June 14, 1960 J. A. RICHTER 2,940,758

ARROWHEAD

Filed Jan. 2, 1958

Fig. 1

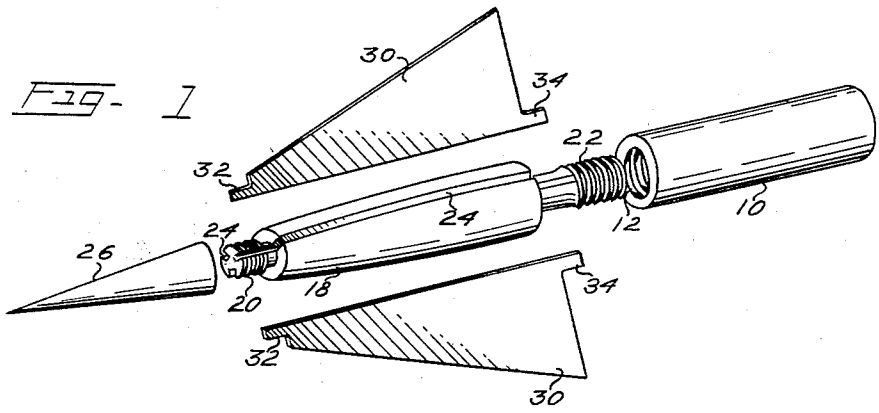


Fig. 2

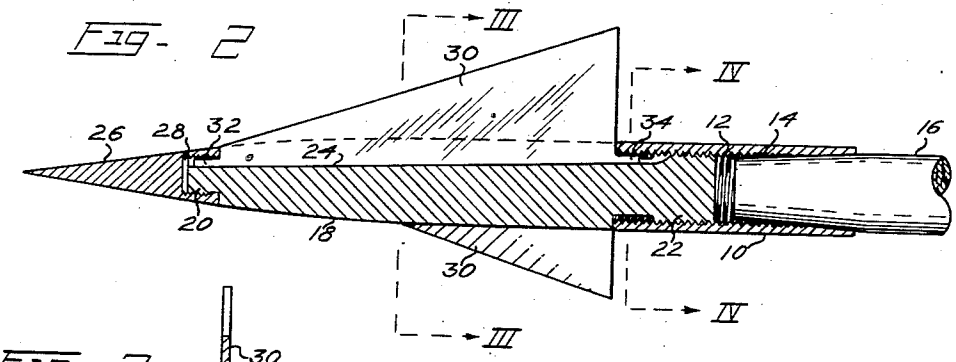


Fig. 3

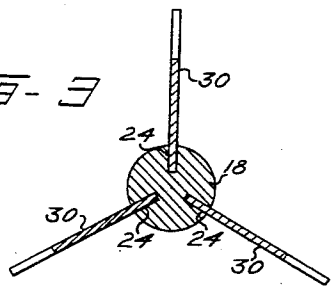


Fig. 4

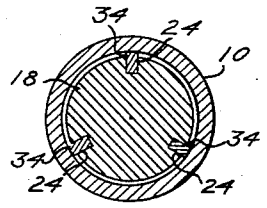


Fig. 6

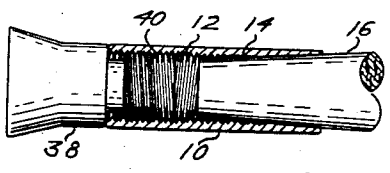
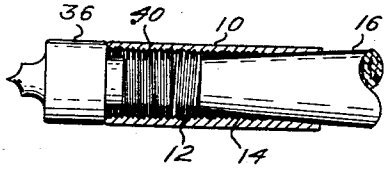


Fig. 5



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ARROWHEAD

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6 Claims. (Cl. 273—106.5)

The invention relates to arrow head structure and particularly pertains to arrow heads which may be interchangeably assembled upon a given shaft.

Archery requirements necessitate the use of various types of arrow heads for different purposes such as hunting, target practice and field shooting. As the usual method of attaching the arrow head to the shaft is a permanent connection the archer must possess a complete arrow for each type of head desired resulting in a considerable investment for bulky, unwieldy equipment. Also, as the arrow head is often damaged by contact with a stone or other hard object, the entire arrow must be discarded when only the tip or blade of a permanently connected head is damaged. To increase the versatility of arrow shafts and simultaneously decrease the replacement cost of damaged arrow heads, it is an object of the invention to provide an arrow head construction which permits various types of heads to be interchangeably affixed to a given arrow shaft.

A further object of the invention is to provide an arrow head of easily assembled components whereby damaged components may be conveniently replaced without the use of special skills or tools.

Another object of the invention is to produce an arrow head which may be readily removed and dismantled from the arrow shaft during transit and for cleaning purposes.

