US 20120085329A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2012/0085329 A1

(43) Pub. Date: Apr. 12, 2012

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(54) **ARROW SECURING DEVICE AND METHODS THEREOF**

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(21) Appl. No.: **12/900,313**

(22) Filed: **Oct. 7, 2010**

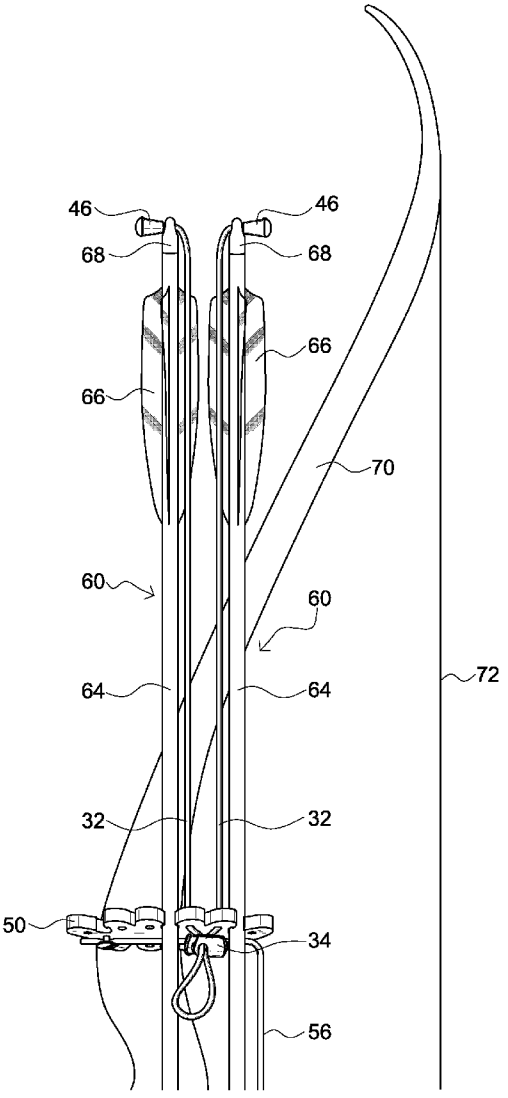
Publication Classification

(51) **Int. Cl.**
F41B 5/14 (2006.01)

(52) **U.S. Cl.** **124/1**

(57) **ABSTRACT**

Arrow securing devices and various methods and making are disclosed herein. An exemplary arrow securing device typically includes a cord, one or two nock coupling end, and a locking mechanism. Each nock coupling end is typically located at and of the cord. The locking mechanism can be connected to the cord and is releasably lockable. Typically, the locking mechanism includes a clamping aperture through which the cord can be passed. With use of a button on the locking mechanism, the clamping aperture can be clamped locked or loosened to adjust the length of the cord to each nock coupling end. The arrow securing device can be attached to various portions of a quiver. Then the nock coupling ends can be removably attached to the nocks of arrows in a quiver to stabilize and secure the arrows within the quiver.



