United States Patent [19]

Kowalski

[11] **3,822,479**

[45] **July 9, 1974**

[54] **ARCHERY BOW SIGHT**

[76] Inventor: **Robert J. Kowalski,** 512 Berner St., Pittsburgh, Pa. 15215

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[21] Appl. No.: **288,251**

[52] **U.S. Cl.** **33/265**

[51] **Int. Cl.** **F41g 1/00,** F41b 5/00

[58] **Field of Search** ..... 33/265, 249, 253; 24/23 R, 24/24 R, 36 R

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Primary Examiner—Louis R. Prince
Assistant Examiner—Steven L. Stephan
Attorney, Agent, or Firm—Brown, Murray, Flick & Peckham

[57] **ABSTRACT**

An archery bow sight having one or more sighting elements rotatably supported on a screw device presented by a bracket. The bow sight incorporates adjusting means by which each sighting element is moved along the screw device independently of the others; a master dial for rotating the screw device thereby to move all of the sighting elements in unison; and resilient means for releasably holding each sighting element in a sighting or out position. The adjusting means and the master dial are utilized in accurately calibrating the bow sight for master and secondary ranges. In using the bow sight for target practice, hunting or in tournaments, the master dial is utilized to position accurately a selected sighting element at one of the secondary range marks and to return the sighting element to the master range mark.

12 Claims, 19 Drawing Figures

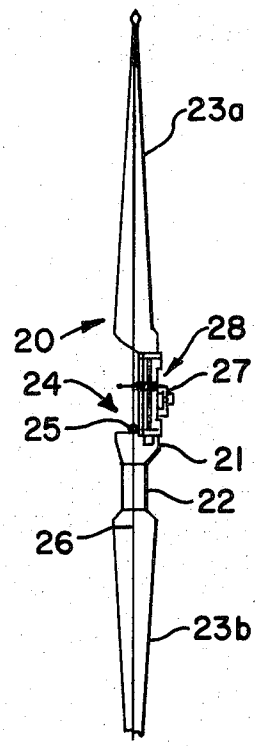
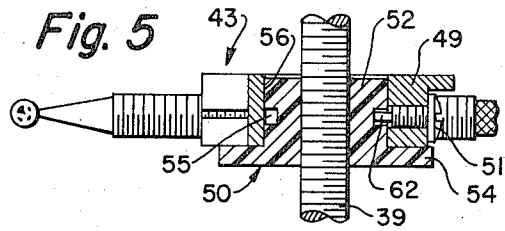


Fig. 5



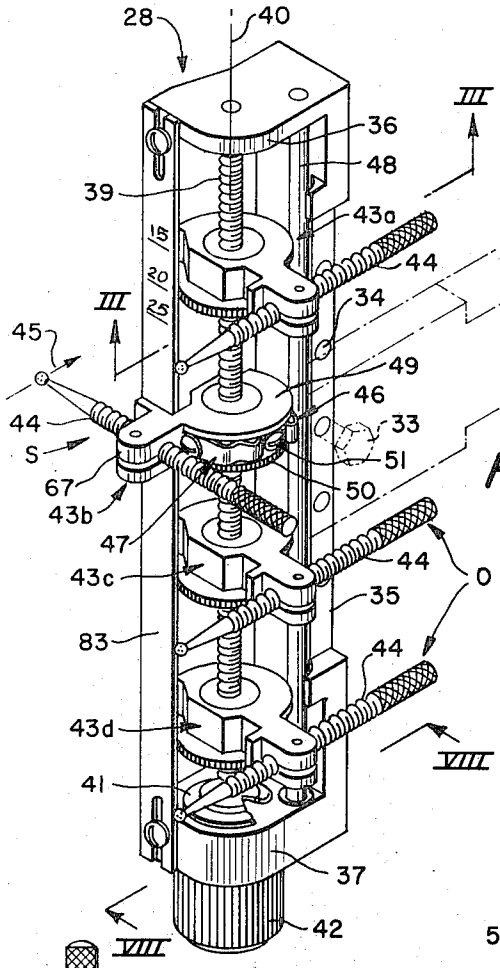
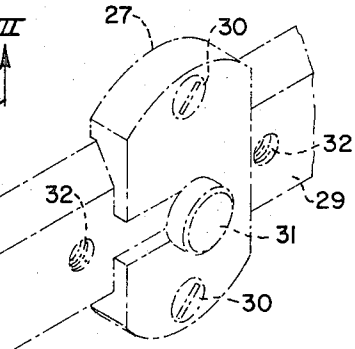


