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A CONNECTION DEVICE

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(71) Applicant(s)
Evan Williams

(72) Inventor(s)
Williams, Evan

(74) Agent / Attorney
Mann IP, G 45 St Georges Tce, Perth, WA, 6000, AU

Abstract

A connection device for connecting first and second lengths of a broken safety leash together comprises a body, wherein the body comprises first and second apertures for threadedly receiving the first and second lengths through the body. The body also comprises third and fourth apertures for threadedly receiving first and second end sections of the lengths back through the body. Inwardly facing portions of the first and second apertures are dimensioned to trap the lengths within the first and second apertures when the lengths are pulled away from the body in opposed directions.

2021104682 28 Jul 2021

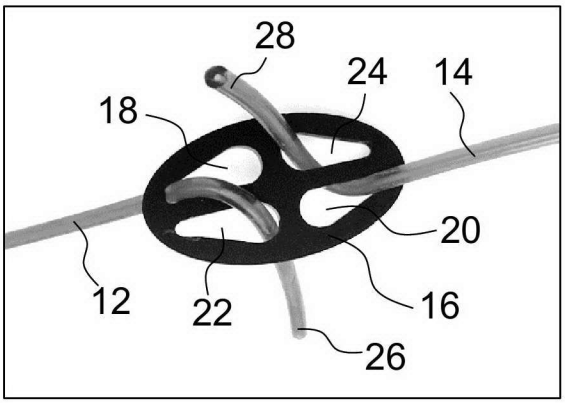

FIG. 4A

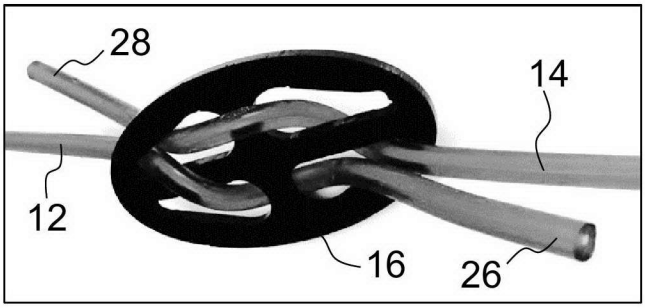

FIG. 4B

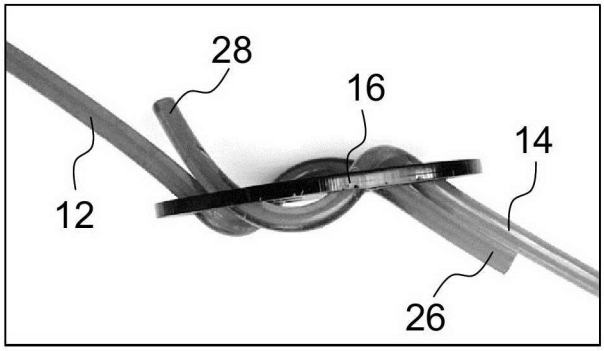

FIG. 4C

2021104682 28 Jul 2021

A CONNECTION DEVICE

Field

[0001] The present invention relates to a connection device for repairing broken safety leashes.

Background

[0002] Safety leashes are used to secure water sports equipment, such as surfboards, to the limbs of persons using the equipment. For example, surfers commonly wear a safety leash around the ankle of their trailing leg that is connected to their surfboard. The leash ensures that the surfboard stays in close proximity to the user when the user falls off the surfboard. Safety leashes are also used by bodyboarders, windsurfers and kitesurfers. A safety leash is typically made of a length of urethane cord which can snap if the leash is pulled into tension by sufficiently large forces. A broken safety leash during use presents a hazard to the user and typically means that they must head back to land to replace the leash. If a surfer continues to surf with a broken leash then it can be extremely dangerous in particular.

[0003] It is to be understood that, if any prior art is referred to herein, such reference does not constitute an admission that the prior art forms a part of the common general knowledge in the art, in Australia or any other country.

Summary

[0004] According to the present invention, there is provided a connection device for connecting first and second lengths of a broken safety leash together, the connection device comprising a body that comprises:

first and second apertures for threadedly receiving the first and second lengths through the body; and

2021104682 28 Jul 2021

third and fourth apertures for threadedly receiving first and second end sections of the lengths back through the body,
wherein inwardly facing portions of the first and second apertures are dimensioned to trap the lengths within the first and second apertures when the lengths are pulled away from the body in opposed directions.