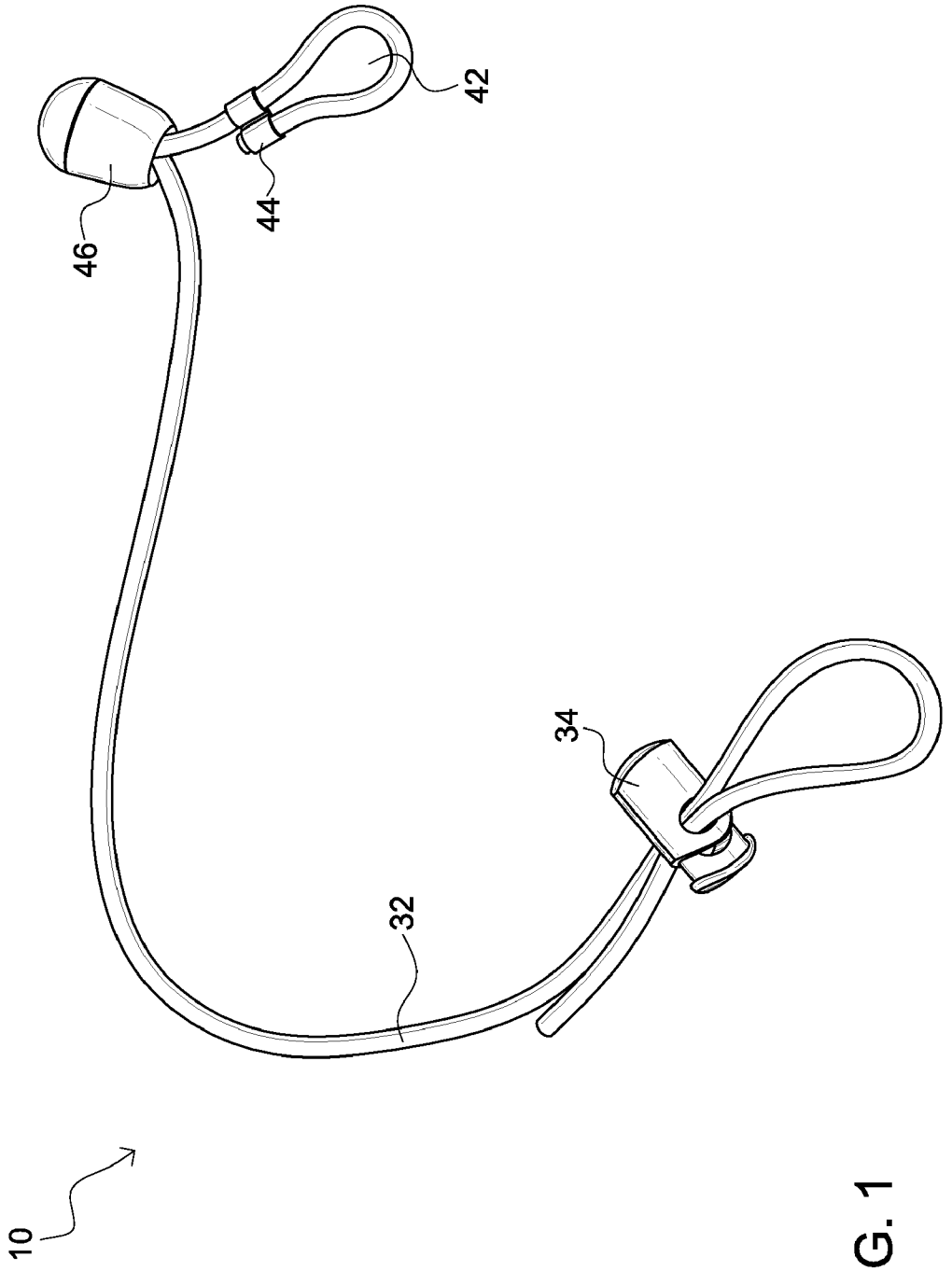


FIG. 1

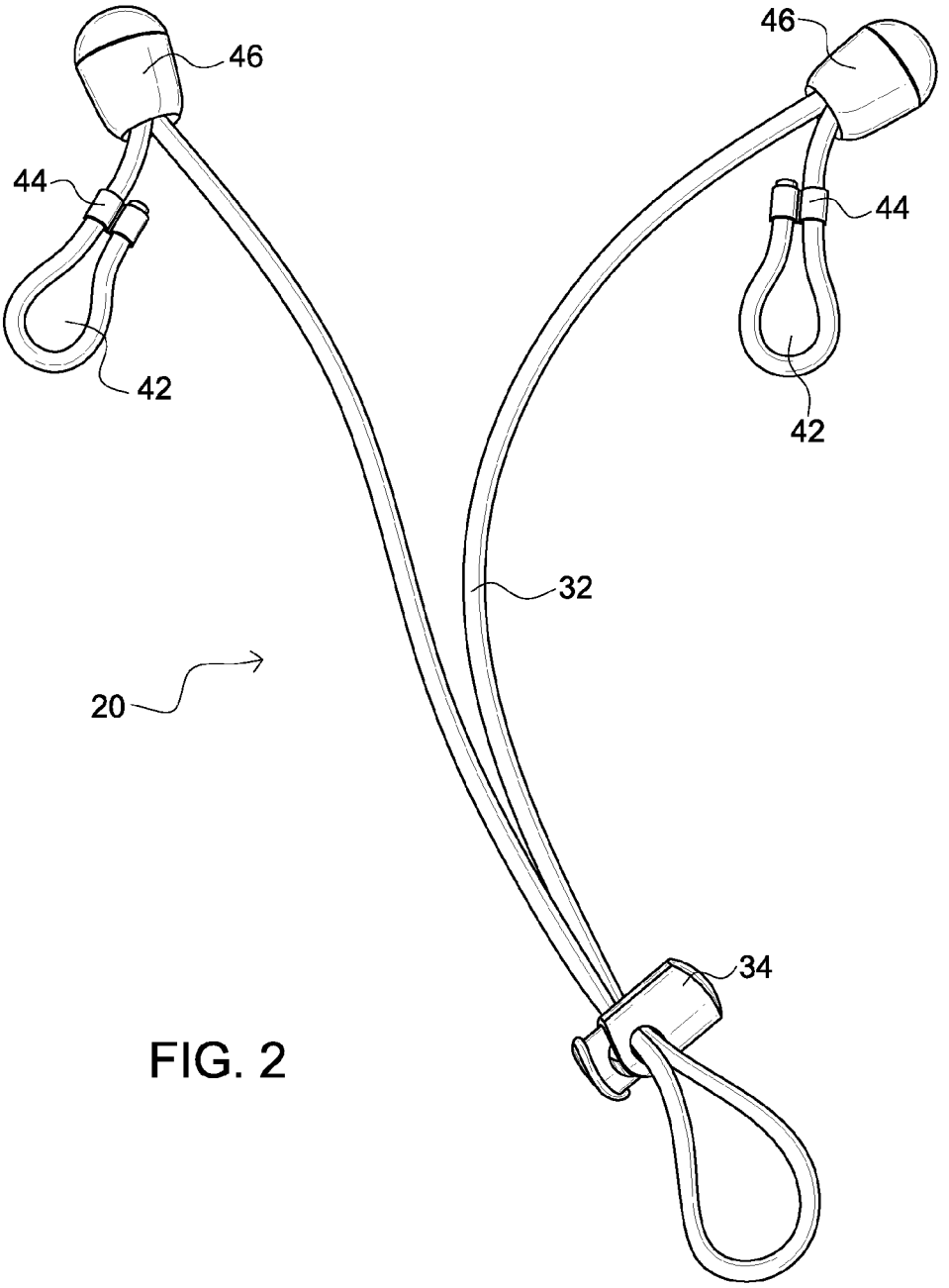


FIG. 2

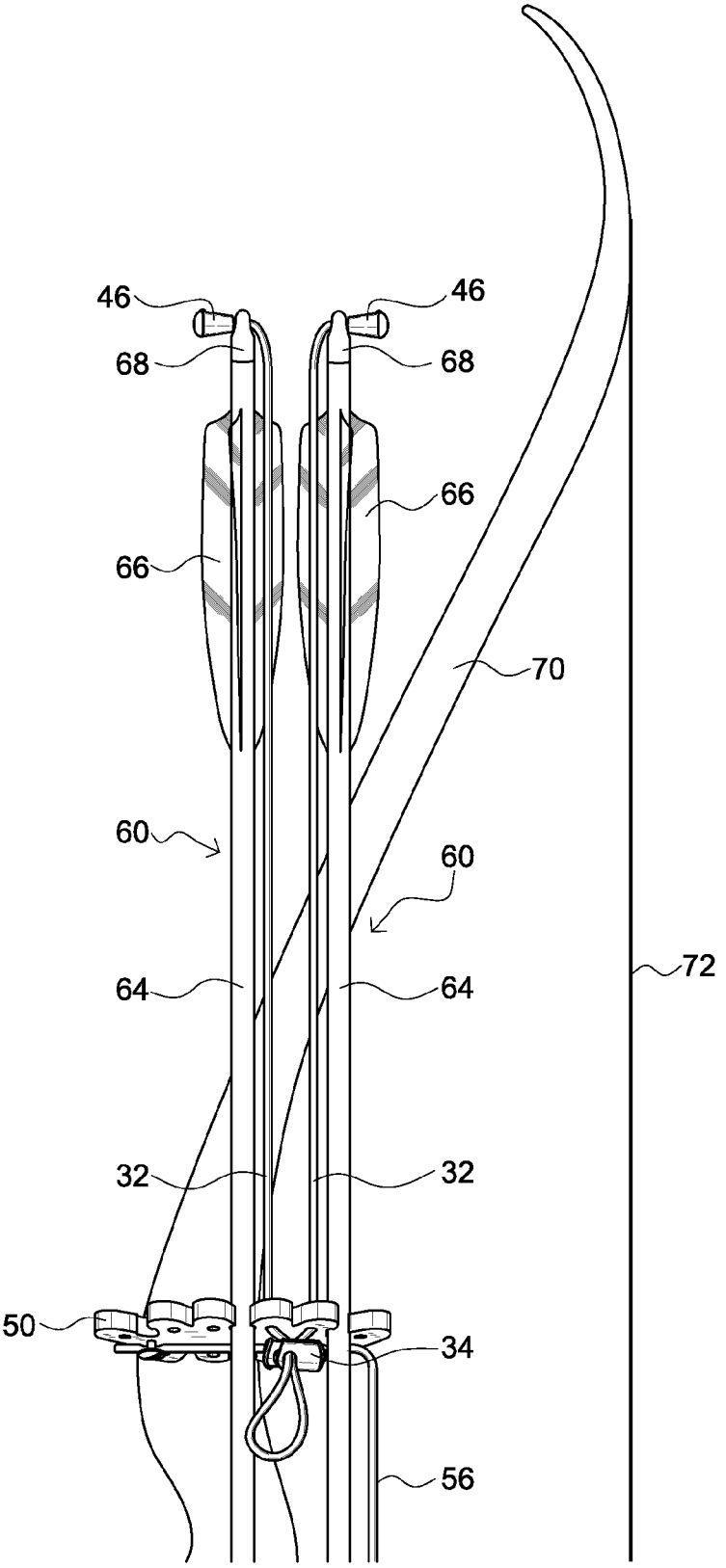


FIG. 3A

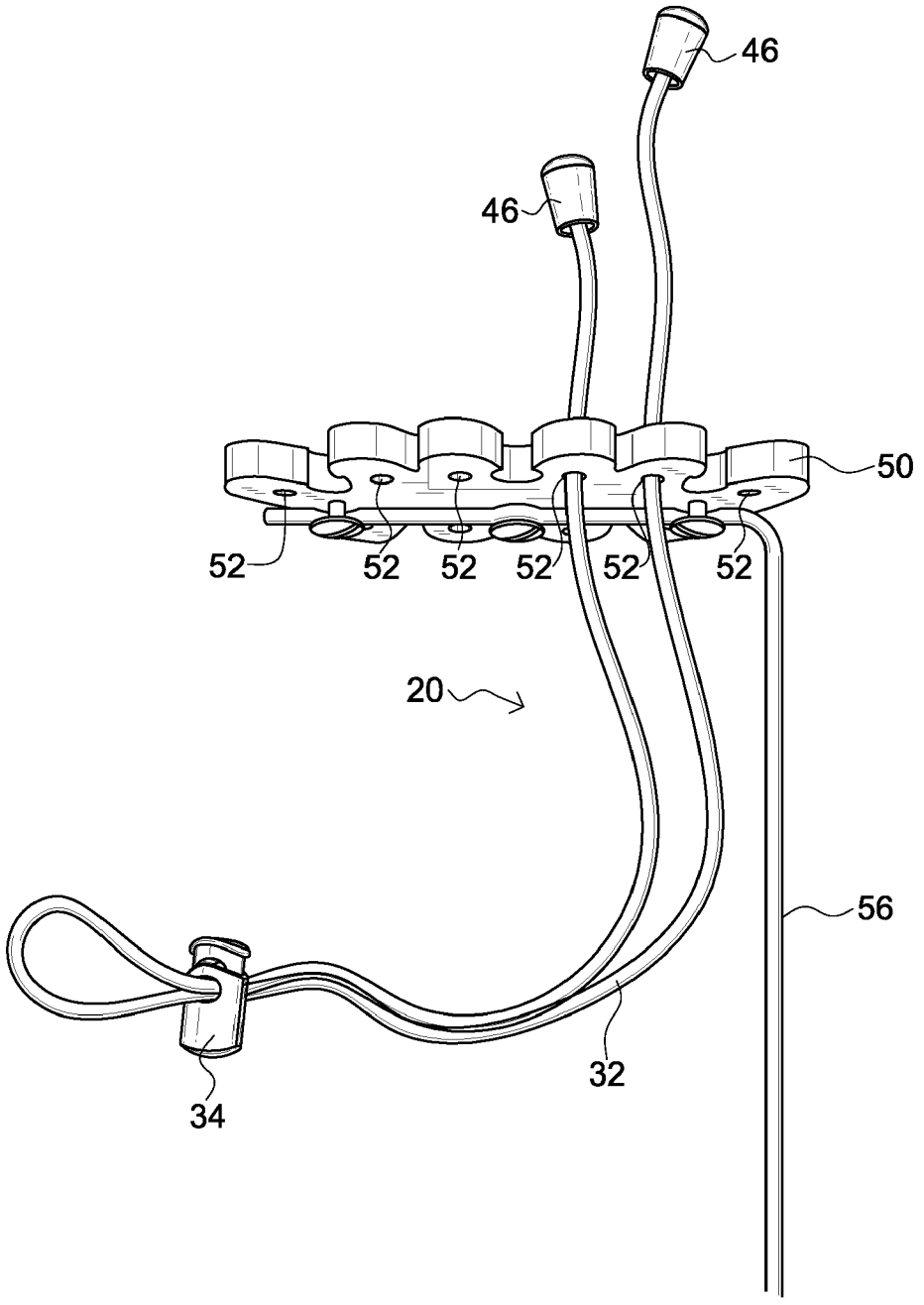


FIG. 3B

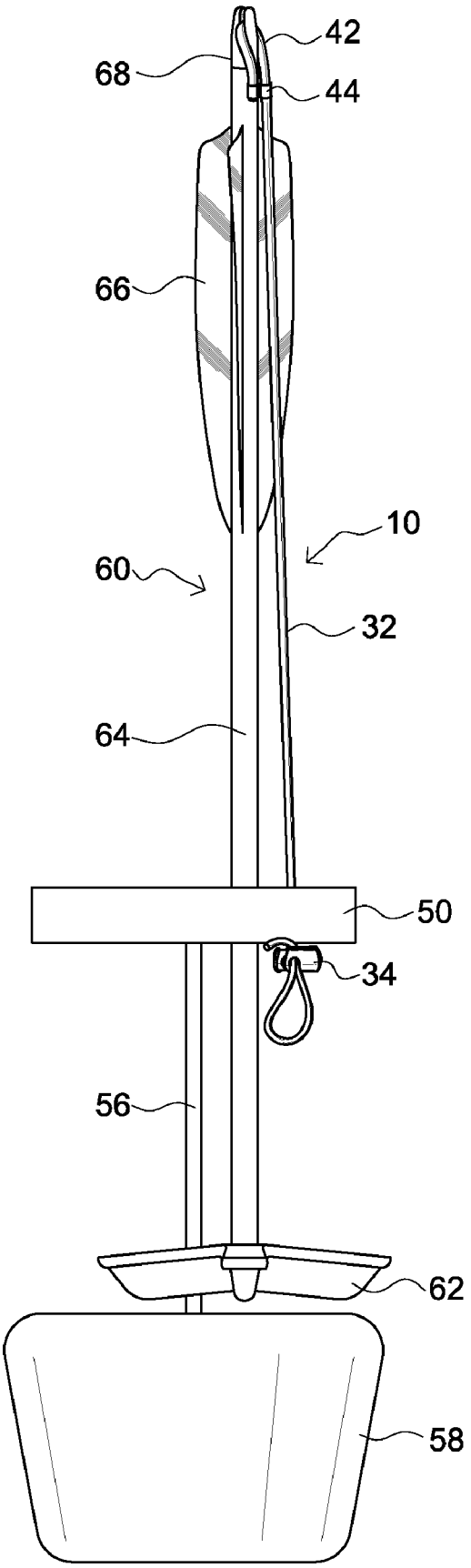


FIG. 4

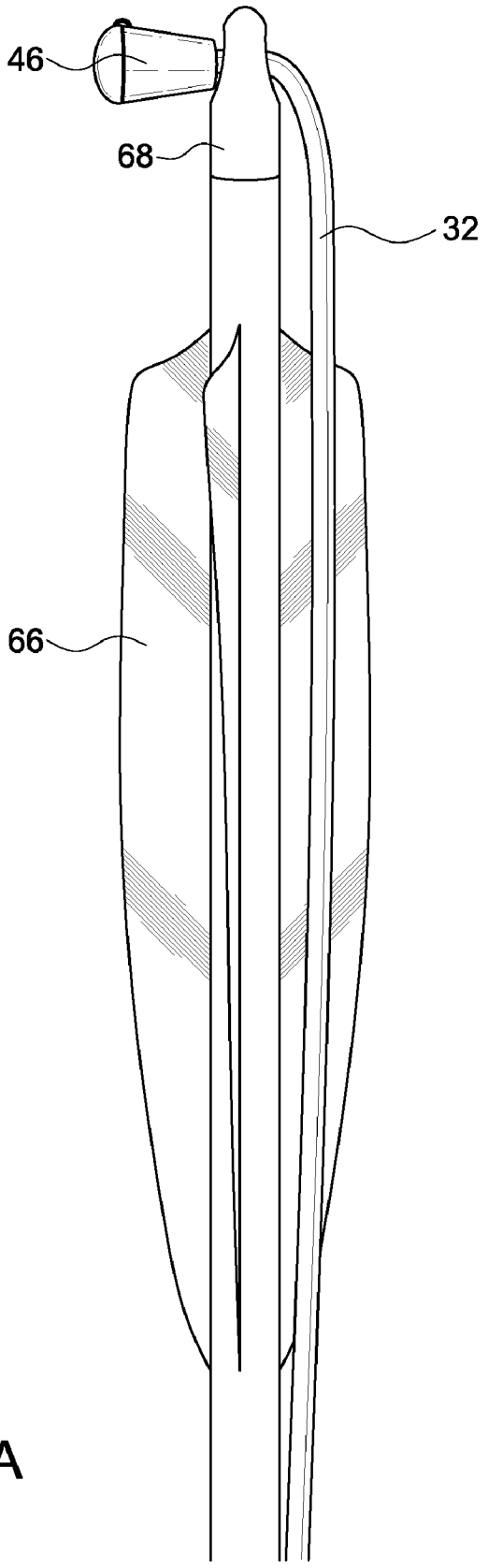


FIG. 5A

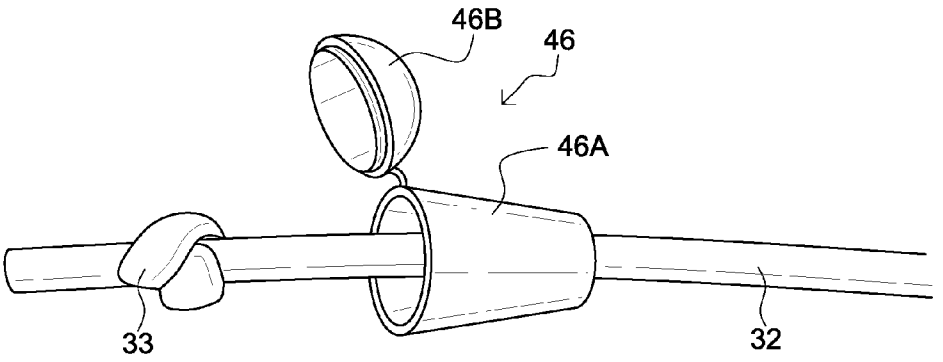


FIG. 5B

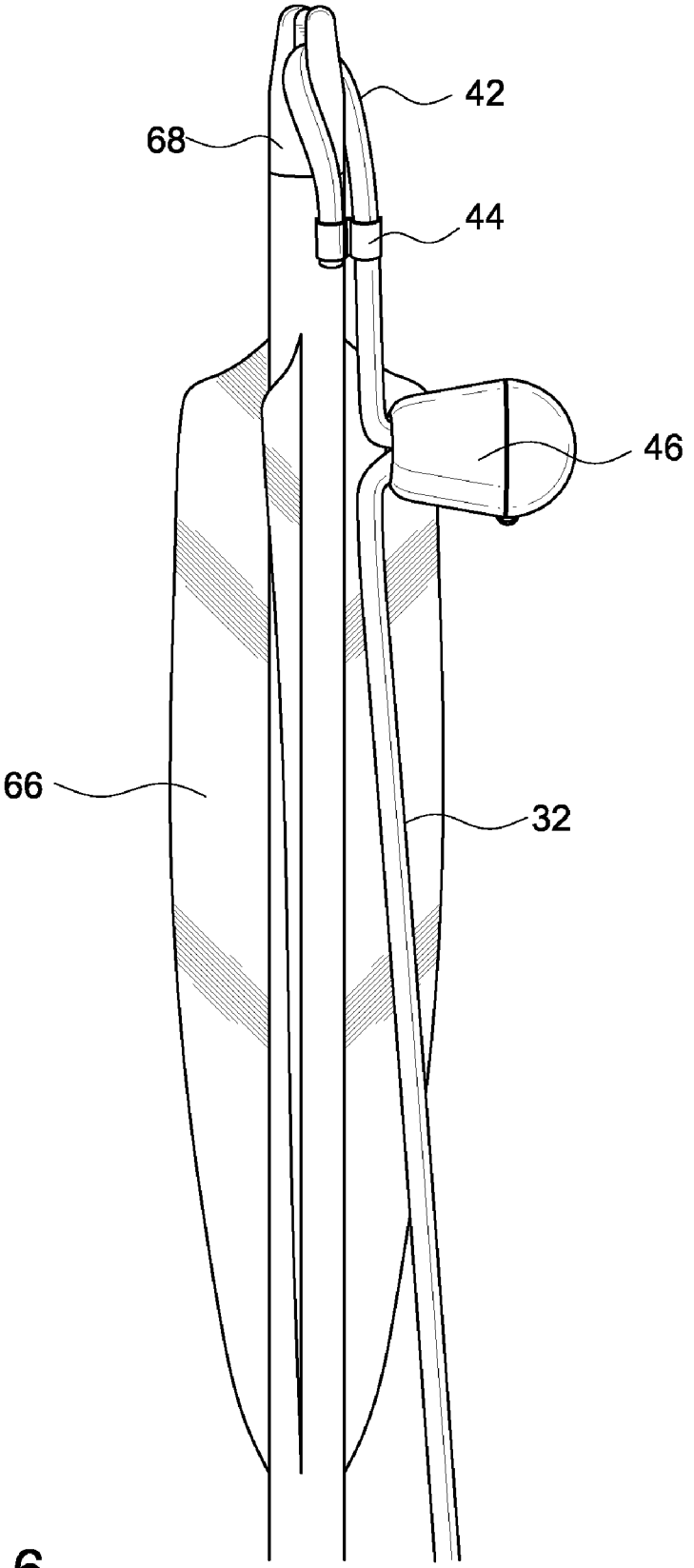


FIG. 6

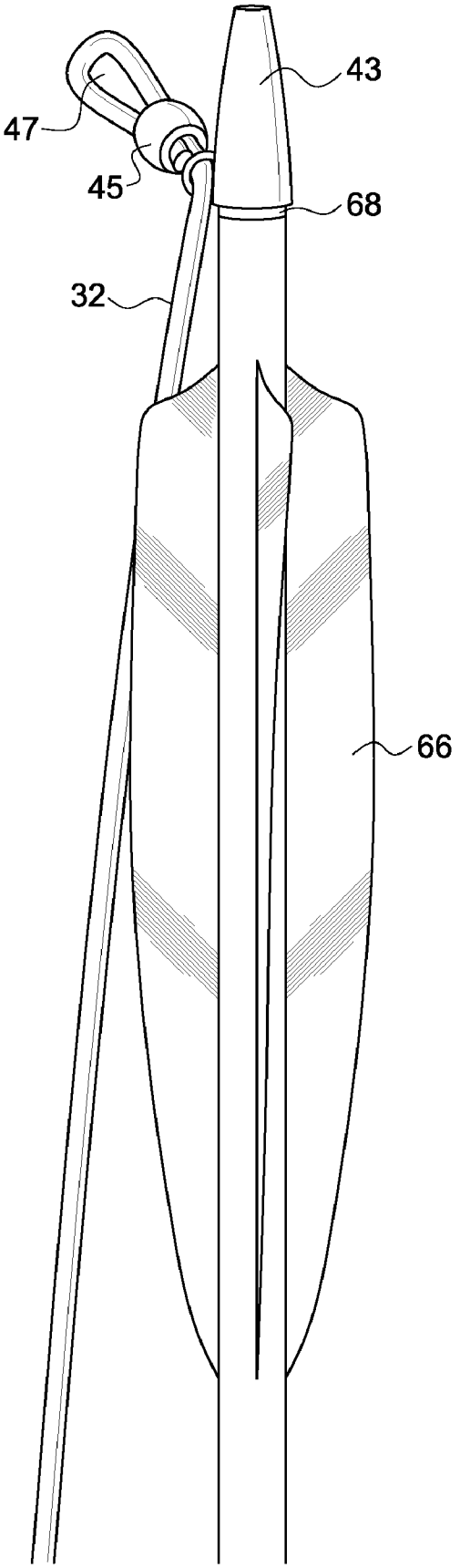


FIG. 7

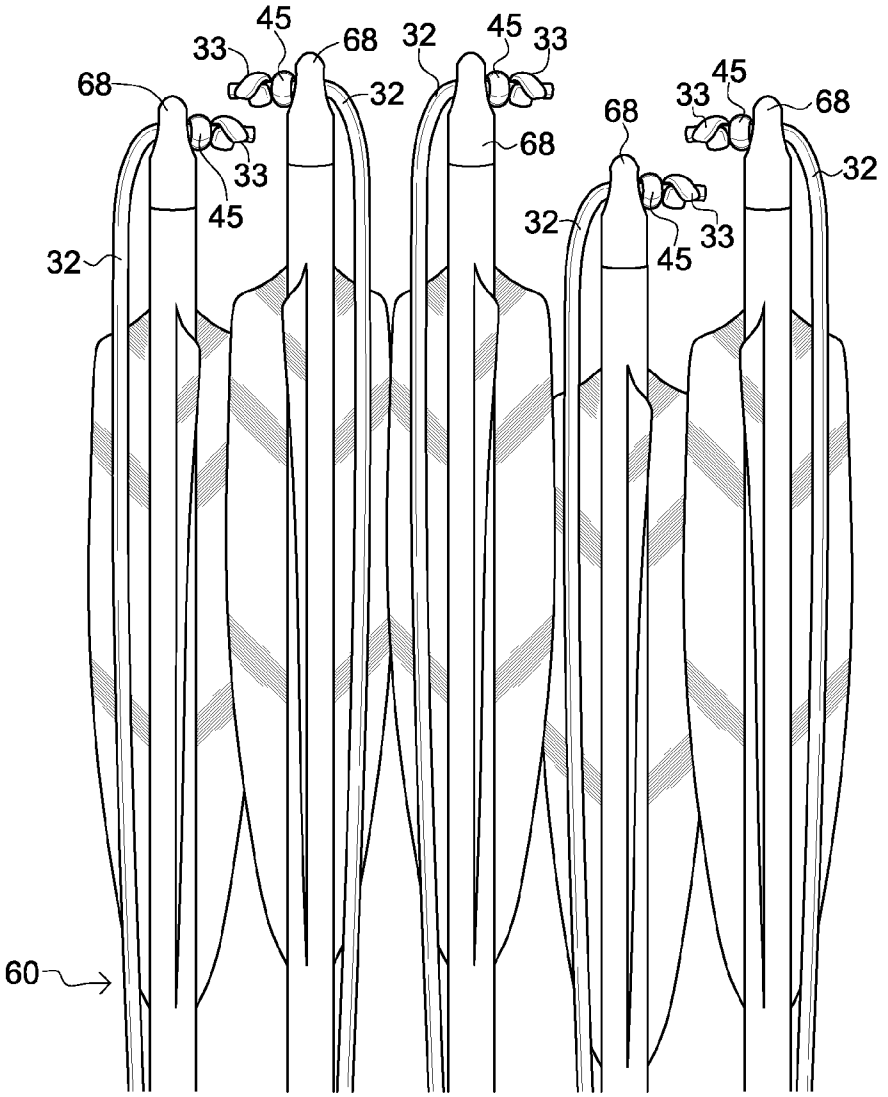


FIG. 8

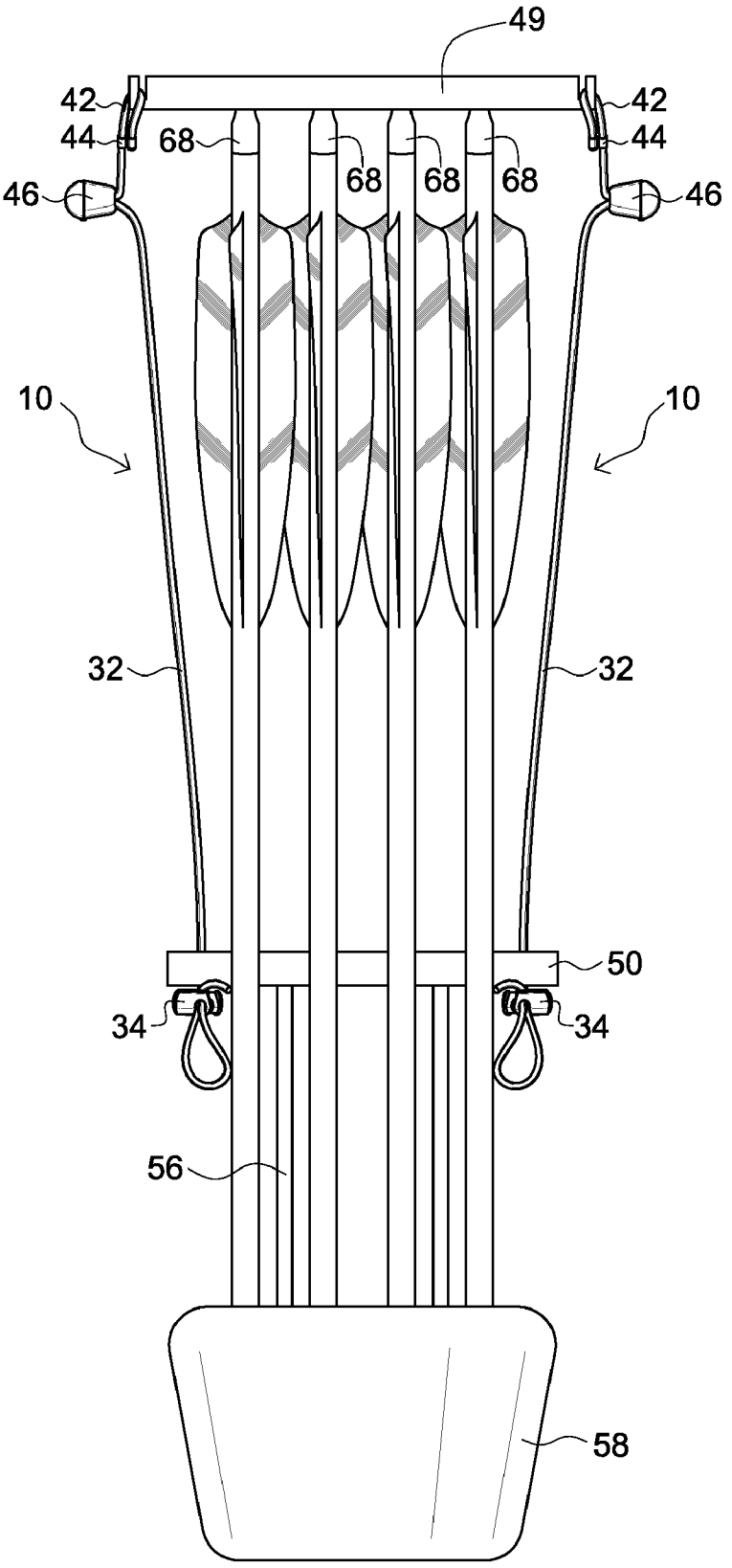


FIG. 9

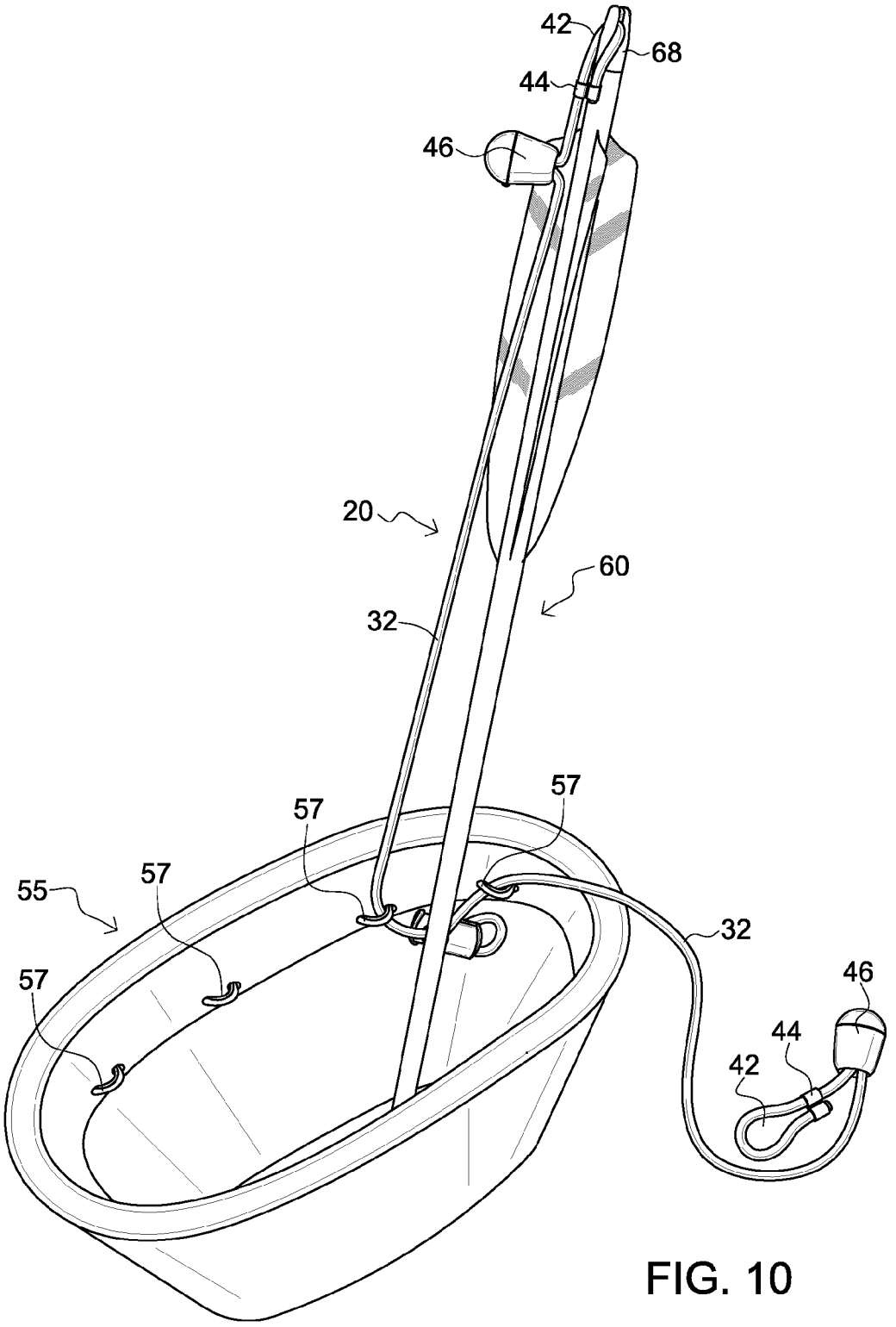


FIG. 10

ARROW SECURING DEVICE AND METHODS THEREOF

FIELD OF THE INVENTION

[0001] The present invention relates generally to archery and bow hunting. More particularly, the present invention relates to devices and methods for securing arrows within a quiver or the like.

BACKGROUND

[0002] Bow hunting requires extreme stealth on the part of the hunter. The difference between a trophy stag and fleeing prey can be the barely audible "rattling" sound of two or more arrows contacting each other. Whether on the move following the trail of the prey, still-hunting, or bow hunting from a tree stand, even a minuscule amount of noise will alert the prey of the presence of the hunter. For example, while still-hunting or bow hunting from a tree stand event making slow movements can cause a shift in the quiver such that the plurality of arrows will rattle. Moreover, when bow hunting from the ground, the hunter often must carefully and quietly move toward the prey to get to a spot having a clear and unobstructed path for the arrow to hit a kill zone on the prey.

[0003] Additionally, there are times when a hunter must sprint after his prey and/or climb to a desired position to get a clean shot or stake out the prey. In addition to increasing noise caused by rattling arrows within the quiver, it is not uncommon that a bow hunter will lose several of his arrows during such swift, but strenuous, hastened activities. Moreover, poorly secured arrows can be a major safety concern, particularly when arrows with razor sharp tips are used by novice or young bow hunters. While quivers and grippers for arrows provide some securing of the arrows therein, more stability and securing of arrows is required.

[0004] Heretofore, devices and methods for better stabilizing and securing arrows to eliminate the rattling noise caused from two or more arrows contacting each other, to retain arrows during the hunt, and to alleviate the safety concerns of bow hunting remains a long felt need.

BRIEF DESCRIPTION OF THE FIGURES

[0005] FIG. **1** is a perspective view of an arrow securing device according to a first embodiment.

[0006] FIG. **2** is a perspective view of an arrow securing device according to a second embodiment.

[0007] FIG. **3**A is a side perspective view of an arrow securing device coupled to a quiver attached to a bow and two arrow nocks according to an embodiment.

