Dec. 17, 1963 L. C. WHIFFEN 3,114,485

BOW QUIVER

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Fig. 1.

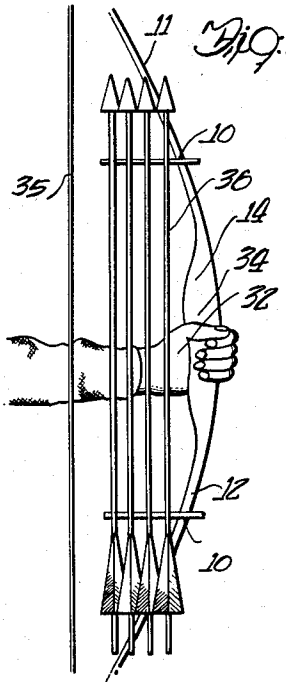


Fig. 2.

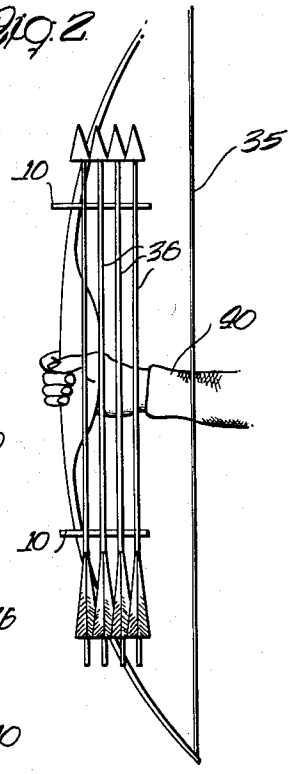


Fig. 3.

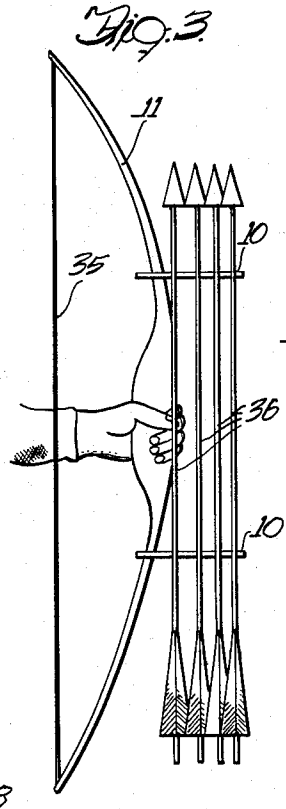


Fig. 4.

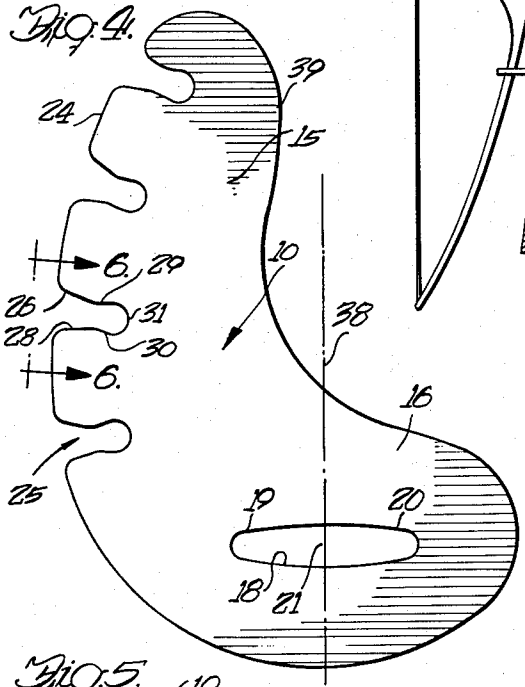


Fig. 6.

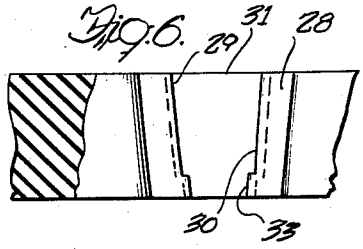
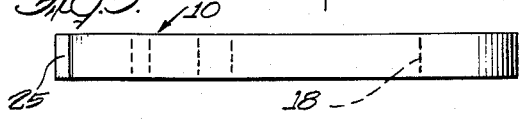


Fig. 5.



