

FIG. 1

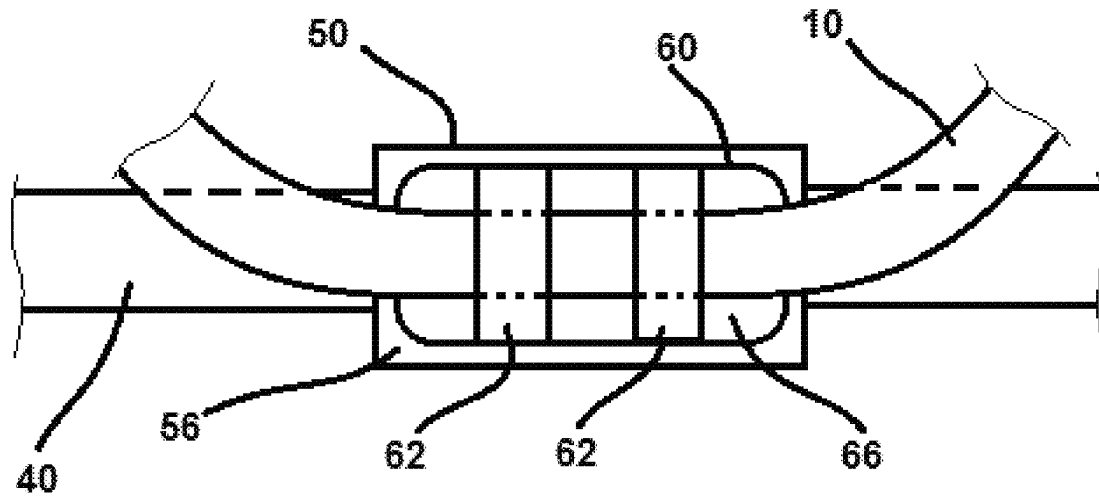


FIG. 2

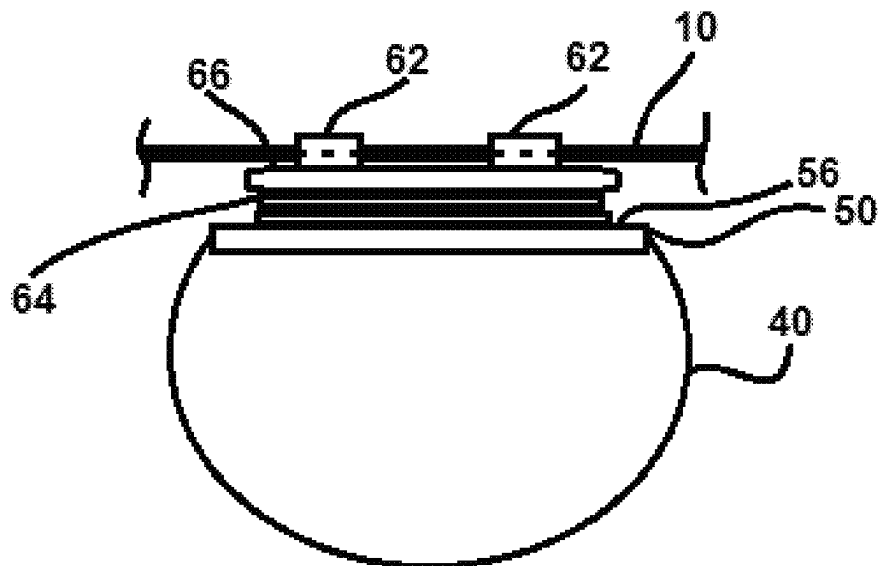


FIG. 3

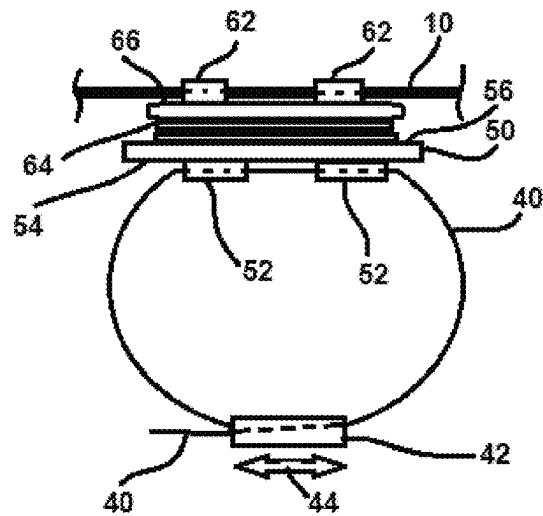


FIG. 4

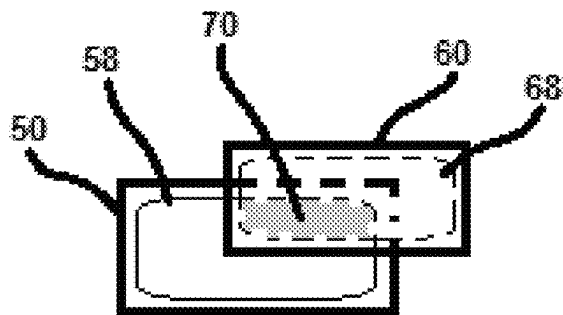


FIG. 5

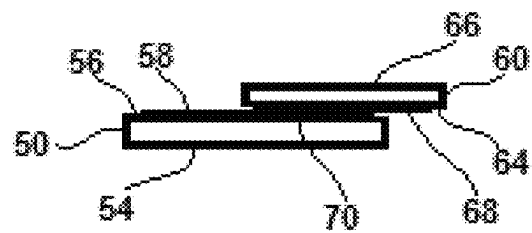


FIG. 6

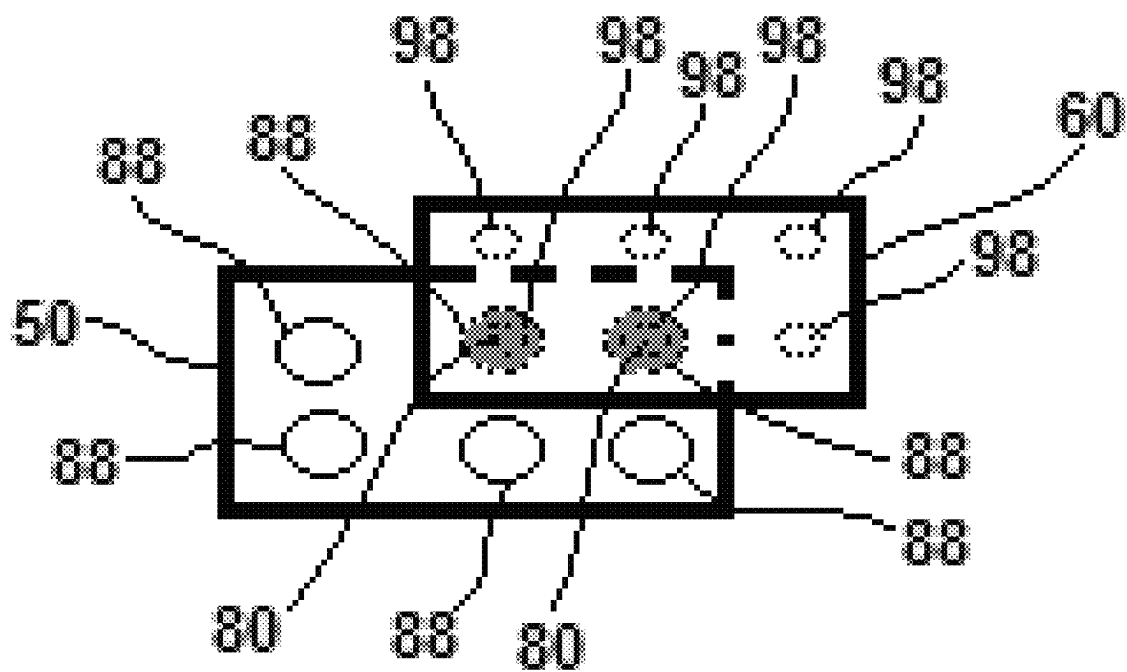


FIG. 7

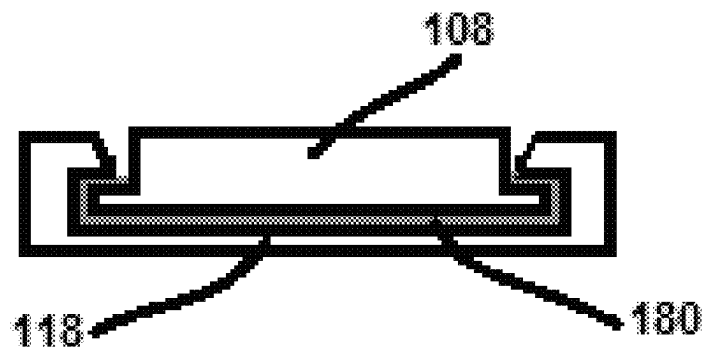


FIG. 8

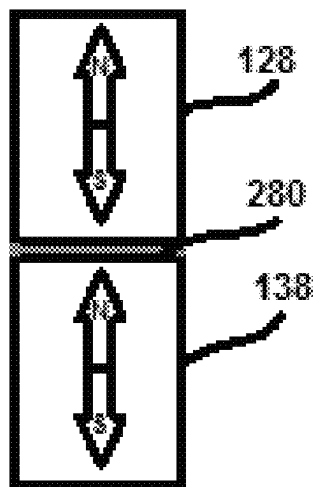


FIG. 9

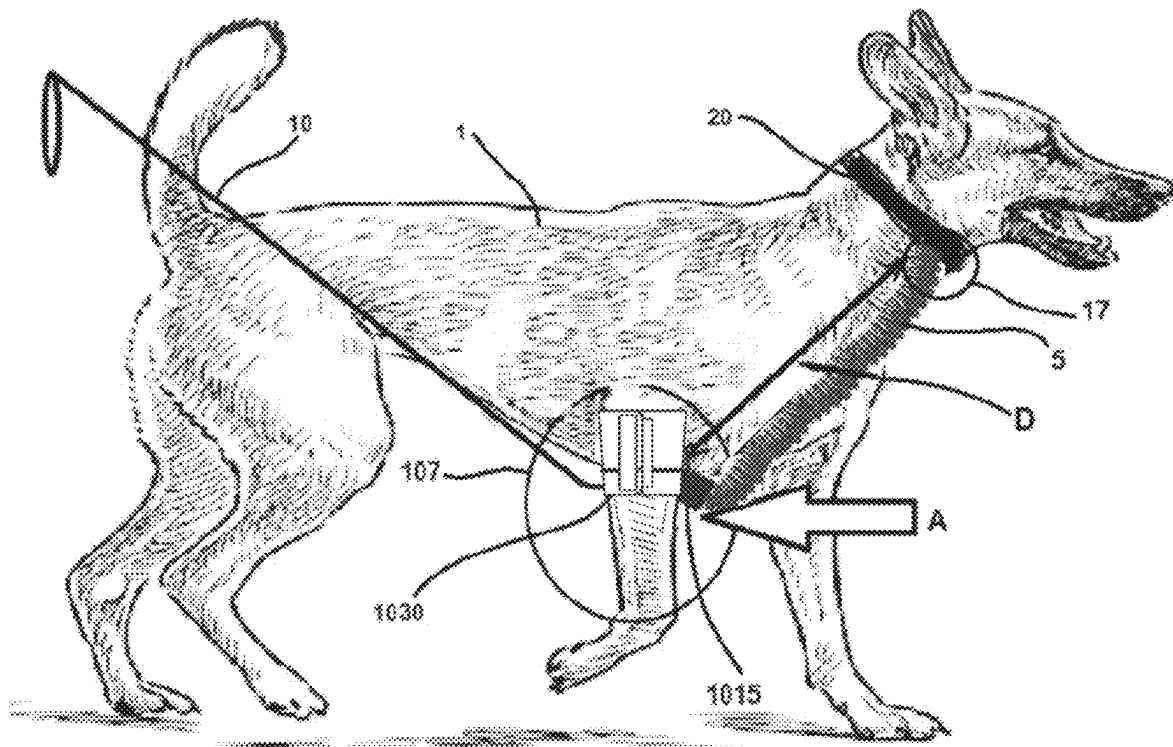


FIG. 10

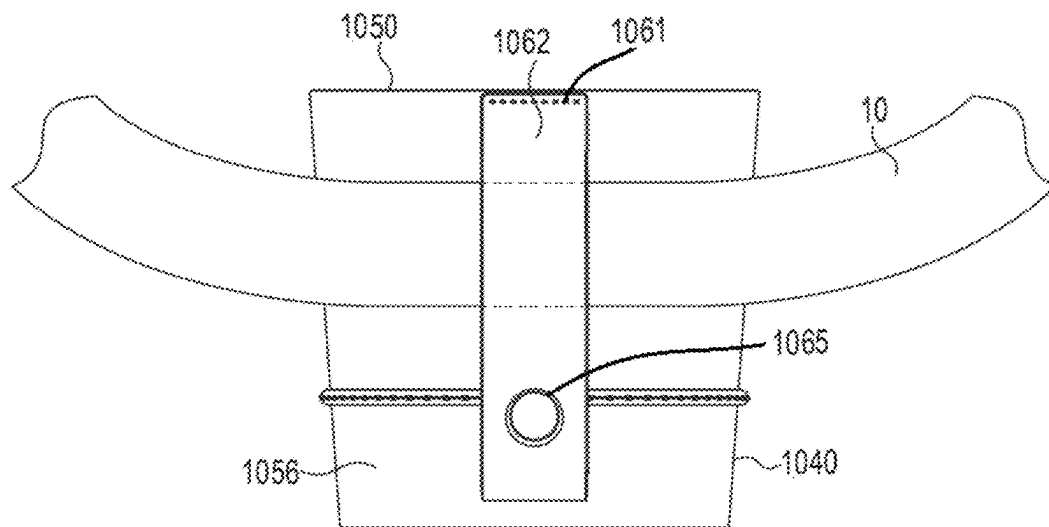


FIG. 11

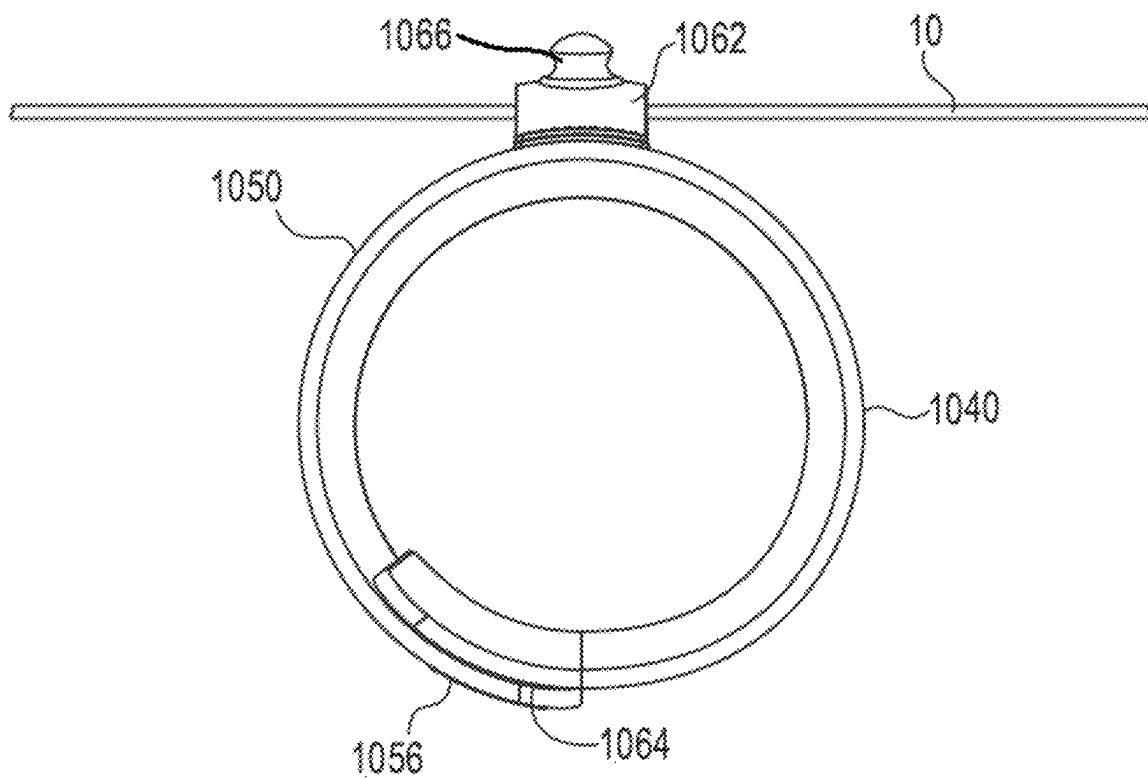


FIG. 12

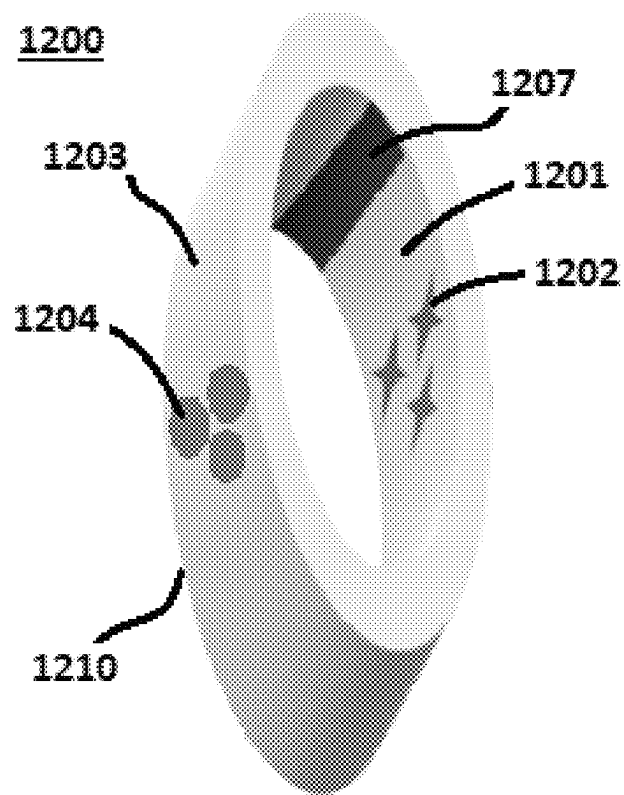


FIG. 13A

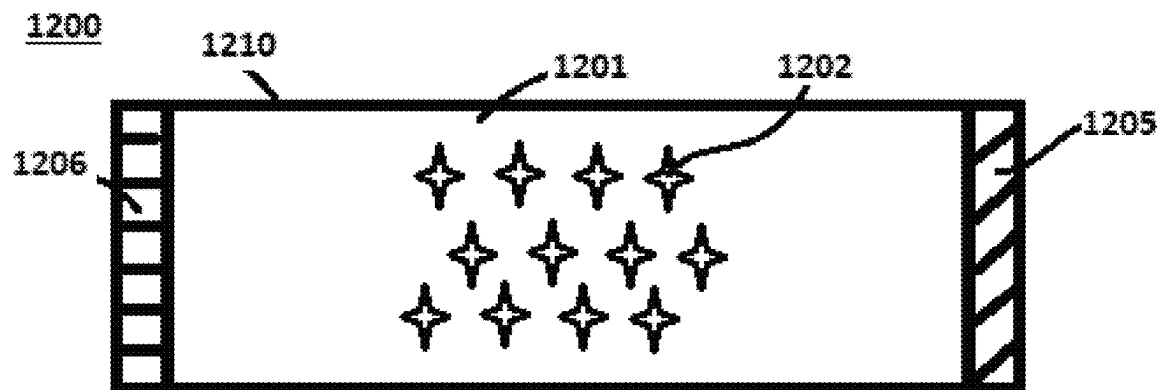


FIG. 13B

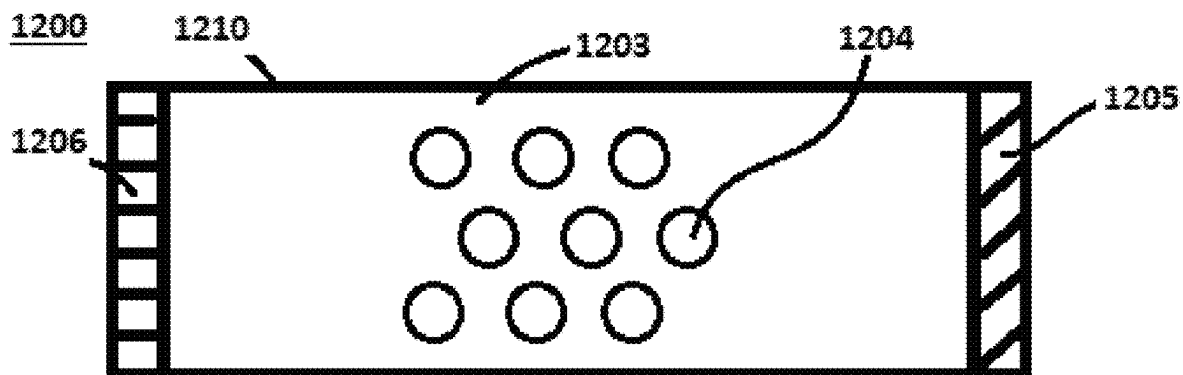


FIG. 13C

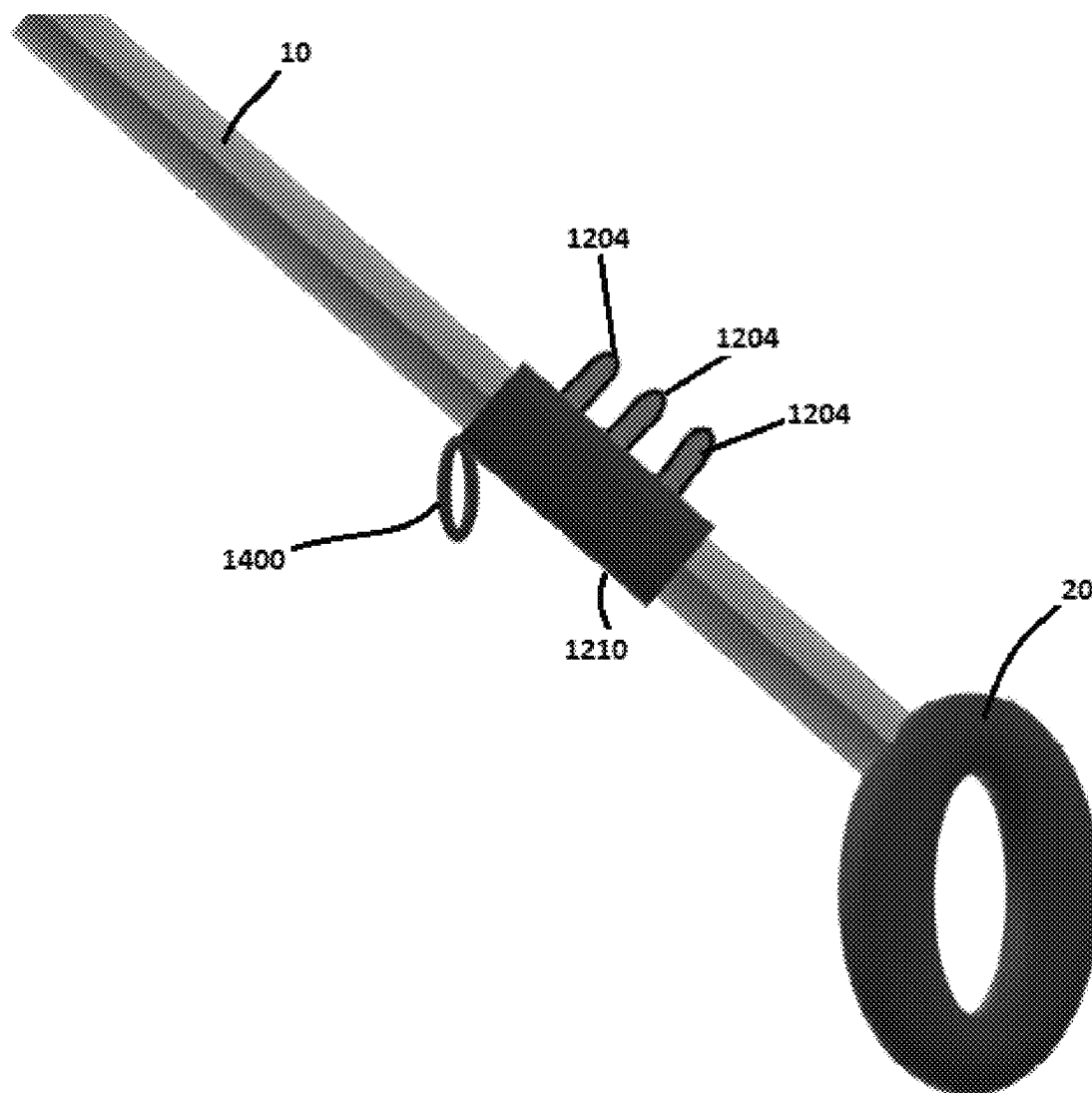


FIG. 14

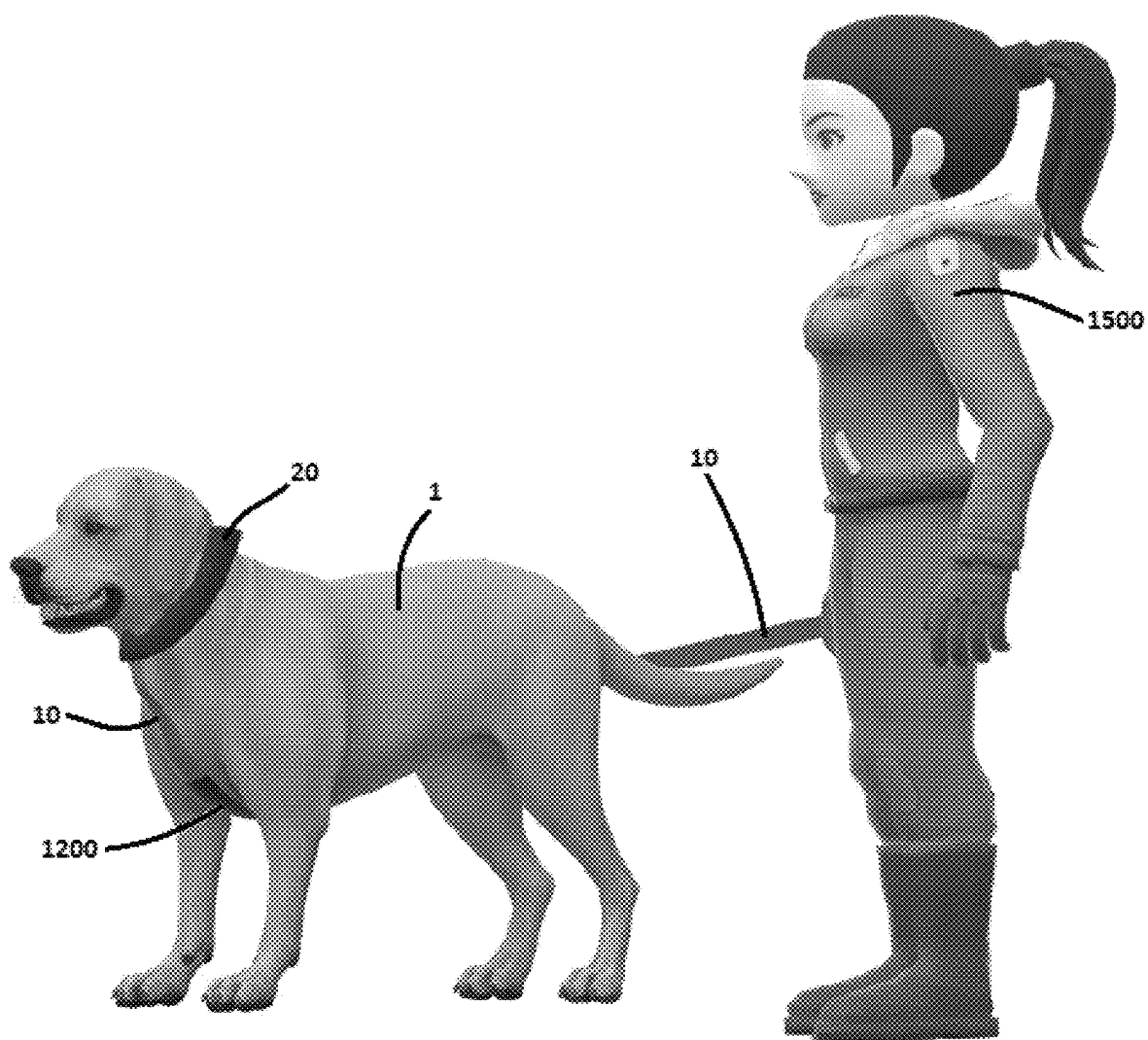


FIG. 15

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DOG TRAINING DEVICE**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a continuation-in-part of U.S. patent application Ser. No. 17/497,445, filed Oct. 8, 2021, which