INTERCHANGEABLE ZIPPER GRIP

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ABSTRACT

Zipper grips and zipper assemblies comprising the zipper grips secured to zippers are provided. The zipper grips are configured such that at least a portion of a back face of a grip pad rests against a front face of a zipper pull tab when the zipper grip is secured to the pull tab. The zipper grips make it easier to locate and manipulate a zipper pull tab, which makes it easier to zip and unzip a zipper.
INTERCHANGEABLE ZIPPER GRIP

BACKGROUND

[0001] Zippers have pull tabs that users grip and pull on in order to zip and unzip the zippers. While standard zipper pull tabs work well for many users, they are quite small and can be difficult to locate and manipulate. For this reason, various zipper pulls have been developed to make it easier to locate and/or manipulate a zipper. However, these zipper pulls, which are typically attached to the end of a zipper pull tab, such that they dangle from the zipper, allow the zipper pull tab to be wiggled back-and-forth during the zipping and unzipping of the zipper. This results in poor leverage, making their use difficult for users, such as children, or others with limited dexterity or impaired sensory function, or for those wearing hand coverings. In addition, these dangling zipper pulls can be aesthetically unsightly or distracting, especially when they are used with the zipper on the fly of a pair of pants. Worst yet, these types of zipper pulls have the potential to get caught on nearby objects, such as playground equipment, and, therefore, can pose a safety hazard for the user.

SUMMARY

[0002] Zipper grips and zipper assemblies comprising the zipper grips secured to zippers are provided. Zippers to which the zipper grips can be secured include a pull tab having a proximal end attached to a slider body, a distal end opposite the proximal end, an upper aperture defined in the proximal end of the pull tab, a lower aperture defined in the distal end of the pull tab, a front face, and an oppositely facing back face.

[0003] One embodiment of a zipper grip comprises a strap having a proximal end and a distal end opposite the proximal end, wherein the distal end of the strap is configured to be inserted through the upper aperture of a zipper pull tab and further wherein a slot is defined in the distal end of the strap. The zipper grip also includes a grip pad attached to the proximal end of the strap, the grip pad having a front face and an oppositely facing back face. An extension extends outwardly from the back face of the grip pad. The extension and the slot in the strap are configured to provide a male-female connection that secures the zipper grip to the pull tab when the extension is inserted into the slot. The zipper grip is configured such that at least a portion of the back face of the grip pad rests against the front face of the pull tab when the zipper grip is secured to the pull tab.

[0004] One embodiment of a zipper and zipper grip assembly comprises a zipper slider and a zipper grip secured thereto. The zipper slider comprises: a slider body; and a pull tab having a proximal end attached to the slider body, a distal end opposite the proximal end, an upper aperture defined in the proximal end of the pull tab, a lower aperture defined in the distal end of the pull tab, a front face, and an oppositely facing back face. The zipper grip comprises: a strap having a proximal end, a distal end opposite the proximal end, and a slot defined in the distal end of the strap; a grip pad attached to the proximal end of the strap, the grip pad having a front face and an oppositely facing back face; and an extension extending outwardly from the back face of the grip pad. In the assembly, the strap extends through the upper aperture of the zipper pull tab and the extension is inserted into the slot in the strap to provide a male-female connection that secures the zipper grip to the pull tab, such that at least a portion of the back face of the grip pad rests against the front face of the pull tab.

[0005] The zipper grip can be secured to the pull tab of a zipper by inserting the distal end of the strap through an upper aperture in the pull tab; and inserting the extension into the slot to form a male-to-female connection that secures the zipper grip to the pull tab in a manner such that at least a portion of the back face of the grip pad rests against the front face of the pull tab.

[0006] Other principal features and advantages of the invention will become apparent to those skilled in the art upon review of the following drawings, the detailed description, and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Illustrative embodiments of the invention will hereinafter be described with reference to the accompanying drawings, wherein like numerals denote like elements.

