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(54) **Loop for straps, belts, laces or similar**

Schlaufe für Schnürsenkel, Riemen, Gurtbänder oder dergleichen

Boucle pour lacets, ceintures, sangles ou analogue

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(73) Proprietor: **F.G.P. Srl**
37062 Dossobuono (VR) (IT)

(72) Inventors:
• **Ferrigolo, Moreno**
37062, Dossobuono (VR) (IT)

• **Turrini, Alberto**
37060, Castel D'Azzano (VR) (IT)

(74) Representative: **Sandri, Sandro et al**
Europatent-Euromark Srl
Via Locatelli, 20
37122 Verona (IT)

(56) References cited:
EP-A- 0 770 369 GB-A- 979 996
US-A- 1 792 290 US-A- 1 836 923
US-A- 3 073 305 US-A- 4 117 573
US-A- 6 044 528

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Description

TECHNICAL FIELD

[0001] The present invention relates to a loop for straps which permits the passage of straps in various applications such as the fixing of tutors and other items of rehabilitation equipment used in orthopaedics and in particular in the sector of corrective or rehabilitation devices.

[0002] In particular the present invention comprises a loop for straps which in comparison with known solutions has the advantage that it guarantees that the strap passing through the loop remains perfectly spread and does not bunch up, slip or locally deform as is usually the case with loops of the known type.

[0003] The loop according to the invention is therefore suitable for use in a variety of situations and applications; it has a very simple design and can therefore be manufactured at a very low cost.

[0004] The loop according to the present invention comprises an oblong ring shaped loop with a plurality of substantially ring-shaped protuberances positioned at a set distance apart on the loop.

[0005] The present invention relates to the field of accessories for orthopaedic products and tutors principally used in conservative, post-traumatic, rehabilitation and post-operative therapies.

[0006] The present invention is suitable for applications in all those sectors where belts, straps and similar items and their supports and loops are used.

BACKGROUND OF THE INVENTION

[0007] According to the conventional art, straps and belts are used in multiple sectors wherever means of attaching components, parts and similar items are required.

[0008] Straps and belts are used, for example, in the orthopaedics sector during conservative, post-traumatic and rehabilitation and post-operative therapies principally for attaching and fixing orthopaedic aids, tutors, corsets, immobilizers, knee supports, thigh supports and aids of other types.

In general the straps and belts are passed through loops which can be of different shapes but which usually comprise a substantially oblong ring shaped body with rounded, smooth sides.

[0009] The problem which occurs when using loops of the known type derives from the fact that the loop surface is rounded and smooth and causes the belt or strap to move and slide along the loop bunching up and forming unwanted folds in the strap.

[0010] A strap passing through the conventional loops with a smooth surface becomes deformed thus modifying the fixing efficiency of the same.

[0011] This means that the user is obliged to continuously adjust the strap or belt in the loop to prevent the strap or belt from jamming in the loop and to prevent all

the other problems which derive from this.

[0012] Document GB-A-979996 discloses a slide comprising an elongated plate with rounded ends and a symmetrical central slot. The outer faces of the slide are planar and the side edges of the slot are of uninterrupted arcuate form. Each side limb of the slide comprises a plurality of superficial notches whereby the parts between said notches constitute teeth engaging, in use, the weft threads of the tapes.

DESCRIPTION OF THE INVENTION

[0013] The object of the present invention is that of providing a loop which allows the passage of straps, belts or similar and keeps these constantly spread over the entire length of the loop thereby eliminating or at least reducing the shortcomings described previously.

[0014] In particular, the loop according to the present invention proposes to overcome the disadvantages caused by folding of the belts or straps passing through loops of the known type.

[0015] The invention provides a loop which is easy to make and therefore inexpensive; the loop is efficient in terms of the secureness and the stability of the strap or belt that passes through it.

[0016] This is achieved by means of a loop for straps and belts with the characteristics described in the main claim.

[0017] The present invention achieves the aims described by providing a loop comprising a body made from a substantially plastic material or a metallic or similar material, with an oblong ring shape with sides having a cylindrical, elliptical or similar cross-section, fitted with a plurality of protuberances which are substantially ring shaped.

