April 5, 1966 S. N. JENSON 3,244,161

ARCHERY DEVICE

Filed May 7, 1964

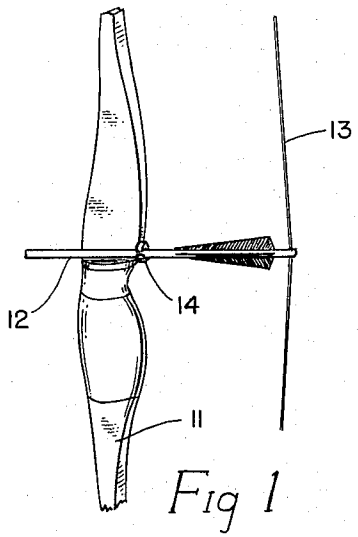


Fig 1

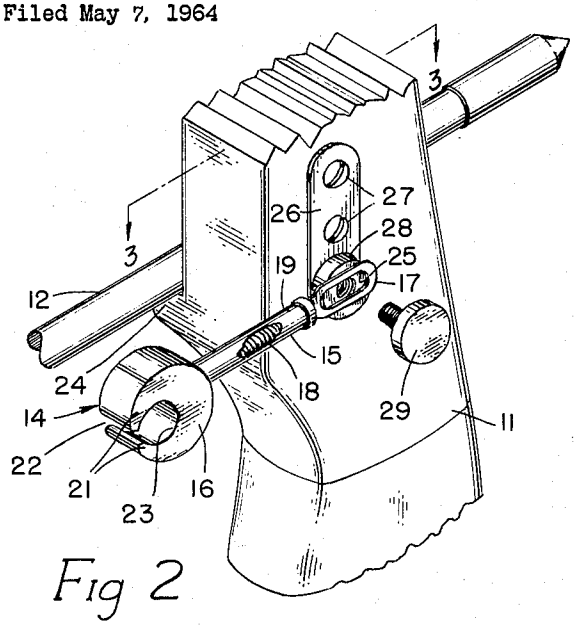


Fig 2

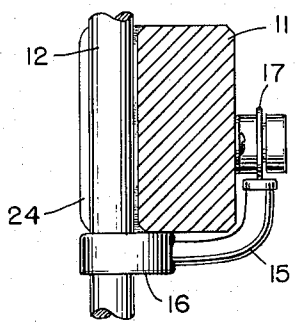


Fig 3

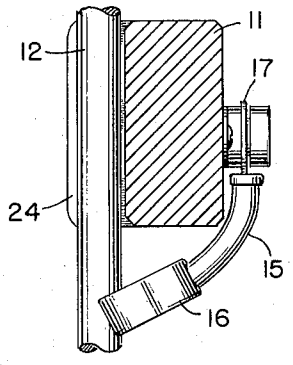


Fig 4

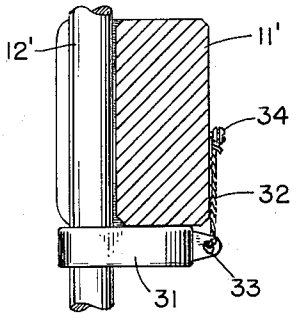


Fig 5

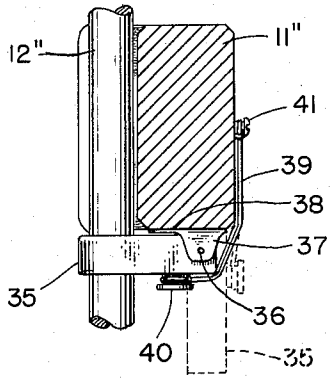


Fig 6

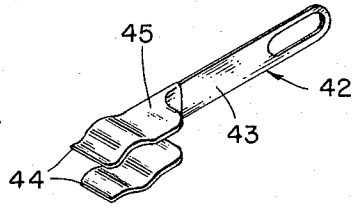


Fig 7

INVENTOR.
STANLEY N. JENSON

BY Armin B Pagel

ATTORNEY

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ARCHERY DEVICE

Stanley N. Jenson, 504 E. Fulton St., Edgerton, Wis.

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1 Claim. (Cl. 124—24)

The present invention relates to archery, and more particularly to a device for releasably holding an arrow in shooting position on a bow and automatically releasing the arrow for firing as the bow is drawn.

