



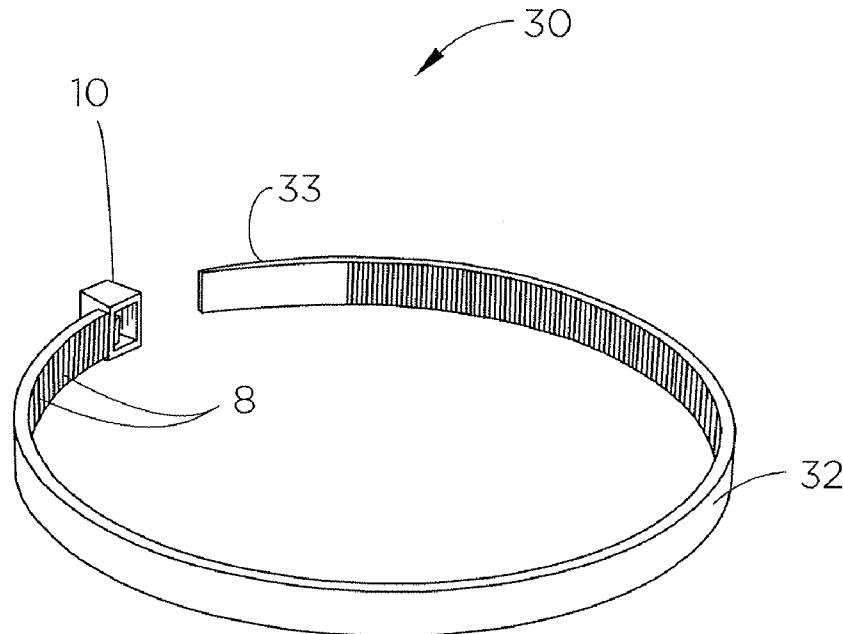
US 20140259543A1

(19) **United States**(12) **Patent Application Publication**
SCOTT(10) **Pub. No.: US 2014/0259543 A1**(43) **Pub. Date: Sep. 18, 2014**(54) **CABLE TIES**(71) Applicant: **William M. SCOTT**, Villa Hills, KY
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(US)(21) Appl. No.: **13/835,159**(22) Filed: **Mar. 15, 2013****Publication Classification**(51) **Int. Cl.**
B65D 63/10 (2006.01)(52) **U.S. Cl.**CPC **B65D 63/1027** (2013.01)USPC **24/16 PB**

(57)

ABSTRACT

A cable tie having a pre-shaped strap extending from the locking head, including a portion of the strap having a non-linear shape that can be circular, U-shaped, or V-shaped. A cable tie including a strap having a first surface including a plurality of serrations, and including one or more toothless portions that do not have serrations. A cable tie including a strap and a locking head, and further including one or more channeling loops fixed in a position along the length of the strap, or a separate channeling loop having a channel configured for accepting both the strap and a distal end of the strap after its passing through the locking head.



