

Description

This invention relates to a buckle assembly for releasably connecting belts, straps or the like on garments, bags, shoes, bottles, etc.

There are known a variety of buckles which include a socket member and a plug member releasably engageable therewith, both members being fabricated from a resilient material such as synthetic resins. A typical example of such buckle is disclosed in Japanese Utility Model Publication No. 60-24171 in which the buckle, as illustrated in Figures 12 and 13 of the accompanying drawings, comprises a socket or female member 100 having a pressing tab 110 overlying a chamber 120 and a hook 130, and a plug or male member 200 having a tongue 210 to be inserted into the chamber 120, the tongue 210 including a spring portion 220 for locking engagement with the hook 130. Pressing the tab 110 releases the spring portion 220 from the hook 130, in which instance, however, the spring portion 220 is held down or jammed against the inner bottom wall of the socket 100 and becomes snagged, rendering it difficult to separate the plug member 200 from the socket member 100.

With the foregoing difficulties of the prior art in view, it is therefore the primary object of the present invention to provide a buckle assembly which is relatively simple in construction and highly reliable in use and which is in particular easy and smooth in coupling and uncoupling.

According to the present invention, there is provided a buckle assembly comprising: a plug member including a resilient tongue having a locking lug disposed thereon, and a socket member adapted to be releasably coupled with said plug member, said socket member including a pair of spaced upper and lower wings joined together by a pair of opposed side walls so as to define therebetween a guide channel for receiving therein said resilient tongue, said upper wing having a cut-away groove communicating with said guide channel to form a cantilevered resilient flap, characterized in that said socket member includes a releasing lug disposed on said resilient flap and projecting into said guide channel, and a stopper bar extending between said side walls transversely across said guide channel and being spaced a distance from said releasing lug in a direction toward an inlet of said guide channel, said stopper bar being lockingly engageable with said locking lug to couple said plug and socket members, and said releasing lug being engageable with said locking lug to urge the latter out of locking engagement with said stopper bar when said resilient flap is flexed toward said lower wing.

The foregoing and other objects and features will become apparent from the following detailed description taken in conjunction with the accompanying drawings. In the drawings, like reference numerals refer to like or corresponding parts throughout the several views.

Figure 1 is a top view, partly in cross section, of a socket member of the buckle assembly constructed in accordance with the invention;

Figure 2 is a bottom view, partly in cross section, of the socket member;

Figure 3 is a longitudinal cross-sectional view of the socket part;

Figure 4 is a front elevational view of the socket member;

Figure 5 is a plan view, partly in cross section, of a plug member of the buckle assembly;

Figure 6 is a bottom view, partly in cross section, of the plug member;

Figure 7 is a longitudinal cross-sectional view of the plug member;

Figure 8 is a plan view, partly in cross section, of the socket and the plug members coupled together;

Figure 9 is a bottom view, partly in cross section, of Figure 8;

Figure 10 is a longitudinal cross-sectional view of Figure 8;

Figure 11 is a longitudinal cross-sectional view of a modified form of socket member according to the invention;

Figure 12 is a plan view of a known socket and plug assembly shown uncoupled; and

Figure 13 is a cross-sectional view of the known socket assembly connected to respective ends of a belt.

Referring now to the drawings and firstly Figures 1 - 4 inclusive, there is shown a socket member 11 which constitutes one part of a buckle assembly 10 (Figure 8) embodying the invention. The socket member 11 is formed by molding polyacetal, nylon, polypropylene or other suitable plastic material into a generally rectangular casing having a guide chamber 12 for receiving a plug member (Figures 5, 6 and 7) which constitutes the other part of the buckle assembly 10. The socket member 11 has a transverse slot 13 in its rear end for receiving an end of a strap or belt not shown.

