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(54) **SYSTEM AND METHOD FOR DELIVERING
A TRACKING DEVICE TO AN ANIMAL
USING A WEAPONIZED PROJECTILE**

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(71) Applicant: **Monster Wild Game Recovery
Systems, LLC**, Jourdanton, TX (US)

(72) Inventor: **Mitchell Davis**, Jourdanton, TX (US)

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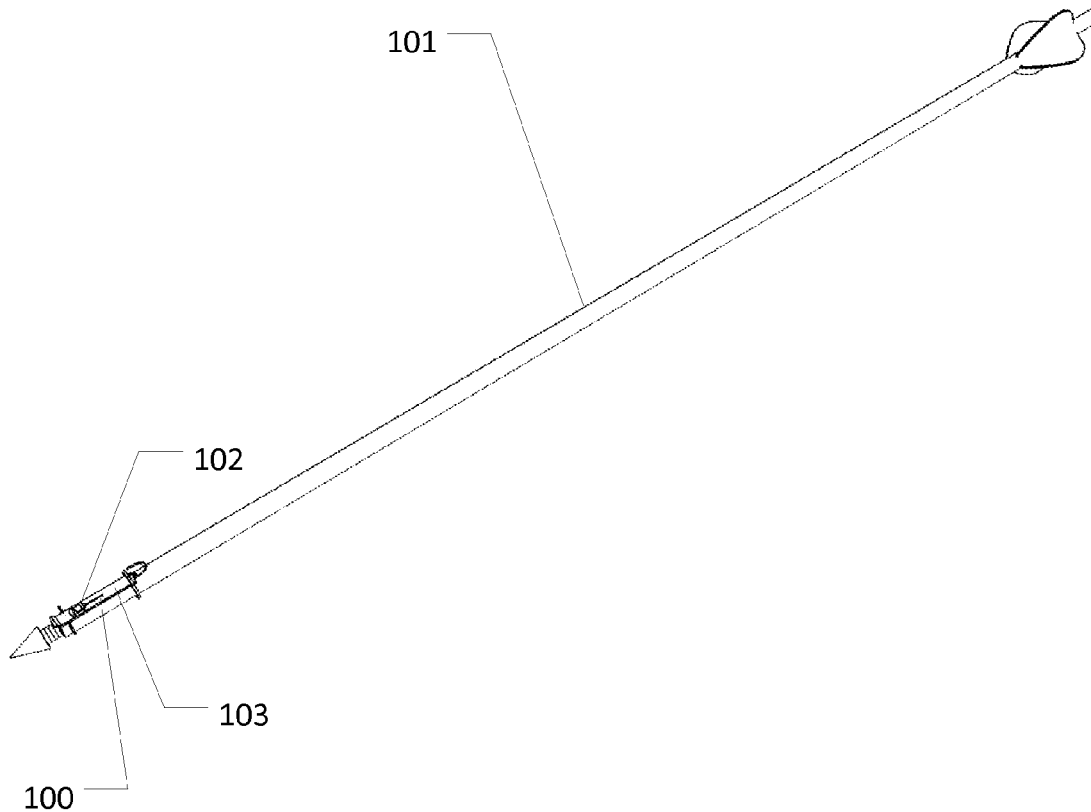
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(57) **ABSTRACT**

This disclosure relates to a system and method for delivering a tracking device to an animal using a weaponized projectile. The tracking device can comprise a transmitter, a carrier, and a hook. The carrier can be mountable to a weaponized projectile. The carrier can be capable of mounting the transmitter. The hook can attach at the back-end portion of the carrier.

This disclosure also teaches a method for attaching a tracking device to a weaponized projectile. The method can comprise the steps of placing a carrier at a surface of the weaponized projectile, and attaching the carrier to the weaponized projectile. The carrier can be capable of mounting a transmitter. The back end portion of the carrier can comprise a hook.