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BOW QUIVER

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Fig. 1.

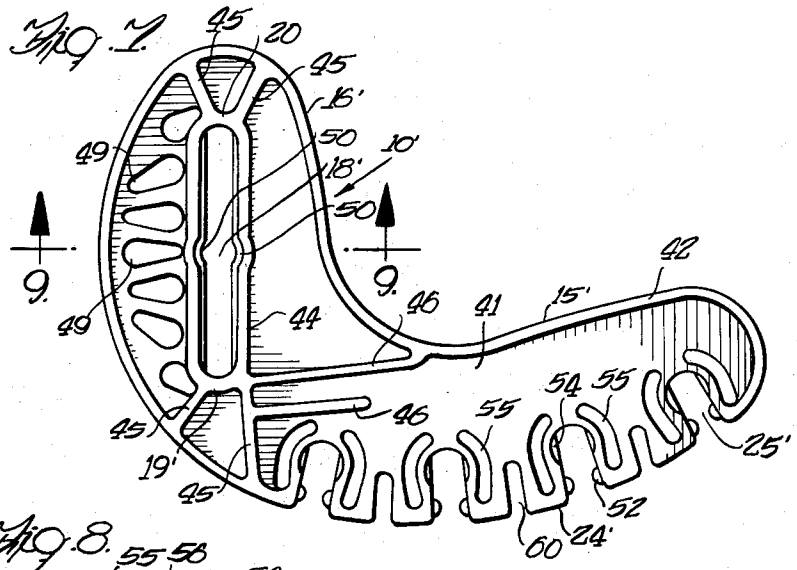


Fig. 8.

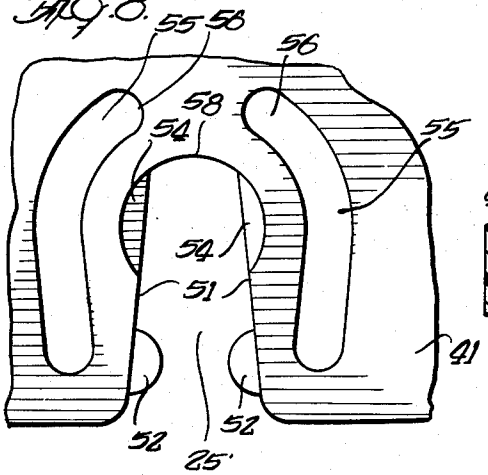


Fig. 9.

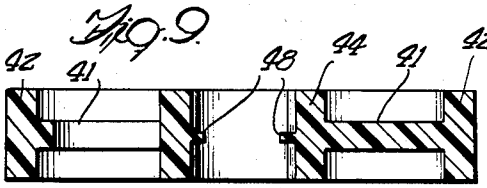
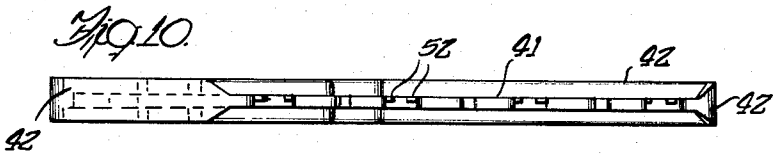


Fig. 10.



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BOW QUIVER

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1 Claim. (Cl. 224—1)

The present invention relates to a bow quiver of the character attached directly to an archer's bow to carry his arrows in a ready position, particularly for hunting and for field shooting.

This application is a continuation-in-part of my earlier application, Serial No. 701,154, filed December 6, 1957, and now abandoned.

With the increasing emphasis on bow and arrow game hunting, archers are constantly seeking better hunting equipment for their archery tackle supply. Quivers normally holding a half dozen to a dozen arrows may be slung from the side or strapped onto the back. When stalking some game, or when waiting in cover, it is often awkward to quickly reach for an arrow from a quiver so slung. In addition, the side slung and back quivers must be removed when riding in a car. For this reason, an arrow holder which is attached to and becomes a part of the bow is desirable, if not essential, to certain shooting conditions.

Although bow quivers of various types have been proposed, their cost of manufacture, lack of universal application, and inflexibility have contributed to a customer indifference.

