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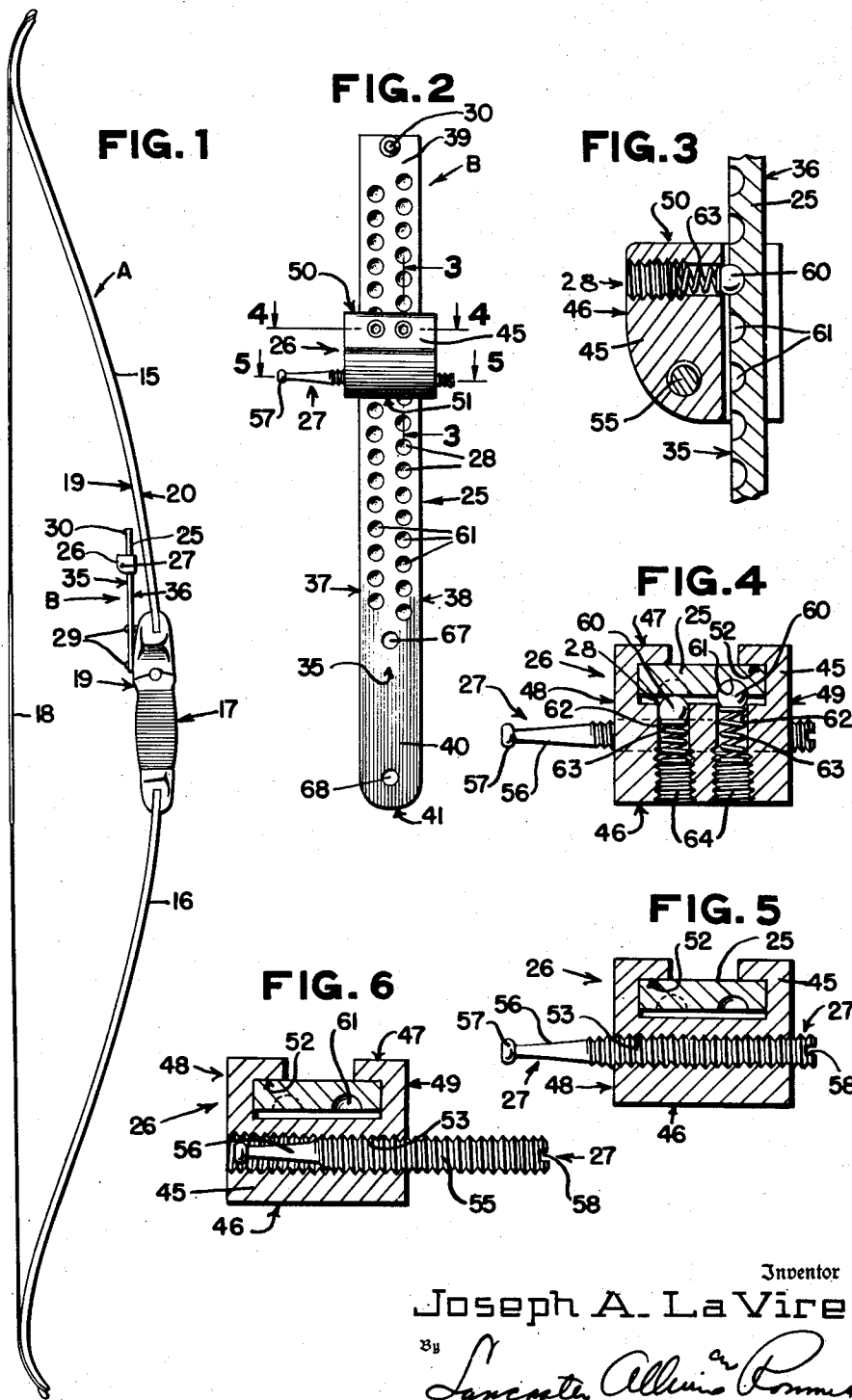
J. A. LA VIRE