[0008] FIG. **3**B is a close-up view of an arrow securing device coupled to a gripper assembly of a quiver according to an embodiment.

[0009] FIG. **4** is a side perspective view of an arrow securing device coupled to a quiver attached to a bow and an arrow nock according to an embodiment.

[0010] FIG. **5**A is a close-up view of an arrow nock and a first version nock coupling end of an arrow securing device removably coupled thereto according to an embodiment.

[0011] FIG. **5**B is a close-up view of a first version nock coupling end of an arrow securing device according to an embodiment.

[0012] FIG. **6** is a close-up view of an arrow nock and a second version nock coupling end of an arrow securing device removably coupled thereto according to an embodiment.

[0013] FIG. **7** is a close-up view of an arrow nock and a third version nock coupling end of an arrow securing device removably coupled thereto according to an embodiment.

[0014] FIG. **8** is a close-up view of a plurality of arrow nocks and fourth version nock coupling ends of arrow securing devices removably coupled thereto according to an embodiment.

[0015] FIG. **9** is side perspective view of an arrow securing device coupled to a plurality of arrows and a quiver according to an alternative embodiment.

[0016] FIG. **10** is a top perspective view of an arrow securing device coupled to a back quiver and an arrow nock according to an embodiment.

DETAILED DESCRIPTION

[0017] Embodiments of the present invention comprise devices for securing arrows or crossbow bolts by their nock ends. Embodiments of an arrow securing device basically comprise a cord, typically a stretchable resilient cord, at least one nock coupling end, and a locking mechanism. The cord has a first end, a second end, and a longitudinal section disposed therebetween. The at least one nock coupling end is disposed proximal either the first or second end of the cord. In some embodiments, a first coupling end will be disposed proximal the first end of the cord and a second coupling end will be disposed proximal the second end. Hence, embodiments of the arrow securing device typically comprise either one or two nock coupling ends. The locking mechanism is operatively coupled to the longitudinal section of the cord.

[0018] Many variations of the nock coupling end are described herein. For example, the nock coupling end can be a loop secured by a clasp for attaching to the nock of an arrow. Other variations include, but are not limited to, a bored bead secured by a knot, a tab member disposed at an end of the cord, and a combination loop and a tab member. The locking mechanism is releasably lockable to the cord. When an embodiment includes only one nock coupling end, the locking mechanism is typically connected to one portion of the cord, but the end without the nock coupling end can be looped back into the locking mechanism. However when an embodiment includes two nock coupling ends, the locking mechanism is typically connected to two portions of the cord creating a loop.

