Dec. 21, 1943. H. A. BITZENBURGER 2,337,080

ARROW FLETCHING JIG

Filed May 14, 1940

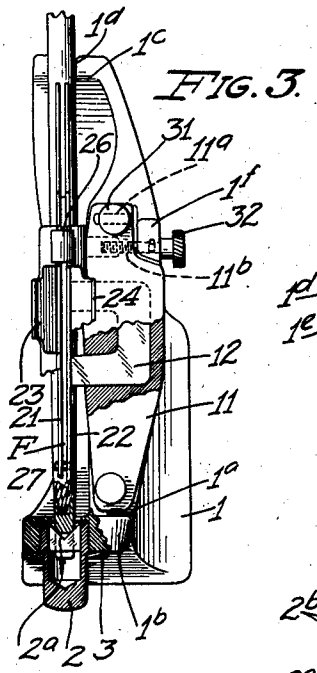

FIG. 3.

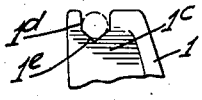

FIG. 6.

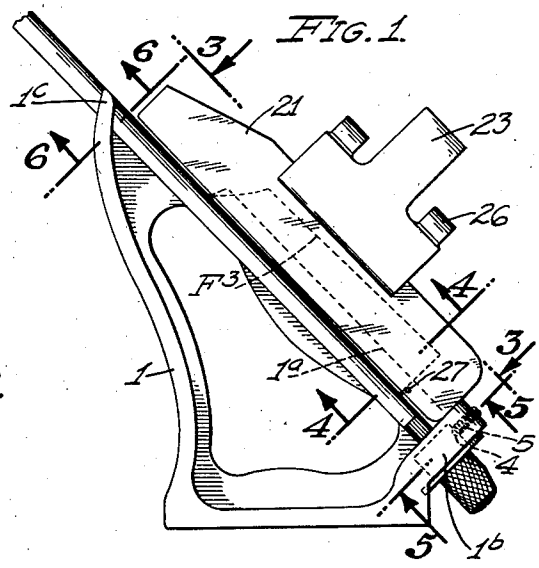

FIG. 1.

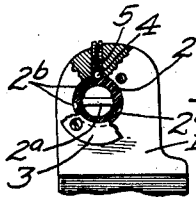

FIG. 5.

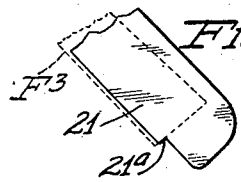

FIG. 7.

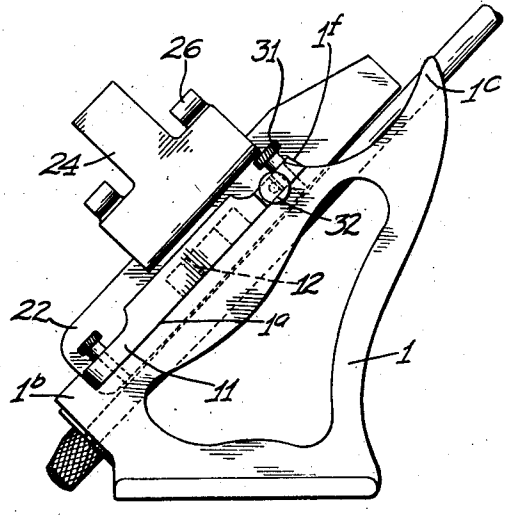

FIG. 2.

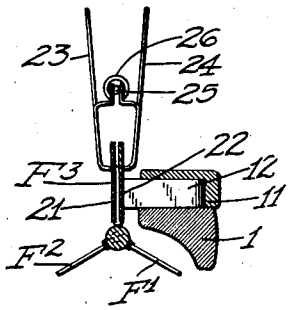

FIG. 4.

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ARROW FLETCHING JIG

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Application May 14, 1940, Serial No. 335,153

6 Claims. (Cl. 144—289)

My invention relates to a fletching jig for securing feathers to arrow shafts.

One of the principal objects of this invention is to provide a device or jig of this class which is particularly simple and economical to make and to operate, and one whereby feathers or other vanes of various kinds, sizes, and lengths may be easily placed and secured to arrow shafts of different diameters and to shafts having nocks of various sizes.

An important object of this invention is to provide simple and efficient means in such a jig for holding and centering shafts of different diameters.

An important object also of this invention is to provide novel and efficient means of clamping, locating, and holding the feathers or other vanes, or of holding the feather or vane clamp.

Another important object of this invention is to provide novel and simple means of clamping, locating, and holding the feathers or other vanes, or of holding the feather or vane clamp at the desired angle with respect to the shaft, for arranging the feathers or vanes at the desired spiral on a shaft.

With these and other objects in view, as will appear hereinafter, I have devised an arrow fletching jig, having certain novel features of construction, combination and arrangement of parts and portions, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawing and to the characters of reference thereon, which form a part of this application, in which:

Fig. 1 is an elevational view taken from one side of my device in its preferred form of construction;

Fig. 2 is an elevation taken from the opposite sides of my device;

Fig. 3 is a face view of my device, taken at 3—3 of Fig. 1, certain parts being broken away and shown in section to facilitate the illustration;

Figs. 4, 5, and 6 are fragmentary transverse sectional views taken respectively through 4—4, 5—5, and 6—6 of Fig. 1; and,

Fig. 7 is a fragmentary view of a slightly modified form of construction of the feather clamp.

My arrow fletching jig is embodied and supported in a simple frame 1, which may be readily handled, conveyed, or placed in any suitable position. The frame is preferably so constructed that the arrow shaft is supported at an angle for convenience of securing the feathers thereto.