2,654,152

BOW SIGHT

Filed June 11, 1952

2 Sheets-Sheet 1



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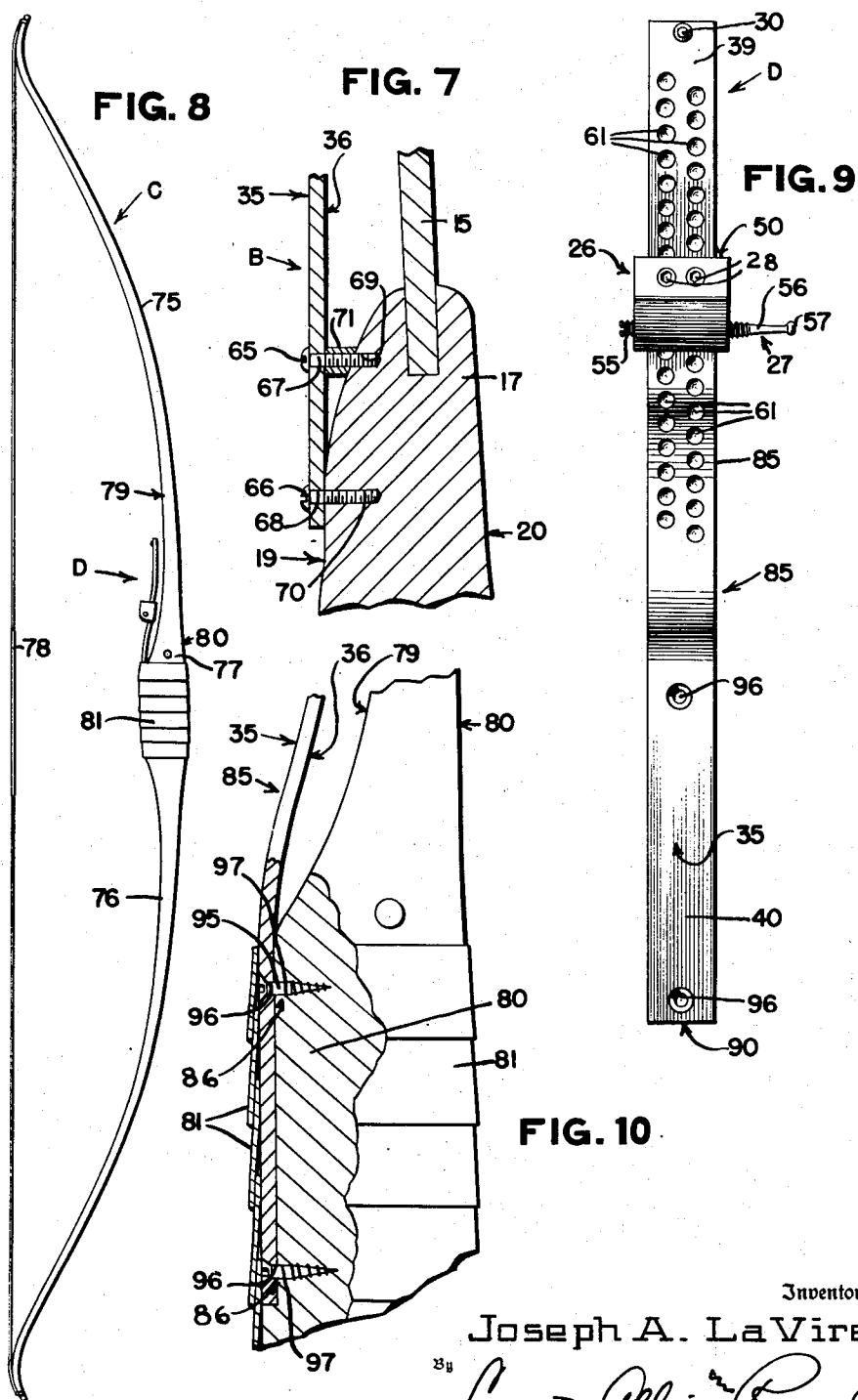
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BOW SIGHT

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1 Claim. (Cl. 33—46)

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This invention relates to adjustable bow sights.

An important object of the invention is to provide a readily adjustable bow sight which is constructed and arranged to be manipulated by the thumb of the user for vertical adjustment.

Another important object is to provide a bow sight which is readily attached to a metal or wooden bow and, when attached, does not tend to vibrate or rattle.

Furthermore, by a simple adjustment, the bow sight may be employed by either right-handed or left-handed archers.

Another important object is to provide a very narrow elongated bow-attached support, a compact slide therefor, and a small adjustable screw sight associated with the slide, so that the bow sight is not bulky nor does it interfere with the proper functioning of the bow limbs.

Additionally, the bow sight is light in weight, includes no sight tube, and is relatively inexpensive to manufacture.

Because of the specific slide adjusting means (ball and staggered sockets) employed, adjustments may be made by feel, so that the bow sight may be employed at night as well as by day and hunters may keep their eyes on the game while making adjustments when the bow sight is employed with a bow and arrows in hunting. Moreover, this means provides for a wide adjustment of the sight since each staggered socket permits raising or lowering of the yardage by five yards.

The specific five yards raising or lowering is of especial benefit to archers with little experience, since field and target archery courses are laid out on five-yard variations.

