

United States Patent

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[72] Inventor **Bert E. Fredrickson**
 1208 S. Bond St., Green Bay, Wis. 54303

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Primary Examiner—George J. Marlo
Assistant Examiner—William R. Browne
Attorney—Berman, Davidson and Berman

[54] **ARCHERY BOW WITH BOWSTRING STRESSING DEVICE**
 6 Claims, 7 Drawing Figs.

[52] U.S. Cl. 124/24,
 124/30

[51] Int. Cl. F41b 5/00

[50] Field of Search 124/24, 25,
 23, 22, 35, 30, 41, 40, (Archery Digest)

[56] **References Cited**
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ABSTRACT: An archery bow having telescoping members mounted thereon that extend rearwardly of the bow. On one of the telescoping members is a handhold member that is used to support a bowstring during the stressing thereof. On the outer member of the two telescoping members there is a device that engages the inner telescoping member and will hold the inner telescoping member in a rearwardly extended position against the stress of the bowstring. Through the telescoping members is a device that is controlled from the handhold member to release the device that holds the inner telescoping member in a rearwardly extended position.

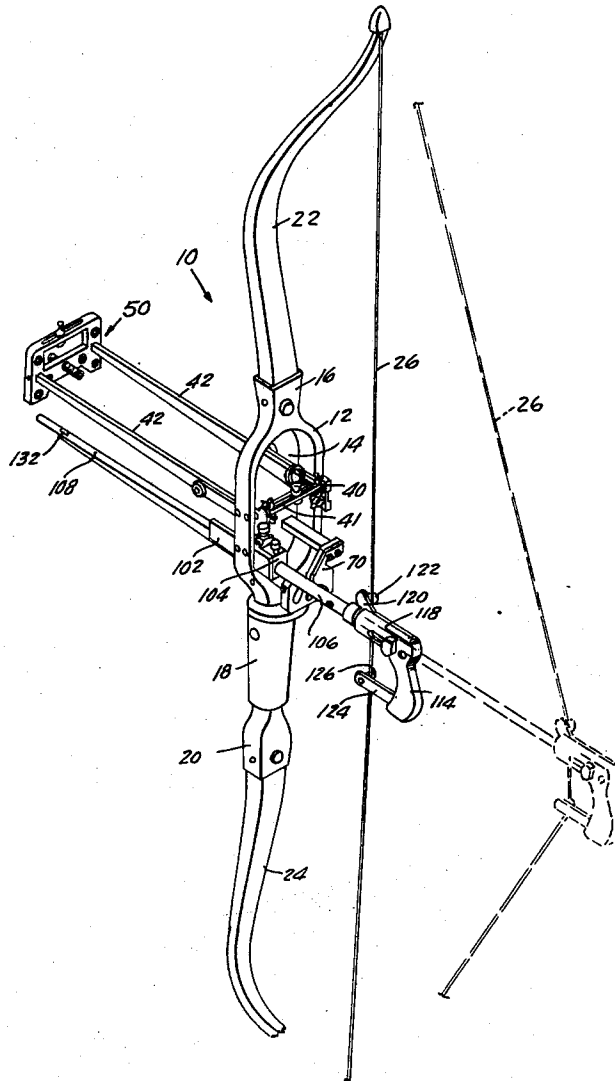
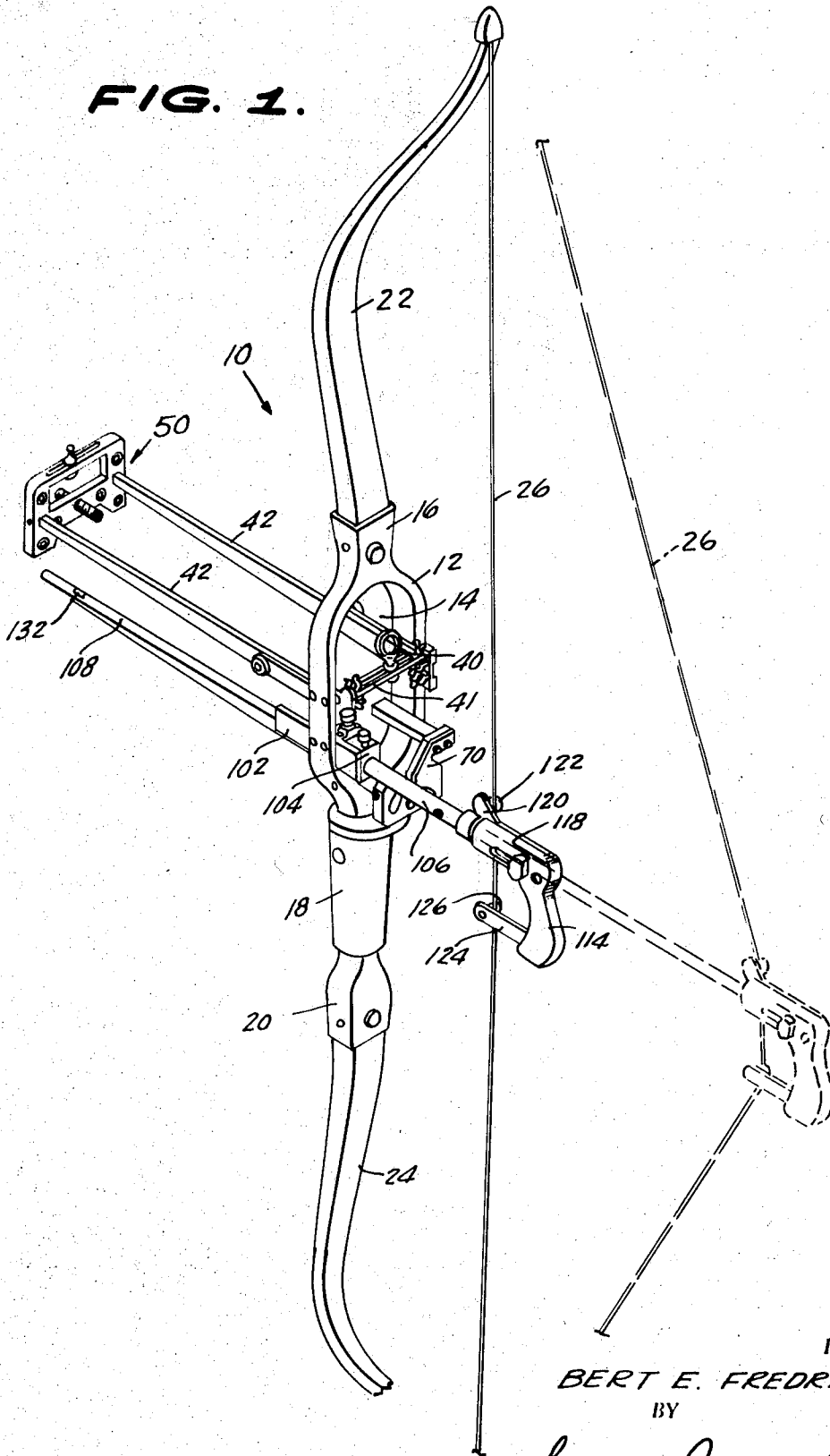


