

Description

The present invention relates in general to a security sealing mechanism mounted on a slide fastener attached to a bag in which to put valuables when staying in hotels, motels, inns and the like, and an envelope in which to put confidential letters and inter-office messages and which shuttles between branch offices of a certain organization.

In particular, the present invention relates to a security sealing mechanism in a slide fastener according to the preambles of appending claims 1 and 2.

A security sealing mechanism in a slide fastener of this type is disclosed in the Applicant's own Japanese Utility Model JP-U-1-59282. As shown in Fig. 10, this security sealing mechanism comprises a sealing body A attached to one end of a slide fastener, which comprises a pair of fastener tapes, two rows of fastener element rows attached to and along the respective inner longitudinal edges of the tapes and a slider C reciprocally mounted on the fastener element rows and having a pull tab D pivotally mounted thereon, the sealing body A having on its upper side locking means B for unreleasably or permanently locking thereto a tail portion E extending integrally from the pull tab D so that one can easily see from the outside whether his bag carrying the slide fastener still remains sealed safely or it has been subjected to larceny, pilferage or the like in transit.

However, since, in this security sealing mechanism, the pull tab D itself is releasably joined directly to the slider body, the slider C must be equipped with a specific attachment lug of complicated construction, thus rendering the cost of the slider C the more expensive and rendering the manufacture of the slider C and the assemblage of the pull tab D on the slider C more time-consuming and tedious.

Furthermore, although the tail portion E of the pull tab D is locked to the locking means B, there is no means whatsoever to support the pull tab body D' itself. And, there is a frangible thinned portion F between the tail portion E and the pull tab body D'. Consequently, the tail portion E is liable to be broken off the pull tab body D' under lateral stress exerted on the pull tab body D'.

Still furthermore, the security sealing mechanism can be re-used just by replacing the broken pull tab D with new ones D, which are mass-produced for replacement. Under these circumstances, some other person is very likely to unseal the bag by breaking the pull tab D and re-seal it by replacing it with a new pull tab D while the bag is in transit. In this event, the addressee of the bag could not tell whether the bag is unsealed or not, so that there is a problem in security with the

conventional sealing mechanism.

EP-A-0 287 060 discloses a slide fastener slider comprising a slider body having an attachment lug mounted on the upper surface thereof, a link pivotally connected with said attachment lug and a pull tab releasably joined to said link. However, in this document there is not disclosed any security sealing mechanism.

With the foregoing drawbacks in view, it is therefore an object of the present invention to provide a security sealing mechanism which enables disposable pull tabs to be easily replaced, even if a commonplace slider is used therewith, thus fully precluding necessity of using a specific slider equipped with a specific attachment lug of complicated construction.

It is another object of the present invention to provide a security sealing mechanism wherein a pull tab body is firmly supported on a sealing body, thus being exempt from the liability of getting broken off a tail portion.

It is still another object of the present invention to provide a security sealing mechanism which enables the addressee of a bag to tell easily whether the bag is unsealed before he receives it.

Two different embodiments of a slide fastener provided with a security sealing mechanism satisfying the requirements mentioned above are characterized in the appending claims 1 and 2.

Many other advantages and features of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which preferred structural embodiments incorporating the principles of the present invention are shown by way of illustrative example.

FIG. 1 is an enlarged fragmentary perspective view of a security sealing mechanism according to the present invention;

FIG. 2 is a longitudinal cross-sectional view of the security sealing mechanism of FIG. 1;

FIG. 3 is a view similar to FIG. 2 but shows another embodiment;

FIG. 4 is a longitudinal cross-sectional view of an upper plate of a sealing body of a security sealing mechanism according to a still another embodiment;

FIG. 5 is a view similar to FIG. 1 but shows a yet another embodiment;

FIG. 6 is a view also similar to FIG. 1 but shows a yet another embodiment;

FIG. 7(a) is a fragmentary side elevational view of a pull tab and a link engaged with each other; FIG. 7(b) is a view similar to FIG. 7(a) but shows a still another embodiment;

FIG. 8(a) is a fragmentary base view of a pull tab and a link engaged with each other;

FIG. 8(b) is a view similar to FIG. 7(a) but shows still another embodiment;

FIG. 9 is a front elevational view of a bag to which the security sealing mechanism according to the present invention is attached; and

FIG. 10 is a cross-sectional view of a security sealing mechanism according to the prior art.

FIG. 1 shows a security sealing mechanism S according to the present invention being mounted on one end of a slide fastener Z. Since the sealing mechanism S is thus already mounted on the slide fastener Z, it is advantageously very easy to mount on a bag 40, that is, the sealing mechanism S can be mounted on the bag 40 by simply attaching the slide fastener Z to the opening of the bag 40, as shown in FIG. 9. The slide fastener Z comprises a pair of fastener stringers 4, 4 each including a fastener tape T, T and a coupling element row 5, 5 mounted along the inner longitudinal edge T, T thereof and a slider 6 mounted reciprocally on and along the coupling element rows 5, 5. The slider 6 comprises a slider body 6' having on its upper surface an attachment lug 18 and a pull tab P pivotally attached to the attachment lug 18 through a link 19 for manipulation of the slider 6, the pull tab P including a pull tab body 10 joined to the link 19 and a tail portion 11 extending integrally therefrom for unreleasably locking engagement with a locking means 12, as closely described hereinbelow.

