July 21, 1970 A. J. DUPLECHIN 3,521,362

ARCHERY SIGHT

Filed July 25, 1968 2 Sheets-Sheet 1

FIG. 1

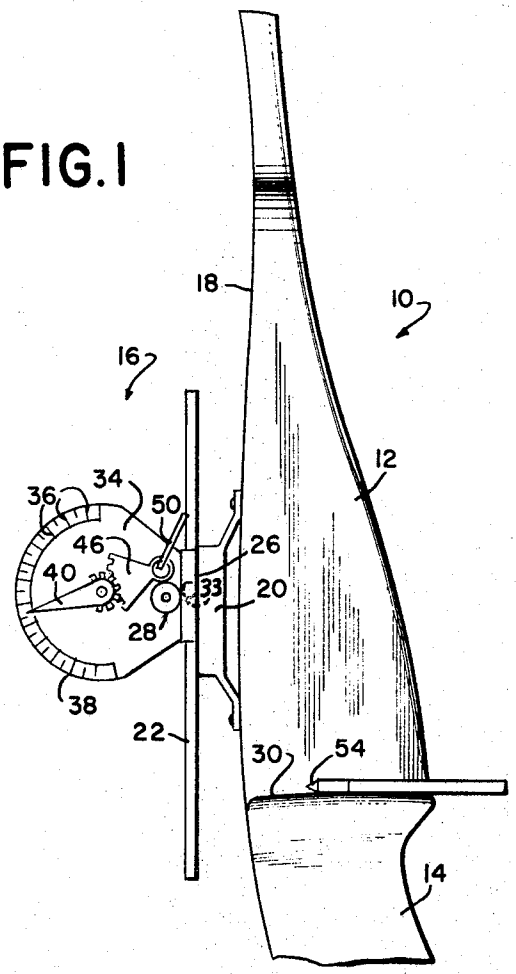


FIG. 2

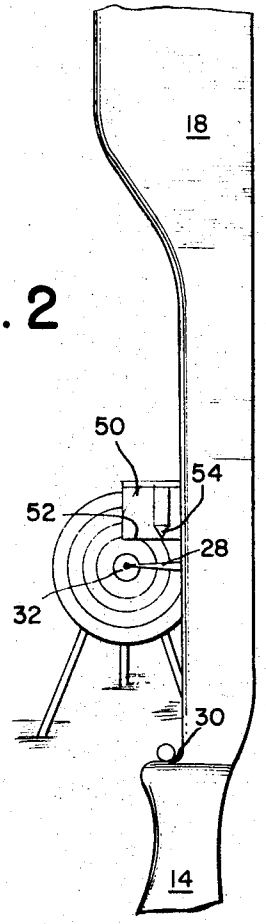


FIG. 3

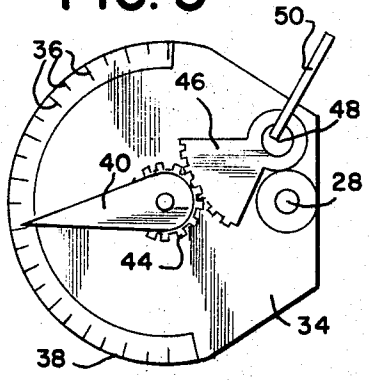
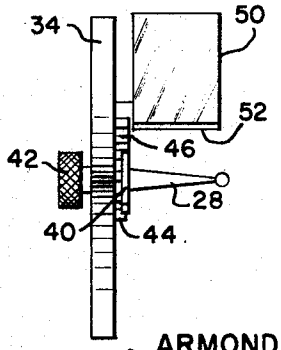


