Aug. 13, 1957 W. VANCE 2,802,461

ARROW REST

Filed March 16, 1956

FIG. 1

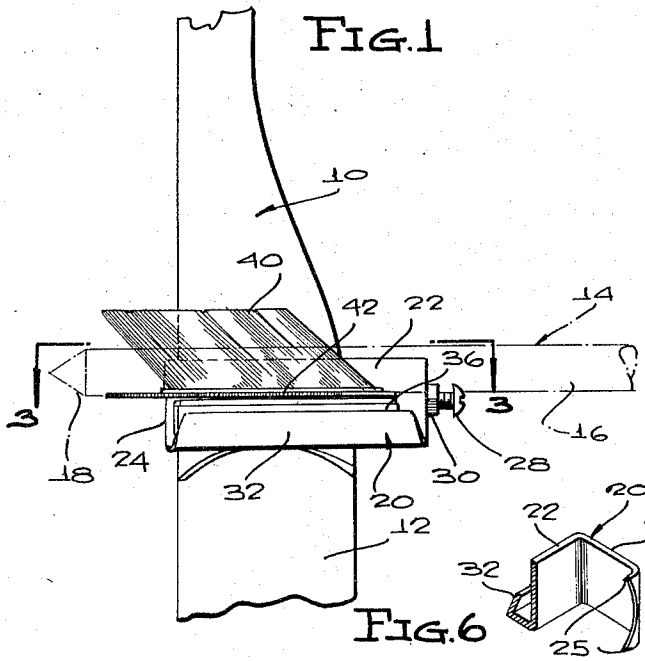



FIG. 2

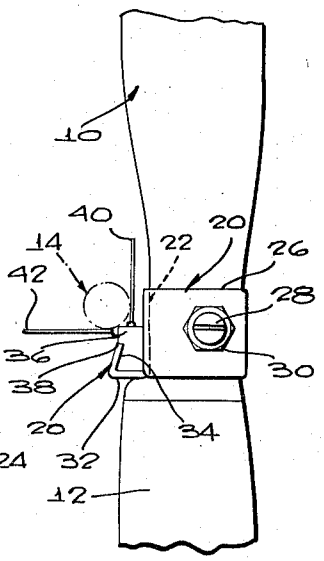



FIG. 6




FIG. 3

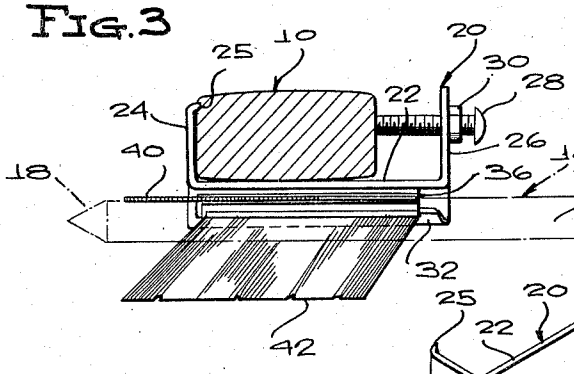
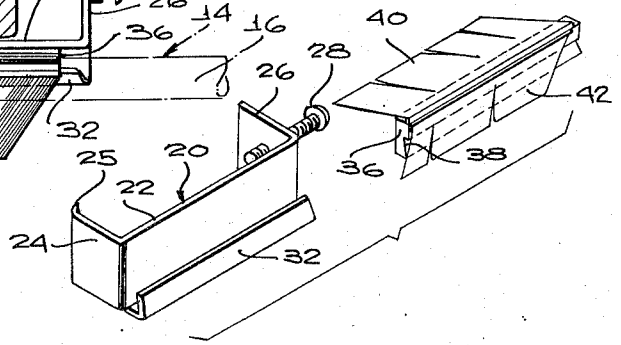



FIG. 4



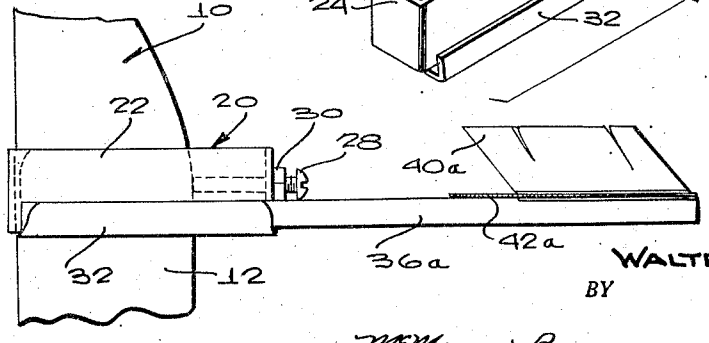




FIG. 5

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# ARROW REST

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4 Claims. (Cl. 124—41)

This invention relates in general to archery, and more particularly has reference to an arrow rest mountable upon a long bow.