The present invention furnishes the archer, as its principal objective, a simple, universally adaptable bow quiver with an inherently low manufacturing cost. A more specific object of the invention is to provide a bow quiver which can serve both the left-handed and right-handed archer with equal ease.

Still another feature of the invention resides in the ability of the bow quiver to be attached and secured to the bow without the use of any tools. After the bow quiver is attached to the bow, a further objective of securing the bow quiver against detachment is achieved by its combined action with the bow limbs and the bow string.

Yet a further object of this invention is to furnish a bow quiver with a lightweight, resilient construction, susceptible of formation by molding which possesses an unusual degree of flexibility and adaptability to a wide range of arrows and bows.

Further objects and advantages of the present invention will become apparent as the following description of an illustrative embodiment of an invention proceeds, taken in conjunction with the accompanying drawings in which:

FIGURE 1 illustrates the subject bow quiver attached to the bow for use with a right-handed archer.

FIG. 2 illustrates how the bow quiver may be attached to the bow for use by a left-handed archer.

FIG. 3 illustrates a mounting of the bow quiver in front of the bow for use by a right-handed archer.

FIG. 4 is a plan view in enlarged scale of the principal bow quiver element.

FIG. 5 is an end view of the bow quiver element shown in FIG. 4.

FIG. 6 is an enlarged, partially broken, section of an arrow notch, taken along section 6—6 on FIG. 4.

FIG. 7 is a plan view in enlarged scale of an alternative embodiment bow quiver adapted for plastic molding from a resilient material.

FIG. 8 is an enlarged view of one of the arrow receiving notches on the alternative embodiment bow quiver.

FIG. 9 is an enlarged transverse section of the bow limb receiving portion taken along section 9—9 of FIG. 7.

FIG. 10 is a front elevation of the bow quiver shown in FIG. 7 illustrating partially in phantom lines the various sections involved.

In broad outline, the illustrative bow quiver contemplates a pair of elbow-like members formed from a yieldable material in a single piece body. The elbow has a bow limb leg and an arrow support leg. The bow limb leg has a mounting slot which attached to the bow limb, one member being attached above the hand grip and the other below. Arrows are then inserted into mounting notches on the arrow support legs thereby aligning the arrows in a parallel fashion and parallel with the bowstring. As will be seen in detail hereinafter, the quiver can be mounted for a left- or right-hand bow, and in front or behind the hand grip.

Two embodiments of the bow quiver have been shown and will be described in detail. The first embodiment is susceptible of cold molding or cutting from flat stock. The second embodiment, which has achieved wide commercial experience, is illustrated in FIGS. 7 through 10 of the drawings, whereas the first embodiment is shown in FIGS. 1 through 6. The second embodiment is molded of polyethylene, light in weight, and includes an embodiment of flashings, notches and recesses which strengthen, lighten, and render the design flexible in use. In the following detailed description, the first embodiment shown in FIGS. 1 through 6 will be discussed, and thereafter the second and improved form shown in FIGS. 7 through 10 will be described.

The principal element of the bow quiver is the elbow 10 illustrated in greatest detail in FIGS. 4 through 6. A pair of elbows 10, attached to the upper limb 11 and lower limb 12 of the bow 14 comprise the bow quiver, as shown in FIGS. 1 through 3. The elbow 10 is formed from any material having the qualities of a relatively resilient and flexible rubber. The material may be natural or synthetic rubber, or one of a selection of the wide variety of plastic materials presently available. Because the elbow 10 is a single piece without complicated appurtenances, it can be formed by cold molding, cut from sheet stock, or pressure molded in a die. Although the body of the elbow 10 is shown of constant thickness, it will be appreciated that the mid-portion could be routed and that designs might be impressed in the body.

The elbow 10 as best illustrated in FIG. 4, has an arrow support leg 15 and a bow support leg 16. Centrally and transversely of the bow support leg is a bow slot 18, fully surrounded by the material of the bow support leg 16. It will be noted that the bow slot 18 is narrower at its ends 19, 20 than its mid-portion 21. In one commercial embodiment, the bow slot width is 1½" and the thickness at the mid-portion 21 is ¼". These dimensions have proved highly satisfactory in accommodating a wide variety of bows with varying limb sizes.

