

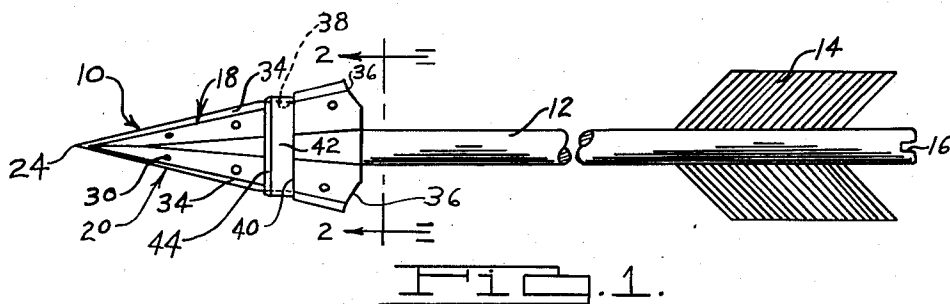
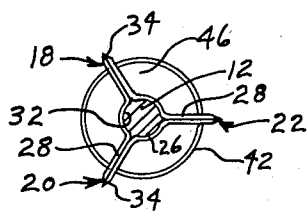
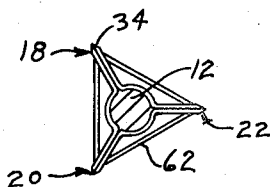
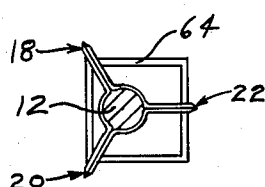
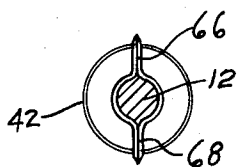
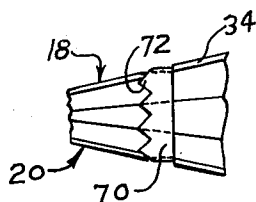
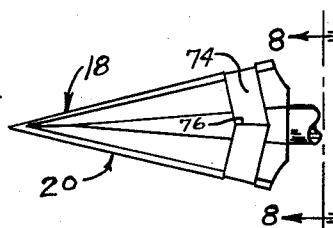
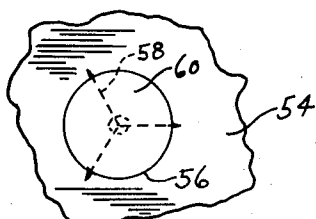
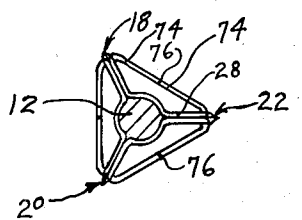
May 26, 1959

O. G. SHARRAR ET AL

2,888,264

ARCHERY HUNTING ARROW

Filed May 17, 1955



INVENTORS.
OSRO G. SHARRAR
WENDELL R. BROOKS
NORMAN J. BIGRAS
BY
Robert G. McIntyre
ATTORNEY

1

2,888,264

ARCHERY HUNTING ARROW

Osro G. Sharrar and Wendell R. Brooks, Dearborn, and Norman J. Bigras, Alpena, Mich., assignors, by direct and mesne assignments, to W. R. Brooks, Inc., Dearborn, Mich., a corporation of Michigan

Application May 17, 1955, Serial No. 508,841

10 Claims. (Cl. 273—106.5)

This invention relates to archery hunting arrows, and, more particularly, to a new and novel type of hunting arrow which is adapted for use on a wide variety of large game, and, which functions to kill the game quicker and in a more humane manner than was heretofore possible with the prior art hunting arrows.

In recent years, the use of the bow and arrow as a hunting weapon to kill large game, has greatly increased. The increased use of this type hunting weapon has resulted in a great number of wounded game being left to die in the forests without being found by the hunters who shot them, due to the fact that, although the hits may be fatal, the wound does not bleed profusely enough to provide a blood trail for trailing down the wounded game. Furthermore, in many instances, hits are made on animals which do not prove fatal, because of the fact that the animal's flesh has closed around the shaft of the arrow and prevented bleeding, whereby, the wounded animal has been subjected to unnecessary suffering. Accordingly, it is the primary object of this invention to provide an improved archery arrow especially adapted for hunting large game, and, which is capable of cutting a large open wound in the game so as to permit a free flow of blood therethrough, to provide a blood trail that may be easily followed in trailing down the wounded game.