The security sealing mechanism S is made of synthetic resinous materials and broadly includes a pair of upper and lower rectangular plates 2, 3. The upper and lower plates 2, 3 are attached to that end of the coupling element rows 5, 5 to which the slider 6 comes for fully closing the slide fastener Z, in such a way that the upper and lower plates 2, 3 are joined with each other at their respective four corners by fastening means such as rivets 7, clamping the fastener tapes T, T therebetween, as shown in FIGS. 1 and 2.

The upper plate 2 is substantially rectangular and is recessed at 8 in the end contiguous to fastener element rows 5, 5 to thus provide a concaved abutting surface 9 which is complementary in contour with the front part of the slider 6 for abutting and snug engagement therewith. A locking means 12 is provided protuberantly at the distal end on the upper surface of the upper plate 2 and disposed in alignment with the element rows 5, 5 for the purpose of unreleasably or permanently locking the tail portion 11 of the pull tab P. That end of the sealing body 1 on which the locking means 12 is mounted is referred to the front end, while that end in which the concaved abutting surface 9 is provided the rear end hereinbelow just for convenience's sake. The locking means 12 is in the shape of trapezoidal prism and has a tunnel 14

formed therethrough for inserting the tail portion 11 of the pull tab p. A resilient tongue 15 is provided at the inlet end 13 of the locking means 12 and on the upper edge partly defining the tunnel 14 in such a way to slant downwardly toward the exit end 13' of the locking means 12, as better shown in FIG. 2. The resilient tongue 15 is provided at its distal end and on its lower surface with a series of teeth 16 for locking engagement with a series of prongs 17 provided on the tail portion 11 of the pull tab P when it is inserted through the tunnel 14, as closely described hereinbelow. A pair of support walls 20, 20 are protuberantly mounted substantially centrally on the upper surface of the upper plate 2 and are disposed in parallel spaced relation to each other to thus retain therebetween the link 19 and the pull tab body 10 for preventing them from lateral displacement, when the tail portion 11 of the pull tab P is locked to the locking means 12, so that the security sealing mechanism S can accomplish more reliable sealing effect. A transverse indentation 22 is formed in the upper surface forwardly of the pair of support walls 20, 20 of the upper plate 2 and is disposed in registry with a frangible thinned portion 21 formed between the pull tab body 10 and the tail portion 11, as viewed perpendicularly to the general plane of the sealing body 1, when the tail portion 11 is locked to the locking means 12, so as to thereby facilitate intentional breakage of the frangible thinned portion 21 for unsealing the bag 40.

The lower plate 3 is rectangular as well and substantially identical in contour with the upper plate 2. The lower plate 3 has at its rear end a recess 23 formed therein to allow the slider 6 to stably rest against the bottom thereof when the slider 6 comes into abutting engagement with the concaved abutting surface 9 of the upper plate 2. The lower plate 3 has at its middle a rectangular through hole 37 formed therethrough for fitting engagement with a protuberant boss 24 provided on the lower surface and at the middle of the upper plate 2.

As shown in FIG. 1, the link 19 comprises an annular portion 26 having a circular aperture 25 therein and a coupling portion 27 extending integrally from one end of the annular portion 26. The annular portion 26 has its other end constitute a pivotal portion 26' for pivotal engagement with the attachment lug 18 of the slider 6. The coupling portion 27 is substantially of U-shaped cross-section and includes a pair of parallel spaced coupling flaps 28, 28 defining therebetween a groove 27'. A pair of coupling flanges 28', 28' are provided on and along the respective front edges of the coupling flaps 28, 28 in such a manner to extend toward each other. A fitting rim 29 is provided on the proximal edge of the pull tab body 10. The

fitting rim 29 is brought into coupling engagement with the coupling flaps 28, 28 by just sliding the fitting rim 29 into and along the groove 27' laterally of the slide fastener Z, thus joining the pull tab P to the link 19 at ease. Since the pull tab P is thus connected to the attachment lug 18 of the slider 6 via the link 19, the slider 6 may be of any commonplace type or it is not necessary to use a special slider equipped with a specific attachment lug of complicated construction, which advantageously renders the manufacture of the slider 6 easier, renders the manufacturing cost thereof less costly and assemblage of the pull tab P onto the slider 6 easier.

The pull tab P is disposable and may be made of synthetic resinous materials, hard rubber, metal and the like materials. The pull tab P includes a pull tab body 10 pivotally joined to the link 19, the tail portion 11 adapted for locking engagement with the locking means 12 and a frangible thinned portion 21 disposed between the pull tab body 10 and the link 19, for facilitating the intentional breakage of the pull tab P therebetween. Instead of having a frangible thinned portion 21, the pull tab P may be made less in width between the pull tab body 10 and the tail portion 11 in order to render the intermediate portion frangible. The pull tab body 10 is of such width as to be snugly received between the opposed support walls 20, 20. The pull tab body 10 has at its distal end the fitting rim 29 for fitting engagement with the coupling flaps 28, 28 of the link 19. The tail portion 11 is insertable through the tunnel 14 and has at its middle part on its upper surface a series of prongs 17 for locking engagement with the series of teeth 16 formed on the lower surface of the resilient tongue 15.

As better shown in FIG. 9, the security sealing mechanism S is attached to the opening formed in the bag 40 by sewing, welding or other suitable method.