The arrow notches 25 are oriented along the outside edge 24 of the arrow support leg 15. Although four notches are shown in the present unit, it will become apparent that fewer notches, or more, may be formed where the particular intended usage of the bow quiver demands additional or fewer notches. For the best universal application, the four notches, as shown, have proved highly desirable.

Referring now to FIG. 6, it will be seen that the bow notches 25 have tapered jaw faces 26, 28 with restricted shoulders 29, 30 ahead of the semi-circular arrow support portion 31. The semi-circular arrow support portion 31 is tapered similarly to the jaws 26, 28, that is, with the wall portions converging in the same direction. A narrow lip or fin 33 is provided at the lower edge of the notch to assist in securing small diameter shafts.

Referring now to FIG. 5, it will be seen that the elbow

body is uniformly flat. The thickness of the elbow 10 is importantly related to the material in that it should be sufficient to retain its flat configuration when attached to the bow and arrows are inserted. In one commercial embodiment, a thickness of 3/8" is employed where the elbow approximates 5" on its long axis and 3½" on its short axis. These dimensions are shown for purposes of illustrating the proportions found particularly satisfactory in one commercially successful embodiment.

The importance of the various elements of the elbow 10 described above, will be particularly appreciated in connection with the high degree of flexibility in usage, as illustrated in FIGS. 1 through 3. In FIGURE 1, the archer's left hand 32 grasps the bow handle 34 in the normal manner. The elbows 10 are slipped over the upper and lower limbs 11, 12 with the arrow notches facing the opposite side of the bow from the archer's hand 32. After the bowstring 35 is restrung onto the bow, the elbows 10 cannot slip off the bow. When the arrows 36 are pressed into the arrow notches 25, they are clear of the action of the bowstring, since the center line 38 of the bow limb slot 13 is in spaced relation to the back 39 of the arrow support leg 15. The arrows, of course, strengthen the relationship between the elbows 10 and actually form an integral portion of the bow quiver when in use.

In the alternative embodiment bow quiver 10', the construction retains the basic elbow-like construction with an arrow support leg 15' and a bow support leg 16'. Arrow notches 25' are provided along the outside edge 24' of the arrow support leg. Similarly, a bow slot 18' is provided in the bow slot leg 16'. In other details, however, the alternative embodiment differs from the construction just described in detail.

The main body portion 41 is molded as a relatively thin web of material with re-enforcing rib portions 42, extending along the periphery of the entire body 41, except for the edge 24' where the arrow retaining notches 25' are located. In addition to the peripheral rib 42, a bow limb slot peripheral rib 44 is provided around the bow limb slot 18'. The bow limb slot rib 44 is connected to the peripheral rib by means of a pair of diverging bridge ribs 45 at each of the ends 19', 20 of the bow limb slot 18'. A pair of arrow support leg re-enforcing ribs 46 extend generally perpendicular to the axes of the bow limb slot 18' and at least one of the arrow support leg re-enforcing ribs 46 connects with the peripheral rib 42.

The bow limb slot 18' is shown in greater detail in FIG. 9. There it will be seen that the bow limb slot re-enforcing rib 44 is proportioned to provide a pair of opposed central flexible fins 48 which, when formed of a flexible polyethylene or similar material, yield sufficiently to accommodate various bow limb external configurations. To further facilitate adaptability to various bow limb thicknesses, a plurality of pear-shaped openings 49 are provided between the bow limb slot peripheral rib 44 and the body peripheral rib 42, shown here along a continuation of the edge which defines the arrows notch edge 24. It will be noted that the pear-shaped openings are so aligned that their axes diverge from a point outside the confines of the peripheral rib 42. The pear-shaped openings 49 permit the bow limb slot 18' to resiliently expand further and thereby accommodate more bow sizes. In addition, this resiliency retains a snug grip on the bow limb engaged by the bow limb slot 18'. Circular recesses 50 are provided at opposed stations in the bow limb slot re-enforcing ribs 44, and serve to assist in centering the bow limb on the bow limb slot 18'.

