United States Patent

Ehlert

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[54] BOW-MOUNTED ARROW QUIVER

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[52] **U.S. Cl.** .....**224/1 B,** 124/30 R, 124/41

[51] **Int. Cl.**.....**F 41 b 5/06**

[58] **Field of Search**...F41b/5/06; 224/1, 1.5; 248/62, 248/63, 65, 66, 68, 69; 124/24 X, 30

[56] **References Cited**

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[57] **ABSTRACT**

As a preferred embodiment of the present invention, a new and improved arrow quiver is adapted for detachable mounting on any bow irrespective of the style or size of the bow. To accommodate various lengths and diameters of the arrows carried in an upright position thereon, the quiver includes upper and lower spatially-disposed gripping members which can be selectively positioned and adjusted as desired.

9 Claims, 5 Drawing Figures

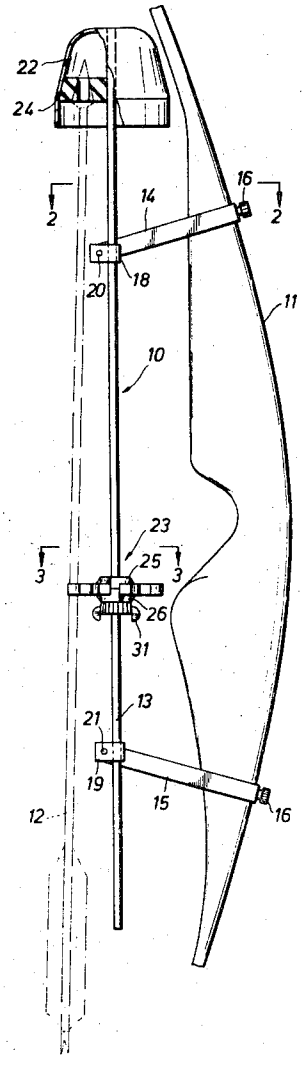


FIG. 2

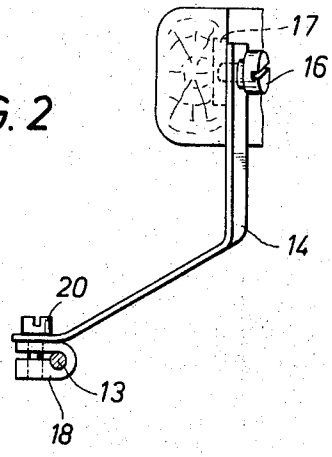


FIG. 3

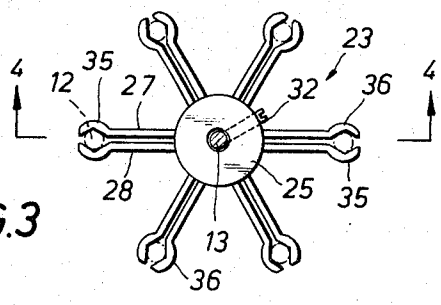


FIG. 4

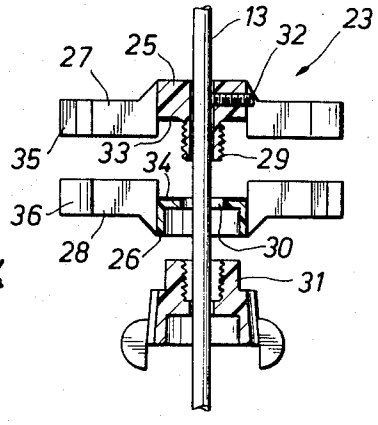


FIG. 5

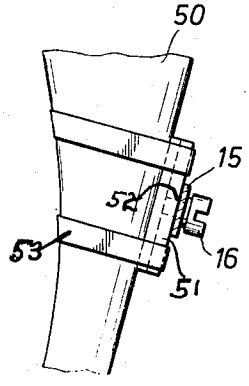
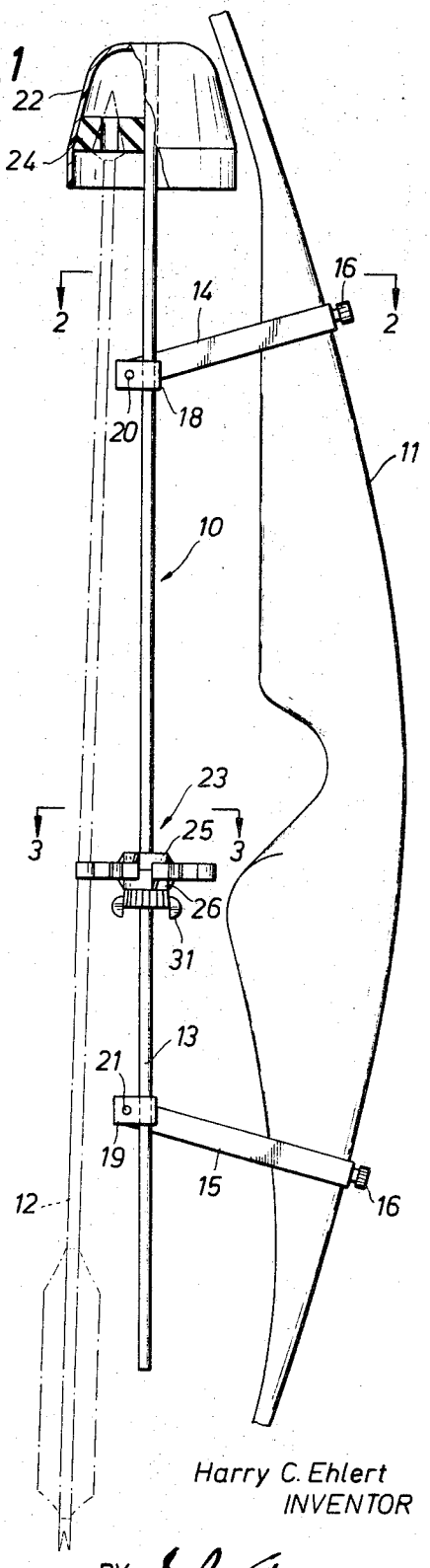


FIG. 1



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BOW-MOUNTED ARROW QUIVER

The hunting and target bows currently in use today come in so many different styles and sizes that it has been necessary heretofore to provide a custom-fitted bow-mounted arrow quiver for almost every style and size of a bow. The problem is further complicated by the wide range of arrow lengths and shaft diameters that are available. There have been, of course, some attempts to provide suitable bow-mounted quivers that are universally adaptable for most styles and sizes of bows; but, for the large part, none of these quivers have been widely accepted by archery enthusiasts. For example, some of the previous designs have employed supporting brackets which must be screwed to the bow. Aside from marring the finish of the bow, such fixed brackets make it inconvenient to either store the bow in a carrying case or to restring the bow. On the other hand, those previous quivers employing a detachable bracket typically employ a clamp which can only encircle the arms of a bow at points well above and below the handle. As a result, the quiver is typically mounted in an awkward position; and, more often than not, will tend to shift or vibrate each time the bow string is released.

Accordingly, it is an object of the present invention to provide new and improved detachably-mounted arrow quivers which can be rigidly secured to any size and style of a bow in the most-convenient position for the particular archer.