[0008] FIG. 1. Perspective view of one embodiment of a zipper assembly including a zipper grip secured to a zipper pull tab.

[0009] FIG. 2. Perspective view of another embodiment of a zipper assembly including a zipper grip secured to a zipper pull tab.


[0012] FIG. 5. Front view of the zipper grip of FIG. 3.

[0013] FIG. 6. First side view of the zipper grip of FIG. 3.

[0014] FIG. 7. Second, opposite side view of the zipper grip of FIG. 3.

[0015] FIG. 8. End view, viewed along the direction from the proximal end to the distal end, of the zipper grip of FIG. 3.

[0016] FIG. 9. End view, viewed along the direction from the distal end to the proximal end, of the zipper grip of FIG. 3.

[0017] FIG. 10. Perspective view of yet another embodiment of a zipper assembly including a zipper grip secured to a zipper pull tab.


[0019] FIG. 12. Perspective front view of the zipper grip of FIG. 11.


[0021] FIG. 14. Front view of the zipper grip of FIG. 11.

DETAILED DESCRIPTION

[0022] Zipper grips and zipper assemblies comprising the zipper grips secured to zippers are provided. The zipper grips make it easier to locate and manipulate a zipper pull tab, which makes it easier to zip and unzip a zipper. Thus, the zipper grips are well suited for use by young children, individuals with impaired tactile sensory function, the elderly, or anyone else having limited dexterity, including those with medical conditions, such as rheumatoid arthritis or Parkinson’s disease, or individuals wearing hand coverings, such as mittens or gloves. For example, by making it easier to manipulate the zipper on the fly of their pants, the zipper grips can ease potty training for young children.

[0023] The zipper grips are interchangeable because they are not permanently affixed to a zipper. Thus, they can be
used as decorative accessories that can be swapped out and replaced, to suit a particular occasion or to reflect the user’s tastes and personal style. For the purposes of this disclosure, a zipper grip is considered to be interchangeable if it can be attached and detached by hand, by the user, without being damaged or destroyed and without requiring any tools to attached it to, or detach it from, a zipper grip.

[0024] The zipper grips are designed such that the user pinches a grip pad on the zipper grip against the face of a pull tab on a zipper when moving the zipper up and down. This can be done, for example, by pinching the grip pad and the zipper pull tab between one’s thumb and finger. As illustrated in the figures, which are discussed in detail below, this can be accomplished by centering a grip pad over the face of the zipper pull tab, rather than having a grip pad that dangles below the zipper pull tab. This design provides a stable and firm hold on the pull tab and also distributes the force of the pull over a large area of the grip pad and pull tab, rather than concentrating the force on potentially weak points within the zipper grip, such as on an extension or a strap.

[0025] The zipper grips can be used to aid in the zipping and unzipping of a variety of articles, including articles of clothing, backpacks, sleeping bags, purses, lunchboxes, pencil cases, and the like.

[0026] The zipper grips are designed to be used with standard zippers, of the type shown schematically in FIG. 1. As shown, the standard zipper comprises a pair of zipper tapes (not shown), each of which includes a row of zipper teeth 102, 104 along an edge. The zipper further includes a zipper slider 106 designed to travel up and down zipper teeth 102, 104 to zip and unzip the zipper tapes. Zipper slider 106 includes a slider body 108 configured to accept opposable zipper teeth 102, 104 and zipper pull tab 110 attached to slider body 108 and configured to be gripped by a user to pull zipper slider 106 along teeth 102, 104.

[0027] Pull tab 110 is typically attached to zipper slider 106 in a manner that allows pull tab 110 to pivot up and down. As shown in FIG. 1, the proximal end 112 of pull tab 110 is attached to slider body 108 by inserting an upper aperture 114 in proximal end 112 under a clasp 116 mounted to slider body 108. Pull tab 110 has a distal end 118 opposite proximal end 112; a lower aperture 120 that is defined in distal end 118 and disposed below upper aperture 114; a front face 122; and an oppositely facing back face 124.

