April 20, 1954 A. SELENT ET AL 2,676,017

COMPOSITE ARROWHEAD

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Fig. 1

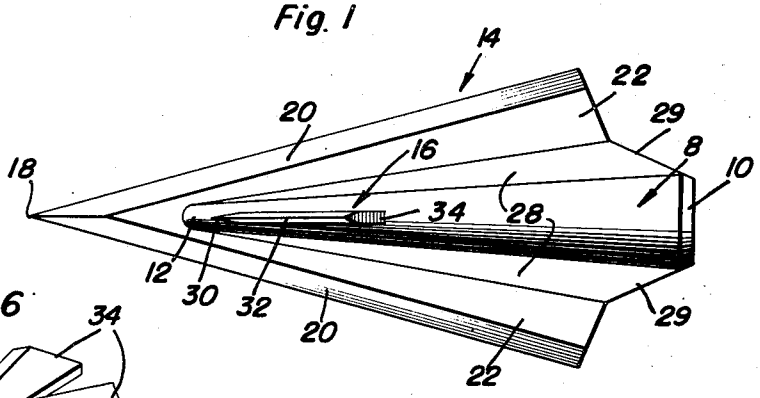


Fig. 6

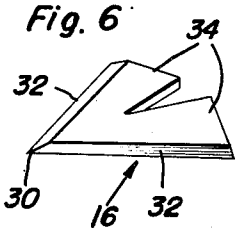


Fig. 2

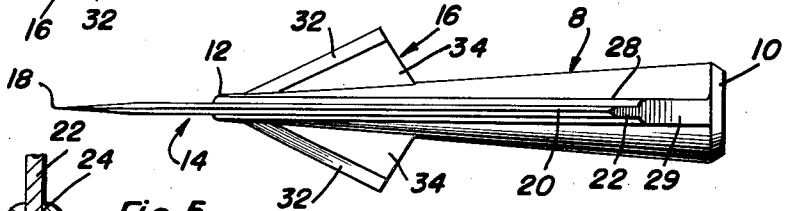


Fig. 5

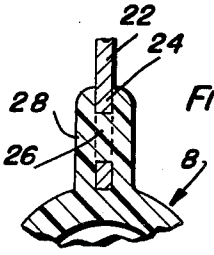
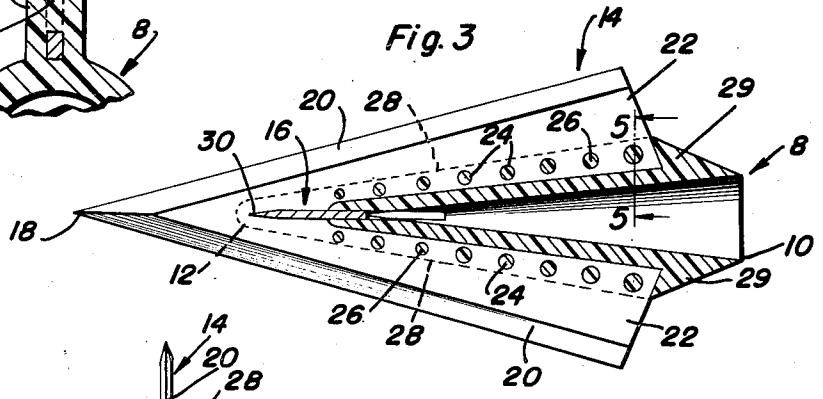


Fig. 3



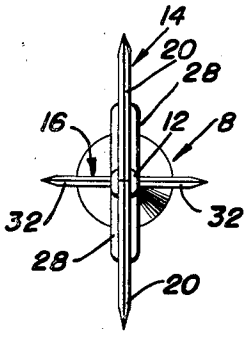


Fig. 4

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COMPOSITE ARROWHEAD

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3 Claims. (Cl. 273—106.5)

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The present invention relates to certain new and useful improvements in arrow head constructions and has more particular reference to a novel composite arrow head for use by archers in the pursuit of the sport of archery and which, when fully bladed, is highly satisfactory for use in hunting.

When used purely as a broad head by archers for practice and training, a single primary triangulated blade is employed and where constructed for use in hunting, primary and secondary blades are properly paired and arranged at equidistant circumferentially spaced points for best results.

There are many and varied styles and forms of arrow heads susceptible of attaining the aforementioned end results and many of these are characterized by seemingly common expedients differing from one another in structural particulars in the category of refinements and betterments here and there. In fact, a generally accepted arrow head comprises a bladed hub member, the latter being in the form of a ferrule for reception and retention of the usual bow projected shaft.

It is an object of the instant invention to structurally, functionally and otherwise improve on similarly constructed and performing arrow heads and in so doing, to provide one in which manufacturers, archers and hunters will find their respective requirements and needs satisfactorily met.

More specifically, the invention appertains to a composite type arrow head construction which has to do with cooperating metal inserts or blades embedded in a ferrule which is made of moldable commercial plastics such as, for example, light weight but durable polystyrene, polyethylene and the like.

