Feb. 15, 1966 R. C. RIVERS 3,234,651

BOW SIGHT

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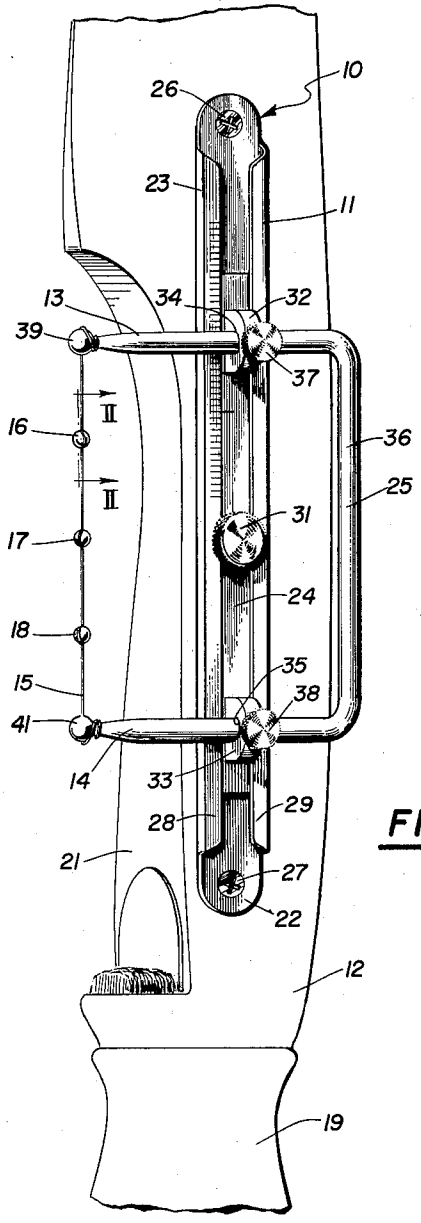


FIG. 1

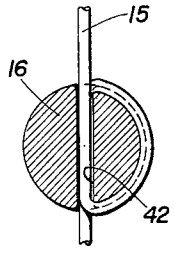


FIG. 2

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BOW SIGHT

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This invention relates to a bow sight and, more particularly, to apparatus arranged to assist an archer in striking a target with his arrow and, particularly in striking game during hunting.

In hunting with the bow and arrow it is almost always necessary to shoot quickly at variable ranges, so that careful aiming is not possible, as it is in ordinary target shooting. For that reason, a large number of sights have been developed in the past to assist the archer in making this quick shot more accurately. In general, however, these prior art sights have been quite complicated since they must be constructed to allow for a plurality of ranges as well as adjustment for the effect of the wind that may be blowing in a certain area. The variety of ranges, by their very nature, makes it sometimes confusing for a quick selection on moving game. Usually, in hunting with the bow and arrow, however, the archer is moving through underbrush, trees and other natural obstacles. The action of branches, twigs and leaves on the bow sights of the prior art has caused them to catch in such and, therefore, to become quite useless in practical hunting expeditions. At the same time, the very nature of these sights has meant that they extend horizontally from the bow a considerable distance and obstruct the archer's view of the game. These and other difficulties experienced with the prior art devices have been obviated in a novel manner by the present invention.

It is, therefore, an outstanding object of the invention to provide a bow sight having a multi-range sighting element that offers a minimum obstruction to viewing moving game.

Another object of this invention is the provision of a bow sight in which a plurality of range elements are mounted in a vertical row, this vertical row being movable laterally together to adjust for windage.

It is also an object to provide multi-range, multi-color sighting elements to aid the quick selection of the correct sighting element for a particular range.

A further object of the present invention is the provision of a bow sight for hunting which has a multi-range ability for sighting and a compensation for windage, the assemblage being constructed in such a manner as to present no difficulty to the archer in moving through underbrush and the like.

It is another object of the instant invention to provide a bow sight having a plurality of distance elements each of which may be readily adjustable in the field without tools.

It is a further object of the invention to provide a bow sight in which the sighting elements are not easily caught or knocked out of adjustment by contact with twigs, branches, and the like.

A still further object of this invention is the provision of a bow sight which is simple in construction, which may be readily manufactured with inexpensive materials, and which is capable of a long life of useful service with a minimum of care.

With these and other objects in view, as will be apparent to those skilled in the art, the invention resides in the combination of parts set forth in the specification and covered by the claims appended hereto.

The character of the invention, however, may be best understood by reference to one of its structural forms as illustrated by the accompanying drawings in which:

FIG. 1 is a perspective view of a bow sight incorporating the principles of the present invention, and

FIG. 2 is a sectional view of a portion of the invention taken on the line II—II of FIG. 1.

Referring to FIG. 1 which best shows the features of the invention, the bow sight, indicated generally by the reference numeral **10**, is shown as consisting of a support **11** adapted to be fastened to the front or back of a bow **12** and having two arms **13** and **14** which extend laterally from the bow. Extending from the outer end of the arm **13** to the outer end of the arm **14** is a filament member **15** carrying a plurality of beads **16**, **17**, and **18**.

The bow **12** is shown in the portion surrounding a handle **19** provided above the handle with a recess **21** permitting an area for the lane of the arrow (not shown). To one side of the recess is a flat surface **22** which faces toward the archer when the bow is used. The support **11** consists of a vertically elongated base member **23**, a slide member **24**, and a U-shaped member **25**. The base member is adapted to be fastened to the bow by means of screws **26** and **27** and is provided with two vertical tracks **28** and **29**. The slide member **24** is shaped to fit in these tracks and to slide vertically in them. A thumb screw **31** is threaded through the center of the slide member **24** to lock it in place relative to the base member **23**. Extending toward the archer from the outwardly facing surface of the slide member **24** are two abutments **32** and **33** having passages **34** and **35**, respectivelly. The axis of these passages extend horizontally and transversely of the bow, and in the passages are slidably carried the arms **13** and **14** of the U-shaped member **25**, these arms being joined by the bight **36** of the U-shaped member. A small thumb screw **37** extends through the abutment **32** into the passage **34** to engage the lock arm **13** of the U-shaped member in place. A similar thumb screw **38** is located on the abutment **33** to lock the arm **14** in place.