[0005] The first and second apertures may be elongated and comprise respective end sections that inwardly taper towards a perimeter of the body.

[0006] The first and second apertures may be relatively aligned such that the respective end sections are disposed at opposed ends of the body.

[0007] The third and fourth apertures may be elongated and comprise respective end sections that inwardly taper towards the perimeter of the body.

[0008] The first and second apertures may comprise inwardly facing peripheral edges that are bevelled.

[0009] The third and fourth apertures may also comprise inner peripheral edges that are bevelled.

[0010] The body may be elongated and comprise at least one rounded end section.

[0011] The body may comprise a pair of rounded end sections at opposed ends of the body.

[0012] The body may be made of plastic.

2021104682 28 Jul 2021

[0013] The body may comprise a device or tool adapted for roughening wax on a surfboard or surfcraft.

[0014] The device or tool may comprise a comb.

Brief Description of Drawings

[0015] Embodiments of the invention will now be described by way of example only with reference to the accompanying drawings, in which:

FIG. 1 is an isometric view of a connection device according to an example embodiment of the invention;

FIG. 2 is a plan view of the connection device;

FIG. 3A shows the connection device with a first length of a broken safety leash threaded through a first aperture of the connection device;

FIG. 3B shows the connection device with the first length also threaded through a third aperture of the connection device;

FIG. 3C shows the connection device with a second length of the broken safety leash threaded through a second aperture of the connection device;

FIG. 4A shows the connection device with the second length also threaded through a fourth aperture of the connection device;

FIG. 4B shows the connection device with the first length also threaded through the second aperture of the connection device and with the second length also threaded through the first aperture of the connection device;

FIG. 4C shows a side view of the connection device and lengths of broken safety leash shown in FIG. 4B;

FIG. 5 is a plan view of a connection device according to a further example embodiment of the invention; and

FIG. 6 shows the connection device of FIG. 1 attached to a connection rope of a safety leash of a surfboard.

2021104682 28 Jul 2021

Description of Embodiments

[0016] Referring to FIGS. 1 to 4, an example embodiment of the present invention provides a connection device 10 for connecting a first length 12 of a broken safety leash to a second length 14 of the broken safety leash. The connection device 10 comprises a body 16 comprising a first aperture 18 and a second aperture 20 for threadedly receiving the first and second lengths 12, 14 respectively through the body 16. The body 16 also comprises a third aperture 22 and a fourth aperture 24 for threadedly receiving respective first and second end sections 26, 28 of the lengths 12, 14 back through the body 16. Inwardly facing portions 30, 32 of the first and second apertures 18, 20 are dimensioned to trap the first and second lengths 12, 14 within the first and second apertures 18, 20 when the lengths 12, 14 are pulled away from the body 16 in opposed directions.

[0017] More particularly, the body 16 may be generally elongated and may comprise a rounded end section 40 at a first end of the body 16. The rounded end section 40 advantageously enables the connection device 10 to be slotted with ease into a pocket on clothing worn by a user of the device 10 or into a similar compartment for storage. For example, wetsuits worn by surfers are often provided with small pockets provided with zip fasteners that are used to store the car keys of a person when wearing and using the wetsuit on the water. The body 16 may also comprise a further rounded end section 42 at a second end of the body 16 opposed to the first end. The two rounded ends 40, 42 allow the connection device 10 to be conveniently slotted into a user's pocket in either direction. The body 16 may be made of plastic or a similar rigid material. As shown in FIG. 6, in other examples the connection device 10 may be connected to a surfboard 44 when not in use by threading a connection rope 46 of a safety leash of the surfboard 44 through one of the apertures of the connection device 10.

