A belt comprising a strap provided at one end with perpendicularly projecting prong means and at the other end with at least one prong receiving opening, said strap preferably being provided at said one end with an inwardly facing sheath and employed in combination with a removable buckle having a strap receiving portion connected to a longitudinally extended appendage and also having prong receiving opening means, whereby the appendage portion of said buckle may be inserted into said sheath with inwardly projecting prong means at said one end of the strap projecting through said prong receiving opening means in said buckle and outwardly projecting prong means at said one end of the strap is available to pass through said at least one opening in said other end of said strap. A strap end retaining loop is generally provided adjacent said one end of said strap, said loop being preferably adapted to open readily upon an outward pull on said other end of said strap.
REMOVABLE BUCKLE BELT

This invention relates to belts and related articles suitable for encircling bodies and articles and the like, and more particularly, to belts adapted for and/or provided with a readily removable buckle carrying an appendage suitable for any desired use.

There have been recently disclosed belts provided with a readily removable buckle having a knife-shaped appendage, desirably contoured to fit the waist curve of the human body, whereby the buckle is made readily available for purposes of self-defense and the like. Reference is made, for example, to advertisements in the lower half of pages 67 and 69 of Gun World Magazine, June, 1974, published by Gallant Publishing Company, Inc., Capistrano Beach, California, which advertisements are herewith incorporated by such reference. A belt is therein disclosed provided at the buckle end with a sheath on the inner surface into which the knife appendage of the buckle is inserted. At the juncture of the said appendage and the strap-receiving opening, the buckle is provided with an outwardly projecting prong which is pressed into a corresponding hole in the buckle end of the strap after the buckle is inserted in the sheath, thereby holding the buckle in place during use of the belt on the body. The buckle end of the strap is also provided with a strap-retaining loop. The other end of the strap is provided with the usual holes, one of which is pressed onto the same prong when the belt is put into use by passing said other end of the strap outwardly through the strap-receiving opening of the buckle and through the strap-retaining loop.

When the function of the knife appendage is required, the said other end of the strap is withdrawn from said loop, pulled outwardly from said prong, and then pulled back through the strap-receiving opening in the buckle. The prong on the buckle is then withdrawn from the hole in the buckle end of the strap and the buckle pulled from the sheath.

Although the above-described device is undeniably useful, it’s use has been found to involve some disadvantageous features. One such disadvantage is the possibility of damage to the hand by the outwardly projecting prong on the buckle during its intended use after withdrawal from the belt. Another disadvantage is the complete imperfection of the strap portion for use as a belt during the time the buckle is removed since no belt-fastening means remains after such removal. And still another disadvantage is the delay inherent in the steps necessary to remove the buckle, particularly the withdrawal of the said other end of the strap from the strap-retaining loop, which delay may be critical when immediate need for the knife appendage arises.

It is an object of this invention to provide a device which will not be subject to one or more of the above disadvantages.

It is another object of this invention to provide a device of the type described in which a prongless buckle is employed.

It is a further object of this invention to provide a belt of the type described which remains operative as a belt even when the buckle is removed.

It is yet another object of this invention to provide a belt of the type described from which the buckle may be removed more quickly.

Other objects and advantages will appear as the description proceeds.

One or more of the above and other objects are attained by the instant invention by the provision of a belt, which includes a strap provided at one end thereof with prong means projecting substantially perpendicularly from the face of said strap, the other end of said strap being provided with at least one prong receiving opening, whereby said prong means project through said opening when the belt is closed. According to a further feature of the invention the above described belt is preferably used in conjunction with a removable buckle having a strap receiving portion connected to a longitudinally extended appendage, and having prong receiving opening means in the vicinity of that connection. The strap is provided, at said one end, with an inwardly facing sheath, and said prong means projects substantially perpendicularly from both inward and outward surfaces of said strap, whereby said buckle is attached to said strap by insertion of said appendage into said sheath with the inward facing prong means projecting through the prong receiving opening means in said buckle, and the outward facing prong means is available to pass through said at least one opening in said outer end of said strap. According to yet another feature of the instant invention a releasable strap end retaining loop is provided adjacent said one end of said strap and said loop is adapted to open readily upon an outward pull on said other end of said strap.

The above brief description, as well as further objects, features and advantages of the present invention, will be more fully appreciated by reference to the following detailed description of presently preferred, but nonetheless illustrative, embodiments in accordance with the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is an elevation view, looking inwardly, of one embodiment of the instant invention with the buckle shown in the released position;

FIG. 2 is a side view of the strap portion of the embodiment of FIG. 1; and

FIG. 3 is an elevation view, looking outwardly, of an alternative embodiment of the strap portion of FIG. 1 in which a releasable strap end retaining loop is provided.