The case-like socket member 11 includes an upper wing 14 and a lower wing 15 which are interconnected by a pair of opposed side walls 16, 17. The upper wing 14 has a U-shaped cut-away groove 18 to provide a cantilevered resilient flap 19 capable of flexing about its fixed proximal end located adjacent to the front or open end of the socket member 11. The resilient flap 19 has on its outer surface a plurality of parallel spaced transverse ridges 19a with which the strip 19 is pressed inwardly toward the lower wing 15 to release the plug member in a manner hereafter described. The resilient flap 19 further includes a transverse releasing lug 20 formed integrally with and disposed on the inner surface of the resilient flap 19 adjacent to the distal end of the resilient flap 19 for pressure engagement with a corresponding locking lug later described, on the plug member.

The socket member 11 also includes a stopper bar 21 disposed between the upper and lower wings 14, 15 and extending transversely between the opposed side walls 16, 17 transversely across the guide channel 12, the stopper bar 21 being located closer to the upper wing 14 than to the lower wing 15. The stopper bar 21 is disposed closer to the open end of the socket member 11 than to the releasing lug 20 on

the resilient flap 19 for locking engagement with the locking lug of the plug member. The stopper bar 21 is also engageable with the releasing lug 20 on the resilient flap 19 to limit inward deformation of the resilient flap 19 when the latter is pressed into the channel 12. With the stopper bar 21 thus constructed, the plug member can easily be removed from the socket member 11 as described later on. The stopper bar 21 is reinforced or made rigid by means of a pair of reinforcing studs 22 interconnecting the stopper bar 21 and the upper wing 14 on opposite sides of the resilient flap 19 as better shown in Figure 4. The stopper bar 21 has a canted rear surface 24 facing upwardly toward the releasing lug 20, as shown in Figure 3, for locking engagement with a mating canted surface on the locking lug of the plug member. The stopper bar 21 has a thickness reducing progressively in a direction from the rear surface 24 toward the open end or inlet 23 of the socket member 11. The front surface of the stopper bar 21 is rounded as at 21a for enabling smooth reception of the plug member into the socket member 11.

Referring now to Figures 5, 6 and 7 inclusive, there is shown a plug member 25 which constitutes the other half of the buckle assembly 10 and is adapted to be taken into and out of coupling engagement with the socket member 11. The plug member 25 is molded of the same plastic material as the socket member 11 and includes a thick stem portion 26 and a thin plate portion 27 extending from one end of the stem portion 26. The stem portion 26 has a hollow rectangular shape and includes a transverse crossbar 28 for connecting thereto the other end of the strap. The plate portion 27 is generally rectangular shaped and has a U-shaped cut-away groove 29 to provide a cantilevered resilient tongue 30 which is peripherally surrounded and protected by a rigid U-shaped reinforcing rim 31 integrally connected at its opposite ends with the stem portion 26.

The resilient tongue 30 includes on its upper surface a locking lug 32 disposed adjacent to the distal end of the resilient tongue 30, the locking lug 32 being located close to the front end 33 of the U-shaped rim 31. The locking lug 32 has a canted rear surface 34 facing downwardly toward the upper surface of the resilient tongue 30 and lockingly engageable with the canted rear surface 24 (Figure 3) of the socket member 11. The front surface 35 of the locking lug is also bevelled and extends substantially parallel to the canted rear surface 34. The bevelled front surface 35 is frictionally engageable with the releasing lug 20 (Figure 3) when the resilient flap 19 is depressed, so that a downward pressure on the flap 19 is transformed into a horizontal rearward thrust on the plate portion 27. This camming action enables a quick release of the plug member 25 from the socket member 11.

The plug member 25 also includes a pair of lateral protuberances 36, 37 disposed adjacent to the proximal or fixed ends of the U-shaped rim 31. The protuberances 36, 37 are engageable with a pair of guide recesses 38, 39 (Figures 2 and 3) respectively formed in the opposite side walls 16, 17 of the socket member 11, so as to retain the socket and plug mem-

bers 11, 25 in coupled condition against vertical displacement.

The operation of the buckle assembly 10 thus constructed with the socket member 11 and the plug member 25 will now be described. Inserting the plate portion 27 of the plug member 25 into the chamber 12 in the socket member 11 causes the resilient tongue 30 to flex downwardly as the locking lug 32 slides frictionally along the contoured inner surface of the stopper bar 21. As the plate portion 25 is fully inserted into coupling engagement with the plate portion 27 as shown in Figures 8, 9 and 10, the resilient tongue 30 flips resiliently back to its original flat position and is so retained by interlocking engagement between the canted rear surface 34 of the locking lug 32 and the rear canted surface 24 of the stopper bar 21 so that the plug member 25 is locked in place against accidental release from the socket member 11.