2021104682 28 Jul 2021

[0018] The first and second apertures 18, 20 may each be generally elongated and they may have lateral sides that inwardly taper towards the ends 48, 49 of the apertures 18, 20 that are located toward the outermost perimeter 50 of the body 16. In this configuration, the inwardly facing portions 30, 32 of the apertures 18, 20 trap the two lengths 12, 14 within the narrow end sections 48, 49. The apertures 18, 20 may be relatively aligned such that the two end sections 48, 49 are disposed at opposed ends of the body 16. This arrangement ensures that the lengths 12, 14 are snagged within the end sections 48, 49 when the lengths 12, 14 are pulled away from the body 16 in opposed directions. The third and fourth apertures 22, 24 may also be elongated and comprise respective lateral sides that inwardly taper towards end sections of the apertures 22,24 located toward the perimeter 50 of the body 16.

[0019] In use, as shown in FIG. 3A, to repair a broken safety leash a first length 12 of the broken safety leash may be threaded through the body 16 via the first aperture 18. As shown in FIG. 3B, the end section 26 of the first length 12 may then be threaded back through the body 16 via the third aperture 22. As shown in FIG. 3C, a second length 14 of the broken safety leash may then be threaded through the body 16 via the second aperture 20. As shown in FIG. 4A, the end section 28 of the second length 14 may then be threaded back through the body 16 via the fourth aperture 24. Finally, as shown in FIG. 4B the end section 26 of the first length 12 may then be threaded through the second aperture 20 and the end section 28 of the second length 14 may be threaded through the first aperture 18.

[0020] The arrangement of the four apertures in the body 16 (and their respective shapes) advantageously ensures that the two leash lengths 12, 14 are securely connected to the body 16. In particular, the inwardly tapered outermost ends 30, 32 of the first and second apertures 18, 20 cause the lengths 12, 14 to be trapped within the apertures 18, 20 when the lengths 12, 14 are pulled away from

2021104682 28 Jul 2021

the body 16 in opposite directions. In this configuration, the strength of the connection between the two lengths 12, 14 provided by the body 16 increases when the repaired leash is pulled into tension during use. The connection device 10 is also advantageously strong, lightweight, effective, simple to use, portable and cheap to manufacture and mass produce.

[0021] Referring to FIG. 5, a connection device 60 according to a further example embodiment of the invention is shown. The connection device 60 is identical to the connection device 10 shown in FIGS. 1 to 4 except that the body 62 of the connection device 10 also comprises a tool or device 64 that is adapted for roughening wax on a surfboard or surfcraft. The tool or device 64 comprises a comb having a plurality of flexible teeth set into a perimeter of the body 62. Further, the inwardly facing peripheral edges 66 of each of the apertures of the connection device 60 are bevelled. The bevelled edges 66 advantageously provide sharp edges that bite into the relevant lengths of safety leash when the lengths are threaded through the apertures and pulled away from the connection device 60 in use.

[0022] In other examples, the body 62 of the connection device 60 may comprise a small aperture 70 at one end of the body 62 that allows the connection device 60 to be attached to a keyring.

[0023] In other examples, the inwardly facing portions 30, 32 of the first and second apertures 18, 20 may comprise different shapes and/or configurations to those that are depicted in the Figures for trapping the two lengths 12, 14 within the apertures 18, 20 during use. For example, instead of inwardly tapering toward the outermost perimeter 50, each portion 30, 32 may comprise a set of fingers, spikes or barbs (not shown) projecting inwardly into the relevant aperture that engage with a leash length to trap it in the aperture.

2021104682 28 Jul 2021

[0024] Embodiments of the present invention provide connection devices that are useful for connecting together lengths of broken safety leash used in watersports, including safety leashes that are used with surf craft such as surfboards, body boards, windsurf boards and kitesurf boards.

[0025] The skilled addressee will appreciate that certain features depicted in the figures may be shown for simplicity and clarity and have not necessarily been shown to scale. For example, the dimensions and/or relative positioning of some of the features may be exaggerated relative to other features to facilitate an understanding of the various example embodiments exemplifying the principles described herein. Also, common but well understood features that are useful or necessary in a commercially feasible embodiment may not be depicted in order to provide a less obstructed view of these various examples. It will also be understood that the terms and expressions used herein adopt the ordinary meaning as is accorded to such terms and expressions with respect to their corresponding respective areas of inquiry and study except where specific meanings have otherwise been set forth herein.