[0028] FIGS. 3-9 are schematic illustrations of one embodiment of a zipper grip that can be secured to a zipper pull tab. The views shown in these figures are a perspective view (FIG. 3), a back view (FIG. 4), a front view (FIG. 5), a first side view (FIG. 6), and second, opposite side view (FIG. 7), an end view, viewed along the direction from the proximal end to the distal end of the zipper grip (FIG. 8), and an end view, viewed along the direction from the distal end to the proximal end of the zipper grip (FIG. 9). The zipper grip includes a strap 302 having a proximal end 304 and a distal end 306 disposed opposite proximal end 304. Distal end 306 has a slot 308 defined therein and is configured to be inserted through the upper aperture 114 of a zipper pull tab 108. Slot 308 may take on a variety of forms, including a round opening, as shown in FIGS. 3-9, or a slit.

[0029] As used herein the phrase “configured to be inserted through the upper aperture of a zipper pull tab” means that the distal end of strap 302 is sized and shaped and otherwise designed such that it can be inserted into and pulled through the upper aperture in a zipper pull tab. As shown in FIG. 1, strap 302 forms a living hinge with a U-shaped bend or “loop” 303 after it is pulled through the upper aperture of the zipper pull tab. The use of a living hinge can be advantageous because it facilitates a clean fold. Because the location of the loop along the length of the strap, as well as its radius of curvature, and variable, the zipper grips need not be specifically tailored to the dimensions of a particular zipper pull tab. Rather, they are versatile enough to be used with zippers having a range of dimensions. Nevertheless, in order to illustrate and exemplify the zipper grips a discussion of some possible optimal dimensions is provided below.

[0030] The optimal dimensions for strap 302 will depend on the dimensions of the pull tab aperture(s) through which the strap is to be inserted. By way of illustration only, in some embodiments of the zipper grips, the straps have cross-sectional dimensions (i.e., width and thickness) in the range from about 2 to about 4 mm. For example, the cross-sectional thickness of the strap may be in the range from about 1 to about 2 mm, while the cross-sectional width may be in the range from about 2 mm to 5 mm. However, dimensions outside of these ranges can be used to suit a particular zipper pull tab. In the embodiment shown in FIGS. 3-9, the thickness dimension at proximal end 304 of strap 302 is lower than the thickness dimension at distal end 306. This renders proximal end 304 more flexible, which is advantageous because proximal end 304 is bent into a U-shaped turn 303 through upper aperture 114 when the zipper grip is secured to the zipper pull tab, as discussed in greater detail below.

[0031] Like the optimal cross-sectional width and thickness, the optimal length of strap 302 will depend on the particular zipper pull tab with which it is to be used. In particular, the optimal length will be at least slightly longer than the length of the pull tab and less than twice the length of the pull tab. By way of illustration only, in some embodiments of the zipper grips, the straps have lengths in the range from about 1 cm to about 2 cm.

[0032] The zipper grip further includes a grip pad 310 attached to proximal end 304 of strap 302. Grip pad 310 has a front face 312 and an oppositely facing back face 314, where front face 312 faces away from the zipper pull tab and back face 314 faces toward the zipper pull tab when the zipper grip is secured to the zipper pull tab. As illustrated in FIGS. 3, 4, and 6-9, back face 314 of grip pad 310 may include a raised portion 316 having a greater thickness than the remainder of the grip pad. Raised portion 316 reinforces the end of the grip pad that attaches to strap 302 and provides for a greater contact area between the back face 314, 316 of grip pad 310 and the front face of the zipper pull tab when the zipper grip is secured to the pull tab. Grip pad 310 is desirably sized and shaped such that it covers most or all of the front face of the zipper pull tab, below its upper aperture, when the zipper grip is secured to said pull tab, as illustrated in FIG. 1. For example, the grip pad can be designed to cover more than 50% of the front face of the pull tab, below its upper aperture; more than 90% of the front face of the pull tab, below its upper aperture, or to cover the entire front face of zipper pull tab, below its upper aperture, when the zipper grip is secured to said pull tab. In addition, the surface area of front face 312 should be greater than the surface area of the front face of the zipper pull tab to which the zipper grip is to be secured in order to increase the ability of the user to
locate and manipulate the zipper. By way of illustration only, in some embodiments of the grip pads, the faces of the pads have dimensions (i.e., lengths and widths) in the range from about 5 mm to 2 cm. However, dimensions outside of these ranges can also be used.