For sealing the bag 40, the pivotal portion 26 of the link 19 is first joined to the attachment lug 18 of the slider 6 just as a commonplace pull tab is joined thereto. Then, the fitting rim 29 of the pull tab P is slid in and along the groove 27' of the coupling portion 27 of the link 18 laterally of the slide fastener Z, thus being brought into coupling engagement with the coupling portion 27. Thereafter, for closing the slide fastener Z, the pull tab P is pulled to thus move the slider 6 all the way to the sealing mechanism S until the front part of the slider 6 comes into abutting engagement with the concaved abutting surface 9 of the sealing mechanism S. Then, the pull tab P is laid down flat against the upper surface of the upper plate 2 with the tail portion 11 of the pull tab P inserted through the tunnel 14 of the locking means 12, whereupon the series of prongs 17 of the tail portion 11 comes

into locking engagement with the series of the teeth 16 of the resilient tongue 15, so that the slider 6 is unreleasably locked to the security sealing mechanism S at great ease. Since the locking means 12 can be seen from the outside, it can be easily confirmed that the sealing is reliably effected, so that the security sealing mechanism S can accomplish increased safe and secure effects as such.

For unsealing the bag 40, the frangible thinned portion 21 is broken, thus releasing the pull tab body 10 from the locked tail portion 11, so that the thus freed slider 6 is slid away from the security sealing mechanism S, thereby opening the slide fastener Z.

FIG. 3 shows another embodiment of the present invention, which is substantially identical with the preceding embodiment with the following exception. The locking means 12a has a transverse bar 30 in a tunnel 14 adjacent to its outlet 13'. The tail portion 11a is first inserted through the tunnel 14 beneath the transverse bar 30 and then folded on the transverse bar 30 back over itself and then inserted reversely through the tunnel 14 again. The series of prongs 17 formed on the upper surface of the folded-back portion of the tail portion 11a come into locking engagement with the series of teeth 16 of the resilient tongue 15. This construction is intended to ensure that the tail portion 11 be locked to the locking means 12 more retentively. Besides, unlike the link 19 according to the other embodiments, the link 19 according to this embodiment comprises a hook-shaped link body 31 hooked with the pull tab P and a resilient plate member 32 resiliently engaged with the link body 31, thus releasably joining the pull tab P with the link 19.

FIG. 4 shows still another embodiment of the present invention wherein, instead of on the upper edge of the tunnel 14, a resilient tongue 15 is provided on the lower edge of the tunnel 14 in such a manner to slant forwardly upwardly and is provided at its distal end on its upper surface with a series of teeth 16, which are engageable with the series of prongs 17 formed on the lower surface of the tail portion 11 when the tail portion 11 is inserted through the tunnel 14. The locking engagement between the teeth 16 and prongs 17 is effected immediately beneath the tail portion 11, being thus by far less accessible for unsealing by any tool from outside, thus rendering the security sealing mechanism S much safer.

It is to be noted that the pair of support walls 20, 20 can function to retain therebetween the pull tab P where it is directly attached to the attachment lug 18 of the slider 6 as efficiently as where the pull tab P is attached indirectly through the link 19 to the attachment lug 18 of the slider 6.

FIG. 5 shows still another embodiment wherein a reinforcing bridge 33 joins the support walls 20, 20 at their respective upper sides, to thus retain the pull tab body 10 between the support walls 20, 20 and the reinforcing bridge 33 against perpendicular displacement, thereby ensuring more secure sealing. Although the reinforcing bridge 33 is shown to join the respective rear ends of the support walls 20, 20, the positions and the width of the reinforcing bridge 33 may be selected accordingly to meet the purpose. Instead of the single reinforcing bridge 33 extending over between the support walls 20, 20, a pair of overhangs (not shown) may extend from the support walls 20, 20 toward each other so as to retain the upper surface of the pull tab body 10.

FIG. 6 shows a still another embodiment wherein a pair of brackets 34, 34 are provided on the opposite sides of the recess 8 in such a manner to extend towards to each other, but the respective tips of the brackets 34, 34 are separated by such a distance as to allow the attachment lug 18 of the slider 6 to fall in between the tips of the brackets 34, 34 when the front part of the slider 6 comes into abutting engagement with the concaved abutting surface 9. The brackets 34, 34 coact to retain the slider body 6' in stable posture against accidental perpendicular displacement of the slider 6, thus resulting in increased security in sealing. As set forth above, the reinforcing bridge 35 (FIG. 5) and the brackets 34, 34 (FIG. 6) retain the pull tab body 10 and the slider body 6', respectively, against accidental perpendicular displacement, thus not only resulting in increased security in sealing but also resulting in prevention of accidental breakage of the frangible thinned portion 21.

FIG. 7(a) and 7(b) shows a still another embodiment wherein the coupling flaps 28, 28 has a plurality of ridges 50, 51 formed on their respective inner opposed surfaces so as to extend longitudinally of the groove 27', while the fitting rim 29 has a plurality of gains 50', 51' formed in their opposed sides which gains are complementary in relative positions, size and shape with the ridges 50, 51. This arrangement ensures that the pull tab P equipped with the fitting rim 29 having the complementary gains 50', 51' are only available for coupling engagement with the link 19, so that the complementary ridges and gains 50, 51; 50', 51' function as identifying means to identify the pull tab 10. Consequently, it is ensured that, if someone else opens the bag 40 secretly in transit, he can never seal the bag 40 again unless he uses a pull tab P equipped with the fitting rim 29 having the complementary gains 50', 51'. Various identifying means 50, 51, 50', 51' can be provided simply by changing the number, shape, size, relative positions etc. of the complementary ridges and gains

50, 51; 50', 51'.

