Nov. 29, 1966 J. BOGGS 3,288,988

ARCHER'S BOW LAMP ASSEMBLY

Filed Sept. 11, 1964 2 Sheets-Sheet 1

FIG. 1.

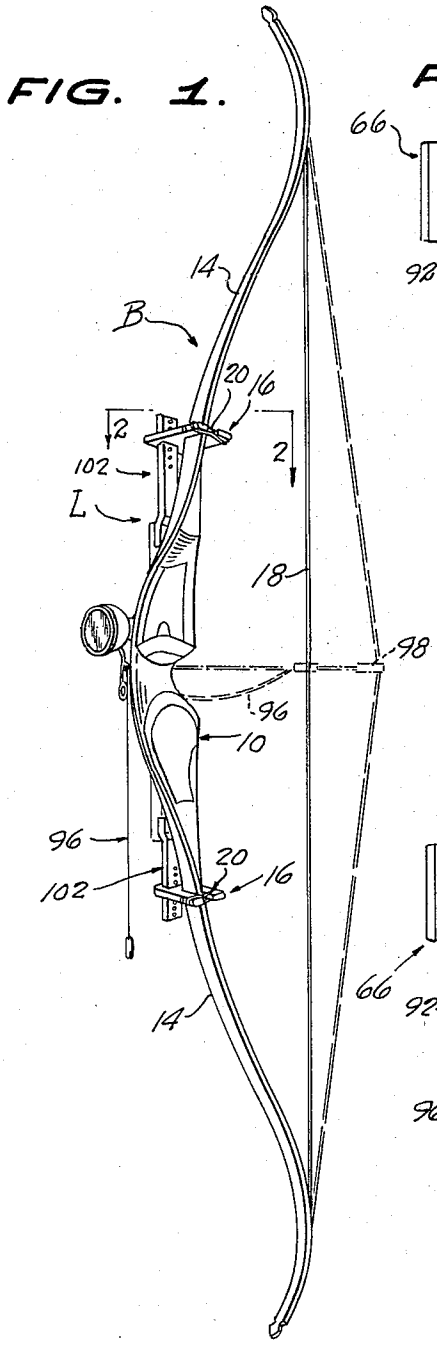
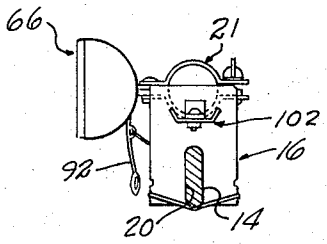


FIG. 2.



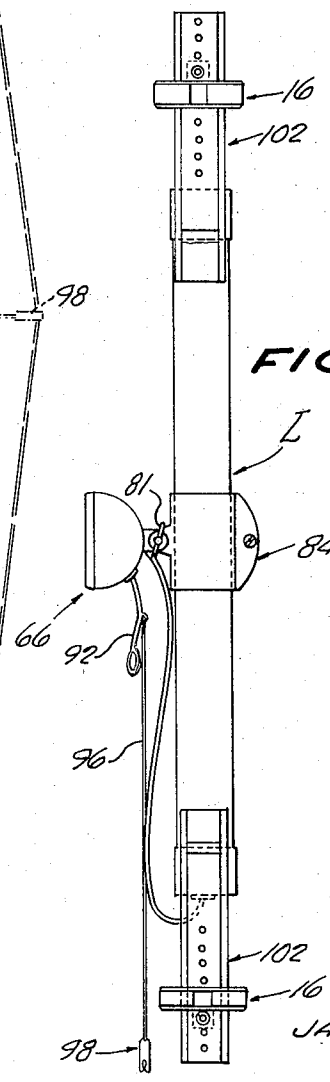


FIG. 3.

FIG. 4.