[0018] The surface protuberances or knurling along the sides of the loop prevent the strap passing through the loop from deforming and thereby modifying the fixing conditions. The utility of this feature is linked to the fact that the surface knurling deforms the strap locally where it passes through the loop so that it is under tension and cannot undergo macro deformations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] Further features and advantages of the invention will become apparent from the description of an example embodiment which follows with reference to the annexed drawings, given purely by way of a non-limiting example, in which:

- Figure 1 shows a front view of the loop according to the present invention.
- Figure 2 shows a perspective view of the loop according to the present invention provided with the anti-slip knurlings or protuberances.
- Figure 3 shows the loop according to the present invention where one side is attached to the fixed end

of a support and where a belt or a strap passes through the other side.

DESCRIPTION OF AN EXAMPLE EMBODIMENT

[0020] The loop according to the present invention is principally but not exclusively used in the orthopaedics sector for fixing tutors, orthopaedic aids and similar items indicated generally with the numeral 10 and substantially comprising a rigid body made from plastic, metal or similar materials, having a substantially oblong ring shape, with two, slightly curved long sides 11 and 12 facing each other and connected to each other by two curved sections 13 and 14.

[0021] The shape of the loop 10 forms a central opening, which is suitable for the passage of a belt or passing item, and which in the example shown has a substantially circular section.

[0022] The special feature of the invention consists of the presence of a plurality of surface protuberances or knurlings 16 positioned one after the other along the two long sides 11 and 12.

[0023] The surface knurling or protuberances 16 are also substantially ring-shaped and have raised edges whose function is to locally deform the fixing flap 17 on one side and the strap or belt 18 on the other side.

[0024] Figure 3 shows that the protuberances 16 prevent the strap 18 on one side and the fixing flap 17 on the other from deforming during sideways movements or pulling and thereby stop the strap and fixing element from moving and modifying the fixing conditions.

[0025] It should be noted that the utility of this type of loop stems from the fact that the surface knurling locally deforms the strap so that it is under tension when it passes through the loop and thereby prevents the strap from undergoing macro deformations which create the drawbacks described above.

[0026] Clearly the knurling or protuberances 16 can be of any shape and thickness and can be positioned anywhere along the loop side which in turn can be of any shape or cross-section.

[0027] The invention as described above refers to a preferred embodiment.

Claims

1. A loop (10) for straps, belts, laces or similar comprising a body (10) having a cylindrical, elliptical or similar cross-section and made from a substantially plastic, metallic or similar material, with a substantially oblong ring shape, with two long sides (11, 12) facing each other and connected to each other by two curved sections (13, 14), **characterized in that** said long sides (11, 12) are provided with a plurality of substantially ring-shaped protuberances (16) spaced from each other, each substantially ring-shaped protuberance (16) comprising a raised edge