[0026] The location and disposition of the features depicted in the figures may vary according to the particular arrangements of the embodiment(s) as well as of the particular applications of such embodiment(s). References to positional descriptions in this specification are to be taken in context of the relevant example embodiments shown in the Figures and are not to be taken as limiting the scope of the principles described herein to the literal interpretation of the term, but rather as would be understood by the skilled addressee.

[0027] Any method steps, processes and operations described herein are not to be construed as necessarily requiring their performance in the particular order discussed or illustrated, unless specifically identified as an order of performance. It is also to be understood that additional or alternative steps may be employed.

2021104682 28 Jul 2021

[0028] For the purpose of this specification, the word “comprising” means “including but not limited to”, and the word "comprises" has a corresponding meaning.

[0029] The above embodiments have been described by way of example only and modifications are possible within the scope of the claims that follow.

2021104682 28 Jul 2021

Claims

1. A connection device for connecting first and second lengths of a broken safety leash together, the connection device comprising a body that comprises:

first and second apertures for threadedly receiving the first and second lengths through the body; and

third and fourth apertures for threadedly receiving first and second end sections of the lengths back through the body,

wherein inwardly facing portions of the first and second apertures are dimensioned to trap the lengths within the first and second apertures when the lengths are pulled away from the body in opposed directions.

2. The connection device according to claim 1, wherein the first and second apertures are elongated and comprise respective end sections that inwardly taper towards a perimeter of the body.

3. The connection device according to claim 2, wherein the first and second apertures are relatively aligned such that the respective end sections are disposed at opposed ends of the body.

4. The connection device according to any one of the preceding claims, wherein the third and fourth apertures are elongated and comprise respective end sections that inwardly taper towards a perimeter of the body.

5. The connection device according to any one of the preceding claims, wherein at least the first and second apertures comprise inwardly facing peripheral edges that are bevelled.

