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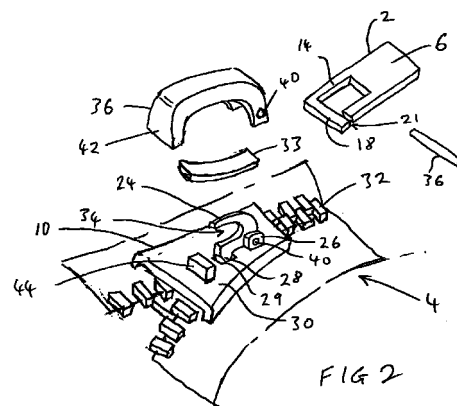
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(54) **Detachable pull tab**

(57) A detachable pull tab 2 for a slide fastener 4 has spindle 18 which pivots within a locking member 24 and cover 36 on a slider 10 of the fastener 4. The spindle 18 is supported only at one end, on a leg 14 which extends from a gripping portion 6 of the pull tab 2. To detach the pull tab, the gripping portion 6 is twisted, causing the leg 14 to deform or twist, and opening a gap 21 at the free end of the spindle 18. The pull tab 2 can then be easily removed from the slider 10.



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## Description

### INTRODUCTION

**[0001]** The present invention relates to a detachable pull tab for a slider of a slide fastener, particularly a zip fastener, and to a slider and a fastener incorporating the detachable pull tab.

### 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 detach-

able 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 detachable pull tab for a slider of a slide fastener, the pull tab comprising a gripping portion and a collar on the gripping portion, the collar defining a spindle for mounting the pull tab on the slider, wherein the spindle supported at only one end.

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

**[0011]** The gap may be sufficiently large to enable the pull tab to be slipped from the slider, the lug or other mounting part on the slider passing through the gap.

**[0012]** However, it is preferred that the gap is smaller so that the collar must be deformed to remove the pull tab from the slider. 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

**[0013]** 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 forming 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 in accordance with the invention.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0014]** 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.

**[0015]** 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, the contents of which are incorporated herein by reference.

**[0016]** 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.

**[0017]** 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.

**[0018]** 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.

**[0019]** 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.

**[0020]** 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 detachable pull tab (2) for 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) for mounting the pull tab (2) on the slider (10), wherein the spindle (18) is supported at only one end (20).
2. A detachable pull tab (2) 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 detachable pull tab (2) 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 detachable pull tab (2) 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).
5. A detachable pull tab as claimed in claim 1, 2, 3 or 4, wherein the pull tab must be deformed to remove it from the slider.
6. A slide fastener including a pull tab as claimed in any one of claims 1 to 5.





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EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 0127

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| A,D   | GB 2 190 706 A (LAW LEONARD)<br>25 November 1987 (1987-11-25)<br>* page 1, line 51 - line 99; figures *<br>---   | 1-6   | <table border="1"> <thead> <tr> <th>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</th> </tr> </thead> <tbody> <tr> <td>A44B</td> </tr> </tbody> </table> | TECHNICAL FIELDS SEARCHED (Int.Cl.7) | A44B |
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| The present search report has been drawn up for all claims  |  |   |   |                                      |      |
| Place of search<br><b>MUNICH</b>  |  | Date of completion of the search<br><b>7 April 2000</b>   | Examiner<br><b>Kock, S</b>  |                                      |      |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |  | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |   |                                      |      |

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 00 30 0127

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