Summarized briefly, the invention comprises a bracket adapted to be clampably engaged with a long bow and extending at one side of the long bow. Carried by the bracket is an arrow support or rest member, and said rest member has guide means in the form of a pair of shock absorbent, blade-like elements which can be formed from lengths of feather or other relatively non-resilient but freely yieldable material. The blade-like guide elements are disposed at right angles to one another, one extending vertically in the sense that it is in a plane paralleling the longitudinal center line of a vertically positioned bow, with the other extending laterally, outwardly from the bow. The vertically disposed guide element is adapted, when an arrow is propelled from the bow, to prevent lateral deflection or deviation of the arrow as it leaps from the bow, which lateral deflection has heretofore caused the arrow to ricochet from the bow.

When one shoots an arrow from a bow, it is necessary that there be a resting place for the arrow during the time it is being drawn and aimed, and during its initial movement from the bow following release of the bow string. For firing, the bow is held in a vertical position, and in some instances the arrow rests upon the hand holding the bow. In other cases the bow has a built-in shelf or projection on which the arrow is supported. In all instances the arrow rest is arranged to support the weight of the arrow only, and the arrow is held against the side of the bow itself.

When the arrow is fired, during the period from the release of the bow string until the arrow is beyond the bow, all circumstances intending to impart accurate flight to the arrow must be fulfilled. However, heretofore there has been considerable tendency on the part of the arrow to deflect laterally toward the bow, and ricochet upon striking the same. For example, because the power of a bow is limited the arrow must be as light in weight as possible. Consequently, the strength of the arrow is limited with the result that the arrow will flex or bend.

Further, various other circumstances cause the arrow to ricochet. For example, during the acceleration of the arrow in the bow the arrow will flex in a horizontal plane because of the sudden force applied thereto by the same and will as a result strike the side of the bow and ricochet. Then again, an arrow may be slightly bent, this being a common condition. The curvature, if it has any horizontal components, will cause the above mentioned undesirable characteristics. Then again, a large majority of long bows manufactured are of the "side shot" type. This means that a straight line from the string of a bow to the target is interrupted by the bow handle, forcing the arrow to be projected around the bow. This causes the arrow to strike the bow and ricochet. Then again, the archer may release the string in an improper manner, resulting in its deviating to right or left, again producing the undesirable results mentioned. Still further, if the archer holds the bow in a firm grip, there is a tendency to involuntarily twist the bow away from the direct draw line of the bow string which upon release will, while driving the arrow forward, also return to its proper position relative to the bow.



The main object of the present invention is to provide an arrow rest which will eliminate the above characteristices previously noted, tending to cause lateral deflection of the arrow.

A more specific object is to provide an arrow rest adapted to be readily attached to or detached from any various conventional long bows with maximum ease and facility.

Another object of importance is to provide an effective support for an arrow during the time it is being drawn, aimed, and propelled.

Another object is to provide a device as stated that will permit the archer to shoot shorter, lighter arrows from a bow of given power.

Another object is to provide a device as stated that will support the arrow away from the side of the bow itself, to prevent the arrow from striking the side of the bow and ricocheting in the manner previously described herein.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a fragmentary side elevational view of a bow equipped with the arrow rest constituting the present invention, the rest being shown in side elevation in supporting relation to a conventional arrow fragmentarily illustrated in dotted lines;

Figure 2 is an elevational view of the device and bow as seen from the right of Figure 1;

Figure 3 is a transverse sectional view on line 3—3 of Figure 1 showing the arrow rest in top plan;

Figure 4 is an exploded perspective view of the rest per se;

Figure 5 is a side elevational view of a modified construction; and

Figure 6 is a fragmentary perspective view showing the outer end of the bow clamp.

Referring to the drawings in detail, the reference numeral **10** generally designates a conventional long bow, having a handle **12**. A conventional arrow has been generally designated at **14**, and in Figures 1 and 3 is illustrated in the position relative to the bow that it will assume when it is at "full draw," ready to be released.