When releasing or uncoupling the plug member 25 from the socket member 11, this is done by pressing the resilient flap 19 inwardly until the releasing lug 20 forces the mating locking lug 32 to depart from the stopper bar 21, in which instance the lug 20 slides down the front bevelled surface 35 of the lug 32, affording a moment to urge the plug member 25 to spring out, thus releasing the same with utmost ease. The extent to which the resilient flap 19 of the socket member 11 is flexed inwardly is limited by the stopper bar 21 so that the resilient tongue 30 of the plug member 25 is prevented from being jammed against the inner surface of the lower wing 15 of the socket member 11 which would otherwise occur to snag the plug member 25 as in the case of the prior art shown in Figures 12 and 13.

A modified socket member 11' shown in Figure 11 is substantially identical with the socket member 11 of the foregoing embodiment with the exception that a resilient flap 19' is resiliently deformable about its fixed proximal end disposed adjacent to the rear end of the socket member 11'. The resilient flap 19' is formed as a result of provision of a U-shaped cut-away groove 18' and has a plurality of transverse ridges 19a' and a releasing lug 20' that are structurally and functionally the same as those of the socket member 11.

Claims

1. A buckle assembly (10) comprising: a plug member (25) including a resilient tongue (30) having a locking lug (32) disposed thereon, and a socket member (11, 11') adapted to be releasably coupled with said plug member (25), said socket member (11, 11') including a pair of spaced upper and lower wings (14, 15) joined together by a pair of opposed side walls (16, 17) so as to define therebetween a guide channel (12) for receiving therein said resilient tongue (30), said upper wing (14) having a cut-away groove (18, 18') communicating with said guide channel (12) to form a cantilevered resilient flap (19, 19'), characterized in that said socket member (11, 11') includes a releasing lug (20, 20') disposed on said resilient flap (19, 19') and projecting into said guide channel (12), and a stopper bar (21) extending be-



the resilient flap 19 for locking engagement with the locking lug of the plug member. The stopper bar 21 is also engageable with the releasing lug 20 on the resilient flap 19 to limit inward deformation of the resilient flap 19 when the latter is pressed into the channel 12. With the stopper bar 21 thus constructed, the plug member can easily be removed from the socket member 11 as described later on. The stopper bar 21 is reinforced or made rigid by means of a pair of reinforcing studs 22 interconnecting the stopper bar 21 and the upper wing 14 on opposite sides of the resilient flap 19 as better shown in Figure 4. The stopper bar 21 has a canted rear surface 24 facing upwardly toward the releasing lug 20, as shown in Figure 3, for locking engagement with a mating canted surface on the locking lug of the plug member. The stopper bar 21 has a thickness reducing progressively in a direction from the rear surface 24 toward the open end or inlet 23 of the socket member 11. The front surface of the stopper bar 21 is rounded as at 21g for enabling smooth reception of the plug member into the socket member 11.

Referring now to Figures 5, 6 and 7 inclusive, there is shown a plug member 25 which constitutes the other half of the buckle assembly 10 and is adapted to be taken into and out of coupling engagement with the socket member 11. The plug member 25 is molded of the same plastic material as the socket member 11 and includes a thick stem portion 26 and a thin plate portion 27 extending from one end of the stem portion 26. The stem portion 26 has a hollow rectangular shape and includes a transverse crossbar 28 for connecting thereto the other end of the strap. The plate portion 27 is generally rectangular shaped and has a U-shaped cut-away groove 29 to provide a cantilevered resilient tongue 30 which is peripherally surrounded and protected by a rigid U-shaped reinforcing rim 31 integrally connected at its opposite ends with the stem portion 26.