FIG. 8(a) and 8(b) shows still another embodiment in which, instead of the ridge and gain arrangement, marks 52, 53 are used as identifying means, that is, corresponding marks 52, 53 are depicted as by printing, stamping or otherwise on the lower surfaces of the pull tab body 10 and the link 19, respectively, which are out of sight or on the sides of the pull tab body 10 and the link 19, respectively, which are fully concealed by the support walls 20, 20. Alternatively, instead of both the pull tab body 10 and the link 19, only the pull tab 10 may be provided with the identifying mark as far as the user remembers the key mark. This helps the user of the bag 40 to check whether the bag 40 was opened and re-sealed in transit.

Obviously, various modifications and variations of the present invention are possible in the light of the above teaching. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

Claims

1. In a slide fastener (Z) comprising a pair of fastener stringers (4, 4) each including a fastener tape (T, T) and a coupling element row (5, 5) mounted along the inner longitudinal edge (T', T') thereof and a slider (6) mounted reciprocatively on the coupling element rows (5, 5), the slider (6) including a slider body (6') having an attachment lug (18) mounted on the upper surface thereof; a security sealing mechanism (S) comprising a sealing body (1) mounted on that end of coupling element rows (5, 5) to which the slider (6) comes for closing the slide fastener (Z) and including an abutting surface (9) disposed at the end thereof contiguous to the coupling element rows (5, 5) for receiving the slider (6) and locking means (12, 12a, 12b) provided on the upper surface of the sealing body (1) and a pull tab (P) having one end adapted for unreleasably locking engagement with the locking means (12, 12a, 12b), characterized in that the slider (6) further includes a link (19) pivotally connected with the attachment lug (18) and that the other end of the pull tab (P) is releasably jointed to the link (19); and that the sealing body (1) further includes a pair of support walls (20, 20) mounted on the upper surface thereof and disposed in parallel spaced relation to each other to retain therebetween the link (19) and the pull tab (P) for preventing them from lateral displacement.
2. In a slide fastener (Z) comprising a pair of fastener stringers (4, 4) each including a fas-



FIG. 5 shows still another embodiment wherein a reinforcing bridge 33 joins the support walls 20, 20 at their respective upper sides, to thus retain the pull tab body 10 between the support walls 20, 20 and the reinforcing bridge 33 against perpendicular displacement, thereby ensuring more secure sealing. Although the reinforcing bridge 33 is shown to join the respective rear ends of the support walls 20, 20, the positions and the width of the reinforcing bridge 33 may be selected accordingly to meet the purpose. Instead of the single reinforcing bridge 33 extending over between the support walls 20, 20, a pair of overhangs (not shown) may extend from the support walls 20, 20 toward each other so as to retain the upper surface of the pull tab body 10.

FIG. 6 shows a still another embodiment wherein a pair of brackets 34, 34 are provided on the opposite sides of the recess 8 in such a manner to extend towards to each other, but the respective tips of the brackets 34, 34 are separated by such a distance as to allow the attachment lug 18 of the slider 6 to fall in between the tips of the brackets 34, 34 when the front part of the slider 6 comes into abutting engagement with the concaved abutting surface 9. The brackets 34, 34 coact to retain the slider body 6' in stable posture against accidental perpendicular displacement of the slider 6, thus resulting in increased security in sealing. As set forth above, the reinforcing bridge 35 (FIG. 5) and the brackets 34, 34 (FIG. 6) retain the pull tab body 10 and the slider body 6', respectively, against accidental perpendicular displacement, thus not only resulting in increased security in sealing but also resulting in prevention of accidental breakage of the frangible thinned portion 21.

FIG. 7(a) and 7(b) shows a still another embodiment wherein the coupling flaps 28, 28 has a plurality of ridges 50, 51 formed on their respective inner opposed surfaces so as to extend longitudinally of the groove 27', while the fitting rim 29 has a plurality of gains 50', 51' formed in their opposed sides which gains are complementary in relative positions, size and shape with the ridges 50, 51. This arrangement ensures that the pull tab P equipped with the fitting rim 29 having the complementary gains 50', 51' are only available for coupling engagement with the link 19, so that the complementary ridges and gains 50, 51; 50', 51' function as identifying means to identify the pull tab 10. Consequently, it is ensured that, if someone else opens the bag 40 secretly in transit, he can never seal the bag 40 again unless he uses a pull tab P equipped with the fitting rim 29 having the complementary gains 50', 51'. Various identifying means 50, 51, 50', 51' can be provided simply by changing the number, shape, size, relative positions etc. of the complementary ridges and gains

50, 51; 50', 51'.

FIG. 8(a) and 8(b) shows still another embodiment in which, instead of the ridge and gain arrangement, marks 52, 53 are used as identifying means, that is, corresponding marks 52, 53 are depicted as by printing, stamping or otherwise on the lower surfaces of the pull tab body 10 and the link 19, respectively, which are out of sight or on the sides of the pull tab body 10 and the link 19, respectively, which are fully concealed by the support walls 20, 20. Alternatively, instead of both the pull tab body 10 and the link 19, only the pull tab 10 may be provided with the identifying mark as far as the user remembers the key mark. This helps the user of the bag 40 to check whether the bag 40 was opened and re-sealed in transit.