[0019] When in use, the locking mechanism of the arrow securing device operates basically as an anchor point secured to a portion of a quiver. The nock coupling end(s) are typically attached to the nocks of the arrows within the quiver; however, in some embodiments can be attached to a nock lid adapted to couple to a plurality of arrow nocks. By releasing the locking mechanism, the cord can be moved up or down thereby varying the tension applied to the arrow nock(s).

[0020] The advantages of using embodiments of the arrow securing device are many. An unsecured arrow can make noise while hunting, can become lost, and can cause damage or injury. For example, when a bow quiver is utilized to stow a razortip broadhead arrow, if the arrow becomes dislodged from the gripper assembly of the bow quiver, which can happen quite easily particularly when the arrow is relatively short in length then the arrow tip can nick or completely cut the bowstring or even slice the hunter's hand, arm or leg. It is to be appreciated that in cold and/or rainy weather the gripper assemblies, typically comprised of rubber, substantially lose their ability to grip or clasp arrow shafts and secure the arrow without the aid of arrow securing devices.

[0021] When an arrow is secured with embodiments of the arrow securing device, the arrow or arrows are more securely stowed in the quiver. For example, with all arrows secured in the quiver such as a bow quiver or back quiver with arrow securing devices, the quiver can be turned upside down and violently shaken without dislodging a single arrow. Such secure stowing can be particularly important when a bow hunting user active and mobile, such as when climbing a tree, scaling a ledge, and chasing after prey. Moreover, arrow securing devices keep the user stealthy throughout the hunt by eliminating any noise caused from the plurality of arrows coming in contact with each other while in the arrow quiver. Additionally, safety concerns are addressed when arrow securing devices are used, particularly when hunting with razortip broadhead arrows.

Terminology

[0022] The terms and phrases as indicated in quotes (" ") in this section are intended to have the meaning ascribed to them in this Terminology section applied to them throughout this document including the claims unless clearly indicated otherwise in context. Further, as applicable, the stated definitions are to apply, regardless of the word or phrase's case, to the singular and plural variations of the defined word or phrase.

[0023] The term "or" as used in this specification and the appended claims is not meant to be exclusive rather the term is inclusive meaning: either or both.

