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NOCKED ARROW RETENTION DEVICE

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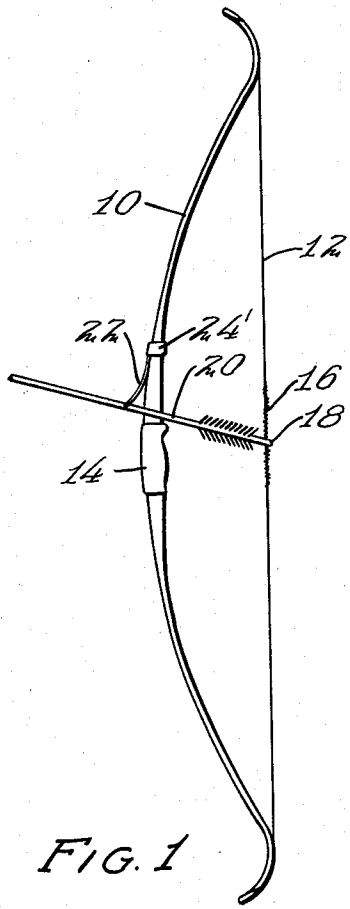


FIG. 1

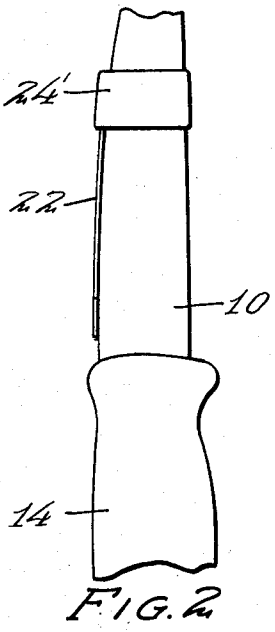


FIG. 2

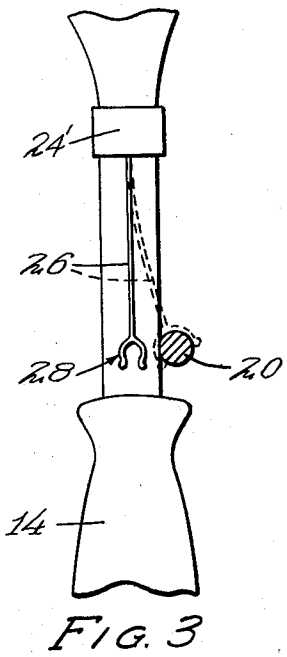


FIG. 3

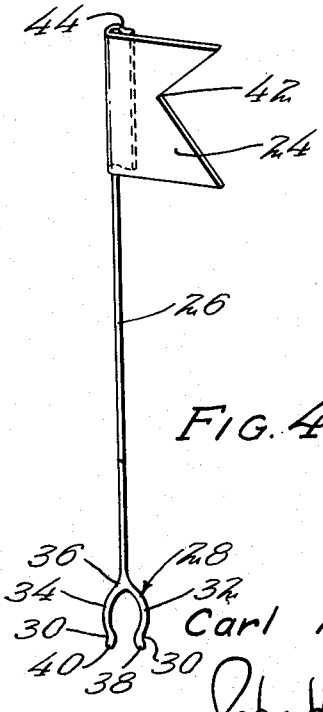


FIG. 4

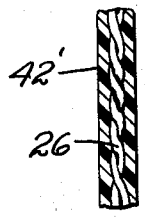


FIG. 5

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NOCKED ARROW RETENTION DEVICE

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This invention relates to a device for holding arrows in a nocked position on a bowstring and bow and is particularly concerned with a device having a means for engaging the shaft of an arrow, which may be readily mounted on a bow, is adaptable to arrow shafts of different diameters, and which does not interfere with the operation of the bow.