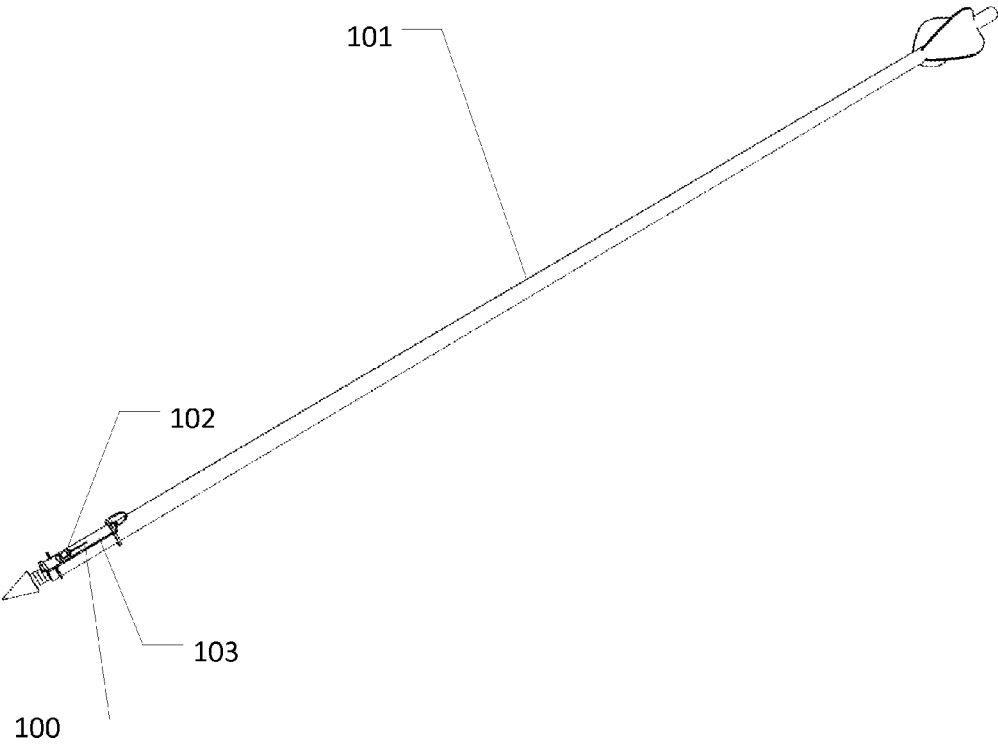


Fig. 1

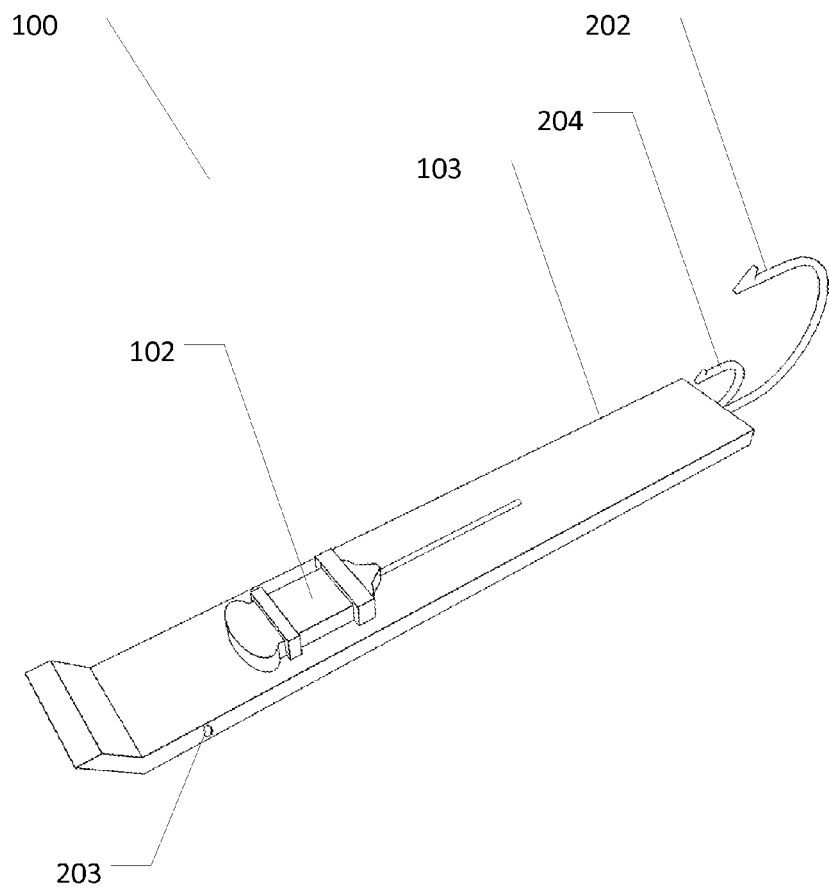


Fig. 2A

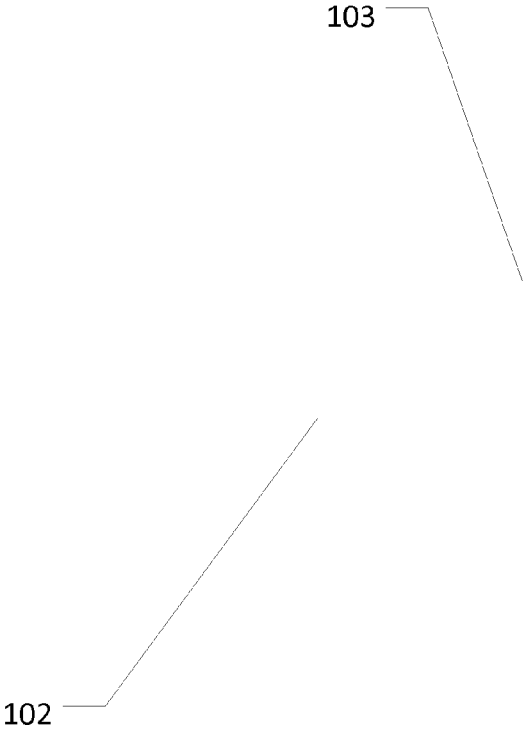


Fig. 2B

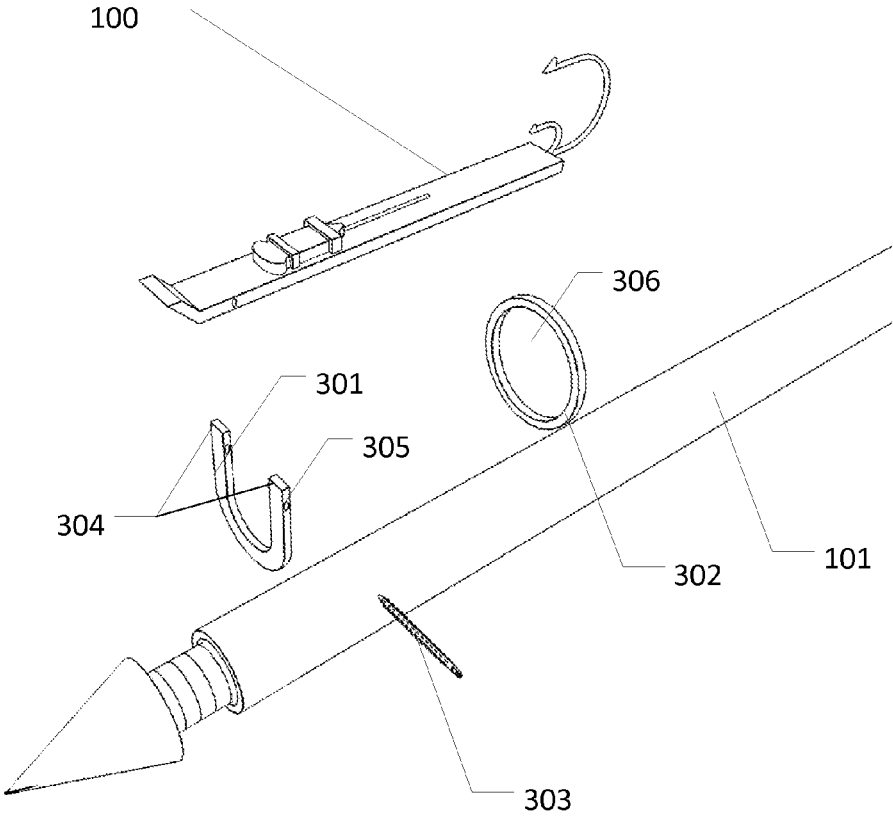


Fig. 3

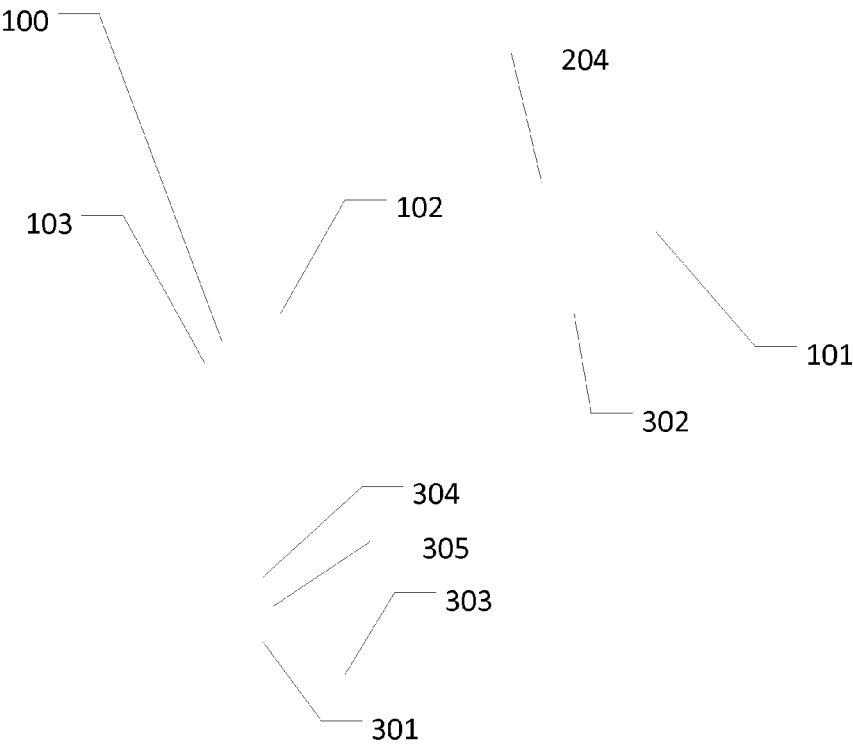


Fig. 4A

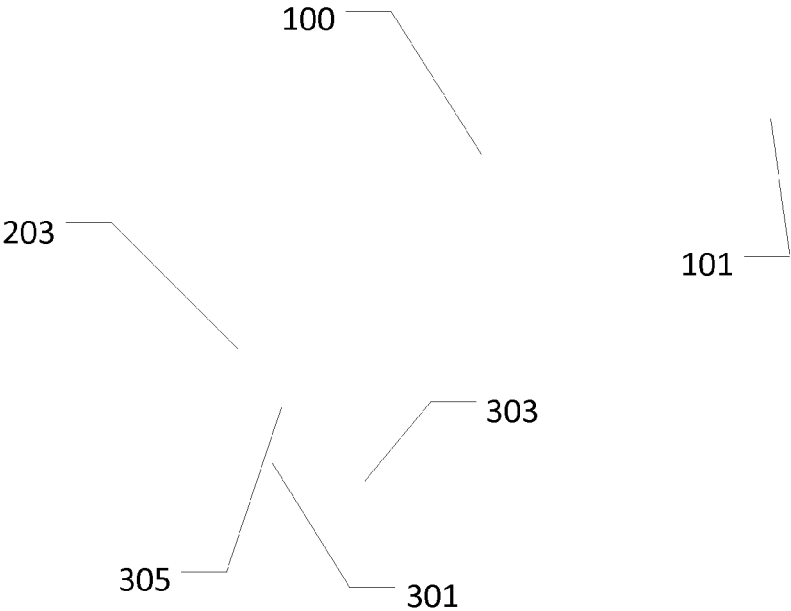


Fig. 4B

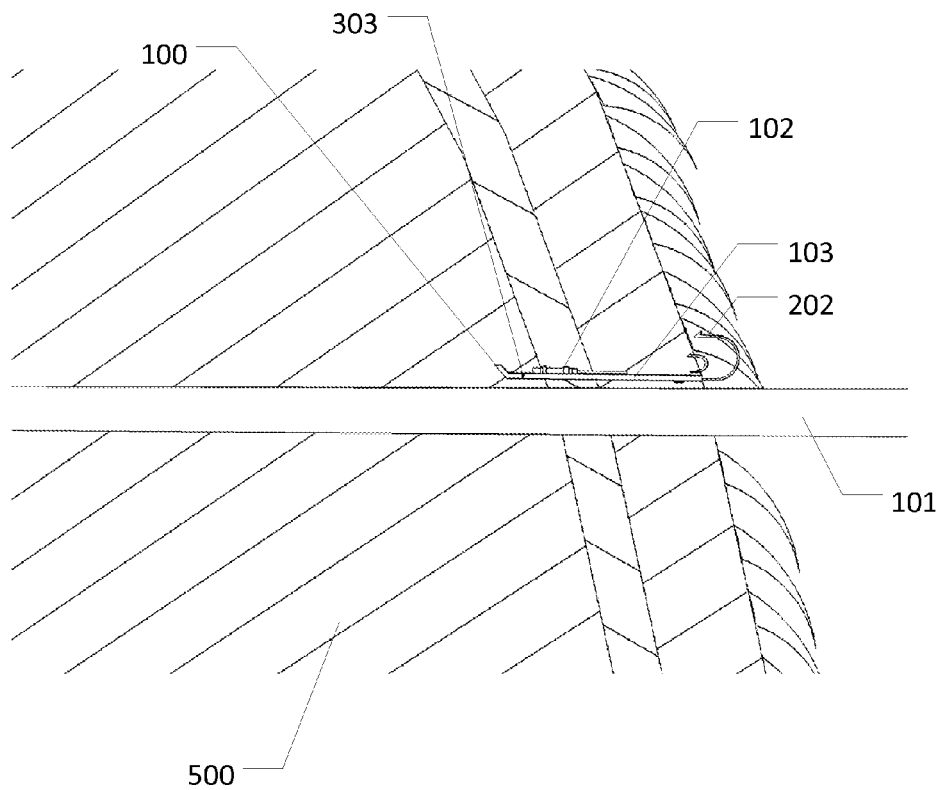


Fig. 5

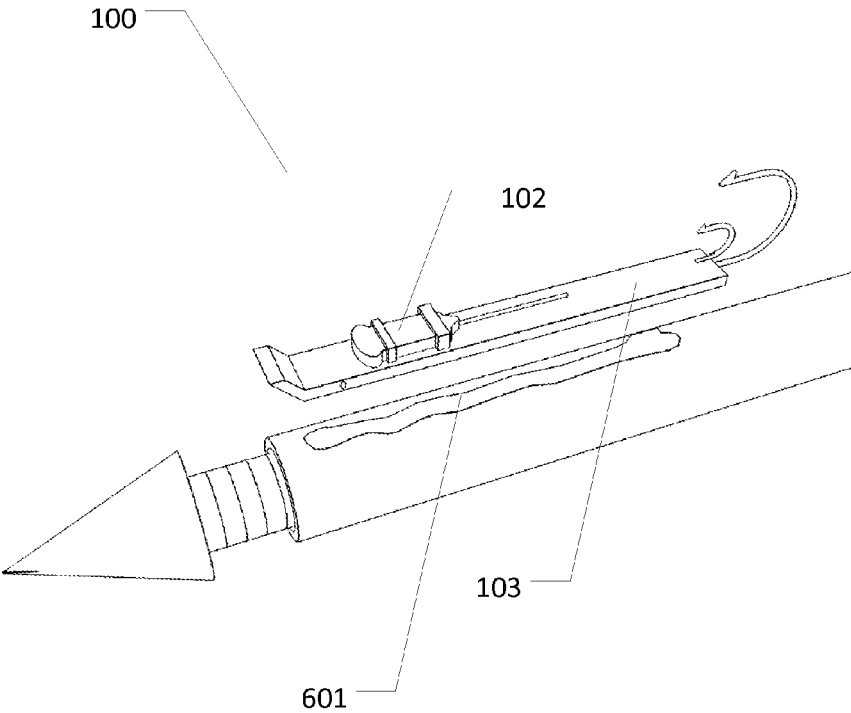


Fig. 6

SYSTEM AND METHOD FOR DELIVERING A TRACKING DEVICE TO AN ANIMAL USING A WEAPONIZED PROJECTILE

BACKGROUND

[0001] This disclosure relates to a system and method for delivering a tracking device to an animal using a weaponized projectile.

[0002] When hunting, if a hunter fails to land a quick-kill shot, an animal can travel a great distance before dying. During this time, the hunter may lose the animal, allowing for great waste.

[0003] Within the field of animal research, researchers use tracking methods to observe animal movements, migration, and habits. Such tracking can also allow researchers to better understand and protect our wildlife. One of the known methods for tracking animals in the wild include delivering a tracking device using a non-lethal projectile. In such method, the tracking device remains connected to the animal, but outside the skin. Such method is deficient for hunters for a number of reasons. First, lethal, weaponized projectiles used by hunters will not work with present tracking device delivery systems. Second, as the projectile is connected to the outside of the animal, it is possible for the device to come off the animal, especially if the animal is acting erratic after being injured. Third, as the tracking device is outside the animal, useful information that could be read from inside the animal, such as body temperature, is unattainable.

[0004] Further, systems that have attempted to attach tracking devices have been bulky, and such bulk alters the direction of the projectile, severely reduce its range.