claims priority to U.S. patent application Ser. No. 16/588,087, filed Sep. 30, 2019, now U.S. Pat. No. 11,140,871, issued Oct. 12, 2021, which claims priority to prior U.S. Provisional Patent Application No. 62/734,598, filed Sep. 21, 2018, the entire contents of which are incorporated herein by reference.

BACKGROUND**1. Field of Disclosure**

The present disclosure relates to devices for training and/or controlling domestic animals and pets, and in particular dogs.

2. Description of Related Art

Conventional dog training devices, such as choke collars and muzzle collars may require excessive force by the trainer to be effective and/or cause excessive discomfort to the dog. Furthermore, such devices may require custom or specially designed leashes of collars that may not be usable other than for training purposes.

Accordingly, there is a need for a device or system that can be used with conventional leashes and/or collars, and/or address at least the above-noted drawbacks of conventional training or control devices.

SUMMARY OF THE DISCLOSURE

Exemplary embodiments of the present disclosure address at least these needs by providing a training device and system including a strap attachable to a front leg of a pet, and a guide configured with respect to the strap and the front leg of the pet for passing therethrough a leash attached to a collar worn by the pet, whereby the leash is within the guide disposed between a handle of the leash and the collar, and the leash is removably attached to the front leg of the pet at the guide.

According to an exemplary implementation of the disclosed embodiments, at least one of the guide and the strap achieves detachment from the leg of the pet when force between the handle of the leash and the collar exceeds a predetermined amount.

According to another exemplary implementation of the disclosed embodiments, the strap can comprise a hook and loop fastener to facilitate said detachment from the leg of the pet.

