ADJUSTABLE STRAP WITH CARRYING HANDLE

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ABSTRACT
An adjustable strap with an integral carrying handle is disclosed. The adjustable strap comprises a handle, a strap for bundling one or a plurality of articles, a lock/release member for locking and releasing the strap, and an extended portion of the handle for anchoring the lock/release member.
ADJUSTABLE STRAP WITH CARRYING HANDLE

CROSS REFERENCE

[0001] This application is a division application of U.S. application Ser. No. 11/320,929, filed Dec. 29, 2005.

STATEMENT OF FEDERALLY SPONSORED RESEARCH/DEVELOPMENT

[0002] Not applicable.

REFERENCES TO SEQUENCE LISTING

[0003] Not applicable.

BACKGROUND OF THE INVENTION

[0004] The present invention relates to flexible straps. Specifically, the present invention relates to flexible straps with integral handles and releasable locking members for holding and bundling objects and materials to be carried.

BRIEF SUMMARY OF THE INVENTION

[0005] The present invention discloses embodiments of a flexible strap with integral handle including a flexible strap for bundling and tightening objects or material, and a lock/release mechanism, and a handle to carry or hang up the objects or material.

[0006] The present invention provides a novel device for tying objects or material down without having to cut, slice or snip it open. The objects or materials to be bundled and handled include, but are not limited to, regular household objects, office or work-site items, particularly items like electric cords, hoses or cables that need to be organized, bundled and hung up. In addition, the objects or materials include, but are not limited to, large items like ladders, tools, wood, pipes, skis, and bicycles need to be strapped down or tightened.

[0007] The principal object of the present invention is to provide an improved flexible strap with integral handle and releasable locking member for bundling objects or materials for easy carrying and hanging.

[0008] Another object of the present invention is to provide a flexible strap with a handle, which can easily be tightened, released and reused without the application of any tools.

[0009] Another object of the present invention is to provide a releasable locking member to easily lock and release the strap which in turn allows tying and untying of objects or materials to be carried.

[0010] Another object of the present invention is to provide a flexible strap that is easy and inexpensive to manufacture using readily available materials having an integral handle and releasable locking member wherein the releasable locking member is easily replaced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1A is a top view of one embodiment of the present invention;

[0012] FIG. 1B is a side cross-section view of one embodiment of the present invention;

[0013] FIG. 2A is a top view of another embodiment of the present invention; and

[0014] FIG. 2B is a side cross-section view of another embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0015] While the making and using of various embodiments of the present invention are discussed in detail below, it should be appreciated that the present invention provides for inventive concepts capable of being embodied in a variety of specific contexts. The specific embodiments discussed herein are merely illustrative of specific manners in which to make and use the invention and are not to be interpreted as limiting the scope of the instant invention.

[0016] The claims and specification describe the invention presented and the terms that are employed in the claims draw their meaning from the use of such terms in the specification. The same terms employed in the prior art may be broader in meaning than specifically employed herein. Whenever there is a question between the broader definition of such terms used in the prior art and the more specific use of the terms herein, the more specific meaning is meant.

[0017] Referring now to FIG. 1A, an embodiment of an adjustable strap with an integral carrying handle 10 of the present invention is disclosed. The adjustable strap with an integral carrying handle 10 comprises a handle 12, a lock/release member 14, an extended portion 15 of the handle 12 for anchoring the lock/release member 14, and an adjustable strap 18. The shape and thickness of the extended portion 15 is so designed that the extended portion 15 not only anchors the lock/release member 14 but also maintains sufficient strength and hardness to sustain repeatable usage and tearing. The handle 12 has an aperture 12A. The aperture 12A can be any shape, i.e., preferably oval, circular or rectangular, that permits ease of gripping and handling. A person of ordinary skill in the art will understand that the thickness of the handle 12 and the size of the aperture 12A can vary.