Fig. 2



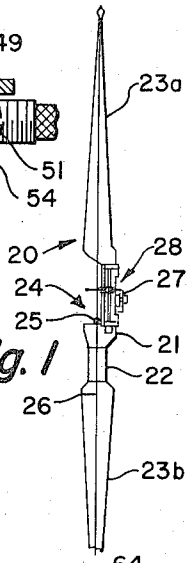


Fig. 1

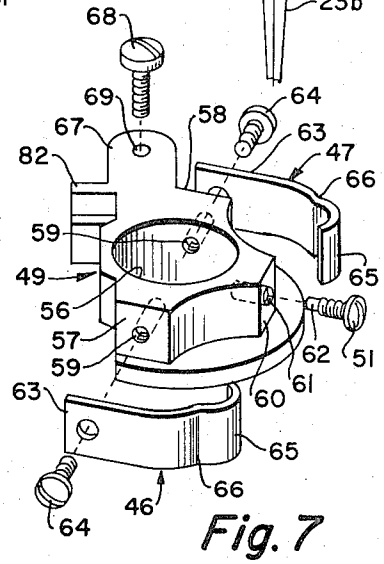


Fig. 7

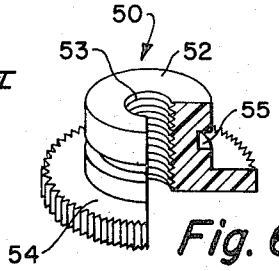


Fig. 6

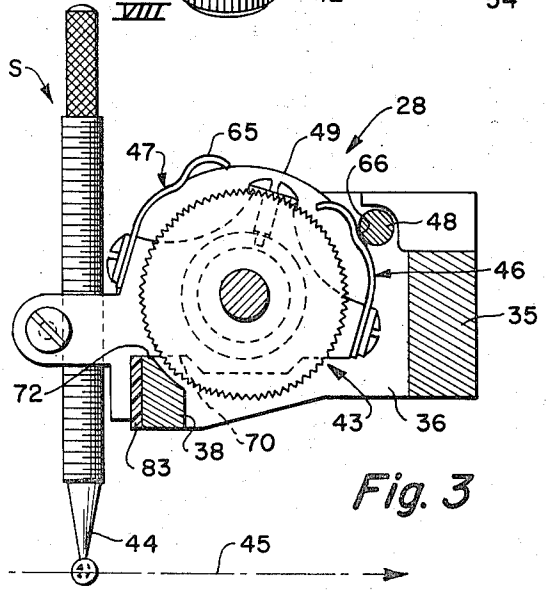


Fig. 3

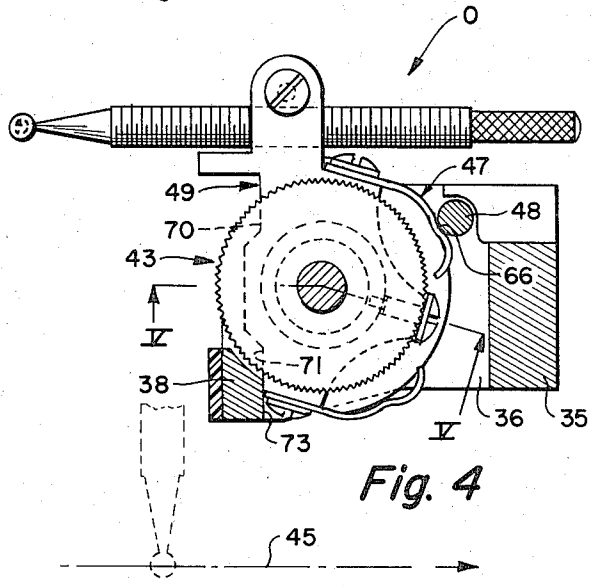


Fig. 4

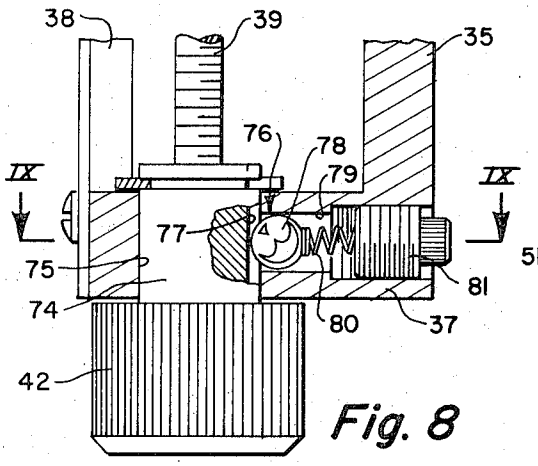


Fig. 8

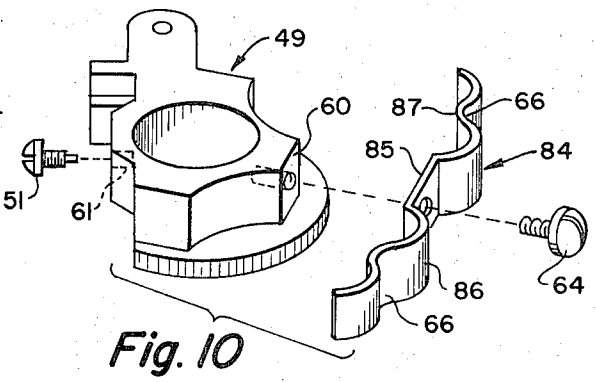


Fig. 10

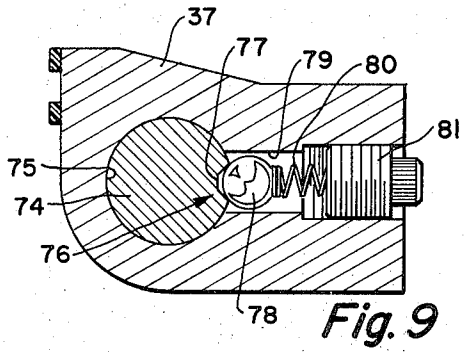


Fig. 9

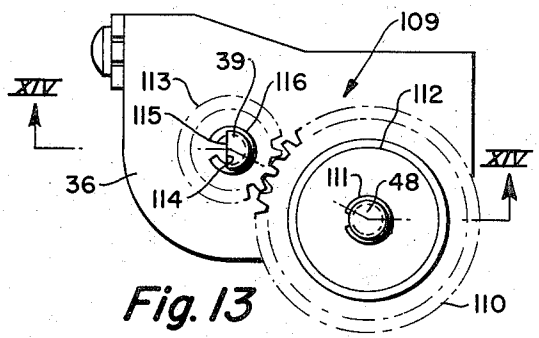


Fig. 13

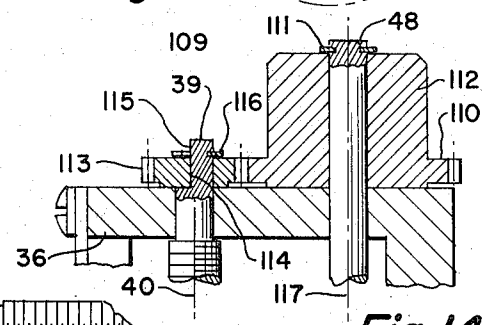


Fig. 14

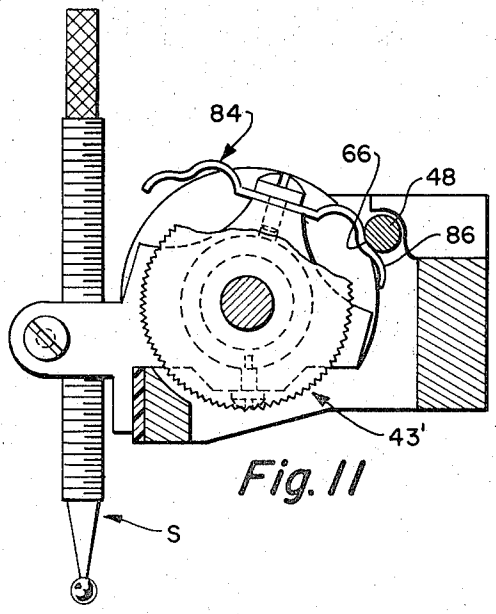


Fig. 11

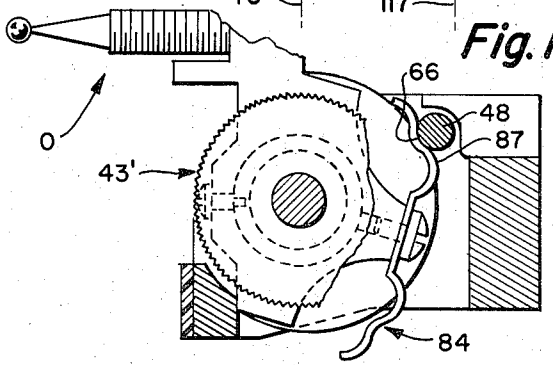


Fig. 12

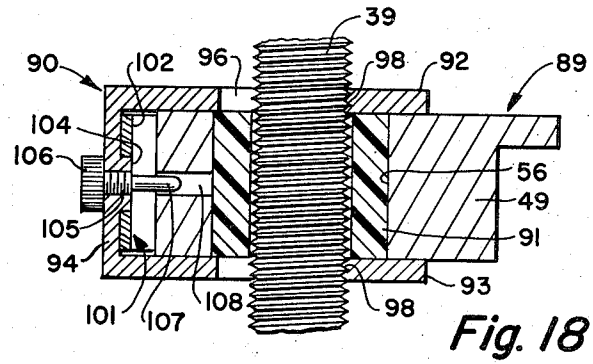


Fig. 18

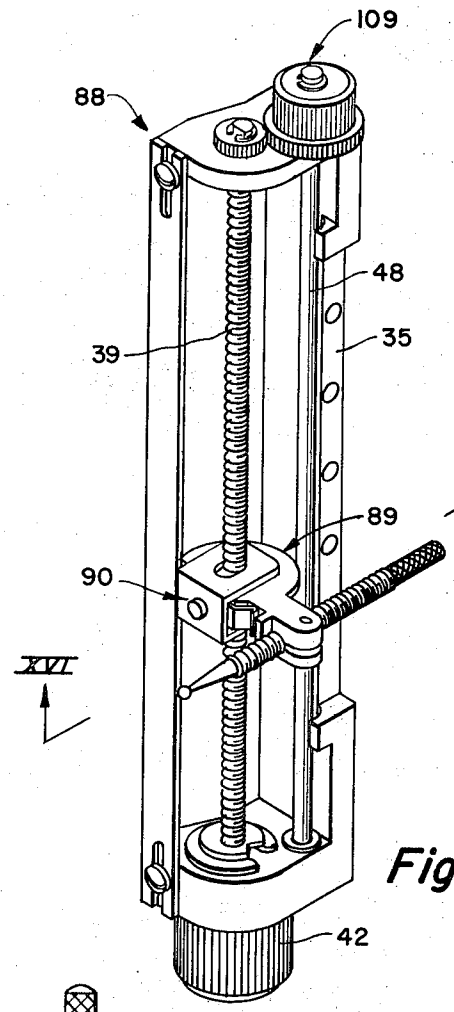


Fig. 15

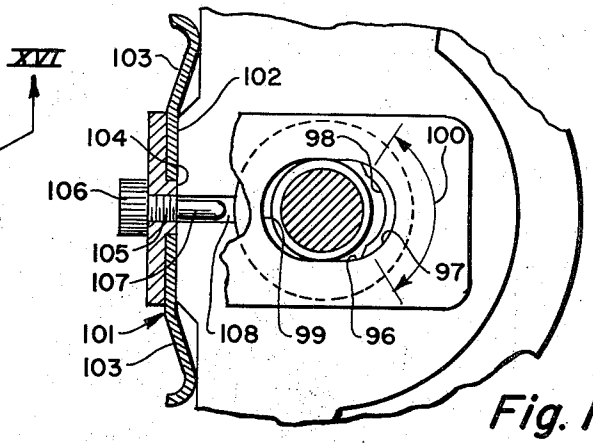


Fig. 19

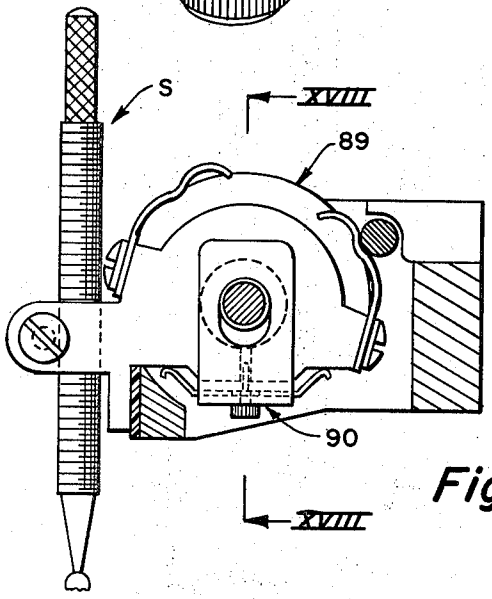


Fig. 17

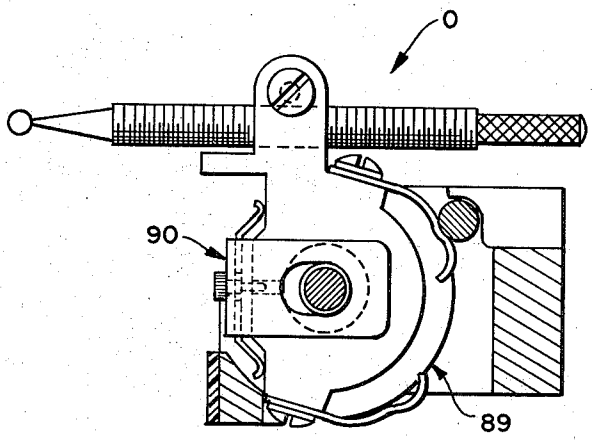


Fig. 16

ARCHERY BOW SIGHT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an archery bow signt of the type having plural sighting elements normally disposed in an out position, i.e., out of the line of sighting and each movable to a sighting position, i.e., into the line of sighting, and more particularly to improvements in adjustment means for making fine adjustments in the range of each sighting element and means for releasably holding each sighting element in each of the sighting positions.

2. Description of the Prior Art

As is known, a professional archer employs a good quality bow and trains himself to shoot the bow by the application of a rigid pattern of events such that extreme accuracy may be accomplished. The professional archer will always nock an arrow at the same point of the bow string, and draw the string back such that a particular portion of the hand contacts a particular portion of the head. For example, some archers draw the string back so that the tip of the index finger touches the corner of the mouth. In this manner, the feathered end of the arrow is always at substantially the same distance from the eye and there only remains the action of elevating or lowering the head of the arrow to correspond to the range at which the target is placed. Some archers aim the bow by intuition, while professional archers employ bow sights of various types.

