



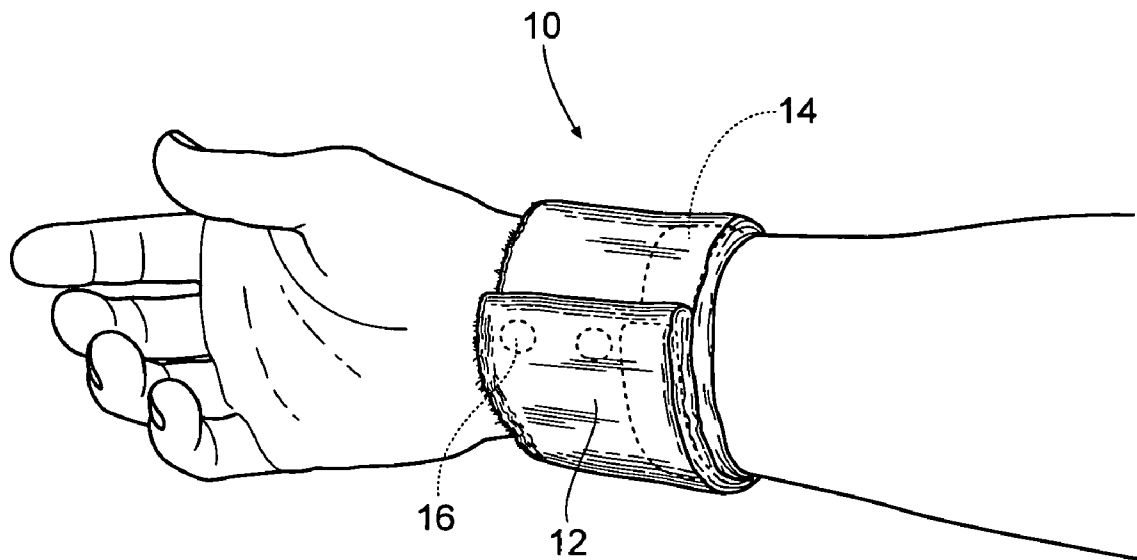
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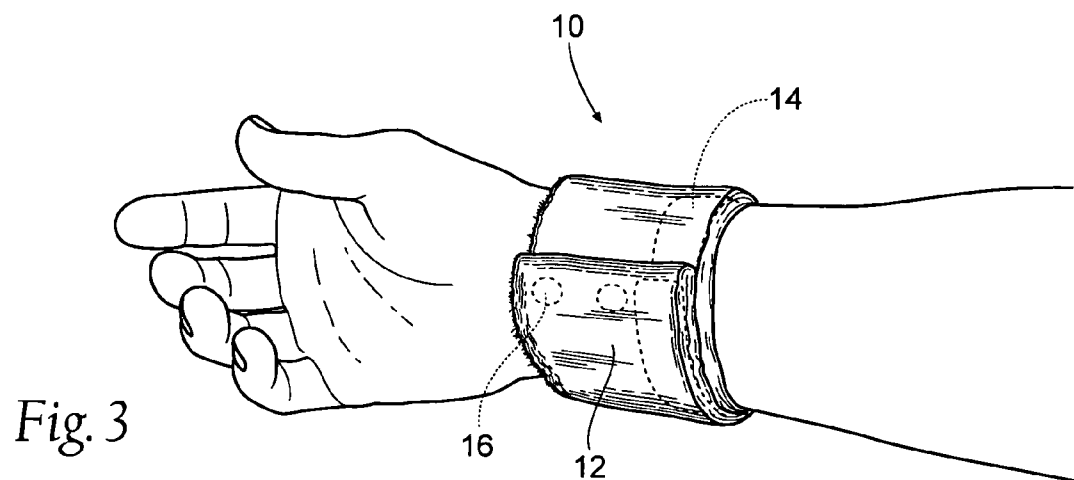
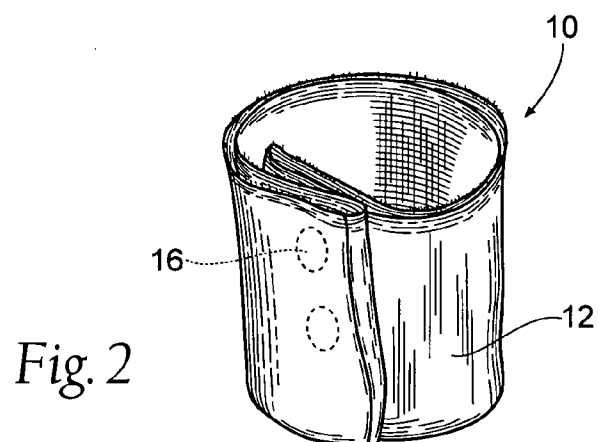
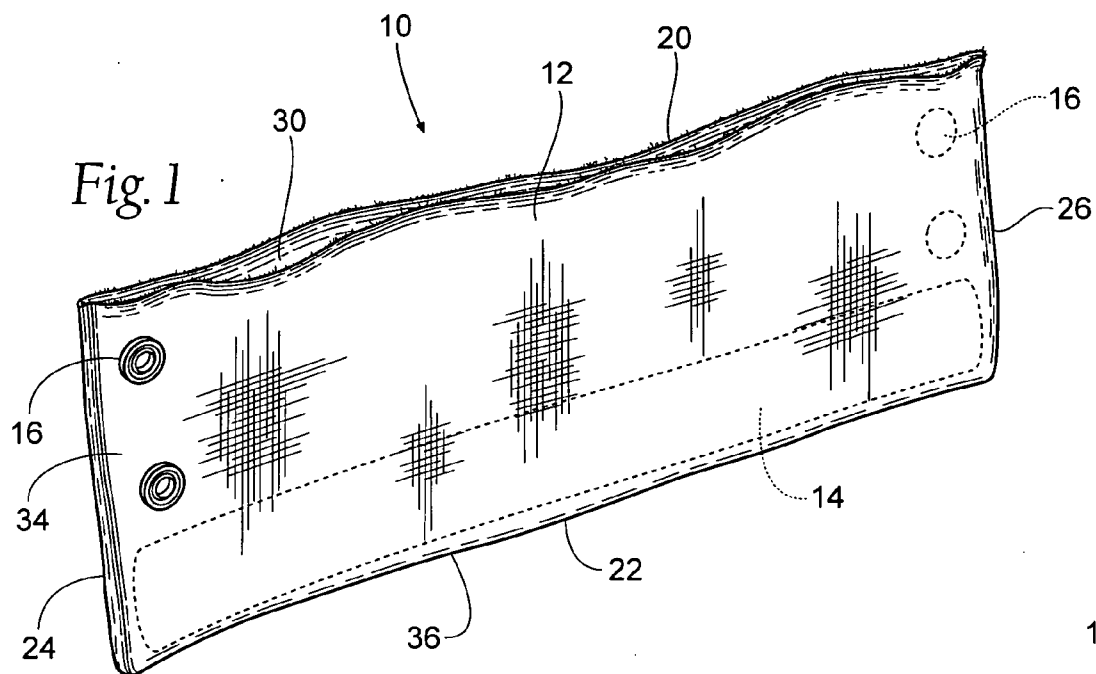
(19) **United States**(12) **Patent Application Publication**
Thrope(10) **Pub. No.: US 2010/0258601 A1**(43) **Pub. Date: Oct. 14, 2010**(54) **SELF-ATTACHING STORAGE DEVICE****Publication Classification**(76) Inventor: **Michael Thrope**, Shaker Heights,
OH (US)(51) **Int. Cl.**
A45F 5/00 (2006.01)(52) **U.S. Cl.** **224/267**(57) **ABSTRACT**