A further object is to provide for ready disposal of the sight portion of the adjustable screw sight within the body of the slide when the bow sight is not being used. This protects the sight portion of the sight against damage.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the accompanying drawings forming a portion of this disclosure and in which drawings:

Fig. 1 is an elevation of a metallic bow with the bow sight attached thereto.

Fig. 2 is an enlarged elevation of the bow sight detached from the bow of Fig. 1.

Fig. 3 is an enlarged vertical section, substantially on the line 3—3 of Fig. 2.

Fig. 4 and 5 are enlarged horizontal sections, through the slide of Fig. 2, substantially on the lines 4—4 and 5—5 respectively of Fig. 2.

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Fig. 6 is a view, somewhat like Fig. 5 but with the sight disposed within the body of the slide.

Fig. 7 is an enlarged fragmentary vertical section of the bow attached end of the new sight.

Fig. 8 is an elevation of a wooden bow with a second form of the bow sight attached thereto.

Fig. 9 is an enlarged elevation of the bow sight of Fig. 1 detached from the bow.

Fig. 10 is a fragmentary vertical section, along the lines of Fig. 7, of the bow-attached end of the bow sight of Figs. 8—9.

In the drawings, wherein for the purpose of illustration are shown two forms of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates a metallic bow of conventional construction; B, one form of the invention adapted for attachment to the bow A; C, a wooden bow; and D another form of the invention, which latter form is adapted for attachment to the bow C.

The bow A of Fig. 1 includes an upper limb 15, lower limb 16, handle 17 intermediate the limbs, and the bowstring 18. The side or belly of the bow facing the archer is designated as 19 and the side or back facing away from the archer is designated as 20. As is well known, the limbs 15 and 16 are set into the handle 17 at their inner ends and, since the handle is greater in thickness than is either of the limbs, the vertical plane of the back 19 at the handle is outwardly of and spaced from the adjacent inner end portions of the limbs.

Referring mainly to Fig. 2, the new adjustable bow sight B comprises an elongated bow attached support 25, a slide 26 therefor, an adjustable sight portion 27 associated with the slide 26, holding means 28 for retaining the slide 26 in adjusted positions longitudinally of the support 25, attaching means 29 for attaching the support to the bow A, and means 30 to limit movement of the slide in one direction.

The elongated bow-attached support 25 may be a substantially rigid metallic (as aluminum) or hardened plastic material strap having a bow facing face 35 and an opposite upper limb and handle facing face 36 and opposite edges 37 and 38 joining the faces 35 and 36. There are an upper end portion 39 and a lower end portion 40, which latter may have a rounded edge 41.

As shown mainly in Figs. 2, 4, 5 and 6, the slide 26 comprises a block 45 of suitable metallic (as aluminum) or hardened plastic material with an outer face 46, inner or opposite face 47, end faces 48 and 49 joining the faces 46 and 47, and upper and lower faces 50 and 51 respectively joining the

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faces 46 to 49 inclusive. From the upper face 50 to the opposite or lower face 51 extends a slot 52 to accommodate portions of the support 25 so that the slide may be slid longitudinally of the support. This slot 52 is spaced nearer the face 47 so that a considerable portion of the block 45 is forwardly of the slot.

The block 45 has a preferably screw-threaded bore 53 extending from the face 48 to the face 49 forwardly of the slot 52 and consequently with its longitudinal axis substantially normal to the longitudinal axis of the slot 52.

Accommodated, as in Figs. 4 to 6 inclusive, within the bore 53 are portions of the adjustable sight portion 27 which comprises a preferably exteriorly screw-threaded cylindrical part 55 and a smooth surfaced head part 56 reduced in circumference over the part 55, tapered toward its outer end and ending in a button or enlargement 57. The screw-threaded part may be provided with a socket 58 at its outer end to receive a suitable tool to rotate the sight portion, and the screw threads of the part 55 cooperate with the screw threads of the bore 53, so that the sight portion 27 may be fed into and outwardly of the bore. Fig. 5 shows the extended or operative position of the sight portion 27 and Fig. 6 illustrates the retracted or inoperative position thereof.

