United States Patent [19]

Helmick

[11] **3,865,095**

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[54] **ARCHERY BOW WITH VERTICALLY ADJUSTABLE SIGHTING DEVICE**

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[73] Assignee: **Victor Comptometer Corporation,** Chicago, Ill.

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[21] Appl. No.: **406,166**

[52] **U.S. Cl.** ..... **124/24 R,** 403/104, 403/374, 33/265

[51] **Int. Cl.** **F41b 5/00**

[58] **Field of Search** ..... 124/23 R, 24 R, 30 R, 41, 124/22; 33/265; 248/245, 295; 269/252, 247; 403/104, 374

[56] **References Cited**

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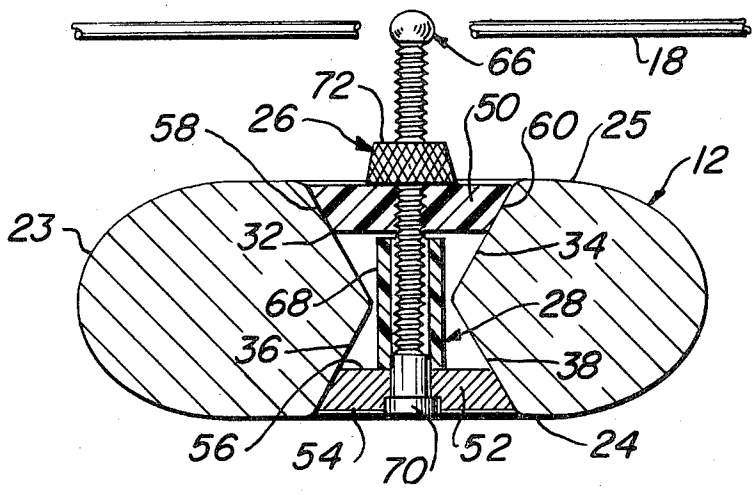
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—William R. Browne
Attorney, Agent, or Firm—Bruce G. Klaas

[57] **ABSTRACT**

An archery bow having a guideway slot in the bow handle slidably receiving a sight assembly having a pair of guide shoes on opposite sides of the slot adjustably held in the slot by a threaded sight pin extending therebetween. The slot extends through the bow handle, and the sides thereof converge. The guide shoes are wedged against the converging sides of the slot so as to lock the sight assembly in a desired position along the slot. The sight assembly has a sight member mounted on one end of the threaded sight pin.

