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ARROWHEAD CONSTRUCTION

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Fig 1

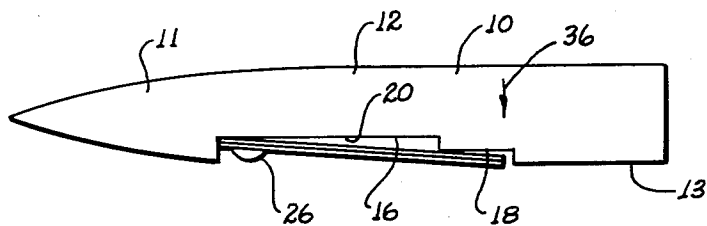


Fig 2

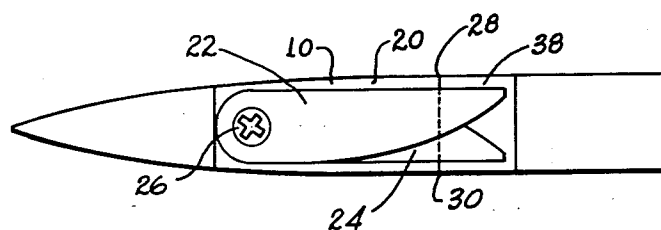
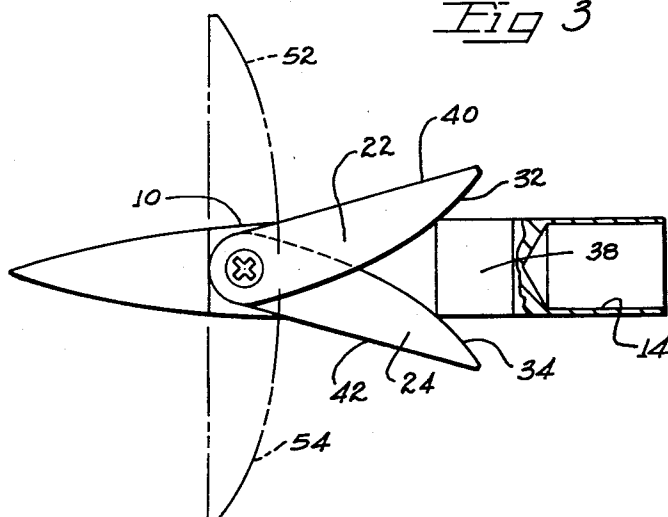


Fig 3



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ARROWHEAD CONSTRUCTION
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This invention relates to an arrowhead construction, and particularly to an arrowhead construction having an extendable cutting blade for insuring a more extensive wound in the game. One object of the present invention is to provide an arrowhead construction having a retractable cutting blade which can be extended to provide a relatively long cutting surface, thereby preventing the arrowhead construction from being dislodged from the game by twisting and turning of the game in flight.

Another object of the present invention is to provide an arrowhead construction having a retractable blade which retracts substantially completely into the arrowhead body, thereby insuring easy removal of the arrow from the game after the kill.

Another object of the present invention is to provide a retractable arrowhead construction which requires a minimum number of machining and assembly operations, thereby enabling the arrowhead construction to be constructed as a relatively low cost item.

Another object of the invention is to provide a retractable blade arrowhead construction wherein the blade can be manually moved between the retracted and extended positions easily and quickly.

Another object of the present invention is to provide a blade-equipped arrowhead construction wherein the blade can be caused to have a loose or tight fit in the arrowhead so as to adapt the device to the wishes of all prospective users.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In the drawings:

FIG. 1 is a top plan view of one embodiment of the invention;

FIG. 2 is a side elevational view of the FIG. 1 embodiment;

FIG. 3 is a view of the FIG. 1 embodiment taken in the same direction as FIG. 2 but showing the blades in extended positions.

Before explaining the present invention in detail, 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 drawings, 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 or terminology employed herein is for the purpose of description and not of limitation.

In the drawings there is shown an arrowhead construction comprising an arrowhead body 10 formed with a bullet-like frontal portion 11, a generally cylindrical mid-portion 12 and a generally cylindrical rear portion 13. Rear portion 13 is internally contoured to define a socket 14 for reception of an arrow shaft (not shown).

Cylindrical portion 12 is cut away to provide a generally deep recess 16 and a generally shallow recess 18. Recess 16 defines a generally flat surface 20 which facially engages one face of a cutting blade 22 when said blade is in the FIG. 3 position. A second blade 24 partially overlaps blade 22, and a clamping screw 26 is extended through the forward portions of said blades into arrowhead body 10 to mount the blades for pivotal movement around the screw axis. As will be appreciated from FIG.

3, the blades constitute barb elements for inflicting wide and deadly wounds in the game.