Obviously, various modifications and variations of the present invention are possible in the light of the above teaching. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

Claims

1. In a slide fastener (Z) comprising a pair of fastener stringers (4, 4) each including a fastener tape (T, T) and a coupling element row (5, 5) mounted along the inner longitudinal edge (T', T') thereof and a slider (6) mounted reciprocally on the coupling element rows (5, 5), the slider (6) including a slider body (6') having an attachment lug (18) mounted on the upper surface thereof; a security sealing mechanism (S) comprising a sealing body (1) mounted on that end of coupling element rows (5, 5) to which the slider (6) comes for closing the slide fastener (Z) and including an abutting surface (9) disposed at the end thereof contiguous to the coupling element rows (5, 5) for receiving the slider (6) and locking means (12, 12a, 12b) provided on the upper surface of the sealing body (1) and a pull tab (P) having one end adapted for unreleasably locking engagement with the locking means (12, 12a, 12b), characterized in that the slider (6) further includes a link (19) pivotally connected with the attachment lug (18) and that the other end of the pull tab (P) is releasably jointed to the link (19); and that the sealing body (1) further includes a pair of support walls (20, 20) mounted on the upper surface thereof and disposed in parallel spaced relation to each other to retain therebetween the link (19) and the pull tab (P) for preventing them from lateral displacement.
2. In a slide fastener (Z) comprising a pair of fastener stringers (4, 4) each including a fas-



- tener tape (T, T) and a coupling element row (5, 5) mounted along the inner longitudinal edge (T', T') thereof and a slider (6) mounted reciprocally on the coupling element rows (5, 5), the slider (6) including a slider body (6') having an attachment lug (18) mounted on the upper surface thereof; a security sealing mechanism (S) comprising a sealing body (1) mounted at that end of coupling element rows (5, 5) to which the slider (6) comes for closing the slide fastener (Z) and including an abutting surface (9) disposed at the end thereof contiguous to the coupling element rows (5, 5) for receiving the slider (6) and locking means (12, 12a, 12b) provided on the upper surface of the sealing body (1), and a pull tab (P) having one end releasably jointed to the attachment lug (18) and having the other end adapted for unreleasable locking engagement with the locking means (12, 12a, 12b), characterized in that the sealing body (1) further includes a pair of support walls (20, 20) mounted on the upper surface of the sealing body (1) and disposed in parallel spaced relation to each other to retain the pull tab (P) therebetween for preventing it from lateral displacement; and that the sealing body (1) further includes a reinforcing bridge (33) joining the support walls (20, 20) at their respective upper sides for preventing the pull tab (P) from perpendicular displacement.
3. A security sealing mechanism (S) according to any of the preceding claims, the sealing body (1) further including means (34, 34) for retaining the slider body (6') when the slider (6) comes into abutting engagement with the abutting surface (9).
 4. A security sealing mechanism (S) according to claim 3, the retaining means (34, 34) comprising a pair of brackets (34, 34) provided on the opposite sides of the abutting surface (9) for jointly retaining the slider (6) in stable posture against accidental perpendicular displacement.
 5. A security sealing mechanism (S) according to claim 1, the pull tab (P) comprising a pull tab body (10) releasably jointed to the link (19), a tail portion (11) adapted for unreleasably locking engagement with the locking means (12) and a frangible thinned portion (21) disposed between the pull tab body (10) and the tail portion (11) for facilitating intentional breakage of the pull tab (P) therebetween.
 6. A security sealing mechanism (S) according to claim 2, the pull tab (P) comprising a pull tab body (10) releasably jointed to the attachment lug (18), a tail portion (11) adapted for unreleasably locking engagement with the locking means (12) and a frangible thinned portion (21) disposed between the pull tab body (10) and the tail portion (11) for facilitating intentional breakage of the pull tab (P) therebetween.
 7. A security sealing mechanism (S) according to claim 5, the link (19) comprising an annular portion (25) and a coupling portion (27) extending integrally from one end of the annular portion (25), the coupling portion (27) being substantially of U-shaped cross-section and including a pair of parallel spaced coupling flaps (28, 28) defining therebetween a groove (27'), the coupling flaps (28, 28) having a pair of coupling flanges (28', 28'), one on and along each of the front edges thereof, the pull tab body (10) having at its distal end the fitting rim (29) for fitting engagement with the coupling flaps (28, 28) of the link (19).
 8. A security sealing mechanism (S) according to claim 5 or 6, the locking means (12) having a tunnel (14) formed therethrough, and a resilient tongue (15) provided protuberantly on the inner edge defining the tunnel (14), the resilient tongue (15) being provided at its distal end and on its lower surface with a series of teeth (16); the tail portion (11) of the pull tab (P) being insertable through the tunnel (14) and having at its middle on its upper surface with a series of prongs (17) for locking engagement with the series of teeth (16) of the resilient tongue (15).
 9. A security sealing mechanism (S) according to any of the preceding claims, the pull tab (P) further including means (50, 50'; 51, 51'; 52, 53) for identifying the same (P).
 10. A security sealing mechanism (S) according to claim 9, the identifying means (50, 50'; 51, 51'; 52, 53) comprising a plurality of ridges (50, 51) provided on the respective inner opposed surfaces of the coupling flaps (28, 28), and a plurality of gains (50', 51') formed in their opposed sides of the fitting rim (29) and being complementary in relative positions, size and shape with the ridges (50, 51).
 11. A security sealing mechanism (S) according to claim 9, the identifying means (50, 50'; 51, 51'; 52, 53) being a mark (52, 53) put on the pull tab (P).
 12. A security sealing mechanism (S) according to claim 11, the mark (52, 53) being put on the



pull tab (P) as hidden from the sight.