An accurate bow sight is shown in my U.S. Pat. No. 3,579,839. In my aforesaid U.S. Pat. No. 3,579,839, I have disclosed a multiple sighting element bow sight wherein the sighting element carriers are threadedly received on a screw device which is rotatable about its longitudinal axis. Means are provided for rotating the screw device while preventing rotation of the sighting element carriers as the screw device is rotated, whereby all of the sighting elements are moved in unison, upwardly or downwardly along the screw device. In this manner, a fine vernier adjustment of a sighting element can be effected.

The present invention provides improvements over the bow sight shown in my U.S. Pat. No. 3,579,839.

SUMMARY OF THE INVENTION

The principal object of this invention is to provide an archery bow sight having plural sighting elements wherein each of the sighting elements can be used for more than one range.

Another object of the present invention is to provide an improved bow sight wherein each sighting element may be moved independently of the others to ascertain master and secondary range marks which are recorded on a range strip carried by the sight — the sighting element being locked at a position corresponding to the master range mark.

A further object of this invention is to provide an improved bow sight having a master dial by which the sighting elements are moved in unison, whereby a selected sighting element can be quickly and accurately positioned at one of the secondary range marks for certain archery shots and thereafter quickly and accurately returned to the master range mark positions.

A further object of this invention is to provide an improved bow sight having resilient means for releasably holding each of the sighting elements in a sighting position and in an out position.

The present invention provides a bow sight comprising an elongated member adapted to be secured to the body of a bow above the arrow receiving area thereof and having upper and lower generally parallel flange portions. A shaft extending between the flange portion, rotatably supports plural sighting assemblies at the spaced location along the length thereof. A sighting element is secured to and movable with each of the sighting assemblies. Each of the sighting assemblies is pivotal about the shaft between a sighting position wherein the sighting element is in the line of sight of the archer, and an out position wherein the sighting element is out of the line of sight of the archer.