The resilient tongue 30 includes on its upper surface a locking lug 32 disposed adjacent to the distal end of the resilient tongue 30, the locking lug 32 being located close to the front end 33 of the U-shaped rim 31. The locking lug 32 has a canted rear surface 34 facing downwardly toward the upper surface of the resilient tongue 30 and lockingly engageable with the canted rear surface 24 (Figure 3) of the socket member 11. The front surface 35 of the locking lug is also bevelled and extends substantially parallel to the canted rear surface 34. The bevelled front surface 35 is frictionally engageable with the releasing lug 20 (Figure 3) when the resilient flap 19 is depressed, so that a downward pressure on the flap 19 is transformed into a horizontal rearward thrust on the plate portion 27. This camming action enables a quick release of the plug member 25 from the socket member 11.

The plug member 25 also includes a pair of lateral protuberances 36, 37 disposed adjacent to the proximal or fixed ends of the U-shaped rim 31. The protuberances 36, 37 are engageable with a pair of guide recesses 38, 39 (Figures 2 and 3) respectively formed in the opposite side walls 16, 17 of the socket member 11, so as to retain the socket and plug mem-

bers 11, 25 in coupled condition against vertical displacement.

The operation of the buckle assembly 10 thus constructed with the socket member 11 and the plug member 25 will now be described. Inserting the plate portion 27 of the plug member 25 into the chamber 12 in the socket member 11 causes the resilient tongue 30 to flex downwardly as the locking lug 32 slides frictionally along the contoured inner surface of the stopper bar 21. As the plate portion 25 is fully inserted into coupling engagement with the plate portion 27 as shown in Figures 8, 9 and 10, the resilient tongue 30 flips resiliently back to its original flat position and is so retained by interlocking engagement between the canted rear surface 34 of the locking lug 32 and the rear canted surface 24 of the stopper bar 21 so that the plug member 25 is locked in place against accidental release from the socket member 11.

When releasing or uncoupling the plug member 25 from the socket member 11, this is done by pressing the resilient flap 19 inwardly until the releasing lug 20 forces the mating locking lug 32 to depart from the stopper bar 21, in which instance the lug 20 slides down the front bevelled surface 35 of the lug 32, affording a moment to urge the plug member 25 to spring out, thus releasing the same with utmost ease. The extent to which the resilient flap 19 of the socket member 11 is flexed inwardly is limited by the stopper bar 21 so that the resilient tongue 30 of the plug member 25 is prevented from being jammed against the inner surface of the lower wing 15 of the socket member 11 which would otherwise occur to snag the plug member 25 as in the case of the prior art shown in Figures 12 and 13.

A modified socket member 11' shown in Figure 11 is substantially identical with the socket member 11 of the foregoing embodiment with the exception that a resilient flap 19' is resiliently deformable about its fixed proximal end disposed adjacent to the rear end of the socket member 11'. The resilient flap 19' is formed as a result of provision of a U-shaped cut-away groove 18' and has a plurality of transverse ridges 19g' and a releasing lug 20' that are structurally and functionally the same as those of the socket member 11.

Claims

1. A buckle assembly (10) comprising: a plug member (25) including a resilient tongue (30) having a locking lug (32) disposed thereon, and a socket member (11, 11') adapted to be releasably coupled with said plug member (25), said socket member (11, 11') including a pair of spaced upper and lower wings (14, 15) joined together by a pair of opposed side walls (16, 17) so as to define therebetween a guide channel (12) for receiving therein said resilient tongue (30), said upper wing (14) having a cut-away groove (18, 18') communicating with said guide channel (12) to form a cantilevered resilient flap (19, 19'), characterized in that said socket member (11, 11') includes a releasing lug (20, 20') disposed on said resilient flap (19, 19') and projecting into said guide channel (12), and a stopper bar (21) extending be-



tween said side walls (16, 17) transversely across said guide channel (12) and being spaced a distance from said releasing lug (20, 21') in a direction toward the open end (23) of said guide channel (12), said stopper bar (21) being lockingly engageable with said locking lug (32) to couple said plug and socket members (25; 11, 11'), and said releasing lug (20, 20') being engageable with said locking lug (32) to urge the latter out of locking engagement with said stopper bar (21) when said resilient flap (19, 19') is flexed toward said lower wing (15).