In some embodiments on the zipper grips, front face 312 is textured, for example knurled or matte, in order to further increase the ability of the user to firmly grip and manipulate the zipper. The grip pad can take on a variety of shapes, including decorative shapes, such as heart shapes, star shapes, cartoon character shapes, letter shapes, number shapes, and the like. In addition, the grip pad may be coated with decorative images or patterns.

An extension 320 extending outwardly from back face 314 of grip pad 310 provides the male part of a male-to-female connector. The female part is provided by slot 302 in distal end 306 of strap 302. Thus, extension 320 and slot 302 are both configured to form a male-to-female connection when extension 320 is inserted into slot 302. The embodiment of extension 320 shown in FIGS. 3-9, includes a lower stem portion 326 attached to front face 314 of grip pad 310 and an upper flange portion 324 on stem portion 326. Flange portion 324 has a larger diameter than stem portion 326 and a larger diameter than slot 308, such that, when flange portion 324 is pushed through slot 308, it prevents slot 308 from easily slipping back off extension 320.

Extension 320 will generally be positioned toward the lower end 322 of grip pad 310 (where lower end 322 is opposite the end at which grip pad 310 attaches to strap 302). However, the optimal position of extension 320 on back face 314 and the optimal position of slot 308 along strap 302 will depend on whether the strap 302 or the extension 320 is to be inserted through lower aperture 120, as explained in greater detail below with reference to FIGS. 1 and 2.

A perspective view of the zipper grip of FIGS. 3-9 secured to zipper pull tab 108 is shown in FIG. 1. In this embodiment, strap 302 extends through upper aperture 114 of pull tab 108 and then back through lower aperture 120 of pull tab 108. Extension 320 is then pushed through slot 308 to form a male-to-female connection on the back face 314 of grip pad 310, beyond distal end 118 of pull tab 108. In this manner the zipper grip is secured to pull tab 108 with at least a portion its back face 314/316 disposed firmly against front face 122 of pull tab 108.

Alternatively, a zipper grip of the type shown in FIGS. 3-9 can be secured to zipper pull tab 108 as shown in FIG. 2. In this embodiment of the zipper and zipper grip assembly, strap 302 extends through upper aperture 114 of pull tab 108 and is then folded back over back face 124 of pull tab 108, such that slot 308 is aligned with lower aperture 120. Extension 320 is then inserted through lower aperture 120 and also through slot 308 to form a male-to-female connection on the back face 124 of pull tab 108. Again, the zipper grip is secured to pull tab 108 with at least a portion its back face 316 disposed firmly against front face 122 of pull tab 108. Because strap 302 is not inserted back through lower aperture 120 in this assembly, the length of the strap can be shorter than the length of the strap in the assembly of FIG. 1.

Another embodiment of a zipper grip is shown in FIGS. 11-14, which show a perspective back view (FIG. 11), a perspective front view (FIG. 12), a back view (FIG. 13) and a front view (FIG. 14), respectively. As will be clear from the discussion below, the zipper grip of FIGS. 11-14 has certain components in common with the zipper grip of FIGS. 3-9. These common components can, but need not, have the same shapes and dimensions as their counterparts in FIGS. 3-9. Like the zipper grip of FIGS. 3-9, this zipper grip comprises a strap 1102 having a proximal end 1104 and a distal end 1106 disposed opposite proximal end 1104. Distal end 1106 has a slot 1108 defined therein and is configured to be inserted through the upper aperture 114 of a zipper pull tab 108, as illustrated in FIG. 10. Here again, the thickness dimension at proximal end 1104 of strap 1102 may lower than the thickness dimension at distal end 1106 in order to facilitate the bending of the strap through and over zipper pull tab 108.