FIG. 4



INVENTOR

ARMOND J. DUPLECHIN

BY Keith Musegades

Musegades & Douglas

ATTORNEY

July 21, 1970 A. J. DUPLECHIN 3,521,362

ARCHERY SIGHT

Filed July 25, 1968 2 Sheets-Sheet 2

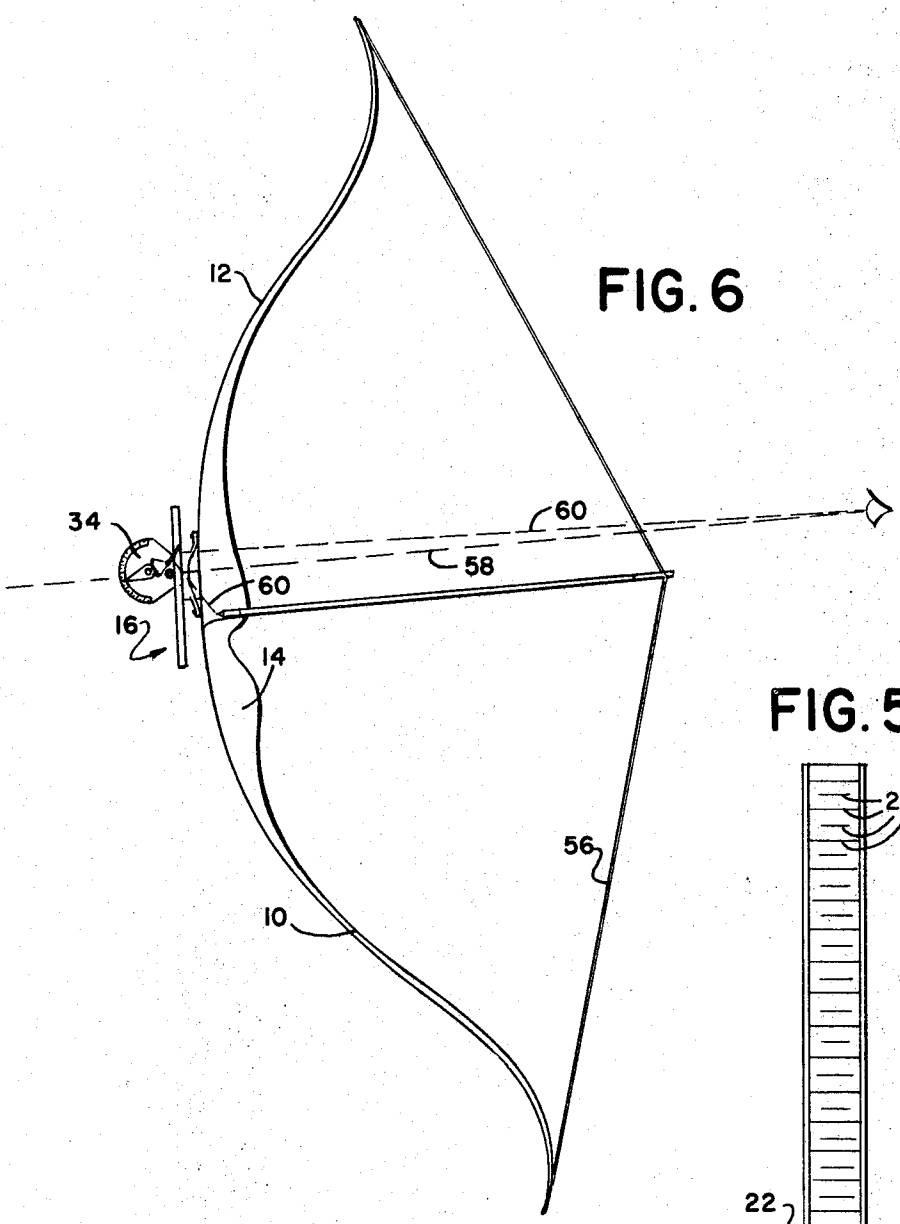


FIG. 6

FIG. 5

INVENTOR

ARMOND J. DUPLECHIN

Keith Miseyades

BY Miseyades & Douglas

ATTORNEY

United States Patent Office 3,521,362 Patented July 21, 1970

3,521,362

ARCHERY SIGHT

Armond J. Duplechin, General Delivery, Sulphur, La. 70663

Filed July 25, 1968, Ser. No. 747,579
Int. Cl. F41g 1/30, 1/46
U.S. Cl. 33—46 5 Claims

ABSTRACT OF THE DISCLOSURE

An archery sight including a vertical base, mounted on the forward face of a bow above the handgrip, a ball sight extending laterally from the base and adjustable therealong, and a sight plate, slidable along the base with the ball sight, and comprising a gradated dial, defining varying target distances, a pointer for the dial, and a pivoting mirror, geared to the pointer and pivotally mounted along its lower base edge so that the tip of an arrow, when the bow is drawn, will be reflected in the mirror precisely along the base line of the mirror thereby enhancing accuracy of the bow.