Various attempts have been made to provide a suitable device for holding an arrow in a nocked position on a bow. A primary difficulty lies in keeping the arrow in a nocked position on the string because of lack of tension. Bowstrings are generally served with a thread to indicate the nocking point for the arrow and to protect the bowstring from wear. The nock of the arrow is placed on the nocking point of the bowstring, and the arrow shaft is placed on the arrow rest of the handle, if provided on the bow, or the arrow shaft is held by a finger or fingers, usually the index finger being used. Should the bow be held in a vertical position, the arrow nock will tend to slide down the bowstring. To prevent this slipping of the arrow nock, the arrow must be held tightly against the bowstring. On occasion, the bow may be held in a horizontal position to keep the arrow in place on the bow and properly nocked. While the bow may be held in a horizontal position when waiting to shoot at targets, having to hold a bow in a horizontal position is a decided disadvantage for an archer engaged in hunting. The horizontal position of the bow tends to catch on brush and impedes the progress of the hunter, and of course, the bow must be returned to a vertical position before drawing the bow. In addition, if the bow should not be fitted with an arrow rest, the arrow must be held in place on the bow by the fingers, which is tedious and frequently in cold weather, the hunter is unable to flex his fingers quickly due to cold having stiffened them, making shooting difficult.

An object of the present invention lies in a device for holding arrows in a nocked position on a bowstring which will hold the arrow in the desired position regardless of vertical or horizontal movement of the bow. A further object of the present invention lies in a device for holding arrows in a nocked position on a bowstring which will hold an arrow in a desired position when the bow is placed on the ground or leaned against some object such as a tree.

An object of the present invention lies in a means for holding an arrow in a nocked position which will not interfere with the operation of the bow. The present invention is so mounted on a bow and of such a structure as to effectively hold an arrow in the desired position and when disengaged from the arrow shaft, the device retracts from its position of shaft engagement so as not to interfere with the operation of the bow. It is a further object to provide a device which will spring back to its mounting position when disengaged from an arrow so as not to interfere with the operation of the bow and arrow.

Bows are often very valuable, and particularly is this true of hunting bows and tournament bows. It is desirable to protect the finish of the bow with some form of cover such as bow sock. It is an object of the present invention to provide a means for holding an arrow in a nocked position which will not interfere with the use of bow sock to protect the finish of the bow.

Arrows are made in different diameters. Often arrows have a tenon portion near the arrow head engaging a shaft portion designed to reduce breakage. In some instances arrows have shafts which are of one diameter at one end and of a lesser or greater diameter at the other end. An object of the present invention lies in a means holding an arrow in a nocked position which may be used with arrows of various diameters.

Arrows and bows generally have a high finish. It is desirable that the arrow holding means not injure the finish of the arrow. An object of the present invention lies in a means for engaging the shaft of an arrow in which the said engagement means forms a bifurcated spring clip into which an arrow shaft may be readily pressed, the clip having a coating which protects not only the clip from the weather, but in addition serves as a protection against damage to the finish of the arrow shaft.

During hunting, the archer frequently is forced to travel through brush or woods where the brush and branches tend to catch on the bow or bow string. In particular this is true if the bow must be held in horizontal position instead of vertically in front of the body of the archer. It is a purpose of the present invention to provide a device which does not project from the bow in such a way as to provide a means of entanglement with brush or branches when holding an arrow in a nocked position on a bow or when in its normal retracted position on the bow.

A further object of the present invention lies in a device for holding an arrow in a nocked position on a bow which may be used on any type of bow.

A further object of the present invention lies in a spring device for holding an arrow in a nocked position on a bow having a means of attachment to the said bow which is readily usable on bows of all types and which may be inset into the bow backing or belly if desired.

These and other objects and novel features of my invention will be more clearly set forth in the following specifications and claims:

In the drawings forming a part of the specifications:

FIGURE 1 is a top plan view of a bow and arrow showing the mounting of the device on a bow.

FIGURE 2 is a side elevation showing the device mounted on a portion of the bow.

FIGURE 3 is a front elevation showing the device in two movable positions on the bow.

FIGURE 4 is a perspective view of the nocked arrow retaining device.

FIGURE 5 is an enlarged sectional view through a portion of the spring.

FIGURE 1 illustrates one type of bow **10** having a bowstring **12** attached to the ends of the bow **10**. A handle **14** is formed from the thickened portion of the bow arch intermediate the ends of the bow and may in some bows be formed to provide an arrow rest which is not shown. A portion of the bowstring **12** is served with a covering such as thread or plastic to provide a thickened protective nocking point of the bow string **12**. The portion of the bowstring **12** is thickened by serving to provide a surface which receives the wear occurring in repeatedly nocking the arrow upon the bowstring **12**. The nock **18** of the arrow **20** consists in general of a slot in the rear of the arrow shaft designed to engage a bowstring. The retaining device **22** for the nocked arrow **20** is shown mounted on the back of a bow **10** in the preferred form of mounting. It will be understood that the device may be mounted on either side of the bow, on either the back or the belly of the bow although the preferred form of attachment is best illustrated in FIGURE 1 showing the device attached to the back of the bow. A fastening means **24**, such as is shown in FIGURES 1–3, holds the nocked arrow retention means **22** in a predetermined position on the bow **10** where it is readily available to engage a shaft of an arrow **20** and hold the arrow **20** in a nocked position on the bowstring **12**.