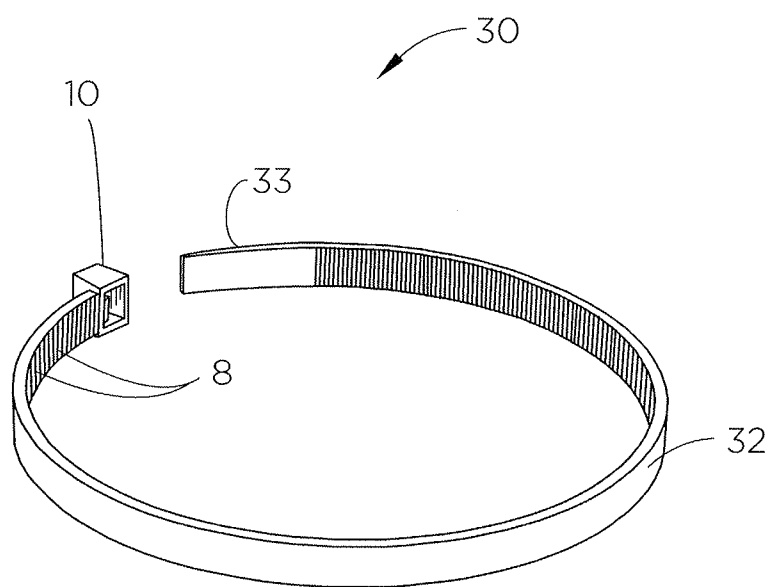


FIG. 1

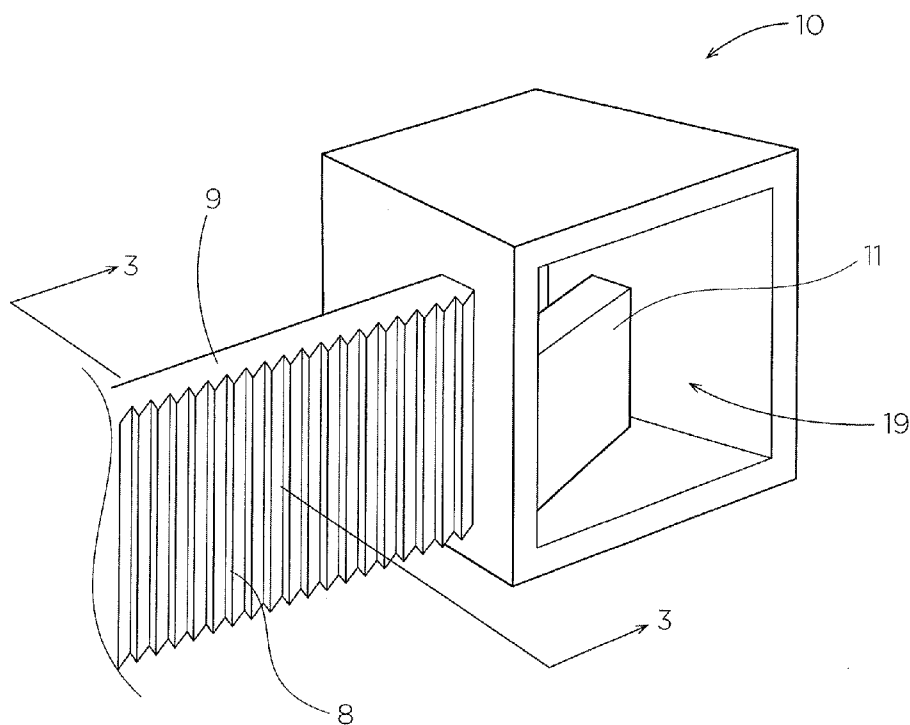


FIG. 2 - Prior Art



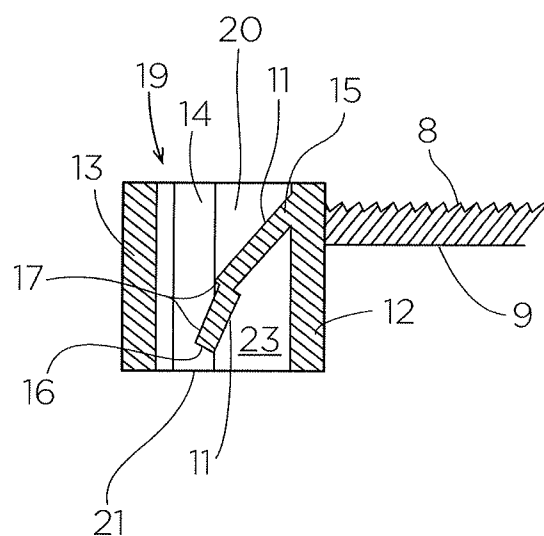


FIG. 4 - Prior Art

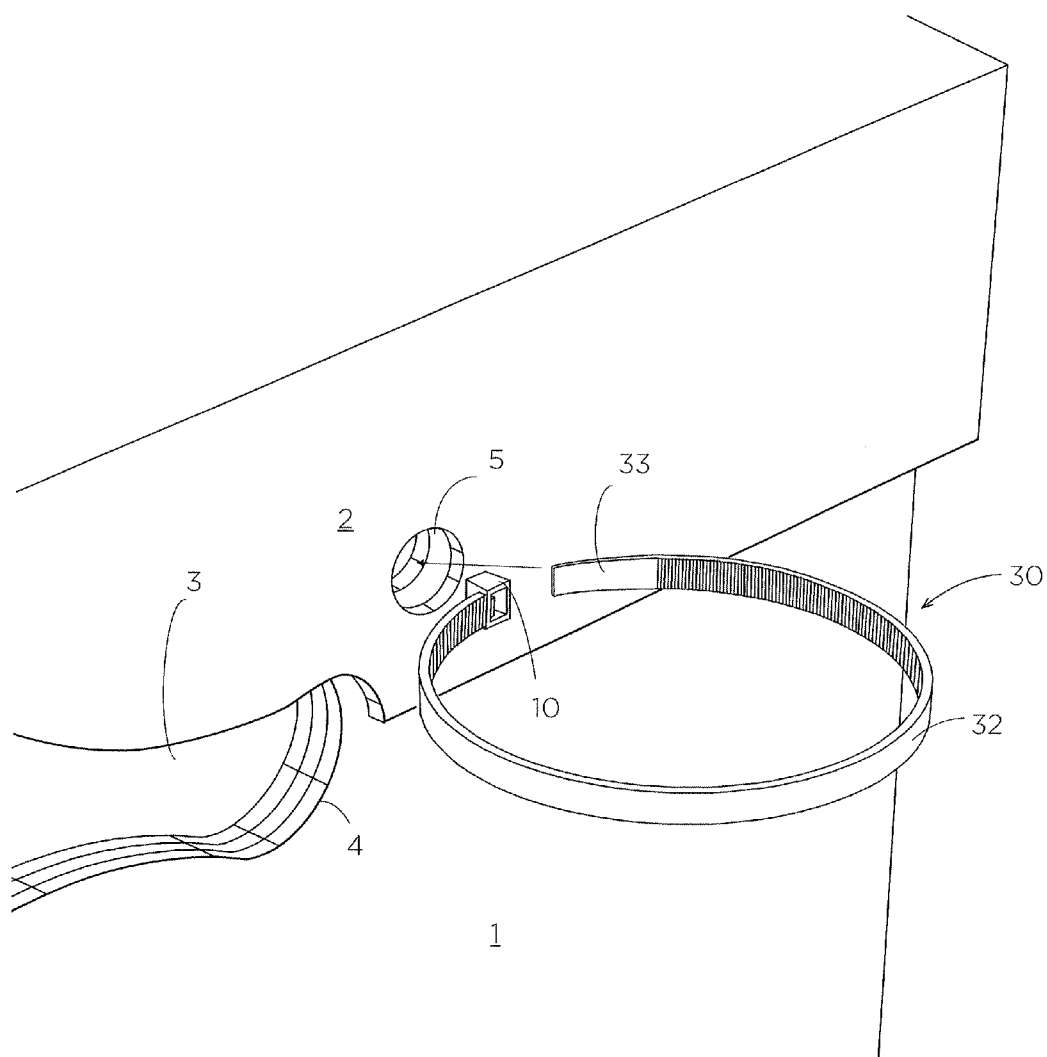


FIG. 5

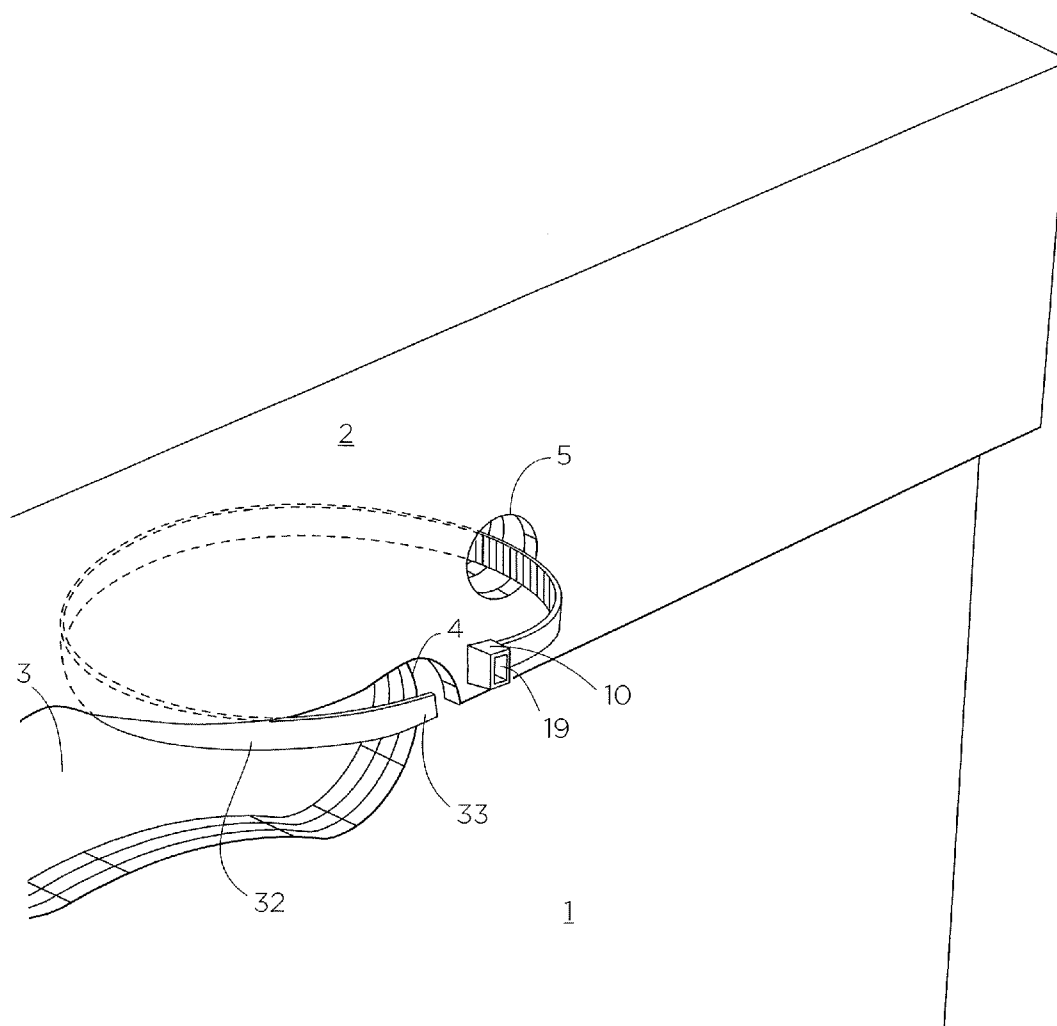


FIG. 6

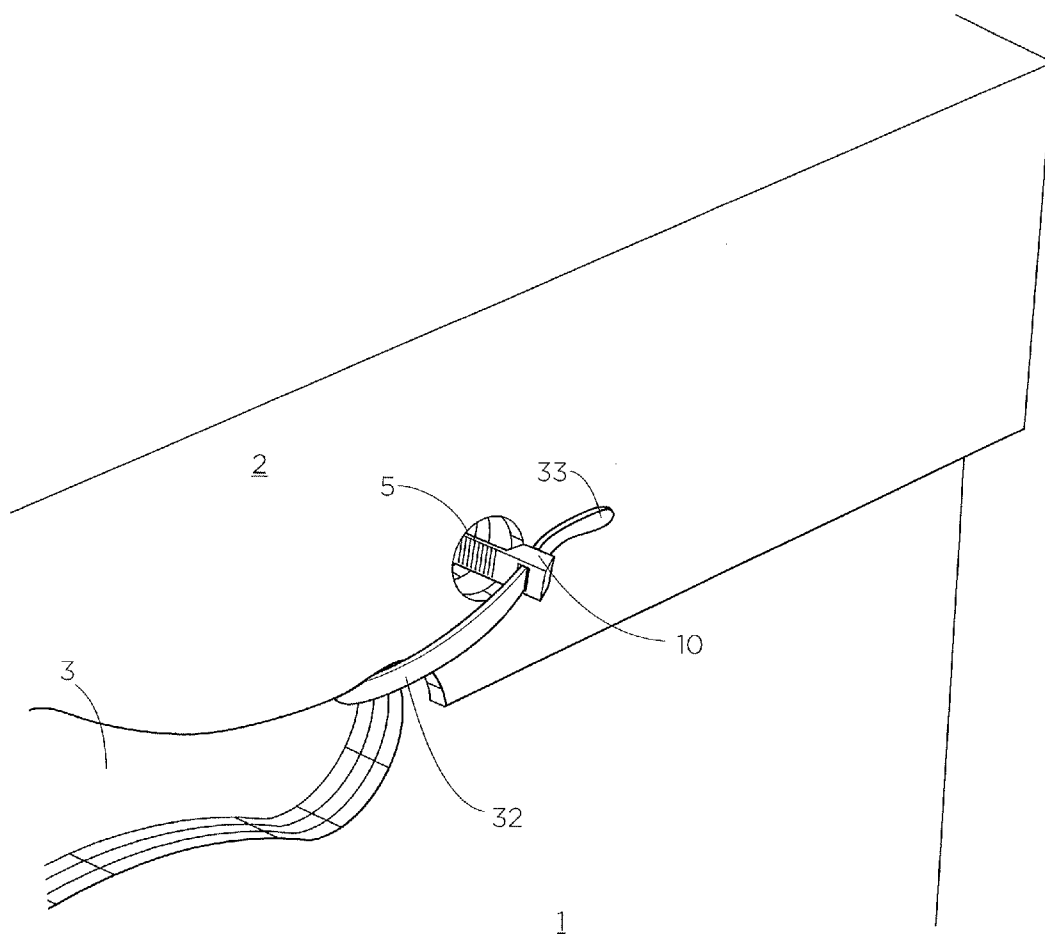


FIG. 7

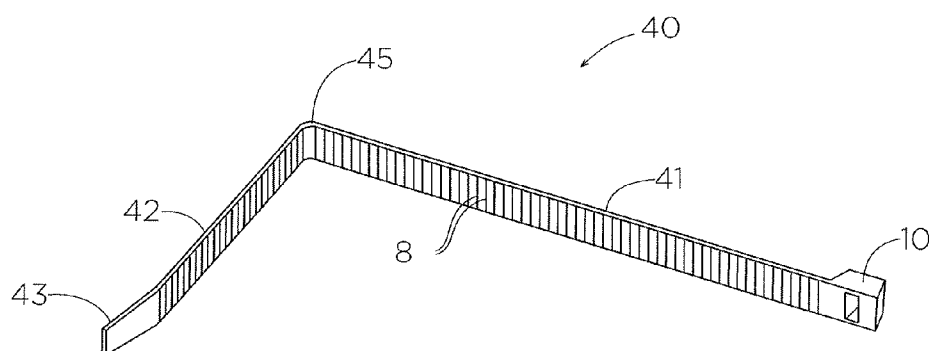


FIG. 8

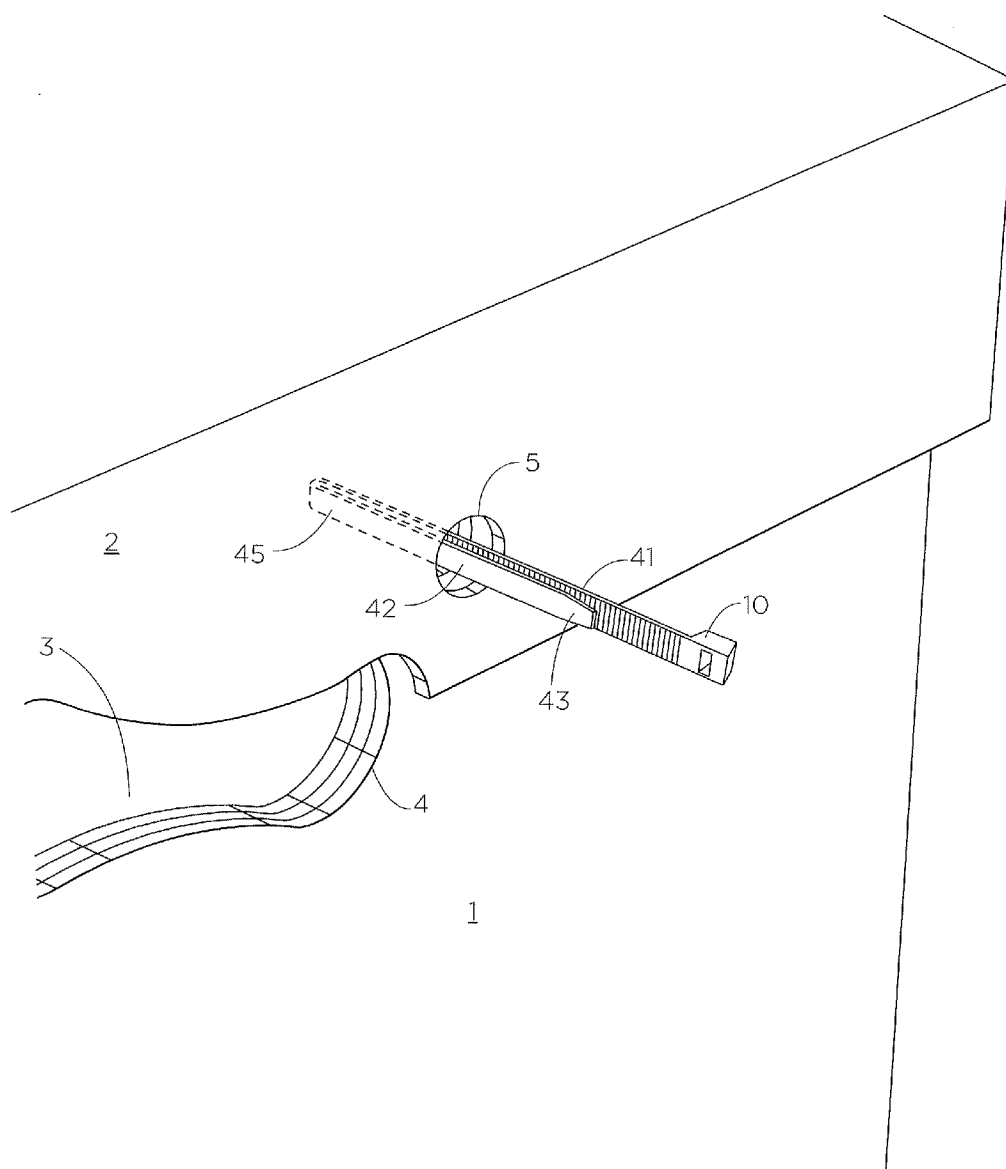


FIG. 9

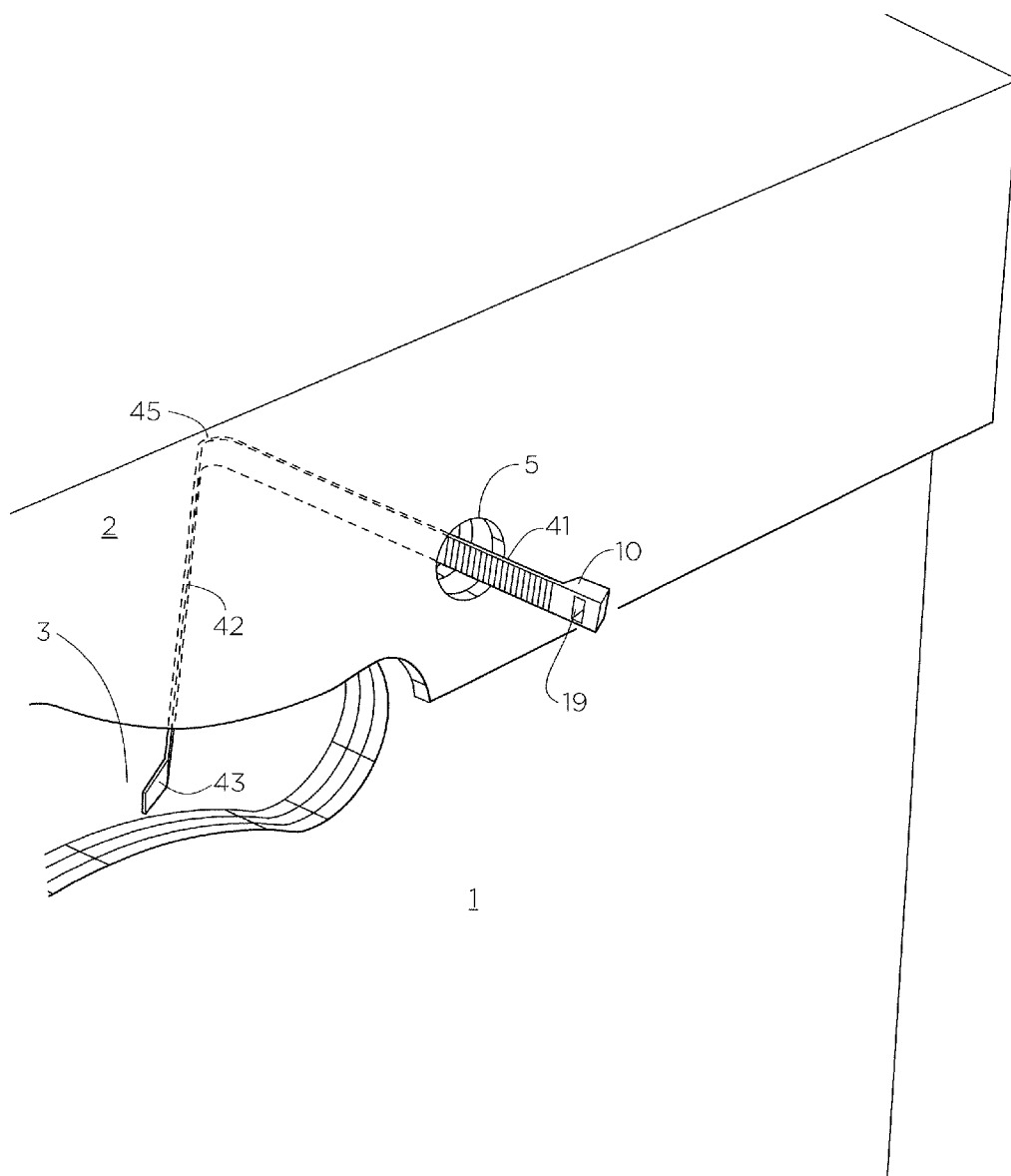


FIG. 10

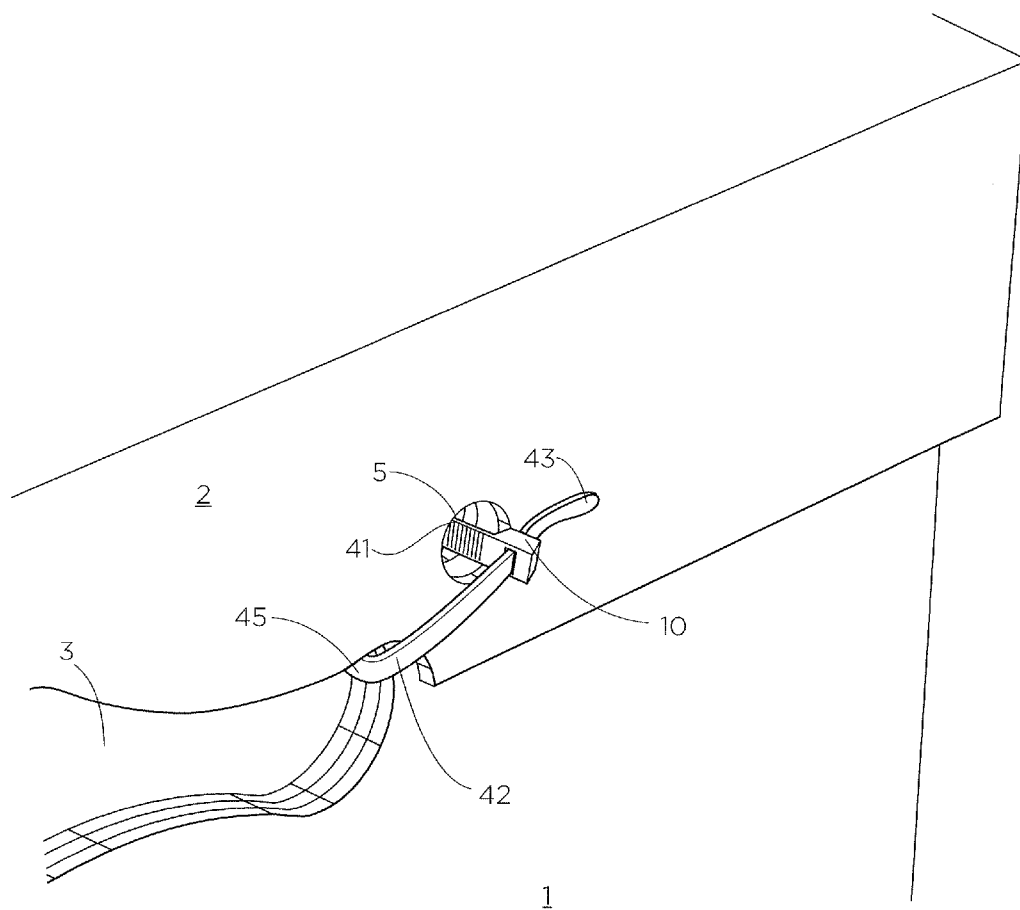


FIG. 11

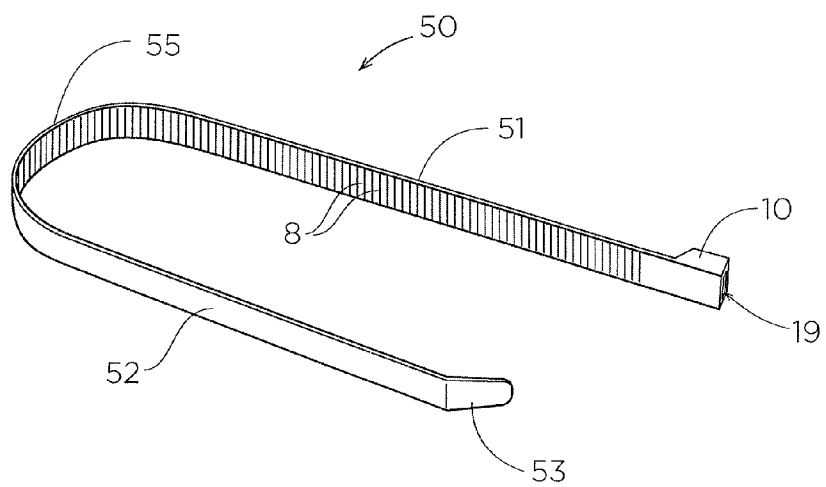


FIG. 12

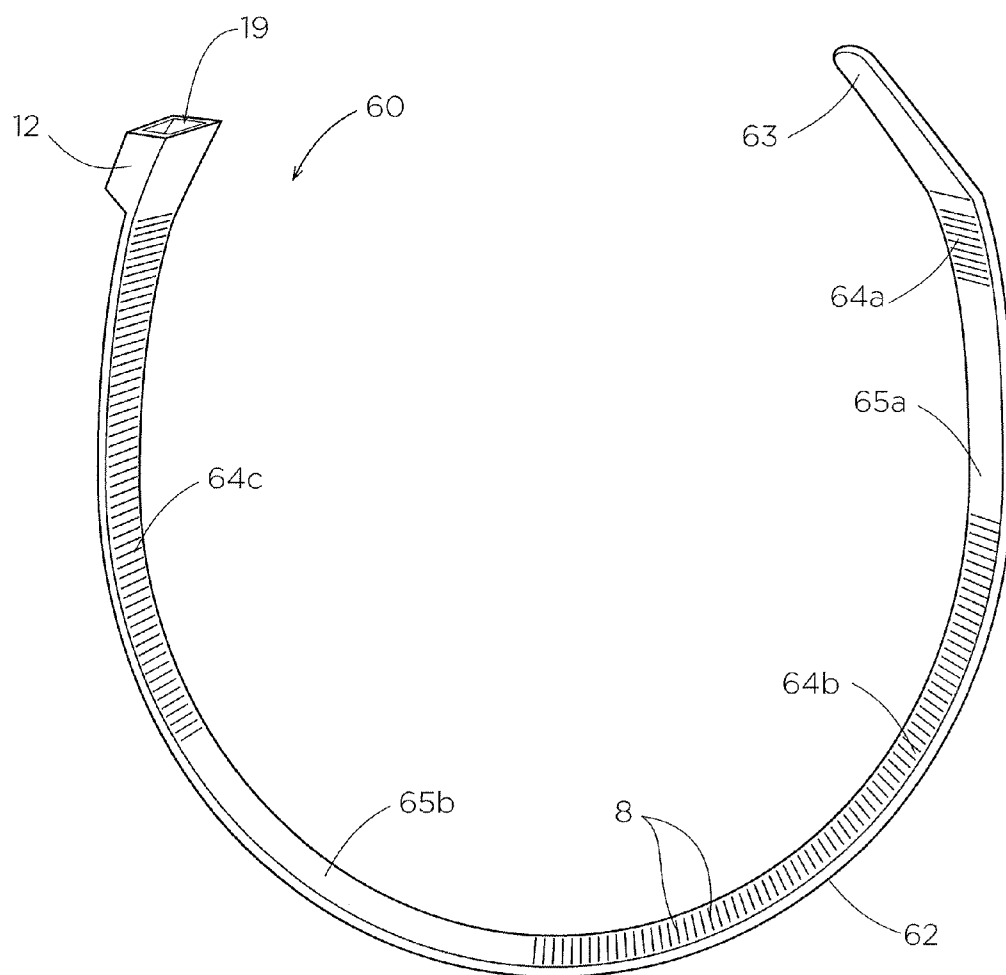


FIG. 13

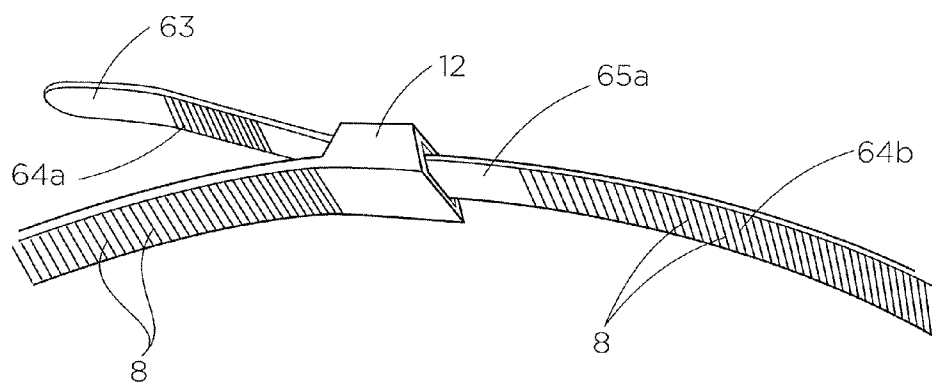


FIG. 14

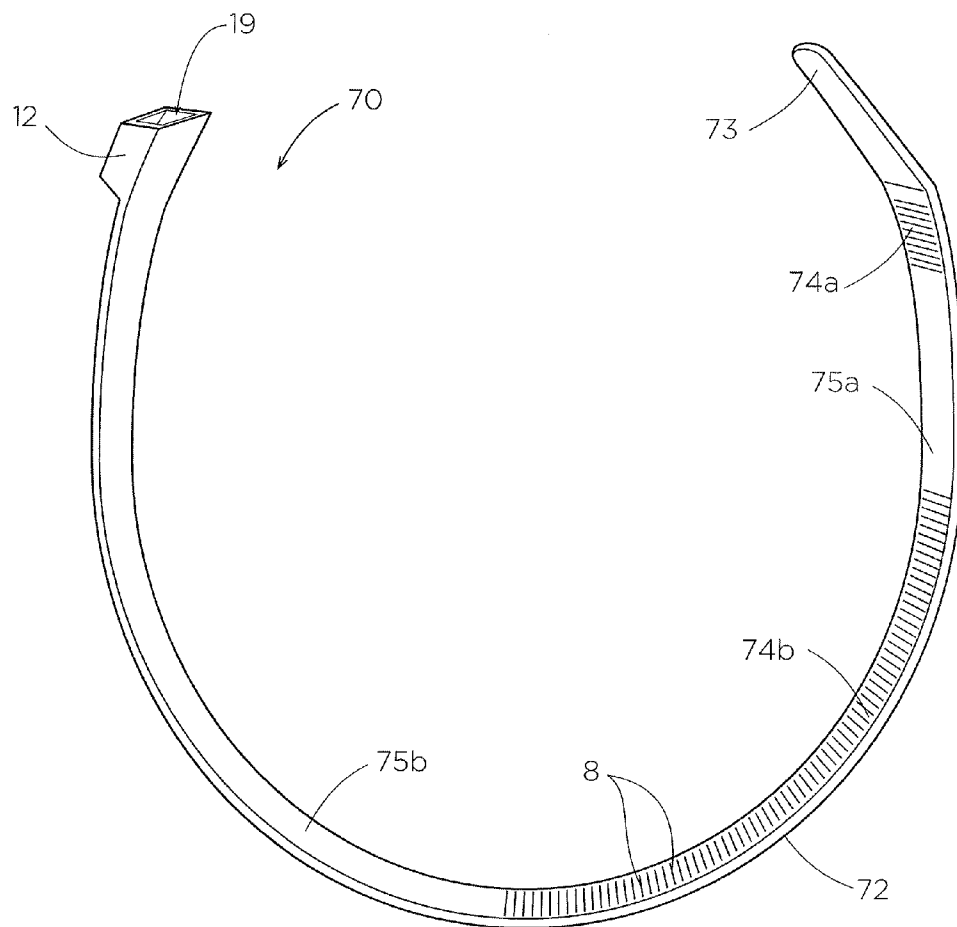


FIG. 15

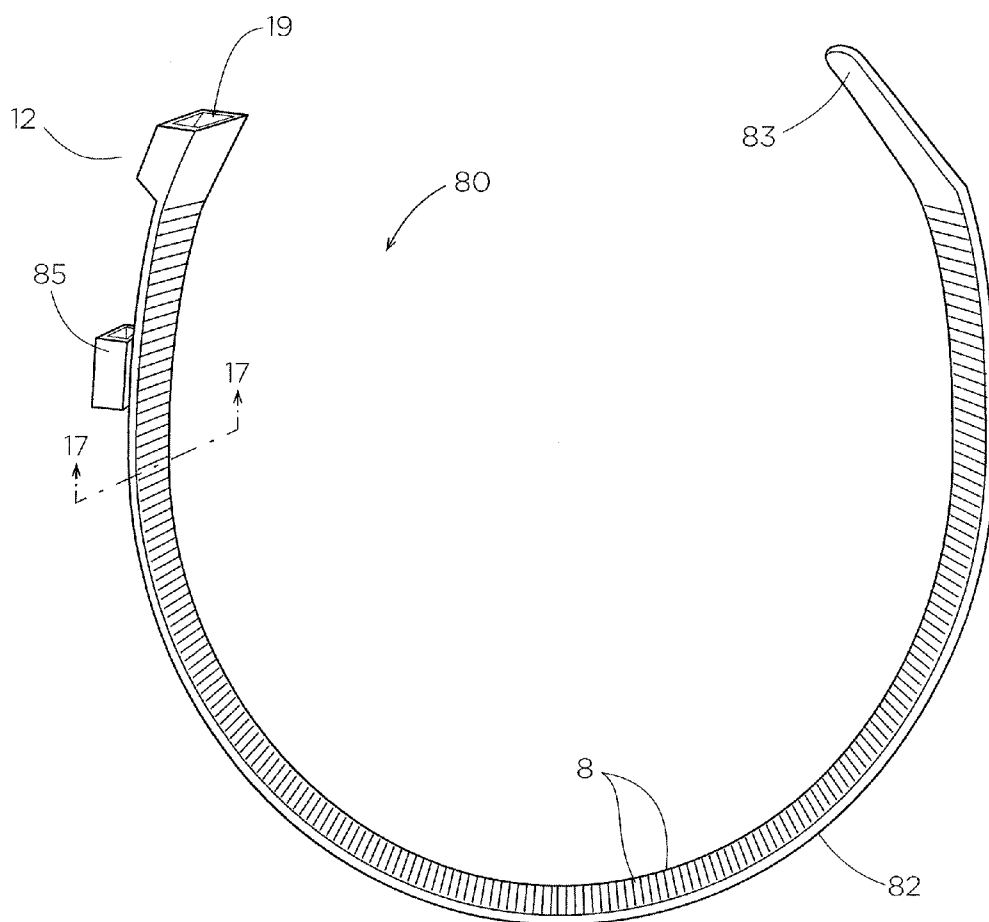


FIG. 16

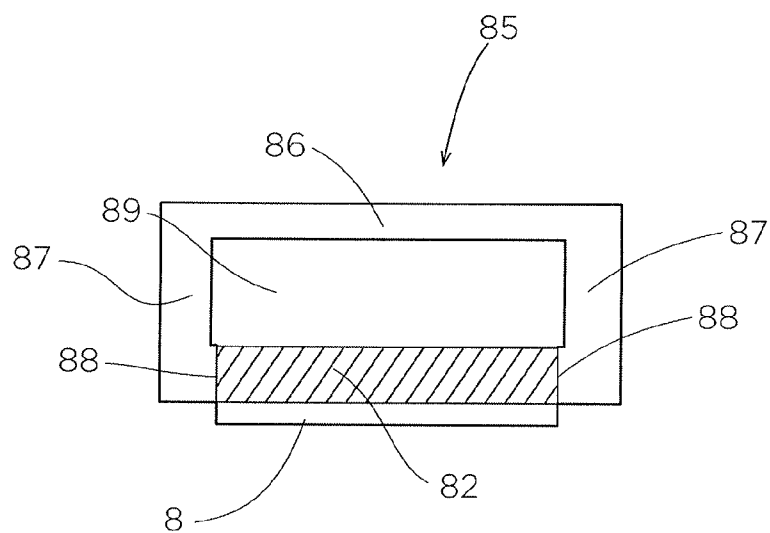


FIG. 17

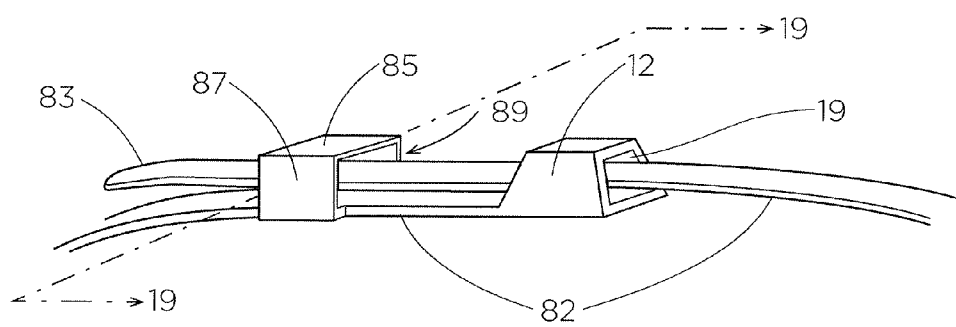


FIG. 18

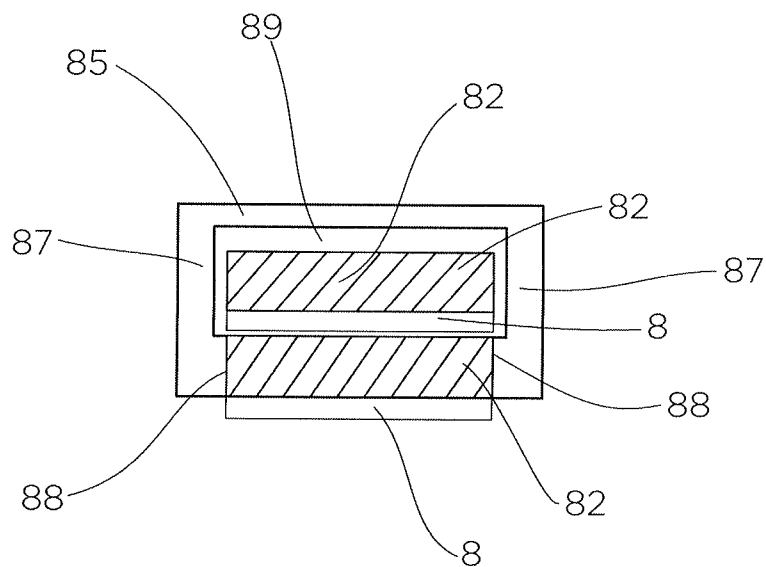


FIG. 19

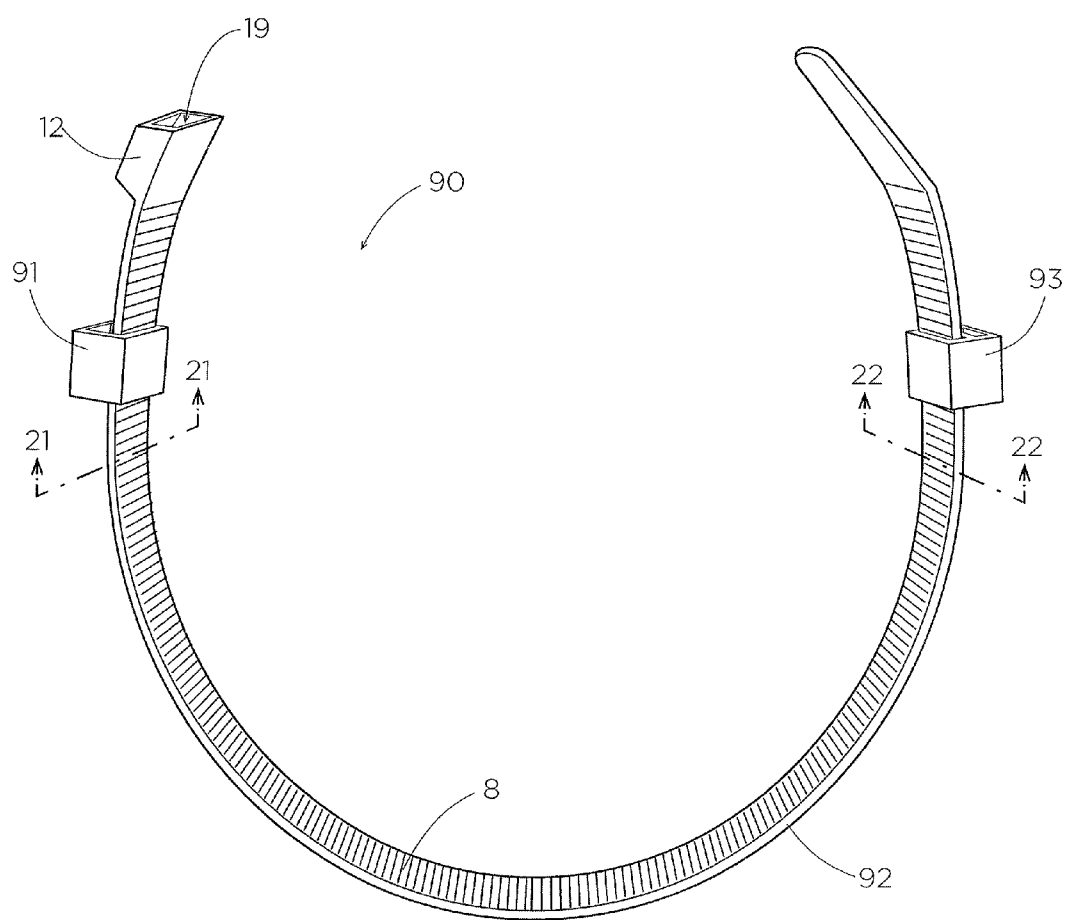


FIG. 20

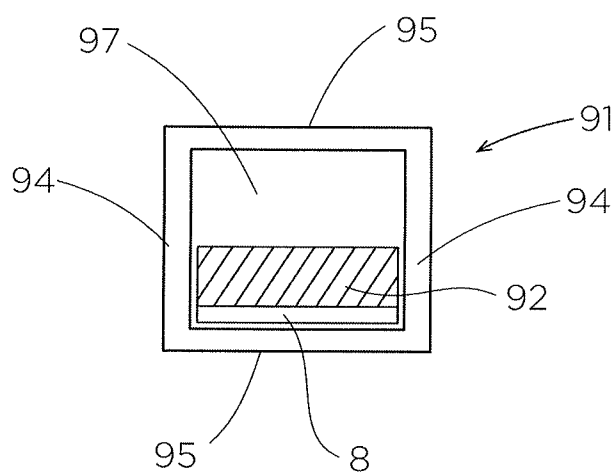


FIG. 21

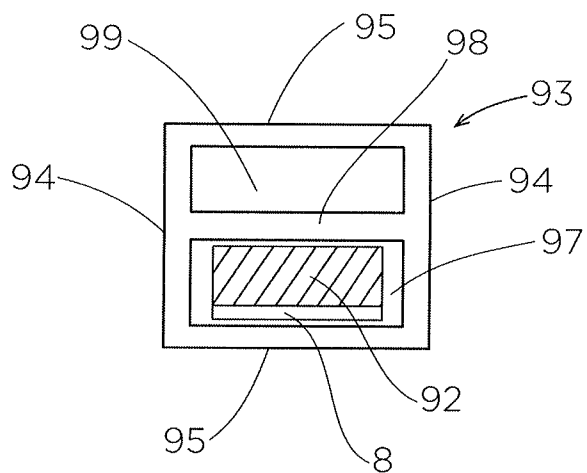


FIG. 22

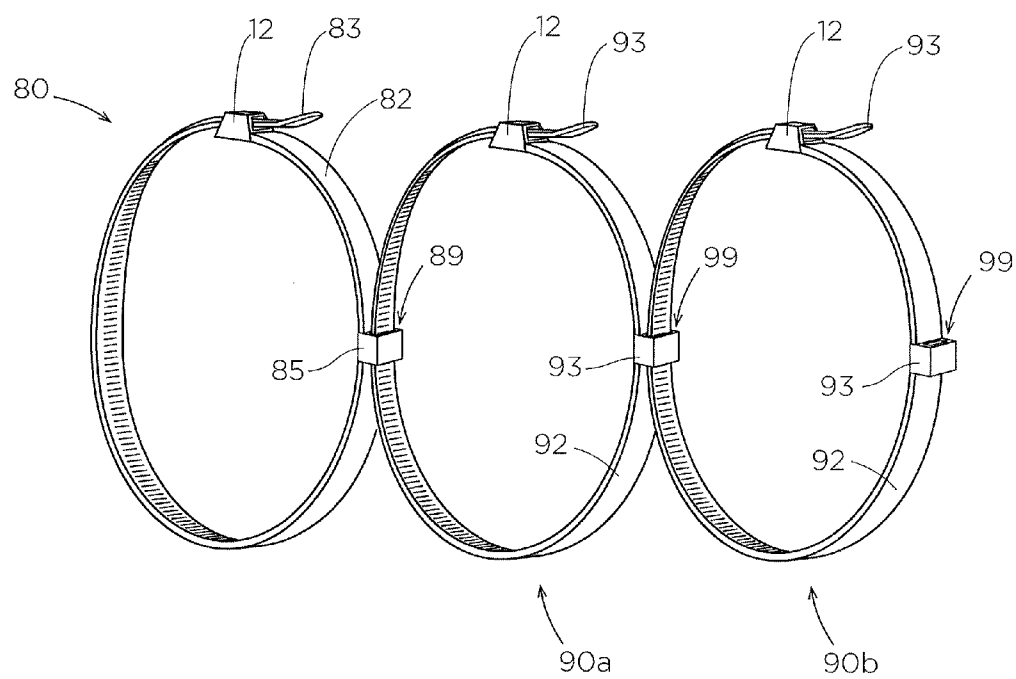


FIG. 23

CABLE TIES

FIELD OF THE INVENTION

[0001] The present invention relates to cable ties for bundling and tying together items.

