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(54) **Method of removing a pull tab from a slide fastener**

Verfahren zum Entfernen einer Zuglasche für einen Reissverschluss

Procédé pour éloigner une tirette pour un curseur de fermeture

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(56) References cited:
EP-A- 0 390 186 GB-A- 2 190 706
US-A- 2 495 176

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Description

INTRODUCTION

[0001] The present invention relates to a method of removing a pull tab from slider of a slide fastener.

BACKGROUND

[0002] US-A-2 280 999 describes a detachable pull tab which can be attached to front or reverse sides of a slide fastener for use in a reversible garment. In one construction the pull tab has springy, parallel arms with projections at their ends which engage in the mounting lug on the slider. A band is slid along the arms to hold the ends together to engage the lug, and slid back to allow the arms to spring apart and release the projections from the lug. In another embodiment, the pull tab is in two parts which pivot relative to each other, scissors-like to enable projections on each part to engage and disengage from the lug.

[0003] EP-A-090 370 describes a detachable pull tab with a C-shaped neck which embraces a connector which is pivotally attached to the slider body. A spring biased arm closes the mouth of the C-shaped neck to releasably attach the pull tab to the connector.

[0004] GB-A-2 190 706 describes a pull tab with a mounting loop formed of a flexible U-shaped arm. A free end of the arm is releasably attached to the pull tab body by a locking device.

[0005] All these prior art devices are concerned with providing a detachable but re-usable pull tab and are relatively complicated and hence are expensive to produce.

[0006] EP-A-390 186 describes a provisional pull tab which is attached to a slider for use during the manufacturing finishing process, when the fastener stringers are slid through a slider of the automatic type, and when the slider is slid up and down the stringers to ensure that the fastener operates properly. On completion of the manufacturing and inspection processes the provisional pull tab is discarded, and a commercial pull tab, suiting a particular customers requirements, is attached. In EP A 390 186 the provisional pull tab includes a frangible region in the collar portion which encircles the mounting lug on the slider body. The frangible region is formed by providing a notch or a through hole in the collar portion or by making the collar portion of brittle material. The provisional pull tab can then be removed by twisting the pull tab relative to the slider, to break the collar in the frangible region and so freeing it from the mounting lug.

[0007] A drawback of this arrangement is that substantial force may still be required to break the collar, and so the slider must be firmly gripped as the pull tab is twisted.

[0008] There are other situations in which a detachable pull tab is required. In some cases, the customer does not want a pull tab left on the slider after it is used:

for example after fitting a car seat cover with slide fasteners, it is desirable to remove the pull tab to prevent interference by children, or to ensure that a locking type slider is not inadvertently released by vibration of the pull tab, etc.

SUMMARY OF THE INVENTION

[0009] The present invention provides a method of removing a pull tab from a slider of a slide fastener, as set forth in claim 1.

[0010] A gap is formed between the free end of the spindle and the remainder of the collar or the gripping portion.

[0011] Because the spindle is supported at only one end, the pull tab can be deformed by twisting the gripping portion relative to the spindle, opening up the gap to allow the pull tab to be removed from the slider. Deforming the collar in this way will generally require less force than breaking a frangible region. Thus, this detachable pull tab is particularly suited for cases when the pull tab is to be removed from the slider after the slide fastener has been put in use.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The invention will be further described by way of example with reference to the accompanying drawings, in which

Figure 1 is a perspective view of a detachable pull tab used in an embodiment of the present invention; Figure 2 is a schematic, perspective, exploded view of a zip fastener incorporating the pull tab of Figure 1;

Figure 2a illustrates the pull tab of Figure 1 in a deformed condition, and

Figure 3 to illustrate another embodiment of a detachable pull tab for use in the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Figure 1 shows a detachable pull tab 2 for use in a slide fastener such as the zip fastener 4 illustrated schematically in Figure 2. In this example, the pull tab 2 is die cast from soft metal, such as zinc, aluminium or an alloy, but it may be made by stamping, or of plastics by injection moulding for example. The pull tab 2 has a gripping portion 6 which, in use, is gripped by the user, and a collar 8 which attaches the pull tab 2 to a slider 10 of a fastener 4 as illustrated in Figure 2. The collar 8 defines with the gripping portion 6 an aperture 12. The collar 8 has two legs 14, 16 which extend from the gripping part 6, and a spindle 18 which is integrally formed on the free end 20 of one leg 14 and extends towards the other leg 16. The spindle 18 is not joined to the other leg 16 so a small gap 21 is formed between the free end

22 of the spindle 18 and the leg 16.

