

Description

The present invention relates to a pull tab attachment for attaching a pull tab in accordance with the preamble of claim 1.

Sliders for use in slide fasteners are usually shipped and sold as comprising slider bodies and pull tabs which are coupled to each other and mounted on slide fastener chains, the slider bodies and pull tabs matching the types, shapes, dimensions, and colors of the slide fastener chains. However, to meet growing demands for more diverse kinds of articles on which slide fasteners are used, and to increase the efficiency of stitching slide fasteners to articles and allow many slide fastener types to be produced in smaller quantities, it is being practiced in the slide fastener industry to ship slide fastener chains and sliders separately, and subsequently join them together while the slide fastener chains are being stitched to desired articles.

The pull tabs of sliders are most appealing to the eyes of users among other slide fastener components. Therefore, as the users are more and more fashion-minded, slider pull tabs are required to be designed for aesthetic purpose. One of increasing trends in the industry is that pull tabs are made available in different materials, shapes, and colors, and a desired pull tab can be selected and combined with a slider body.

WO-A-80/02494 discloses a pull tab attachment of the type mentioned in the preamble of claim 1. The attachment body of this prior art pull tab attachment is made of an elastic material and includes one or two jaws resiliently engaging the pull tab. To put it more precisely, when the pull tab is connected with the pull tab attachment, the jaws are first of all elastically deformed until they snap into a corresponding recess of the pull tab due to their pretension. Therefore, the pull tab must be made of a relatively rigid material for deforming the jaws of the pull tab attachment body against the pretension of the jaws. This means that a pull tab made of a soft material, e.g. leather, could not be employed and available pull tabs are limited to certain designs, i.e. not all pull tabs of any desired shape and material can be used.

CH-A-234 088 discloses a pull tab attachment for attaching a pull tab made of a plastically deformable material to a slider body. This conventional pull tab attachment comprises a wire-body including a ring member for being loosely fitted in the pull tab retainer and a pair of legs received in a recess of the pull tab. When the pull tab is connected with the pull tab attachment the pair of legs thereof are inserted in the pull tab recess whereupon the pull tab is plastically deformed for positively engaging the pull tab attachment body.

US-PS 2 483 703 discloses an upper top stop for slide fasteners. This top stop consists of a sheet metal piece with two legs which are bent around the row of coupling elements arranged at the longitudinal edge of the associated stringer tape in a U-shaped way so that they clamp the stringer tape between them. As the mutual distance of the two legs of the top stop is smaller than the thickness of the coupling elements, the top stop is inhibited from moving rectangularly to the respective row of coupling elements. This known top stop further comprises two end portions which stick out rectangularly of the sheet metal piece. Since these two end portions are inserted between two neighbouring coupling elements when fixing the top stop, they inhibit the top stop from moving along the rows of coupling elements.

In view of the aforesaid problems of conventional pull tab attachments, the present invention seeks to provide a pull tab attachment capable of subsequently attaching pull tabs of any shape, design and material to a slider body with large coupling strength and stability.

According to the present invention a pull tab attachment satisfying this requirement is characterized in that said attachment body is made of a plastically deformable material and that said pair of jaws comprises a pair of gripper arms on the opposite end of said attachment body for gripping the end of the pull tab therebetween by plastical deformation of said gripper arms, said gripper arms having on inner confronting surfaces thereof a plurality of biting teeth extending in different directions for biting engagement with the end of the pull tab gripped between said gripper arms.

The invention will now be described in more detail with reference to some preferred embodiments thereof illustrated in the accompanying drawings, in which

Figure 1 is a perspective view of a slider with a slider body and a pull tab coupled to each other by a pull tab attachment according to the present invention.

Figure 2 is a side elevational view, partly broken away, showing the manner in which the slider body and the pull tab are connected to each other;

Figure 3 is plan view of the pull tab attachment; Figure 4 is a cross-sectional view taken along line IV - IV of Figure 3;

Figure 5 is a plan view of biting teeth on a jaw of the pull tab attachment;

Figure 6 is a cross-sectional view of a pull tab attachment according to another embodiment of the present invention;

Figure 7 is a cross-sectional view taken along line VII - VII of Figure 6; and

Figure 8 is a plan view of biting teeth on a jaw of a pull tab attachment according to a modification.

Like or corresponding parts are denoted by like or corresponding reference characters throughout all views.

Figure 1 shows a slide fastener slider S comprising a slider body 2 and a pull tab 3 which are coupled to each other by a pull tab attachment 1 according to an embodiment of the present invention.