[0024] References in the specification to "one embodiment", "an embodiment", "an alternative embodiment" and similar phrases mean that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least an embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all meant to refer to the same embodiment.

[0025] The term "couple" or "coupled" as used in this specification and the appended claims refers to either an indirect or direct connection between the identified elements, components or objects. Often the manner of the coupling will be related specifically to the manner in which the two coupled elements interact.

[0026] The term "removable," "removably coupled," "readily removable," "threadably coupled," and similar terms, as used in this specification and appended claims, refer to structures that can be uncoupled from an adjoining structure with relative ease (i.e., non-destructively and without complicated or time consuming process), and can also be readily reattached or coupled to the previously adjoining structure.

[0027] Directional and/or relationary terms such as, but not limited to, left, right, top, bottom, vertical, horizontal, back, front and lateral are relative to each other and are dependent on the specific orientation of an applicable element or article, and are used accordingly to aid in the description of the various embodiments and are not necessarily intended to be construed as limiting.

[0028] As applicable, the terms "about" and "generally" as used herein unless otherwise indicated mean a margin of +−20%. Also, as applicable, the term "substantially" as used herein unless otherwise indicated means a margin of +−10%. Concerning angular measurements, "about" or "generally" refer to +−10 degrees and "substantially" refers to +−5.0 degrees unless otherwise indicated. It is to be appreciated that not all uses of the above terms are quantifiable such that the referenced ranges can be applied.

A First and Second Embodiment of an Arrow Securing Device and Variations Thereof

[0029] Exemplary embodiments of an arrow securing device including many variations and uses thereof are illustrated in FIGS. **1-10**. Specifically, a first embodiment arrow securing device **10** is best illustrated in FIG. **1**. The first embodiment arrow securing device **10** typically comprises: a stretchable resilient cord **32**, a nock coupling end, and a locking mechanism **34**. The cord **32** can be a single length of cord having a first end, a second end, and a longitudinal section disposed therebetween. The nock coupling end is disposed proximal either the first or second end of the cord **32**. The locking mechanism **34** is operatively coupled to the longitudinal section of the cord **32** and releasably lockable thereto. Typically, the locking mechanism **34** includes a clamping aperture through which the cord **32** can be passed, and then clamped and loosened.