In accordance with the invention, the elongated member includes an elongated rib-like surface which is spaced from the periphery of the sighting assembly. The rib-like surface may be provided by a second shaft extending between the flange portions and parallel with the first shaft. Each of the sighting assemblies is provided with spring means engageable with the rib-like surface for releasably holding each of the sighting assemblies in each of the sighting and out positions. The spring means presents a pair of angularly spaced-apart recesses each engageable with the rib-like surface. In one embodiment of the invention, the spring means comprises a pair of spring elements having ends which are remote from each other, secured to the periphery of the sighting assembly; and ends which are adjacent to each other, each of which is engageable with the rib-like surface. In accordance with a further embodiment of the invention, the spring means comprises a single spring element having a central portion secured to the sighting assembly and opposite ends each engageable with the rib-like surface.

Further in accordance with the invention, the shaft comprises a screw device supported by the flange portion for rotation about its longitudinal axis. Each of the sighting assemblies comprises a carrier body supporting a sighting element and having a central bore through which the screw device extends. Adjustment means, preferably in the form of a hub having a radial flange, is threadedly received on the screw device and extends into the central bore of the carrier body. The adjusting means operates to move the carrier body up or down on the screw device independently of the other sighting assemblies. Means is provided for preventing disengagement of the carrier body longitudinally of the adjusting means during movement of the sighting assembly, and for locking the sighting assembly at a selected position along the length of the screw device.