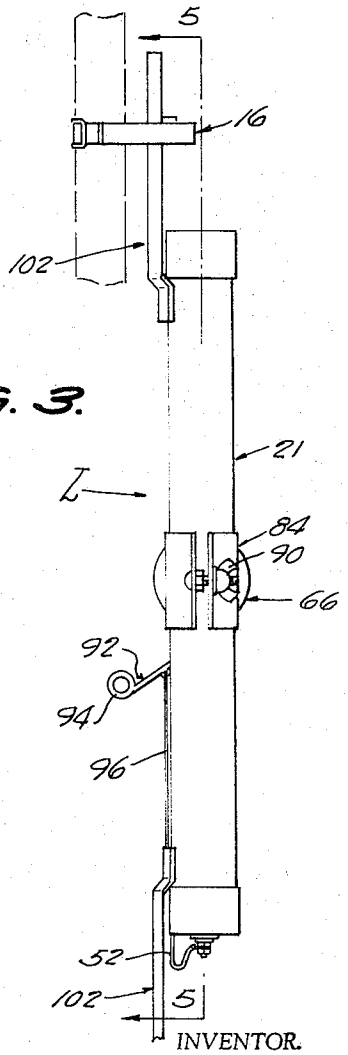


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FIG. 5.

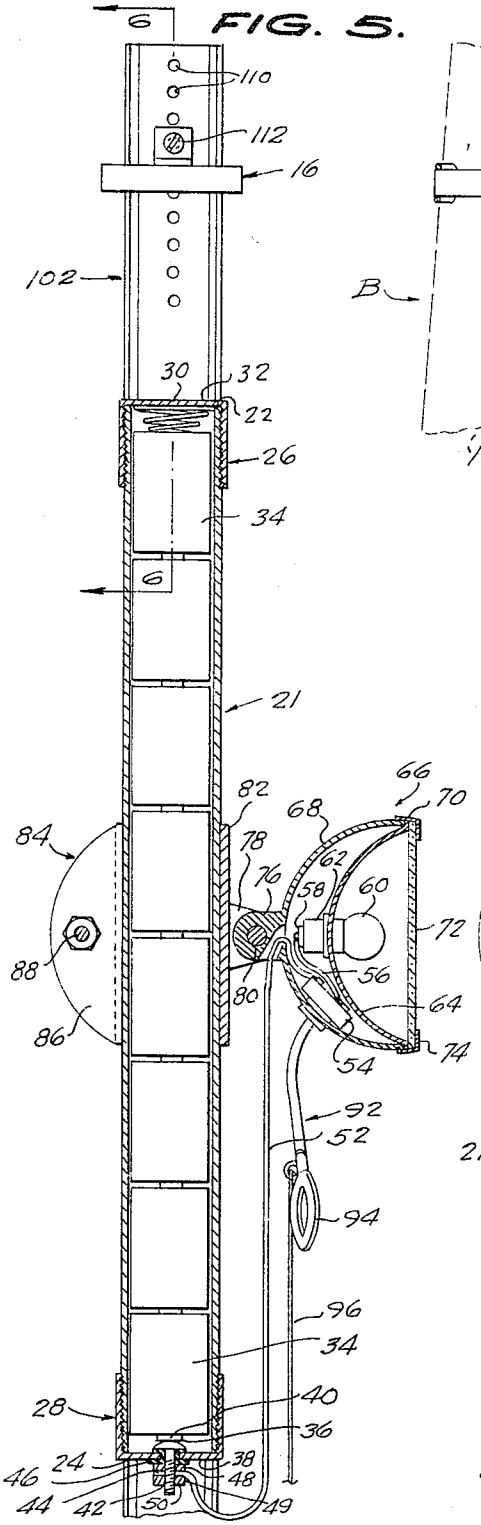


FIG. 6.

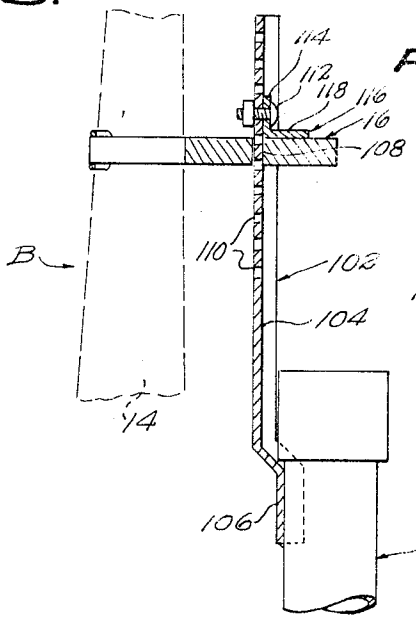


FIG. 8.