It is another object of this invention to provide an archery hunting arrow which is capable of producing a mortal wound with every hit in the body of an animal.

It is a further object of this invention to provide an archery hunting arrow which is deadlier, and more destructive to any object it hits, than any arrow heretofore known in the prior art.

It is a still further object of this invention to provide an archery hunting arrow which is simple and rugged in construction, economical of manufacture, and efficient in use.

It is a still further object of this invention to provide an archery hunting arrow having an arrowhead provided with a cutting means mounted around a portion of the periphery of the blades of the arrowhead.

Other objects, features and advantages of this invention will be apparent from the following detailed description and appended claims, reference being had to the accompanying drawing forming a part of the specification wherein like reference numerals designate corresponding parts of the several views.

In the drawing:

Fig. 1 is a side view of an archery hunting arrow made in accordance with the principles of the invention;

Fig. 2 is a vertical elevational view, partly in section, of the structure illustrated in Fig. 1, taken along the line 2—2 thereof;

Fig. 3 is a view similar to Fig. 2, but which illustrates a second embodiment of the invention;

Fig. 4 is a view similar to Fig. 2, but which illustrates a third embodiment of the invention;

2

Fig. 5 is a view similar to Fig. 2, showing the invention as applied to another type of arrowhead;

Fig. 6 is a fragmentary side view of an arrowhead illustrating a fourth embodiment of the invention;

Fig. 7 is a side view of an arrowhead illustrating a fifth embodiment of the invention;

Fig. 8 is a vertical elevational view, partly in section, of the structure illustrated in Fig. 7, taken along the line 8—8 thereof;

Fig. 9 is a fragmentary plan view of a wound made by a conventional three-bladed archery hunting arrow; and,

Fig. 10 is a fragmentary plan view of a wound made by the three-bladed archery hunting arrow illustrated in Fig. 1.

Before explaining in detail the present invention, it is to be understood, that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood, that the phraseology and terminology employed herein is for the purpose of description and not limitation.

Referring now to the drawing, and, especially to Figs. 1 and 2, wherein is shown an archery hunting arrow made in accordance with the principles of the invention, and which comprises an arrowhead 10 suitably mounted on the forward end of a shaft 12, which is provided with the usual stabilizing vanes or fins 14 on the rearward part thereof. The butt end of the arrow shaft 12 is provided with the usual transverse slot or notch 16 for fitting the arrow on the string of a bow.

The arrowhead 10 is provided with the three longitudinal blades designated 18, 20 and 22, which are evenly spaced apart around the shaft 12, and which taper outwardly and backwardly from the arrow apex 24. As illustrated, the arrowhead 10 is formed from three elongated arcuate portions, as 26, which are provided with the axial, outwardly projecting flanges 28, along the outer edges thereof. The three arcuate portions 26 are made from a suitable metal and are disposed so as to have each of the flanges 28 abut an adjacent flange 28 and thus form the three blades 18, 20 and 22. The abutting flanges 28 are fixed together in any suitable manner, as by, spot welding at various longitudinally spaced points, as 30. The outer edges of the longitudinal blades 18, 20 and 22 are preferably sharpened to a fine cutting edge. As is best seen in Fig. 2, the three arcuate portions 26 coact to form a ferrule 32 for the reception of the front end of the arrow shaft 10.

The outer edges of the blades 18, 20 and 22, are preferably honed along the outer edges thereof, to provide a sharp cutting edge, as indicated by the numeral 34. The rear outer corner of each of these blades may be chamfered or relieved, as indicated by the numeral 36. As shown in Fig. 1, each of the arrowhead blades is provided with a step or notch in its cutting edge, at a point preferably adjacent the rear end thereof, and, in any case, at a point located to the rear of the longitudinal midpoint of the arrowhead 10. All of these steps are in vertical alignment with each other, and, each comprises a seating edge 38 which is parallel to the longitudinal axis of the arrow and, a shoulder edge 40 which is normal to said axis. The seating edges 38 are equidistant from the longitudinal centerline of the arrow.

