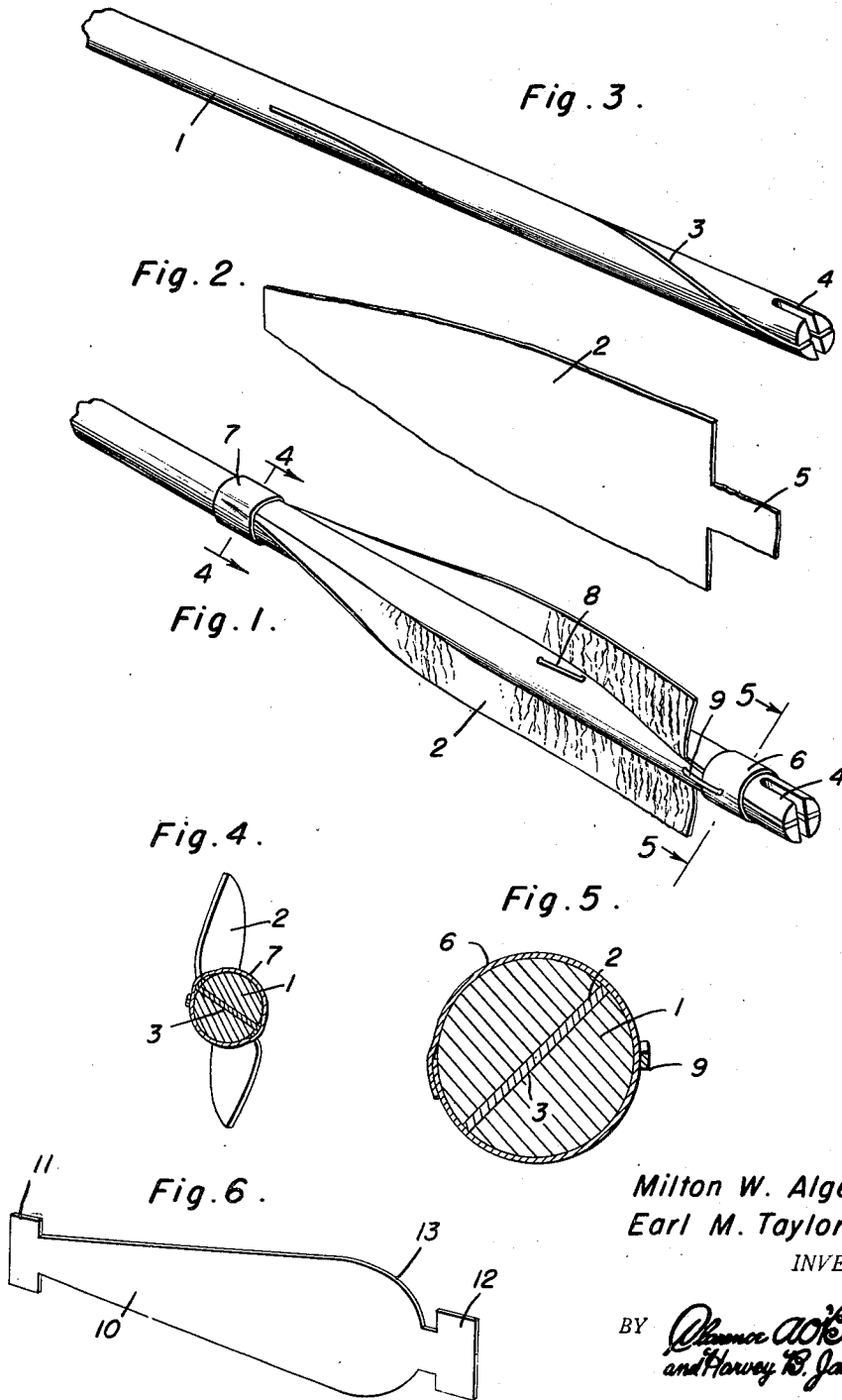


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M. W. ALGER ET AL  
ARCHERY ARROW FLETCHING

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## ARCHERY ARROW FLETCHING

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8 Claims. (Cl. 273—106.5)

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Our invention relates to improvements in archery arrows, especially fletching therefor.

The primary object of our invention is to provide a cheaper, more easily and quickly replaced fletching for archery arrows than the usual feather vanes, and the like, commonly used, and to the end that initial cost of such arrows may be materially reduced and the practice of archery rendered less expensive than with present day arrows, while at the same time the performance of the arrows in flight is improved and accuracy in shooting rendered easier to attain.

Other and subordinate objects, within the purview of our invention, together with the precise nature of our improvements will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a fragmentary view in perspective of the shaft of an arrow fletched in accordance with our invention in a preferred embodiment thereof;

Figure 2 is a view in perspective of the vane in the preferred embodiment thereof;

Figure 3 is a fragmentary view in perspective of the staff of the arrow illustrating the slit therein;

Figure 4 is a view in transverse section taken on the line 4—4 of Figure 1 and drawn to a larger scale;

Figure 5 is a view in transverse section taken on the line 5—5 of Figure 1 and drawn to a still larger scale;

Figure 6 is a view in perspective of a modified form of vane.

Referring now to the drawing by numerals, and first to Figures 1 to 5 thereof, according to our invention, in the preferred embodiment thereof, an arrow is provided with a shaft 1 embodying a fletching comprising a single vane 2 of comparatively stiff paper, or similar material, extending transversely through the shaft and equidistantly from opposite sides thereof along the same, at the usual location, in spiral form, preferably half of a complete spiral, and whereby the shaft 1, or arrow, is caused to twirl, or spin, in flight faster than with the usual fletching, thereby improving its performance in the air by maintaining the same straight in flight.