Patentansprüche

1. In einem Reißverschluß (Z), umfassend zwei Reißverschlußbänder (4, 4), die jeweils ein Tragband (T, T) und eine Kuppelgliederreihe (5, 5) aufweisen, die entlang einem inneren Längsrand (T', T') derselben angebracht ist, und einen Schieber (6), der auf den Kuppelgliederreihen (5, 5) hin- und herbewegbar angeordnet ist, wobei der Schieber (6) einen Schieberkörper (6') aufweist, an dessen Oberseite eine Schieberkappe (18) angebracht ist; einen Sicherheitsverschlußmechanismus (S), umfassend einen Verschlusskörper (1), der an demjenigen Ende der Kuppelgliederreihen (5, 5) angebracht ist, zu dem der Schieber (6) zum Schließen des Reißverschlusses (Z) hin bewegt wird, und der eine Anschlagfläche (9) aufweist, die an dem an die Kuppelgliederreihen (5, 5) angrenzenden Ende desselben angeordnet ist, um den Schieber (6) aufzunehmen, und eine Sperreinrichtung (12, 12a, 12b) aufweist, die an der Oberseite des Verschlusskörpers (1) angeordnet ist, und einen Griff (P) dessen eines Ende mit der Sperreinrichtung (12, 12a, 12b) unlösbar in Sperreingriff bringbar ist, dadurch gekennzeichnet, daß der Schieber (6) ferner ein mit der Schieberkappe (18) schwenkbar verbundenes Anlenkstück (19) aufweist und daß das andere Ende des Griffs (P) mit dem Anlenkstück (19) lösbar verbunden ist; und daß der Verschlusskörper (1) ferner zwei Stützwände (20, 20) aufweist, die an seiner Oberseite angebracht und im Abstand voneinander parallel angeordnet sind, um dazwischen das Anlenkstück (19) und den Griff (P) festzulegen und diese an einer seitlichen Verlagerung zu hindern.
2. In einem Reißverschluß (Z), umfassend zwei Reißverschlußbänder (4, 4), die jeweils ein Tragband (T, T) und eine Kuppelgliederreihe (5, 5) aufweisen, die entlang einem inneren Längsrand (T', T') derselben angebracht ist, und einen Schieber (6), der auf den Kuppelgliederreihen (5, 5) hin- und herbewegbar angeordnet ist, wobei der Schieber (6) einen Schieberkörper (6') aufweist, an dessen Oberseite eine Schieberkappe (18) angebracht ist; einen Sicherheitsverschlußmechanismus (S), umfassend einen Verschlusskörper (1), der an demjenigen Ende der Kuppelgliederreihen (5, 5) angebracht ist, zu dem der Schieber (6) zum Schließen des Reißverschlusses (Z) hin bewegt wird, und der eine Anschlagfläche (9) aufweist, die an dem an die Kuppelgliederrei-
- hen (5, 5) angrenzenden Ende desselben angeordnet ist, um den Schieber (6) aufzunehmen, und eine Sperreinrichtung (12, 12a, 12b) aufweist, die an der Oberseite des Verschlusskörpers (1) angeordnet ist, und einen Griff (P), dessen eines Ende mit der Schieberkappe (18) lösbar verbunden ist und dessen anderes Ende mit der Sperreinrichtung (12, 12a, 12b) unlösbar in Sperreingriff bringbar ist, dadurch gekennzeichnet, daß der Verschlusskörper (1) ferner zwei Stützwände (20, 20) aufweist, die an der Oberseite des Verschlusskörpers (1) angebracht und im Abstand voneinander parallel angeordnet sind, um den Griff (P) dazwischen zu halten, um ihn an einer seitlichen Verlagerung zu hindern; und daß der Verschlusskörper (1) ferner eine Verstärkungsbrücke (33) aufweist, die die Stützwände (20, 20) an ihren Oberseiten verbindet, um den Griff (P) an einer lotrechten Verlagerung zu hindern.
3. Sicherheitsverschlußmechanismus (S) nach einem der vorhergehenden Ansprüche, wobei der Verschlusskörper (1) ferner Mittel (34, 34) aufweist, um den Schieberkörper (6') festzulegen, wenn der Schieber mit der Anschlagfläche (9) in Anschlagberührung gelangt.
4. Sicherheitsverschlußmechanismus (S) nach Anspruch 3, wobei die Haltemittel (34, 34) zwei Bügel (34, 34) umfassen, die auf gegenüberliegenden Seiten der Anschlagfläche (9) angeordnet sind, um den Schieber (6) gemeinsam in einer stabilen Position gegen eine versehentliche lotrechte Verlagerung zu halten.
5. Sicherheitsverschlußmechanismus (S) nach Anspruch 1, wobei der Griff (P) einen mit dem Anlenkstück (19) lösbar verbundenen Griffkörper (10), einen zum unlösbaren Sperreingriff der Sperreinrichtung (12) geeigneten Endbereich (11) und einen zerbrechlichen verjüngten Bereich (21) umfaßt, der zwischen dem Griffkörper (10) und dem Endbereich (11) angeordnet ist, um ein absichtliches Zerbrechen des Griffs (P) dazwischen zu erleichtern.
6. Sicherheitsverschlußmechanismus (S) nach Anspruch 2, wobei der Griff (P) einen mit der Schieberkappe (18) lösbar verbundenen Griffkörper (10), einen zum unlösbaren Sperreingriff mit der Sperreinrichtung (12) geeigneten Endbereich (11) und einen zerbrechlichen verjüngten Bereich (21) umfaßt, der zwischen dem Griffkörper (10) und dem Endbereich (11) angeordnet ist, um ein absichtliches Zerbrechen des Griffs (P) dazwischen zu erleichtern.