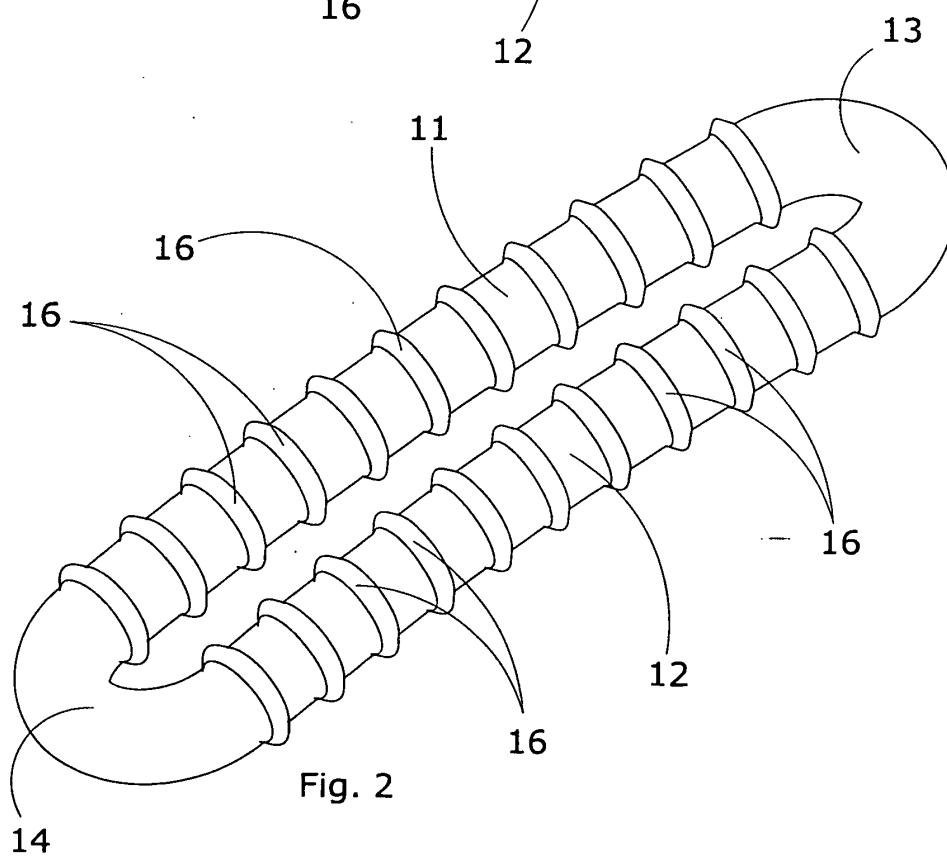
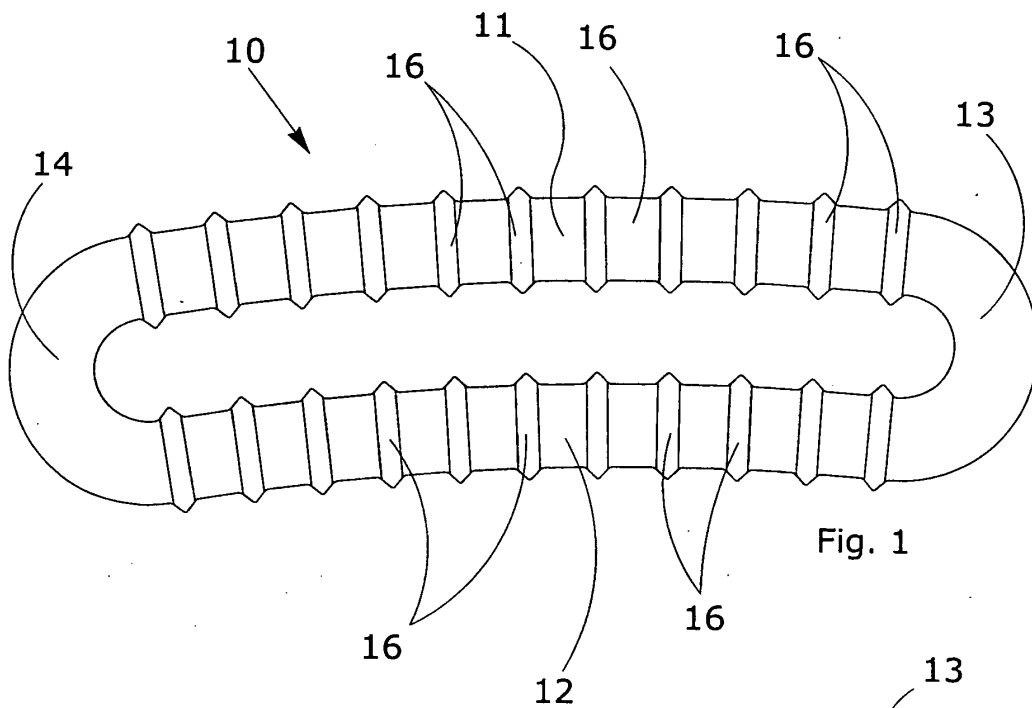
engageable to a given portion of a belt (18) or flap (17) and being oriented parallel to the longitudinal development of said belt or flap to prevent side movements of said belt or flap along said long sides (11, 12) of said loop (10).

Patentansprüche

1. Eine Schlaufe (10) für Schnürsenkel, Riemen, Gurtbänder oder dergleichen, bestehend aus einem Körper (10) welcher einen zylindrischen, elliptischen oder ähnlichen Querschnitt aufweist und im Wesentlichen aus einem Kunststoff, Metall oder ähnlichem Material hergestellt ist, mit einer im Wesentlichen länglichen Ringform mit zwei, sich gegenüber liegenden, langen Seiten (11, 12) welche mit zwei Bögen (13, 14) miteinander verbunden sind **dadurch gekennzeichnet, dass** die genannten langen Seiten (11, 12) mit einer Mehrzahl von im Wesentlichen ringförmigen Erhebungen (16), welche voneinander beabstandet sind, ausgerüstet sind, wobei jede der im Wesentlichen ringförmigen Erhöhungen (16) einen erhöhten Rand aufweist welcher in der Lage ist einen Bereich eines Gurtes (18) oder Krempe (17) zu fassen und entlang der parallelen Orientierung zur Längsrichtung des genannten Gurtes oder Krempe zu richten um eine seitliche Bewegung des Gurtes oder der Krampe entlang der langen Seiten (11, 12) der Schlaufe zu verhindern.

