Dec. 27, 1966 H. W. ALLEN 3,294,078

ARCHERY BOW BRACING DEVICE

Filed Aug. 9, 1963

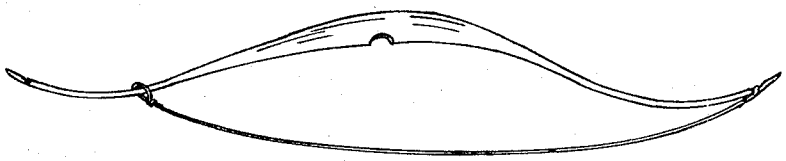


Fig-1

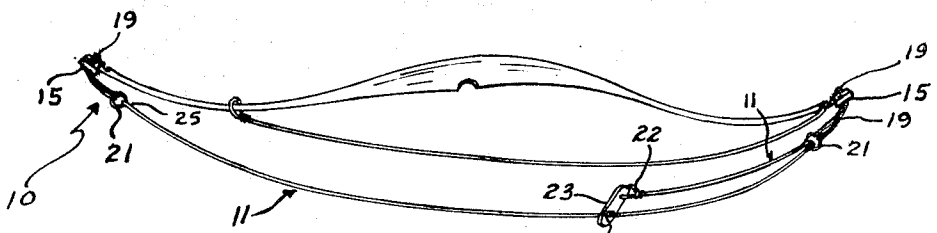


Fig-2

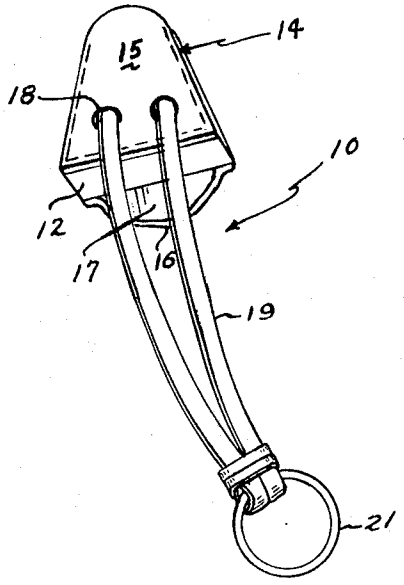


Fig-3

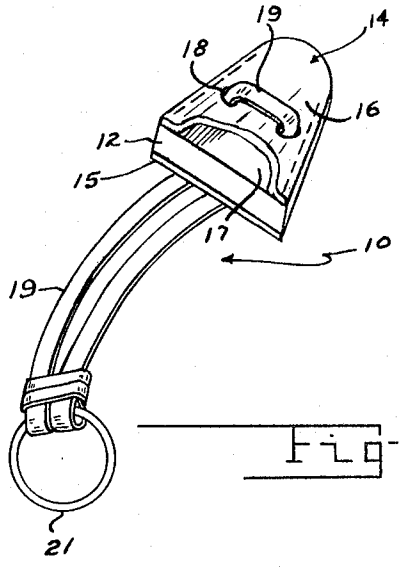


Fig-4

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ARCHERY BOW BRACING DEVICE

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This invention relates to archery equipment and, more particularly, to a novel brace device which makes it relatively easy to string a heavy bow.

In recent years, archery has developed into a major commercial sport. One of the most difficult yet essential requirements for an archer is that he have the capability of bracing a bow so it may be properly strung. While bracing any bow is a chore, it is particularly difficult to brace and string a 50 or 75 pound recurve bow. Moreover, there is an element of danger in the improper handling of a bow during this bracing and stringing procedure. For these reasons, heretofore many devices have been designed with a view to their specific use as an aid to a bow stringing procedure. However, most of the devices have proven to be mechanically involved, cumbersome to manipulate and relatively costly to fabricate, considering their intended use. Moreover, they have generally failed to do other than slightly ease the task of stringing a bow.

In contrast, the present invention achieves a simple yet most effective bracing device which makes it relatively easy and quite safe to brace and string a bow, even the heaviest of bows.

A primary object of the invention is to provide a bow bracing device which is economical to fabricate, more efficient and satisfactory in use, adaptable to a wide variety of applications and unlikely to malfunction.

A further object of the invention is to provide a device which makes it easy to string the heaviest bows.

Another object of the invention is to provide an improved bow bracing device of nominal weight which is capable of being carried in an archer's pocket.

An additional object of the invention is to provide a cord-like bow bracing device including tip grips which readily accommodate a wide variety of bow structures.

Another object of the invention is to provide a device which makes it easy and safe to brace or unbrace a bow.