2. A buckle according to claim 1, said cut-away groove (18) having a U-shape.

3. A buckle according to claim 1 or 2, said cantilevered resilient flap (19) having a fixed end disposed adjacent to said inlet (23) of said guide channel (12).

4. A buckle according to claim 1 or 2, said cantilevered resilient flap (19') having a fixed end disposed adjacent to an end of said guide channel (12) opposite to said inlet (23).

5. A buckle according to one of the claims 1 to 4, said resilient flap (19, 19') having on its outer surface a plurality of ridges (19a, 19a') extending transverse to said guide channel (12).

6. A buckle according to one of the preceding claims, said stopper bar (21) being disposed closer to said upper wing (14) than to said lower wing (15).

7. A buckle according to one of the preceding claims, said stopper bar (21) having a thickness progressively reducing toward said inlet (23) of said guide channel (12).

8. A buckle according to one of the preceding claims, said stopper bar (21) having a round front surface (21a) facing toward said inlet (23), and a canted rear surface (24) facing upwardly toward said releasing lug (20, 20').

9. A buckle according to one of the preceding claims, said stopper bar (21) being joined at opposite ends with said side wall (16, 17).

10. A buckle according to one of the preceding claims, said socket member (11) further including a pair of reinforcing studs (22) interconnecting said stopper bar (21) and said upper wing (14) on opposite sides of said resilient flap (19, 19').

11. A buckle according to one of the preceding claims, said socket member (11, 11') further including a pair of guide recesses (38, 39) defined respectively in said side walls (16, 17) and opening in the same direction as said inlet (23), said socket member (25) including a pair of lateral protuberances (36, 37) disposed on opposite sides of said resilient tongue (30) adjacent to a fixed end of said tongue (30), said protuberances (36, 37) being guidedly receivable in said guide recesses (38, 39), respectively.

12. A buckle according to one of the preceding claims, said locking lug (32) including a bevelled front surface (35) and a canted rear surface (34).

13. A buckle according to one of the preceding claims, said plug member (25) further including a rigid reinforcing rim (31) extending along the periphery of said resilient tongue (30) with a groove (29) leaving therebetween.

14. A buckle according to claim 13, said groove (29) having a U-shape.

15. A buckle according to one of the preceding claims, said plug and socket members (25; 11, 11') being molded of synthetic resin.

Patentansprüche

1. Schnalle (10), umfassend: ein Einsteckteil (25) mit einer elastischen Zunge (30), auf der ein Sperrvorsprung (32) angeordnet ist, und mit einem Buchsenteil (11, 11'), das mit dem Einsteckteil (25) lösbar kuppelbar ist, wobei das Buchsenteil (11, 11') ein Paar im Abstand angeordnete obere und untere Schilde (14, 15) aufweist, die durch zwei gegenüberliegende Seitenwände (16, 17) miteinander verbunden sind, um dazwischen einen Führungskanal (12) zur Aufnahme der elastischen Zunge (30) zu begrenzen, wobei der Oberschild (14) eine ausgeschnittene Nut (18, 18') aufweist, um einen freitragenden federnden Lappen (19, 19') zu bilden, dadurch gekennzeichnet, daß das Buchsenteil (11, 11') einen Ausrückvorsprung (20, 20') aufweist, der auf dem federnden Lappen (19, 19') angeordnet ist und in den Führungskanal (12) hineinragt, und eine Anschlagstange (21) aufweist, die sich zwischen den Seitenwänden (16, 17) quer über den Führungskanal (12) erstreckt und in einer Richtung zu dem offenen Rand des Führungskanals (12) hin im Abstand von dem Ausrückvorsprung (20, 20') angeordnet ist, wobei die Anschlagstange (21) mit dem Sperrvorsprung (32) in Sperr-eingriff bringbar ist, um das Einsteckteil (25) mit dem Sockelteil (11, 11') zu kuppeln, und wobei der Ausrückvorsprung (20, 20') mit dem Sperrvorsprung (32) in Eingriff bringbar ist, um diesen mit der Anschlagstange (21) außer Sperr-eingriff zu bringen, wenn der federnde Lappen (19, 19') zu dem Unterschild (15) hin ausgelenkt wird.