[0018] Now referring to FIGS. 1A and 1B, the adjustable strap 18 is defined by an elongated substantially flat and flexible member and preferably formed from a flexible plastic material. A person of ordinary skill in the art will understand that the adjustable strap 18 can be formed by other flexible materials which will sustain regular wear and tear. The flexible materials can be, but not limited to, nylon, plastic, and metal. The strap 18 is about 1-5 feet long. However, a person of ordinary skill in the art will understand that the strap can be manufactured in a plurality of lengths without departing from the scope and spirit of the present invention. As shown in FIGS. 1A and 1B, the adjustable strap 18 has a pointed end 18B and an opposite end 18A integrally connected to the extended portion 15 of the handle 12. A first surface 18D of the adjustable strap 18 is a smooth or a raised grid-like pattern for the purpose of facilitating the gripping of an article or articles desired for bundling and carrying (not shown in FIGS). A second surface 18E of the adjustable strap 18 comprises a plurality of regularly spaced and substantially parallel-aligned teeth 18A.

[0019] As shown in FIGS. 1A and 1B, the lock/release member 14 comprises a push-down button 14A, an abutting end 14B, a hinge 14C, a hinge pin 14D, a hooked end 14E,
a receiving end 14F, and a coiled spring 16. A person of ordinary skill in the art will understand that the size and the depth of both the receiving end 14F of the lock/release member 14 and the spring receiving chamber 17B are so designed to fit the coiled spring 16. As shown in FIG. 1B, the hinge 14C is integrally connected on the extended portion 15 of the handle 12. The hinge pin 14D securely connects the lock/release member 14 to the hinge 14C and further functions as the pivotal point. When the push-down button 14A is depressed, the abutting end 14B will be lifted up and disengages with the teeth 18A of the strap 18, thereby unlocking the strap 18. When the push-down button 14A is left un-pressed, the coiled spring 16 will provide an upward force to keep the lock/release member 14 in a position that the abutting end 14B is abutted to and engageably linked with at least one of the teeth 18A of the strap 18 thereby locking the strap 18. The hinge pin 14D can be removed manually to permit removal of the lock/release member 14 and replacement thereof if needed.

[0020] Now referring specifically to FIG. 1B, when the strap 18 is inserted into strap receiving aperture 18C, the teeth 18A of the strap 18 points outward away from the articles being bundled while the first surface 18D of the strap 18 wraps around in contrast with the article or articles (not shown) being bundled. As the pointed end 18B of the strap is inserted through the strap receiving aperture 18C, the length of the strap 18 is adjusted by pulling on the pointed end 18B of the strap 18 until the first surface 18D of the strap 18 is firmly tightened against the article or articles desired for bundling. Also shown in FIG. 1B, the abutting end 14B of the lock/release member 14 abuts against and engages with at least one of the teeth 18A of the strap 18 to lock the strap 18.

[0021] Also shown in FIG. 1B, the coiled spring 16 is installed into a housing well 17 on the extended portion 15 of the handle 12. The first end 16A of the coiled spring 16 is in contact with a hooked end 14E of the lock/release member 14 and the second end 16B of the coiled spring 16 is in contact with the spring receiving chamber 17B of the housing well 17 on the extended portion 15 of the handle 12. The strength and the size of the coiled spring 16 is designed to provide sufficient force to keep the abutting end 14B of the lock/release member 14 abutted to and engaged with at least one of the teeth 18A of the strap 18. However, the force provided by the coiled spring 16 still permits easy depression of the push-down button 14A.

[0022] As shown in FIG. 1B, the housing well 17 also includes a hooked end receiving chamber 17A which is shallower than the spring receiving chamber 17B. The hooked end receiving chamber 17A, together with the spring receiving chamber 17B, forms the housing well 17. The hooked end receiving chamber 17A is adapted to receive the push-down button 14A of the lock/release member 14 when the push-down button 14A is pressed down. The size and the depth of the hooked end receiving chamber 17A is designed so that when the hooked end 14E of the lock/release member 14 reaches the bottom of the hooked end receiving chamber 17A when push-down button 14A is depressed, the abutting end 14B will disengage with the teeth 18A of the strap 18 thereby unlocking the strap 18.