BACKGROUND OF THE INVENTION

[0002] Cable ties, also known as harnessing devices, bundling devices, security straps, have been a commodity bundling strap for decades. Generally, a cable tie is a one-piece tie of synthetic plastic material, comprising a flexible elongate strap, a head at one end of the strap, an aperture extending through the head, a pawl (sometimes also referred to as a tang) disposed within the aperture. The pawl is pivotably connected to a wall of the head for movement in an arc across the aperture in the lengthwise direction of the strap, and is formed with one or more transverse teeth extending into the aperture. The strap includes a series of transverse ratchet serrations formed on one surface. The ratchet serrations and pawl teeth are profiled so as to co-operate and permit passage of the free end of said strap through the aperture from the pivoted end of the pawl, so as to prevent subsequent withdrawal of the strap in the opposite direction.

[0003] In use, the strap is looped around a bundle of articles (for example, electric cables or the like) or around, between, or through any other feature, and the free end of the strap is inserted into and pulled through the aperture in the head, the pawl teeth ratcheting the serrations in the strap to tighten around the bundle and to prevent withdrawal of the strap from the aperture.

[0004] Cable ties come in variety of fastening styles and sizes, as illustrated in the disclosures of U.S. Pat. Nos. 4,658,478, 4,009,509, 4,754,529, 3,965,538, 3,484,905, 3,368,247, 3,660,869, 4,776,067, and 7,017,237, the disclosures of which are all incorporated by reference in their entireties. Notwithstanding the simplicity of their function, there remains a need for improvements in the function and utility of cable ties.

SUMMARY OF THE INVENTION

[0005] The present invention provides a cable tie having a pre-shaped strap extending from the locking head, including a portion of the strap having a non-linear shape. The non-linear portion can be substantially the entire length of the strap, including the entire length of the serration portion of the strap, or any one or more portions at any position along the strap. The non-linear shape can include, without limitation, a curved, a sinusoidal curve, an angled or bend, and combinations thereof. Specific non-linear shapes include, without limitation, a circular shape, a U-shape, and a V-shape.

