

Aug. 12, 1930.

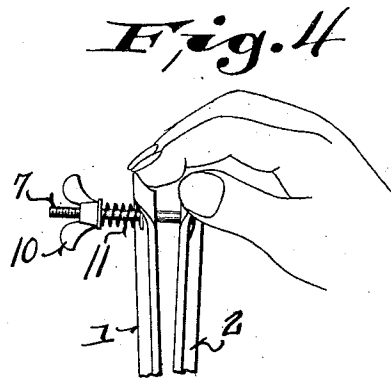
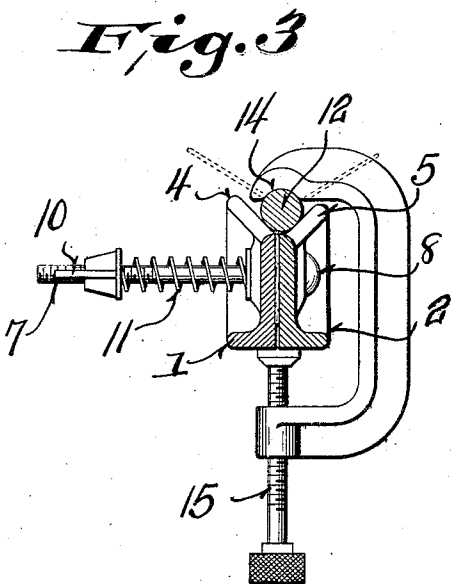
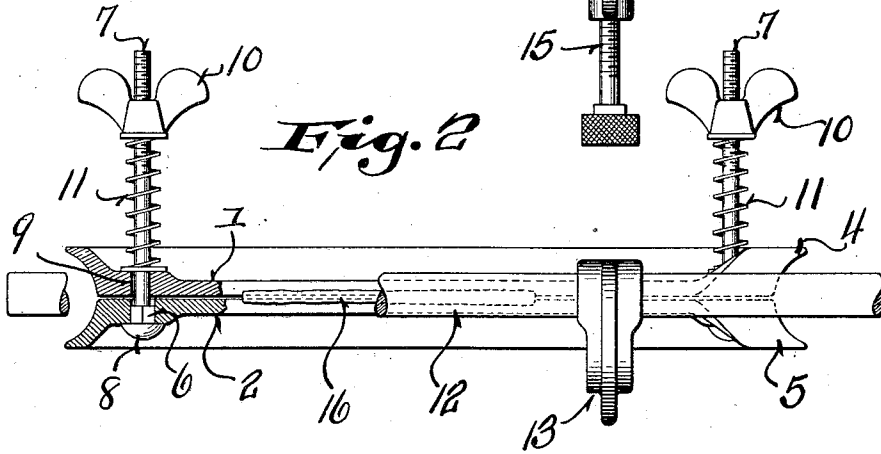
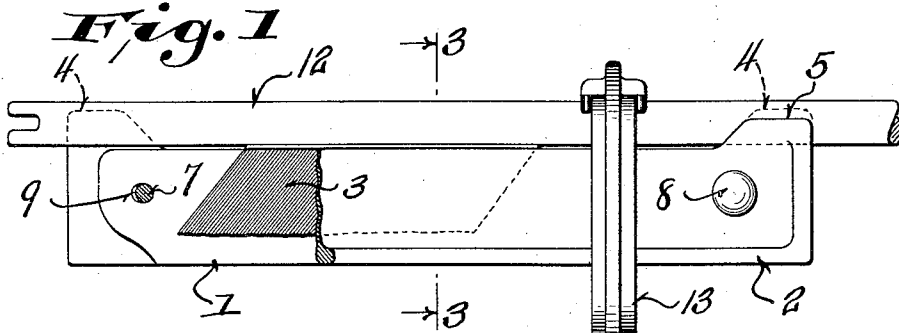
R. I. CASE