FIG. 1.



INVENTOR.
BERT E. FREDRICKSON,
BY
Berman, Davidson & Berman,
ATTORNEYS.

FIG. 3.

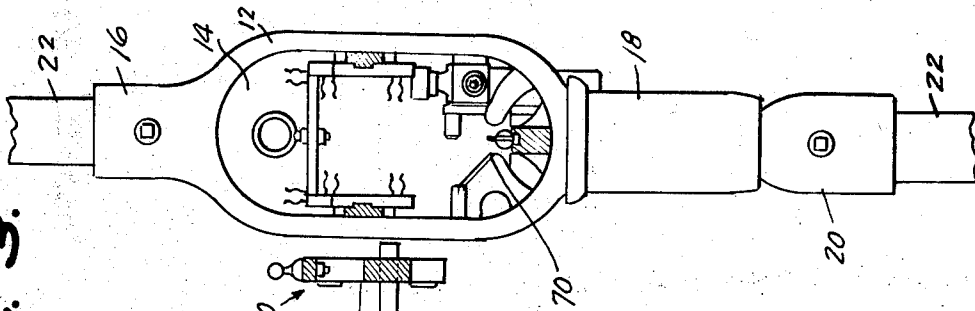
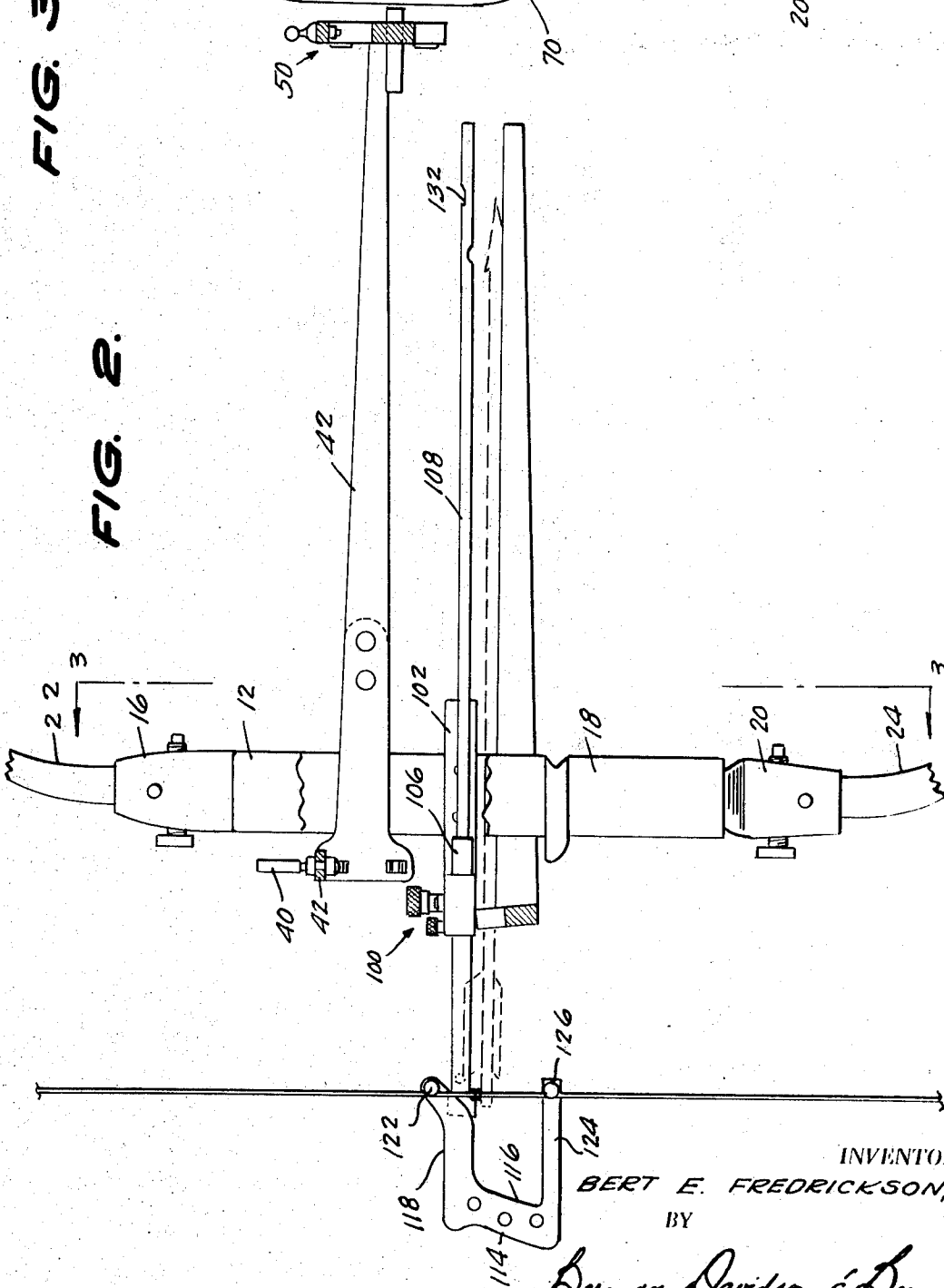


FIG. 2.



INVENTOR.

BERT E. FREDRICKSON,

BY

Berman, Davidson & Berman
ATTORNEYS.