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A self-attaching storage device comprises a storage case having a first edge and a second edge and a third edge and a fourth edge, with at least one edge comprising a fold, the storage case including at least one inner storage space. Sealing means may be included for sealing at least one of the first edge and second edge and third edge and for the edge that is not the at least one edge comprising a fold. A bi-stable ribbon spring is positioned on or in the storage case, the bi-stable ribbon spring adapted to include a stable linear configuration and a coiled configuration. Securing means may be included for securing the storage device in a coiled configuration about a user's limb.

(21) Appl. No.: **12/798,859**(22) Filed: **Apr. 13, 2010****Related U.S. Application Data**(60) Provisional application No. 61/212,549, filed on Apr.
13, 2009.



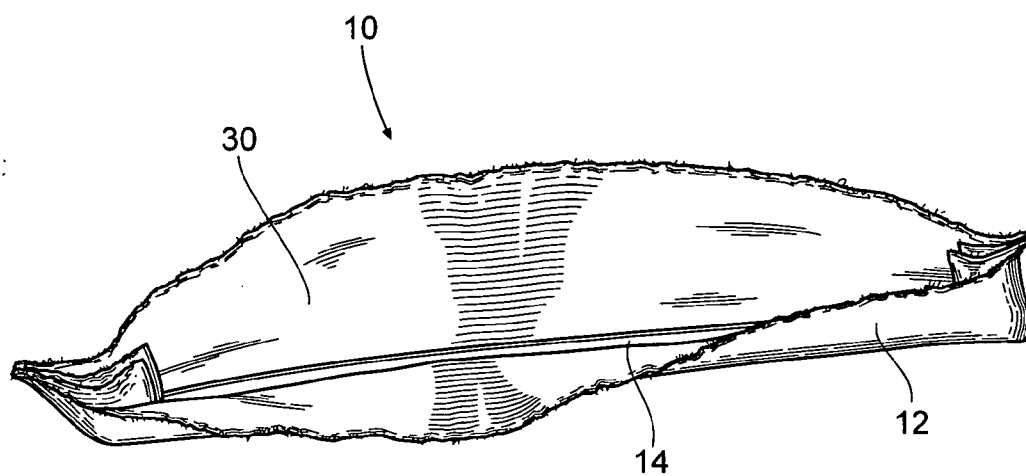


Fig. 4

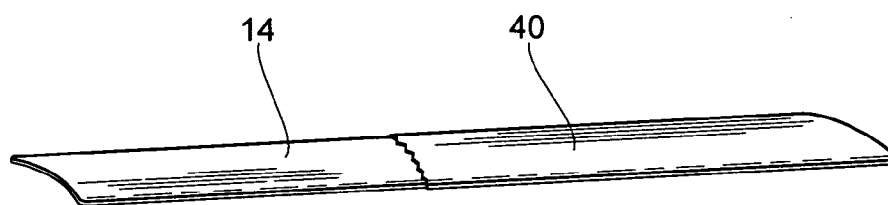


Fig. 5

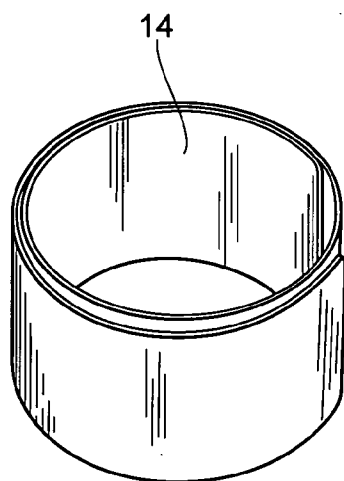


Fig. 6

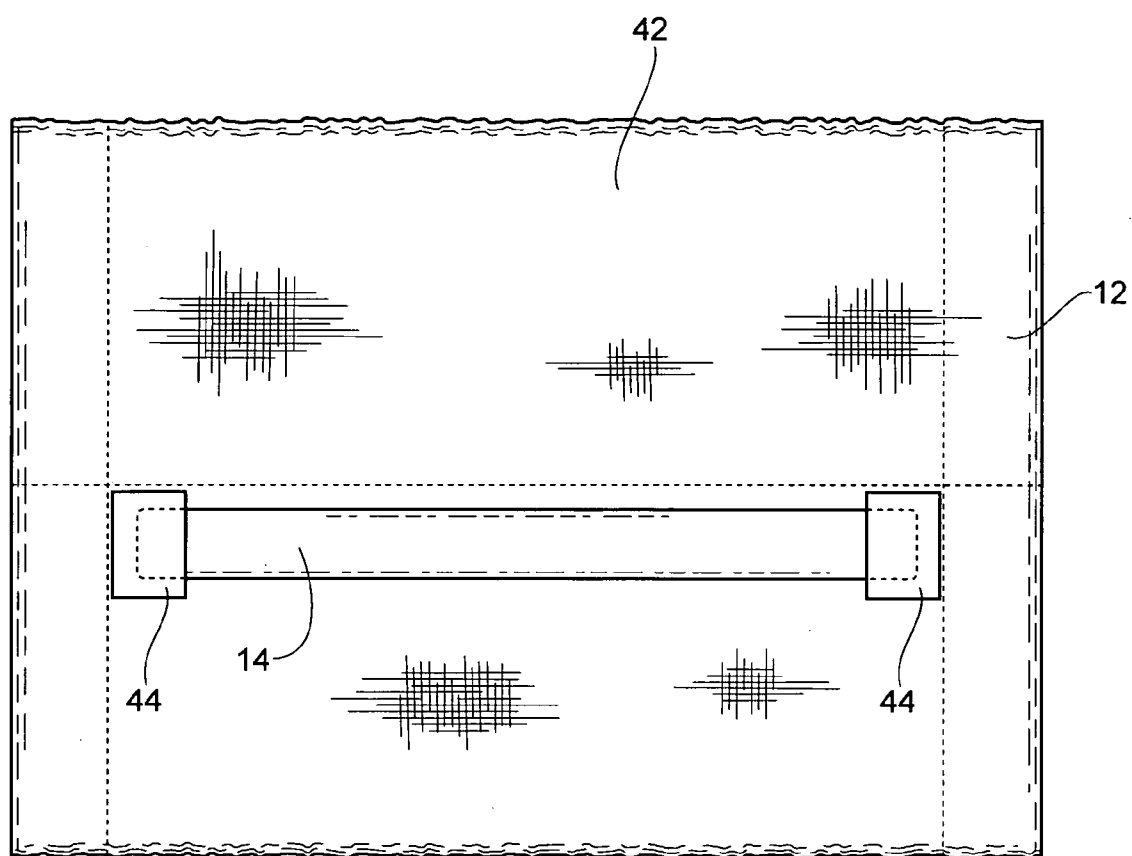


Fig. 7

SELF-ATTACHING STORAGE DEVICE

RELATED APPLICATION

[0001] This application claims the benefit of provisional patent application Ser. No. 61/212,549 filed 13 Apr. 2009.

FIELD OF THE INVENTION

[0002] The invention relates generally to a device for storing personal items, and more particularly to a self-attaching storage device that is adapted to be worn on a limb or waist of a user.

BACKGROUND OF THE INVENTION