According to yet another exemplary implementation of the disclosed embodiments, the device and system can comprise a base configured with respect to said strap, wherein the guide comprises a removable attachment to said base to facilitate said detachment from the leg of the pet.

According to still further exemplary implementation of the disclosed embodiments, the predetermined amount of force can be set based on at least one of the size and weight of the pet.

According to another exemplary embodiment, a training device comprises a strap attachable to a front leg of a pet, and a guide configured with respect to the strap and the front

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leg of the pet for passing therethrough a leash attached to a collar worn by the pet, whereby the leash is within the guide disposed between a handle of the leash and the collar, and the strap is removably attached to the front leg of the pet.

The strap achieves detachment from the leg of the pet when force between the handle of the leash and the collar exceeds a predetermined amount.

According to an exemplary implementation of other disclosed embodiment, the strap can comprise a releasable fastener to facilitate the detachment of said strap from the leg of the pet.

According to another exemplary implementation of other disclosed embodiment, wherein the strap further comprises a base and the guide is fixedly attached to the base.

According to yet another exemplary implementation of other disclosed embodiment, the training device comprising a protrusion disposed with respect to at least one of the strap and the guide configured to apply pressure to a body of the pet proportional to the force between the handle of the leash and the collar. For example, the protrusion can be disposed on the guide such that, when the strap is configure on the front leg of the pet, the protrusion is between the front leg and the body of the pet.

According to still another exemplary implementation of other disclosed embodiment, the guide comprises a loop attached to the base of the strap such that, when the strap is configure on the front leg of the pet, the loop is between the front leg and the body of the pet. The loop can be flexible.