The arrow as shown includes the usual shank **16**, having at its head end a pointed tip **18**.

My arrow rest has been generally designated at **20**, and includes bow-attachable means in the form of a clamp member having an elongated, flat bight portion **22** integral at its opposite ends with laterally projecting extensions **24**, **26**. Extension **24** has at its free end rearwardly extending points **25** at the top and bottom of the extension designed to bite into the bow handle to hold the clamp member against lateral deviation from its assigned position, and thus, in this position of the clamp member the bight portion **22** need not be in face to face contact with the side of the bow.

The extension **26** is spaced rearwardly from the bow handle a substantial distance as shown in Figure 3, and has a center opening receiving the shank of a clamp screw **28** which is threadedly engaged in a nut **30** welded or otherwise fixedly secured to the outer surface of extension **26**. By reason of this arrangement, when the screw **28** is turned home against the adjacent surface of the bow, it will draw the extension **24** tightly against the opposite surface, thus clampably engaging the clamp member with the bow handle with said clamp member extending horizontally, normally to the length of the bow handle.

Integrally formed upon the lower edge of the bow portion **22** is an outwardly projecting flange **32** of angular cross section, said flange having an outer edge portion extending upwardly and inclined slightly in a direction toward the bight portion **22**. As a result, the flange and bight portion cooperate to define a dovetail groove or channel, open at its opposite ends and extending the length of the clamp member, said channel extending parallel to the arrow **14** when the device is in use as shown in Figure 1.

Wedgingly engaged in the channel is an elongated block **36** having an outer side surface formed with a recess **38** of angular section to complement the inclination of the upwardly projecting longitudinal lip of the flange **32**. The block has its top surface disposed in a horizontal plane intermediate the top and bottom edges of the bight portion, with said plane of the top surface of the block being disposed a short distance above the upper edge of the lip of flange **32**.

A vertically disposed, blade-like guide element **40** is secured along its lower longitudinal edge to the top surface of the block **36**, intermediate the opposite side surfaces of the block, and similarly secured to the outer side surface of the block and projecting laterally, outwardly therefrom is a second guide element **42** disposed in a horizontal plane. The guide element **40**, due to its position upon the block, is spaced outwardly a short distance from the adjacent side of the arrow.

The two guide elements in the illustrated embodiment of the invention are formed from short lengths of feathers, generally in the shape of a parallelogram in configuration with the opposite end edges of the guide elements inclining forwardly from the bow in a direction away from the block.

The use of feather material has the desirable result that the guide elements will normally remain in the positions thereof shown in Figure 2. At the same time, however, the feather material is fully yieldable so as to permit its collapse under pressures exceeding a predetermined value, to permit an arrow to pass with a minimum of resistance. The feather material furnishes a firm surface that upon casual contact will not yield, but which upon being pressed sharply or with a weight of over a predetermined amount, as for example one-quarter of a pound, will collapse in the manner referred to. The material, at the same time, does not maintain a resisting pressure against the arrow and the resultant action is, so to speak, that of a shock absorber, as distinguished from that of a spring.

In this connection, any material which will have the above mentioned characteristics can be used, feather material being one such material although many others may be usable to equal advantage.

In Figure 5, there is illustrated a modified construction wherein the clamp member is identical to that of the first form. However in this form the block is substantially greater in length than the length of the clamp member, so that the rear end of the block is disposed rearwardly from the bow a substantial distance. The specific purpose of the rearward location of the rest is to allow the use of a shorter, lighter arrow commonly known as an "over draw." It is a feature of the invention that it is adapted for use with such arrows, with the different forms of the device being readily interchangeable according to the arrows being used. The guide elements have been designated **40***a*, **42***a* and are formed similarly to the analogous elements **40**, **42** of the first form of the invention.

By reason of this arrangement, the tendency of the arrow toward lateral deflection is counteracted at a location rearwardly from the bow, that is, at a location intermediate the bow and the point of release of the arrow, in a manner that has been found effective in preventing ricocheting of the arrow.

In both forms of the invention the device has the characteristic of providing a rest for the arrow which, at the same time, does not resist passage of the arrow in any way and which fulfills the important function of preventing the arrow from deflecting laterally and striking the bow. The vertically disposed guide element is of particular importance in discharging the last named function. Considering, as in Figures 1 and 3, that the arrow is at full draw, the vertical element will support the arrow outwardly a short distance from the adjacent side of the bow with the arrow being held quite accurately and firmly in a horizontal plane.