It is a further object of the present invention to provide new and improved bow-mounted quivers which can be readily adjusted for carrying arrows of any length shaft diameter so as to locate the arrows in the most-advantageous position in relation to the bow to suit the convenience of the user.

These and other objects of the present invention are attained by providing a new and improved quiver having an upright support which is adapted for detachable mounting on a bow in any selected position alongside the bow. An arrow-gripping device is uniquely arranged for movement to a selected location on the support so as to most-effectively secure arrows in position along the support for advantageous removal. To accommodate different sizes of arrows, the arrow-gripping device further includes adjustable members for assuring gripping engagement of arrows carried thereon.

The novel features of the present invention are set forth with particularity in the appended claims. The invention, together with further objects and advantages thereof, may be best understood by way of the following description of exemplary apparatus employing the principles of the invention as illustrated in the accompanying drawings, in which:

FIG. 1 depicts a preferred embodiment of a bow-mounted quiver of the present invention as it will appear when mounted on a typical bow;

FIGS. 2 and 3 are enlarged cross-sectional views respectively taken along the lines "2—2" and "3—3" of FIG. 1;

FIG. 4 is a cross-sectional view taken along the lines "4—4" of FIG. 3 to illustrate another unique feature of the present invention; and

FIG. 5 illustrates an alternative mode for mounting the quiver shown in FIG. 1 onto a different style of a bow.

Turning now to FIG. 1, a quiver 10 arranged in accordance with the present invention is illustrated as it will appear when mounted on a typical bow 11 for carrying one or more arrows 12 in a generally-upright position adjacent to the rear of the bow. Those skilled in the art will appreciate, of course, that the quiver 10 is typically mounted as illustrated for right-handed archers and on the opposite side of the bow 11 for left-handed archers. In the preferred embodiment of the quiver 10 depicted in FIG. 1, an elongated rod 13 is slidably mounted in an upright position on the outward ends of rigid, flat straps or brackets 14 and 15 of similar or identical dimensions and configurations. To locate the support rod 13 to the rear and one side of the bow 11, the brackets 14 and 15 are shaped as best seen in FIG. 2 to position their inward ends to lie flat against the forward face of the bow. In this manner, thumb screws, as at 16, can be passed through a hole in the inward end of each of the brackets 14 and 15 and threadedly received in suitable threaded inserts, as at 17, mounted at vertical intervals along the forward face of the handle of the bow 11.