[0014] Figure 2 shows schematically a zip fastener 4. The construction of such zip fasteners is well known. In this example the slider 10 incorporates an automatic locking mechanism. A locking member 24 is pivotally mounted between two lugs 26 (only one is seen in the drawing) and has a tooth 28 which extends through an aperture 29 in the top plate 30 of the slider to engage elements 32 of the zip fastener. A spring 33 is provided between the locking member 24 and a cover 36 to bias the tooth 28 into engagement with the elements 32. The structure of such locking mechanisms is well known. More complex arrangements are described for example in EP-A-390 186.

[0015] The pull tab spindle 18 is positioned in the mouth 34 of the locking member 24 and held in place by cover 36, a pin 38 extending through apertures 40 in the cover 36, the lugs 26 and locking member 24. The cover 36 is pinched at its other end 42 to grip a mounting block 44. In use, as the pull tab 2 is pulled, the spindle 18 pivots the locking member 24 to release the tooth 28 from the elements 32 and the slider is slid along the fastener 4.

[0016] When the user wishes to detach the pull tab 2, the gripping portion 6 is simply twisted relative to the slider 10. The spindle 18 is held by the locking member 24 and cover 36, and so the leg 14 twists about its length, as illustrated in Figure 2a. The gap 21 is opened so that the spindle 18 can be slid from within the cover 36, and the pull tab 2 detached from the slider 10.

[0017] Figure 3 illustrates another embodiment. Here the gap 21 is provided adjacent the gripping portion 6. The collar 8 is continuous and extends from one end 46 integral with the gripping portion 6, to a free end 48 which is spaced from the gripping portion 6 by the gap 21. The spindle 18 is defined by the mid portion of the collar 8, between the ends 46, 48. The collar 8 is arcuate so that as the gripping part 6 is rotated, causing the leg portion 14' to twist and open the gap 21, the pull tab 2 can be manipulated to feed the free end of the collar 8 through the cover 36.

[0018] It is preferred that the gap 21 is small enough, in the undeformed pull tab, to prevent inadvertent detaching from the slider 4, and the gap could be formed by a slit or cut in collar 8 or at the junction with the gripping portion. By providing a gap 21, twisting of the gripping portion provides substantial torque about the leg 14, 14', twisting it easily to open the gap 21, without placing great force on the slider itself.

[0019] It will be appreciated that the pull tab may have a variety of shapes. Figure 3 illustrates that the gripping portion may have a central aperture, for example. It could be elongate, circular, etc. The material of the pull tab and the shape are selected so that the pull tab is sufficiently strong to be used to close the fastener, but the leg 14 or collar 8 can be deformed to open the gap 21 and remove the pull tab from the slider.

Claims

1. A method of removing a pull tab (4) from a slider (10) of a slide fastener (4), the pull tab (2) comprising a gripping portion (6) and a collar (8) on the gripping portion (6), the collar defining a spindle (18) which mounts the pull tab (2) on the slider (10) and the spindle (18) being supported at only one end (20) on the gripping portion (6), the method comprising twisting the gripping portion (6) relative to the slider to deform the pull tab (2) to open a gap (21) between the unsupported end of the spindle (18) and the gripping portion (6), detaching the pull tab (4) from the slider (10) by means of the gap (21) and discarding the pull tab (4).
2. A method as claimed in claim 1, wherein the spindle (18) is supported at an end thereof by a leg (14, 14') which extends from the gripping portion (6).
3. A method as claimed in claim 1, wherein the collar (8) comprises a first leg (14) which extends from the gripping portion (6) and supports the spindle at a distal end (20) of the leg (14), and a second leg (16) which extends from the gripping portion (6) to a position adjacent the free end (22) of the spindle (18).
4. A method as claimed in claim 1, wherein the collar (8) is continuous from one end (46) attached to the gripping portion (6) to another end (48) which is adjacent to, but detached from, the gripping portion (6).