Referring now to FIG. 8 which discloses an arrow slot 25 in detail, it will be seen that the arrow slot itself is in the shape of an isosceles trapezoid defined by the arrow slot sides 51. At the forward portion of the arrow slot sides 51, a pair of opposed knobs 52 extend circularly thereby defining a jaw or mouth to the arrow slot 25'. The arrow slot sides 51 have a pair of opposed thin crescent-shaped fin sections 54 at the base of the notch 25'. The crescent-shaped fin sections 54 are positioned at a mid-point in the thickness of the body 41, whereas the knobs 52 are positioned adjacent the upper surface of the body 41 and are approximately half the thickness of the body 41. The crescent fin sections 54 are of a lesser thickness than the knobs 52. A pair of slots 55 flank the notch 25' and curve at their inner ends 56 to follow the pattern of the circular throat 58 at the base of the notch 25'. The ends 56 of the slots 55 do not meet, but rather define a bridge area therebetween. The flanking curved slots 55 cooperate with the intermediate slots 60 (see FIG. 7) to permit the edges 51 of the arrow slot 25' to expand and receive varying diameters of arrows. Once the arrow is in the slot 25, then the locking knobs 52 close and serve as jaws retarding the release of the arrow.

In addition, the thin crescent-shaped fin sections 54 firmly grasp the arrow and hold it snugly in place.

It has been found that with the foregoing alternative design, the bow quiver may be readily molded from polyethylene and operate under a wide degree of temperature differences and field conditions. It is rugged, durable, inexpensive, and unusually flexible in operation. Both embodiments described in detail above may be used similarly as the following outline of the use of the bow quiver demonstrates.

In the event the archer is left-handed, he graps the bow with his right hand 40, as illustrated in FIG. 2. The elbows 10 are then reversed so that the notches still extend from the opposite side of the bow of the archer's right hand 40. In all other respects, the mounting and usage for a left-handed archer is similar to the mounting and usage for a right-handed archer, as illustrated in FIG. 1.

By carrying the arrows at the side of the bow, maximum protection for both the feathers and points is afforded under even the most severe hunting conditions in woods and brush. The arrows can be removed for use from any position in which the bow is ready for use.

In some states, a strung bow may not be carried in the car. Therefore, it becomes necessary to frequently string the bow. In such events, the elbows 10 are oriented in front of the bow limbs 11, 12 as illustrated in FIG. 3. Although this position may not give the same protection to the feathers and points as the side mount, illustrated in FIGS. 1 and 2, it permits the archer to quickly string and unstring his bow without being hampered by the close quarters with the bow quiver as when mounted in the side position. If the archer, for example, is riding cross-country in a Jeep, with his bow unstrung and the limbs mounted in front of the bow, the arrows are still attached to the bow. Upon sighting his quarry, he can stop the vehicle, quickly grasp the bow and string it, and he is then ready to stalk his quarry immediately without having to grasp a separate quiver of arrows, or otherwise ready himself for the kill.

In review, it will be seen that the illustrative bow quiver elbows can be quickly adapted to fit a wide variety of bows without necessitating the use of screws, clamps, tape, or other attachment devices. When engaged with the bow limbs, the elbows do not mar or damage the bow or the arrows. The arrows are held gently, but securely, for quick and easy removal. The bow quiver will not easily break, tear, rust or wear. It does not impede the action of the bow or the technique of sighting. All of these advantages are achieved in addition to the ready adaptability for left-handed, or right-handed, bows, and orientation of the arrows at the side of the bow, or at the front of the bow.

Although particular embodiments of the invention have been shown and described in full here, there is no intention to thereby limit the invention to the details of such embodiments. On the contrary, the intention is to cover all modifications, alternative embodiments, usages and

equivalents of the bow quiver of the character attached directly to an archer's bow to carry his arrows in a ready position, as fall within the spirit and scope of the invention, specification, and appended claim.

I claim as my invention:

A quiver for use with an archer's bow comprising, a moldable yieldable material in the form of a planar elbow-like configuration having a bow limb leg and an arrow support leg, an elongated closed end slot formed in the bow limb leg whereby the quiver may be mounted upon a bow by causing relative longitudinal movement of the bow through the closed end slot, a plurality of arrow support slots disposed about the periphery of the arrow support leg, a plurality of openings formed adjacent the closed end slot of the bow limb leg which openings serve to allow strained enlargement of the closed end slot when the quiver is mounted upon the bow to assure snug fit between the quiver and the bow, a reinforcing rib disposed about the entire edge of the closed end slot in the bow limb leg, and a reinforcing rib disposed about a major portion of the periphery of the quiver.

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