Briefly, the invention has to do with a composite practice-type arrow head for use by archers, comprising a moldable plastic ferrule for application to a bow projected shaft, and a complemental broad metal primary blade having a penetrating point and sharpened marginal edges converging and merging with said point, said blade having portions embedded and thus anchored in said ferrule.

The aforementioned blade is preferably bifurcated to provide furcations and the latter are anchored and sheathed in diametrically opposite ribs or outstanding fins on the exterior of the ferrule. This is for an archer's practice-type broad head and where used for hunting, a secondary

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blade is embedded at right angles to the primary blade.

Other objects, features, advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the accompanying sheet of drawings wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is what may be described as either a plan or an elevational view of an arrow head constructed in accordance with the invention, the so-called hunting type;

Figure 2 is another elevational view at right angles to Figure 1;

Figure 3 is a lengthwise sectional view with parts in section and elevation showing the details of construction;

Figure 4 is a front end view, observing Figures 1 and 2 in the direction from left to right;

Figure 5 is a fragmentary exaggerated section taken on the vertical line 5—5 of Figure 3 looking in the direction of the arrows; and,

Figure 6 is a perspective view of the secondary insert or blade.

Referring now to the drawings by way of reference numerals, the principal member takes the form of a tapering or substantially conical ferrule 8 whose trailing end is denoted at 10 with the leading end or nose slightly blunt and denoted at 12. As brought out in Figures 3 and 5 this ferrule is, of course, hollow and the usual wooden or equivalent shaft (not shown) is wedged into the socket thus provided. There are two metal inserts or blades usually employed in the over-all construction and the larger primary blade is denoted by the numeral 14 and the smaller secondary companion blade by the numeral 16. Each blade is substantially flat and triangular in plan. The primary blade has a pointed leading end or vertex 18 and rearwardly diverging lengthwise edges which are sharpened and denoted by the numerals 20—20. As best shown in Figure 3, the body of the blade, which is flat on top and bottom is bifurcated and the furcations 22—22 are provided with apertures 24 along their inward marginal edges which are sheathed and molded and thus embedded as at 26 in the respective outstanding diametrically opposite ribs or fins 28. The trailing ends of the respective furcations stop inwardly of the trailing end 10 of the ferrule where they extend toward said end 10 and are sloped and converge toward each other. As is clear from the drawings fins or ribs commensurate in length with the length of said ferrule and the so-called trailing ends of the respective furcations

terminate inwardly or short of the adjacent trailing end of the ferrule. The portions of the fins which extend or project beyond terminal ends of the furcations also slope toward the terminal end of the ferrule and converge as at 29—29. Under this arrangement the trailing ends of the furcations are therefore in somewhat obtuse angled relationship in respect to their cooperating sloping portions 29—29 of the fins.

The smaller secondary blade also has a penetrating point 30 and cutting edges 32—32. It is also bifurcated and the furcations are denoted at 34—34. The pointed end and median body portion is completely embedded and molded in the plastic ferrule rearwardly or inwardly of the leading end 12 as shown in the drawing, the two blades being at right angles to each other and thus providing the circumferentially spaced equidistant arrangement seen in Figure 4.

The device is of low cost construction and may be produced by either injection or compression molding and in case of the hunting type shown the over-all weight is appreciably reduced.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size and arrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having described the invention, what is claimed as new is:

1. A composite practice-type arrow head for use by archers, comprising a moldable plastic ferrule for application to a bow projected shaft, and a complemental broad metal blade having a penetrating point and sharpened outer marginal edges converging and merging with said point, said blade having portions embedded and thus anchored in said ferrule, said ferrule being generally conical in shape, and provided exteriorly with a pair of diametrically opposite outstanding fins, said blade being bifurcated and providing furcations, the latter straddling said ferrule and being embedded and sheathed in said fins, said fins being coextensive in length with the length of said ferrule, the trailing ends of said furcations terminating short of the trailing end of said ferrule and the portions of the fins projecting beyond the trailing ends of said furcations sloping and converging toward said trailing end.

2. A composite arrow head comprising a moldable plastic ferrule of hollow conical form closed at its leading end and open at its trailing end for reception and retention of a shaft, and a first relatively small blade, the latter of metal and triangular in shape, the trailing end of said blade being bifurcated and providing furcations, the leading apical end being pointed and the side marginal edges being sharpened, the median body portion, pointed end, and portions of said furcations being molded and thus embedded in said ferrule with only the sharpened edges and trailing ends of said furcations exposed and projecting beyond the exterior surfaces of said ferrule, said ferrule being exteriorly provided with a pair of diametrically opposite outstanding fins, and a second broad-type metal blade having a penetrating point in advance of said closed leading end and having its trailing end bifurcated to define furcations, the latter straddling said leading end, being apertured and embedded and thus anchored in said fins, said second blade being at right angles to said first blade.

3. The structure defined in claim 2, wherein said fins are commensurate in length with the length of said ferrule, the last named furcations having their free ends terminating short of the trailing end of said ferrule and the adjacent end portions of said fins projecting beyond said free ends and sloping and converging toward said trailing end.

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