The zipper grip further includes a grip pad 1110 attached to proximal end 1104 of strap 1102. Grip pad 1110 has a front face 1112 and an oppositely facing back face 1114. A longitudinal pocket 1115, configured to accept at least a portion of distal end 118 of pull tab 108, is defined in grip pad 1110 between front face 1112 and back face 1114. As used herein the phrase “configured to accept at least a portion of distal end a of pull tab” means that the pocket is sized and shaped and otherwise designed such that the distal end of the pull tab can be inserted into the pocket. In this manner, the connection between the zipper pull tab and the grip pad helps to secure the zipper grip to the zipper.

Grip pad 1110 is desirably sized and shaped such that it covers most or all of the front face and back face of the zipper pull tab, below its upper aperture, when the zipper grip is secured to said pull tab, as illustrated in FIG. 10. For example, the grip pad can be designed to cover more than 50% of the front and back faces of the pull tab, below its upper aperture; more than 90% of the front and back faces of the pull tab, below its upper aperture, or to cover the entire front and back faces of zipper pull tab, below its upper aperture, when the zipper grip is secured to said pull tab. As described above, the surface area of the front face of the grip pad should be greater than the surface area of the front face of the zipper pull tab to which the zipper grip is to be secured in order to increase the ability of the user to locate and manipulate the zipper, and the front face may be textured in order to further increase the ability of the user to firmly grip and manipulate the zipper. Again, the grip pad can take on a variety of shapes, including decorative shapes.

An extension 1120 extending outwardly from back face 1114 of grip pad 1110 provides the male part of a male-to-female connector. The female part is provided by slot 1102 in distal end 1106 of strap 1102. Thus, extension 1120 and slot 1102 are both configured to form a male-to-female connection when extension 1120 is inserted into slot 1102. Extension 1120 includes a lower stem portion 1124 attached to front face 1114 of grip pad 1110 and an upper flange portion 1126 on stem portion 1124. Extension 1120 may be centrally positioned on back face 1114 of grip pad 1110.

A perspective view of the zipper grip of FIGS. 11-14 secured to zipper pull tab 108 is shown in FIG. 10. In this embodiment, strap 1102 extends through upper aperture 114 of pull tab 108 and is then secured to back face 1114 of grip pad 1110 by pushing extension 1120 through slot 1108 to form a male-to-female connection on the back face 1114 of grip pad 1110. In this manner the zipper grip is secured to pull tab 108.
The zipper grips can be made of a variety of materials, provided the material is sufficiently flexible to allow the zipper grip to be manipulated as needed to secure it to a zipper pull tab. Suitable materials include polymeric elastomers, such as polyvinyl chloride, silicone or rubber. The use of polymeric elastomers may be desirable because they provide a soft feel. However, other materials including thin, bendable metals or metal alloys, can also be used.

The word “illustrative” is used herein to mean serving as an example, instance, or illustration. Any aspect or design described herein as “illustrative” is not necessarily to be construed as preferred or advantageous over other aspects or designs. Further, for the purposes of this disclosure and unless otherwise specified, “a” or “an” means “one or more”.

The foregoing description of illustrative embodiments of the invention has been presented for purposes of illustration and of description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed, and modifications and variations are possible in light of the above teachings or may be acquired from practice of the invention. The embodiments were chosen and described in order to explain the principles of the invention and as practical applications of the invention to enable one skilled in the art to utilize the invention in various embodiments and with various modifications as suited to the particular use contemplated. It is intended that the scope of the invention be defined by the claims appended hereto and their equivalents.