As shown in Figures 1 and 2, the slider body 2 includes a pair of upper and lower wings 4 spaced from each other and interconnected by a diamond or separator 5 at their front end, thus defining a generally Y-shaped guide channel Y through the slider body 2. The slider body 2 also has a pull tab holder 7 mounted on the upper surface of the upper wing 4 and extending from the front end thereof rearwardly toward a throat 6 defined in the rear end of slider body 2 in communication with the guide channel Y. The pull tab holder 7 is substantially of a C shape which is concave downwardly and has a rear end that is spaced a gap 8 from the rear end of the upper wing 4. A slide member 9 having an upwardly projecting ridge 9a is slidably disposed in a recess 10 defined in the rear portion of the upper wing 4 and extending from the rear end thereof above the throat 6 toward the front end thereof. The slide member 9 is normally urged in a rearward direction to position the ridge 9a in the gap 8 thereby to close the gap 8 by a spring 11 disposed in the upper wing 4. The pull tab holder 7 and the slide member 9 jointly constitute a pull tab retainer 12. The pull tab 3 is shown as being of a rectangular flat shape. However, it may be of any design, shape, and material insofar as it can be attached to the pull tab attachment 1 in the manner described below.

Figures 3 through 5 illustrate the pull tab attachment 1 and the manner in which the pull tab 3 is joined to the pull tab attachment 1. The pull tab attachment 1 is made of a plastically deformable material such as metal such that when it is under a load in excess of its elastic limit as by bending, it will not recover its original shape upon removal of the load. The pull tab attachment 1 has an attachment body 1a and an annular member 13 joined to the front end of the attachment body 1a and having a thickness which is smaller than the gap 8 of the pull tab retainer 12. The pull tab attachment 1 also has a pair of jaws 16 on the rear end of the attachment body 1a, the jaws 16 comprising a pair of upper and lower parallel gripper arms 14, 15 for gripping the front end of the pull tab 3 therebetween. The jaws 14, 15 are joined to the attachment body 1a through respective proximal ends 14a, 15a. The upper and lower gripper arms 14, 15

each have on their inner confronting surfaces two parallel biting teeth 17 extending transversely of the pull tab attachment 1 and a biting tooth 18 extending longitudinally of the pull tab attachment 1 between the biting teeth 17 at their intermediate portions, as shown in Figure 5, the biting teeth 17, 18 substantially assuming the shape of an H.

The slider body 2, the pull tab 3, and the pull tab attachment 1 are assembled together as follows: The front end of the pull tab 3 is inserted between the upper and lower gripper arms 14, 15 of the jaws 16 of the pull tab attachment 1, and then the upper and lower gripper arms 14, 15 are pressed against the pull tab 3 by a suitable tool or press. The jaws 16 are deformed, by staking, to cause the biting teeth 17, 18 on the inner surfaces of the gripper arms 14, 15 to bite into the upper and lower surfaces of the front end of the pull tab 3. The pull tab attachment 1 and the pull tab 3 are now firmly united as shown in Figure 4. Then, the annular member 13 of the pull tab attachment 1 is inserted into the gap 8 while pushing the ridge 9a of the slide member 9 forwardly against the bias of the spring 11, until the annular member 13 is placed in the pull tab retainer 12. Then, the ridge 9a of the slide member 9 is released from the annular member 13 and the slide member 9 is automatically returned to the original position under the force of the spring 11, thus closing the gap 8, as shown in Figure 2. Therefore, the slider body 2 and the pull tab 3 are interconnected by the pull tab attachment 1, as illustrated in Figure 1.

As described above, the pull tab 3 can be joined to the pull tab attachment 1 simply by pressing the gripper arms 14, 15 against the front end of the pull tab 3 inserted therebetween. Therefore, no special structure needs to be added to the front end of the pull tab 3 for attachment to the pull tab attachment 1, but the front end of the pull tab 3 is only required to be of a flat configuration. Accordingly, the pull tab 3 with a flat front end, which may be of any shape, design, and material, can easily be coupled to the slider body 2 through the pull tab attachment 1. Because a choice is available out of many different types of pull tabs, the pull tab attachment 1 is suitable for subsequently attaching a freely selected pull tab to the slider body 2.