These and other objects of the invention will become apparent when viewed with regard to the following specification and accompanying drawings wherein:

Fig. 1 is an exploded disassembled view of the components of one embodiment of an arrow head incorporating the principles of the invention,

Fig. 2 is a cross-sectional elevational view of the arrowhead of Fig. 1 when assembled,

Figs. 3 and 4 are cross-sections of the arrowhead taken along the lines III—III and IV—IV, respectively of Fig. 2, and

Figs. 5 and 6 are partial cross-sections of various types of arrow tips which may be interchangeably used with the ferrule of the invention.

The basic member of the interchangeable arrowhead system employed by the invention is the cylindrical ferrule **10** which is formed with an axial threaded bore **12** and internally tapered at one end. A tapered arrow shaft **16** may be inserted into ferrule **10** and rotated upon engagement with threads **12** whereby the fibers of the shaft are compressed in the area **14** and a firm connection between ferrule **10** and shaft **16** is effected.

A preferred type of hunting arrowhead is shown in Figs. 1–4 which may be affixed to the ferrule **10**. The hunting head consists of an elongated bullet shaped body **18** formed with coaxial threaded projections **20** and **22** at the forward and rear ends, respectively. A series of longitudinal slots **24** are cut into body **18** evenly spaced about the periphery thereof. The embodiment illustrated is provided with three slots. However, any number of slots may be used depending on the number of blades desired, three slots positioned 120° apart or four slots

separated by 90° being the most common form. The tip **26** of the arrowhead is tapered to a sharp point and provided with a threaded hole **28** in the base for threaded connection to the projection **20**.

The blades **30** of the head are of planar triangular configuration with a pair of integral lips **32** and **34** extending from the lower edge. Thus, the head may be assembled as seen in Fig. 2, where the blades **30** are inserted into slots **24**, the tip **26** is screwed onto projection **20** and the projection **22** is threaded into the ferrule **10** affixing the entire arrowhead to the shaft. The depth of slots **24** is such that the slots extend into the projections **20** and **22** whereby the tip **26** will overlap the lip **32** and the ferrule **10** will overlap the lip **34**. Thus, the blades **30** are firmly held in the slots **24**.

The ease of assembly of the above described arrowhead will be readily apparent, the head may be dismantled for general handling or should the tip or a blade break or bend, replacement of the damaged component may be readily accomplished without special tools or skills. The ferrule **10** and body **18** may be machined of aluminum or other light weight material while the tip **26** and blades **30** are preferably made of steel for best wear and impact resistance characteristics. By using bodies having variously arranged slots the hunter may quickly change from a two to a three or four bladed arrowhead as desired.

As the ferrule **10** is formed with threads **12** a variety of arrowheads may be quickly attached to the shaft **16** simply by providing an arrowhead with a threaded connection to mate with threads **12**. Examples are shown in Figs. 5 and 6 wherein a target tip **36** and blunt tip **38** are provided with a threaded projection **40** for cooperation with the threads of ferrule **10**. Thus, the heads of Figs. 1, 5 and 6 may be selectively and quickly attached to a given arrow shaft.

Other fastening means than a thread may be used at projection **20** to affix the tip **26** thereto, thus, a type of snap ring connection or press fit may be employed, if desired.

It will be understood that various modifications to the disclosed embodiments may be apparent to those skilled in the art without departing from the spirit and scope of the invention.

I claim:

1. An arrowhead assembly for attachment to an arrow shaft comprising in combination, a ferrule adapted to be affixed to said shaft, an elongated body member removably secured to one end of said ferrule coaxial thereto, at least one slot longitudinally formed in said body, a removable blade seated in said slot projecting from said body, a tip removably secured to the other end of said body and means carried by said blade overlapped by said ferrule and said tip retaining said blade in said slot whereby said blade may be removed from said slot upon removal of said tip from said body.

2. An arrowhead assembly comprising in combination, a ferrule adapted to be affixed to an arrow shaft, a threaded bore formed in said ferrule, an elongated body member, said body member provided with coaxial front and rear threaded projections, at least one slot formed in said body extending the length thereof, said rear body projection mating with the threads of said ferrule bore, a blade within said slot projecting from said body, a tip having a threaded bore adapted to be threaded upon the front projection of said body, means carried by said blade cooperating with said ferrule and said tip retaining said blade in said slot.

3. An arrowhead assembly comprising in combination, a ferrule adapted to be affixed to an arrow shaft, a coaxial bore formed in said ferrule, threads formed in said bore adjacent one end thereof, said bore being tapered at the other end, an elongated body member provided with

front and rear coaxial threaded projections, at least one slot formed in said body extending the length thereof, said rear body projection being threaded into said ferrule, a blade within said slot projecting from said body, a tip having a threaded bore adapted to be threaded upon said front body projection and lips formed on said blade adapted to be overlapped by said tip and ferrule whereby said blade is retained in said slot.

4. In an arrowhead assembly as in claim 3 wherein two slot and blade sets are positioned at opposite sides of said body member.

5. In an arrowhead assembly as in claim 3 wherein three slot and blade sets are positioned at 120° intervals about the periphery of said body.

6. In a arrowhead assembly as in claim 3 wherein four slot and blade sets are positioned at 90° intervals about the periphery of said body.

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