ABSTRACT

A tool pouch and tool holder attached to the tool pouch, the tool pouch having a front, rear, sides, and bottom forming a pouch cavity, the bottom having an aperture bounded by a fastening structure disposed and dimensioned to allow liquids to egress the pouch cavity through one or more openings in the fastening structure. It is emphasized that this abstract is provided to comply with the rules requiring an abstract that will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. 37 C.F.R. §1.72(b).
TOOL POUCH HAVING DRAIN

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates to containers and, in particular, this invention relates to containers for such items as tools and fasteners and which have openings allowing fluid drainage.

[0003] 2. Background

[0004] Pouches for holding tools and other items such as fasteners and electrical and plumbing components are widely used. These pouches are often components of tool belts or structures attaching to such items as saws, horses, and vehicles. In use, these pouches store tools and other items to provide ready access to persons engaged in construction and repair activities. Depending on the use and preference of the user, these pouches are often impermeable, or only slowly permeable, to fluids. Occasionally fluids such as precipitation or spilled liquids enter these pouches, thereby resulting in tools and other items with wet and slippery surfaces and which are thus undesirable or inefficient to grasp and use. In order for a pouch to be dried, the contents must be emptied, the pouch then inverted to drain the liquid, and the remaining liquid allowed to evaporate. Upon being dried, the contents of the pouches must then be replaced before the pouches can be used for their intended purpose.

SUMMARY OF THE INVENTION

[0005] This invention substantially meets the aforementioned needs of the industry by providing a pouch and tool holder which will drain liquids from its cavity and which will enhance drying of its cavity without being first emptied of its contents and inverted.

[0006] In one embodiment, this invention provides a tool pouch, the tool pouch comprising a front, rear, left side, right side, and bottom defining a tool pouch cavity, the bottom including an opening and a reinforcing structure affixed to the bottom peripherally about the opening and positioned to drain the pouch cavity. The reinforcing structure may include a grommet, a ventilator, or other equivalent structure. A plurality of openings and reinforcing structures may be present in some embodiments. One or more of the front, rear, left side, right side, or bottom may be formed by a single panel. The panel and/or reinforcing structure may be substantially flexible or substantially inflexible. This invention may further provide a belt used in combination with the tool pouch described herein. This invention may yet further provide for attachment of the instant pouch to a structure such as a saw, sawhorse, or another structure not normally worn by a user.

[0007] In another embodiment, this invention provides a method of manufacturing a tool pouch having a front, rear, left side, right side, and bottom to define a pouch cavity. The method may include forming an aperture in the bottom of the pouch and securing a reinforcing structure about the aperture.

[0008] In yet another embodiment, this invention may provide a method of draining a tool pouch having front, rear, left side, right side, and bottom partitions defining a tool pouch cavity, a reinforcing structure disposed peripherally about an opening in the bottom partition to form a drain, the method may include ingressing fluid into the pouch cavity and egressing the fluid from the pouch cavity through the drain.

[0009] One feature of the tool pouch of this invention is the presence of a reinforcing structure disposed about an opening at the bottom of the tool pouch. One advantage of the foregoing feature is to allow fluids to drain from the tool pouch through the reinforcing structure without the necessity of inverting the tool pouch. Another advantage of the foregoing feature is enabling enhanced fluid (e.g., air) exchange between the pouch and the ambient air, thereby enhancing evaporation of fluid from within the pouch cavity.

[0010] Another feature of the tool pouch of this invention is that the reinforcing structure may include a ventilator having a plurality of openings or a grommet having a single opening. One advantage of the foregoing feature is that the number and size of the openings may be varied so that virtually any item present in the instant pouch, regardless of dimension, will be retained and not inadvertently dropped from the pouch through the reinforcing structure during use. Another advantage of the foregoing feature is that the rate of drainage and fluid exchange can be predetermined and thereby optimized to accommodate pouch dimensions and the rate at which the interior of the pouch cavity is dried.

[0011] These and other features and advantages of this invention will become apparent from the description which follows when considered in view of the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a perspective view of a first embodiment of the tool holder of this invention.