The vane 2 is embossed, or otherwise provided with a roughened surface, to impart to the shaft 1, or arrow, the necessary drag in flight to cause rapid twirling or spinning. Preferably the vane 2 is tapered edgewise, longitudinally, from substantially its transverse center to the shaft 1 at

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the front end of said vane and is spiralled clockwise as viewed from the nock end of said shaft.

To extend the described vane 2 through the shaft 1, a half spiral slit 3 is formed in said shaft, for instance by a band saw, from the nock 4 and extending diametrically of said shaft at the nock end crosswise of said nock 4. The vane 2 is inserted endwise into said slit 3 front end foremost and said slit is spiralled clockwise, looking from the nock end of the shaft, to impart the described spiral form to said vane.

To retain vane 2 in place, a rear end tail piece 5 is provided thereon in the longitudinal center thereof to lie in the slit 3 just forwardly of the nock end of the shaft, and a binder 6 of adhesive tape is wound around said shaft 1 and over said tail piece 5. A similar binder 7 is provided around the shaft 1 over the front end of the vane 2 to hold the same in place at said front end and in the slit 3.

A wire staple 8 may be inserted into the shaft 1 and the vane 2, and a similar staple 9 in said shaft and either or both of binders 6, 7 for instance as shown in connection with the binder 7, when the arrow is first fletched for more securely attaching the vane to said shaft for packing or transporting purposes, but, the binders 6, 7 are sufficient to retain the vane 2 in place for archery purposes.

In the modified form of the invention shown in Figure 6, a vane 10 similar to vane 2 is provided but having a front end cross flap 11 and a rear end T-shaped flap 12 both wider than the slit 3 to extend out of said slit on opposite sides of the same for binding against the shaft 1 by the described binders 6, 7 and said vane 10 is provided with a rounded rear end 13 for obviating rear end corners on the same. Otherwise the construction and use is the same as described with reference to the vane 2.

To replace the described fletching, after one vane 2 has become useless, it is merely necessary to pull out the staples 8, 9, unwind the binders 6, 7, extend a new vane 2, or 10, as the case may be, into the slit 3, in the manner already described, and apply new binders. The staples 8, 9 may be discarded in the first replacement operation. The vanes 2, or 10, and binders 6, 7 may be carried by the archer in the pocket, pocketbook, or the like, in quantity for replacement purposes, with convenience and for quick access thereto in replacing the fletching so that such replacing may be accomplished quickly, and easily in the field without tools of any kind. The binders 6, 7 may be provided in lengths or in

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roll form. The binders 6, 7 may be formed in different colors for different archers to serve both as binders and to identify the arrows of the different archers which is particularly advantageous in target shooting.

The foregoing will, it is believed, suffice to impart a clear understanding of our invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

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

1. In an archery arrow, a shaft and an elongated fletching vane extending transversely through said shaft and endwise along the same in spiral form longitudinally and projecting beyond opposite sides of said shaft.

2. In an archery arrow, a shaft provided with a longitudinal spiral slit therein extending through said shaft, and an elongated fletching vane of flexible material extended transversely through said slit to extend endwise along the same and formed into a spiral by said slit, and means to detachably secure said vane in said slit.

3. In an archery arrow, a shaft provided with a longitudinal spiral slit therein, and an elongated fletching vane of flexible material extended transversely through said slit to extend endwise along the same and formed into a spiral by said slit, and means for securing said vane in said slit comprising elongated end extensions on said vane extending endwise through said slit across said shaft for bending over said shaft, and a binder surrounding said shaft and extension to hold the bent over extensions against said shaft.

4. In an archery arrow, a shaft and an elongated fletching vane extending transversely through said shaft and endwise along the same in spiral form longitudinally and projecting beyond opposite sides of said shaft, said vane being of flexible relatively stiff material for forming

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into a spiral and maintaining such form when the shaft is in flight and having roughened surfaces to create sufficient drag on the shaft to cause said shaft to twirl in flight.

5. A fletching vane for insertion through a slotted arrow shaft, said vane having on at least one end thereof a relatively narrower longitudinal extension part in the longitudinal center of the vane for binding in said slot.

6. A fletching vane for insertion through a slotted arrow shaft, said vane having longitudinal end cross extension flaps wider than said slot adapted to project out of said slot for bending over and binding against said shaft to secure the vane in place.

7. An archery arrow shaft having a nock end and provided with a longitudinal spiral slit therein extending along said shaft from said nock end with a rear end open at said nock end for receiving a fletching vane and forming said vane into a spiral when shoved endwise into said slit through said rear end.

8. An archery arrow shaft having a nock end and provided with a longitudinal spiral slit therein extending along said shaft from said nock end for receiving a fletching vane and forming said vane into a spiral, said slit having a rear end extending crosswise of the nock in said nock end.

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#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
613,386	McKenney	Nov. 1, 1898
1,444,913	Hampel	Feb. 13, 1923
1,725,760	Ikeda	Aug. 27, 1929
1,989,847	Cowdery	Feb. 5, 1935
2,193,397	Dykes	Mar. 12, 1940
2,212,345	Krieger	Aug. 20, 1940
2,277,743	Crossman	Mar. 31, 1942