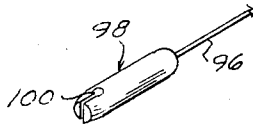
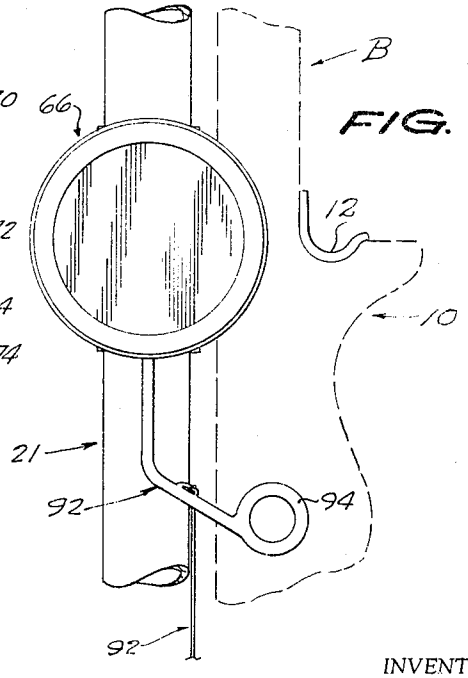


FIG. 7.



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ARCHER'S BOW LAMP ASSEMBLY

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7 Claims. (Cl. 240—6.4)

This invention relates to a lamp assembly adapted to be mounted on an archer's bow for night hunting.

The primary object of the invention is the provision of an efficient, light-weight, easily installed, and easily adjusted device of the kind indicated, which in no way interferes with the use and handling of an archer's bow, and which is readily operable to provide constant light, in front of the bow, to provide light only to illumine a target as the target is discovered.

In the drawings:

FIGURE 1 is a side elevation of an archer's bow equipped with a lamp assembly of the present invention, and showing, in phantom lines, the secondary switch operating means conected to the string of the bow, and in relaxed and in operative positions.

FIGURE 2 is a section taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a side elevation, on an enlarged scale, of the device, per se;

FIGURE 4 is a fragmentary elevation taken at right angles to FIGURE 3;

FIGURE 5 is a further enlarged fragmentary vertical transverse section taken on the line 5—5 of FIGURE 4;

FIGURE 6 is a fragmentary vertical section, taken on the line 6—6 of FIGURE 5, a related part of the bow being shown in phantom lines;

FIGURE 7 is a fragmentary front elevation of the device, with a related part of the bow in phantom lines; and,

FIGURE 8 is a fragmentary perspective view of the secondary switch operating means.

Referring in detail to the drawings, B generally designates a conventional archer's bow which comprises a middle portion **10** having, intermediate its ends, an arrow rest **12**, the limbs **14** of the bow extending beyond the ends of the middle portion **10**. The limbs **14** have secured thereto, at similar distances from the middle portion **10**, resilient mounting brackets **16** in the form of flat plates having notches **20**, and one end, which grippingly engage the limbs **14**.

The brackets **16** extend at right angles to the string **18** of the bow, and extend forwardly, rearwardly, and laterally from the bow limbs **14**. A lamp assembly L of the present invention extends between and is secured to the brackets **16**, at one side of the bow B.

The assembly L comprises a vertically enlongated tubular cylindrical battery case **21** having upper and lower ends **22** and **24**, onto which are threaded upper and lower caps **26** and **28**, respectively. The upper cap **26** has suitably affixed to the underside of its top wall **30**, a grounded contact spring **32**, which engages the bottom contact of a column of miniature dry batteries **34**. The lower cap **28** has a center contact **36**, on its bottom wall **38**, which engages the center contact **40** of the lowermost battery.