Preferably, a knob is provided at one end of the elongated screw. The elongated body is provided with a springloaded ball adapted to fit into a detent provided in the screw device. The ball and detent arrangement serves to releasably hold the screw device in a fixed position. The ball and detent arrangement also provides an audible click for each complete revolution of the screw device.

Thus, it will be appreciated that in calibrating the bow sight, the adjusting means permits each sighting element to be moved independently of the others to ascertain a master range mark which is recorded on a range strip carried by the sight. Thereafter, the sighting element is locked in position at the master range mark. By means of the master dial, the sighting element can

be moved to ascertain and record secondary range marks.

When using the present sight, the master dial is employed to move the sighting elements in unison whereby a selected sighting element can be quickly and accurately positioned at one of the secondary range marks for certain archery shots, and thereafter the sighting elements can be quickly and accurately returned to the master range marks. The audible clicks provided by the spring and ball detent arrangement also aid in quickly positioning a selected sight at one of the secondary range marks — a known number of clicks being required to be heard between adjacent recorded range marks.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a fragmentary view of a conventional bow provided with the bow sight of this invention;

FIG. **2** is an isometric view of the present bow sight;

FIG. **3** is a cross-sectional view taken along the line III—III of FIG. **2**, illustrating a sighting element in a sighting position;

FIG. **4** is a view similar to FIG. **3**, illustrating the sighting element in an out position;

FIG. **5** is a cross-sectional view taken along the line V—V of FIG. **4**;

FIG. **6** is an isometric view of an adjusting hub;

FIG. **7** is an exploded isometric view illustrating a carrier body and resilient holding means;

FIG. **8** is a cross-sectional view taken along the line VIII—VIII of FIG. **2**, illustrating a spring and ball arrangement;

FIG. **9** is a cross-sectional view taken along the line IX—IX of FIG. **8**, further illustrating the spring and ball arrangement;

FIG. **10** is an exploded isometric view, similar to FIG. **7**, illustrating alternative spring means;

FIGS. **11** and **12** are cross-sectional views, similar to FIGS. **3** and **4**, illustrating the use of the alternative spring means of FIG. **10**;

FIG. **13** is a plan view illustrating a gear means for effecting rapid rotation of the screw device;

FIG. **14** is a cross-sectional view taken along the line XIV—XIV of FIG. **13**;

FIG. **15** is an isometric view of an alternative embodiment of this invention wherein a single sighting assembly is utilized;

FIG. **16** is a cross-sectional view taken along the line XVI—XVI of FIG. **15**, illustrating the sighting element in an out position;

FIG. **17** is a view similar to FIG. **16**, illustrating the sighting element in a sighting position;

FIG. **18** is a cross-sectional view taken along the line XVIII—XVIII of FIG. **17**, illustrating adjusting means; and

FIG. **19** is a top view of the sighting assembly of FIG. **18** illustrating the adjusting means in disengaged relation with the screw device.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. **1** illustrates a conventional bow **20** comprising a central body portion **21**, a gripping portion **22** beneath the central body portion **21** and a pair of oppositely extending bendable arms **23***a*, **23***b*. In the region below the central body portion **21** there is provided an arrow receiving area **24** for receiving an arrow **25**. Extending between the bendable arms **23***a*, **23***b* is a string **26** which, when pulled away from the central body portion **21**, bends the arms **23***a*, **23***b* to provide the force for propelling the arrow **25**. Secured to the side of the central body portion **21** by means of a bracket **27** is the bow sight **28** of the present invention.

Referring to FIG. **2**, the bracket **27** is secured to one side of the central body portion **21** (FIG. **1**) by fasteners **30**. An arm **29** extends from the bow sight **28** into the bracket **27**. Suitable fastening means, such as a bolt **31** introduced into a selected one of the spaced threaded openings **32** of the plate **29**, is provided to hold the plate **29** within the bracket **27** and to provide for adjusting the plate **29** and the bow sight **28** inwardly or outwardly for a particular bow string position. The plate **29** is detachably secured to the bow sight **28** by a fastener **33** which is introduced into a selected one of spaced openings **34** provided in an elongated member **35** forming part of the bow sight **28**. In this manner, the entire bow sight **28** may be adjusted upwardly or downwardly to suit requirements of a particular bow.

The elongated member **35** is provided with upper and lower generally parallel flange portions **36, 37**. A post-like member **38** (FIG. **3**) extends vertically between the flange portions **36, 37** to strengthen the same and to serve as a stop member, as will be described. A shaft or screw device **39** extends vertically between the flange portions **36, 37** and is supported thereby for rotation about its longitudinal axis **40**. The screw device **39** is retained in position by means of snap ring **41** engaged with the lower end thereof. A knob **42** is secured to the lower end of the screw device **39** and serves as a master dial for rotating the screw device **39** when desired.

The bow sight **28** is provided with a plurality of sighting assemblies **43**, each supporting a sighting element **44**. As will be described, the sighting assemblies **43** are threadedly received on the screw device **39** and are thereby rotatably supported for rotation about the longitudinal axis **40**. In particular, each sighting assembly **43** is rotatable between a sighting postion S wherein the sighting element **44** is in the line of sight, schematically represented by the arrow **45**, of an archer; and an out position **0** wherein the sighting element **44** is out of the line of sight **45**. The bow sight **28** also is provided with cooperating means for releasably holding each of the sighting assemblies **43** in the sighting and out positions S, O. In this embodiment, the cooperating means comprise resilient means or spring elements **46, 47**; and a shaft or rod **48** extending between the flange portions **36, 37** and generally parallel with the screw device **39**. The rod **48** provides a rib-like surface engageable by each of the spring elements **46, 47**, as will be described.