A further object of the invention is to provide a bow bracing device possessing the advantageous structural features, the inherent meritorious characteristics and the means and mode of operation herein described.

With the above and other incidental objects in view as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation as hereinafter described or illustrated in the accompanying drawings, or their equivalents.

Referring to the accompanying drawings wherein is shown one but obviously not necessarily the only form of embodiment of the invention,

FIG. 1 is a view of a recurve bow which requires restringing, the string being shown in a relatively loose condition;

FIG. 2 illustrates a preferred embodiment of the invention in application to the bow of FIG. 1;

FIG. 3 is a detailed perspective view of a tip grip portion of the invention embodiment illustrated in FIG. 2; and

FIG. 4 is another perspective view of the grip device as shown in FIG. 3.

Like parts are indicated by similar characters of reference throughout the several views.

The device which constitutes a preferred embodiment of the invention, as illustrated in the drawings, consists of two grip units 10, shown in FIGS. 3 and 4, which units are interconnected by an adjustable length of rope 11. While rope is here indicated, the element 11 may be formed of flexible chain, string, or any one of their equivalents.

More particularly, each of the grip units 10 comprises a generally trapezoidal formed block of thick leather which is designated by the numeral 12. The opposite trapezoidal faces and shortest length of the section 12 is covered by an overlapping layer 14 of relatively thin flexible leather material. Each of the respective end portions of the layer 14 superpose and have a configuration identical with that of the face of the section 12 thereunder. The portion 15 of the layer 14 on one trapezoidal face of the block 12 is stitched to the block along its relatively elongated base extremity and its relatively convergent sides so as to adhere thereto. However, the portion 16 of the layer 14 which overlies the other face of the block 12 is stitched to the block only along its angularly inclined sides. This leaves the one end portion 16 of the layer 14 relatively free of the block 12 intermediate its relatively inclined stitched sides. Accordingly, the portion 16 of the layer 14 forms an inwardly convergent pocket 17 at one face of the section 12. This pocket is an expansible pocket due to the inherent flexibility of the relatively thin flexible leather material of the layer 14.

The trapezoidal block 12 of the thick leather and the relatively superposed portions 15 and 16 of the layer 14 are pierced by a pair of transversely spaced apertures 18 uniformly oriented intermediate their relatively inclined sides. The apertures 18, in this instance, accommodate a loop 19 of rawhide. One end of the rawhide is looped through the apertures 18 to form a bight abutting the outer surface of the portion 16 of the layer 14 which forms an expansible pocket at the one face of the block 12 while the respective running portions of the rawhide loop extend outwardly from the adhering portions 15 to be suitably anchored to a swivel ring 21. Thus the rawhide loop has one end anchored to the ring 21 and the other end engaged to and extended through the superposed layers 12 and 14.

As mentioned previously, the grip assemblies 10 are interconnected by an adjustable length of rope 11. One end 22 of the rope 11 is threaded through a swivel ring 21 of one of the grip assemblies above described to double back on a portion of the rope length. The end 22 anchors to one end of the metal bar 23 having a transverse slots 24 formed in its other end. The transverse slot 24 in the bar 23 is of a dimension to threadedly accommodate the other end 25 of the rope 11 which passes therethrough to anchor to the swivel ring 21 of the other grip assembly. The relative dimension of the rope 11 and the slot 24 in the bar 23 is such that the rope may be adjusted relative the bar 23 by movement through the slot 24 when the bar is generally perpendicular thereto. However, when tension is applied to the respective portions of the rope which are anchored to the swivel rings 21, the bar will be inclined relative the rope, as a result of which the rope will be fixed relative the bar in a manner believed obvious.

In use of the bracing device of the present invention it is contemplated, referring to FIG. 1 of the drawings, that one end of a bow string be permanently nocked to one end of the bow to which the device is to be applied and the other end of the string have a loop affording a sliding relation thereof to the other end of the bow. The bracing device of the invention is then applied to have the expansible pocket 17 of the one grip assembly 10 which is adjacent the looped end of cord 11 accommodate the tip of the bow to which the bow string is perma-