The center contact **36** is the head of a screw **42** which extends downwardly through a centered opening **44**, in the bottom wall **38**, of the lower cap **28**, the contact **36** and the screw **42** being insulated from the lower cap, by means of a dielectric grommet **46**. An upper retaining nut **48**, on the screw **42** bears against the lower end of the grommet **46**, and a lock nut **49**, on the screw, bears against the underside of the nut **48**, with an electrical connector clip **50** circumposed on the arrow, between the nuts. A single insulated flexible wire **52** leads from the clip **50** to one side of a toggle switch **54**, whose other side is connected, as indicated at **56**, to the base contact **58**,

of an electric bulb **60**. The bulb, as shown in FIGURE 5, is secured in a socket **62** which is fixed to and extends through the center of the metal parabolic reflector **64** of a lamp **66**.

The lamp **66** comprises a hemispherical housing **68** whose open end is embraced by a hook flange **70**, on the perimeter of the reflector **64**. A lens **72** engages the perimeter of the reflector **64**, and is held in place by a rim **74** threaded on the flange **70**.

At is axial center, the lamp housing **68** is provided with a lug **76** which is engaged between a pair of spaced ears **78**, the ears and the lug being transversed by a bolt **80** having a clamping wing nut **81** thereon, the ears **78** being fixed to the split sleeve **82** of a slide **84**.

The split sleeve **82** is slidably circumposed on the middle part of the battery case **21** and has opposed and spaced flanges **36** on its ends, which are transversed by a clamping bolt **88**, having a wing nut **90** thereon. The sleeve **82**, and hence the lamp **66** are, by the described arrangements, adjustable vertically along, and around the battery case **21**, and the lamp **66** is adjustable vertically to different angles, relative to the battery case.

The batteries **34**, having one side thereof grounded to the battery case **21**, and thereby to one side of the lamp bulb, through the lamp housing and its reflector, a circuit to light the bulb is made when the toggle switch **54** is closed. The switch **54** has a laterally outwardly and downwardly angled rigid actuating arm **92**, having a finger receiving loop **94** at its lower end. The actuating arm **92** is positioned so that the hand of the archer grasping the middle portion **10** of the bow B, can spare a finger for working the arm **92**, in opposite directions, for lighting and dousing the lamp.

Secondary means for lighting the lamp **66** is provided to be operated by the archer pulling the bow string **18**, as he spots a target, and comprises a flexible cord **96** which is secured, at one end, to the switch actuating arm **92**, at a point above the finger loop **94**, and at its other end, to an arrow nock-like member **98**, having a notch **100** securable to the bow string **18**. This particular arrangement makes it feasible for the archer, upon spotting a target, to draw the bow, aim at the target, and put the lamp on the target, in a substantially continuous motion.

Means for mounting the battery case **21** to the mounting brackets **16**, comprises similar upper and lower vertical brackets **102**, in the form of rigid channel plates **104**, having laterally offset inner end portions **106** suitably affixed, as by welding, to the same side of the case **21**, at similar locations inwardly of and near to the caps or the ends of the case.

The brackets **102** extend through conformably shaped transverse openings **108** formed in the mounting brackets **16**, at locations spaced forwardly relative to the bow limbs **14**. The bracket plates **104** are provided with central vertical rows of adjustment holes **110**, adapted to receive bolts **112**, which transverse also the vertical legs **114** of L-shaped stops **116**, whose horizontal legs **118** bear upon the outer surfaces of the mounting brackets **16**.

In view of the foregoing it will be seen that an archer can have adequate and immediate controlled light whenever he so desires, adjustable relative to the bow B, at any convenient angles, for different purposes.

What is claimed is:

1. The combination with an archer's bow having a middle portion, limbs extending from the ends of said middle portion, and lateral brackets on the limbs, said brackets being spaced from opposite ends of said middle portion of the bow, of a lamp assembly extending between and secured to the lateral brackets, said lamp assembly comprising a vertical battery case containing battery means, vertical mounting brackets secured to the battery case adjacent its ends, said lateral brackets being

formed with openings through which the mounting brackets extend, and means for securing the mounting brackets adjustably to the lateral brackets.