What is claimed is:

1. An interchagneable zipper grip for a zipper, the zipper comprising a pull tab having a proximal end attached to a slider body, a distal end opposite the proximal end, an upper aperture defined in the proximal end of the pull tab, a lower aperture defined in the distal end of the pull tab, a front face, and an oppositely facing back face; and

- the zipper grip comprising:
  - a strap having a proximal end and a distal end opposite the proximal end, wherein the distal end of the strap is configured to be inserted through the upper aperture of the zipper pull tab and further wherein a slot is defined in the distal end of the strap;
  - a grip pad attached to the proximal end of the strap, the grip pad having a front face and an oppositely facing back face; and
  - an extension extending outwardly from the back face of the grip pad, wherein the extension and the slot in the strap are configured to provide a male-female connection that secures the zipper grip to the pull tab when the extension is inserted into the slot; and

- further wherein the zipper grip is configured such that at least a portion of the back face of the grip pad rests against the front face of the pull tab when the zipper grip is secured to the pull tab.

2. The zipper grip of claim 1, wherein either the distal end of the strap or the extension is configured to be inserted through the lower aperture in the zipper pull tab.

3. The zipper grip of claim 2, wherein the distal end of the strap is configured to be inserted through the lower aperture in the zipper pull tab and the extension and aperture are configured to provide a male-female connection on the back face of the grip pad, beyond the distal end of the pull tab.

4. The zipper grip of claim 2, wherein the extension is configured to be inserted through the lower aperture in the pull tab and the extension and aperture are configured to provide a male-female connection on the back face of the zipper pull tab.

5. The zipper grip of claim 1, wherein the grip pad defines a longitudinal pocket configured to accept the distal end of the zipper pull tab and the extension and aperture are configured to provide a male-female connection on the back face of the grip pad.

6. A method of securing the zipper grip of claim 1 to a pull tab on a zipper, the method comprising:
   - inserting the distal end of the strap through an upper aperture in the pull tab; and
   - inserting the extension into the slot to form a male-to-female connection that secures the zipper grip to the pull tab in a manner such that at least a portion of the back face of the grip pad rests against the front face of the pull tab.

7. The method of claim 6, further comprising inserting the extension through a lower aperture in the pull tab prior to inserting the extension into the slot.

8. The method of claim 6, further comprising inserting the distal end of the strap through a lower aperture in the pull tab prior to inserting the extension into the slot.

9. A zipper and zipper grip assembly comprising:
   - a zipper slider comprising:
     - a slider body; and
     - a pull tab having a proximal end attached to the slider body, a distal end opposite the proximal end, an upper aperture defined in the proximal end of the pull tab, a lower aperture defined in the distal end of the pull tab, a front face, and an oppositely facing back face; and
   - a zipper grip comprising:
     - a strap having a proximal end and a distal end opposite the proximal end, wherein the distal end of the strap is configured to be inserted through the upper aperture of the zipper pull tab and further wherein a slot is defined in the distal end of the strap;
     - a grip pad attached to the proximal end of the strap, the grip pad having a front face and an oppositely facing back face; and
     - an extension extending outwardly from the back face of the grip pad, wherein the extension and the slot in the strap are configured to provide a male-female connection that secures the zipper grip to the pull tab, such that at least a portion of the back face of the grip pad rests against the front face of the pull tab.

10. The assembly of claim 9, wherein either the strap or the extension extends through the lower aperture in the zipper pull tab.

11. The assembly of claim 10, wherein the strap extends through the lower aperture in the zipper pull tab and the extension and aperture provide a male-female connection on the back face of the grip pad, beyond the distal end of the pull tab.

12. The assembly of claim 10, wherein the extension extends through the lower aperture in the pull tab and the extension and aperture provide a male-female connection on the back face of the zipper pull tab.

13. The assembly of claim 9, wherein the grip pad defines a longitudinal pocket into which the distal end of the zipper pull tab is inserted and the extension and aperture provide a male-female connection on the back face of the grip pad.