[0030] Still referring to FIG. **1**, the nock coupling end of the first embodiment arrow securing device **10** can comprise an attachment loop **42** secured by a clasp **44**, and a tab member **46**. The tab member **46** can be disposed proximal the attachment loop **42** to facilitate removal of the attachment loop when the first embodiment arrow securing device **10** is removably coupled to an arrow. As the tab member **46** is relatively close to the end of the cord **32** comprising the nock coupling end, the tab member is distal the other of the two ends of the cord **32**. It is to be appreciated that the nock coupling end of the first embodiment arrow securing device can comprise numerous coupling ends described herein and other equivalent coupling ends not expressly described.

[0031] The cord **32** is typically comprised of elastic or one or more elastic strands, but can be any suitable flexible and stretchable material. In some implements, the cord can further comprise a nylon cover to maximum resistance to weather and abrasion. Additionally, the cord can be a shock cord or a similar type of stretchable resilient material. Depending on the particular implementation, the cord **32** can be different lengths and thicknesses as well as comprise different degrees of elasticity. However, in some embodiments it is contemplated that the cord may not be comprised of a stretchable resilient material and may exhibit little or no elasticity.

[0032] The cord **32** can be looped on the end that does not have the nock coupling end by clamping two portions of the longitudinal section with the locking mechanism **34** as illustrated in FIG. **1**. Alternatively, the cord can be passed through the locking mechanism and be in contact with the cord on only one portion of the longitudinal section.

[0033] Now with reference to FIG. **2**, a second embodiment arrow securing device **20** is illustrated. The second embodiment arrow securing device **20** comprises: a stretchable resilient cord **32**, a first nock coupling end, a second nock coupling end, and a locking mechanism **34**. The cord **32** can be a single length of cord having a first end, a second end, and a longitudinal section disposed therebetween. The first nock coupling end is disposed proximal the first end of the cord **32** and the second nock coupling end is disposed proximal second end. Similar to the first embodiment, the locking mechanism **34** is operatively coupled to the longitudinal section of the cord **32** and releasably lockable thereto. Typically, the lock-

ing mechanism **34** includes a clamping aperture through which the cord **32** can be passed, and then clamped and loosened.

[0034] As shown in FIG. **2**, the first and second nock coupling ends of the second embodiment arrow securing device **20** can each comprise an attachment loop **42** secured by a clasp **44**, and a tab member **46**. However, in variations of the second embodiment arrow securing device, the first and second nock coupling ends can comprise different types of coupling ends. The tab member **46** can be disposed proximal the attachment loop **42** to facilitate removal of the attachment loop when the second embodiment arrow securing device **20** is removably coupled to an arrow. As the tab member **46** is relatively close to the end of the cord **32** comprising the nock coupling end, the tab member is distal the other of the two ends of the cord **32**. In addition to being different types of coupling ends, it is to be appreciated that the first and second nock coupling ends of the second embodiment arrow securing device can comprise numerous coupling ends described herein and other equivalent coupling ends not expressly described.

[0035] Again, the cord **32** is typically comprised of elastic or one or more elastic strands, but can be any suitable flexible and stretchable material. In some implements, the cord can further comprise a nylon cover to maximum resistance to weather and abrasion. Additionally, the cord can be a shock cord or a similar type of stretchable resilient material; however, the cord may not be stretchable and resilient in other embodiments. The cord **32** is typically looped by clamping two portions of the longitudinal section with the locking mechanism **34** as illustrated in FIG. **2**. When in use, the loop formed by the locking mechanism can be pulled while pressing the locking mechanism so as to adjust the amount of tension applied to the arrow or arrows being secured by the second embodiment arrow securing device.

[0036] Now referring to FIGS. **3**A, **3**B, and **4**, the first and second embodiment arrow securing devices **10**, **20** are illustrated in use with a quiver. The first and second embodiment arrow securing devices can be used in combination with any type of quiver generally defined as an apparatus adapted to hold or stow arrows. For example, the quiver used with the arrow securing devices can be a back quiver (see FIG. **10**) or quivers that can be secured directly to a bow (e.g., a solid mount or detachable archery quiver).

[0037] As best illustrated in FIG. **3**A, the quiver can be attached directly to a bow **70** proximal the bow quiver's gripper assembly **50**. The quiver, the full length of which can be seen in FIG. **4**, includes the gripper assembly **50** and a hood member **58** for receiving a tip end of one or more arrows **60**. The hood member **58** typically includes a foam bottom with which to receive the tip ends. As illustrated, the hood member **58** is typically coupled to the gripper assembly **50** by way of a support arm **56**.

[0038] One or more arrows **60** can be secured by the quiver. Each arrow typically comprises an elongated shaft **64** having a tip **62** at a front end and a fletching **66** and nock **68** at a back end. However, various types of arrows having similarly disposed but slightly different sections are contemplated for use with embodiments of the arrow securing device. For example, the tip or head of the arrow can be, but is not limited to, a razortip broadhead illustrated in FIG. **4** with its cover thereon, target point, field point, fixed-blade broadhead, expandable-blade broadhead, turkey heads, small game heads, and blunts.

[0039] Referring back to FIG. **3**A, one or more arrows **60** can be secured in the quiver with the second embodiment arrow securing device **20**. The shaft **64** of each arrow **60** can be placed in spacer sections typically disposed along the circumferential edge of the griper assembly **50**. Then, with the second embodiment arrow securing device **20** attached in place to the gripper assembly **50**, the first and second nock coupling ends can be removably coupled to the one or more arrows **60** in the quiver. A section of the cord **32** extends from the gripper assembly **50** to the back end of one arrow **60** whereby the first nock coupling end engages with the nock **68** of one arrow. Another section of the cord **32** extends from the gripper assembly **50** to the back end of the other arrow **60** whereby the second nock coupling end engages with the nock **68** of the other arrow.

[0040] Also pertinent to note is that that the first and second nock coupling ends of the second embodiment arrow securing device **20** in the version illustrated in FIG. **3**A comprises a tab member **46** at the end of the cord **32**. A small section of the cord **32** is slotted into the nock **68** where the bow string **72** would go when the arrow **60** is being shot. The tab member **46** acts as a stopper to prohibit the nock coupling end from sliding off the arrow's nock **68**. With the locking mechanism **34** behind the fixed position of the gripper assembly **50** with respect to the nock coupling ends, the amount of tension applied to the arrow (e.g., by pulling it toward the hood member **58** of the quiver) can be increased by pulling the loop formed by the locking mechanism **34** below the gripper assembly **50** while pressing a button on the locking mechanism **34** adapted to remove a frictional force on the cord **32** by the clamping aperture. Then, when the amount of increased tension to more securely hold the arrow **60** in place has been achieved, the button can be released so that the frictional force of the clamping aperture is reapplied to the cord **32**. As can be appreciated, with sufficient tension applied, if the shaft of an arrow were to become dislodged from the gripper assembly, the arrow securing device would still hold the arrow securely in the hood member and the arrow will not fall out of the quiver.

[0041] Similarly, the amount of tension to the arrow **60** can be reduced by allowing the cord **32** to move toward the arrow nock while pressing the button on the locking mechanism **34** adapted to remove the frictional force on the cord **32** by the clamping aperture. Since the cord **32** is typically comprised of a stretchable resilient material, it will allow for precise adjustment of tensioning suitable to secure the arrow **60** and allow the nock coupling end to be removed or disengaged from the arrow nock **68** by pulling a portion of the nock coupling end. If less tension in the cord **32** is applied, the arrow **60** can removed from the quiver by sliding the arrow **60** up through the gripper assembly **50** until the tip **62** is out of the hood member **58**, then pulling the arrow **60** away from the quiver and back down thereby disengaging the nock coupling end without the user having to physically contact it. Such a method of removing or unsecuring the arrow can be advantageous when the user wishes to quickly remove the arrow from the bow quiver and couple it to the bowstring during the hunt. In contrast, a much greater amount of tension such that the arrow cannot be removed without pulling the nock coupling end off of the arrow nock may be desirable in other situations, such as for instance when bow quiver and arrows are in transport.

[0042] FIG. **3**B provides a close-up view of the gripper assembly **50** and second embodiment arrow securing device

20 attached thereto. In addition to the spacer sections adapted to receive arrow shafts, the gripper assembly **50** can also include a plurality of holes **52**. These holes **52** can provide a method of attaching the second embodiment arrow securing device **20** to the gripper assembly **50** of the quiver. The cord **32** can be passed through a hole **52** typically, but not necessarily, prior to the nock coupling end being formed. Depending on the size and structure of the nock coupling end, it may be able to fit though the hole **52**. For example, referring briefly to FIG. **4**, the nock coupling end comprising an attachment loop **42** and clasp **44** of the version of the first embodiment arrow securing device **10** can typically fit though a hole **52** of the gripper assembly **50**.

[0043] Also of note illustrated in FIG. **3**B is the close-up view of the locking mechanism **34**. The button on the locking mechanism **34** adapted to remove the frictional force on the cord **32** and the clamping aperture though which the cord **32** is disposed can be seen more clearly. It is pertinent to note, however, that the locking mechanism can be a variety of structures adapted to lock and typically slidably engage with the cord.

[0044] Referring now FIG. **4**, a first embodiment arrow securing device **10** coupled to a gripper assembly **50** of a quiver is illustrated whereby the quiver is detached from the bow. A section of the cord **32** extends from the gripper assembly **50** to the back end of the arrow **60** past the fletching **66** whereby the nock coupling end engages with the nock **68**. The nock coupling end of the first embodiment arrow securing device **10** can comprises only an attachment loop **42** secured by a clasp **44**, which as indicated above makes it easier to thread through a hole of the gripper assembly **50** or other similarly small areas when attaching the arrow securing device to a fixed point on the quiver.