Fixedly mounted on the seating edges 38, as by a press fit, is a ring-shaped cutting member 42 which is provided with a sharp cutting edge 44, along the front edge thereof. The rear edge of the cutting ring 42 is adapted to abut the notch shoulders 40. As shown in Fig. 2, the cutting ring 42 is laterally spaced from the arcuate sides 26 of the arrowhead, and this is indicated by the

3

numeral 46. The cutting ring 42 is preferably made from any suitable metal, alloy or the like.

Although the longitudinal arrowhead blades and cutting ring have been illustrated as being made separately, and then later assembled, it will be understood, that they may be cast as an integral unit, if desired, from any suitable metal, plastic, and the like.

In operation, the archery hunting arrow made in accordance with the present invention is used in the conventional way, but when the arrow hits the hunted animal, a gaping wound is opened, by the co-action of the cutting ring 42 and the three cutting blades 18, 20 and 22. The animal's blood will flow freely from this wound so as to weaken and kill him quickly, and, further, to provide a blood trail which may be easily followed by the hunter and his dog.

Figs. 9 and 10 illustrate the difference in the wounds made by a conventional three-bladed arrow and an arrow made in accordance with the invention. In Fig. 9, the numeral 48 indicates the part of an animal's body hit by a conventional three-bladed arrow. The wound made by such an arrow appears as three slits joined at their inner ends, at the point designated as 52. In contrast, Fig. 10 shows a part, as 54, of an animal's body hit by the arrow shown in Fig. 1, which is made in accordance with the invention. The wound is substantially circular in shape, as indicated by the numeral 56. It will be seen, that the wound 56 is made by a double cutting action, that is, the three blades 18, 20 and 22 first cut the three slits shown by the lines 58, and, then, the circular cutting member 42 makes the circular cut 56. Such double cutting action permits the triangularly shaped portions of flesh 60 to be passed rearwardly through the spaces 46, between the cutting ring 42 and the arrowhead arcuate sides 26, to provide an enlarged open wound from which the blood will freely flow.

Fig. 3 illustrates a second embodiment of the invention in which a triangularly shaped cutting member 62 is mounted on the seating edges 38, of the three arrowhead blades 18, 20 and 22. This embodiment functions in the same manner as the embodiment of Fig. 1. However, instead of cutting a circular wound in the animal, the arrow of Fig. 3 cuts a triangularly shaped wound. The front edge would, of course, be sharpened.

Fig. 4 illustrates a third embodiment of the invention in which a square cutting member 64 is adapted to be mounted on the seating edges 38, of the three arrowhead blades 18, 20 and 22. This embodiment functions in the same manner as the embodiment of Fig. 1. However, it will be seen, that a square wound will be made in an animal hit with the arrow shown in Fig. 4. The front edge of the cutting member 64 would be sharpened.

Fig. 5 illustrates the application of the principles of the invention to a two-bladed arrow, which is provided with a pair of diametrically disposed blades 66 and 68 having seating edges similar to the seating edges 38. The circular cutting member 42 would be suitably mounted on the seating edges formed on the blades 66 and 68. In use, the arrow illustrated in Fig. 5 would function similarly to that of Fig. 1. It will be obvious from the illustrations of Figs. 1 and 5, that the cutting ring 42 may be applied to arrowheads having any desired number of cutting blades thereon.

Fig. 6 illustrates a further modification of the embodiments shown in Figs. 3 and 4. In this modification, the arrow blades 18, 20 and 22 would be provided with the seating edges 38, and a cutting member 70 would be adapted to seat on said edges. The cutting member 70 may have a circular, triangular, square, or, any other desired cross-sectional shape, but the front cutting edge thereof is provided with a plurality of sharpened, longitudinally extending teeth 72. The provision of the teeth 72 on the cutting member 70 increases the cutting efficiency of said cutting member and permits it to penetrate the hunted animal's body more easily. The arrow

4

illustrated in Fig. 6 is used in the same manner as the previously described embodiments.