Figures 6 and 7 show a pull tab attachment 1' in accordance with another embodiment of the present invention. The pull tab attachment 1' has a pair of jaws 16 including a pair of gripper arms 14, 15 having curved proximal portions 14a, 15a, respectively, so that the gripper arms 14, 15 can easily be deformed toward each other. The pull tab attachment 1' also includes a positioning land 19 disposed on an inner central surface where the jaws 16 are joined to each other. The positioning

land 19 engages the front end of the pull tab 3 when the pull tab 3 is inserted between the jaws 16, for thereby positioning the pull tab 3 accurately with respect to the pull tab attachment 1'.

Figure 8 shows a modified pull tab attachment 1". The pull tab attachment 1" has a pair of gripper arms (only the gripper arm 15 is shown) having on their inner confronting surfaces pairs of biting teeth 17, 18 which obliquely cross each other in the pattern of an X in each pair.

Claims

1. A pull tab attachment (1; 1'; 1") for attaching a pull tab (3) to a slider body (2) of a slide fastener slider (S), the pull tab (3) having an end and the slider body (2) having a pull tab retainer (12), said pull tab attachment (1; 1'; 1") comprising: an attachment body (1a) made of a deformable material; a ring member (13) on one end of said attachment body (1a) for being loosely fitted in the pull tab retainer (12); and a pair of jaws (16) engageable with said pull tab (3); **characterized** in that said attachment body is made of a plastically deformable material and that said pair of jaws (16) comprises a pair of gripper arms (14, 15) on the opposite end of said attachment body (1a) for gripping the end of the pull tab (3) therebetween by plastical deformation of said gripper arms, said gripper arms (14, 15) having on inner confronting surfaces thereof a plurality of biting teeth (17, 18) extending in different directions for biting engagement with the end of the pull tab (3) gripped between said gripper arms (14, 15).

A pull tab attachment (1; 1'; 1") according to claim 1, said gripper arms (14, 15) extending parallel to each other.

3. A pull tab attachment (1') according to claim 1, said gripper arms (14, 15) having curved proximal ends (14a, 14b) joined to said attachment body (1a).
4. A pull tab attachment (1; 1') according to claim 1, said biting teeth (17, 18) including two parallel biting teeth (17) extending transversely of the pull tab attachment (1) and a biting tooth (18) extending longitudinally of the pull tab attachment (1) between said two biting teeth (17).
5. A pull tab attachment (1; 1') according to claim 4, said biting teeth (17, 18) substantially assuming the shape of an H.

6. A pull tab attachment (1") according to claim 1, said biting teeth (17, 18) include at least one pair of biting teeth (17, 18) obliquely crossing each other.

7. A pull tab attachment (1") according to claim 6, said biting teeth (17, 18) substantially assuming the shape of an X.

8. A pull tab attachment (1') according to claim 1, said attachment body (1a) having a positioning land (19) on an inner surface where said jaws (16) are joined to the attachment body (1a).

Patentansprüche

1. Griffbefestigungsteil (1; 1'; 1") zum Befestigen eines Griffs (3) an einem Schieberkörper (2) eines Reißverschlußschiebers (S), wobei der Griff (3) ein Ende und der Schieberkörper (2) eine Griffsicherung (12) hat, wobei das Griffbefestigungsteil (1; 1'; 1") umfaßt: einen Befestigungsteilkörper (1a) aus einem verformbaren Material; ein ringförmiges Teil (13) an einem Ende des Befestigungsteilkörpers (1a), das in die Griffsicherung (12) lose einsetzbar ist; und zwei Klauen (16), die mit dem Griff (3) in Eingriff bringbar sind; dadurch **gekennzeichnet**, daß der Befestigungsteilkörper aus einem plastisch verformbaren Material hergestellt ist und daß die beiden Klauen (16) zwei Klemmarme (14, 15) an dem gegenüberliegenden Ende des Befestigungsteilkörpers (1a) umfassen, um das Ende des Griffs (3) durch plastische Verformung der Klemmarme dazwischen einzuklemmen, wobei die Klemmarme (14, 15) an ihren gegenüberliegenden Innenflächen mehrere sich in unterschiedliche Richtungen erstreckende Eingriffszähne (17, 18) zum Eingriff mit dem zwischen den Klemmarmen (14, 15) eingeklemmten Ende des Griffs (3) aufweisen.

2. Griffbefestigungsteil (1; 1'; 1") nach Anspruch 1, wobei sich die Klemmarme (14, 15) parallel zueinander erstrecken.

3. Griffbefestigungsteil (1') nach Anspruch 1, wobei die Klemmarme (14, 15) gekrümmte abliegende Enden (14a, 14b) haben, die mit dem Befestigungsteilkörper (1a) verbunden sind.