2. The combination with an archer's bow having a middle portion, limbs extending from the ends of said middle portion, and lateral brackets on the limbs, said brackets being spaced from the opposite ends of said middle portion of the bow, of a lamp assembly extending between and secured to the lateral brackets, said lamp assembly comprising a vertical battery case containing battery means, vertical mounting brackets secured to the battery case adjacent its ends, said lateral brackets being formed with openings through which the mounting brackets extend, and means for securing the mounting brackets to the bow brackets, said mounting brackets being formed with vertical rows of adjustment holes, said means comprising angle stops having vertical legs bearing against the mounting brackets, bolts traversing selected adjustment holes and said vertical legs, said stops having horizontal legs engaged with the outer sides of the bow brackets.

3. The combination with an archer's bow having a middle portion, limbs extending from the ends of said middle portion, and lateral brackets on the limbs, said portion of the bow, of a lamp assembly extending be- being formed with vertical rows of adjustable holes, said tween and secured to the lateral brackets, said lamp assembly comprising a vertical battery case containing battery means, vertical mounting brackets secured to the battery case adjacent its ends, said lateral brackets being formed with openings through which the mounting brackets extend, and means for securing the mounting brackets to the bow brackets, an electric lamp mounted laterally on the battery case, said lamp containing an electric bulb which is electrically connected to the battery means, said lamp having a housing pivotally connected to the battery case, a vertically and rotationally adjustable clamp circumposed on the battery case, the lamp housing being mounted on the clamp.

4. The combination with an archer's bow having a middle portion, limbs extending from the ends of said middle portion, and lateral brackets on the limbs, said brackets being spaced from opposite ends of said middle portion of the bow, of a lamp assembly extending between and secured to the lateral brackets, said lamp assembly comprising a vertical battery case containing battery means, vertical mounting brackets secured to the battery case adjacent its ends, said lateral brackets being formed with openings through which the mounting brackets extend, and means for securing the mounting brackets to the bow brackets, an electric lamp mounted laterally on the battery case, said lamp containing an electric bulb which is electrically connected to the battery means, said lamp having a housing containing a toggle switch, said toggle switch being in circuit with the battery means and the electric bulb, and an external rigid actuator arm for said switch, said actuator arm being located close to the middle portion of the bow.

5. The combination with an archer's bow having a middle portion, limbs extending from the ends of said middle portion, and lateral brackets on the limbs, said brackets being spaced from opposite ends of said middle portion of the bow, of a lamp assembly extending between and secured to the lateral brackets, said lamp assembly comprising a vertical battery case containing battery means, vertical mounting brackets secured to the battery case adjacent its ends, said lateral brackets being formed with openings through which the mounting brackets extend, and means for securing the mounting brackets to the bow brackets, an electric lamp mounted laterally on the battery case, said lamp containing an electric bulb which is electrically connected to the battery means, said lamp having a housing containing a toggle switch, said toggle switch being in circuit with the battery means and the electric bulb, and an external rigid actuator arm for said switch, said actuator arm being located close to the middle portion of the bow, said bow having a string extending between and connected to the outer ends of the bow limbs, and secondary means for operating the switch, comprising a cord connected at one end to the switch arm and at its other end to the bow string.

6. A device of the character described, comprising an open-ended battery case containing battery means, first and second caps secured on and closing related ends of the case, one of said caps having a grounding contact spring in contact with one side of said battery means, the other cap having insulated contact means in contact with the other side of the battery means, an insulated wire leading from said insulated contact means, a lamp mounted laterally on the battery case and grounded to the case, said lamp containing an electric bulb having one side grounded to the lamp, and another side, a toggle switch mounted on the lamp and having one side connected to said other side of the bulb and another side connected to said insulated wire, said switch having an external rigid actuator arm, and mounting bracket means extending from the ends of the battery case for mounting the device to the limbs of an archery bow.

7. A device according to claim 6, wherein a clamp sleeve is slidably and rotatably circumposed on the battery case, said lamp being pivotally mounted on the clamp sleeve.

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