[0023] Now turning to FIG. 2A, an alternate embodiment of an adjustable strap with an integral carrying handle 20 of the present invention is disclosed. The adjustable strap with an integral carrying handle 20 comprises a handle 22, a lock/release member 24, an extended portion 25 of the handle 22 for anchoring the lock/release member 24 and adjustable strap 18.

[0024] In comparison with the embodiment shown in FIGS. 1A and 1B and the embodiment shown in FIGS. 2A and 2B, both embodiments comprise a plurality of similar components including the ring portion of the handle 12 or 22, the adjustable strap 18 the teeth 18A and the pointed end 18B. The differences between the two embodiments are the structure of the lock/release member 14 as shown in FIGS. 1A and 1B and the structure of the lock/release member 24 as shown in FIGS. 2A and 2B, and the design of the extended portion 15 of the handle 12 and the extended portion 25 of the handle 22.

[0025] Referring now to FIGS. 2A and 2B in combination, lock/release member 24 comprises a push-down rod 24A, an abutting end 24B, an anchoring member 24C, an integral connecting part 24D, and a pivot point 24E. The lock/release member is so designed that the lock/release member 24 can be inserted into the fitting slot 27 on the extended portion 25 of the handle 22. The fitting slot 27 on the extended portion 25 of the handle 22 is designed with a plurality of indentations to hold the lock/release member 24 in connection with the extended portion 25 of the handle 22. When replacement of the lock/release member 24 is needed, the lock/release member 24 can be detached from the extended portion 25 of the handle 22 by manually snapping the lock/release member 24 out of the fitting slot 27. Alternatively, the lock/release member 24 can be integrally connected to the extended portion 25 of the handle 22.

[0026] The operation of the lock/release member 24 utilizes the elastic and compressive characteristics of the integral connecting part 24D of the lock/release member 24. The pivot point 24E of the anchoring member 24C provides a pivotal point for the push-down rod 24A to function as a fulcrum. When the push-down rod 24A is released (not depressed), the abutting end 24B of the lock/release member 24 abuts to and engages with at least one of the teeth 18A thereby locking the strap 18. When the push-down rod 24A is depressed, the abutting end 24B of the lock/release member 24 is lifted up and disengages with the teeth 18A to unlock the strap 18.

[0027] Although the invention has been described with reference to specific embodiments, these descriptions are not meant to be construed in a limiting sense. Various modifications of the disclosed embodiments, as well as alternative embodiments of the invention will become apparent to persons skilled in the art upon reference to the description of the invention. It should be appreciated by those skilled in the art that the conception and the specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended Claims.

[0028] It is therefore, contemplated that the Claims will cover any such modifications or embodiments that fall within the true scope of the invention.
What is claimed is:

1. An adjustable strap for bundling and carrying an article or a plurality of articles comprising:
   a handle;
   an extended portion having a housing well and a strap aperture;
   an elongate flat strap connected to the extended portion of the handle wherein the strap comprises a plurality of evenly disposed substantially parallel teeth on a major portion of a first surface of the strap;
   a lock/release member hingedly connected by way of a removable pin to the extended portion of the handle wherein the lock/release member comprises an abutting end and a spring receiving end; and
   a spring having a first end in contact with the spring receiving end of the lock/release member and a second end in contact with the housing well of the extended portion of the handle, thereby when the strap is inserted to the strap aperture of the extended portion of the handle, the spring provides a force to the lock/release member and causes the abutting end of the lock/release member to engage with one of the teeth of the strap thereby locking the strap, and when the lock/release member is depressed, the abutting end of the lock/release member disengages with one of the teeth of the strap thereby unlocking the strap.

2. The adjustable strap according to claim 1 wherein the handle is an oval, circular or rectangular shape adaptable for gripping and carrying.

3. The adjustable strap according to claim 1 wherein the handle, the extended portion of the handle, and the lock/release member is formed of rigid materials selected from a group consisting of nylon, plastic, and metal.

4. The adjustable strap according to claim 1 wherein the elongated flat strap is formed of flexible materials selected from the group consisting of nylon, plastic, and metal.

5. The adjustable strap according to claim 1 wherein the elongate flat strap further comprises a second section having a smooth surface.

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