4. Griffbefestigungsteil (1; 1') nach Anspruch 1, wobei die Eingriffszähne (17, 18) zwei parallele Eingriffszähne (17) aufweisen, die sich quer zu dem Griffbefestigungsteil (1) erstrecken, und einen Eingriffszahn (18) aufweisen, der sich in Längsrichtung des Griffbefestigungsteils (1) zwischen den besagten zwei Eingriffszähnen



land 19 engages the front end of the pull tab 3 when the pull tab 3 is inserted between the jaws 16, for thereby positioning the pull tab 3 accurately with respect to the pull tab attachment 1'.

Figure 8 shows a modified pull tab attachment 1". The pull tab attachment 1" has a pair of gripper arms (only the gripper arm 15 is shown) having on their inner confronting surfaces pairs of biting teeth 17, 18 which obliquely cross each other in the pattern of an X in each pair.

Claims

1. A pull tab attachment (1; 1'; 1") for attaching a pull tab (3) to a slider body (2) of a slide fastener slider (S), the pull tab (3) having an end and the slider body (2) having a pull tab retainer (12), said pull tab attachment (1; 1'; 1") comprising: an attachment body (1a) made of a deformable material; a ring member (13) on one end of said attachment body (1a) for being loosely fitted in the pull tab retainer (12); and a pair of jaws (16) engageable with said pull tab (3); **characterized** in that said attachment body is made of a plastically deformable material and that said pair of jaws (16) comprises a pair of gripper arms (14, 15) on the opposite end of said attachment body (1a) for gripping the end of the pull tab (3) therebetween by plastical deformation of said gripper arms, said gripper arms (14, 15) having on inner confronting surfaces thereof a plurality of biting teeth (17, 18) extending in different directions for biting engagement with the end of the pull tab (3) gripped between said gripper arms (14, 15).
- A pull tab attachment (1; 1'; 1") according to claim 1, said gripper arms (14, 15) extending parallel to each other.
3. A pull tab attachment (1') according to claim 1, said gripper arms (14, 15) having curved proximal ends (14a, 14b) joined to said attachment body (1a).
4. A pull tab attachment (1; 1') according to claim 1, said biting teeth (17, 18) including two parallel biting teeth (17) extending transversely of the pull tab attachment (1) and a biting tooth (18) extending longitudinally of the pull tab attachment (1) between said two biting teeth (17).
5. A pull tab attachment (1; 1') according to claim 4, said biting teeth (17, 18) substantially assuming the shape of an H.

6. A pull tab attachment (1") according to claim 1, said biting teeth (17, 18) include at least one pair of biting teeth (17, 18) obliquely crossing each other.
7. A pull tab attachment (1") according to claim 6, said biting teeth (17, 18) substantially assuming the shape of an X.
8. A pull tab attachment (1') according to claim 1, said attachment body (1a) having a positioning land (19) on an inner surface where said jaws (16) are joined to the attachment body (1a).

Patentansprüche

1. Griffbefestigungsteil (1; 1'; 1") zum Befestigen eines Griffs (3) an einem Schieberkörper (2) eines Reißverschlußschiebers (S), wobei der Griff (3) ein Ende und der Schieberkörper (2) eine Griffsicherung (12) hat, wobei das Griffbefestigungsteil (1; 1'; 1") umfaßt: einen Befestigungsteilkörper (1a) aus einem verformbaren Material; ein ringförmiges Teil (13) an einem Ende des Befestigungsteilkörpers (1a), das in die Griffsicherung (12) lose einsetzbar ist; und zwei Klauen (16), die mit dem Griff (3) in Eingriff bringbar sind; dadurch **gekennzeichnet**, daß der Befestigungsteilkörper aus einem plastisch verformbaren Material hergestellt ist und daß die beiden Klauen (16) zwei Klemmarme (14, 15) an dem gegenüberliegenden Ende des Befestigungsteilkörpers (1a) umfassen, um das Ende des Griffs (3) durch plastische Verformung der Klemmarme dazwischen einzuklemmen, wobei die Klemmarme (14, 15) an ihren gegenüberliegenden Innenflächen mehrere sich in unterschiedliche Richtungen erstreckende Eingriffszähne (17, 18) zum Eingriff mit dem zwischen den Klemmarmen (14, 15) eingeklemmten Ende des Griffs (3) aufweisen.
2. Griffbefestigungsteil (1; 1'; 1") nach Anspruch 1, wobei sich die Klemmarme (14, 15) parallel zueinander erstrecken.
3. Griffbefestigungsteil (1') nach Anspruch 1, wobei die Klemmarme (14, 15) gekrümmte abliegende Enden (14a, 14b) haben, die mit dem Befestigungsteilkörper (1a) verbunden sind.
4. Griffbefestigungsteil (1; 1') nach Anspruch 1, wobei die Eingriffszähne (17, 18) zwei parallele Eingriffszähne (17) aufweisen, die sich quer zu dem Griffbefestigungsteil (1) erstrecken, und einen Eingriffszahn (18) aufweisen, der sich in Längsrichtung des Griffbefestigungsteils (1) zwischen den besagten zwei Eingriffszähnen