In general, each of the sighting assemblies **43** includes a carrier body **49** supporting the sighting element **44**, adjusting means **50** for moving the sighting assembly **43** up or down along the screw device **39**, and connecting means in the form of a set screw **51** for preventing disengagement of the carrier body **49** longitudinally of the adjusting means **50**, and for locking the carrier body **49** to the adjusting means **50** thereby to retain the sighting assembly **43** at a fixed location on the screw device **39**.

The adjusting means **50** (FIG. **6**) comprises a hub **52** having a threaded central bore **53** and having a radial

flange 54 at one end thereof. The hub 52 is provided with a circumferential recess 55.

The carrier body 49 (FIG. 7) is provided with a central bore 56 for receiving the hub 52 of the adjusting means 50 (FIG. 6). The carrier body 49 also is provided with diametrically opposite shoulders 57, 58, provided with axially aligned threadings 59. A third shoulder 60 extends perpendicular to the shoulders 57, 58 and is provided with a threaded opening 61 adapted to receive the set screw 51. It will be observed in FIG. 7 that the set screw 51 has an unthreaded end 62 of reduced diameter.

It will be observed in FIG. 7 that the spring elements 46, 47 have apertured ends 63 which are remote from each other and which are adapted to be secured to the shoulders 57, 58 by fastener 64. The spring elements 46, 47 also have opposite ends 65 which are adjacent to each other and which are provided with recesses 66 adapted to engage the rod 48 (FIG. 2).

Referring to FIGS. 2 and 7, the carrier body 49 also is provided with a split clamp portion 67 which threadedly receives the sighting element 44. A fastener 68 (FIG. 7) is received in threaded opening 69 to clamp the sighting element 44 in laterally adjusted position. Lateral adjustment of the sighting element 44 corrects for prevailing wind conditions. The split clamp portion 67 includes a sighting guide 82 which cooperates with a range strip 83 secured to the post-like member 38 (FIG. 3) in setting the sighting assemblies 43 for the desired range, as will be described.

As shown in FIG. 5, the adjusting means 50 is threadedly received on the screw device 39. The hub 52 extends into the central bore 56 of the carrier body 49. When the set screw 51 is installed, the unthreaded end portion 62 thereof extends into the circumferential recess 55. It will be observed in FIG. 5 that the overall length of the set screw 51 is such that when it is tightened down, the unthreaded end portion 62 thereof engages the confronting interior wall of the recess 55, thereby locking the adjusting means 50 to the carrier body 49. When the set screw 51 is loosened, the adjusting means may be manually rotated by means of the radial flange 54 to move the sighting assembly 43 up or down along the screw device 39. During adjustments, then, the set screw 51 serves to prevent disengagement of the carrier body 49 longitudinally of the adjusting means 50.

FIGS. 3 and 4 best illustrate the use of the spring elements 46, 47. It will be observed in FIG. 3 that when the sighting element 44 is in the sighting position S, the recess 66 of the spring element 46 engages the rod 48 to releasably hold the sighting assembly 43 in the sighting position S. The sighting assembly 43 may be rotated clockwise, as viewed in FIG. 3, into the out position 0 illustrated in FIG. 4. As the sighting assembly 43 is rotated from the sighting position S (FIG. 3) to the out position 0 (FIG. 4), the spring element 46 is disengaged from the rod 48 and thereafter the recess 66 of the spring element 47 is engaged with the rod 48.

It will be observed in FIG. 3 that the carrier body 49 presents a surface 70 engaged with a confronting surface 72 provided by the post-like member 38. Engagement of the surfaces 70, 72 provides a positive stop for the sighting assembly 43 in the sighting position S. It will also be observed in FIG. 4 that the carrier body 49 presents a surface 71 which is spaced from the surface 70 and which engages a surface 73 provided by the post-like member 38. Engagement of the surface 71 with the surface 73 provides a positive stop for the sighting assembly 43 when in the out position 0.

Referring to FIGS. 8 and 9, the screw device 39 is provided with an enlarged end 74 which is rotatable in a lower flange bore 75 and which is secured to the knob or master dial 42. A spring-loaded ball and detent arrangement 76 is provided for releasably holding the screw device 39 in fixed position. The ball and detent arrangement 76 includes a longitudinal groove or detent 77 provided in the enlarged end 74; and a ball 78 movable through a passageway 79 provided in the lower flange 37, into engagement with the detent 77. A spring 80 compressed between the ball 78 and a cap 81 threaded into the passageway 79, urges the ball 78 into engagement with the detent 77.

SIGHT CALIBRATION

The bow sight 28 may be calibrated as follows. Beginning, for example, at a target distance of 15 yards, the set screw 51 of the uppermost sighting assembly 43*a* is loosened. By alternately shooting an arrow at the target (trail shot) and by moving the sighting assembly 43*a* up or down by rotation of the adjusting means 50, a position for the sighting assembly 43*a* can be determined by which successive arrows can be placed in the bull's-eye of the target. A mark is made on the range strip 83 and labeled 15, see FIG. 2. The set screw 51 is now tightened, thereby rendering the adjusting means 50 inoperative. The just-calibrated sighting assembly 43*a* is termed the 15-yard sight and the 15-yard range mark on the range strip 83 is termed the master range mark for the 15-yard sight.