According to yet further exemplary implementation of other disclosed embodiment, the guide comprises a loop attached to the strap such that, when the strap is configure on the front leg of the pet, the loop is between the front leg and the body of the pet, and the protrusion is disposed on the loop.

According to yet further exemplary implementation of yet another disclosed embodiment, the guide comprises a cuff configured to accommodate, for example to wrap around, a leash, the cuff comprising a plurality of nubs or protrusions on its outer surface and gripping components on its inner surface configured to maintain position of the cuff on the leash, such that at least one of the plurality of the nubs makes contact with the armpit of the dog when the leash is pulled with sufficient force.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete appreciation of the present disclosure and many of the attendant advantages thereof will be readily obtained as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein

FIG. 1 is a generalized illustration of a device and system according to an exemplary embodiment of the disclosure disposed on a pet.

FIG. 2 is a diagrammatic illustration of a detail of components of a device and system according to an exemplary implementation of an exemplary embodiment of the disclosure.

FIGS. 3 and 4 are diagrammatic illustrations of additional components of a device and system according to exemplary implementations of exemplary embodiments of the disclosure.

FIGS. 5 and 6 are diagrammatic illustrations of attachments of various components of a device and system according to exemplary implementations of exemplary embodiments of the disclosure.

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FIGS. 7, 8 and 9 are diagrammatic illustrations of various complimentary structures for devices and systems according to exemplary implementations of exemplary embodiments of the disclosure.

FIG. 10 is a generalized illustration of a device and system according to another exemplary embodiment of the disclosure disposed on a pet.

FIG. 11 is a diagrammatic illustration of a detail of components of a device and system according to an exemplary implementation of another exemplary embodiment of the disclosure.

FIG. 12 is diagrammatic illustrations of additional components of a device and system according to exemplary implementations of another exemplary embodiment of the disclosure.

FIG. 13A is a diagrammatic illustration showing a perspective view of a detail of components of a device and system according to an exemplary implementation of yet another exemplary embodiment of the disclosure.

FIG. 13B is a diagrammatic illustration showing another view of a detail of components of a device and system shown in an example of FIG. 13A according to an exemplary implementation of yet another exemplary embodiment of the disclosure.

FIG. 13C is a diagrammatic illustration showing yet another view of a detail of components of a device and system shown in an example of FIG. 13A according to an exemplary implementation of yet another exemplary embodiment of the disclosure.

FIG. 14 is diagrammatic illustrations of additional components and features of a device and system according to an exemplary implementations of yet another exemplary embodiment of the disclosure.

FIG. 15 is an illustration of a configuration of a device and system according to the yet another exemplary embodiment of the disclosure disposed on a pet and with respect to a person holding a leash with such a device and/or such a system.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

The matters defined in the description such as a detailed construction and elements are provided to assist in a comprehensive understanding of the embodiments of the disclosure and are merely exemplary. Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope and spirit of the disclosure.

Exemplary embodiments of the present disclosure will now be described in detail with reference to the annexed drawings. In the following description, a detailed description of known functions and configurations incorporated herein has been omitted for clarity and conciseness. Specific dimensions of various components provided in, or implied by, the drawings are to facilitate understanding of exemplary embodiments of the present disclosure.

Referring to FIG. 1, exemplary embodiments of the present disclosure provide devices and system that can not only stop a dog from pulling its owner, but to train a dog over time to not pull while being walked on a leash. In an exemplary implementation, a cuff 30 can be wrapped around the highest point of either front leg of the dog, using, for example a hook and loop fastener and running a leash 10 through the sleeve or guide 60 on the outside of the cuff 30,

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so that an existing leash 10 can be run from the collar 20, under the inside of the leg and up to the owner's hand.

In an exemplary implementation, when the dog lunges or pulls, the dog's front leg is lifted, placing pressure on the dog's "armpit," causing the dog to lose leverage and naturally stop pulling.

According to an exemplary, non-limiting implementation, a detachable configuration, such as a tear-away, or releasable, hook and loop fastener, can create a "safety valve" that releases when the strength of the dog's pull creates a risk of injury. Exemplary implementations can provide for different strengths (sizes), based on the strength (weight) of the dog and correlating directly with the strength of the hook and loop.

According to an exemplary, non-limiting implementation of a detachable configuration, the cuff can be attached using a hook and loop fastener such that the ability to "break away" (release) if there is a risk of the dog pulling so hard it may injure itself, still leaves the leash connected to the collar and the other end of the leash still in the owner's hand.

Referring to FIG. 2, according to exemplary implementations of the embodiments of the disclosure, training system or cuff 30 comprises a base 50 and a guide 60, which can be removably attached to base 50, which facilitates removable attachment of leash 10 with respect to a front leg of pet 1.

Referring to FIGS. 3 and 4, according to exemplary implementations of the embodiments of the disclosure, training system or cuff 30 comprises a leg strap 40 allowing cuff 30 to be wearable on, or configured with respect to, either left leg or right leg (as shown in FIG. 1) of pet 1.

According to exemplary implementations of the embodiments of the disclosure, base 50 can be attached to strap 40, for example by means of passing through one or more loops 52 configured (e.g., fixed) with respect to lower surface 54 of base 50. According to another exemplary implementations of the embodiments of the disclosure, base 50 can be integrally formed with, or on, strap 40, and/or guide 60 can be integrally formed with, or on, base 50.

According to exemplary implementations of the embodiments of the disclosure, strap 40 can comprise a flexible material so that it may expand and/or contract for secure attachment to a leg of pet 1. According to another exemplary implementations of the embodiments of the disclosure, strap 40 can comprise a length adjustment mechanism 42, such as a buckle, a loop, a Velcro strap, or other means, for adjusting the length of strap 40, as diagrammatically shown by arrow 44, to facilitate secure attachment of strap 40 with base 50 to a leg of pet 1. In an exemplary implementation, mechanism 42 can comprise the "break away" (release) configuration.

According to exemplary implementations of the embodiments of the disclosure, guide 60 comprises one or more loops 62, for example configured (e.g., fixed) with respect to upper surface 66 of guide 60 for passing leash 10 therethrough. In an exemplary implementations, loops 62 can be of fixed size for allowing free passage of leash 10 with respect to guide 60. According to other exemplary implementations, loops 62 can be sized to restrict, or prevent movement of leash 10 with respect to guide 60. According to yet another exemplary implementation, loops 62 can have a variable or adjustable size such that movement of leash 10 therethrough, and thereby with respect to guide 60, can be unrestricted, restricted to various degree as desired, and/or prevented, which for example can facilitate varying and/or fixing distance D (see FIG. 1) of cuff 30 with respect to collar 20, for example based on the size of pet 1, and/or the training requirements.