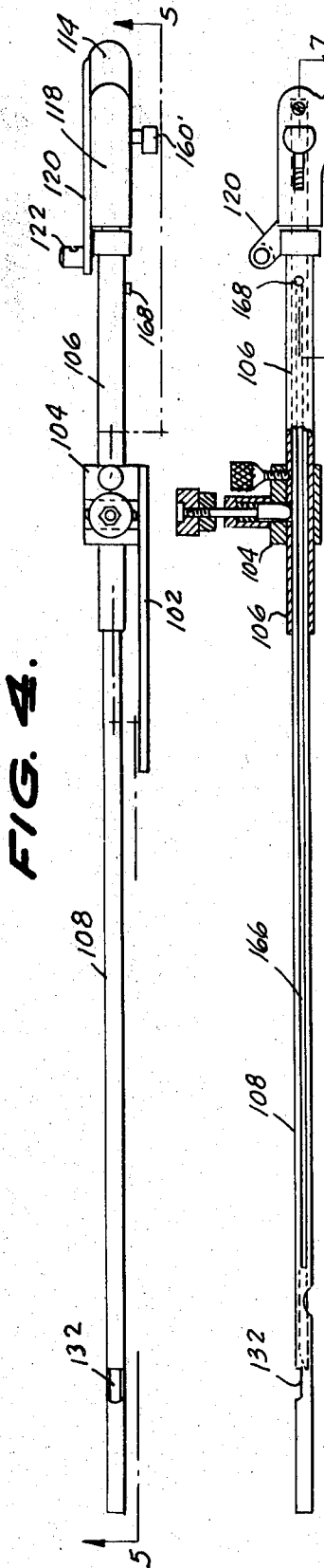


FIG. 4.

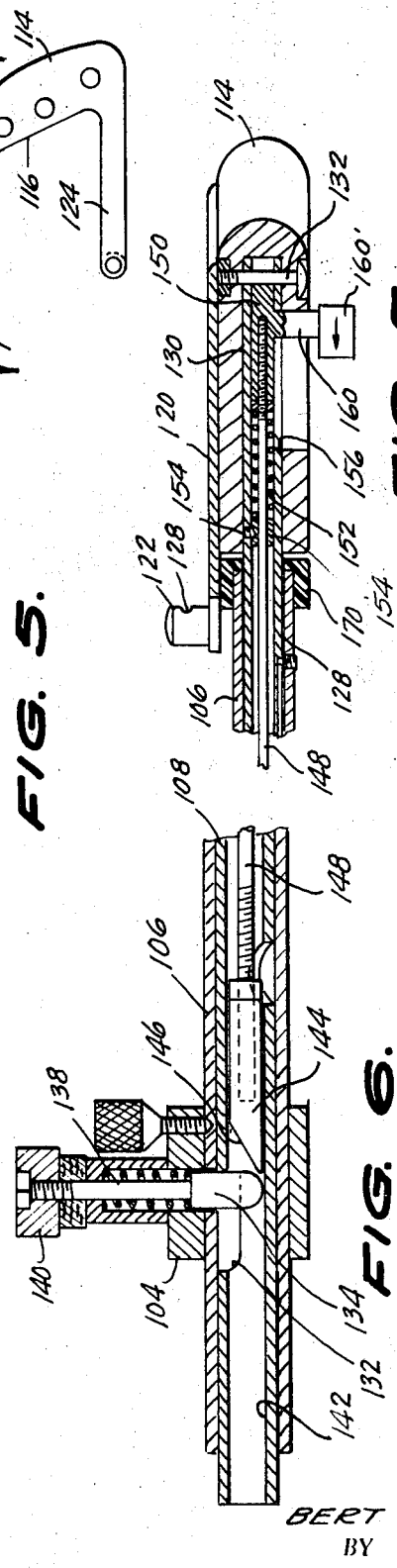


FIG. 5.

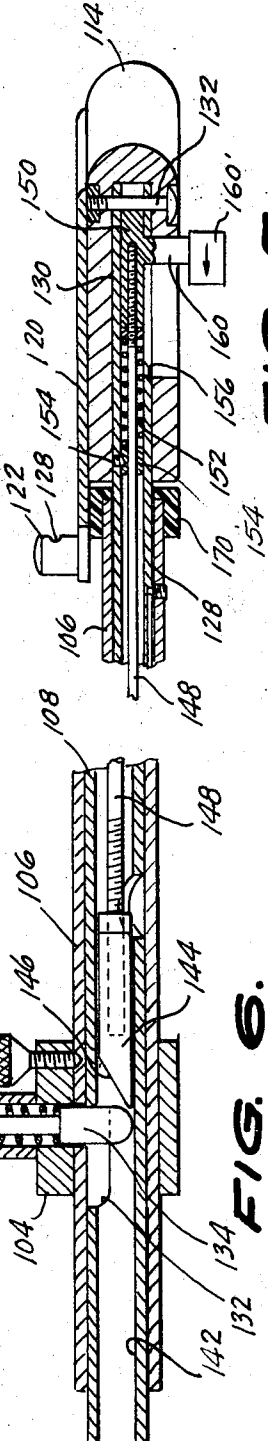


FIG. 6.