7. Sicherheitsverschlußmechanismus (S) nach Anspruch 5, wobei das Anlenkstück (19) einen ringförmigen Bereich (25) (richtig: 26) und einen sich von dem ringförmigen Bereich einstückig erstreckenden Kupplungsbereich (27) umfaßt, wobei der Kupplungsbereich (27) einen im wesentlichen U-förmigen Querschnitt hat und zwei parallele Kupplungslappen (28, 28) aufweist, die zwischen sich eine Nut (27') begrenzen, wobei die Kupplungslappen (28, 28) an und entlang ihrem vorderen Rand jeweils einen Kupplungsflansch (28', 28') aufweisen, wobei der Griffkörper (10) an seinem abliegenden Ende einen Einpaßrand (29) zum Paßeingriff mit den Kupplungslappen (28, 28) des Anlenkstückes (19) aufweist. 5 10 15
8. Sicherheitsverschlußmechanismus (S) nach Anspruch 5 oder 6, wobei die Sperreinrichtung (12) mit einem durchgehenden Tunnel (14) versehen ist und eine elastische Zunge (15) von der den Tunnel (14) begrenzenden Innenkante vorspringt, wobei die elastische Zunge (15) an ihrem abliegenden Ende und an ihrer Unterseite mit einer Reihe von Zähnen (16) versehen ist; wobei der Endbereich (11) des Griffs (P) durch den Tunnel (14) einführbar ist und in der Mitte auf seiner Oberseite eine Reihe von Klauen (17) zum Sperreingriff mit der Reihe von Zähnen (16) der federnden Zunge (15) aufweist. 20 25 30
9. Sicherheitsverschlußmechanismus (S) nach einem der vorhergehenden Ansprüche, wobei der Griff (P) ferner Mittel (50, 50'; 51, 51'; 52, 53) zu seiner Identifizierung aufweist. 35
10. Sicherheitsverschlußmechanismus (S) nach Anspruch 9, wobei die Identifizierungsmittel (50, 50'; 51, 51'; 52, 53) mehrere Rippen (50, 51), die an den gegenüberliegenden Innenflächen der Kuppelflansche (28, 28) angeordnet sind, und mehrere Nuten (50', 51') umfassen, die an den gegenüberliegenden Seiten des Eingriffsrandes (29) ausgebildet und hinsichtlich ihrer Relativstellung, Größe und Form zu den Rippen (50, 51) komplementär sind. 40 45
11. Sicherheitsverschlußmechanismus (S) nach Anspruch 9, wobei die Identifizierungsmittel (50, 50'; 51, 51'; 52, 53) aus einer an dem Griff (P) angebrachten Markierung (52, 53) bestehen. 50
12. Sicherheitsverschlußmechanismus (S) nach Anspruch 11, wobei die Markierung (52, 53) am Griff (P) versteckt angebracht ist. 55

Revendications

1. Fermeture à glissière (Z) comprenant une paire de bandes d'accrochage (4, 4) comprenant chacune un ruban (T, T) de fermeture à glissière et une rangée (5, 5) d'éléments d'accouplement montés le long du bord longitudinal intérieur (T', T') de ce ruban et un curseur (6) monté en vue d'un mouvement de va-et-vient sur les rangées (5, 5) d'éléments d'accouplement, le curseur (6) comprenant un corps (6') de curseur comportant une oreille de fixation (18) montée sur la surface supérieure de ce corps; un mécanisme (S) de fermeture étanche de sécurité comprenant un corps (1) de fermeture étanche monté sur l'extrémité des rangées (5, 5) d'éléments d'accouplement jusqu'à laquelle le curseur (6) vient pour fermer la fermeture à glissière (Z) et comprenant une surface de butée (9) disposée à l'extrémité de la fermeture à glissière qui est contiguë aux rangées (5, 5) d'éléments d'accouplement pour recevoir le curseur (6) et des moyens de verrouillage (12, 12a, 12b) présents sur la surface supérieure du corps d'étanchéité (1) et une tirette (F) dont une des extrémités est adaptée pour venir en prise de verrouillage non libérable avec les moyens de verrouillage (12, 12a, 12b), caractérisée par le fait que le curseur (6) comprend, en outre, un anneau de liaison (19) accouplé de façon pivotante à l'oreille de fixation (18); que l'autre extrémité de la tirette (P) est assemblée de façon libérable à l'anneau de liaison (19); et que le corps (1) de fermeture étanche comprend, en outre, une paire de parois de support (20, 20) montées sur la surface supérieure de ce corps et disposées parallèlement l'une à l'autre de manière à retenir, entre elles, l'anneau de liaison (19) et la tirette (P) afin d'en empêcher un déplacement latéral. 2.
2. Fermeture à glissière (Z) comprenant une paire de bandes d'accrochage (4, 4) comprenant chacune un ruban (T, T) de fermeture à glissière et une rangée (5, 5) d'éléments d'accouplement montés le long du bord longitudinal intérieur (T', T') de ce ruban et un curseur (6) monté en vue d'un mouvement de va-et-vient sur les rangées (5, 5) d'éléments d'accouplement, le curseur (6) comprenant un corps (6') de curseur comportant une oreille de fixation (18) montée sur la surface supérieure de ce corps; un mécanisme (S) de fermeture étanche de sécurité comprenant un corps (1) de fermeture étanche monté à l'extrémité des rangées (5, 5) d'éléments d'accouplement jusqu'à laquelle le curseur (6) vient pour fermer la fer-