[0006] The present invention also provides a cable tie with a strap having a first surface including a plurality of serrations, and including one or more toothless portions along the length of the strap which do not have serrations. The toothless portions allow the locking head to move freely along the toothless portion without ratcheting engagement.

[0007] The present invention also provides a cable tie that can be used with one or more channeling loops that are positioned along the length of the strap, to receive the distal end of the same or a separate cable tie strap. A channel loop can be fixed in position to, including being formed integral with, the strap. A channel loop can also be a separate element

that is using in combination with a cable tie. The cable tie can be a conventional cable tie, or a cable tie of the present invention described herein.

BRIEF DESCRIPTION OF THE FIGURES

[0008] FIG. 1 shows a cable tie having a pre-formed circular strap.

[0009] FIG. 2 shows a locking head of a cable tie.

[0010] FIG. 3 shows a sectional view of the locking head of FIG. 2 taken through line 3-3.

[0011] FIG. 4 shows a sectional view of the locking head of FIG. 2 taken through line 4-4 of FIG. 3.

[0012] FIG. 5 shows a cable tie having a pre-formed circular strap for providing a locking strap on a container box and lid having a locking port.

[0013] FIG. 6 shows the cable tie having the pre-formed circular strap manipulated in through the locking port of the lid and container box.

[0014] FIG. 7 shows pre-formed circular strap pulled through the locking head of the cable tie to form a locking strap to secure the lid to the container box.

[0015] FIG. 8 shows another cable tie having the pre-formed V-shaped strap.

[0016] FIG. 9 shows the cable tie having the pre-formed V-shaped strap of FIG. 8 manipulated in through the locking port of the lid and container box.

[0017] FIG. 10 shows the cable tie having the pre-formed V-shaped strap of FIG. 8 manipulated with the distal end extending back through the handle opening.

[0018] FIG. 11 shows the pre-formed V-shaped strap of FIG. 8 pulled through the locking head of the cable tie to form a locking strap to secure the lid to the container box.

[0019] FIG. 12 shows another cable tie having the pre-formed U-shaped strap.

[0020] FIG. 13 shows another embodiment of a cable tie including a strap having a first surface including a plurality of serrations, and including several toothless portions along the length of the strap which do not have serrations.