nently nocked. The cord **11** having been suitably adjusted by manipulation of the bar **23** which constitutes a slide lock, the other grip assembly is then positioned to accommodate the other end or tip of the bow in its expansible pocket. Both of the bow grips are so disposed, as seen in FIG. 2 of the drawings, to have their adhering portions **15** lowermost with respect to the outer face of the bow, thus disposing their portions **16**, respectively engaged by the bight of a loop **19**, uppermost. The tips of the bow are thereby contained not only in the pockets **17** but by the bight portions of loops **19**. Then holding the bow at its center to dispose it in a generally horizontal position with the bow string hanging directly under the bow and the leather grips snugly engaged on the bow tips, the cord **11** is caused to hang slackly below the bow string. It is then necessary to lower the bow until the bracing cord **11** rests on the ground. Placing a foot at the center of the bracing cord and lifting the bow by applying a lifting pressure at its center, the bracing cord as anchored to the respective ends of the bow, through the means of the adhering leather grip portions and the loops **19**, causes the bow tips to bend downward with the application of a minimal effort. As the bow tips bend downward, one need only use his free hand to slip the large relatively sliding loop of the bow string over the appropriate nock at the adjacent end of the bow. When the loop is secured in the nock, one need only lower the bow to remove the tension on respective ends thereof and readily remove the bracing grips from the ends of the bow. To unbrace the bow, it should be obvious that the procedure is directly reversed.

The device of the invention and the application thereof is uniquely simple. The method and apparatus of the invention enable a controlled and balanced application of force to the tips of a bow in a manner to achieve a maximum brace of the bow with a minimum of effort. Moreover, the securely engaged means by which a bow is braced render the operation extremely safe as well as easy. This is a distinct contrast to the cumbersome method and apparatus previously available for a bow bracing and unbracing procedure.

Accordingly, the invention achieves a simple and highly portable device which facilitates the stringing and unstringing of a bow in a manner not heretofore contemplated.

While the material of the grips in the preferred example illustrated is described as leather, the material of which this embodiment or any other embodiment of the invention may be formed is not so limited.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is no limied to the specific features shown, but that the means and construction herein disclosed comprise but one of several modes of putting the invention into effect and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. A bow bracing device consisting of a pair of grip elements each apertured to accommodate a bow tip and anchor thereto and a cord-like means having a fixed connection to one of said grip elements and a loop connection to the other of said grip elements, said loop connection being formed by one end of said cord-like means being looped on itself and means providing a slide connecting device on said one end of said cord-like means slidably relating to the other end of said cord-like means which is threaded therethrough, said slide connecting means being adapted to anchor in a fixed position on tension being applied to said cord-like means.

2. A bow bracing device consisting of a cord having at one end thereof means threadedly accommodating the other end to form a loop thereby, a grip element engaged to each of the respective extremities of said looped cord providing means thereon for anchoring thereof to the respective ends of a bow and thereby providing for said looped cord to depend slackly from the bow and serve as a tensioning medium to draw the ends of the bow together, said means threadedly accommodating the other end of the cord being a bar-like element having a normally free sliding relation to said cord and locking thereto when tension is applied to the opposite extremities of said looped cord.

3. A bow bracing device, including a pair of grip elements, each comprising a pocket-like retainer to receive an end of a bow and including cord-like means forming a loop which overlies an inserted bow end above the nock, a swivel type device to which the free ends of each of said cord-like means are secured, and other cord-like means interconnecting said swivel type devices.

4. A bow bracing device according to claim **3**, characterized in that one end of said other cord-like means is secured to one of said swivel devices while the other end thereof is looped through the other swivel device and turned back upon itself in a slip connection.

5. A bow bracing device, including a base element, a layer of flexible material overlying one side of said base element and defining therewith a pocket to receive a bow end, there being two of said base elements with defined pockets, one for each end of a bow, a flexible cord-like means projecting through each base element forming a loop on one side of said base element, end portions of said flexible cord-like means passing through and extending beyond the opposite sides of said base element, a swivel device connected to the said end portions of each of said cord-like loop means and other flexible cord-like means interconnecting said swivel devices whereby pulling on said other cord-like means will stress said loops and apply pressure to the bow ends, above the nocks therein, as inserted in said pockets in underlying relation to said loop portions of the first said flexible cord-like means.

6. A bow bracing device according to claim **5** characterized in that each of said base elements is a substantially rigid block and said overlying layers have a shape to form a tapering pocket to receive the bow end.

7. A bow bracing device according to claim **5**, characterized in that one end of said other cord-like means is secured to one of said swivel devices while the other end of said other cord-like means is looped through the other swivel device and turned back upon itself, and a locking means to which said other end of said other cord-like means is secured and through which said other cord-like means as threaded as it extends to said one swivel device.

References Cited by the Examiner

UNITED STATES PATENTS

2,247,649	7/1941	Brooke	124—23
2,608,188	8/1952	Howard	124—23
3,141,451	7/1964	Walker	124—24
3,171,397	3/1965	Daly	124—24
3,207,145	9/1965	Browning et al.	124—30 X

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