As previously mentioned, the upright rod 13 is slidably coupled to the outward ends of the brackets 14 and 15. Accordingly, in the preferred manner of accomplishing this, U-shaped, yieldable clamps 18 and 19 are clamped at spaced intervals around the rod 13 and, as best seen in FIG. 2, releasably secured by thumb screws 20 and 21 to the outward ends of the brackets 14 and 15, respectively. Thus, once the upright rod 13 has been moved to a desired vertical position in relation to its supporting brackets 14 and 15 and the bow 11, the thumb screws 20 and 21 can be tightened to secure the rod.

In the preferred manner of supporting arrows, as at 12, on the quiver 10, a cup-like arrowhead receptacle or guard 22 is mounted in an inverted position on the upper end of the rod 13 and a new and improved multi-fingered, arrow-gripping device 23 is releasably mounted at an intermediate portion of the rod. To prevent the arrowheads of the arrows, as at 12, from moving laterally within the inverted guard 22, a block 24 of a resilient plastic or elastomeric material is secured within the cup-like guard. As will subsequently be explained with particular reference to FIGS. 3 and 4, the arrow-gripping device 23 is adapted to be moved both longitudinally and angularly in relation to the elongated rod 13 so that, once the device is secured to the rod, a plurality of the arrows 12— preferably six in number — will be conveniently disposed in an inverted, generally-erect position around the rod so as to be readily gripped and quickly released therefrom as needed. As depicted in FIG. 1, each of the arrows 12 will have its head safely disposed within the cup-like guard 22 and its tail feathers spatially disposed from one another, the rod 13, and the bow 11.

As illustrated in FIGS. 3 and 4, the arrow-gripping device 23 is comprised of upper and lower oppositely-directed annular discs 25 and 26 loosely disposed on the rod 13 and respectively having a plurality of outstanding radial arms 27 and 28 uniformly spaced thereabout. To releasably couple the discs 25 and 26 to one another, the upper disc is provided with an externally-threaded, depending tubular boss 29 adapted to project through a complementary bore 30 in the lower disc and be threadedly received within a thumb nut 31

coaxially disposed around the elongated rod 13 below the lower disc. A set screw 32 is arranged on the upper disc for releasably securing the arrow-gripping device 23 in a selected position on the rod 13 when the thumb nut 31 is tightened to couple the upper and lower discs 25 and 26 to one another.

Of particular significance to the present invention, it should be noted that the upper and lower discs 25 and 26 can be rotated in relation to one another so as to locate the radial arms 27 and 28 in selected angular positions. Thus, once the set screw 32 is tightened to fix the upper disc 25 at a desired location on the rod 13, the lower disc 26 can be easily turned to a desired angular position on the threaded boss 29 and secured thereon by the thumb nut 31. To assure that the lower disc will not slip from its selected angular position, the opposed mating faces of the discs 25 and 26 are knurled or splined as at 33 and 34. For reasons that will subsequently become apparent, it is preferred that the splines 33 and 34 be arranged as closely-spaced radial projections distributed at uniform intervals around the mating faces of the discs 25 and 26.

As best illustrated in FIG. 3, the arms 27 and 28 are preferably elongated flat strips turned edgewise to facilitate the flexure of the arms toward one another. Thus, by forming oppositely-directed arcuate tips 35 and 36 on the free ends of the arms 27 and 28, respectively, an arrow as at 12 can be firmly gripped between each opposed pair of tips. In this manner, once the upper and lower discs 25 and 26 are secured in a desired angular position with their tips 35 and 36 slightly separated in accordance with the diameter of a particular arrow as at 12, it will be appreciated that the resilience of the arms 27 and 28 will permit arrows to be readily moved into and out of the gripping engagement provided by the opposed tips. Accordingly, by virtue of the radial splines 33 and 34, the discs 25 and 26 can be accurately adjusted to a selected angular position and tightly secured there by the thumb nut 31 to be certain that the arrows 12 will be retained in the arrow-gripping device 23 as tightly as the user may elect.

Many bows are, of course, not provided with threaded inserts as at 17. Thus, as depicted in FIG. 5, to mount the quiver 10 on a bow 50 not having such threaded inserts, a pair of attachments 51 having threaded apertures 52 may be tied or taped, as at 53, to the bow.

Accordingly, it will be appreciated that the new and improved quiver 10 of the present invention is particularly adapted for being mounted on the bow 11 (or the bow 50) and the arrow-gripping device 23 adjusted so as to position one or more arrows, as at 12, in any desired location for rapid withdrawal. By virtue of the clamps 18 and 19, the rod 13 can be adjusted vertically to locate the inverted cup-like guard 22 at any selected vertical position in relation to the bow 11. Similarly, the set screw 32 will enable the arrow-gripping device 23 to be located as desired in relation to the length of the arrows 12. Moreover, in view of the unique arrangement of the arrow-gripping device 23, the discs 25 and 26 can be adjusted as desired for receiving arrows of various diameters. Yet, once the thumb nut 31 is tightened, the splines 33 and 34 will corotatively secure the disc 25 and 26 together so that the yieldable arms 27 and 28 must be flexed to insert or withdraw arrows from the quiver.