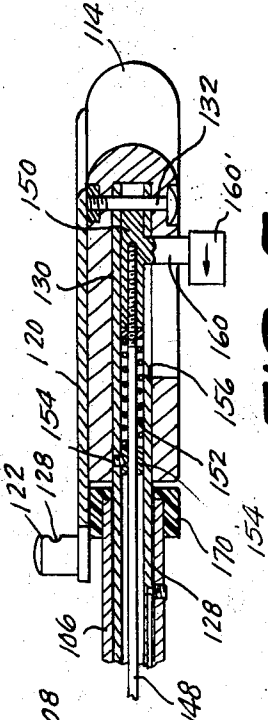


FIG. 7.

INVENTOR.

BERT E. FREDRICKSON,

BY

Berman, Davidson & Deamon.
ATTORNEYS.

ARCHERY BOW WITH BOWSTRING STRESSING DEVICE

The present invention adds to and improves upon the disclosure of my U.S. Pat. No. 2,909,107, dated Oct. 20, 1959. That patent was concerned primarily with a sighting device and an arrow storing device to enable the archer to better his score, particularly in rapid fire. The present invention is directed more toward increasing the draw weight of the bow and extreme accuracy of fire, particularly when the "pull" of the bowstring exceeds 55 pounds. At any such "pull" there is a quite understandable tendency for the "drawing arm" to tremble, thus compromising the necessary coordination of sight and release, which coordination alone produces accurate fire of any weapon.

The primary object of this invention is to enable an archer to draw additional poundage by use of a handle mechanism instead of drawing on the bowstring and to provide him with a respite from the extreme strain of drawing a heavy-pull bow, during which respite his muscles may relax, thus enabling him properly, quickly, and with minimum muscular effort to place the arrow in shooting position and release the arrow in its optimum direction of flight.

It is a further object of this invention to provide a device as aforesaid of minimum weight, minimum friction and maximum simplicity.

The above and other objects will be made clear from the following detailed description, taken in connection with the annexed drawings, in which:

FIG. 1 is a perspective view of a strung bow with my improvement attached, and with the drawn position shown in dotted outline;

FIG. 2 is a side elevation of the central portion of FIG. 1;

FIG. 3 is a front elevation taken on the line 3-3 of FIG. 2;

FIG. 4 is a top plan view of the particular elements of this invention;

FIG. 5 is a side elevation partly in section taken on the line 5-5 of FIG. 4;

FIG. 6 is an enlarged view of a portion of FIG. 5, showing the parts in the position occupied when the bow is fully drawn; and

FIG. 7 is a cross section on the line 7-7 of FIG. 5.

Referring to the drawings, numeral 10 designates generally the archer's bow according to the present invention, the archer's bow comprising an upstanding bow section 12, provided with an opening 14 through which the arrows are adapted to be shot. A first socket projects and opens out from the upper end of the bow section 12 and the handgrip 18 projects from the lower end of the bow section 12. Depending from and opening out of the handgrip 18 is a second socket 20. The first limb 22 has a portion adjacent one end which is mounted in the first socket 16 and a second limb 24 has a portion adjacent one end of which is mounted in the second socket 20, a bowstring 26 is stretched between and attached to the other ends of the first and second limbs 22 and 24.

As in my previous patent, the rear sight 40 is a short distance behind the rear face of the bow section 12 and within the area defined by the opening 14 of the bow section 12, the rear sight 40 being mounted on a horizontal strut bar 41, extending transversely of the opening 14. Forwardly extending members 42 extend from the mounting of the crossmember 42 and are secured to a front sight member 50. Also shown in my patent aforesaid, an arrow rest 70 is located behind and spaced from the opening 14 of the bow section 12. All the parts thus far disclosed are more fully and in detail, described in my patent aforesaid, for which reason further description is deemed unnecessary here.

The assembly making up the present invention is generally designated 100 in FIG. 2 and is mounted on a plate 102 to the lower left-hand side of the member 12, as shown in FIG. 1. A hollow block 104 is secured to the strip 102 and has a cylindrical bore through which passes an aluminum or magnesium sleeve 106. A hollow aluminum or magnesium rod 108 snugly fits the sleeve or tube 106, though, if desired, a nylon or teflon

bushing may be interposed between the rod 108 and the sleeve 106 in order to reduce friction. The block 104 is secured with the sleeve 106 by means of a thumbscrew 110, which enters a depression 102 in the sleeve 106. A handgrip 114 is secured to the rear end of the sleeve 108. The handgrip 114 is made up of a gripping portion 116 and an upper tubular portion 118 to which is secured an extension strip 120 bearing a lug 122. The lower end of the grip portion 116 has a forwardly directed extension 124 which carries a lug 126 similar to the lug 122. Each of the lugs 122 and 126 has a string-receiving notch 128, as seen in FIG. 7.