Figs. 7 and 8 illustrate another embodiment of the invention in which extended portions of the blades of the arrowhead are bent or folded so as to form a secondary, triangularly shaped cutting member. The arrowhead disclosed in Figs. 7 and 8 is a three-bladed arrow, similar to that shown in Fig. 1, and is provided with the cutting blades 18, 20 and 22. In this embodiment the flanges 28 are each provided with an extended portion or finger 74, which is adapted to be bent backwardly into engagement with an adjacent extended portion 74, along an abutment line as 76. If desired, the abutting ends of the portions 74 may be suitably fixed together, as by welding. As shown in Fig. 8, the folded fingers 74 coact to provide a triangularly shaped secondary cutting means which encompasses the blades 18, 20 and 22 at the rearward end thereof. The width of the extended fingers 74 may be determined as desired. The arrow illustrated in Figs. 7 and 8 would be used in the conventional manner.

While it will be apparent that the preferred embodiments of the invention herein disclosed are well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claims.

What is claimed is:

1. An arrow of the class described, comprising: a shaft provided with vanes on the rear end thereof; an arrowhead fixedly mounted on the front end of said shaft; said arrowhead being provided with a plurality of longitudinally extending blades; and, a cutting means fixed on said arrowhead for making a substantially closed cut in the object the arrow hits, so as to enclose the slits normally cut by the longitudinal blades.

2. An arrow of the class described, comprising: a shaft provided with vanes on the rear end thereof; an arrowhead fixedly mounted on the front end of said shaft; said arrowhead being provided with a plurality of longitudinally extending blades; and, a hollow cutting means enclosing a part of the rearward portion of said arrowhead and being fixed thereto.

3. An arrow of the class described, comprising: a shaft provided with vanes on the rear end thereof; an arrowhead fixedly mounted on the front end of said shaft; said arrowhead being provided with a plurality of longitudinally extending circumferentially spaced blades; and, a continuous cutting means surrounding a portion of said longitudinal blades.

4. An arrow of the class described, comprising: a shaft provided with vanes on the rear end thereof; an arrowhead fixedly mounted on the front end of said shaft; said arrowhead being provided with a plurality of longitudinally extending, circumferentially spaced blades; and a tubular, open-ended cutting member mounted on and surrounding a rearward portion of said blades.

5. The invention as set forth in claim 4, wherein: said tubular cutting member is circular in cross section.

6. The invention as set forth in claim 4, wherein: said tubular cutting member is square in cross section.

7. The invention as set forth in claim 4, wherein: said tubular cutting member is triangular in cross section.

8. The invention as set forth in claim 4, wherein: said tubular cutting member is provided with a cutting edge on the front edge thereof, and said cutting edge includes a plurality of longitudinally disposed teeth.

9. An arrowhead adapted for use on an archery hunting arrow comprising: a mounting means adapted for mounting on the forward end of an arrow shaft; a plurality of longitudinally extending, circumferentially spaced blades on said mounting means; and, a hollow cutting means surrounding a part of the rearward end of said arrowhead and being fixed thereto.

10. An arrowhead of the game hunting type adapted

5

for cutting material from the skin and flesh to leave a hole when penetrating a game animal comprising face abutting joined plates, complementary tapered socket forming members carried by said plates in faced relation, a point formed on the forward end of each plate with said plate having rearwardly divergent cutting edges extending from said point, a blade formed on each longitudinal edge of each plate rearwardly of said point, the blades of each plate being bent from the plane of said plate in a direction opposite to an abutting plate to a point midway of said plate so that the blades on opposite edges of one plate contact and the blades on

5

10

6

the opposite edges of the abutting plate contact, said blades on said plates cooperating to form a continuous closed tube, and cutting edges on the edge portions of said blades toward said point.

References Cited in the file of this patent

UNITED STATES PATENTS

1,333,745	Wescott -----	Mar. 16, 1920
2,504,449	Ramsey -----	Apr. 18, 1950
2,549,235	Ramsey -----	Apr. 17, 1951
2,589,137	Ramsey -----	Mar. 11, 1952