28 Jul 2021
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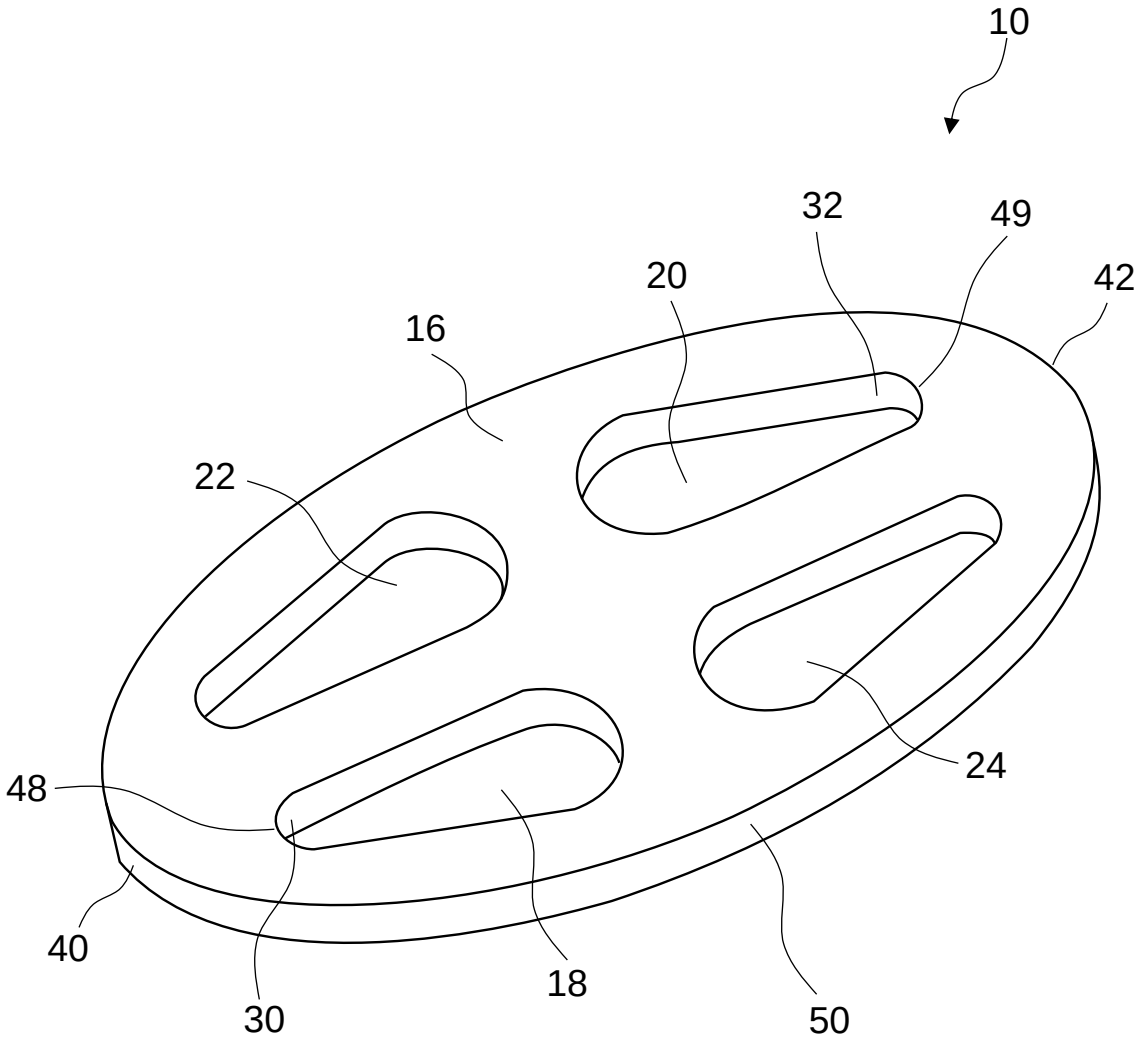

FIG. 1

28 Jul 2021
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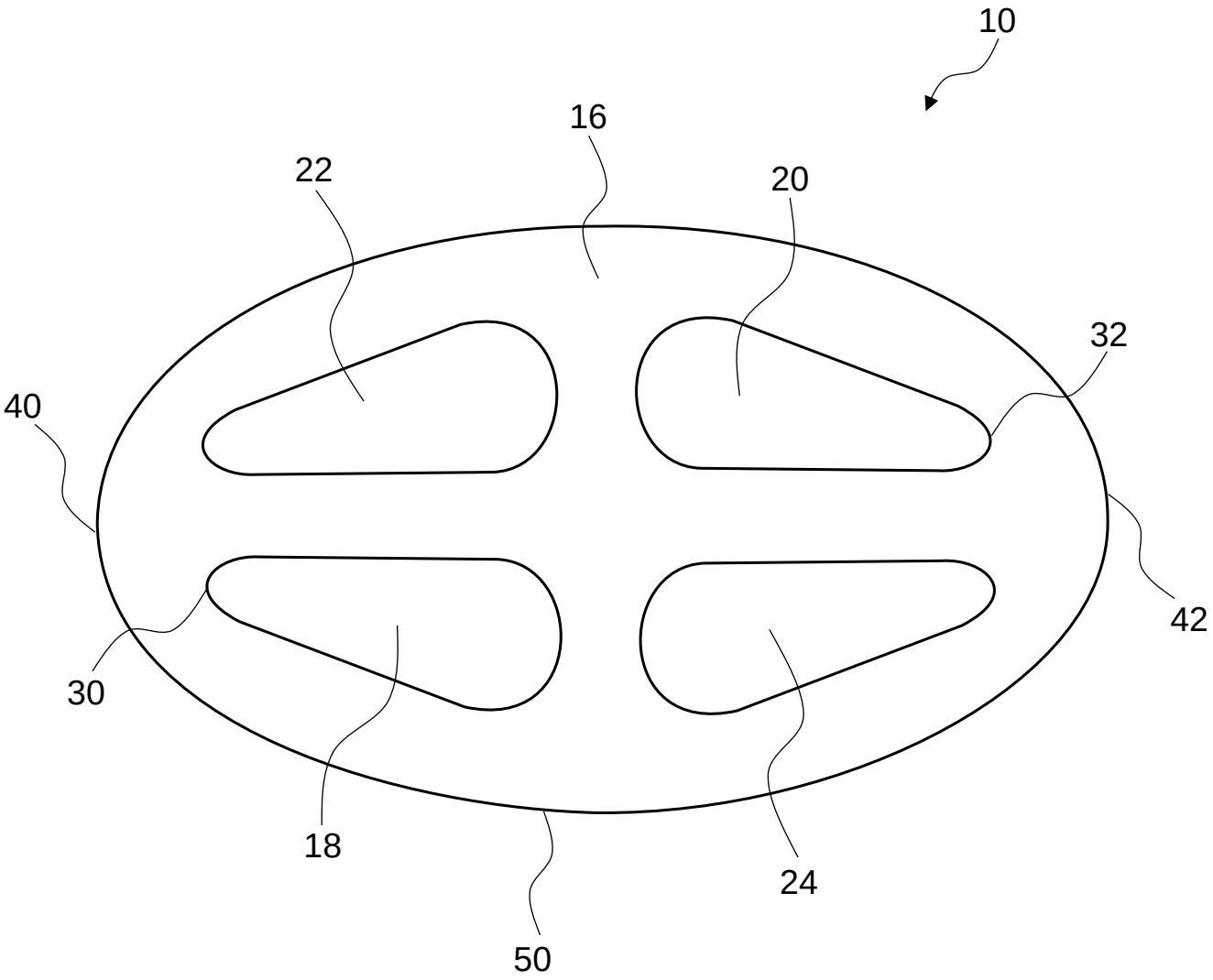

