June 6, 1944. E. S. BOOSE 2,350,581

ARROW HEAD

Filed July 29, 1942

Fig. 1.

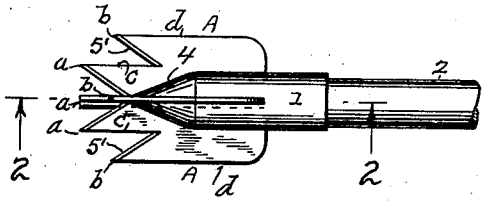


Fig. 2

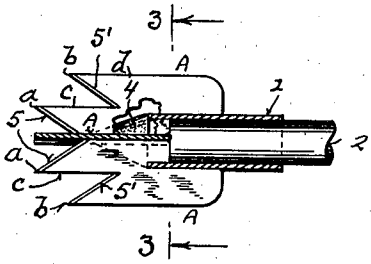


Fig. 3.

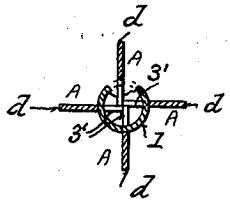


Fig. 4.

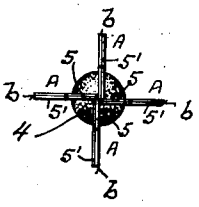


Fig. 5.

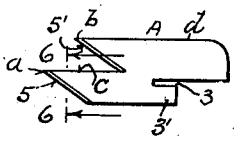


Fig. 6.



Fig. 7.

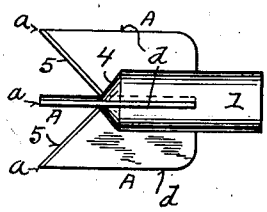
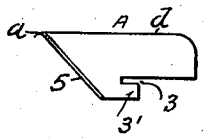


Fig. 8.



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UNITED STATES PATENT OFFICE

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ARROWHEAD

Elmer S. Boose, Two Rivers, Wis.

Application July 29, 1942, Serial No. 452,710

1 Claim. (Cl. 273—106.5)

My invention refers to arrow heads and it has for its primary object to provide an arrow head which will not glance and particularly adapted for hunting purposes wherein a plurality of blades radially disposed about the axis of a shank or ferrule are provided, the body or vane portion of said blades serving as guides for the arrow in its travel through obstacles such as twigs, etc., there being points at their forward or leading ends of said blades with the body portion of the blades extending from said points obliquely and backwardly, intersecting the axis of the ferrule to form a series of cutting edges, the said cutting edges forming in effect an inverted V shape whereby a clean cut is affected incidental to the arrow head traveling through the twigs, etc. on its course to the mark. The trailing vane portions of the blades will hold the arrow upon its true predetermined course, it being understood that the term "leading" refers to the front end of the blades and the term "trailing" to the rear ends of the said blades.

A specific object of my invention is to provide a ferrule having a plurality of equally spaced radially disposed blades about its axis, with each blade having a "leading" point and an angular cutting face extending backwardly therefrom, in conjunction with a "trailing" guide portion extending from the point, the same being parallel to the ferrule.

Another specific object of my invention is to provide each blade as previously described with what might be termed a double saw tooth cutting leading end whereby efficiency is increased.

With the above and other minor objects in view the invention consists in certain peculiarities of construction and combination of parts as will be fully set forth hereinafter with reference to the accompanying drawing and subsequently claimed.

In the drawing:

Figure 1 represents a side elevational view of an arrow head embodying the features of my invention.

Figure 2 is a longitudinal sectional view of the same the section being indicated by line 2—2 of Figure 1.

Figure 3 is a cross section of the arrow head the section being indicated by line 3—3 of Figure 2.

Figure 4 is a front end view of the head.

Figure 5 is a detail side elevational view of one of the saw tooth blades.

Figure 6 is a magnified cross sectional view through the cutting portion of one of the teeth the section being indicated by the line 6—6 of Figure 5.

Figure 7 is a side elevational view of another form of my arrow head invention wherein the blades at their leading ends are formed with a single saw tooth cutting surface.

Figure 8 is a detail elevational view of one of the blades having a single diagonally disposed cutting face.

Referring by characters to the drawing 1 indicates a circular ferrule into which is suitably secured a standard arrow shaft 2. The front or leading end of the ferrule in this particular exemplification of my invention, is open for the reception of a plurality of blades A. The base of each blade is formed with a kerf 3 adapted in assemblage, to engage the front walls of the ferrule and a lower tongue portion 3' entering said ferrule. After the group of four blades have been assembled in the end of the ferrule they are arranged in butt joint at their bases and positioned radially with reference to the axis of the ferrule or thimble.

Thereafter the blades are rigidly secured to the thimble by a pointed metallic plug 4 which may be soldered or otherwise formed, as by electric welding. As illustrated in the Figures 1 to 5 inclusive each blade at its front or leading end is provided with a double saw tooth cutting edges 5, the leading point *a* of the first tooth is slightly in advance of the leading point *b* of the second tooth and the top flat guiding edge *c* of the said first tooth is extended rearwardly toward the trailing edge of the blade to intersect the cutting face 5' of the second tooth. The upper edge *d* of said second tooth is arranged parallel to the upper face *c* of the first tooth and each of these faces *c* and *d* are preferably positioned parallel with the axis of the thimble. This structural detail being best shown in Figure 5 of the drawing. While I have specifically described one way of constructing the arrow head, it should be understood that I do not limit the invention to any specific manner of producing the head, as obviously various means known to the skilled mechanic may be employed for cheaply manufacturing these arrow heads in volume.

As for example I may employ arrow heads with three or four, or more blades provided the same are disposed equi-distant about the axis of the ferrule. It is obvious for example, that the blades may be stamped in companion pairs from a single blank and folded angularly to develop the radial disposition of the same. However, under all conditions the blades as shown in Figure 8 of

the drawing essentially provide a leading point, a rearwardly inclined bevelled edge for cutting purposes and a trailing vane for guiding purposes.

It should be understood that it is important to the success of this arrow head that the outer edges of each saw tooth and the outer edges of each blade should be straight and smooth and that the rearwardly extended vane should be smooth and straight.

The above noted structural features have by actual tests extending over a long period of time proven successful due to the fact that the outer edges of each saw tooth and the outer edges of each blade or vane were straight and smooth and also parallel to the axis of the ferrule.

Furthermore, in some instances the ferrule may be molded about a group of the blades for cheapness in construction.

From the foregoing description it will be seen that the lead point of each of the saw teeth, is forward of the cutting edges and the smooth guide edge of each saw tooth flows backwardly from this point, in approximately parallel relation to the thimble. It is understood that each cutting edge recedes backwardly from the leading point to a convergence, which might be termed a skeleton V, whereby efficiency of cutting is insured, to increase the shock or killing qualities of the arrow and also to sever any twigs or other objects through which the arrow may travel in its true flight, whereby deflection of said flight is eliminated. It is also understood that this arrow head may be used effectively in connection with a fish spear and while I have shown several forms of the invention I do not wish to be limited to the details of construction, except as specified in the claim.

I claim:

An arrow head comprising a pointed ferrule, a plurality of pointed blades extending beyond the ferrule each having a trailing angular cutting edge leading rearwardly and inwardly from its point intersecting the axis of the ferrule to form outwardly flared cutting saw teeth and guiding vanes extending backwardly from the points of the blades having edges paralleling the ferrule axis.

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