Short range targets, for example 20 and 25 yards, require only a slight adjustment between the settings and therefore separate sighting assemblies cannot be positioned at these yardages. Consequently, the 15-yard sight is used in determining the secondary range marks corresponding to the 20 and 25-yard ranges. The 20-yard range mark is ascertained by rotating the master dial 42 after each trial shot to lower the 15-yard sight 43*a* to a position by which successive arrows can be placed in the bull's-eye. That position is marked on the range strip 83 and is labeled "20," i.e., 20 yards, see FIG. 2. This process is repeated, utilizing the master dial 42, for the 25-yard mark. Knowledge of the number of audible clicks produced by the spring and ball arrangement 76 (FIGS. 8 and 9) between range marks aids the archer in accurately dialing to the axact setting every time. The 15-yard sight 43*a* is now returned to the master range mark, i.e., 15-yard mark.

To secure the next sighting assembly 43*b* at a desired yardage, the set screw 51 thereof is loosened, the sighting assembly 43*a* is positioned by the trial-and-error method described above utilizing the adjusting means 50 thereof. The set screw 51 is then tightened. The secondary yardages are determined utilizing the master dial 42 as described above.

It should be readily apparent that the master dial 42 and the screw device 39 secured thereto, serve as a range compensator by which the sighting elements are quickly and accurately moved between the master and secondary range marks. Moreover, additional extremely fine adjustments, if necessary, in the sighting elements can be made by slight rotation of the master dial 42.

FIG. 10 illustrates another embodiment of the invention wherein the resilient means comprises a single spring element 84 having an apertured central portion 85 adapted to be secured to the shoulder 60 of the carrier body 49 by the fastener 64. The spring element 84 presents opposite profiled ends 86, 87 each provided with one of the recesses 66. FIGS. 11 and 12 illustrate sighting assemblies 43' incorporating the spring element 84 of FIG. 10. When the sighting assembly 43' is in the sighting position S (FIG. 11) the recess 66 of the arm 86 is engaged with the rod 48. When the sighting assembly 43' is in the out position 0 (FIG. 12) the recess 66 of the opposite arm 87 is engaged with the rod 48. In this embodiment, the connecting means function described above is performed by the set screw 51 which is received by the threaded opening 61 (FIG. 10).

FIGS. 13 and 14 illustrate a further adjustment feature of the present bow sight, which comprises auxiliary dial means 109 for effecting rapid rotation of the screw device 39 thereby to move the sighting elements up or down along the screw device 39 in a rapid manner. The auxiliary dial means 109 comprises a first gear means 110 freely rotatable about a portion of the rod 48 which extends above the upper flange portion 36 and is retained thereon by a snap ring 111. The first gear means 110 may be manually rotated by a knob 112 which may be formed integrally therewith. A second gear means 113 is received on a portion of the screw device 39 which extends above the upper flange portion 36. The second gear means 113 and the screw device 39 present confronting flat surfaces 114, 115, respectively, which non-rotatably connect the second gear means 113 to the screw device 39. In the preferred arrangement, the diameter of the first gear means 110 is two to four times greater than that of the second gear means 113. The first gear means 110 is freely rotatable about a longitudinal axis 117 (FIG. 14) of the rod 48 — the axis 117 being parallel with but spaced apart from the longitudinal axis 40 of the screw device 39. The auxiliary dial 109 may be incorporated in the bow sight 28 of FIG. 1.

With reference now to FIG. 15, another embodiment of the invention is shown wherein a bow sight 88 is provided with a single sighting assembly 89. Adjusting means 90 is provided by which the sighting assembly 89 may be moved upwardly and downwardly along the elongated member 35 indpendently of the screw device 39. The adjusting means 90 is accessible for use regardless of whether the sighting assembly is in the out position O (FIG. 16) or in the sighting position S (FIG. 17).

Referring to FIG. 18, the sighting assembly 89 includes a carrier body 49 having a central bore 56 which receives journal means such as a centrally apertured bushing 91. The bushing 91 may be formed from nylon so that it is freely slideable along the screw device 39.

The adjusting means 90 comprises a C-shaped member 92 having upper and lower arms 93, 94 positioned above and below the carrier body 49, and a web 95 connecting corresponding ends of the arms 92, 93. As best shown in FIG. 19, each of the slots 96 presents a semicircular end 97 provided with partial threads 98, and an opposite plain end 99. The partial threads 98 are provided along an arc length indicated at 100 — the arc length 100 being long enough to provide effective thread engagement between the partial threads 98 and the threads of the screw device 39.

Referring to FIGS. 18 and 19, the adjusting means 90 also is provided with resilient means 101 for urging the partial threads 98 into threaded engagement with the screw device 39. The resilient means 101 may comprise a spring element having an apertured central portion 102 and oppositely extending arms 103. The apertured central portion 102 is engaged with a boss 104 formed in the web 94 of the C-shaped member 92. The boss 104 has a threaded bore 105 receiving a guide member 106. The guide member 106 presents a forward threaded end 107 extending into a passageway 108 provided in the carrier body 49.

As best shown in FIG. 18, the resilient means 101 urges the C-shaped member 92 in a direction such that the partial threads 98 of both arms 92, 93 are engaged with the screw device 39. Thus positioned, the sighting assembly 89 may be moved upwardly or downwardly along the screw device 39 by rotation of the master dial 42 (FIG. 15). However, when it is desired to rapidly move the sighting assembly 89 from the position illustrated in FIG. 15 to a second position remote therefrom, the archer need only depress the C-shaped member to the position illustrated in FIG. 19 wherein the partial threads 98 of both arms 92, 93 are disengaged from the screw device 39. The sighting assembly 89 now may be moved upwardly or downwardly, sliding on the bushing 91, to the new desired position. Thereafter, the C-shaped member is released whereby the partial threads are re-engaged with the screw device 39. The master dial 42 may then be employed for fine adjustment of the sighting assembly 89 at its new position. The auxiliary dial means 109 (FIG. 15) also may be employed for rapidly moving the sighting assembly 89 between known sighting positions.