[0013] FIG. 2 is a perspective view of one embodiment of the reinforcing structure of this invention.

[0014] FIG. 3 is a perspective view of another embodiment of the tool holder of this invention.

[0015] FIG. 4 is a perspective view of another embodiment of the reinforcing structure of this invention.

[0016] FIG. 5 is a perspective view of yet another embodiment of the tool holder of this invention.

[0017] FIG. 6 is a perspective view of still another embodiment of the tool holder of this invention.

[0018] It is understood that the above-described figures are only illustrative of the present invention and are not contemplated to limit the scope thereof.

DETAILED DESCRIPTION

[0019] Any references to such relative terms as front and back, right and left, top and bottom, or the like, are intended for convenience of description and are not intended to limit the present invention or its components to any one positional or spatial orientation. All dimensions of the components in the attached figures may vary with a potential design and the intended use of an embodiment of the invention without departing from the scope of the invention.

[0020] Each of the features and methods disclosed herein may be utilized separately or in conjunction with other features either depicted or which are equivalent in the art and methods to provide improved devices of this invention and methods for making and using the same. This description is merely intended to teach a person of skill in the art exemplary details for practicing aspects of the present invention and is not intended to limit the scope of the invention.
Therefore, combinations of features and methods disclosed in the following detailed description may not be necessary to practice the invention in the broadest sense and are instead taught merely to particularly describe representative embodiments of the invention.

[0021] One embodiment of a tool holder of this invention is shown in FIG. 1 at 100 and includes an exemplary belt 102 and pouch assemblies 104, 106, and 108. The belt 102, in the embodiment depicted, has outer and inner straps 114 and 116, respectively. The inner strap 114 may have a strap member 120 fitted with a buckle 122 at a first end thereof; the strap member 120 also having a plurality of holes 124 proximate the other end, which are dimensioned and disposed to accommodate the buckle to thereby securely fasten the strap about a user. In place of the buckle depicted, a side release buckle or other equivalent fastener such as a hook and loop mechanism may be suitable for some embodiments. The inner strap 116 may also include a fastener such as the buckle 122, as well as a side release buckle, hook and loop mechanism, or other equivalent structure.

[0022] The pouch assembly 104 has respective first, second, and third pouches 128, 130, and 132. Each of the first, second, and third pouches 128, 130, and 132, in turn, include a front panel (partition) 134, 136, and 138, a back panel (partition) 140, 142, and 144, a left side panel (partition) 146, 148, and 150, a right side panel (partition) 152, 154, and 156, and a bottom panel (partition) 158, 160, and 162. The front, back, left side, right side, and bottom panels of each pouch cooperate to define a pouch cavity 163, wherein tools, fasteners, and the like may be stored for convenient use and retrieval when the tool holder 100 is being used. While each of the front, back, left side, right side, and bottom panels are depicted as being separate pieces joined together, two or more of these panels may, in fact, be fashioned from a single piece of material. Each of the bottom panels 158, 160, and 162 defines an aperture 164 (not shown) and a reinforcing structure, such as a ventilator 166 secured to each of the bottom panels 158, 160, and 162 about the aperture 164. As best seen in FIG. 2, the ventilator 166, when mounted, includes a peripheral ring 168 and ventilator plate 170, the ventilator plate 170 having a plurality of plate apertures 172. Each of the other pouch assemblies 106 and 108 may include pouches constructed similarly to one of the pouches 128, 130, or 132, or otherwise as described above. While two or more pouches are depicted as present in each of the pouch assemblies 104, 106, 108, it is understood that a single pouch may be present or that four or more pouches may be present in other embodiments. It is also understood that a top panel (not shown) or strap (not shown) may also be present to secure items stored within each of the pouches of this invention. While described above is being used to store tools, connectors, and the like, it is further understood that the pouches of this invention may also be used to store other items, such as, but not limited to, eyeglasses, safety glasses, cellular telephones, canteens, apparel, weaponry, ammunition, fishing tackle, wallets, maps, and keys.