BACKGROUND OF THE INVENTION

The invention rleates generally to the art of bow sights and more particularly presents a solution to the difficult problem of providing means that will assure that the bow is drawn in precisely the same manner each time an arrow is fired to enhance the accuracy of the bow.

Several bow sights in the prior art are relevant but, significantly, are not directed to this problem. The most pertinent is U.S. Pat. No. 2,001,470, issued to Yngve J. Nyvall, which discloses a collapsible bow and a sight therefor comprising dual mirrors including gradated mirror F which reflects a target from mirror G. By squaring the target centrally in mirror F, the target will be precisely struck by the arrow. However, no allowance is made for the disposition of the arrow immediately prior to shooting.

The bowsight of U.S. Pat. No. 2,642,661, issued to Bert E. Frederickson, is designed in a manner similar to that disclosed in the Nyvall patent, save that a single transparent reflector is used to reflect a rectile **55**, and the bow is tilted up or down for distance. Again, no provision is made for checking the position of the arrow.

U.S. Pat. No. 2,400,973, issued to Charles A. Diehr and U.S. Pat. No. 3,120,322, issued to Fred B. Bear discloses a slidable ball sight and a movable transparent sight, respectively Neither patent discusses the problem of proper arrow placement.

The instant invention discloses a bow sight including a ball sight as well as a mirror arrangement which assures that each arrow is drawn to precisely the same point each time an arrow is shot so that bowstring tension is uniform from shot to shot, thereby assuring greater accuracy to the flight of each of a succession of arrows.

SUMMARY OF THE INVENTION

The heart of the invention is a pivoting mirror arrow check means in combination with a movable ball sight for a bow which includes a mirror having a bottom lateral edge precisely aligned with the pivot point of the mirror. Regardless of distance, an arrow is drawn so that its tip appears along the line defined by the mirror bottom edge each time the arrow is fired. Pivoting of the mirror is accomplished by a dial mechanism which is keyed to a distance scale, target to bow.

BRIEF DESCRIPTION OF THE DRAWINGS

Details of construction and operation according to the prefered embodiment of the invention may be had by

reference to the following specification and accompanying drawings in which:

FIG. 1 is a side elevational view of the invention mounted on a bow, which is partially shown;

FIG. 2 is a rear elevational view of the invention, showing the same used in sighting a target and an arrow tip;

FIG. 3 is a partial elevational view of the invention, taken from the left side of FIG. 1, and drawn to an enlarged scale;

FIG. 4 is a front, elevational view of the invention as shown in FIG. 3;

FIG. 5 is a front, elevational view of the vertical calibrated base of the invention; and

FIG. 6 is a schematic view of the invention in use, showing lines of sight from arrow to target.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to the drawings wherein parts are indicated by reference character, there is shown a bow **10** including handgrip **12** and upper bow limb **14**. The invention or sight **16** is mounted on back **18** of bow **10** and includes a mounting base **20** which may be screwed, or otherwise suitably attached, to back **18**. A vertical base **22** is secured to mounting base **20**, in either a static or sliding (not shown) relationship as desired.

The face of vertical base **22** is adapted to be pencil gradated for varying target distances by the archer. Such gradations are shown in FIG. 5 by reference numeral **24**. Gradations for distance depend on such variables as bow size, strength, and length, as well as target environment conditions and physical characteristics of the archer. A sliding sight base **26** includes an ordinary ball sight **28** extending laterally therefrom, above arrowrest **30** (FIG. 2). Base **26** is slid up or down vertical base **22** as test arows are shot until the target is successfully and successively hit when ball sight **28** is lined up with target center **32** (FIG. 2). At that time, a pencil or pen line **24** may be scribed across the face of vertical base **22**. If desired, a thumbscrew **33** may be provided, threaded through sight base **26**, to lock base **26** firmly on vertical base **22** (FIG. 1). This is repeated each time the target distance is changed.