FIG. 2

28 Jul 2021
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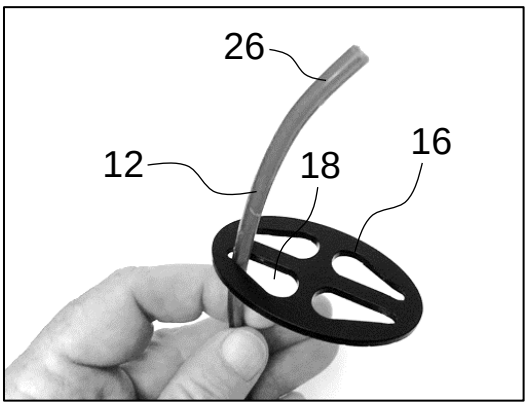

FIG. 3A

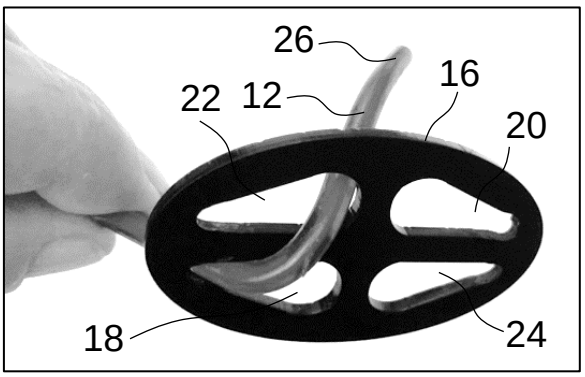

FIG. 3B