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Referring to FIG. 1, according to an exemplary implementation, a system can further comprise a coiling cord 5 that can keep tension between the pet's collar 20 and the cuff 30. This coiling cord 5 can be attached 15 to the cuff 30, for example by a key ring, and attach 17 (107 in FIG. 10 example) to the collar 20, for example by a swivel trigger clip or similar attaching mechanism. In an exemplary implementation, a system including a coiling cord 5 can also comprise a "break away" (or a releasable) configuration 7. Such a configuration can provide "break away" (or release) 10 feature if there is a risk of the pet pulling so hard it may injure itself, while still leaving the leash 10 connected to the collar 20 at one end with the other end of the leash 10 still in the owner's hand. While FIG. 1 illustrates a coiling cord 5, other means of creating enough tension between the collar 15 and the cuff to keep the cuff up on the dog's leg can be used, such as a stretchable leash/belt/segment comprising an elasticized cord (e.g., a bungee).

Referring to FIG. 2, according to yet another exemplary implementation, loops 62 can be fastened using hook and loop, so the leash 10 detaches (or releases) from the cuff 30, with the leash still attached to the pet's collar 20. In addition, the cuff 30 can remain attached to the leg and to the collar 20, for example by way of a coiling configuration, such as a configuration described above with reference to an example of FIG. 1, which can be attached to the cuff 30 and run to the collar 20 to help keep enough tension between the cuff 30 and the collar 20, so that the cuff 30 stays up in a desired location, such as the "armpit," of the pet's leg.

According to exemplary implementations of the embodiments of the disclosure, guide 60 and base 50 can be fixedly connected, or integrally formed such that detachment (i.e., "break away" or "release" function) is achieved by detachment of base 50 from strap 40. According to another exemplary implementations of the embodiments of the disclosure, guide 60 can be fixedly connected, or integrally formed with strap 40, such that detachment (i.e., "break away" or "release" function) is achieved by detachment of strap 40 from leg of pet 1.

According to exemplary implementations of the embodiments of the disclosure, various configurations facilitating removable attachment of guide 60 and base 50, which provides removable attachment of leash 10 with respect to a front leg of pet 1, are possible as diagrammatically illustrate in FIGS. 5-9.

Referring to FIGS. 5 and 6, according to an exemplary implementation, complementary sticky or engaging material (such as Velcro) 58 and 68 can be attached to, otherwise disposed on, and/or made part of, upper surface 56 of base 50 and lower surface 64 of guide 66, respectively. In an exemplary implementation, varying degree of attachment can be achieved by varying the size of contact area 70 between materials 58 and 68, which can thereby provide for a desired amount of force required to detach leash 10 from leg of pet 1.

Referring to FIGS. 7-9, according to another exemplary implementation, one or more complementary structures 88 and 98 can be attached to, otherwise disposed on, and/or made part of, upper surface 56 of base 50 and lower surface 64 of guide 66, respectively. In an exemplary implementation, varying degree of attachment 80 can be achieved by varying the number of such structures used to connect base 50 and guide 60, which can thereby provide for a desired amount of force required to detach leash 10 from leg of pet 1.

As illustrated in FIG. 8, according to an exemplary implementation, one or more complementary structures 88

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and 98 can be formed by one or more complementary snap-fit structures 108 and 118, whereby varying degree of attachment can be achieved by varying the number of such structures used to connect base 50 and guide 60 and/or varying resiliency of snap-fit connection 108 between one or more snap-fit structures 108 and 118.

As illustrated in FIG. 9, according to another exemplary implementation, one or more complementary structures 88 and 98 can be formed by one or more complementary magnets 128 and 138, whereby varying degree of attachment can be achieved by varying the number of such structures used to connect base 50 and guide 60 and/or by deploying magnets of varying degree of magnetism 280 between one or more magnets 128 and 138.

According to exemplary implementations of the embodiments of the disclosure, guide 60 and base 50 can be fixedly connected, or integrally formed, such that detachment (i.e., "break away" or "release" function) can be achieved by detachment of base 50 from strap 40. According to another exemplary implementations of the embodiments of the disclosure, guide 60 can be fixedly connected, or integrally formed with strap 40, with or without the use of base 50, such that detachment (i.e., "break away" or "release" function) can be achieved by detachment of strap 40 from leg of pet 1, for example by including mechanism 42 on strap 40 to facilitate detachment functionality.

Referring to FIGS. 10-12, other exemplary embodiments of the present disclosure provide various other or modified devices and system that can facilitate stopping a dog from pulling its owner, and/or train a dog to not pull while being walked on a leash. In an exemplary implementation, a cuff 1030 can be wrapped around the highest point of either front leg of the dog, using, for example a hook and loop fastener and running a leash 10 through the sleeve or guide 1062, which can be implemented as an elastic loop attached on the outside of the cuff 1030, so that an existing leash 10 can be run from the collar 20, under the inside of the leg and up to the owner's hand.

Referring to FIG. 12, according to exemplary implementations of the embodiments of the disclosure, training system or cuff 1030 comprises a strap 1040 with an exterior surface 1056 and a base 1050. Strap 1040 can be removably attached with respect to a front leg of pet 1.

In an exemplary implementation, removable attachment of strap 1040 comprises a detachable configuration 1064 to facilitate the removable attachment of strap 1040 with respect to a front leg of pet 1.

According to an exemplary, non-limiting implementation, elastic loop 1062 can be attached, for example fixedly and/or directly 1061, to a base 1050 of strap 1040. While a single loop 1062 maybe sufficient, two or more loops can also be used within the scope of the disclosure.

According to an exemplary, non-limiting implementation, a detachable configuration 1064, such as VELCRO® type fitment, a tear-away, or releasable, hook and loop fastener, can create a "safety valve" that releases entire strap 1040 when the strength of the dog's pull creates a risk of injury. Exemplary implementations can provide for different strengths (sizes), based on the strength (weight) of the dog and correlating directly with the strength of the hook and loop.

According to an exemplary, non-limiting implementation of a detachable configuration 1064, the ability to "break away" (release) if there is a risk of the dog pulling so hard it may injure itself, still leaves the leash connected to the collar and the other end of the leash still in the owner's hand.

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Referring to FIGS. 11 and 12, according to exemplary implementations of the embodiments of the disclosure, training system or cuff 1030 comprises comprising strap 1040 allows cuff 1030 to be wearable on, or configured with respect to, either left leg or right leg (as shown in FIG. 10) of pet 1.