The remainder of the invention concerns the means for accomplishing consistent arrow placement for each shot. A sight plate **34** extends outwardly from an edge of sight base **26** and includes a series of calibrations **36** scribed about a semicircular forward edge portion **38** thereof, which marks conform to target distances varying from near at the bottom of the scale to far at the upper end thereof. A dial pointer **40** is mounted centrally through plate **34** and includes a thumb screw **42** to adjust the pointer **40**. A spur gear **44** is located beneath pointer **40** and is geared to a gear segment **46**, which in turn is pivotally mounted on sight plate **34** at **48**. Extended laterally from pivot point **48** is an arrow sighting mirror **50**, the baseline **52** of which is coincident with the pivot point **48** of gear segment **46**.

The operation of this portion of the invention is best indicated by FIGS. 2 and 5. Ball sight **28** is set as hereinbefore indicated. Then pointer **40** is rotated to the proper target distance as indicated on the scale **36**. Rotation of pointer **40** will cause rotation of mirror **50** through gear **44** and gear segment **46**. Of course, baseline **52** will remain static regardless of target distance, in that it is coincident with mirror pivot point **48**. But the mirror must be rotated as target distance changes so that arrow tip **54** will be in full view.

Each time the bow is drawn, once the sight has been properly adjusted, bowstring **56** should be drawn so that arrow tip **54** appears precisely along mirror base-

line **52**. In this manner, consistent tension of bowstring **56** is assured each time an arrow is shot, thereby enhancing accuracy of each shot in a series. The proper dual lines of sight are indicated by FIG. 6; sightline **58** proceeds from the eye through ball sight **28** to the target center, while sightline **60** goes from the eye to mirror **50** and arrow tip **54**.

I claim:

1. In an archery bow including upper and lower bow limbs, a bowstring, an arrow rest, and a handgrip between the limbs, an archery sight comprising:

(a) a sight base secured to the back of a bow;

(b) a ball sight, extending laterally from the sight base; and

(c) arrow sight means, including:

(1) a sight plate, extending forwardly from the sight base and having a semicircular forward edge portion;

(2) means defining a calibrated scale about said forward edge portion; defining varying target distances;

(3) a mirror, pivotally mounted on the sight plate rearwardly of the scale along a lateral baseline of said mirror;

(4) means for rotating said mirror according to varying target distances defined by said scale; and

(5) means for vertically adjusting said mirror; whereby the angle of said mirror with respect to a horizontal plane drawn through said mirror baseline may be adjusted to varying target distances so that a tip of an arrow may be seen on said mirror baseline when a bowstring is fully drawn and the mirror is adjusted angularly in correlation with the vertical adjustment of the mirror.

2. The archery sight as recited in claim **1** wherein said sight base comprises:

(a) a mounting block, firmly secured to the bow back;

(b) a vertical base member on the block having gradations thereon scribed to varying target distances; and

(c) an arrow sight base for said arrow sight means.

3. The archery sight as recited in claim **2** wherein said means for vertically adjusting said mirror comprises means for slidably adjusting said arrow sight base along said vertical base member.

4. The archery sight as recited in claim **1** wherein said means defining a calibrated scale further comprises:

(a) a dial pointer, pivotally mounted centrally of said sight plate; and

(b) thumb screw means, attached to said pointer, for rotation thereof.

5. The archery sight as recited in claim **1** wherein said means for rotating said mirror comprises:

(a) a spur gear, mounted centrally of the sight plate;

(b) a gear segment, cooperating with the spur gear, and pivotally mounted on the sight plate along an axis coincident with the mirror lateral baseline.

References Cited

UNITED STATES PATENTS

3,302,292	2/1967	Akin	33—46.4
3,355,809	12/1967	Guyton	33—46.4

ANTON O. OECHSLE, Primary Examiner

W. R. BROWNE, Assistant Examiner

U.S. Cl. X.R.

124—23