In using a bow and arrow, particularly for hunting, it is often essential to carry the bow for extended periods of time with an arrow positioned on the bow in preparation for instant drawing and firing of the weapon. To hold an arrow in such a condition of readiness for prolonged periods with the index finger of the hand used for grasping the bow becomes very fatiguing, particularly in cold weather. Furthermore, with modern bows provided with an arrow rest and/or with a contoured hand grip, it is often necessary to shift the bow hand from the desired gripping position in order to hold the arrow in place, thus necessitating repositioning the bow in the hand prior to shooting.

To eliminate the necessity for manually holding an arrow in shooting position for extended periods of time, the principal object of the present invention is to provide a simple and dependable device adapted to hold an arrow in shooting position and to automatically release the arrow and move out of its path in response to the rearward movement of the arrow as the bow is drawn prior to firing.

An additional object of the invention is to provide such a device which is compact and does not interfere with the normal use of the bow.

Another object of the invention is to provide such a device having no pivots or other mechanical elements which might become frozen or jammed in inclement weather or as a result of accidental bumping or contamination with dirt or other foreign matter as might occur if the bow were dropped.

Still another object of the invention is to provide such a device adapted to accommodate arrows of various diameters.

A still further object of the invention is to provide such a device capable of being easily attached to any one of a wide variety of bows by an unskilled person without structurally modifying the bow.

These and other important objects of the invention will be apparent by reference to the following detailed description and the accompanying drawings in which:

FIGURE 1 is a partial side view, slightly in perspective, of an archery bow, showing an arrow held in shooting position against the bow-string by a resilient device according to a preferred embodiment of the present invention;

FIGURE 2 is a partial perspective full size view of the bow shown in FIGURE 1 with an arrow in firing position, showing the device mounted on the bow, with a portion of the device cut away to illustrate its internal construction;

FIGURE 3 is a sectional top view taken along the line 3—3 of FIGURE 2, showing the device in holding engagement with an arrow;

FIGURE 4 is a sectional top view corresponding to FIGURE 3 showing the device in the process of releasing the arrow as the bow is drawn prior to firing;

FIGURE 5 is a sectional top view corresponding to FIGURE 3 showing a flexible but non-resilient embodiment of the invention in holding engagement with an arrow;

FIGURE 6 is a sectional top view corresponding to FIGURE 3 showing another embodiment of the invention comprising a pivotally mounted device; and

FIGURE 7 is a perspective view of still another device according to the invention, comprising a resilient member formed from sheet metal.

Referring to the drawings, FIGURE 1 illustrates an archery bow **11** with an arrow **12** held in loaded position against the undrawn bowstring **13** by a device according to the present invention identified by the numeral **14**.

As is most clearly shown in FIGURE 2, the device **14** comprises a resilient normally straight arm or strap **15** provided at its free end with an arrow gripping member **16** and at its opposite end with a mounting lug **17**. In the illustrated embodiment, the resilient arm comprises a coil spring **18** attached to the mounting lug and to member **16** and coated with a protective covering **19** of flexible elastic material.

The arrow gripping member **16** is formed of resilient material and comprises a pair of oppositely disposed gripping fingers **21** adapted to spread apart to receive the shaft of an arrow in gripping relation between the fingers, the internal surfaces of which normally define an opening **22** including a semi-cylindrical portion **23** smaller than the diameter of the smallest arrow adapted to be gripped by the device. Although various resilient materials may be used for the gripping member, it is desirable to select for this purpose a material, such as natural or synthetic rubber, having not only the required resiliency but also a high coefficient of friction to provide a secure grip on the shaft of the wooden, plastic or metal arrow. Additionally, the gripping force of the member may be increased, if desired, by incorporating a supplementary resilient member, such as a spring or an elastic band, within or about the resilient fingers **21**.

As shown in FIGURES 2 and 3, the device is attached to the bow with the mounting lug **17** positioned approximately opposite the position of the arrow on the opposite side of the bow adjacent the arrow rest **24**, so that the gripping member and the resilient arm assume the position shown in FIGURE 3 adjacent the rearward surface of the bow when the arrow is engaged in gripping relation by the gripping member.