1,772,885

PROCESS AND APPARATUS FOR FEATHERING ARROWS

Filed May 21, 1928

2 Sheets-Sheet 1



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PROCESS AND APPARATUS FOR FEATHERING ARROWS

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2 Sheets-Sheet 2

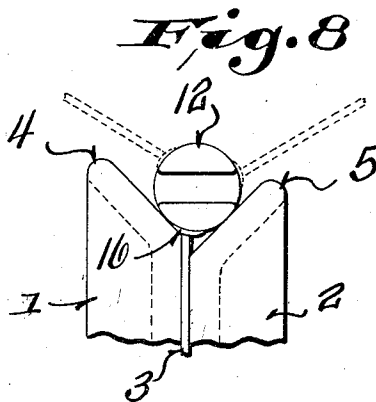
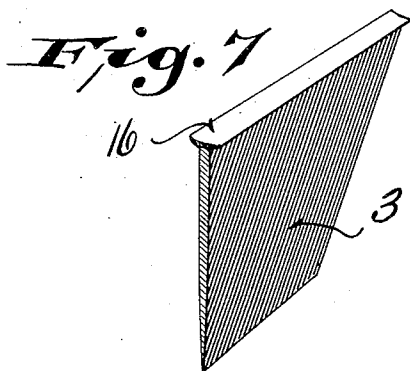
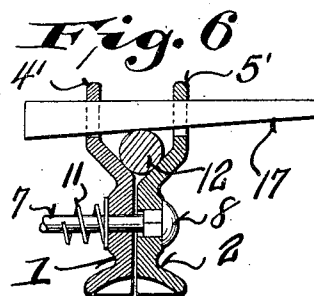
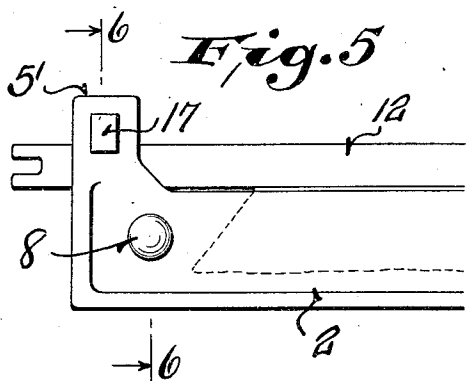
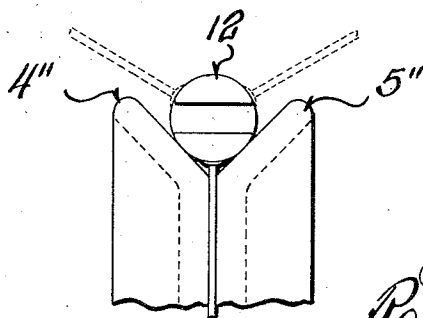


Fig. 9



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UNITED STATES PATENT OFFICE

ROY I. CASE, OF RACINE, WISCONSIN

PROCESS AND APPARATUS FOR FEATHERING ARROWS

Application filed May 21, 1928. Serial No. 279,565.

This invention relates to a process and an apparatus for feathering arrows.

In feathering arrows, it has been the practice heretofore to wet the feather and to apply the feather by means of glue to the arrow. If the feather dried before the glue, it crinkled or warped, and presented a fluted or twisted appearance which materially interfered with the accuracy with which the arrow could be shot.

This invention is designed to overcome the defects noted above, and objects of such invention are to provide a simple type of apparatus which is used in feathering the arrows, so that the feather may be held in absolutely correct and straight position with reference to the arrow, and may be easily glued to the part of the operator, and to provide an apparatus which is so constructed that it may be easily operated to receive the feather and thereafter to receive the arrow.

Further objects are to provide a novel method of feathering arrows which may be easily followed without requiring a high degree of skill on the part of the operator, and which dispenses with the necessity of wetting the feather and holding it straight.

Embodiments of the invention are shown in the accompanying drawings in which:

Figure 1 is a side elevation of one of the feathering devices showing a portion broken away and showing the arrow in place;

Figure 2 is a plan view of the structure shown in Figure 1 with parts in section;

Figure 3 is a sectional view on the line 3—3 of Figure 1;

Figure 4 is a view showing the manner in which the device is opened up to receive the feather;

Figure 5 is a view of a modified form of the invention;

Figure 6 is a sectional view on the line 6—6 of Figure 5;

Figure 7 shows a portion of a stripped feather;

Figure 8 shows the position of the arrow with reference to the feathers and to the holder;

Figure 9 is a fragmentary view showing a further form of the apparatus.

Referring to the drawings, particularly Figures 1 to 4, it will be seen that the device comprises two members indicated by the reference characters 1 and 2, which are of substantially similar construction throughout their major portions. They are each provided with flat opposing faces adapted to grip the feather 3 between them, and are provided with guiding lugs 4 and 5, respectively, which together form a V, as may be seen from Figures 3 and 8, for the reception of the arrow or shaft. One of the members, for example, the member 2, may be provided with a squared or other polygonal opening for the reception of the squared portion 6 of the clamping bolt 7, the head 8 of the bolt bearing against the outer face of the member 2.

The bolt 7 passes through an opening 9 formed in the member 1, and this opening is preferably slightly elongated, as shown in Figure 1, along a horizontal line to permit a slight movement in this direction of the member with reference to the bolt during the opening operation, for instance.