[0021] FIG. 14 shows the cable tie of FIG. 13 with the strap pulled through the locking head to a toothless portion of the strap.

[0022] FIG. 15 shows another cable tie including a strap having several toothless portions including one toothless portion proximate the locking head.

[0023] FIG. 16 shows a cable tie including an integral channel loop.

[0024] FIG. 17 shows a sectional view of the cable tie of FIG. 16 through line 17-17.

[0025] FIG. 18 shows a sectional view of the cable tie of FIG. 16 through line 18-18.

[0026] FIG. 19 shows a sectional view of the cable tie of FIG. 16 through line 19-19 of FIG. 18.

[0027] FIG. 20 shows a cable tie including separate channel loops.

[0028] FIG. 21 shows a sectional view of the cable tie of FIG. 20 through line 21-21.

[0029] FIG. 22 shows a sectional view of the cable tie of FIG. 20 through line 22-22.

[0030] FIG. 23 shows a group of cable ties looped together with separate channel loops.

DETAILED DESCRIPTION OF THE INVENTION

Cable Ties Having Pre-Shaped, Non-Linear Straps

[0031] FIG. 1 show a cable tie 30 having a locking head 10 and strap portion 32 having a pre-formed circular shape. The feature of the cable tie to return to the pre-formed shape after all manipulating force on the strap is removed is also described herein as a shape memory. The pre-formed circular shape of the strap 32 allows the user to manipulate (to bias) the cable tie into any other shape, such as curved or more straightened, to allow the distal end 33 of the cable tie to be threaded through an opening or slot. When the manipulation or bias is removed, the shape memory of the pre-formed cable tie returns to the circular shape. Advantageously, this places the distal end 33 of the strap 32 close to the aperture 19 in the locking head 10, which can facilitate the assembly and locking of the strap to the locking head.

[0032] The elements of the strap and locking head are well known in the art. In an illustration of an embodiment of the cable tie, the strap 9 can include a plurality of transversely disposed serrations 8 that extend substantially the entire length of the strap, from the proximal end at the connection of the strap with the locking head 10, to the distal tip end 33.

[0033] Any conventional locking head 10 can be employed with the cable tie 30. FIGS. 2-4 shows an example of the features and mechanism of the locking head 10. The locking head 10 is formed from a plurality of walls that define an aperture 19 having an inlet end 20 and an outlet end 21, the walls including a base wall 12, an opposed outer wall 13, and a pair of side walls 14. A pawl 11 is connected pivotably at a proximal end 15 to the base wall 12, proximate the inlet end 20, and extends both into and along the aperture 19 to a distal end 16. The distal end 16 of the pawl 11 can move in an arc across the aperture 19 in the lengthwise direction of the strap, and includes one or more transverse teeth 17. One or more guides 22 and 23 on the inside of the walls can guide the position of the strap 9 through the aperture 19. The proximal end of the strap 9 connects to and extends perpendicularly from one of the walls of the locking head, such as the base wall 12, and perpendicularly to the aperture 19. The transverse teeth 17 of the pawl 11 engage ratchetedly the transverse serrations 8 of a conventional strap 9 as it is pulled, to allow the strap 9 to pass through the aperture 19 in only one direction, and prevent subsequent withdrawal of the strap 9 in the opposite direction, thereby locking the cable tie 30 into a closed loop.

[0034] FIGS. 5-7 show one of a number of advantageous uses of the circular cable tie. Illustrated in FIG. 5 is a handled box with a locking port lid, which is one described in any one of International Patent Applications PCT/US12/37402 and WO2012-154763, US Patent Application Publications US 2012-0267385, and U.S. patent application Ser. Nos. 13/606,059, 61/649,231, 61/643,818, the disclosures of which are incorporated by reference in their entireties. The assembled box container includes a handle opening 3 in the opposed sidewalls 1. A lid covers the top opening of the box container and has opposed sidewalls 2 that cover the upper portion of the box sidewalls 1. A locking port 5 is formed in the box and lid as a pair of registered apertures through the upper portion of the box sidewall 1 and the lid sidewall 2. As shown in FIG. 5, a user's hand (not shown, for simplicity) manipulates the distal tip 33 of the strap 32 of the circular cable tie 30 into the locking port 5, and then manipulates (pivots or rotates) the circular cable tie 30 to guide the distal

end 33 out through the handle opening 3 as shown in FIG. 6. The user then inserts the distal end 33 of the strap 32, now conveniently positioned near the locking head 10, in through the inlet end 20 of the aperture 19 of the locking head 10. The strap 32 can then be pulled through the aperture 19 so that the plurality of serrations 8 ratchet past the pawl 11 as desired by the user. The cable tie 30 can be cinched up tightly to secure the lid and its sidewall 2 to the box container 1 to provide a locking strap as shown in FIG. 7. The pre-formed circular shape of the strap 32 allows the distal end 33 to be conveniently tucked back inside the aperture of the locking port 5, if desired.

[0035] One can easily imagine the challenge presented with threading a standard straight-formed cable tie in through the locking port, and fishing the distal end back through the handle opening 3, which is at best a two-handed operation by a person with reasonably good dexterity. If the finger of the person using the conventional cable tie slips during the fishing of the distal end out through the opening, the strap springs back into the container, and the fishing process begins again. By comparison, the circular cable tie 30 can be threaded through the locking port 5 and back out the handle opening 5 with one hand, without requiring great dexterity.

[0036] There are undoubtedly numerous advantages to the use of a pre-formed cable tie, including the circular cable tie, over conventional straight-strapped ties.

[0037] FIG. 8 shows another pre-shaped cable tie 40 having a locking head 10 and strap portion 42 having a pre-formed V-shape, the strap portion 42 including a proximal portion 41 attaching to and extending from the locking head 10, and a distal portion 42 joined with the proximal portion 41 at a bend 45 in the strap. In the illustrated embodiment, the serrations 8 extend continuously along the proximal portion 41, through the bend 45, and through the distal portion 42, to the distal tip 43. The proximal portion 41 connected to the locking head 10 is typically longer than the distal portion 42. Typically the pre-shaped strap portion has a bend angle between the proximal and distal portions of about 15-120 degrees, including at least about 30 degrees, at least about 45 degrees, at least about 60 degrees and at least 75 degrees, and including up to about 105 degrees, up to about 90 degrees, up to about 75 degrees, up to about 60 degrees, and up to about 45 degrees. The radius of the bend 45 is typically at least 2 mm, including at least about 5 mm, and up to 10 mm or more. The length ratio of the proximal portion 21 to the distal portion is about 3:1 to about 1:1.5, including up to about 2.5:1, up to about 2:1, up to about 1.75:1, up to about 1.5:1, and up to about 1.25:1.

[0038] FIGS. 9-11 show one of a number of advantageous uses of the V-shaped cable tie, again illustrated with a handled box with a locking port lid as described above. As shown in FIG. 9, the V-shaped cable tie 40 is folded at the bend 45 to bring the two portions 41 and 42 of the strap together, and a user's hand (not shown, for simplicity) holds at least the locking head 10 and manipulates the bend 45 end of the folded cable tie into the locking port 5. When the distal tip 43 has passed through the locking port and has cleared all the walls of the lid and container box, the distal portion 42 of the strap springs outward from the bend 45 to the pre-formed V-shape. The user can then manipulate the V-shape cable tie 40 to guide the distal end 43 out through the handle opening 3 as shown in FIG. 10. The user then inserts the distal end 43 of the strap in through the inlet end 20 of the locking head 10, pulls it through the aperture 19, and cinches the strap portions

41,42 up tightly to secure the lid to the box container, and form a locking strap as shown in FIG. 11.

[0039] FIG. 12 shows another pre-shaped cable tie **50** having a locking head **10** and strap portion **52** having a pre-formed U-shape, the strap portion including a proximal portion **51** attaching to and extending from the locking head **10**, and a distal portion **52** joined with the proximal portion **51** at a curved portion **55**. In the illustrated embodiment, the serrations **8** extend continuously along the proximal portion **51**, through the curved portion **55**, and through the distal portion **52**, to the distal tip **53**. The proximal portion **51** is typically a little longer than the distal portion **52**. Typically the pre-shaped curved portion **55** has an arc angle, between the proximal and distal portions, of at least about 150 degrees and up to about 210 degrees, such as 180 degrees as illustrated, including at least about 160 degrees, and at least about 170 degrees, and up to about 200 degrees, and up to about 190 degrees. The radius length of the curved portion **55** typically depends upon the overall length of the strap, and is typically at least about 10 mm, including at least about 15 mm, at least about 20 mm, and at least about 25 mm, and up to about 50 mm or more, including up to about 35 mm, up to about 25 mm, and up to about 15 mm.

[0040] The U-shaped cable tie has the same number of advantageous uses as the other pre-formed cable tie described above, again including as a locking strap for a handled box with a locking port lid as described above. The distal end of the U-shaped cable tie can be inserted through the locking port and out through the handle opening, and then inserted into the locking head and cinched tight to provide a locking strap.

[0041] The cable ties with a pre-shaped, non-linear strap can be formed by conventional means, including forming the strap from a thermoplastic in molding or extrusion process and apparatus that secures the strap in the desired shape until the molten thermoplastic material has cooled to a temperature at which the solid thermoplastic material maintains the desired shape without external force or retaining.

[0042] Alternatively, a cable tie formed into the conventional linear shape can be positioned and retained into the desired shape, and then the thermoplastic material of the strap is heated to a softening temperature at which the thermoplastic will adopt the pre-formed shape after the material is cooled in the retained shape to a temperature at which the thermoplastic material maintains the desired shape without external force or retaining.