While the means for mounting the device may comprise a single wood screw extending through elongate hole **25** in the mounting lug and anchoring the mounting lug **17** directly to the bow, the preferred construction shown in FIGURES 2, 3 and 4 incorporates a bracket comprising a plate **26** mounted to the bow by small wood screws **27** and provided with a threaded boss **28** to which the mounting lug **17** is secured by a screw **29** extending through hole **25** and threaded into the boss. If it is preferred not to drive screws into the bow, which in some cases may affect its resilient characteristics, the bracket may be secured thereto by other means such as by taping or cementing or by means of a removable clamping device. The elongate hole **25** simplifies the attachment of the device to the bow by providing means for adjusting the position of the arrow gripping head, thereby eliminating the need to locate the bracket on the bow with great accuracy. This arrangement also allows the device to be readily removed from the bow or moved to a vertical inoperative position, as may be necessary to allow the bow to fit into a carrying case. Additionally, while the gripping head will accommodate arrows having shafts of somewhat different diameters, it may occasionally be desired to exchange the device for one adapted to grip an arrow of significantly different shaft diameter, which may likewise be easily accomplished merely by removing screw **29**.

To use the device to hold an arrow in loaded position, the arrow is strung to the bowstring with the string ex-

erting a slight forward thrust on the arrow and is manually held in position adjacent the bow while the device is moved to the position shown in FIGURE 3 by pressing the gripping member into gripping engagement with the arrow shaft. Due to the slight pressure of the bowstring on the arrow, the gripping member is retained against the rearward surface of the bow, with the arrow being securely held in loaded position as shown in FIGURE 1.

As the bow is drawn in preparation for firing, the gripping member is moved rearwardly with the arrow as shown in FIGURE 4, and, by reason of its attachment to the bow, assumes a diagonal position causing the arrow to pull free from engagement by the gripping member. As soon as the arrow is disengaged by the gripping member, the device assumes the position shown in FIGURE 2 in which it is completely out of the path of the arrow and in no way influences the accuracy of its flight.

An alternate embodiment of the device shown in FIGURE 5 comprises a gripping member **31** similar in form to member **16** but which is mounted to the bow **11'** by a flexible non-resilient cord **32** attached at one end to an eye **33** on member **31** and at the other end to screw **34** driven into the bow. This embodiment of the invention functions in the same manner previously described, except that the resilient arrow gripping member is moved out of the path of the arrow **12'** upon disengagement therefrom merely by the influence of gravity rather than by resilient means connecting the gripping member to the bow.

Another embodiment of the invention shown in FIGURE 6 likewise comprises an arrow gripping member **35** similar to member **16** but pivotally supported by a pin **36** extending through a pair of ears, one of which is shown at **37**, on a mounting plate **38** attached to the rearward surface of the bow **11''**. In this embodiment, the arrow gripping member is resiliently urged from the illustrated position in engagement with arrow **12''** to the released position shown in dotted lines by an elastic band **39** extending between a button **40** on member **35** and a screw **41** in the side of the bow.

FIGURE 7 shows still another embodiment of the invention generally similar to device **14** and adapted to function in the same manner, comprising a member **42** formed from a single piece of resilient sheet metal to provide a resilient arm **43** and arrow gripping fingers **44**, with the arrow gripping portion of the member being coated with a coating of flexible material **45** to increase the frictional grip of the fingers on an arrow shaft.

Since these and other modifications are within the spirit of the invention, the foregoing description is to be considered as illustrative only, the scope of the invention being defined by the following claim.

I claim:

A device for holding an arrow in loaded position on an archery bow adjacent one side of said bow and in engagement with the bowstring thereof, said device comprising; an arrow gripping member formed of resilient material and having therethrough an opening contiguous at one side with the exterior of said member and smaller in transverse internal dimension than the shaft of said arrow, said member being adapted to laterally receive the shaft of said arrow into said opening and to grippingly engage said shaft so received therein, a resilient arm attached at one end to said member opposite the exterior portion thereof contiguous with said opening, said resilient arm being provided at its other end with means attaching said other end to a side surface of said bow opposite the side thereof adjacent said arrow in said loaded position.

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RICHARD C. PINKHAM, *Primary Examiner.*