2. Schnalle nach Anspruch 1, wobei die ausgeschnittene Nut (18) U-förmig ist.

3. Schnalle nach Anspruch 1 oder 2, wobei der freitragende federnde Lappen (19) ein festes Ende hat, das nahe einem Ende des Führungskanals (12) gegenüber dem Einlaß (23) angeordnet ist.

4. Schnalle nach Anspruch 1 oder 2, wobei der freitragende federnde Lappen (19') ein festes Ende hat, das nahe einem Ende des Führungskanals (12) gegenüber dem Einlaß (23) angeordnet ist.

5. Schnalle nach einem der Ansprüche 1 bis 4, wobei der federnde Lappen (19, 19') auf seiner Außenseite mehrere Rippen (19a, 19a') aufweist, die sich quer zu dem Führungskanal (12) erstrecken.

6. Schnalle nach einem der vorhergehenden Ansprüche, wobei die Anschlagstange (21) näher am Oberschild (14) als am Unterschild (15) angeordnet ist.

7. Schnalle nach einem der vorhergehenden Ansprüche, wobei die Anschlagstange (21) eine Dicke hat, die zum Einlaß (23) des Führungskanals (12) hin abnimmt.

8. Schnalle nach einem der vorhergehenden Ansprüche, wobei die Anschlagstange (21) eine dem Einlaß zugekehrte abgerundete Vorderseite (21a) und eine abgeschrägte Rückseite (24) hat, die nach oben gegen den Ausrückvorsprung (20, 20') gerichtet ist.



9. Schnalle nach einem der vorhergehenden Ansprüche, wobei die Anschlagstange (21) an gegenüberliegenden Enden mit den Seitenwänden (16, 17) verbunden ist.

10. Schnalle nach einem der vorhergehenden Ansprüche, wobei das Buchsenteil (11) ferner zwei Versteifungsstreben (22) aufweist, die die Anschlagstange (21) mit dem Oberschild (14) auf gegenüberliegenden Seiten des federnden Lappens (19, 19') verbinden.

11. Schnalle nach einem der vorhergehenden Ansprüche, wobei das Buchsenteil (11, 11') ferner zwei Führungsaussparungen (38, 39) aufweist, die in den Seitenwänden (16, 17) angeordnet sind und in die gleiche Richtung weisen wie der Einlaß (23), wobei das Einsteckteil (25) zwei seitliche Vorsprünge (36, 37) aufweist, die auf gegenüberliegenden Seiten der federnden Zunge (30) neben einem festen Ende dieser Zunge (30) angeordnet sind, wobei die Vorsprünge (36, 37) in die Führungsaussparungen (38, 39) einführbar sind.

12. Schnalle nach einem der vorhergehenden Ansprüche, wobei der Sperrvorsprung (32) eine geneigte Vorderseite (35) und eine abgeschrägte Rückseite (34) aufweist.

13. Schnalle nach einem der vorhergehenden Ansprüche, wobei das Einsteckteil (25) ferner einen steifen Verstärkungssteg (31) aufweist, der sich längs des Umfangs der federnden Zunge (30) erstreckt, wobei dazwischen eine Nut (29) verbleibt.

14. Schnalle nach Anspruch 13, wobei die Nut (29) U-förmig ist.

15. Schnalle nach einem der vorhergehenden Ansprüche, wobei das Einsteckteil (25) und das Buchsenteil (11, 11') aus Kunststoff gegossen sind.