Cable Tie Strap without Serrations

[0043] In any of the embodiments and other aspects of the invention, a cable tie is provided that has a strap that includes one or more portions along the length of the strap which do not have serrations. These “toothless” portions allow the locking head and the pawl to move along the length of the strap without ratcheting engagement, so that the position of the locking head can be advanced and retreated along the length, and the circumference of the connected cable tie can be varied. This gives the user some flexibility to insert and connect the distal end of the strap to the locking head and position the locking head into a toothless portion so that the circumference can be reversibly adjusted to accommodate additional cables, tubes, or other items that will be secured by the cable tie. The cable tie can be a conventional cable tie, or a cable tie of the present invention described herein.

[0044] FIG. 13 illustrates an embodiment of a cable tie **60** having a strap **62** that includes one or more portions **65** along

the length of the strap which do not have serrations **8**. In one such embodiment, the strap **62** includes a first serration portion **64a** including serrations **8** adjacent to a first toothless portion **65a** without serrations. The first portion of serrations allows the strap to be looped around items and then secured to the locking head **12** into a closed loop. The length of the first serration portion **64a** can be of any length and any number of serrations. The length of the first toothless portion **65a** can be of any remaining length of the strap, up to and including the remaining length of the strap. The “toothless” portion **65a** allows the locking head **10** to move along the length without ratcheting engagement as shown in FIG. 14. Typically the first toothless portion **65a** is longer than the first serration portion **64a**. In an embodiment where the first toothless portion **65a** extends the remaining length of the strap, the closed loop remains adjustable, and does not allow the locking head to be cinched tightly up to the locking head.

[0045] In another such embodiment, the strap **62** can include a second serration portion **64b** that subsequently engage and are ratcheted by the locking head **12**. The length of the second serration portion **64b** can be of any remaining length of the strap, up to and including the remaining length of the strap. The locking head **12** can be cinched along the length of the second portion of serrations **64b** to further restrict the circumference of the closed loop.

[0046] In yet another such embodiment, the strap **62** can include a second toothless portion **65b** that subsequently allows the locking head **12** to be slid back and forth along the toothless portion. The length of the second toothless portion **65b** can be of any remaining length of the strap, including the remaining length of the strap. FIG. 15 illustrates a cable tie **70** with a second toothless portion **75b** that extends the remaining portion of the strap **72**, which allows the closed loop to remain adjustable, without allowing the locking head to be cinched tightly up to the locking head.

[0047] Again in FIG. 13, in yet another embodiment, the strap **62** can include a third serration portion **64c** that engage and are ratcheted by the locking head **12**. The length of the third serration portion **64c** can be of any remaining length of the strap, up to and including the remaining length of the strap, as shown in FIG. 13.

[0048] It can be understood that any number of alternating serration sections and toothless sections can be positioned the length of the strap, with either a serration section or a toothless section the proximal end, adjacent the locking head. The alternating serration and toothless sections can be of the same lengths, or different lengths. The portion of the strap **62** most proximate to the locking head **12** can be a serrated portion as shown in FIG. 13, or can be a toothless portion as shown in FIG. 15.

[0049] It can also be understood that the toothless portions can be used in any of the other cable tie embodiments described herein, for example the V-shaped and U-shaped straps, including along the linear portion or bend portion of a strap.

[0050] The locking head of any one of the cable tie embodiments of the present invention can alternatively be configured having the strap connected to an edge of one of the walls of the locking head, such as the base wall, and extending parallel with the aperture through the locking head, as shown in FIG. 13.

Channeling Loop for Securing the Strap

[0051] In any of the embodiments and other aspects of the invention, a cable tie can be used with one or more channeling loops that are positioned along the length of the strap, to receive the distal end of the same or a separate cable tie strap. A channel loop can be fixed in position to, including being formed integral with, the strap. A channel loop can also be a separate element that is using in combination with a cable tie. The cable tie can be a conventional cable tie, or a cable tie of the present invention described herein.

[0052] FIGS. 16-19 illustrate a first embodiment of a cable tie **80** having a channeling loop **85** attached to the strap **82**. The channeling loop **85** has a one or more walls that attach on opposed edges **88** of the strap **82** and extending from the strap on the surface opposite the serrations **8**, to define a channel **89** oriented with the length of the strap **82**. The walls are illustrated as an upper wall **86** and sidewalls **87**. The channel **89** is sized to receive the distal end **83** and body of the strap **82** after their insertion into and ratcheting through the locking head **12**. The channeling loop provides a means for holding the loose distal portion of the strap close to the body of the strap. In the illustrated embodiment, the channeling loop **85** is located close to the locking head **12** (within 1-2 strap-widths from the locking head), though can be positioned anywhere along the length of the strap.

[0053] In an aspect and further embodiment of the invention, the attached channeling loop **85** can be positioned adjacent to the locking head, and even in contact with or as an integral extension of the body of the locking head, to prevent access to the pawl **11** of the locking head after the strap has been ratcheted into place. The proximity of the channeling loop blocks access to the pawl, preventing a person from “picking” the lock and loosening the cable tie. In this case, the only way to remove the secured cable ties is by cutting the strap.

[0054] FIGS. 20-22 illustrate a second embodiment of a combination cable tie **90** with a separate channeling loop attached to the strap. FIGS. 20 and 21 show a first separate channeling loop **91** having one or more walls that enclose a channel **97**. The walls are illustrated as sidewalls **94** and opposed wall **95**. The channel **97** is sized to receive the distal end **93** and body of the strap **92** (shown in FIG. 21) before the same distal end **93** and body of the strap **92** is inserting into and through the locking head **12**. The remaining space of the channel **97** can then receive the distal end **93** and body of the strap **92** after their insertion into and ratcheting through the locking head **12**. The strap can include an extending portion or stop portion, extending from a side edge of the non-serrated surface of the strap, that blocks passage of the separate channeling loop from passing off the distal end of the strap. The separate channeling loop **91** provides a means for holding the loose distal portion close to the body of the strap, positionable anywhere along the strap length.

[0055] FIG. 22 shows a second separate channeling loop **93** having one or more walls that enclose the first channel **97** and a separate second channel **99**. The walls are illustrated as the sidewalls **94** and the opposed walls **95**, and an intermediate wall **98** connected to the sidewalls **94** between the opposed walls **95**. The first channel **97** is sized to receive distal end **93** and the body of the strap **92** (as shown in FIGS. 20 and 22) before the same distal end **93** and body are inserting into and through the locking head **12**. The second channel **99** is sized to receive the distal end **93** and body of the strap **92** after their insertion into and ratcheting through the locking head **12**. The

separate channeling loop **93** provides a means for holding the loose distal portion **93** close to the body of the strap **92**, positionable anywhere along the strap length.

[0056] FIG. 23 shows a utility for any one of the integral channeling loop **85** or separate channeling loops **91** or **93**. A strap **92** of a first cable tie **90a** can be inserted through a channel **89** of an integral channeling loop **85** of another cable tie **80**. In turn, a second strap **92** of another second cable tie **90b** can be inserted through a channel **99** of a separate channeling loop **93** of first cable tie **90a**, and so forth. This permits secured items such as cables within separate cable ties to be looped together with the channeling loops.

[0057] It is understood that any of the cable ties of the invention can have longer or shorter lengths, or widths, depending upon the user's need.

We claim:

1. A cable tie having a pre-shaped strap extending from the locking head, including a portion of the strap having a non-linear shape.
2. The cable tie of claim 1 wherein the non-linear portion is substantially the entire length of the strap.
3. The cable tie of claim 1 wherein the non-linear shape is selected from the group consisting of a curve, a sinusoidal curve, an angle, a bend, and combinations thereof.
4. The cable tie of claim 1 wherein the non-linear shape is circular.
5. The cable tie of claim 1 wherein the non-linear shape is a U-shape.
6. The cable tie of claim 1 wherein the non-linear shape is a V-shape.
7. The cable tie of claim 6 wherein the non-linear shape is the V-shape is provided by a strap having a proximal portion extending from the locking head, and a distal portion joined to the proximal portion at a bend.
8. The cable tie of claim 7 wherein the proximal portion is longer than the distal portion.
9. The cable tie according to claim 1, wherein the strap includes one or more toothless portions that do not have serrations.
10. The cable tie according to claim 3, wherein the strap includes one or more toothless portions that do not have serrations.
11. The cable tie according to claim 4, wherein the strap includes one or more toothless portions that do not have serrations.
12. The cable tie according to claim 5, wherein the strap includes one or more toothless portions that do not have serrations.
13. A cable tie including a strap that includes one or more toothless portions that do not have serrations.
14. A cable tie including a strap and a locking head, and one or more channeling loops disposed along the length of the strap.
15. The cable tie according to claim 14 wherein at least one of the one or more channeling loops is fixed in a position along the length of the strap.
16. The cable tie according to claim 15 wherein the at least one fixed channeling loop is positioned adjacent the locking head.
17. The cable tie according to claim 16 wherein the at least one channeling loop is in contact with the locking head.
18. The cable tie set according to claim 14 wherein the one or more channeling loop is a separate element having a chan-

nel configured for accepting both the strap and a distal end of the strap after its passing through the locking head.

19. The cable tie set according to claim **18**, wherein the strap comprises an extending portion that blocks passage of the separate channeling loop from passing off the distal end of the strap.

20. The cable tie set according to claim **18**, wherein separate channeling loop includes an intermediate wall that defines a first channel and a separate second channel.

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