(17) erstreckt.

5. Griffbefestigungsteil (1; 1') nach Anspruch 4, wobei die Eingriffszähne (17, 18) im wesentlichen die Form eines H haben.

6. Griffbefestigungsteil (1'') nach Anspruch 1, wobei die Eingriffszähne (17, 18) mindestens zwei Eingriffszähne (17, 18) umfassen, die sich schräg kreuzen.

7. Griffbefestigungsteil (1'') nach Anspruch 6, wobei die Eingriffszähne (17, 18) im wesentlichen die Form eines X haben.

8. Griffbefestigungsteil (1') nach Anspruch 1, wobei der Befestigungsteilkörper (1a) einen Positioniersteg (19) an einer Innenfläche aufweist, wo die Klauen (16) mit dem Befestigungsteilkörper (1a) verbunden sind.

Revendications

1. Dispositif (1 ; 1' ; 1'') de fixation de tirette pour fixer une tirette (3) à un corps (2) d'un curseur (S) de fermeture à glissière, la tirette (3) comportant une extrémité et le corps (2) de curseur comportant un dispositif (12) de retenue de tirette, le dispositif (1 ; 1' ; 1'') de fixation de tirette comprenant : un corps (1a) de fixation formé d'un matériau déformable ; un élément annulaire (13) sur une des extrémités du corps (1a) de dispositif de fixation pour être monté de façon lâche dans le dispositif (12) de retenue de tirette ; et une paire de mâchoires (16) pouvant venir en prise avec la tirette (3), **caractérisé** par le fait que le corps de fixation est formé d'un matériau pouvant être déformé de façon plastique et que la paire de mâchoires (16) comprend une paire de bras de serrage (14, 15) sur l'extrémité opposée du corps (1a) de dispositif de fixation pour serrer entre eux l'extrémité de la tirette (3) par déformation plastique desdits bras de serrage, lesdits bras de serrage (14, 15) comportant sur leurs surfaces intérieures en regard l'une de l'autre une pluralité de dents de pénétration (17, 18) s'étendant dans différentes directions pour venir en prise par pénétration avec l'extrémité de la tirette (3) serrée entre lesdits bras de serrage (14, 15).

2. Dispositif (1 ; 1' ; 1'') de fixation de tirette selon la revendication 1, lesdits bras de serrage (14, 15) s'étendant parallèlement l'un à l'autre.

3. Dispositif (1') de fixation de tirette selon la revendication 1, lesdits bras de serrage (14, 15) comportant des extrémités proximales courbées (14a, 14b) reliées au corps (1a) de dispositif de fixation.

4. Dispositif (1 ; 1') de fixation de tirette selon la revendication 1, lesdites dents de pénétration (17, 18) comprenant deux dents de pénétration parallèles (17) s'étendant dans le sens transversal du dispositif (1) de fixation de tirette et une dent de pénétration (18) s'étendant dans le sens longitudinal du dispositif (1) de fixation de tirette entre les deux dents de pénétration précitées (17).

5. Dispositif (1 ; 1') de fixation de tirette selon la revendication 4, lesdites dents de pénétration (17, 18) prenant sensiblement la forme d'un H.

6. Dispositif (1'') de fixation de tirette selon la revendication 1, lesdites dents de pénétration (17, 18) comprenant au moins une paire de dents de pénétration (17, 18) se coupant obliquement l'une l'autre.

7. Dispositif (1'') de fixation de tirette selon la revendication 6, lesdites dents de pénétration (17, 18) prenant sensiblement la forme d'un X.

8. Dispositif (1') de fixation de tirette selon la revendication 1, ledit corps (1a) de dispositif de fixation comportant un bossage de positionnement (19) sur une surface intérieure où lesdites mâchoires (16) sont reliées au corps (1a) du dispositif de fixation.