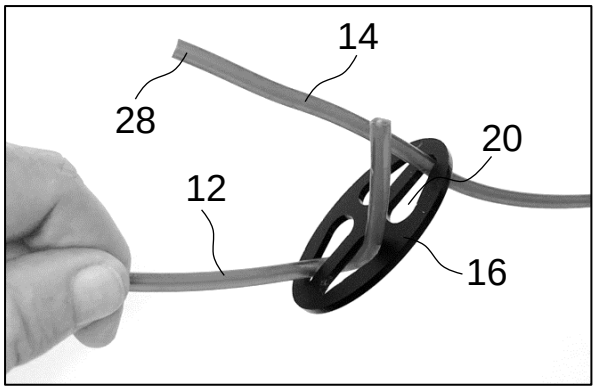

FIG. 3C

2021104682 28 Jul 2021

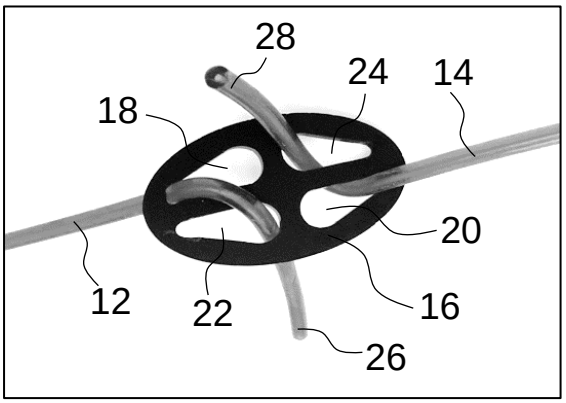

FIG. 4A

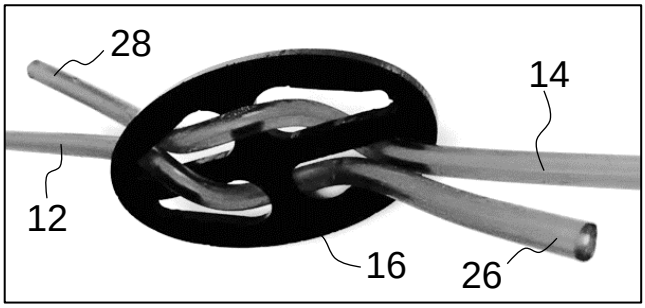

FIG. 4B

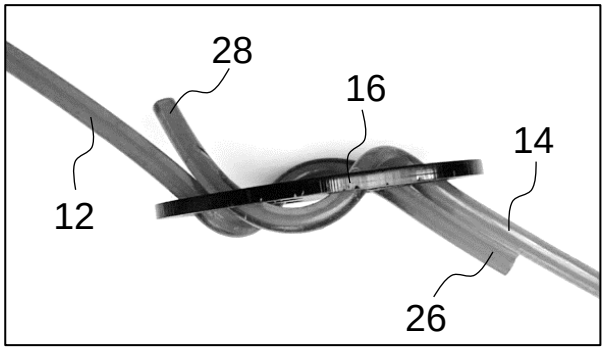