Upon release of the bow string, the arrow is propelled forwardly and in the event any of the circumstances mentioned in the objects occur, and the arrow exerts any pressure against the vertical guide element as a result, said guide element will yield, due to the fact that the material of which it is composed is adapted to collapse as necessary while still being held against collapse to such an extent as would cause the arrow to strike the side of the bow.

The ability of the guide element to collapse in this manner is heightened, in this regard, not only by the material of which it is composed, but also by reason of its outer configuration, that is, its parallelogram shape and its inclination in a forward direction.

The arrow thus passes with a minimum of resistance so far as the rest is concerned, and with no pressure exerted against the arrow in a lateral direction such as would result if the guide element or other components of the rest were of springy material.

The rest, and in particular the vertical guide or rest element **40** or **40***a* thereof, compensates for pressures exerted in a lateral direction resulting from improper holding of the bow and from any of the other circumstances mentioned. The rest absorbs the various pressures exerted upon it and permits the arrow to leave the bow in the same way under many different conditions. The rest, as illustrated and described, is firm enough to hold the arrow in an accurately determined position for aiming until the arrow is released, but from the instant of release until the arrow is beyond the bow, both the arrow and the bow may be moved toward each other without deflection of the arrow by contact with the bow or with any rigid object attached to the bow.

Various other conditions are encountered during the use of a bow that tend toward causing lateral deviation of the arrow at the instant it is propelled, and need not be discussed in detail herein. It is sufficient to state, it is believed, that the device prevents said contact, while still offering no resistance to passage of the arrow from the bow.

It is believed clear that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. An arrow rest for an archer's bow comprising support means connectable to said bow; and an arrow-supporting guide on the support means including vertical and horizontal guide elements in which the horizontal element extends laterally outwardly of the bow from the bottom edge of the vertical guide element, for supporting an arrow against the elements within the angle defined thereby, each element being a thin, flat blade of a material that yields readily in directions both angular to and following the plane of the blade under pressures exerted thereagainst by an arrow passing out of the guide on discharge from the bow, and that has a resilience sufficient to return the blade to its original position after the arrow has passed while yet offering no noticeable resistance to the pressures.

2. An arrow rest for an archer's bow comprising support means connectable to said bow; and an arrow-supporting guide on the support means including vertical and horizontal guide elements forming a right angle in which the vertical element is spaced outwardly from the bow by the support means and the horizontal element extends laterally outwardly of the bow from the bottom edge of the vertical element for supporting an arrow against the elements within the angle defined thereby, each element being a wholly flat blade of a thinness and of a material such that the blade yields readily in directions both angular to and following the plane of the blade under pressures exerted thereagainst by the arrow passing out of the guide on discharge from the bow, said material having a resilience sufficent to return the blade to its original position after the arrow has passed while yet offering no noticeable resistance to said pressures.

3. An arrow rest for an archer's bow comprising support means connectable to said bow and having an undercut open-ended channel extending in a path substantially paralleling that in which an arrow passes from the bow; and an arrow-supporting guide on the support means including an elongated block of a cross section complementing that of the channel, said block being wedgingly engaged in the channel, said guide further including vertical and horizontal guide elements connected to and projecting outwardly from the block adjacent one longitudinal edge of the block, said elements forming a right angle in which the vertical element is spaced outwardly from the bow by the support means and the horizontal element extends laterally outwardly from the bow from the bottom



edge of the vertical element for supporting an arrow against the elements within the angle defined thereby, each element being a wholly flat blade of a thinness and of a material such that the blade yields readily in directions both angular to and following the plane of the blade under pressures exerted thereagainst by an arrow passing out of the guide on discharge from the bow, said material having a resilience sufficient to return the blade to its original position after the arrow has passed while yet offering no noticeable resistance to said pressures.

4. An arrow rest for an archer's bow comprising vertical and horizontal guide elements connected to said bow, said vertical guide element extending upwardly along side the side of the bow and the horizontal element extending laterally outwardly of the bow from the bottom edge of the vertical guide element, said guide elements defining an angle and being adapted to support an arrow within the angular juncture thereof, each of said elements being a thin, flat blade of a material that yields readily in directions both angular to and following the plane of the blade under pressure exerted thereagainst by an arrow passing out of the guide elements on discharge from the bow and having a resilience sufficient to return the blade to its original position after the arrow has passed while yet offering no noticeable resistance to the pressures.

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