The juncture between shallow recess 18 and deep recess 16 forms a pair of shoulders 28 and 30 which cooperate with the longitudinal edges 32 and 34 of blades 22 and 24 to prevent movement of the blades from the FIG. 3 extended cutting position to the FIG. 2 retracted or housed position. However, by exerting a manual pressure on the blade (22 or 24) in the arrow 36 direction, the blade can be deflected slightly so as to clear the adjacent shoulder (28 or 30) and permit manual pivoting of the blade into the FIG. 2 position.

The ease with which the blades can be moved from the extended to the retracted positions can be controlled by the adjustment of screw 26. By loosening the screw slightly the clamping pressure of the screw on the blades can be lessened so as to permit a slight play of the blades between surface 20 and the screw head; this slight play allows the blades to be easily moved into the retracted position. Conversely a tightening of screw 26 causes the screw head to exert a tight clamping pressure on the blades for requiring the user to exert greater force to move the blades from the FIG. 3 to the FIG. 2 position. The adjustable clamping characteristic of screw 26 accommodates the device to the desires of all prospective users.

In use of the illustrated device the device is telescoped onto the forward portion of a conventional arrow and the arrow construction is fired with the blades 22 and 24 in the FIG. 3 extended positions. As the arrow construction strikes the game the blade edges 40 and 42 cut into the game so as to inflict a wide and therefore deadly wound. On drawback of the arrow construction the trailing edges 32 and 34 catch on the game so as to tend to cause the blades to open to right angularly extending positions 52 and 54 to thereby further widen the wound.

The arrow construction may be easily removed from the game by forcing the arrow construction entirely through the game until blades 22 and 24 are exposed, then moving the blades to their FIG. 2 retracted positions, and thereafter withdrawing the arrow construction out of the game in a rearward direction. In this connection it will be noted that in the retracted position the cutting blades are located within the confines of arrowhead member 10 so as to offer no resistance to rearward withdrawal of the arrow construction from the game.

The illustrated device is provided with no surfaces requiring close machining, and since the device incorporates a minimum number of parts it may be manufactured as a relatively low cost item.

I claim:

1. The combination comprising an arrowhead body having a side surface; a first relatively deep recess formed in said side surface; a second relatively shallow recess formed in said side surface immediately rearward of the first recess to cooperate therewith in defining a shoulder; a blade having its leading portion positioned within the first recess and having one of its longitudinally extending edges engaged with the shoulder to position the blade in a location extending angularly out of the arrowhead body; clamping means extending through the forward portion of the blade and into the arrowhead body to pivotally secure the blade therein, whereby the exposed portion of the blade may be manually lifted to move out of engagement with the shoulder and permit manual positioning of the blade substantially entirely within the arrowhead with its rear portion frictionally engaged with the recess-forming surface of the second recess.

2. The combination comprising an arrowhead body having a side surface; a first relatively deep recess formed in said side surface; a second relatively shallow recess formed in said side surface immediately rearward of the first recess to cooperate therewith in defining a shoulder;

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a blade having its leading portion positioned within the first recess and having one of its longitudinally extending edges engaged with the shoulder to position the blade in a location extending angularly out of the arrowhead body; a headed clamping screw extending through the forward portion of the blade and into the arrowhead body to pivotally secure the blade therein; whereby the exposed portion of the blade may be manually lifted to move out of engagement with the shoulder and permit manual positionment of the blade substantially entirely within the arrowhead with its rear portion frictionally engaged with the recess-forming surface of the second recess.

3. The combination comprising an arrowhead body having a side surface; a first relatively deep recess formed in said side surface; a second relatively shallow recess formed in said side surface immediately rearward of the first recess to cooperate therewith in defining two shoulders; a pair of overlapping blades having their leading portions positioned within the first recess and having one of their longitudinally extending edges engaged with the shoulders to position the blades in locations extending angularly out of the arrowhead body; clamping means extending through the forward portions of the blades and into the arrowhead body to pivotally secure the blades therein; whereby the exposed portions of the blades may be manually lifted to move out of registry with the shoulders and permit manual positionment of the blades substantially entirely within the arrowhead with their rear portions

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frictionally engaged with the recess-forming surfaces of the second recess.

4. The combination comprising an arrowhead body having a generally cylindrical section; a first relatively deep recess formed in said cylindrical section and defining a first flat face; a second relatively shallow recess formed in said cylindrical section and defining a second flat face; a third face extending right angularly between said first and second faces to cooperate with the cylindrical surface of the cylindrical section in defining a shoulder; a blade having its forward portion disposed in the first recess; a pivot means mounting said blade for pivotal movement around an axis located adjacent the forward portion of the blade; said blade having a first longitudinal edge extending generally parallel with and adjacent the external cylindrical surface of the cylindrical section, and a second longitudinal edge tapering rearwardly toward the rear limit of the first longitudinal edge for cooperating therewith in defining a point structure.

References Cited in the file of this patent

UNITED STATES PATENTS

2,289,284	Chandler	July 7, 1942
2,568,417	Steinbacher	Sept. 18, 1951
2,820,634	Vance	Jan. 21, 1958
2,859,970	Doonan	Nov. 11, 1958