The upper extension 118 has a bore 130 which receives the rod 108. A bolt 132 passes through a portion of the walls of the bore 130 as well as rod 108, thereby securing the two parts (108 and 118) together.

A notch 132 is formed in the forward end of the rod 108. When the rod 108 is withdrawn from the position of FIG. 1 toward the dotted line position, the notch 132 engages a plunger 134 mounted in a frame 136, which is secured to the block 104. A spring 138 presses the plunger 134 toward the rod 108 and the plunger 134 may be withdrawn against the spring 138 by means of a handhold 140. When the bowstring 26 is withdrawn to the dotted line position of FIG. 1, it is drawn by engaging the lugs 122 and 126 with the string, drawing back with the handgrip 114 until the plunger 134 enters the notch 132, which locks the handgrip and the bowstring in the dotted line position. The arrow may be drawn back at the same time in notched position. This completely relieves tension on the muscles of the archer who may then relax until he is ready to shoot. At the time of firing, it is only necessary to take the usual grip on the arrow and the bowstring 26, move the string out of engagement with the lugs 122 and 126, bring the string in contact with the forward surfaces of lugs 122 and 126, and release the string in usual fashion. Advantage, of course, may be taken of the sighting arrangement 40-50 described in my aforesaid previous patent which is enhanced in the present invention by the relatively constant velocity exerted on successive arrows by the string due to the uniform length of draw of the bowstring as it is stopped by the forward surfaces of lugs 122 and 126 at a predetermined length of draw.

The rod 108 could, of course, be released from its withdrawn position by lifting the plunger 134 out of engagement with the tube 108 by means of the handgrip 140. Convenience, however, requires that it also be releasable from the handgrip itself. This is done by providing the rod 108 with an interior bore 142. A plunger 144 (FIG. 6) is fitted in a bore with a beveled forward edge 146. The plunger 144 has adjustable screw thread engagement with a spring steel wire 148, which extends throughout the length of the rod 108 and at its opposite end (FIG. 7) has a screw threaded engagement with a slide 150. Spaced from the slide 150 is a collar 152 slidably engaging the wire 148 and fixed relative to the rod 108 by a setscrew 154. Between the collar 152 and the slide 150 the wire 148 is surrounded by a compression spring 156. Extension 118 has formed (preferably) in its left side a notch 158, as best seen in FIG. 1. A bolt 160 formed integrally with the slide 150, plays in the groove 156 and is manipulated by a push button 160', usually operated by the thumb of the archer's drawing hand. When it is desired to return the rod 108 to the position of FIGS. 1 and 2, the archer pushes the button 160' forward, which impels the slide 144 forward so that its inclined face 146 engages the hemispherical end 162 of the plunger 134, forcing it out of engagement with the notch 132 and permitting return of the parts from the dotted position of FIG. 1 to the full line position.

The rod 108 has, on its left side (FIG. 5), a longitudinally extending groove 166, which is engaged by a setscrew 168, threaded into the sleeve 106.

A rubber or other resilient protecting collar 170 surrounds and overlies the rear end of the tube 106 and serves to buffer the tube 106 from contact with the portion 118 of the handgrip 114.

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While the foregoing discloses certain particular details of construction, variations of such details doubtless will occur to anyone skilled in the art perusing this disclosure. It is not intended, therefore, to limit this disclosure to the precise details disclosed herein.

I claim:

1. The combination comprising an archery bow; a rod attached to and extending rearwardly of the central portion of the bow; a handhold member mounted on said rod at the rear-most end thereof; a tube slidably surrounding at least a part of said rod; a stop member on the end of the rod for limiting the movement of said handhold member and rod with respect to said tube; means for attaching said tube to said bow; means attached to said tube to engage and hold the rod in a retracted position against bowstring pressure; and means extending through said rod for releasing said rod engaging means to permit the return of said rod to its initial position.

2. The device of claim 1, in which said releasing means for said rod engaging means is releasable by means adjacent said handhold member.

3. The device of claim 2, in which said rod is hollow; a wire slidable within said rod, said releasing means being connected to said wire adjacent said handhold member and means adjustably secured to the opposite end of said wire for releasing said rod engaging means.

4. The device of claim 1, in which said releasing means for said rod engaging means is operable from adjacent said tube.

5. The device of claim 4, in which said releasing means is also operable from adjacent said handhold members.

6. The device of claim 1, further comprising a means positioned closely adjacent the means for mounting the tube to the bow for varying the extent of rearward extension of the tube.

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