FIGURE 2 illustrates the nocked arrow retention device

22 on a portion of a bow 10. The device 22 when not being used to hold an arrow in a nocked position on a bow lies tightly against the bow surface to which it is attached by the fastening means 24. The nocked arrow retention device 22 is attached to the bow surface in such a way as to provide only a slight protusion above the bow surface, and consequently the retention device is unlikely to become entangled with brush or branches.

FIGURE 4 clearly indicates the structure of the device 22. The device 22 consists of an elongated spring 26 which in the preferred form of construction is comprised of spring wires twisted to form a single elongated spring 26. The ends of the wires forming the elongated spring 26 having arms 32 and 34 which form a bifurcated clip 28 to engage and hold the shaft of an arrow. The ends of the arms 32 and 34 of the clip 28 are turned outwardly as indicated at 30 providing an enlarged opening into which an arrow shaft may be more easily pressed. The clip 28 thus forms an arrow shaft engaging device having arms 32 and 34 which are in the same plane as the twisted portions of the wires as is shown in FIGURE 2, and which extend from one end 36 of the spring 26, the arms diverging outwardly from their point of attachment to the spring 26, and arcuately counter-turning so as to form a curvilinear arrow shaft engaging means. The arms 32 and 34 have ends 38 and 40 which diverge so as to provide an increased opening into which the shaft of an arrow may be pressed, the arms 32 and 34 circumflexing about the shaft. As further pressure is applied to the arrow shaft, the shaft is engaged by the shaft engaging arms 32 and 34. The arms 32 and 34 are forced outwardly as the shaft is pressed between them and springably grip the shaft within the curvilinear opening formed by the arms 32 and 34. Shafts of varying diameters may be held in the arms 32 and 34. Shafts of smaller diameter will fit into the opening formed by the arms 32 and 34, while larger shafts will be held by the arms 32 and 34 if the arrow shaft is too large to fit completely within the generally circular opening formed by the arm structure. It will be understood that the retaining clip 28 may be made in various sizes if desired to adapt particularly to arrow shafts of various diameters although the ends of the clip 28 may be bent inwardly to more tightly engage arrow shafts of smaller diameter. Likewise should the diameter of an arrow shaft be slightly larger than expected, the clip arms may be bent outwardly slightly to better engage the arrow shaft.

The other end of the elongated spring 26 includes a bow fastening attachment means 24. In the preferred form of construction the fastening means is a relatively small rectangular plate which may have a notch 42 cut in one edge. The edge opposite the notch portion 42 is angularly counterturned upon itself to form a seam 44 into which the spring 26 is inserted. The seam is then crimped to hold the elongated spring 26 tightly so that the spring does not turn within the seam 44 and so that the spring 26 cannot be pulled out of the seam 44 without prying the crimped portion of the seam 44 apart. While the preferred form of construction has been illustrated, due to its simplicity, the intention is to illustrate the ease by which the spring 26 may be fastened to the attachment means 24, and not to limit the means of attachment to one particular type. Welding and soldering the seam would prove equally as satisfactory as crimping and the intention is not to eliminate these desirable methods of attachment of the spring should they prove to be more satisfactory in production. The fastening means 24 is attached to the bow 10 in a predetermined position adjacent to the handle 14. The device 22 extends along a longitudinal axis of the bow such as the back or belly so that the clip 28 is approximately ½ inch above the arrow rest.

FIGURE 3 illustrates a clip 28 attached to a spring 26 in two movable positions. The spring 26 springs sideways and forwardly, and the arrow is brought up into

engagement with the ends of the arms 32 and 34 and pressed into the clip 28, the nock of the arrow remaining on the bowstring 12. If desired nock stops which are not illustrated may be used. These consist of live rubber tubes which may be placed on a bowstring to prevent movement of the nock of the arrow upon the spring. The clip 29 holds the arrow shaft and the spring 26 exerts a backing force along the arrow shaft generally perpendicular to the nocking point of the bowstring 12 thereby keeping the arrow in a nocked position. Since the spring 26 has been sprung to one side and forwardly in order to engage the arrow shaft, the spring exerts a reverse force upon the arrow shaft which holds the shaft against the bow and in a nocked position on the bowstring 12.