According to exemplary implementations of the embodiments of the disclosure, strap 1040 can comprise a flexible material so that it may expand and/or contract for secure attachment to a leg of pet 1. According to another exemplary implementations of the embodiments of the disclosure, a detachable configuration 1064 of strap 1040 can comprise a length adjustment mechanism, such as mechanism 42, which can comprise the “break away” (release) configuration.

According to exemplary implementations of the embodiments of the disclosure, loops 1062 can be of fixed size for allowing free passage of leash 10 with respect to strap 1040. According to other exemplary implementations, loop 1062 can be sized to restrict, or prevent movement of leash 10 with respect to strap 1040. According to yet another exemplary implementation, loop 1062 can have a variable or adjustable size such that movement of leash 10 therethrough, and thereby with respect to strap 1040, can be unrestricted, restricted to various degree as desired, and/or prevented, which for example can facilitate varying and/or fixing distance D (see FIG. 10) of cuff 1030 with respect to collar 20, for example based on the size of pet 1, and/or the training requirements.

According to yet another exemplary implementation of the disclosure, cuff 1030 can comprise a protrusion 1065 configured to make contact with body of pet 1, preferably at an area between the leg and body of pet 1. In an exemplary implementation protrusion 1065 can comprise a base 1066 attached to loop 1062 as shown in FIG. 12. In yet further exemplary implementation, protrusion 1065 comprises a smooth, for example rounded, outer surface, as further illustrated in the example of FIG. 12. Protrusion 1065 is configured with respect to cuff 1030 such that it can apply gentle pressure to body of pet 1, which pressure can be of varying strength, as leash 10 is pulled with respect to collar 20.

According to exemplary implementations, loop 1062 that the leash 10 goes through is only one loop, that is made of elastic, and attached at the top 1050 of the cuff 1032 only, so as to allow the leash 10 to come up under the armpit of pet 1 and cause pet 1 to stop pulling. Protrusion 1065, which can be called a “leverage neutralizer,” can comprise a little hard rubber or plastic nub (for example, about 2 to 4 inches tall) attached for example to the bottom of the elastic loop 1052 (see FIGS. 11 and 12). This protrusion 1065 gently pushes up into the armpit of pet 1 to cause pet 1 to feel like it is losing balance/leverage and stop pulling, for example more than if it’s just the leash 10 pulling up into the armpit of pet 1.

Referring to FIGS. 13A, 13B, 13C, 14, and 15, according to exemplary implementations of another embodiment of the disclosure, training system or cuff 1200 can comprise a body 1210 including an inner surface 1201, an outer surface 1203, and a closure 1207 allowing cuff 1200 to be wearable on a leash 10.

According to an exemplary implementation, one or more protrusions 1204 can be configured on an outer surface 1203 of body 1210.

According to exemplary implementations of the embodiments of the disclosure, teeth or friction grips 1202 can be disposed on inner surface 1201 of body 1210 to secure cuff 1200 at a desired position on leash 10 when body 1210 is

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maintained in a closed configuration by closure 1207 (see, for example, FIG. 13A) with leash 10 passing through a closed body 1210 (see, for example FIG. 14) and in contact with inner surface 1201 of body 1210. In exemplary implementations, closure 1207 can comprise a VELCRO® type fitment, a tear-away, a releasable hook and loop fastener, a buckle, or the like, which can comprise, for example and without limitation, components disposed on side one 1206 and/or on opposite side two 1205, on either or both inner surface 1201 and/or outer surface 1203, of body 1210, as diagrammatically illustrated in the examples of FIGS. 13B and 13C.

According to exemplary implementations of the embodiments of the disclosure, a device 1200 can be configured to wrap around a leash 10, rather than the leg of a dog 1. In an exemplary implementation, closure 1207 can be closed around the leash 10, with, for example friction grips 1202 comprising small teeth on the inner surface 1201 in contact with leash 10 that can hold device 1200 in a desired position on the leash 10, with the teeth 1202 not touching the dog 1 in any way.

In an exemplary implementation, device 1200 can be positioned on the leash 10 such that at least one of nubs or protrusions 1204 can make contact with the armpit of the dog 1 when the leash 10 is pulled taut and/or leash 10 is pulled with sufficient force with respect to collar 20, for example by dog 1 and/or person 1500. In an exemplary implementation, protrusions 1204 can be made of bendable, rubber-like material, such that when device 1200 sits below the armpit of a dog, protrusions 1204 can tickle the armpit when leash 10 is pulled with sufficient force.

In yet further exemplary implementation a loop 1400, for example and without limitation made of soft, rubber or other material and/or such that loop 1400 is not visually prominent, can be, for example removably, attached to body 1210. Loop 1400 can be secured with respect to leg of dog 1 to facilitate keeping device 1200 on leash 10 with respect to the armpit of the dog 1. In further exemplary implementation, loop 1400 can be used in the beginning of dog training, but after the dog learns to heel, it doesn’t need to be used anymore.

While the disclosure has been shown and described with reference to a certain exemplary embodiment thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the disclosure as defined by the appended representative claims and the full scope of equivalents thereof.

I claim:

1. A training device comprising:

a cuff for passing therethrough a leash attached to a collar worn by the pet whereby the leash is within the cuff disposed between a handle of the leash and the collar; at least one protrusion on an outer surface of said cuff; and at least one gripping component on an inner surface of said cuff, said gripping component configured to contact said leash to maintain position of the cuff on said leash, such that said at least one protrusion on the outer surface of the cuff makes contact with a body of the pet between a front leg and said body of said pet when the leash is pulled with a predetermined amount force.

2. The device of claim 1, wherein the cuff is configured to be wrapped around the leash with the at least one gripping component on the inner surface of the cuff contacting the leash, the device further comprising a closure for maintaining the cuff wrapped around the leash.

3. The device of claim 2, wherein said closure comprises a VELCRO® type fitment, a tear-away, or releasable hook and loop fastener, or a buckle.

4. The device of claim 2, wherein said closure comprises components disposed on one or more sides of said cuff. 5

5. The device of claim 2, wherein said closure comprises components disposed said inner surface, said outer surface, or said inner and outer surfaces.

6. The device of claim 1, wherein said predetermined amount of force is set based on at least one of the size and 10 weight of the pet.

7. The device of claim 1, further said at least one protrusion is configured to apply pressure to the body of said pet proportional to said force between the handle of the leash and the collar. 15

8. The device of claim 1, wherein said protrusion is disposed on said guide such that, when said strap is configured with respect to said front leg of said pet, said protrusion is between said front leg and said body of said pet.

9. The device of claim 3, wherein said cuff comprises a 20 loop attached to said outer surface of said cuff to be configured on said front leg of said pet.

10. The device of claim 9, wherein said loop is flexible.

* * * * *