Holding means 28 for retaining the slide 26 in adjusted positions longitudinally of the support 25 is, as shown in Fig. 4, a pair of spring biased balls 60 carried by the slide and adapted to fit partly into and slide readily from a plurality of spaced-apart sockets 61 in the face 35 of the support 25. The balls 60 extend outwardly of a pair of horizontally-disposed spaced-apart recesses 62 extending from the face of the slot 52 nearest the face 46. The balls are urged outwardly by expansion spiral springs 63 which are within the recesses 62. The sockets 61 are arcuate depressions and arranged in two parallel rows longitudinally of the intermediate part of the support 25 with the sockets 61 of one row staggered with respect to those of the other row as is clear in Fig. 2. This arrangement of balls 60 and sockets 61 permits a plurality of slight adjustments of the slide longitudinally of the support and manipulation of the slide is rendered easier since but one ball is within a socket at any one time as may be appreciated from the showing in Figs. 2 and 4. In order to adjust the tension of the springs 63, I prefer to provide screws 64 extending into screw threaded openings, axially aligned with the sockets 62 (and with their inner ends forming the bottoms of the sockets and bearing against the inner edges of the springs).

Any suitable attaching means 29 for attaching the support 25 to the bow A may be provided. In the example shown, this comprises two suitable screws 65 and 66 shown in Fig. 7 with their shanks extending through spaced-apart openings 67 and 68 in the lower portion 40 of the support and into suitable screw-threaded sockets 69 and 70 in the handle 17. In order to steady the support 25 I may provide a washer 71 encircling a portion of the shank of the screw 65 and disposed against the face 36 of the support and the belly side of the handle 17.

Means 30 to limit movement of the slide 26 in one direction may be a pin or projection extending outwardly from the face 35 at the upper end portion 39 of the support. Thus the slide cannot be slid off the upper end portion since a part of the face 50 will come into contact with this

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pin. The handle 17, of course, limits downward movement of the slide when the adjustable sight B is attached as in Fig. 1.

Referring to Fig. 8, the bow C has an upper limb 75, lower limb 76, handle 77 and bowstring 78. The bow C has a belly 79 and back 80. The handle is covered with a suitable overlapped covering 81, all being well known construction.

The form D of the invention, shown in Figs. 8, 9 and 10 is much like the form B, and comprises an elongated bow-attached support 85, slide 26 therefor, an adjustable sight 27 associated with the slide 26, means 28 for retaining the slide 26 in adjusted positions longitudinally of the support 85, means 86 for attaching the support to the bow C, and means 30 to limit movement of the slide in one direction.

The support 85 is preferably exactly like the support 25 except that the support 85 preferably follows more closely the contour of the upper limb 75 and has a straight lower edge 90, while the means 86 of form D comprises two screws 95 with their shanks extending through suitable spaced-apart openings 96 in the lower end portion 40 of the support 85 and into suitable screw-threaded sockets 97 in the handle 77. It is preferred that the lower end portion 40 of the support 85 be disposed under a portion of the covering 81 as is clear in Fig. 10.

When either sight B or D is mounted on its bow A or C, and the sight portion 27 adjusted to the eye of the archer, a trial arrow is shot with the enlargement 57 bearing on the gold. From the flight of the arrow the proper adjustment of the slide 26 is made, with respect to each alternate socket 61 so as to permit raising or lowering of the yardage.

In both forms of the invention, the sights B and D are not attached to the limbs of the bows A or C in any way, they do not include sight tubes which are apt to accumulate foreign matter, there are no calibrations, which would require illumination in order to make adjustments, there are no parts apt to become loosened and drop away, and the single sight portion tends to eliminate confusion when sighting.

Various changes may be made to the forms of the invention herein shown and described without departing from the spirit of the invention or scope of the claim.

What is claimed is:

A bow sight including an elongated support having a bowstring facing face, opposite end portions, and a bow limb facing face; means at one of the end portions for mounting the support upon a bow handle between the bowstring and the bow limb and with the support spaced wholly from the bow limb; a slide carried by the support; fixed means at the other end portion for retaining the slide against sliding off said support; an elongated sight member carried by the slide; means for adjusting the sight member transversely of the support comprising a rotatable member having screw threads and the wall of a screw-threaded bore of said slide, said screw threads cooperating with the screw threads of said bore wall, and said sight member having a sight projection at one of its free ends, the length and diameter of said bore being such that said sight projection may be accommodated in said bore when the sight member is rotated in one direction, whereby said sight projection may be protected by the bore wall when the sight member is not in use; and holding means carried by the slide and support to maintain the slide in se-

lected adjusted positions longitudinally of the support, including two spaced apart spring biased balls carried by said slide and disposed transversely of the slide, and the wall portions of two spaced-apart rows of a plurality of closely spaced-apart ball-accommodating sockets having their socket walls in the support and opening to the first-named face, being disposed with one row in the path of travel of one ball and the other row disposed in the path of travel of the other ball when the slide is slid longitudinally of the support, the sockets of one row being staggered with respect to the sockets of the other row.

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