When the archer is ready to shoot, he pulls the arrow shaft from the clip 28 with the forefinger of the hand holding the bow handle while lifting the bow to shooting position, thus preventing any loss of time, and draws the bowstring to the desired position before loosing the arrow. Upon being released from the arrow shaft, the device springably retracts to its position of flat engagement along the bow. The arrow is firmly gripped by the clip 28 due to the coating 42′ of resilient gripping material on the spring. The coating 42′ may be protective material such as plasticized vinyl coating.

The method of attaching the device 22 to the bow 10 may be made by merely taping the device to the bow 10 as indicaed by the numeral 24′. The notched portion 42 of the rectangular plate section 24 allows a piece of tape to engage not only the bow 10, but the plate section 24 as well as preventing the attaching plate 24 from turning as the spring is moved laterally and forwardly. The ends of the notched portion 42 may be bent around the bow if desired. The attachment is designed to be simple and effective, and capable of alteration to suit the individual needs of the archer.

In accordance with the patent statutes, I have described the principles of construction and operation of my nocked arrow retention device, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A nocked arrow retention device for use in conjunction with a bow and arrow for holding said arrow in a nocked position on a bowstring of said bow, including a spring member, means attaching said spring member at one end to said bow, and an arrow shaft engaging means at the other end of said spring member constituting a bifurcated extension of said spring member.

2. The structure of claim 1 and in which said spring member is moved latterally and forwardly from said bow to engage said arrow.

3. The structure of claim 2 and in which said spring engaging said arrow reciprocally springs said arrow laterally against said bow and backwardly against said bowstring of said bow.

4. A nocked arrow retention device for use in conjunction with a bow and arrow for holding said arrow in a nocked position on a bowstring of said bow, including a spring member movable laterally and forwardly from said bow, means attaching said spring member at one end to said bow, and a bifurcated arrow shaft engaging clip at the other end of said spring member, an arrow nocked on said bowstring engaged in the clip of said laterally and forwardly moved spring, tension of said spring holding said arrow laterally against said bow and backwardly against said bowstring in a nocked position.

5. The structure of claim 4 and in which said means of attachment includes a plate portion integrally fastened to one end of said spring member.

6. The structure of claim 4 and in which said spring member is attached to said bow along a longitudinal axis of said bow in normal position of said spring member and

is springably retractive to said normal position when moved therefrom.

7. The structure of claim 4 and in which said spring member is comprised of wires spirally twisted together to form an elongated spring.

8. The structure of claim 4 and in which said retention device is coated to protect said device from weathering and prevent damage to said bow and arrow.

9. A nocked arrow retention device for use in conjunction with a bow and arrow for holding said arrow in a nocked position on a bowstring of said bow, including a spring member comprising spirally twisted spring wires forming a bifurcated arrow shaft engaging means at one end, the other end of said spring member attached to a bow attaching means, said bow attaching means including a plate portion having a notched edge, the other edge of said attaching means being folded to form a seam, one end of said spring member engageably inserted in said seam, means for attaching said plate portion to said bow, said retention device being coated to protect said device from the weather and said bow and arrow from damage, said spring member being laterally and forwardly movable from said bow to a point of engagement with the shaft of said arrow, said spring member holding said engaged arrow laterally against said bow and backwardly against said bowstring in a nocked position.

10. A nocked arrow retention device for use in conjunction with a bow and arrow for holding said arrow in a nocked position on a bowstring of said bow, including a pair of spring wires spirally twisted together throughout a major portion of their length, said wires separating from each other at one end to form integral resilient means for partially encircling the shaft of the arrow, and means secured to the other end of said wires for attaching said wires to said bow.

11. The structure of claim 10 in which the separated ends of said wires forming said shaft encircling means reside in the same plane as the twisted portion of said wires.

12. The structure of claim 11 in which said attaching means constitutes a flat plate member.

13. The structure of claim 12 in which a marginal portion of said plate member is reversely bent about said other ends of the wires to secure said member to said wires.

References Cited in the file of this patent

Nelson Arrow Holder, publ. April 27, 1954.