[0003] Carrying a conventional wallet can be inconvenient and uncomfortable for people when they are wearing few clothes and/or clothes without pockets. When wearing such clothes many people resort to carrying a conventional wallet in their hands or place the wallet in a position between their clothes and their body. Under such circumstances the conventional wallet is susceptible to being lost, or just inconvenient to carry. Another problem is that the wallet can be damaged by sweat or by immersion in water.

[0004] A wide variety of devices have been used over the years for storing (i.e., carrying) personal items on one's person. For example, wallets and purses have been utilized for decades to carry relatively small personal items such as cash, credit cards, keys, pictures, and change. Such wallets and purses are typically carried by hand, carried with a strap, or placed in a slack or skirt pocket. However, a major disadvantage with such typical wallets and purses is that one may easily lose them through negligence or because they have been stolen.

[0005] In addition, there are many situations when it is desirable to be able to carry a wallet but lack the pockets in which to carry it, or when it is not practicable to carry a purse or other case with a handle or strap. Such situations may occur when a person is swimming, and/or when a person participates in sporting events, such as jogging, snow skiing, basketball, and the like. In many activities, a participant may lack the type of clothing having pockets in which to carry a wallet, yet the person would still like to be able to safely and conveniently carry credit cards, cash, change, car keys, and the like.