7 Claims, 5 Drawing Figures



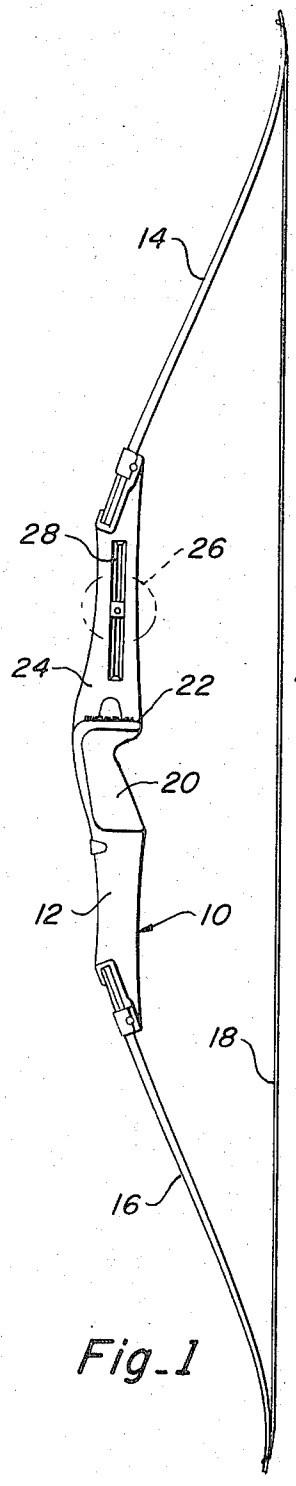


Fig_1

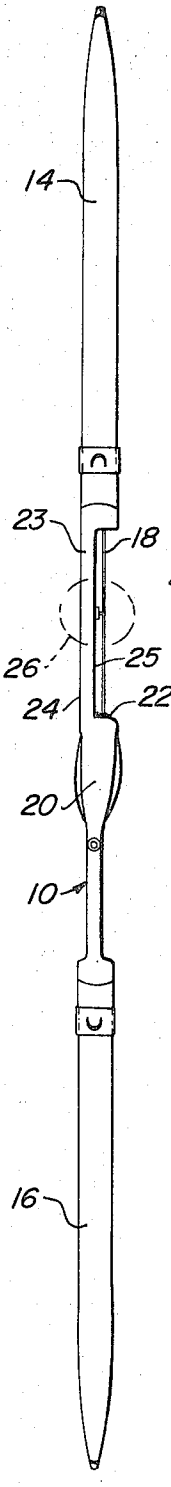


Fig_2

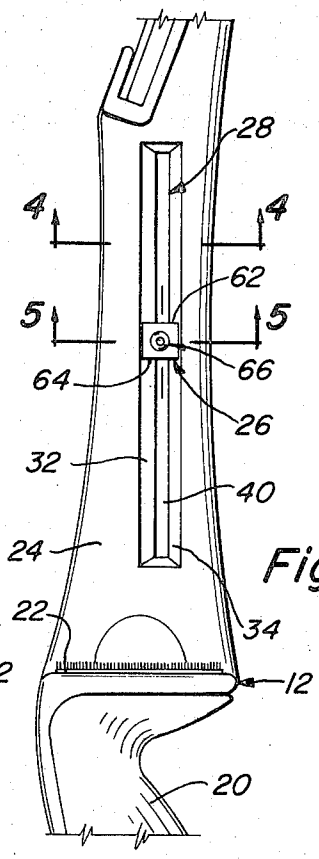


Fig_3

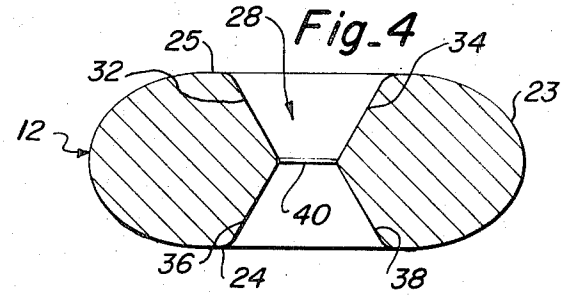


Fig_4

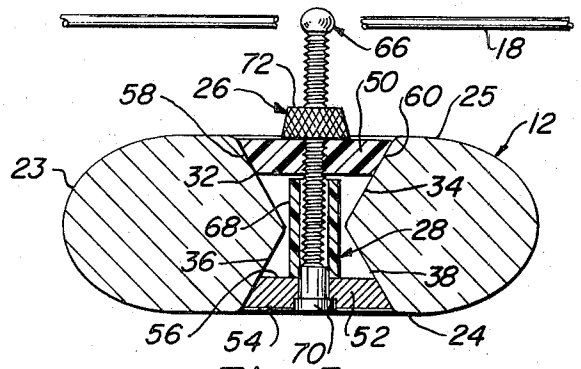


Fig_5

ARCHERY BOW WITH VERTICALLY ADJUSTABLE SIGHTING DEVICE

BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates to improvements in sight assemblies for archery bows of the type disclosed in U.S. Pat. No. 3,120,222. The objects of this invention are to provide a new and improved simplified low cost sight assembly integrally mounted on a bow handle in a new and improved manner. The objects are attained by providing a guideway in the bow handle in the form of opposite pairs of intersecting inclined recessed guide surfaces centrally connected by an elongated slot and by providing an adjustable sight assembly in the form of a sight pin mounted on and carried by a pair of guide shoes mounted on the recessed guide surfaces in recessed relationship to the adjoining surfaces of the handle.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of an archery bow incorporating the invention;

FIG. 2 is another side elevational view of the archery bow of FIG. 1;

FIG. 3 is an enlarged partial side elevational view of the handle portion of the archery bow of FIGS. 1 and 2;

FIG. 4 is an enlarged cross sectional view taken along line 4—4 of FIG. 3; and,

FIG. 5 is another enlarged cross sectional view taken along line 5—5 of FIG. 3.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1 and 2, a reverse curve take-down-type archery bow 10 is shown to comprise a handle member 12, a pair of removable limb members 14, 16, and a bowstring 18. The handle member is of one piece cast metallic material having a gripping portion 20, an arrow rest portion 22, and a recessed window area portion 23 defined by relatively closely spaced generally parallel handle surfaces 24, 25, in which a sight assembly 26 is adjustably slidably mounted in an elongated sight mounting guideway 28 integrally formed in the window portion to extend longitudinally relative to the window area.

Referring now to FIGS. 3–5, the guideway 28 comprises a guide slot having first and second elongated guide shoe slot portions 29, 30 opening outwardly in surfaces 24, 25, respectively, each defined by longitudinal outwardly inclined guide shoe surfaces in the form of pairs of oppositely facing inclined recessed surfaces 32, 34 and 36, 38 centrally formed in the window portion 24 and extending transversely relative to the arrow rest portion 22. The pairs of surfaces 32, 34 and 36, 38 define first and second elongated guide shoe slot portions which intersect centrally of the window portion 24 to define an elongated rectangular connecting slot 40.

The sight assembly 26 comprises guide shoe means in the form of a plastic front first guide shoe member 50 slidably supported on guideway surfaces 32, 34, next adjacent the window opening surface 25, and a metallic rear second guide shoe member 52 slidably supported on guideway surfaces 36, 38. Each guide shoe has spaced generally parallel front and rear flat surfaces 54, 56 of generally square peripheral configuration, a pair

of opposite flat inclined support surfaces 58, 60 cooperable with the guideway surfaces, a pair of opposite flat straight surfaces 62, 64, and aligned central annular openings through which connecting and clamping means, in the form of a pin member 66, extends across the guideway through slot 40.

