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PROVISIONAL SPECIFICATION.

An Improvement relating to Arrows or Shafts used in Archery.

I, JAMES IZZARD, of 110, Edgware Road, London, W., Manufacturer, do hereby declare the nature of this invention to be as follows:—

5 My invention relates to arrows or shafts used in archery. In the better class of shafts, the notched end, or "nock", is usually formed of horn, but it has been found in practice that this material is defective in that the sides flake or break off.

My invention has for its object an improved notched end, or "nock" by which the advantages of horn are retained and others secured, while obviating the defects.

10 According to my invention, the end of the shaft is reduced in diameter and a tubular butt-ended ferrule of aluminium is fixed upon said reduced part, the slot or notch being cut or shaped in the combined wood and aluminium end. Where a slight additional weight may be preferable, the ferrule may be made of an aluminium alloy or other suitable comparatively light metal, or the end
15 of the ferrule may be made more or less solid in which the slot or notch is formed.

Dated this 3rd day of July, 1907.

JAMES IZZARD.

By George Downing & Sons,
Chartered Patent Agents,
8, Quality Court, London, W.C.

20

COMPLETE SPECIFICATION.

An Improvement relating to Arrows or Shafts used in Archery.

25 I, JAMES IZZARD, of 110, Edgware Road, London, W. Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

30 My invention relates to arrows or shafts used in archery. In the better class of shafts, the notched end or "nock" is usually formed of horn, but it has been found in practice that this material is defective in that the sides flake or break off.

My invention has for its object an improved notched end, or "nock" by which the advantages of horn are retained and others secured, while obviating the defects.

35 According to my invention, the end of the shaft is reduced in diameter and a tubular butt-ended ferrule of aluminium is fixed upon said reduced part, the

[Price 8d.]



An Improvement relating to Arrows or Shafts used in Archery.

slot or notch being cut or shaped in the combined wood and aluminium end. Where a slight additional weight may be preferable, the ferrule may be made of an aluminium alloy or other suitable comparatively light metal, or the end of the ferrule may be made more or less solid in which the slot or notch is formed. 5

In the accompanying drawings, Fig 1 is a longitudinal section of the end of a shaft fitted according to my invention, and Fig 2 is a modification thereof.

Referring to Fig 1, *a* is the end of the shaft, the part *b* being reduced in diameter, *c* is the tubular butt-ended ferrule which is fixed on the reduced part *b* so that its surface is flush and continuous with the surface of the shaft *a*. 10
The "nock" *d* is cut through both the butt-end of the ferrule and the wood of the shaft.

In Fig 2, the end of the ferrule is made of solid metal at *e* so that the "nock" *d* is formed therein without cutting into the wood. 15

The ferrule *c* may be fixed to the end of the shaft in any suitable manner, such as by friction, an adhesive, or by pinning, or by screw-threading the interior of the ferrule. 20

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:— 20

1. An arrow or shaft for use in archery in which the end of the shaft is provided with a tubular butt-ended ferrule of aluminium or other comparatively light metal, in the butt-end of which the "nock" is formed, substantially as set forth.

2. An arrow or shaft for use in archery provided with a butt-ended ferrule constructed and arranged substantially as hereinbefore described and illustrated by the drawings. 25

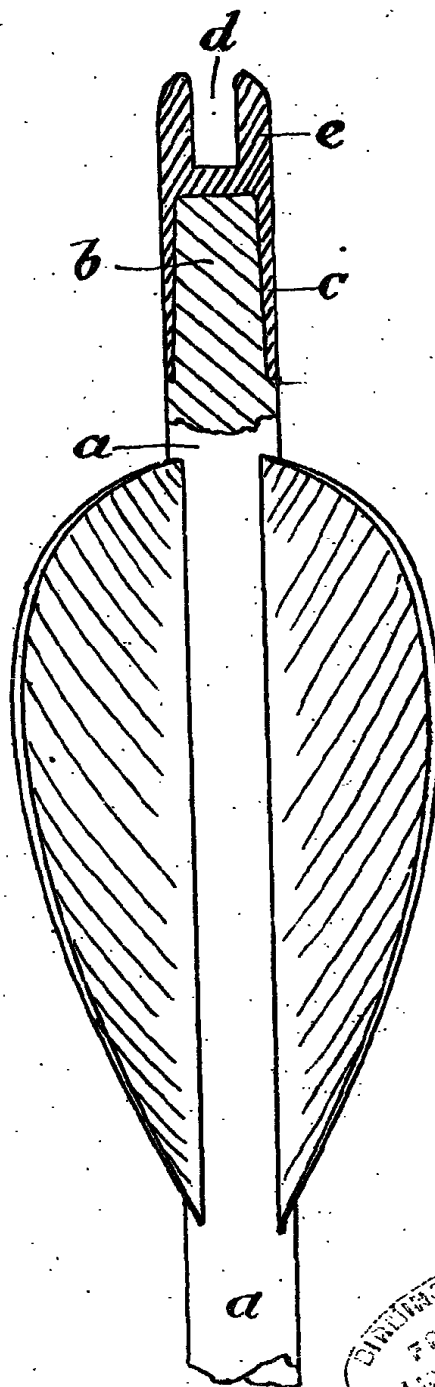
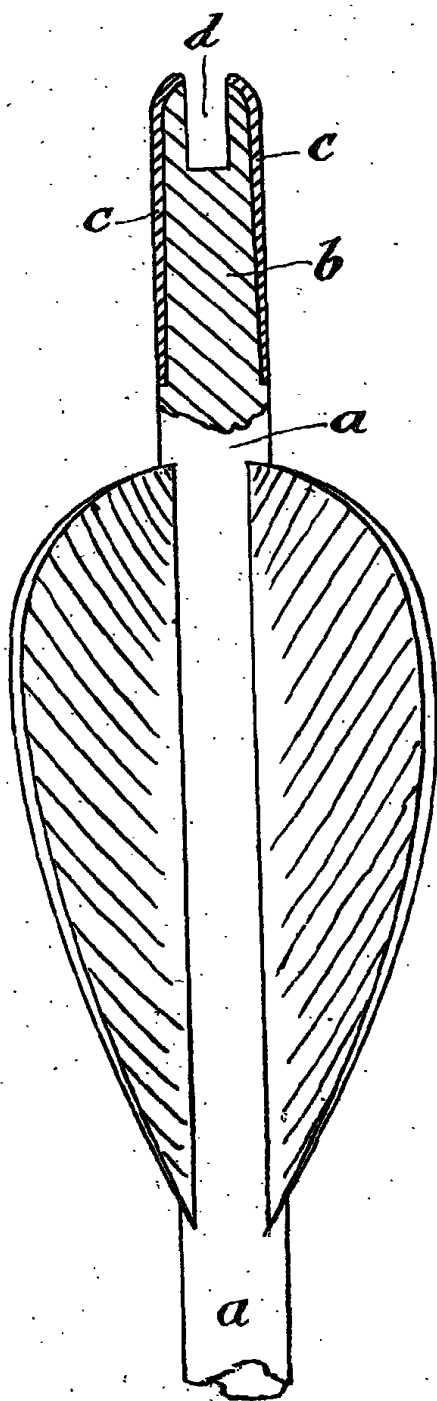
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FIG. 1.

FIG. 2.



[This Drawing is a full-size reproduction of the Original.]

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