[0045] Next, a portion of the attachment loop **42** is slotted into the nock **68** of the arrow **60**. With the locking mechanism **34** behind the fixed position of the gripper assembly **50** with respect to the nock coupling end, the amount of tension applied to the arrow **60** can be increased or reduced by pulling the cord **32** proximal the second end or allowing it to move toward the arrow nock **68**, respectively, while pressing the button on the locking mechanism **34** adapted to remove a frictional force on the cord **32** by the clamping aperture.

[0046] FIG. **10** illustrates how a back or shoulder quiver **55** can be used with embodiments of the arrow securing device. The second embodiment arrow securing device **20** can be attached to the quiver **55** via one or more laces **57** disposed along a rim of the quiver **55**. To attach the second embodiment arrow securing device **20**, the laces **57** can be temporarily loosened so that the nock coupling ends comprising the attachment loop **42** secured by a clasp **44** and a tab member **46** can be fitted through. Or alternatively, all or a portion on the nock coupling end can be constructed after the cord **32** has been threaded through the lace **57**. If there are no readily available means to attach the arrow securing device to the quiver, holes may need to be drilled and/or loops/rings attached to provide a fixed point from which to secure the arrow securing device. In such circumstances, it may be advantageous to employ first embodiment arrow securing devices, as the locking mechanism **34** can be removed from the second end allowing the cord **32** to be threaded into tighter areas.

[0047] With the second embodiment arrow securing device **20** attached in place to the quiver **55**, the first or second nock coupling ends can be removably coupled to the arrow **60** in the quiver **55**. For clarity in the illustration only one arrow is shown, but in most implementations a plurality of arrows (see FIG. **8**, for example) with a plurality of arrow securing devices would be used in the field or practice range.

[0048] Still referring to FIG. **10**, a section of the cord **32** extends from the rim of the quiver **55** to the back end of the arrow **60** whereby the first nock coupling end engages with the nock **68** of the arrow. Another section of the cord **32** extends from the rim of the quiver **55** the gripper assembly **50** to the second nock coupling end, which is shown uncoupled from any arrow. With the locking mechanism **34** behind the laces of the quiver **55** with respect to the first nock coupling end, the amount of tension applied to the arrow **60** with its tip in contact with the bottom of the quiver **55** can be similarly increased or reduced as described in the above embodiments by pulling the cord **32** proximal the second end or allowing it to move toward the arrow nock **68**, respectively, while pressing the button on the locking mechanism **34** adapted to remove a frictional force on the cord **32** by the clamping aperture.

[0049] It is to be appreciated that in many implementations, either the first or second embodiment arrow securing device can be used. For example, the arrow **60** in FIG. **4** could be secured by the first nock coupling end of a second embodiment arrow securing device as opposed to the first embodiment arrow securing device **10** depicted. Similarly, one or more first embodiment arrow securing devices can be used with the quiver **55** as opposed to the second embodiment arrow securing device **20** illustrated in FIG. **10**.

[0050] FIGS. **5**A through **8** illustrate in more detail some exemplary nock coupling ends that can be used with embodiments of the arrow securing device. FIG. **5**A illustrates a close-up perspective view of a nock coupling end having a tab member **46**. The tab member **46** acts as a stopper to prohibit the nock coupling end from sliding off the arrow's nock **68** as well as serves as an object a user can grab to facilitate removal of the cord **32** from the nock **68** when the arrow is to be removed from the quiver. An exploded close-up view of an exemplary tab member **46** is illustrated in FIG. **5**B. A knot **33** can be formed proximal an end of the cord **32** after the cord **32** has been placed through an aperture of a hollow section **46***a* with its cap end **46***b* off or open. A first tag end of the knot **33** is disposed proximal an end of the cord **32** and a second tag end of the knot **33** is disposed through the aperture toward the locking mechanism. After a sufficient knot has been formed, the knot **33** and the end of the cord **32** proximal the knot **32** can be enclosed within the hollow section **46***a* by closing its end cap **46***b*.

[0051] Referring now to FIG. **6**, a nock coupling end comprises an attachment loop **42** secured by a clasp **44**, and a tab member **46** is illustrated. As discussed previously with respect to the first and second embodiment arrow securing devices, the tab member **46** is typically disposed proximal the attachment loop **42** in order to facilitate easier removal of the attachment loop **42** from the arrow nock **68**.

[0052] The knot used to secure the cord within that tab member **46** shown in FIGS. **5**A and **6** can be any type of knot sufficient to keep the knotted end from sliding out of the aperture. Moreover, the knot can include a stopping mass of some kind to prohibit the knotted end from sliding. For example, the knot may include a small bored bead with at least a portion of the cord comprising the knot extending through the small bead to increase the overall mass of the small bored bead and knot combination. In some variations,

the knot may be replaced completely by a stopping mass. For example, a section of the cord where a knot would typically be disposed could include a stopping mass (e.g., a large split shot lead fishing weight) securely clasped thereto. It is also pertinent to note that additional variations of the nock coupling end show in FIG. **6** can include a knot to create the attachment loop instead of the clasp. This knot similarly be can be any suitable knot, but typically is comprised of a non-slip variety (e.g., a non-slip mono knot) adapted to form a loop.

[0053] FIG. **7** is a close-up perspective view illustrating a nock coupling end comprising a nock cap **43** and a tab member disposed proximal the nock cap **43**. The tab member in the illustrated version includes a tab loop **47** and a bored bead **45** securing the tab loop **47**. The cord **32** can be coupled to the nock cap **43** by threading it though an attached ring portion. As can be deduced from the illustrations of FIGS. **6** and **7**, the tab member can be any number of structures located proximal different attachment portion of the nock coupling end. For example, the tab loop **47** and bored bead **45** can be used with and located proximal to the attachment loop **42** secured by the clasp **44**, and alternatively the tab member **46** having the aperture, hollow section **46***a*, and cap end **46***b* can be use with and located proximal the nock cap **43**.

[0054] FIG. **8** illustrates a plurality of nock coupling ends, each nock coupling end comprising a bored bead **45** secured by a knot **33**. The knot **33** securing the bored bead **45** typically has a first tag end disposed toward either the first end or the second end of the cord **32**, whichever end comprises the instant nock coupling end, and a second tag end disposed through the bore of the bead toward the locking mechanism. The bored bead is typically, but not necessarily, round or oval shaped and comprised of a plastic material. However, the bored bead can be comprised of any number of shapes and materials function. Non-limiting examples include a bored rectangular piece of stone, a bored square piece of metal or wood, and a piece of bone carved for ornamental purposes with a bore therethrough.

[0055] Although one version of the nock coupling end is shown removably coupled to the nocks **68** of the plurality of arrows **60** in FIG. **8**, it is to be appreciated that different nock coupling ends can be used to couple a plurality of arrows within the same quiver. This can be particularly advantageous when different arrow types having different lengths, tip sizes, and shaft diameters better suited to be secured to different nock coupling ends are contained within the same quiver.

[0056] Referring now to FIG. **9**, an alternative embodiment of the arrow securing device is illustrated. A first embodiment arrow securing device **10** can be disposed on one side of the quiver being coupled to a gripper assembly **50** while having its nock coupling end removably coupled to a nock lid **49** proximal that one side. Similarly, a first embodiment arrow securing device **10** can be disposed on the other side of the quiver being coupled to the gripper assembly **50** while having its nock coupling end removably coupled to the nock lid **49** proximal that other side. The nock lid **49** can have one or more elongated ribs of flanges adapted to couple with a plurality of arrow nocks **68**. Preferably, but not necessarily, a version of nock coupling ends having an attachment loop **42** secured by a clasp **44** and a tab member **46** proximal the attachment loop **42** can be used to facilitate easier connection and removal of the nock lid **49**.

[0057] While the alternative embodiment illustrated in FIG. **9** can be used similarly as an arrow securing embodiment, such an embodiment and versions thereof are most useful when transporting a quiver with arrows therein or when the user is hiking a substantial distance and expects not to have to quickly remove an arrow prior to arrival at his or her destination.

[0058] Further variations and alternative embodiments of the arrow securing device are contemplated as would be apparent to one of skill in the art having the benefit of this disclosure. In sum, embodiments of the arrow securing device can be used together with a quiver and arrows therein to create a unique combination adapted to stabilize and safely secure arrows. Therefore, a user can more effectively bow hunt because noise created by arrows contacting each other is minimized or eliminated. Additionally, costly arrows will not be lost while hunting or otherwise moving about thereby reducing the frustration of damaging or losing an arrow as well potential injury from falling on or otherwise contacting an arrow dislodged from the quiver, particularly when the hiking through thick brush or falling down.

An Exemplary Method of Securing One or More Arrows

[0059] A new and useful exemplary method of securing one or more arrows in a quiver is disclosed herein. It is to be understood that the first and second embodiment arrow securing devices **10**, **20** can be used in conjunction with the exemplary method. By way of example but not limitation, an exemplary embodiment of an arrow securing device typically comprises a stretchable resilient cord, at least one nock coupling end, and a locking mechanism. The cord can be a single length of cord that has a first end, a second end, and a longitudinal section disposed therebetween. The locking mechanism is operatively coupled to the longitudinal section of the cord and releasably lockable thereto.

[0060] The exemplary method of securing one or more arrows using at least one arrow securing device and a quiver typically comprises the following operations. First, a portion of the cord is secured to a quiver portion of the quiver. The cord portion secured or attached to the quiver portion is typically from the longitudinal section of the stretchable resilient cord proximal the locking mechanism. The quiver portion can be any number of locations one the quiver adapted to attach or anchor the arrow securing device such as but not limited to a hole on a gripper assembly, a lace of the stitching on a body portion of the quiver, or any suitable aperture or looped/ringed appendage on or attached to the quiver.