While a particular embodiment of the present invention has been shown and described, it is apparent that changes and modifications may be made without departing from this invention in its broader aspects; and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

What is claimed is:

1. A quiver adapted for detachable mounting on either the front or rear face of a bow and comprising: first and second brackets respectively having a first end surface adapted to be detachably secured at spaced intervals on a selected front or rear face of a bow carrying said quiver and adjacent to the handle thereof, each of said brackets respectively having an outstanding portion extending outwardly from its said first end surface and providing a second end surface lying in a selected plane that is substantially perpendicular to each of the planes of said first end surfaces and is common to each of the planes of said second end surfaces; an elongated rod; adjustable rod-clamping means including first and second clamps adapted for slidably carrying said rod for longitudinal movement along a selected axis adjacent to the handle of a bow carrying said quiver and parallel to said second surfaces of said outstanding end portions, and first and second adjustable fasteners respectively swiveling said first and second clamps to said second surfaces of said first and second brackets for rotation about first and second axes substantially perpendicular to said selected plane and operatively arranged for securing said elongated rod to said brackets in a selected longitudinal position along said axis; and first and second arrow-supporting means spatially disposed on said elongated rod and including arrow-gripping means operatively arranged on said elongated rod for movement relative thereto between selected positions for receiving the shafts of a plurality of different sizes of arrows, and means operatively arranged for fixing said arrow-gripping means in a selected position in relation to said elongated rod including screw means adapted for securing said arrow-gripping means in selected positions along said elongated rod.

2. The quiver of claim 1 wherein said arrow-gripping means include first and second members slidably disposed on said elongated rod and respectively having lateral projections having oppositely-facing free end portions complementally shaped for partially receiving arrow shafts therebetween; and said fixing means further include means operatively arranged for securing said first and second members in selected positions relative to one another for reception of selected arrow shafts.

3. The quiver of claim 2 wherein said first and second members respectively have a plurality of said lateral projections for gripping a corresponding number of arrows.

4. The quiver of claim 3 wherein said first arrow-supporting means include an inverted cup mounted on the upper end of said elongated rod, and means in said cup adapted for receiving the tips of arrows gripped by said lateral projections.

5. A quiver adapted for detachable mounting on a bow and comprising: first and second brackets adapted

to be detachably secured at spaced intervals along a bow and adjacent to the handle thereof, said brackets respectively having outstanding end portions; an elongated rod; adjustable rod-clamping means including first and second clamps adapted for slidably carrying said rod for longitudinal movement along a selected axis adjacent to and generally parallel to the bow handle, and first and second screw means respectively coupling said first and second clamps to said first and second bracket end portions and adapted, upon being tightened, for securing said elongated rod to said brackets in a selected position along said axis; a cup-like guard mounted in an inverted position on the upper end of said elongated rod and adapted for receiving the tips of arrows; means in said guard and adapted for gripping the tips of arrows inserted into said guard; an arrow-gripping device on said elongated rod and including first and second annular members slidably arranged on said elongated rod and respectively having a plurality of outwardly-extending arms, each of said arms having oppositely-facing end portions complementally shaped for partially receiving arrow shafts disposed therebetween, means cooperatively arranged on said first and second members for corotatively securing said annular members together in selected angular positions relative to one another, and screw means on one of said annular members for securing said arrow-gripping device in a selected longitudinal position on said elongated rod.

6. The quiver of claim 5 wherein said means for corotatively securing said annular members together include first and second projections on the opposed faces of said first and second members, and threaded means cooperatively arranged on said annular members and adapted, upon being tightened, for coengaging said projections to prevent relative movement of said annular members.

7. The quiver of claim 6 wherein said first and second projections are radial projections angularly spaced at uniform intervals around said opposed faces so that said annular members can be placed in discrete angular positions relative to one another upon tightening of said threaded means.

8. The quiver of claim 6 wherein said threaded means include an externally-threaded tubular boss coaxially arranged on said first annular member and adapted to be received by said second annular member and extend therebeyond, and a threaded nut coaxially arranged on said elongated rod and adapted for threading engagement with said threaded boss to pull said annular members together and coengage their respective said projections upon tightening of said nut onto said threaded boss.

9. The quiver of claim 8 wherein said first and second projections are radial projections angularly spaced at uniform intervals around said opposed faces so that said annular members can be placed in discrete angular positions relative to one another upon tightening of said nut onto said threaded boss.

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