[0006] What is needed is a self-attaching storage device that is convenient to use and may be carried by the user, i.e., around a limb of the user, when the user may not be wearing clothing that is adapted to carry a wallet, or purse, or may be participating in an event where it would be inconvenient to carry a wallet, or purse, or the user may just not want to carry a wallet in a pocket or wallet or purse or in their hand, for example. A self-attaching storage device of the present invention would solve these problems.

SUMMARY OF THE INVENTION

[0007] A self-attaching storage device provides an apparatus and methods for storing or carrying items such as cash or keys on a user's body without the use of a pocket.

[0008] The self-attaching storage device of the present invention may be secured around a user's limb by simply "slapping" the storage device against the limb, e.g., a wrist or ankle. The present invention may be placed on the user in a matter of seconds.

[0009] According to one aspect of the invention, the self-attaching storage device comprises a storage case having a

first edge and a second edge and a third edge and a forth edge, with at least one edge comprising a fold, the storage case including at least one inner storage space. Sealing means may be included for sealing at least one of the first edge and second edge and third edge and forth edge that is not the at least one edge comprising a fold. A bi-stable ribbon spring is positioned on or in the storage case, the bi-stable ribbon spring adapted to include a stable linear configuration and a coiled configuration. Securing means may be included for securing the storage device in a coiled configuration about a user's limb.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a perspective view of a self-attaching storage device of the present invention, the storage device in an uncoiled configuration.

[0011] FIG. 2 is a perspective view of the storage device shown in FIG. 1, except in a coiled configuration.

[0012] FIG. 3 is a perspective view of the storage device shown in FIG. 1, except in a coiled configuration about a user's wrist.

[0013] FIG. 4 is a plan view of the storage device shown in FIG. 1, showing the device opened, and showing access to the storage space, and showing a ribbon spring within the storage device.

[0014] FIG. 5 is a perspective view in partial cutaway of the bi-stable ribbon spring in a stable linear configuration, the ribbon spring forming an element of the storage device shown in FIG. 4.

[0015] FIG. 6 is a perspective view of a bi-stable ribbon spring of FIG. 5, showing the ribbon spring in a coiled configuration.

[0016] FIG. 7 is a plan view of a web of material sized and configured to form the storage device of FIG. 1, and showing the ribbon spring and securing means to retain the ribbon spring in a desired location on or within the storage device.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] Although the disclosure hereof is detailed and exact to enable those skilled in the art to practice the invention, the physical embodiments herein disclosed merely exemplify the invention which may be embodied in other specific structures. While the preferred embodiment has been described, the details may be changed without departing from the invention.

[0018] The various aspects of the invention will be described in connection with a self-attaching storage device and methods used to store items and to place the storage device about a limb, the storage device being simply and conveniently "snapped" around a user's wrist or ankle, for example, without the need for a pocket for storage of the items. That is because the features and advantages of the invention are well suited for this purpose. Still, it should be appreciated that the various aspects of the invention can be applied in other forms and used in the preparation of other devices that may also be snapped around a user's body, including a wrist or ankle, for example, such as devices incorporating a watch, or a radio, or a picture, or a phone, as non-limiting examples.

[0019] The present invention comprises a self-attaching storage device 10 used to store items for a user who may not have a pocket or other convenient options to hold or store items on one's body. The term "items" is intended to be

construed broadly, in that the storage device may take on many forms adapted to store many different items such as, but not limited to, cash, coins, keys, phone, comb, credit cards, pictures, time piece, etc.

[0020] As can be seen in the Figures, and specifically referring to FIG. 1, the storage device 10 comprises a generally flat pocket sized foldable case 12 (although other sizes are possible), a bi-stable ribbon spring 14 positioned on or in the case 12, and may include securing means 16 adapted to hold the storage device 10 in a predetermined coiled configuration for secure placement about a wrist, for example (see FIG. 3).