One embodiment of the instant invention is shown in Figs. 1 and 2 of the drawing, in which reference numeral 10 indicates generally a removable buckle and reference numeral 20 indicates generally a strap. Buckle 10 has a strap receiving portion 12 connected to a longitudinally extended appendage 14. In the vicinity of the connection between elements 12 and 14, a prong receiving opening or hole 16 is provided, the purpose of which will be made apparent below. Strap 20 includes, at one end, a rigid plate 22 fastened to the strap 20 by, for example, rivets 24. Prong 26 passes through plate 22, is fastened thereto as by soldering, and projects substantially perpendicularly from both inward and outward surfaces of strap 20, as best seen in Fig. 2. The length of the outwardly projecting portion of prong 26 is generally at least the thickness of the strap, and the length of the inwardly projecting portion is sufficient to prevent the buckle from slipping from the sheath during use of the belt. On the inward surface (away from the viewer in Fig. 1, lower in FIG. 2) of strap 20 a sheath 28 is formed by fastening a length of material to strap 20 by, for example, stitching 30. The end of sheath 28 nearest plate 22 is left open. A closed strap end retaining loop 32 is provided in the vicinity
of sheath 28. This loop may be fastened to strap 20 or sheath 28 or may be free floating. At the other end of strap 20 there are provided openings or holes 34 for receiving prong 26 when strap 20 is closed.

To use the belt of FIGS. 1 and 2, buckle 10 is moved to the left and appendage 14 is inserted into the open end of sheath 28 until the inward projection of prong 26 is pressed into opening 16. To close the belt, the other end of strap 20 carrying openings 34 is brought around the body to be encircled and passed, outwardly, through strap receiving portion 12 of buckle 10 and through strap end retaining loop 32. The belt is tightened until the desired one of openings 34 is aligned with the outward projection of prong 26, whereupon the belt is "locked" by the insertion of prong 26 into said opening 34.

According to another feature of the instant invention, the belt of FIGS. 1 and 2 can be used without buckle 10, if desired. Thus, the end of strap 20 carrying openings 34 is brought around the body to be encircled and inserted into loop 32 until one of openings 34 is aligned with the outward projection of prong 26. The engagement of prong 26 into the selected one of openings 34 then "locks" the belt. This feature of the instant invention permits the use of buckle 10 separately from strap 20 without the loss of the use of the belt.

FIG. 3 illustrates another embodiment of the instant invention in which a releasable strap end retaining loop is provided, thereby allowing easier and faster opening of the belt and release of the removable buckle. The elements of this embodiment are the same as those of the embodiment of FIGS. 1 and 2, with the following additions: notch 36 is provided in one lateral edge of sheath 28, and tab 38 is provided fastened at one end to the other lateral edge of sheath 28 opposite notch 36. Tab 38 becomes a releasable strap end retaining loop (FIGS. 1 and 2) when it is wrapped outwardly (away from the viewer in FIG. 3) around strap 20 and inserted down into notch 36 in sheath 28. The embodiment of FIG. 3 is used in the same way as the embodiment of FIGS. 1 and 2, except that when it is desired to "open" the belt an outward pull on the end of strap 20 carrying openings 34 will cause the end of tab 38 inserted into notch 36 to pull free therefrom and release strap 20 without having to slide strap 20 out of the loop. The releasable loop feature of the instant invention will function with or without buckle 10, but it is primarily intended as a quick release for freeing buckle 10 for immediate use.

The belt of the instant invention has several advantages over the prior art. As has been already mentioned, the elimination of the prong from the buckle allows the buckle to become a much more handy and safe tool. Further, by placing the prong means on the strap rather than on the buckle, it becomes possible to make belts of the type described having plural prongs while not cluttering the buckle, which is to be used as a tool, with prongs which can interfere with its use. The rigid plate can be extended laterally or longitudinally, or both, and outwardly facing prongs can be positioned as desired thereon. Or, additional prongs can be placed without being supported by the plate. The openings for receiving prongs at the other end of the strap must be placed in the same pattern as the plural prongs, however, if the belt is to be closed properly. Naturally, many patterns for the prongs and for the corresponding openings may be chosen without departing from the scope of this invention. It should be noted that the inward facing prong means can remain single, thereby requiring only one corresponding opening in the buckle, while the outward facing prong means can be plural for whatever reason desired. The outward facing prongs need not be continuous with the one or more inward facing prongs, although the structure will be stronger if they are continuous. Further, if desired, the plural prongs may be of different lengths for, example, esthetic reasons, so long as at least one of them is long enough for proper engagement. The prongs may be integral or separate from the rigid plate.

The removable buckle may have many applications and uses subject only to a few constraints; namely, that the strap receiving portion function to accept and hold the strap, that at least one opening is provided positioned to align with the inward facing prong means, and that the shape of the longitudinally extended appendage be such as to be accommodated in a sheath. Typically, the strap receiving portion of the buckle constitutes the handle and the appendage forms the tool, but the converse is possible as when the strap receiving portion is a bottle opener and the appendage is the handle therefor. The appendage may be many tools, subject to the above constraints, such as culinary tools, hardware tools, carpentry tools, mechanics tools, self-defense tools, and so on. The appendage may also be many instruments, or, for instance, a key or a signaling device such as a whistle. The specific choice of what function the buckle is to serve is left to the ultimate user, but the belt of this invention renders easier, safer, and more convenient the use of such a tool.