Revendications

1. Boucle (10) comprenant: un élément mâle (25) comportant une languette élastique (30), sur laquelle se trouve une saillie de blocage (32), et un élément femelle (11, 11') adapté pour être accouplé de façon libérable audit élément mâle (25), l'élément femelle (11, 11') comprenant une paire d'ailes supérieure et inférieure espacées (14, 15) reliées l'une à l'autre par une paire de parois latérales opposées (16, 17) de manière à définir entre-elles un canal de guidage (12) destiné à recevoir une languette élastique (30), l'aile supérieure (14) comportant une fente (18, 18') communiquant avec le canal de guidage (12) pour former une patte élastique (19, 19') en porte-à-faux, caractérisée en ce que l'élément femelle (11, 11') comprend une saillie de libération (20, 20') disposée sur la patte élastique (19, 19') et pénétrant dans le canal de guidage (12) et une barrette d'arrêt (21) s'étendant entre les parois latérales (16, 17) transversalement au couloir de guidage (12) d'un côté à l'autre de celui-ci et étant espacée de la saillie de libération (20, 21') en direction du bord ouvert du canal de guidage (12), cette barrette d'arrêt (21) pouvant venir en prise de verrouillage avec la saillie de verrouillage (32) pour accoupler des éléments mâle et femelle (25; 11, 11') et la saillie de libération (20, 20') pouvant venir en contact avec la patte de ver-

rouillage (32) pour pousser cette dernière hors de prise de verrouillage avec la barrette d'arrêt (21) lorsque la saillie élastique (19, 19') fléchit en direction de l'aile inférieure (15).

2. Boucle selon la revendication 1, la fente 18 ayant une forme en U.

3. Boucle selon la revendication 1 ou 2, la patte élastique (19) en porte-à-faux ayant une extrémité fixe disposée de façon adjacente à l'entrée (23) du canal de guidage (12).

4. Boucle selon la revendication 1 ou 2, la patte élastique (19') en porte-à-faux ayant une extrémité fixe disposée de façon adjacente à une extrémité du couloir de guidage (12) opposée à ladite entrée (23).

5. Boucle selon l'une des revendications 1 à 4, la patte élastique (19, 19') comportant sur sa surface extérieure une pluralité de nervures (19a, 19a') s'étendant transversalement au canal de guidage (12).

6. Boucle selon l'une des revendications précédentes, la barrette d'arrêt (21) étant disposée plus près de l'aile supérieure que de l'aile inférieure (15).

7. Boucle selon l'une des revendications précédentes, la barrette d'arrêt (21) ayant une épaisseur qui diminue progressivement en direction de l'entrée (23) du canal de guidage (12).

8. Boucle selon l'une des revendications précédentes, la barrette d'arrêt (21) comportant une surface avant arrondie (21a) orientée vers ladite entrée (23) et une surface arrière inclinée (24) orientée vers le haut en direction de la saillie de libération (20, 20').

9. Boucle selon l'une des revendications précédentes, la barre d'arrêt (21) étant réunie à ses extrémités opposées par les parois latérales (16, 17).

10. Boucle selon l'une des revendications précédentes, l'élément femelle (11) comprenant en outre une paire de colonnettes de renforcement (22) reliant entre elles la barrette d'arrêt (21) et l'aile supérieure (14) sur les côtés opposés de la patte élastique (19, 19').

11. Boucle selon l'une des revendications précédentes, l'élément femelle (11, 11') comprenant en outre une paire d'évidements de guidage (38, 39) formés respectivement dans les parois latérales (16, 17) et débouchant dans la même direction que l'entrée (23), l'élément (25) comprenant une paire de protubérances latérales (36, 37) disposées de part et d'autre de la languette élastique (30) en un endroit adjacent à l'extrémité fixe de cette languette (30), lesdites protubérances (36, 37) pouvant être reçues de façon guidée dans les évidements de guidage (38, 39) respectivement.

12. Boucle selon l'une des revendications précédentes, la saillie de blocage (32) comprenant une surface avant biseautée (35) et une surface arrière inclinée (34).

13. Boucle selon l'une des revendications précédentes, l'élément mâle, (25) comprenant, en outre, un bord de renforcement rigide (31) s'étendant le long de la périphérie de la languette élastique (30), une fente (29) étant laissée entre eux.

14. Boucle selon la revendication 13, la fente (29) ayant une forme en U.



15. Boucle selon l'une des revendications précédentes, les éléments mâle et femelle (25, 11, 11') étant en résine synthétique moulée.

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