, desk accessories, or nightstands.

[0034] An alternative embodiment of the present device 1 is shown in FIGS. 8-11. The receptacle 8 in this embodiment differs from that of the embodiment of FIGS. 1-5 in comprising an outer surface 17 formed in a decorative manner, in this case in the shape of a heart. The ends 2, 4 of the strap 3 are also attached more closely than in the embodiment of FIGS. 1-5.

[0035] When a user wants to access one or more pills inside the present device, the user need only grasp the lower flange 27 and pop-open the wristband receptacle 10 to reveal the plug receptacle 30 containing the pill(s). The elastic nature of the strap 3 facilitates access to the lower flange 27 and other parts of the plug 20, and/or removal of the device 1 when the access to pill(s) is desired. The upper surface 17 of the elastic wristband receptacle 10 can alternatively or additionally be pulled or pinched to separate the plug 20 from the receptacle 10.

[0036] The term “comprise” and variations of the term, such as “comprising” and “comprises,” are not intended to exclude other additives, components, integers or steps. The terms “a,” “an,” and “the” and similar referents used herein are to be construed to cover both the singular and the plural unless their usage in context indicates otherwise.
Although the present invention has been described in considerable detail with reference to certain preferred embodiments, other embodiments are possible. The steps disclosed for the present methods, for example, are not intended to be limiting nor are they intended to indicate that each step is necessarily essential to the method, but instead are exemplary steps only. Therefore, the scope of the appended claims should not be limited to the description of preferred embodiments contained in this disclosure.

What is claimed is:

1. A portable elastic pill container comprising:
   (a) a wristband formed from an elastic material, the wristband comprising:
      a longitudinal strap having a first end and a second end; a receptacle integrally molded with the strap, the receptacle having an upper end, a lower end, an inner surface, an outer surface, a first lateral side, and a second lateral side, wherein the first lateral side is connected to the first end of the strap and the second lateral side is connected to the second end of the strap; an inwardly extending, horizontal, circumferential rim in the lower end of the receptacle, the rim having an upper surface and a lower surface; and
   (b) a plug having an upper end, a lower end, an inner surface, a lateral surface, and an outer surface, comprising:
      a first circumferential, outwardly extending flange on the upper end of the plug, wherein the first flange is sized to form a friction fit with the inner surface of the wristband receptacle;
      a receptacle for containing pills, the receptacle having a lower surface and upwardly extending inner walls, the lower surface and walls together forming the inner surface of the plug, wherein the receptacle is covered by the upper end of the wristband receptacle;
      a second circumferential, outwardly extending flange on the lower end of the plug, the second flange having an upper surface and a lower surface, wherein the upper surface of the second flange contacts the lower surface of the rim of the wristband when the plug is inserted into the wristband receptacle.

2. The pill container of claim 1, wherein the inner surface of the wristband receptacle and the lateral surface of the first flange of the plug form a water-tight seal.

3. The pill container of claim 1, wherein the plug is formed from an inelastic material.

4. The pill container of claim 1, further comprising medication within the receptacle of the plug.

5. The pill container of claim 1, wherein the wristband and plug are formed from the same material.

6. The pill container of claim 1, wherein the wristband and plug are formed from silicon.

7. The pill container of claim 1, wherein the wristband further comprises a fastener between the first end and second end of the longitudinal strap.

8. The pill container of claim 1, wherein the first lateral side and the second lateral side of the wristband receptacle are opposite each other.

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