Revendications

1. Boucle (10) pour bandes, sangles, lacets ou similaires comprenant un corps (10) de section transversale cylindrique, elliptique ou similaire fabriqué à partir d'une matière sensiblement, plastique, métallique ou similaire, ledit corps ayant une forme annulaire sensiblement oblongue avec deux côtés longs (11, 12) disposés l'un en face de l'autre et raccordés l'un à l'autre par deux sections incurvées (13, 14), **caractérisée en ce que** lesdits côtés longs (11, 12) sont dotés d'une pluralité de protubérances (16) de forme sensiblement annulaire et espacées l'une de l'autre, chaque protubérance (16) de forme sensiblement annulaire comprenant un bord relevé apte à s'engager avec une portion donnée d'une sangle (18) ou patte (17) et étant orientée parallèlement au développement longitudinal de ladite sangle ou patte pour empêcher des mouvements latéraux de ladite sangle ou patte le long desdits côtés longs (11, 12) de ladite boucle (10).



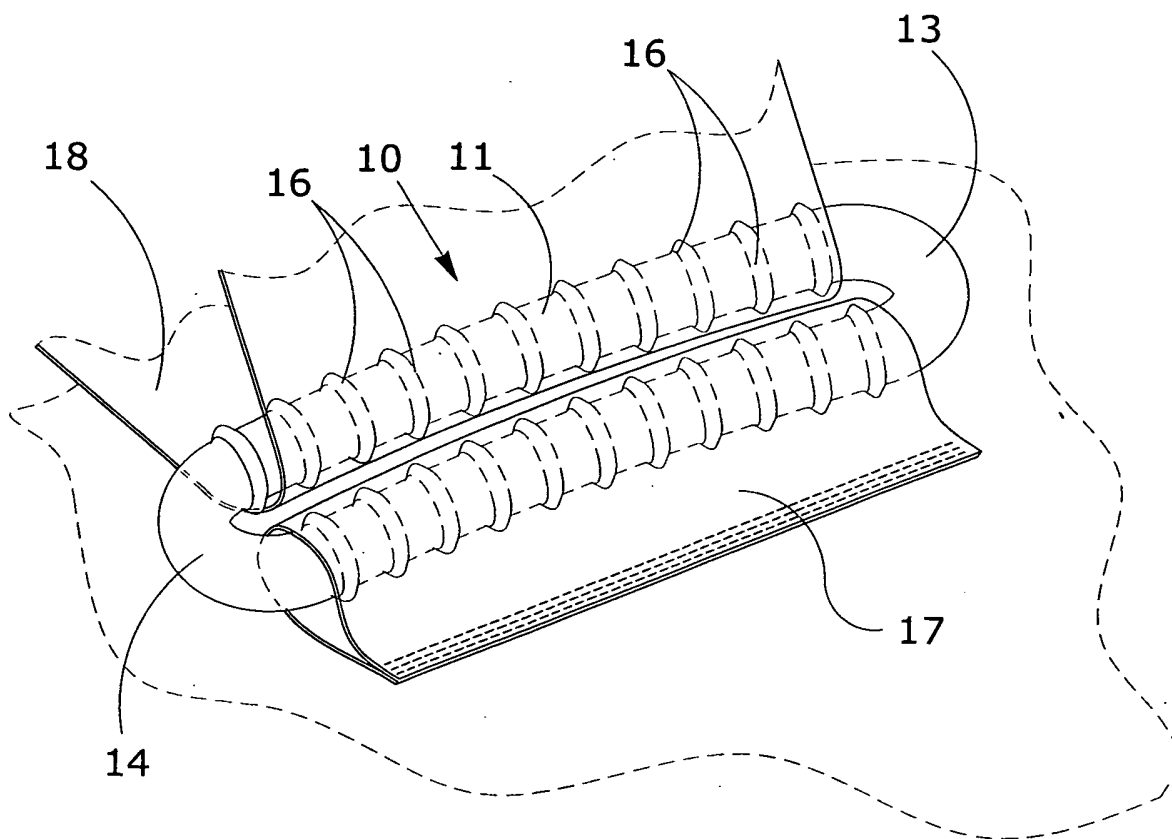


Fig. 3