Instead of a notch in the sheath, other means may be employed to releasably hold the free end of tab 38, such as a loop or second sheath on the inner surface of the strap or sheath 28, snap fasteners attached to the outer surface of the strap, and the like. Sheath 28 may be self-sustaining and complete in itself (e.g. flattened tube) and may be releasably attached to the surface of the strap with, for example, snap fasteners whereby both it and the appendage-bearing buckle may be entirely separated from the strap when so desired. Further, the loop may be unattached to the strap and made openable by the described outward pull by any desired means, for example, by forming it from a strip of material, one end of which is provided with a loop or sheath for releasably holding the other end.

It will be understood that the strap, sheath and loop may be composed of any suitable strong flexible material such as leather, flexible plastic, or fiberglass sheet, natural or synthetic fibrous fabric, or the like, and that the buckle and prong may be composed of any suitably strong rigid material such as metal, hard plastic, or plastic-impregnated fiberglass or other such impregnated fibrous material or the like.

My Application Ser. No. 495,881 filed concurrently herewith and entitled "Releasable Loop Belt", the disclosure of which is incorporated herein by reference, is directed to a belt provided with the releasable loop feature described above.

This invention has been disclosed with respect to certain preferred embodiments, and it will be understood that various modifications and variations thereof will be obvious to a worker of ordinary skill in the art. It is to be understood that all such variations which are to be included within the spirit and purview of this application and the scope of the appended claims.

1 claim:
1. In a belt comprising a removable buckle having a strap receiving portion connected to a longitudinally extended appendage, and a strap having at one end an inwardly facing sheath, the appendage of said buckle being inserted in said sheath, the other end of said strap being provided with at least one opening for receiving prong means, the improvement wherein said strap is provided, at said one end, with prong means projecting substantially perpendicularly from both inward and outward surfaces thereof, and said buckle is provided with prong receiving opening means whereby said buckle is attached to said strap by insertion of said appendage into said sheath with the inward facing prong means projecting through the prong receiving opening means in said buckle, and the outward facing prong means is available to pass through said at least one opening in said other end of said strap.

2. A belt as defined in claim 1 wherein a strap end retaining loop is provided adjacent said one end of said strap for retaining said other end of strap when said belt is closed.

3. A belt as defined in claim 2 wherein said loop is adapted to open readily upon an outward pull on said other end of said strap.

4. A belt as defined in claim 3 wherein rigid plate means is provided at said one end of said strap with said prong means projecting substantially perpendicularly from both surfaces of said plate means, whereby said plate means helps to firmly anchor said prong means and stiffen said one end of said strap.

5. A belt as defined in claim 3 wherein one end of said loop is fastened to said strap and the other end of said loop is releasably attached to said strap whereby said loop opens readily upon application of said outward pull.

6. A belt as defined in claim 5 wherein said other end of said loop is releasably attached by insertion into an opening in said sheath.

7. A belt as defined in claim 6 wherein said one end of said loop is fastened to said strap adjacent one longitudinal edge thereof, and said other end of said loop is releasably attached by insertion into an opening in said sheath adjacent the other longitudinal edge of said strap.

8. A belt as defined in claim 7 wherein said opening in said sheath adjacent the other longitudinal edge of said strap is formed by notching said sheath on the edge thereof corresponding to said other longitudinal edge of said strap.

9. A belt as defined in claim 1 wherein rigid plate means is provided at said one end of said strap with said prong means projecting substantially perpendicularly from both surfaces of said plate means whereby said plate means helps to firmly anchor said prong means and stiffen said one end of said strap.

10. A belt comprising a strap provided at one end thereof with an inwardly facing sheath, and with prong means projecting substantially perpendicularly from both surfaces of said strap, the other end of said strap being provided with at least one prong receiving opening, whereby a removable buckle having a strap receiving portion connected to a longitudinally extended appendage and having prong receiving opening means may be inserted into said sheath with the inward facing prong means projecting through the prong receiving opening in said buckle and the outward facing prong means is available to pass through said at least one opening in said other end of said strap.

11. A belt as defined in claim 10 wherein a strap end retaining loop is provided adjacent said one end of said strap for retaining said other end of said strap when the belt is closed.

12. A belt as defined in claim 11 wherein said loop is adapted to open readily upon an outward pull on said other end of said strap.

13. A belt as defined in claim 12 wherein rigid plate means is provided at said one end of said strap with said prong means projecting substantially perpendicularly from both surfaces of said plate means, whereby said plate means helps to firmly anchor said prong means and stiffen said one end of said strap.

14. A belt as defined in claim 10 wherein rigid plate means is provided at said one end of said strap with said prong means projecting substantially perpendicularly from both surfaces of said plate means, whereby said plate means helps to firmly anchor said prong means and stiffen said one end of said strap.

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