[0023] Referring to FIG. 3, another pouch assembly 176 has respective first, second, and third pouches 178, 180, and 182. The pouches 178, 180, and 182 may be constructed similarly to the pouches of this invention as described above. However, the bottom panels of the pouches 178, 180, and 182 define apertures (not shown) and have reinforcing structures such as grommets 184 secured to the bottom panels about the apertures. As shown in FIG. 4, the grommet 184 may include a peripheral ring structure 186. In addition to, or in place of, ventilators and grommets, other reinforcing structures suitable for some embodiments of this invention may include stitching about, and proximate to, the apertures, as well as a laminate or coating formed from a suitable synthetic resin such as polyethylene or the like adhered to the material of the bottom panel about the apertures.

[0024] Respective FIGS. 5 and 6 depict additional exemplary embodiments of the tool holder of this invention, generally at 190 and 192. In the embodiments depicted in FIGS. 5 and 6, the belts are attached, and tightened, around either the bucket 194 or the sawhorse 196. However, other structures depicted and described for attaching to these, and other, features are disclosed in U.S. Pat. Nos. 4,356,854, 4,765,472, 4,993,551, 5,639,003, 5,186,329, 5,174,447, 6,085,902, 6,189,697, and 6,938,761, and U.S. Patent Application Publications 2002/0003098 and 2002/0088729, each hereby incorporated by reference.

[0025] As can be seen, a pouch of this invention may include one or more apertures and reinforcing structures at a bottom thereof, or at another location suitable for training fluids therefrom and enabling fluid exchange between the pouch cavity and the environment therearound. Thus, when liquids, such as water from precipitation, paint, varnish, or spilled drinks, enters the pouch cavity, the liquid can drain out of the pouch cavity through the reinforcing structure of this invention. Additionally, the air, or fluid, exchange enabled by the apertures and reinforcing structures present in the pouches of this invention provide for drying the interior of the pouch cavity more quickly after the liquid has drained. By way of illustration, and not limitation, some embodiments of the apertures disposed as described herein may have a cross sectional dimension, e.g., diameter, between about 0.125 and 1.0 inch, between about 0.25 and 0.75 inch, about 0.5 inch, or any range subsumed therein. Additionally, some embodiments of the openings in the reinforcing structures of this invention, e.g., grommets, ventilators, and the like, may be, by way of illustration and not limitation, between about 0.0625 and 0.5 inch, between about 0.125 and 0.25 inch, between about 0.0625 and 0.25 inch, or any range subsumed therein.

[0026] Depending upon the specific requirements and desires of the user, the materials used to form the pouches may be either substantially permeable or impermeable to fluids and may be substantially flexible such as when formed from canvass, nylon, other substantially flexible synthetic resins, and some types of leather or may be substantially inflexible such as when formed from other types of leather and selected generally inflexible synthetic resins. Suitable materials for some embodiments of the pouches of this invention include leather, canvass, nylon, vinyl, polyethylene, and polypropylene. The reinforcing structures of this invention may be substantially flexible or substantially
inflexible as well and materials from which the reinforcing structures of this invention may be formed include metals such as aluminum, steel alloys, and stainless steel, and synthetic resins such as polyvinyl chloride, polyethylene, and polypropylene. Other synthetic resins may be suitable as material for forming the pouches and reinforcing structures of this invention as well and a person of ordinary skill in the art will readily recognize that suitable synthetic resins for other embodiments of the pouches and reinforcing structures may be found in the Handbook of Plastics, Elastomers, and Composites, Charles A. Harper, Editor in Chief, Third Edition, McGraw-Hill, New York, 1996, hereby incorporated by reference.

[0027] In use, tools and other items are placed in pouches such as described herein, the pouches either being components of tool belts or being attachable to other structures not normally donned by a user. The tools and other items are utilized during such activities as construction, repair, and recreation. If fluids spill or precipitate (gress) into the pouch cavity, the liquids then drain (egress) from the pouch cavity through the reinforcing structure present about one or more of the openings in the bottom of the pouch. Moreover, the openings further facilitate drying of the pouch cavity by providing for additional fluid (air) exchange beyond that normally present.