Patentansprüche

1. Verfahren zum Entfernen einer Zuglasche (2) von einem Schieber (10) eines Reißverschlusses (4), wobei die Zuglasche (2) einen Greifabschnitt (6) und einen Ring (8) am Greifabschnitt (6) umfasst, der Ring einen Zapfen (18) definiert, der die Zuglasche (2) am Schieber (10) befestigt, und der Zapfen (18) nur an einem Ende (20) am Greifabschnitt (6) gestützt wird, wobei das Verfahren Folgendes umfasst:

Verdrehen des Greifabschnitts (6) relativ zum Schieber, um die Zuglasche (2) zu verformen, um einen Spalt (21) zwischen dem ungestützten Ende des Zapfens (18) und dem Greifabschnitt (6) zu öffnen, Abnehmen der Zuglasche (2) vom Schieber (10) mittels des Spalts (21) und Beseitigen der Zuglasche (2)

2. Verfahren nach Anspruch 1, wobei der Zapfen (18) an einem Ende davon durch ein Bein (14, 14') gestützt wird, das sich vom Greifabschnitt (6) er-

streckt.

3. Verfahren nach Anspruch 1, wobei der Ring (8) Folgendes umfasst: ein erstes Bein (14), welches sich vom Greifabschnitt (6) erstreckt und an einem distalen Ende (20) des Beins (14) den Zapfen stützt, und ein zweites Bein (16), welches sich vom Greifabschnitt (6) zu einer Position neben dem freien Ende (22) des Zapfens (18) erstreckt. 5
10
4. Verfahren nach Anspruch 1, wobei der Ring (8) von einem Ende (46), das am Greifabschnitt (46) angebracht ist, bis zu einem anderen Ende (48), das sich neben dem Greifabschnitt (6) befindet, aber davon abgetrennt ist, fortlaufend ist. 15

Revendications

1. Procédé pour retirer une tirette (4) d'un curseur (10) de fermeture à glissière (4), la tirette (2) comportant une partie de saisie (6) et un étrier (8) disposé sur la partie de saisie (6), l'étrier définissant un tourillon (18) qui permet le montage de la tirette (2) sur le curseur (10) et le tourillon (18) étant supporté à une seule (20) de ses extrémités sur la partie de saisie (6), le procédé comprenant
le fait de tordre la partie de saisie (6) par rapport au curseur pour déformer la tirette (2), afin d'ouvrir un intervalle (21) entre l'extrémité non supportée du tourillon (18) et la partie de saisie (6), le fait de séparer la tirette (4) du curseur (10) grâce à cet intervalle (21) et de mettre la tirette (4) au rebut. 20
25
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2. Procédé selon la revendication 1, dans lequel le tourillon (18) est supporté à une de ses extrémités par une branche (14, 14') qui s'étend depuis la partie de saisie (6). 35
3. Procédé selon la revendication 1, dans lequel l'étrier (8) comprend une première branche (14) qui s'étend depuis la partie de saisie (6) et qui supporte le tourillon à une extrémité distale (20) de la branche (14), et une deuxième branche (16) qui s'étend depuis la partie de saisie (6) jusqu'à un emplacement adjacent à l'extrémité libre (22) du tourillon (18). 40
45
4. Procédé selon la revendication 1, dans lequel l'étrier (8) est continu depuis une (46) des extrémités fixée à la partie de saisie (6) jusqu'à l'autre extrémité (48) qui est adjacente à la partie de saisie (6) mais est séparée de celle-ci. 50

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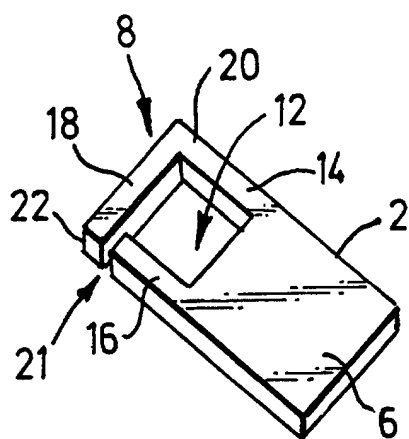