[0005] As such it would be useful to have an improved system and method for delivering a tracking device to an animal using a weaponized projectile.

SUMMARY

[0006] This disclosure relates to a system and method for delivering a tracking device to an animal using a weaponized projectile. The tracking device can comprise a transmitter, a carrier, and a hook. The carrier can be mountable to a weaponized projectile. The carrier can be capable of mounting the transmitter. The hook can attach at the back-end portion of the carrier.

[0007] This disclosure also teaches a method for attaching a tracking device to a weaponized projectile. The method can comprise the steps of placing a carrier at a surface of the weaponized projectile, and attaching the carrier to the weaponized projectile. The carrier can be capable of mounting a transmitter. The back end portion of the carrier can comprise a hook.

[0008] This disclosure also teaches a method for delivering a tracking device to an animal using a weaponized projectile. The method can comprise the step of attaching a carrier to the weaponized projectile, loading the weaponized projectile to a weapon, releasing the weaponized projectile towards the direction of the animal, hitting the animal with the weaponized projectile, and leaving the tracking device within the animal. The carrier can be capable of mounting a transmitter. The back end portion of the carrier comprises a hook. The hook can be capable of attaching onto the animal

providing enough force in the opposite direction of the weaponized projectile to allow the weaponized projectile to go all the way through.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 illustrates a tracking device mounted on a weaponized projectile.

[0010] FIG. 2A illustrates a transmitter attached at a surface of a carrier.

[0011] FIG. 2B illustrates a sectional view embodiment of a carrier.

[0012] FIG. 3 illustrates a tracking device attached to an arrow through a fastening method.

[0013] FIG. 4A illustrates how a tracking device attaches to an arrow using a fastening method.

[0014] FIG. 4B illustrates how a fastener secures a tracking device onto an arrow.

[0015] FIG. 5 illustrates how a tracking device is delivered to an animal.

[0016] FIG. 6 illustrates another embodiment of a tracking device attached to an arrow.

DETAILED DESCRIPTION

[0017] Described herein is a system and method for delivering a tracking device to an animal using a weaponized projectile. The following description is presented to enable any person skilled in the art to make and use the invention as claimed and is provided in the context of the particular examples discussed below, variations of which will be readily apparent to those skilled in the art. In the interest of clarity, not all features of an actual implementation are described in this specification. It will be appreciated that in the development of any such actual implementation (as in any development project), design decisions must be made to achieve the designers' specific goals (e.g., compliance with system- and business-related constraints), and that these goals will vary from one implementation to another. It will also be appreciated that such development effort might be complex and time-consuming, but would nevertheless be a routine undertaking for those of ordinary skill in the field of the appropriate art having the benefit of this disclosure. Accordingly, the claims appended hereto are not intended to be limited by the disclosed embodiments, but are to be accorded their widest scope consistent with the principles and features disclosed herein.

[0018] FIG. 1 illustrates a tracking device 100 mounted on a weaponized projectile 101. For purposes of this disclosure, weaponized projectile 101 can be any projected object and/or weapon designed for targeting game, that is capable of carrying tracking device 100 as described within this disclosure. Weaponized projectile 101 can include but is not limited to an arrow or spear. For illustrative purposes, we will show embodiments wherein tracking device 100 is mounted to weaponized projectile 101. Tracking device 100 can attach at the shaft of weaponized projectile 101 such that tracking device 100 is positioned next to the head of weaponized projectile 101. Tracking device 100 can comprise a transmitter 102, and a carrier 103. Carrier 103 can hold and temporarily secure transmitter 102 with weaponized projectile 101. Transmitter 102 can be a radio transmitter or a Global Positioning System (GPS) transmitter, in one embodiment. For purposes of this embodiment, transmitter 102 can be a transmitter or a transceiver.

[0019] FIG. 2A illustrates transmitter 102 attached at a surface of carrier 103. Carrier 103 can have a substantially flat surface capable of being mounted by transmitter 102. The front-end portion of carrier 103 can form a slight curve while the back-end portion can be flat. Furthermore, carrier 103 can further comprise a hole 203. Hole 203 can be a through and through hole placed near the front-end side of carrier 103. Tracking device 100 can further comprise a hook 202. Hook 202 can attach at the back-end portion of carrier 103. Hook 202 can curve at an angle and can comprise sharp ends such that hooks 202 can easily attach to animals. In one embodiment, carrier 103 can further comprise a U-shaped catch 204. Catch 204 can also attach at the back-end portion of carrier 103 and can be much smaller than hook 202. In this embodiment, transmitter 102 can attach to a surface of carrier 103 through methods that can include but is not limited to adhesion or confinement. Transmitter 102 can be placed at the middle section of carrier 103. In such embodiment, transmitter 102 can be expose to the surrounding and can be accessible from the outer surface.