[0061] With the arrow securing device relatively fixed or anchored on a portion of the quiver, the at least one nock coupling end can be attached to a nock of an arrow in the quiver. As described above with respect to the first and second nock coupling devices, the nock coupling end can be any number of structures and combinations thereof adapted to be removably coupled to the arrow's nock.

[0062] Next, the locking mechanism can be released thereby allowing the cord to move or slide. By pulling the cord while the locking mechanism is in a released configuration a tension can be applied to the nock of the arrow. The cord is pulled in a direction generally opposite the at least one nock coupling end to increase the amount of tension applied to the nock of the arrow. Once the desired amount of tension has been applied to the arrow nock in order to suitably secure the arrow within the quiver, the locking mechanism can be placed into a locked configuration thereby stopping movement on the cord and retaining the desired tension to the arrow nock.

When the arrow is ready for use, the nock coupling end can be removed from the arrow nock allowing it to be easily removed from the quiver.

[0063] It is to be appreciated that the exemplary method can be used in conjunction with a plurality of arrow securing devices to secure a plurality of arrows within a variety of quiver types. Moreover, not every arrow within the quiver need be secured with an embodiment of the arrow securing device. For example, some arrows in a bow quiver such as shorter turkey head razor tipped arrows which do not reach the foam bottom of the hood member can be secured with arrow securing devices while other longer point tip arrows can be secured by just the gripper assembly and hood member.

An Exemplary Method of Making Arrow Securing Devices

[0064] A new and useful exemplary method of making embodiments of the arrow securing device is additionally disclosed herein. It is to be understood that the first and second embodiment arrow securing devices **10**, **20** can be made with this exemplary method of making arrow securing devices.

[0065] The exemplary method of making an arrow securing device typically comprises providing a stretchable resilient cord. A particular length of cord is selected to for the given implementation of the arrow securing device. For example, a shorter length of cord can be used when shorter arrows or crossbow bolts are to be secured in a quiver. The cord has a first end, a longitudinal section, and a second end whereby the longitudinal section is disposed between the first and second ends.

[0066] Next, at least one nock coupling end is formed proximal either the first end or the second end (or both when each cord end includes a nock coupling end). It is to be appreciated that the nock coupling end is typically formed prior to attaching the arrow securing device to a quiver; however, the nock coupling end can be formed after the cord has been secured to the quiver (e.g., after an end of the cord has be placed or strung through a small hole of a gripper assembly) in some implementations.

[0067] Next, a locking mechanism adapted to releasably lock to can be coupled to the longitudinal section of the cord. Moreover, when both ends of the cord comprise nock coupling ends, the locking mechanism is coupled to two portions of the longitudinal section of the cord forming a loop along a portion of the longitudinal section.

[0068] It is to be appreciated that the method of making arrow securing devices is merely exemplary. Variations of this method can be used to make different embodiments of the nock securing device as would be apparent to one of ordinary skill given the benefit of this disclosure.

Alternative Embodiments and Variations

[0069] The various embodiments and variations thereof, illustrated in the accompanying figures and/or described above, are merely exemplary and are not meant to limit the scope of the invention. It is to be appreciated that numerous other variations of the invention have been contemplated, as would be obvious to one of ordinary skill in the art, given the benefit of this disclosure.

[0070] For example, in embodiments designed for children the cord can be include reflective material making the child's bow and bow quiver more visible to the supervising adult. It is to be further appreciated that various embodiments of the arrow securing device can comprise cords and parts having numerous colors such as, but not limited to, black, florescent orange, yellow, and green, and camouflage green, olive, brown, grey, and white.

[0071] Moreover, in some variations the nock coupling end may not be an actual end of cord, but is typically proximal an end. For example, in at least one variation the nock coupling end is proximal an end of the cord and a remainder of the cord is coupled to an implement such as, but not limited to, a feather or other ornamental implement, camouflage, or a tool. Additionally, it is to be appreciated that embodiments of the arrow securing device can be enlarged and adapted to secure heavy fiberglass bow fishing arrows as well as other arrow types and functions.

[0072] All variations disclosed in this application are intended and contemplated to be within the spirit and scope of the invention.

I claim:

1. An arrow securing device comprising:

a cord having a first end, a longitudinal section, and a second end;

at least one nock coupling end proximal at least one of the first end and the second end;

a locking mechanism operatively coupled to the cord, the locking mechanism adapted to releasably lock the cord along the longitudinal section.

2. The arrow securing device of claim **1**, wherein (i) the at least one nock coupling end comprises a first nock coupling end proximal the first end and a second nock coupling end proximal the second end, and (ii) the locking mechanism operatively coupled to two portions along the longitudinal section of the cord forming a loop.

3. The arrow securing device of claim **1**, wherein the cord is comprised of a stretchable resilient material.

4. The arrow securing device of claim **1**, wherein at least one nock coupling end comprises an attachment loop secured by a one of a knot and a clasp, and a tab member, the tab member disposed proximal the attachment loop and distal the at least one of the first end and the second end.

5. The arrow securing device of claim **4**, wherein the tab member includes an aperture, a hollow section, and a cap end, and is secured to the cord by a knot within the hollow section whereby a first tag end of the knot is disposed through the aperture toward the attachment loop and a second tag end of the knot is disposed through the aperture toward the locking mechanism.

6. The arrow securing device of claim **1**, wherein at least one nock coupling end comprises an attachment loop secured by a one of a knot and a clasp.

7. The arrow securing device of claim **1**, wherein at least one nock coupling end comprises a tab member, the tab member including an aperture, a hollow section, and a cap end, and being secured to the cord by a knot within the hollow section whereby a first tag end of the knot is disposed toward the at least one of the first end and the second end within the hollow section and a second tag end of the knot is disposed through the aperture toward the locking mechanism.

8. The arrow securing device of claim **1**, wherein at least one nock coupling end comprises a bead having a bore, the bead secured to the cord by a knot whereby a first tag end of the knot is disposed toward the at least one of the first end and the second end and a second tag end of the knot is disposed through the bore of the bead.

9. The arrow securing device of claim **2**, wherein:
the first nock coupling end comprises an attachment loop secured by a one of a knot and a clasp, and
the second nock coupling end comprises a tab member, the tab member including an aperture, a hollow section, and a cap end, and being secured to the cord by a knot within the hollow section whereby a first tag end of the knot is disposed toward the second end within the hollow section and a second tag end of the knot is disposed through the aperture toward the locking mechanism.

10. A method of securing an arrow in a quiver using the arrow securing device of claim **1**, the method comprising:
securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion;
attaching the at least one nock coupling end to a nock of an arrow in the quiver;
releasing the locking mechanism operatively coupled to the cord;
pulling the cord while the locking mechanism is in a released configuration in a direction generally opposite the at least one nock coupling end to apply a tension to the nock of the arrow; and
locking the locking mechanism thereby retaining the tension to the nock of the arrow in the quiver.

11. The method recited in claim **10**, wherein said securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion comprises securing the cord portion of the longitudinal section of the cord proximal the locking mechanism to a gripper assembly via a hole on a portion therethrough.

12. The method recited in claim **10**, wherein said securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion comprises securing the cord portion of the longitudinal section of the cord proximal the locking mechanism to a body section of the quiver.

13. A method of securing a plurality of arrows in a quiver using the arrow securing device of claim **2**, the method comprising:
securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion;
attaching the first nock coupling end to a first nock of a first arrow in the quiver;
attaching the second nock coupling end to a second nock of a second arrow in the quiver;
releasing the locking mechanism operatively coupled to the cord;
pulling the loop formed in the longitudinal section of the cord while the locking mechanism is in a released configuration in a direction generally opposite the first and second nock coupling ends to apply a tension to the first and second nocks of the first and second arrows; and
locking the locking mechanism thereby retaining the tension to the first and second nocks of the first and second arrows in the quiver.

14. The method recited in claim **13**, wherein said securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion comprises securing a first and second cord portion of the longitudinal section of the cord proximal the locking mechanism to a gripper assembly via a first and second hole on a portion therethrough.

15. The method recited in claim **13**, wherein said securing a cord portion of the longitudinal section of the cord proximal the locking mechanism to a quiver portion comprises securing a first and second cord portion of the longitudinal section of the cord proximal the locking mechanism to at least one lace in a body section of the quiver.

16. A method of making an arrow securing device, the method comprising: (a) providing a stretchable resilient cord having a first end, a longitudinal section, and a second end; (b) forming at least one nock coupling end proximal at least one of the first end and the second end; and (c) coupling a locking mechanism adapted to releasably lock to the longitudinal section of the stretchable resilient cord.

17. The method recited in claim **16**, wherein (i) said forming at least one nock coupling end comprises forming a first nock coupling end proximal the first end and a second nock coupling end proximal the second end, and (ii) said coupling a locking mechanism adapted to releasably lock comprises coupling two portions along the longitudinal section of the stretchable resilient cord to the locking mechanism thereby forming a loop.

18. A combination comprising:
one or more arrow securing devices, each of the one or more arrow securing devices comprising (i) a cord having a first end, a longitudinal section, and a second end, (ii) at least one nock coupling end proximal at least one of the first end and the second end (iii) a locking mechanism operatively coupled to the cord, the locking mechanism adapted to releasably lock the cord along the longitudinal section;
a quiver, the quiver having a quiver portion capable of receiving the plurality of arrow securing devices; and
a plurality of arrows, each arrow comprising a tip section, shaft section, and a nock section;
wherein (a) the at least one coupling end of the one or more arrow securing devices is coupled to a one of the nock section of at least one of the plurality of arrows and a nock lid, and (b) the longitudinal section of the one or more arrow securing devices is coupled to the quiver portion of the quiver.

19. The combination recited in claim **18**, wherein the quiver portion comprises a gripper assembly having a plurality of holes thereon.

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