- meture à glissière (Z) et comprenant une surface de butée (9) disposée à l'extrémité de cette fermeture à glissière qui est contiguë aux rangées (5, 5) d'éléments d'accouplement pour recevoir le curseur (6) et des moyens de verrouillage (12, 12a, 12b) présents sur la surface supérieure du corps (1) de fermeture étanche, et une tirette (P) dont une des extrémités est assemblée de façon libérable à l'oreille de fixation (18) et dont l'autre extrémité est adaptée pour venir en prise de verrouillage libérable avec les moyens de verrouillage (12, 12a, 12b), caractérisée par le fait que le corps (1) de fermeture étanche comprend, en outre, une paire de parois de support (20, 20) montées sur la surface supérieure du corps (1) de fermeture étanche et disposées en parallèle l'une par rapport à l'autre pour retenir entre elles la tirette (P) afin d'en empêcher le déplacement latéral; et que le corps (1) de fermeture étanche comprend, en outre, un pont de renforcement (33) reliant les parois de support (20, 20) à leurs côtés supérieurs respectifs pour empêcher un déplacement perpendiculaire de la tirette (P).
3. Mécanisme (S) de fermeture étanche de sécurité selon l'une quelconque des revendications précédentes, dans lequel le corps (1) de fermeture étanche comprend, en outre, des moyens (34, 34) pour retenir le corps (6') du curseur lorsque le curseur (6) vient en contact de butée avec la surface de butée (9).
 4. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 3, dans lequel les moyens de retenue (34, 34) comprennent une paire de supports (34, 34) présents sur les côtés opposés de la surface de butée (9) pour, conjointement, retenir le curseur (6) dans une position stable à l'encontre d'un déplacement perpendiculaire accidentel.
 5. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 1, dans lequel la tirette (P) comprend un corps (10) de tirette assemblé de façon libérable à l'anneau de liaison (18), une partie arrière (11) adaptée pour tenir en prise de verrouillage non libérable avec le moyen de verrouillage (12) et une partie amincie frangible (21) disposée entre le corps (10) de tirette et la partie arrière (11) pour faciliter une rupture volontaire de la tirette (P) entre ce corps et cette partie.
 6. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 2, dans lequel la tirette (P) comprend un corps (10) de tirette assemblé de façon libérable à l'oreille de fixation (18), une partie arrière (11) adaptée pour venir en prise de verrouillage non libérable avec le moyen de verrouillage (12) et une partie amincie frangible (21) disposée entre le corps (10) de tirette et la partie arrière (11) pour faciliter une rupture volontaire de la tirette (P) entre ce corps et cette partie.
 7. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 5, dans lequel l'anneau de liaison (19) comprend une partie annulaire (25) et une partie d'accouplement (27) s'étendant depuis une des extrémités de la partie annulaire (25) dont elle fait partie intégrante, la partie d'accouplement (27) ayant une section transversale sensiblement en forme de U et comprenant une paire d'ailes d'accouplement espacées parallèles (28, 28) définissant, entre elles, une rainure (27'), les ailes d'accouplement (28, 28) comportant une paire de rebords d'accouplement (28', 28') à raison d'un sur chacun de leurs bords avant et le long de ce bord, le corps (10) de tirette comportant à son extrémité distale un bourrelet d'emboîtement (29) destiné à venir en prise d'accouplement avec les ailes d'accouplement (28, 28) de l'anneau de liaison (19).
 8. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 5 ou 6, dans lequel le moyen de verrouillage (12) comporte un tunnel traversant (14) et une languette élastique (15) formée de façon saillante sur le bord intérieur définissant le tunnel (14), la languette élastique (15) étant pourvue, à son extrémité distale et sur sa surface inférieure d'une série de dents (16); la partie arrière (11) de la tirette (P) pouvant être insérée à travers le tunnel (14) et comportant dans sa partie médiane, sur sa surface supérieure, une série de dents (17) destinées à venir en prise de verrouillage avec la série de dents (16) de la languette élastique (15).
 9. Mécanisme (S) de fermeture étanche de sécurité selon l'une quelconque des revendications précédentes, dans lequel la tirette (P) comprend, en outre, des moyens (50, 50'; 51, 51'; 52, 53) servant à identifier cette tirette (P).
 10. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 9, dans lequel les moyens d'identification (50, 50'; 51, 51'; 52, 53) comprennent une multiplicité de nervures (50, 51) formées sur les surfaces opposées intérieures respectives des ailes d'accouplement (28, 28), et une pluralité de rainures (50',



51') formées sur les côtés opposés du bourrelet d'accouplement (29) et étant complémentaires des nervures (50, 51) en ce qui concerne les positions relatives, les dimensions et la forme.

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11. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 9, dans lequel les moyens d'identification (50, 50'; 51, 51'; 52, 53) sont formés par une marque (52, 53) présente sur la tirette (P).

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12. Mécanisme (S) de fermeture étanche de sécurité selon la revendication 11, dans lequel la marque (52, 53) est présente sur la tirette (P) de façon invisible.

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