[0020] FIG. 2B illustrates a sectional view embodiment of carrier 103. In this embodiment, transmitter 102 can be enclosed within carrier 103. This can ensure that transmitter 102 is kept in place. Moreover, such structure can provide protection to transmitter 102 from being exposed to the outer surroundings.

[0021] FIG. 3 illustrates tracking device 100 attached to weaponized projectile 101 through a fastening device. In this embodiment tracking device 100 can further comprise a fastener 301, a ring 302, and a pin 303. Fastener 301 can have a U-shape form, which comprises a pair of prongs 304. In such structure, weaponized projectile 101 can be mounted in between prongs 304. Each prong 304 can comprise an orifice 305. Orifice 305 can be a through and through hole that is positioned near the top edge of each prong 304. Ring 302 can be made of elastic material such as a rubber. Moreover, ring 302 can comprise a void 306. Void 306 can be an empty space at the center of ring 302. Void 306 can be large enough to receive the shaft of weaponized projectile 101. In such structure, ring 302 can be insertable onto weaponized projectile 101 and carrier 103 such that ring 302 can be wrapped around the rear-end portion of carrier 103 thus, connecting weaponized projectile 101 with tracking device 100. Pin 303 can be a thin piece of breakaway material such as plastic.

[0022] FIG. 4A illustrates how tracking device 100 attaches to weaponized projectile 101 using a fastening method. First, carrier 103 can be placed at a surface near the neck of weaponized projectile 101. Once in place, ring 302 can be inserted into the neck of weaponized projectile 101 and then carrier 103 can be inserted within ring 302, placing carrier 103 between ring 302 and weaponized projectile 101. Ring 302 can secure the rear-end portion of carrier 103 to the neck of weaponized projectile 101. In an embodiment wherein tracking device 100 comprises catch 204, catch 204 can prevent ring 302 from slipping through the back end of platform 202. Thus, ring 302 can be wrapped around catch 204 securing ring 302 within the surface of carrier 103.

[0023] FIG. 4B illustrates how fastener 301 secures tracking device 100 onto weaponized projectile 101. First, weaponized projectile 101 can be positioned in between prongs 304 of fastener 301, then fastener 301 can be placed near the front-end neck of weaponized projectile 101. Next, carrier

103 can be placed on top of weaponized projectile 101 in between prongs 304. In such position, orifice 305 on fastener 301 can be aligned with hole 203 of carrier 103. Once aligned, pin 303 can be inserted within hole 203 and orifice 305. Thus, pin 303 can temporarily connect front-end of tracking device 100 with weaponized projectile 101.

[0024] FIG. 5 illustrates how tracking device 100 is delivered to an animal 500. After attaching tracking device 100 on weaponized projectile 101, the user can load weaponized projectile 101 to a weapon such as a bow. Once animal 500 is spotted, the user can aim on the target and release weaponized projectile 101 towards the direction of the target animal 500. When weaponized projectile 101 or weaponized projectile 101 hits animal 500, weaponized projectile 101 can pierce the animal's skin at one side and go all the way through the other side. In this scenario, hook 202 can be capable of attaching to a portion of animal 500 before weaponized projectile 101 passes through the animal's body. Hook 202 can provide enough force in the opposite direction of weaponized projectile 101. The opposing force of hook 202 and the speed of weaponized projectile 101 can cause pin 303 to break, which can allow weaponized projectile 101 to pass through animal 500. In such instance, tracking device 100, which comprises carrier 103 and transmitter 102 can be left within animal 500.

[0025] FIG. 6 illustrates another embodiment of tracking device 100 attached to weaponized projectile 101. In this embodiment, carrier 103 can attach to weaponized projectile 101 using an adhesive material 601. In such embodiment, the user can first apply adhesive material 601 at the bottom surface of carrier 103, or at a surface of weaponized projectile 101. Next, the user can attach carrier 103 near the front-end neck of weaponized projectile 101. Furthermore, adhesive material 601 can temporarily connect said tracking device 100 with weaponized projectile 101. As such, tracking device 100 can breakaway from weaponized projectile 101 when enough force is exerted on tracking device 100.