[0028] One exemplary method of manufacturing a pouch of this invention is to define one or more openings in the bottom of the pouch, e.g., by a die, then to install one of the reinforcing structures about the opening, e.g., by compressing the two ventilator or grommet components in a manner and with tools known to the art. Suitable ventilators, grommets, and tools for installing ventilators and grommets may be obtained from DUS Decorator and Upholstery Supply Inc., 501 McNally Road, Pittsburgh, Pa. 15226 and from DIY Upholstery Supply, Horn Lake, Miss. 38637. However, other sources of ventilators, grommets, and tools for installation thereof are readily available to a person of ordinary skill in the art.

[0029] Because numerous modifications of this invention may be made without departing from the spirit thereof, the scope of the invention is not to be limited to the embodiments illustrated and described. Rather, the scope of the invention is to be determined by the appended claims and their equivalents.

What is claimed is:

1. A tool pouch, comprising:
   a front, a rear, a left side, a right side, and a bottom defining a tool pouch cavity, the bottom including an aperture; and
   a reinforcing structure affixed to the bottom peripherally proximate said aperture and positioned to drain said cavity.

2. The tool pouch of claim 1, in which the reinforcing structure includes a grommet or a ventilator.

3. The tool pouch of claim 1, in which a plurality of apertures are present.

4. The tool pouch of claim 1, in which one or more of the front, rear, left side, right side, and bottom is formed by a panel.

5. The tool pouch of claim 4, in which the panel is substantially flexible.

6. The tool pouch of claim 4, in which the panel is substantially inflexible.

7. The tool pouch of claim 4, in which the panel comprises leather, canvas, nylon, vinyl, polyethylene, or polypropylene.

8. The tool pouch of claim 4, in which the reinforcing structure includes a metal or synthetic resin.

9. A tool holder, comprising a belt, the belt attached to the tool pouch of claim 1.

10. A tool pouch, comprising:
    front, rear, side, and bottom partitions; and
    means for draining said tool pouch.

11. A method of manufacturing a tool pouch having a front, a rear, a left side, a right side, and a bottom defining a pouch cavity, the method comprising:
    forming an aperture proximate the bottom; and
    securing a reinforcing structure about said aperture.

12. The method of claim 11, in which the reinforcing structure secured about the aperture is a ventilator or a grommet.

13. The method of claim 12, in which one or more of the front, rear, left side, right side, and bottom is formed from a panel.

14. The method of claim 12, in which a plurality of apertures are formed in the bottom.

15. The method of claim 12, in which one or more of the front, rear, left side, right side, and bottom is formed from a panel comprising leather or a synthetic resin.

16. The method of claim 12, in which the secured reinforcing structure comprises a metal or a synthetic resin.

17. A method of manufacturing a tool holder, comprising:
    forming the pouch of method 12; and
    attaching the pouch to a belt.

18. A method of draining a tool pouch having front, rear, left side, right side, and bottom partitions defining a tool pouch cavity and further comprising a reinforcing structure disposed proximate an opening, the opening proximate the bottom partition to form a drain, the method comprising:
    ingressing fluid into said tool pouch cavity; and
    egressing said fluid through the drain.

19. The method of claim 18, in which said fluid is egressed through a plurality of drains.

20. The method of claim 18, in which the reinforcing structure includes a grommet and in which the fluid is egressed through an opening in the grommet.

21. The method of claim 19, in which the reinforcing structure includes a grommet and in which the fluid is egressed through a plurality of openings in the ventilator.

22. The method of claim 19, in which the reinforcing structure includes a ventilator and in which the fluid is egressed through a plurality of openings in the ventilator.

23. A method of draining a tool pouch having a front, a rear, sides, and a bottom defining a pouch cavity, an opening formed proximate a bottom of the pouch cavity, the opening at least partially covered by a reinforcing structure, the pouch cavity containing a fluid, the method comprising:
    ingressing the fluid into the pouch cavity; and
    step for egressing the fluid from the pouch cavity.

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