The size of the shoes is such as to locate them in the guideway in recessed relationship to the adjoining handle surfaces 24, 25. A plastic spacer sleeve member 68 surrounds the central portion of the pin and extends axially through slot 40 between the guide shoes 50, 52. The rear end of the pin is provided with an annular head 70 seated on a correspondingly shaped counterbore in shoe 52. The intermediate portion of the pin is threaded and loosely received within the sleeve 68 as well as within the aligned central opening in guide shoe 50. The connecting and clamping means further comprises a knurled locking nut member 72 threadably mounted on the threaded portion of pin 66 and abuttingly engaging the front surface of shoe 50 to tighten and lock the sight assembly in any selected adjusted position. The plastic material of shoe 50 is such as to enable some resilient compression under load of the wedging force exerted by the nut member to facilitate the clamping action. A sight means in the form of a sighting knob 74 on the end of pin 66 is located in general alignment with the bowstring 18. Thus, the sight assembly may be adjusted to any selected position by loosening nut 72, sliding the shoes 50, 52 along the guideway surfaces 32, 34 and 36, 38, and tightening the nut at the selected position to resiliently frictionally retainingly engage the shoe surfaces 58, 60 with the guideway surfaces.

I claim:

1. An archery bow comprising a handle provided with a window area portion defined by relatively closely spaced longitudinally extending side surfaces of the handle and an arrow rest portion extending transversely thereacross,

an elongated sight mounting guideway integrally formed within the window area portion of the handle extending longitudinally of the handle and transversely to the arrow rest portion,

the guideway comprising a first pair of recessed inclined elongated guide surfaces on the handle defining a first elongated guide shoe slot opening toward one of said side surfaces of the handle and a second pair of oppositely facing recessed inclined elongated guide surfaces on the handle defining a second elongated guide shoe slot opening toward the other of said side surfaces of the handle, said guide surfaces intersecting centrally of said window area portion of the handle between the spaced side surfaces of the handle and defining an elongated connecting slot in the handle connecting the first and second elongated guide shoe slots,

a first guide shoe member slidably mounted in said first elongated guide shoe slot,

a second guide shoe member slidably mounted in said second elongated guide shoe slot,

adjustable connecting means extending axially between said first guide shoe member and said second guide shoe member through said connecting slot and supportively connecting said first and second shoe members so as to be longitudinally movable simultaneously as a unit along said guideway and adjustably connecting said first and second shoe

members so as to be relatively movable transversely of said guideway to selectively frictionally retainingly engage and release said shoe members relative to said first and second pair of recessed inclined elongated guide surfaces to permit longitudinal adjustment, and

a sight member supported by and carried with said first and second shoe member.

2. An archery bow comprising a handle provided with a window area portion defined by relatively closely spaced longitudinally extending side surfaces of the handle and an arrow rest portion extending transversely thereacross,

an elongated sight mounting guideway integrally formed within the window area portion of the handle extending longitudinally of the handle and transversely relative to the arrow rest portion,

the guideway comprising a guide slot extending completely through the window area portion of the handle and opening through both side surfaces of the handle and having converging sides defining converging guide shoe surfaces on the handle recessed within the bow handle between the relatively closely spaced side surfaces of the handle,

guide shoe means for guiding a sighting device, said guide shoe means being recessed within the bow handle between the relatively closely spaced side surfaces of the handle and cooperably slidably mounted in said slot on the guide shoe surfaces to provide a wedging action therewith and being movable along said slot parallel to said guide shoe surfaces,

clamping means cooperatively associated with said guide shoe means to selectively releasably clamp said guide shoe means on said guide shoe surfaces at selected positions along said guideway, and

sight means for sighting a target, said sight means being carried by said guide shoe means, said sight means being positioned in part exteriorly of the handle.

3. The invention as defined in claim **2** wherein said guide shoe means comprising a first guide shoe member mounted next adjacent one of the relatively closely spaced side surfaces and a second guide shoe member mounted next adjacent the other of the relatively closely spaced side surfaces.

4. The invention as defined in claim **3** and wherein said clamping means comprising a pin connected at one end to one of said guide shoe means and extending across said slot through the other of said guide shoe means, said other of said guide shoe means being mounted on said pin, for relative movement toward and away from said one of said guide shoe means, a threaded portion on said pin located beyond the other of said guide shoe means, and a threaded nut mounted on said threaded portion of said pin to releasably clamp said guide shoe means on the guide shoe surfaces.

5. The invention as defined in claim **3** and wherein said sight means being mounted on said pin beyond the other of said guide shoe means.

6. The invention as defined in claim **3** and wherein one guide shoe member is made of plastic material so as to be compressible against the corresponding one of said guide shoe surfaces.

7. The invention as defined in claim **2** and wherein said guide shoe surfaces are outwardly inclined toward the relatively closely spaced side surfaces, and said guide shoe means have correspondingly inclined abutment surfaces engageable therewith, said clamping means being operative to exert a wedging force therebetween.

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