The outer end of the arm **14** is provided with a small ball head **39** having a small vertical passage therethrough through which the filament member **15** passes and is tied around the neck adjacent the head. Similarly, the outer end of the arm **14** is provided with a head **41** having a vertical passage through which the filament member passes; the filament member is wrapped around the neck of the arm adjacent the head and tied in place.

Referring now to FIG. 2 which shows in detail the manner in which the bead **16** is mounted on the filament **15**, it can be seen that the bead **16** is made of metal, plastic, glass, or a similar material and is provided with a thin vertical bore **42**. The filament member **15** is preferably made of nylon; the nylon selected should be of a transparent variety and quite thin, so that it can hardly be seen by the eye, particularly when one is observing game a considerable distance beyond it. The filament passes through the bead in a rather peculiar manner. It passes upwardly through the passage **42**, extends around the outer periphery of the bead **16** at one side of the bore **42**, and then passes upwardly through the bore once more. The filament member **15** is normally quite tight and is held tightly between the arms **13** and **14**. As a matter of fact, the spring in the arms **13** and **14** is used to keep it tight, the final knot in tying the filament member to either the head **39** or the head **41** being made while the two arms are compressed toward one another. Then, when they are released, the springback effect pulls the filament member very tightly. Each filament locks itself around the beads **16**, **17**, and **18** so that they cannot be moved. In order to adjust them, however, it is only necessary to compress the arms **13** and **14** toward one another at which time it is possible to move one of the beads, such as the bead **16**. The other beads **17** and **18** remain in place, however, because of the nature of the materials.

The operation of the invention will now be readily understood in view of the above description. The beads **16**, **17**, and **18** can be set for the various distances which the hunter feels he will encounter during a day's hunting. For instance, he might set the bead **18** for 45 yards, the bead **17** for 30 yards, and the bead **16** for 15 yards. Adjustments of these beads may be made by trial and error to compensate for idiosyncrasies of the particular archer or of the arrow which he is using. Once these beads have been set, it is possible, then, to adjust the sight to take the winding into account. This is very readily done by loosening the thumb screws **37** and **38** and moving the U-shaped member **25** laterally one way or the other to compensate for the amount of wind on the particular day in which the sight is being used. Furthermore, it is possible to adjust the whole assemblage together by loosening the set screw **31** and sliding the slide member **24** up and down on the base member **23** between the tracks **28** and **29**. As has been stated above, it is possible to adjust one bead relative to the others merely by relieving the tension in the filament member **15** by pressing the arms **13** and **14** toward one another by using the hand.

Once the bow sight **10** has been adjusted, its use is quite easy. The arrow is placed in a shelf at the top of the handle **19** in the recess **21** and is drawn back in the usual way to a contact point on the ear or cheek of the archer. At that time, he lines up the particular bead with the game. If the game is 15 yards away, he lines up, for instance, the bead **16** with the game. This takes care of the trajectory of the arrow as well as the lateral windage. Because the filament member **15** is practically transparent and the beads **16**, **17**, and **18** are very dark, the beads appear to be suspended in open space, and the whole assemblage does not interfere with the archer's view of the animal. Because of the nature of the beads being locked on the flexible member **15** and so on, this apparatus is not readily knocked out of adjustment by engagement by twigs and leaves. It is a simple construction that is not easily damaged by a hunter moving through the woods and yet it is capable of the finest adjustment that could be desired.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, however, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

The invention having been thus described, what is claimed as new and desired to secure by Letters Patent is:

1. A bow sight, comprising

(a) a support adapted to be fastened to a bow, the support having a pair of arms whose outer ends lie in a generally vertical plane when the bow is in use,

(b) a filament member extending between the said ends of the arms, and

(c) at least one bead located on the filament member, wherein the bead has a diametrical bore and the filament member consists of a strand of nylon, the filament member passing through the bore, looping around the outer surface of the bead on one side of the bore, and then passing through the bore once more.

2. A bow sight, comprising

(a) a support adapted to be fastened to the bow, the support having a pair of arms whose outer ends lie in a generally vertical plane when the bow is in use,

(b) a filament member extending between the said ends of the arms, and

(c) at least one bead located on the filament member, the bead being readily adjustable along the filament member, but remaining fixed in a position of adjustment despite substantial forces tending to move it out of such position, the filament member being normally taut, but capable of being loosened, the position of the bead being adjustable only in the latter condition.

3. A bow sight, comprising

(a) a support adapted to be fastened to the bow, the support having a pair of arms whose outer ends lie in a generally vertical plane when the bow is in use, the support consisting of an elongated base member adapted to be fastened directly to the bow and having a track, a slide member movable on occasion in the track and a U-shaped member supported by the slide member, the last-named member providing the said arms, the slide member being provided with two spaced abutments, each having a transverse passage therethrough, one arm of the U-shaped member extending through each of the abutment passages,

(b) a filament member extending between the said ends of the arms, and

(c) at least one bead located on the filament member.

4. A bow sight as recited in claim **3**, wherein the arms of the U-shaped member are slidable through the abutment passages to adjust the position of the bead relative to the bow to compensate for windage.

5. A bow sight as recited in claim **2**, wherein the beads are of contrasting colors.

6. A bow sight as recited in claim **3**, wherein a plurality of beads are located on the filament member, each bead being positioned for use with a target located at a designated distance.

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