[0026] Various changes in the details of the illustrated operational methods are possible without departing from the scope of the following claims. Some embodiments may combine the activities described herein as being separate steps. Similarly, one or more of the described steps may be omitted, depending upon the specific operational environment the method is being implemented in. It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-described embodiments may be used in combination with each other. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims, the terms "including" and "in which" are used as the plain-English equivalents of the respective terms "comprising" and "wherein."

1. A tracking device comprising

a transmitter;

a carrier mountable to a weaponized projectile, said carrier capable of mounting said transmitter; and

a hook attached at the back-end portion of said carrier.

2. The tracking device of claim 1 wherein said carrier attaches to said weaponized projectile through an adhesive material.

3. The tracking device of claim 1, wherein said carrier further comprises

- a hole near the front-end side of said carrier;
- a fastener comprising a pair of prongs, wherein each of said prongs comprises an orifice, said orifice capable of aligning with said hole, further wherein said weaponized projectile mountable in between said prongs; and
- a pin insertable through said orifice and said hole.

4. The tracking device of claim 3, further comprising a ring, said ring insertable onto said weaponized projectile and said tracking device such that said ring wrapped around the rear-end portion of said carrier connecting said weaponized projectile with said tracking device.

5. The tracking device of claim 5 further comprising a u-shaped catch, said catch attaches at the back-end portion of said carrier, further wherein said catch capable of preventing said ring from slipping through the back end of said carrier.

6. The tracking device of claim 5 wherein said ring comprises of rubber.

7. The tracking device of claim 5 wherein said pin comprises a breakaway material.

8. The tracking device of claim 8 wherein said breakaway material is a plastic.

9. The tracking device of claim 1 wherein said transmitter is attached at a surface of said carrier.

10. The tracking device of claim 1 wherein said transmitter is enclosed within said carrier.

11. The tracking device of claim 1 wherein said weaponized projectile is an arrow.

12. A method for attaching a tracking device to a weaponized projectile comprising the step of

- placing a carrier at a surface of said weaponized projectile, said carrier capable of mounting a transmitter, further wherein back end portion of said carrier comprises a hook; and

attaching said carrier to said weaponized projectile.

13. The method of claim 12 prior to attaching said carrier to said weaponized projectile comprises the step of applying an adhesive material at the bottom surface of said carrier.

14. The method of claim 12 wherein said carrier further comprises a hole, said hole placed near the front-end side of said carrier.

15. The method of claim 14, further comprising the steps of

- a fastener comprising a pair of prongs, wherein each of said prongs comprises an orifice, said orifice capable of

aligning with said hole, further wherein said weaponized projectile mountable in between said prongs; and

inserting a pin through said hole and said orifices.

16. The method of claim 15 further comprising the step of inserting a ring into said weaponized projectile and said tracking device such that said ring is wrapped around the rear-end portion of said carrier connecting said weaponized projectile with said tracking device;

17. A method for delivering a tracking device to an animal using a weaponized projectile comprising the step of attaching a carrier to said weaponized projectile, said carrier capable of mounting a transmitter, further wherein back end portion of said carrier comprises a hook;

loading said weaponized projectile to a weapon;

releasing said weaponized projectile towards the direction of said animal;

hitting said animal with said weaponized projectile, wherein said hook capable of attaching onto said animal providing enough force in the opposite direction of said weaponized projectile to allow said weaponized projectile to go all the way through; and

leaving said tracking device within said animal.

18. The method of claim 17 prior to attaching said carrier onto said weaponized projectile, further comprising the step of applying an adhesive material at the bottom surface of said carrier.

19. The method of claim 17 wherein said carrier further comprises a hole, said hole placed near the front-end side of said carrier.

20. The method of claim 19, further comprising the steps of

- a fastener comprising a pair of prongs, wherein each of said prongs comprises an orifice, said orifice capable of aligning with said hole, further wherein said weaponized projectile mountable in between said prongs; and

inserting a pin through said hole and said orifices.

21. The method of claim 20 further comprising the step of inserting a ring into said weaponized projectile and said tracking device such that said ring is wrapped around the rear-end portion of said carrier connecting said weaponized projectile with said tracking device;

22. The method of claim 20 wherein said pin comprises a breakaway material.

23. The method of claim 21 wherein said breakaway material is a plastic.

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