Fig. 1

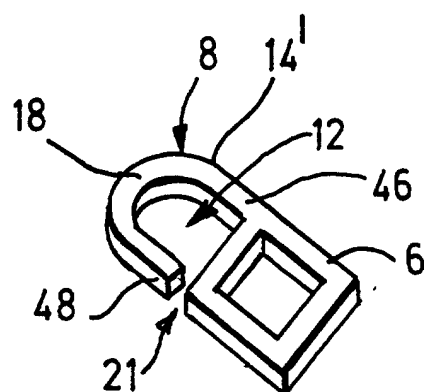


Fig. 3

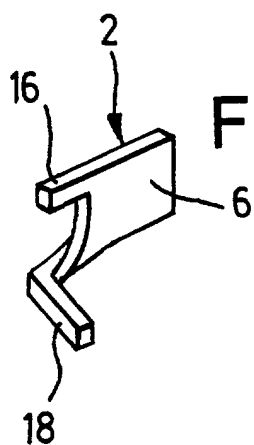


Fig. 2a

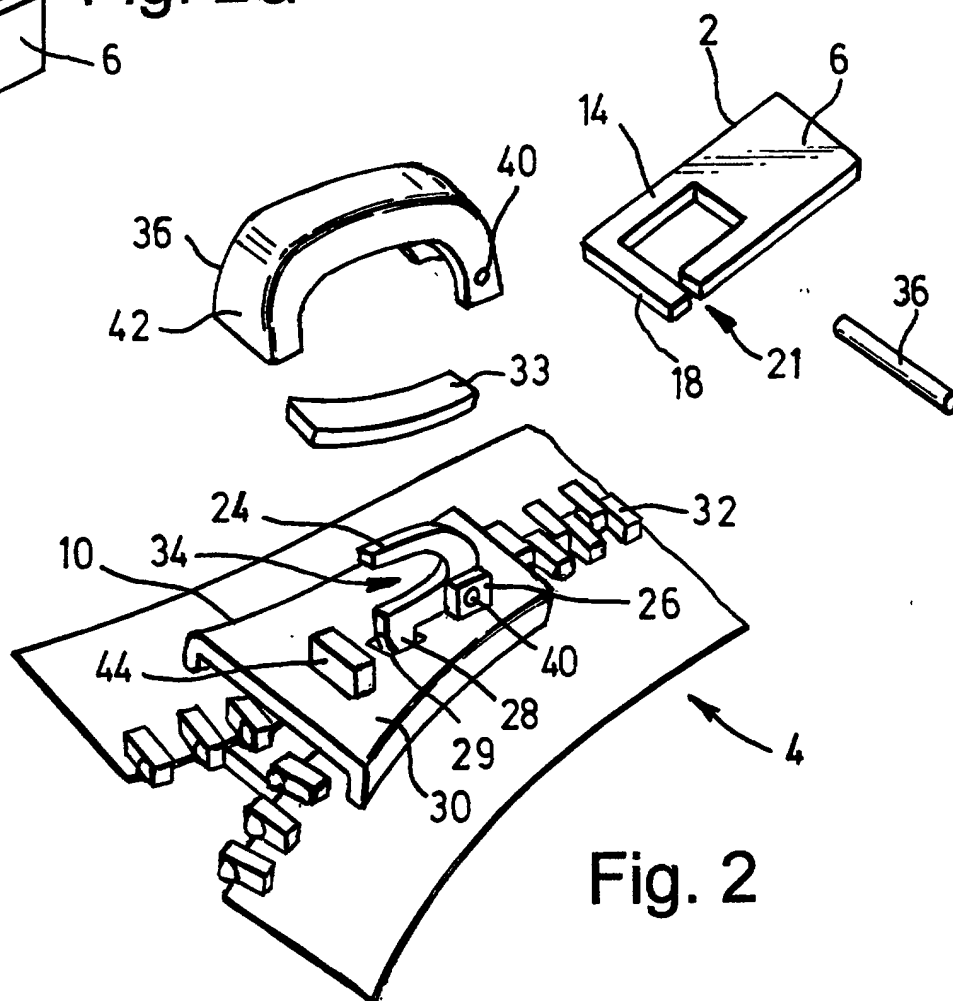


Fig. 2