The frame is provided essentially with an inclined table 1a, at the upper portion and intermediate the ends, the legs or brackets 1b and 1c, respectively, at the lower or near end of the table, and at the upper or far end of the table. In the lower leg or bracket 1b is rotatably mounted a centering member 2 which is held in place by a collar 3, secured to the bracket 1b. The inner end of this centering member has an axial recess, and across the open end of the recess is a V-shaped centering portion 2a. The nock of the arrow is received in the recess of the centering member, and the centering portion 2a of the latter enters the notch in the nock. The V shape of the centering portion centers the nock within the recess of the centering member. Around the periphery of the inner end of the centering member is a plurality of notches 2b (usually 3). In the successive notches is urged a ball or plunger 4 by means of a spring 5. The different angular positions of the centering member accurately locate the positions of the feathers or vanes of the arrow.

The upper end of the bracket 1c is provided with a notch 1d for receiving the portion of the shaft forwardly of the feathers or vanes. The bottom of the notch is V-shaped, as indicated by 1e, for centering the shaft in the notch. The notch 1d is alined with the axis of the centering member 2 so that when the shaft is placed in the notch 1d, the nock of the arrow may be placed in the recess of the centering member and be centered by the centering portion therein. When the shaft is so placed, it is located to one side of the table 1a.

At the lower end of the table, that is, at the end adjacent the bracket 1b, is shown pivoted a magnet holder 11, in which is fixedly held a U-shaped permanent magnet 12. The pole ends of this magnet extend beyond the inner edge of the table toward the position assumed by the shaft of the arrow. The opposite or upper end of the magnet holder is held in a fixed position, as will be described hereinafter.

The feather or vane holding means consists of a pair of relatively movable plates 21 and 22, having straight lower edges and provided with handles 23 and 24 extending upwardly from the respective plates 21 and 22. These handle members are pivotally connected about pivots 25, and are resiliently urged together by a spring 26. The feather, as indicated by F, for the arrow is clamped between the plates 21 and 22, with the portion of the base of the feather placed against the straight lower edges of the plates, as shown in Fig. 4. The plates of the feather or vane

clamp are made of steel and are attracted by the poles of the magnet and held thereby with the stem of the feather against the shaft of the arrow. Before the feather or vane is held in such position, a suitable glue or cement is applied to the exposed portion of the base of the feather or vane.

It will be noted that either right or left hand feathers, or vanes of various kinds may be held by or clamped between the plates. The term feather is employed generically to designate different kinds of feathers or vanes.

Near the lower edge and rear end of one of the plates is a pin 27 which extends through a corresponding opening and to the other plate. This pin serves as a stop against which the rear end of the feather or vane is placed, for accurately positioning the latter on the arrow shaft.

If desired, the rear ends of the plates may be provided with notches 21a, as shown in Fig. 7, so that the rear end of the feather or vane may be lined up with the end of the notch, for fixedly locating the feather or vane.

The free end of the magnet holder 11 is shown as secured to the table 1a by means of a thumb screw 31. This thumb screw extends through a transverse arcuate slot 11a at the free end of the magnet holder. The specific position of the free end of the magnet holder is determined by an adjusting screw 32 which is rotatable in a lug 1f at the upper end of the table, said screw extending into a short threaded hole 11b at the free end of the magnet holder. Adjustment of the free end of this magnet holder determines the position of the feather clamp and, therefore, the angular position of the feather or vane on the shaft.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to the same, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

I claim:

1. In an arrow fletching jig, a frame having means thereon for holding an arrow shaft, a feather clamp, means removably holding the clamp on the frame in a fixed position relative to the arrow shaft, said means being pivoted on the frame, and adjusting means for adjusting the holding means about the pivot and thereby angularly locating the clamp with respect to the arrow shaft on the frame.

2. In an arrow fletching jig, a frame having means thereon for holding an arrow shaft, a magnet holder pivoted on the frame, adjusting means for adjusting the holder about the pivot, a magnet carried by the holder, and a feather clamp adapted to be held by the magnet in a fixed position relative to the arrow shaft on the frame.

3. In an arrow fletching jig, a frame having means thereon for holding an arrow shaft, a feather holding means, a positioning device pivotally mounted on the frame, said device having a face in which the plane thereof extends outwardly from the shaft, said device including means for yieldably retaining the feather holding means against the face, and means for adjusting the positioning device on the frame about the pivot.

4. In an arrow fletching means, a frame, an arrow centering member rotatably mounted at one end of the frame, said centering member having a means for centrally receiving the nock at one end of the shaft of an arrow, the frame having a V-shaped centering notch at its opposite end and in substantial alignment with the centering member for receiving the intermediate portion of the arrow shaft, a feather holding means, and a positioning device mounted on the frame, said positioning device having a face in which the plane thereof extends outwardly from the shaft and substantially parallel to the axis of the centering member and the axis of the notch, said device including means for yieldably retaining the arrow holding means against the face.

5. In an arrow fletching jig, a frame having means thereon for holding an arrow shaft, a feather clamp, means pivoted on the frame for supporting the clamp in a fixed position relative to the arrow shaft, and means for adjusting the first means about its pivot and thereby angularly locating the clamp with respect to the shaft.

6. In an arrow fletching means, a frame, an arrow centering member rotatably mounted at one end of the frame, said centering member having means for centrally receiving the nock at one end of the shaft of an arrow, the frame having a centering means at its opposite end and in substantial alignment with the centering member for receiving the intermediate portion of the arrow shaft, a feather holding means, and a positioning device mounted on the frame, said positioning device having a face in which the plane thereof extends outwardly from the shaft and substantially parallel to the axis of the centering member and the axis of the centering means, said device including means for yieldably retaining the arrow holding means against the face.

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