[0021] The storage device 10 may come in a variety of sizes to snap around a portion of a user's body, as will be described later. In one embodiment, the storage device may have a length ranging from about 6 inches to about 10 inches in length, and more particularly about 8 inches in length, or more or less, to snap around a user's wrist, and to allow the securing means 16 (if used) to secure the storage device to the wrist. The storage device 10 may have a height similar to most known wallets or billfolds, such as about 3 inches to about 6 inches, and more particularly about 4 inches in height, or more or less.

[0022] In an alternative example, the storage device 10 may have a length ranging from about 20 inches to about 40 inches in length, and more particularly about 30 inches in length, or more or less, to snap around a user's waist, and to allow the securing means 16 (if used) to secure the storage device to the waist. It is to be appreciated that the size of the storage device may vary depending on the placement of the storage device 10 and the intended purpose of the storage device.

[0023] As seen in FIG. 1, the storage device may comprise a generally rectangular shape and may include a top edge 20, a bottom edge 22, a left edge 24, and a right edge 26. It is to be appreciated that other shapes are contemplated for the invention, including triangular, round, square, and may be symmetrical or non-symmetrical, as non-limiting examples. One or more of the edges 20, 22, 24, 26, may be partially or completely sealed, and one or more of the edges may be partially or completely opened, or openable, to provide access to the inner storage space 30.

[0024] One or more of the edges 20, 22, 24, 26 may comprise a fold. As described below, a web of material 42 may be used to form the case 12. The web 42 may be folded in one or more configurations in order to create (i.e., form) one or more storage areas 30.

[0025] For example, as shown, the top edge 20 is shown open, with the remaining edges 24, 26 being sealed, and 22 being a fold. In an alternative embodiment, a left edge 24 may be open and the remaining edges 20, 22, 26 may be sealed. It is to be appreciated that any combination of edges may be partially or completely open and partially or completely sealed, depending on the shape, size, intended placement, and intended use.

[0026] The edges 20, 22, 24, 26 may be sealed by any sealing methods known in the art, such as, but not limited to stitching, sewing, gluing, welding, sonic welding, heat sealing, buttons, rivets, snaps, zippers, and the like. The case 12 may comprise a variety of known materials, either individually or in combination, such a fabric, leather, plastics, vinyl, screen, and nylon, as non-limiting examples, and may be waterproof.

[0027] It is to be appreciated that additional pockets may also be incorporated into or onto the case 12, so as to provide additional storage separate from the main storage area 30, on

an inner side 34 (the side facing a user's wrist) and/or on an outer side (the side away from the user's wrist), and/or on or in the storage area 30.

[0028] Securing means 16 may or may not be included or used, and may comprise securing means known in the art, such as one or more buttons, snaps, Velcro, magnets, zipper, hooks, and the like. As can be seen in FIG. 1, securing means 16 is shown comprising a first securing means 16 on an inner side 34, and a mating securing means 16 on an outer side 36.

[0029] FIG. 5 shows one embodiment of a bi-stable ribbon spring 14 in a stable linear configuration. The spring 14 may be sized and configured to fit within the case 12. The spring 14 may be made of a metal, although other materials, such as plastics, may also be used. FIG. 6 shows the spring 14 in a coiled configuration.

[0030] The bi-stable ribbon spring 14 may be concave when facing up as shown in FIG. 5. The spring body 12 comprises a bi-stable spring that has two positions of operation or two states of being. The first state is the elongated or stable linear configuration as shown in FIG. 5. In this state the spring body 12 retains potential energy. This potential energy will cause the ribbon spring to coil immediately when the bi-stable ribbon spring body 12 is struck against an object such as a user's wrist. The second state is the coiled state or configuration as shown in FIG. 6. The coiled configuration in FIG. 6 is shown in the form that the bi-stable ribbon spring 12 may take when positioned, i.e., "slapped" on or around a user's wrist. FIGS. 2 and 3 show the storage device in a coiled stable condition, and coiled around a user's wrist.