FIG. 4C

28 Jul 2021 20211104682

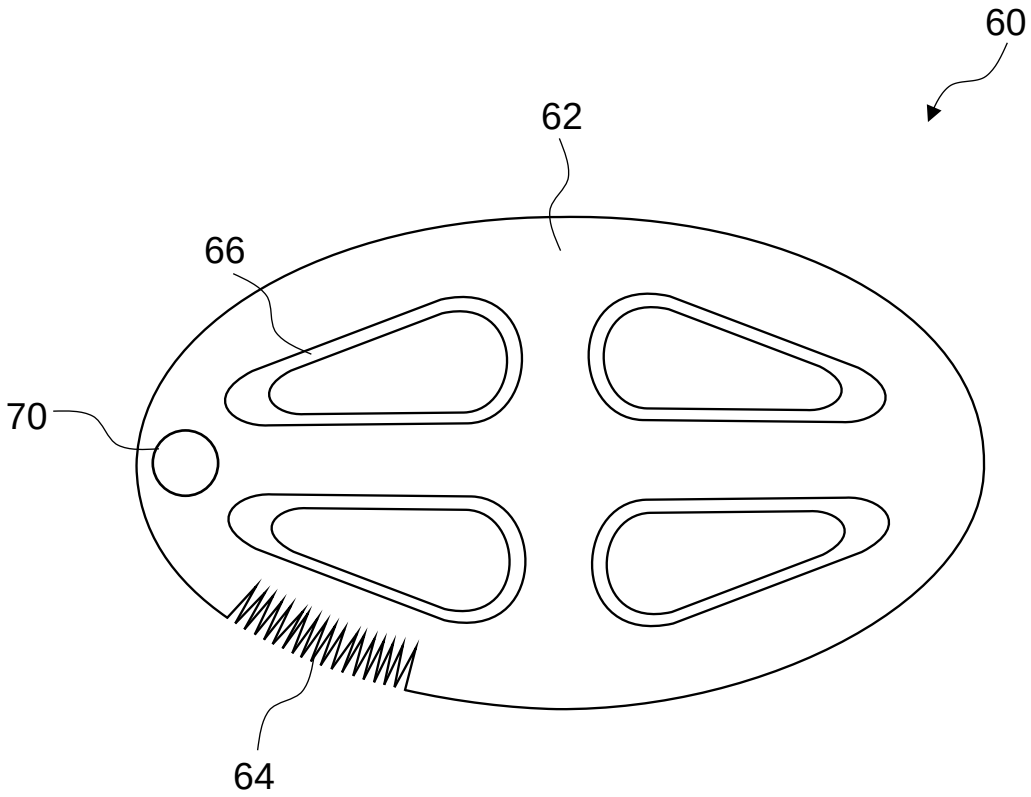

FIG. 5

28 Jul 2021
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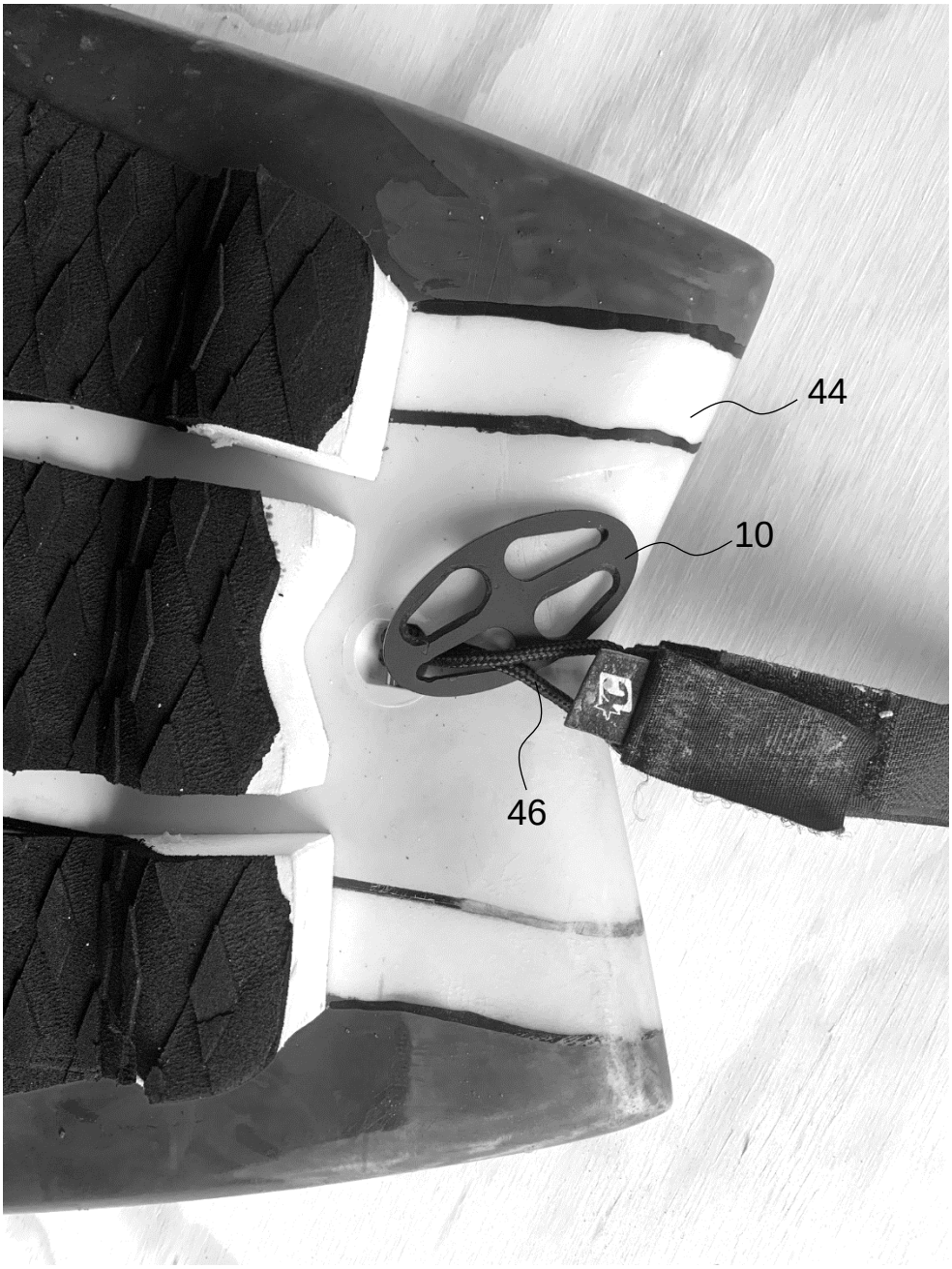

FIG. 6