It can be seen, therefore, that the present invention provides several adjustment features operating in concert to provide a versatile bow sight. Certain of the plural sighting elements may be quickly and accurately calibrated for master and secondary ranges. The present invention also provides for the synchronous movement of all the sighting assemblies between master and secondary ranges without affecting the range adjustment of the individual sighting assemblies; and for rapid movement of one or plural sighting elements between known sighting positions. Improved means for holding each of the sighting assemblies in the sighting and out positions also is provided. Although the invention has been shown in connection with certain specific embodiments, it will be readily apparent to those skilled in the art that various changes in form and arrangement of parts may be made to suit requirements without departing from the spirit and scope of the invention.

I claim as my invention:

1. A sight for aiming a bow comprising in combination:

an elongated member adapted to be secured to the body of a bow above the arrow receiving area thereof and having upper and lower generally parallel flange portions;

a shaft extending between said flange portions;

plural sighting assemblies rotatably carried by said shaft at spaced locations along the length thereof and each including a sighting element secured thereto and movable therewith, each of said sighting assemblies being pivotal about said shaft between a sighting position and wherein the sighting

element is in the line of sight of the archer using the bow, and an out position wherein the sighting element is out of the line of sight of the archer;

an elongated rib-like surface extending between said flange portions in a parallel relation with said shaft spaced from each of said sighting assemblies;

spring means carried by each of said sighting assemblies and engageable with said rib-like surface for releasably holding each of said sighting assemblies in each of the sighting and out positions; and

a stop surface extending between said flange portions independently of said rib-like surface for locating each of said sighting assemblies at the spaced locations along said shaft in a sighting position.

2. The combination of claim 1 wherein said rib-like surface is provided by a second shaft extending between said flange portions and parallel with the first said shaft.

3. The combination of claim 1 wherein each of said spring means presents a pair of angularly spaced-apart recesses each engageable with said rib-like surface for holding said sighting assembly in each of said sighting and out positions.

4. The combination of claim 1 wherein said spring means comprises a pair of spring elements having first ends remote from each other secured to the periphery of the sighting assembly, and second ends positioned adjacent to each other and each engageable with said rib-like surface.

5. The combination of claim 1 wherein said spring means comprises a spring element having a central portion secured to said sighting assembly, and opposite ends each engageable with said rib-like surface.

6. A sight for aiming a bow, comprising in combination:

a screw device supported for rotation about its longitudinal axis and in spaced-apart relation to the body of said bow above the arrow receiving area thereof;

plural sighting assemblies rotatably carried by said screw device at spaced locations along the length thereof and each including a sighting element secured thereto and movable therewith, each of said sighting assemblies being pivotal about said shaft between a sighting position wherein the sighting element is in the line of sight of the archer using the bow and an out position wherein the sighting element is out of the line of sight of the archer;

each of said sighting assemblies having adjusting means carrying said sighting assemblies, said adjustment means each being threadedly received on the said screw device for positioning said sighting assembly up or down on said screw device independently of the other sighting assemblies;

means for rotating said screw device; and means for preventing rotation of said sighting assemblies adjusting means as the screw device is rotated whereby all of said sighting assemblies and the sighting elements carried thereby are moved in unison upwardly or downwardly along the screw device.

7. The combination of claim 6 wherein said said sighting assemblies comprise a carrier body having a central bore through which said screw device extends; and wherein said adjusting means comprises a hub extending into said central bore of said carrier body, said hub having a threaded central bore threadedly received on the said screw device and a radial flange for manually rotating said hub.

8. The combination of claim 6 wherein said means for preventing rotation is further defined as a resilient member for releasably holding each of said sighting assemblies in each of said sighting and out positions.

9. A sight for aiming a bow, comprising in combination:

a screw device supported for rotation about its longitudinal axis and in spaced-apart relation the the body of said bow above the arrow receiving area thereof;

a sighting assembly including adjusting means and at least one carrier body supporting a sighting element, said carrier body having a central bore through which said screw device extends for supporting said carrier body;

means for rotating said screw device and for preventing rotation of said sighting assembly as the screw device is rotated, whereby the sighting assembly is moved upwardly or downwardly along said screw device in a vernier adjustment;

said adjusting means engaging said carrier body and allowing movement of said carrier body up or down on said screw device independently of rotation of said screw device;

said carrier body being pivotal about said longitudinal axis between a sighting position wherein the sighting element is in the line of sight of an archer using the bow and an out position wherein the sighting element is out of the line of sight of the archer; and

detent means for releasably holding said carrier body in each of the sighting and out positions.

10. The combination of claim 9 wherein said adjusting means comprises a hub extending into said central bore of said carrier body, said hub having a threaded central bore threadedly received on said screw device and a radial flange for manually rotating said hub; and connecting means for preventing disengagement of said carrier body longitudinally of said hub.

11. The combination of claim 9 wherein said adjusting means comprises a C-shaped member having arms positioned above and below said carrier body and having a web connecting corresponding ends of said arms, each of said arms having a slot presenting a semicircular end provided with partial threads corresponding to the threads of said screw device and an opposite end, and resilient means for urging said partial threads into threaded engagement with said screw device; said C-shaped member being movable against the force of said resilient means to disengage said partial threads from said screw device, whereby said carrier body is movable freely along said screw device independently of the threads of said screw device.

12. The combination of claim 9 including first gear means freely rotatable about an axis parallel with but spaced apart from said longitudinal axis of said screw device; and second gear means secured to said screw device in meshing relation with said first gear means; said first gear means having a diameter which is greater than that of said first gear means, whereby rotation of said first gear means causes rapid rotation of said second gear means and said screw device.

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