[0031] The bi-stable ribbon spring 14, when in the linear configuration, may be sized to fit snugly within the case 12, as can be seen in FIGS. 1 and 4. In one embodiment, the ribbon spring 12 may have a length ranging from about 6 inches to about 10 inches in length, and more particularly about 8 inches in length, or more or less, to fit within the case 12. In one embodiment, the width of the bi-stable ribbon spring may be about 0.5 inches to about 1.5 inches in width, and more particularly about 1.0 inches in width, or more or less. It is to be appreciated that these dimensions may vary.

[0032] The bi-stable ribbon spring 14 may be coated with a type of material or covering 40 (see FIG. 5). The coating or covering 14 can be made of various types of materials such as, but not limited to fabric, rubber or plastic. It is desirable for the coating or covering 14 to be water resistant to protect the ribbon spring 14 from rusting and/or contact with the items stored in the storage device 10.

[0033] FIG. 7 shows one embodiment of a laid open web of material 42 used to form the case 12. As can be seen, the ribbon spring 14 may be temporarily or permanently held in place inside, as shown, or alternatively outside, the case 12, by way of one or more restraints 44, with two being shown. The restraints 44 may be positioned at or near the ends of the ribbon spring 14, as shown, or one or more restraints may be positioned closer to the middle of the ribbon spring 14, or any combination or variation of positions are possible. The restraint 44 may comprise a portion of the web of material 44, or the restraint may comprise a separate component that is coupled to the web 44, or the restraint may comprise other means such as gluing, or any combination.

[0034] In use, and for the purpose of explanation, the storage device 10 may initially be in a stable linear configuration as shown in FIG. 1, so as to allow the user access to the inner space 30 to either or both place and/or retrieve items from the

inner space 30. This stable linear configuration provides easy access to the contents of the case (see FIG. 4).

[0035] After the user is through placing or retrieving items from the case 12, the user may close the open edge, such as edge 20, with a zipper or button, for example, although closing the open edge is not a requirement. The user would then hold the storage device transverse to the desired limb where the storage device is to be placed, and then “slap” the storage device 10 on the limb. The ribbon spring 14 on or in the case 12 will transition from the stable linear configuration to a coiled configuration about the limb. The user is then able, if desired, to use the securing means 16 to secure the storage device 10 in a coiled configuration that maintains the coiled shape of the storage device 10 about the user’s limb.

[0036] In order to remove the storage device 10, the user would open, i.e., undo the securing means 16, if used, and grasp an edge, for example, of the storage device and easily pull the storage device off the limb. The user may then hold the storage device in two hands and gently uncoil the storage device 10 (i.e., the coiled ribbon spring 14), until the ribbon spring is transitioned back into its stable linear configuration. The contents of the storage device 10 are now ready to be easily accessed. It is to be appreciated that the storage device does not need to be removed from the user’s limb in order to access the contents of the storage device. Items may be placed into or onto or retrieved from the storage device while in the coiled configuration.

[0037] The foregoing is considered as illustrative only of the principles of the invention. Furthermore, since numerous modifications and changes will readily occur to those skilled

in the art, it is not desired to limit the invention to the exact construction and operation shown and described. While the preferred embodiment has been described, the details may be changed without departing from the invention.

I/we claim:

1. A self-attaching storage device comprising:
 - a storage case having a first edge and a second edge and a third edge and a forth edge, with at least one edge comprising a fold, the storage case including at least one inner storage space,
 - sealing means for sealing at least one of the first edge and second edge and third edge and for the edge that is not the at least one edge comprising a fold,
 - a bi-stable ribbon spring positioned on or in the storage case, the bi-stable ribbon spring adapted to include a stable linear configuration and a coiled configuration, and
 - securing means for securing the storage device in a coiled configuration.
2. A storage device according to claim 1:
 - wherein the storage device is secured around a user’s limb.
3. A storage device according to claim 1:
 - wherein the storage device includes at least one additional storage space in the inner storage space or on the outside of the storage case.
4. A storage device according to claim 1:
 - wherein the bi-stable ribbon spring is held inside or outside the storage case by at least one restraint.
5. A method of using a device as in claim 1.

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