The bolt is provided with a wing nut 10 and with a spring 11 which is positioned between the wing nut and the member 1. Washers, of course, may be provided for the ends of the springs, if desired. It is to be noted that one of these springs and bolts is provided for each end of the apparatus, so that the ends may be individually adjusted as regards the tension or pressure of the spring.

The arrow 12 is adapted to be seated within the notch formed between the lugs or ears 4 and 5, and to be held in place by means of a clamp 13. This clamp may have a round or V-shaped notch 14 in the upper arm thereof adapted to engage the arrow, and the lower arm is provided with an adjustable screw 15 adapted to engage the lower face of the feather clamp.

Attention is now directed to Figures 7 and 8. From these figures, it will be seen that the vane of the feather, indicated by the reference character 3, is attached to a strip of skin 16 which is peeled from the stem of

the feather when the vane is stripped from the stem.

It is to be noted particularly from reference to Figures 3, 7, and 8, that the skin 16 is set at a slight angle to the vane 3, as the feather vanes are themselves set at slight angles to this skin when they are attached to the stem of the feather. This is, however, taken care of by offsetting or depressing the lug 5 with reference to the lug 4, as is shown particularly in Figures 3 and 8. Thus, the vane 3 is not positioned directly below the center line of the arrow, but is positioned slightly off center so that the slanting skin will readily stick to the arrow without any distortion whatsoever of its angle with reference to the vane. In this way, the feather may be applied to the arrow without any distortion, and consequently when the device is removed from the feather clamp, there is no tendency for the feather to move out of position. Instead, it inherently tends to maintain its initial position.

Preferably, the vanes are stripped from the tip end or outer end of the feather. This is easily accomplished by holding the stem of the feather between the thumb and finger of the left hand adjacent the outer end of the feather and by pulling down sharply and slightly outwardly upon the vane with the other hand. The vane readily strips from the stem of the feather and appears as shown in Figure 7. It is easily trimmed to the required shape and is very readily applied by the method outlined above. After the vane is clamped in the feather clamp, water-proof glue is applied to the skin and the arrow is immediately placed thereon and held by means of the clamp.

It is obvious that other types of clamp could be used. For example, the lugs 4 and 5 may be extended upwardly as indicated at 4' and 5' in Figure 6, and a tapered dowel pin 17 could be driven through apertures formed in these lugs and thus bear against the arrow and held down in place, as shown in Figures 5 and 6. It is apparent that these dowels may be made of any desired shape, square, rectangular, round, or in any form preferred.

It is sometimes desirable to cut the vane from the stem of the feather. When this is done, the cut is usually so made that the vane is at right angles to the skin portion. Under these conditions, a clamp, as shown in Figure 9, is employed and this clamp differs from the form previously described only in that the vane is held directly beneath the center of the feather as the two ears 4'' and 5'' are similarly positioned with reference to the vertical center line.

It will be seen that a very simple type of apparatus has been provided which insures the correct positioning of the feathers upon the arrow, and which may be used even by an

unskilled operator with absolute certainty that a uniform or standard product will result.

Further, it is to be noted that the process is extremely simple and does not require any high degree of skill whatsoever.

Further, the process may be rapidly followed and with comparative ease.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. A process of feathering arrows comprising stripping the vane from the stem of a feather with a portion of the skin adhering to the vane and with the skin set at an incline transversely across the plane of the vane, thereafter holding the vane straight with reference to the center line of the arrow so that the vane is offset from the radial plane in which the vane is to stand, applying glue to the adhering skin, and holding the arrow against such skin.

2. A device for feathering arrows comprising a clamp-like member consisting of two opposed jaws adapted to receive the vane of a feather between them with the adhering portion of the skin projecting above the jaws, said jaws having outwardly projecting divergent lugs adapted to carry the arrow, and means for holding the arrow in position with reference to said lugs and in contact with the adhering skin of the vane.

3. A device for feathering arrows comprising a clamp-like member consisting of two opposed jaws adapted to receive the vane of a feather between them with the adhering portion of the skin projecting above the jaws, said jaws having outwardly projecting divergent lugs adapted to carry the arrow, means for holding the arrow in position with reference to said lugs and in contact with the adhering skin of the vane, and means for yieldingly holding the jaws in contact with each other.

4. A device for feathering arrows comprising a clamp-like member consisting of two opposed jaws adapted to receive the vane of a feather between them with the adhering portion of the skin projecting above the jaws, said jaws having outwardly projecting divergent lugs adapted to carry the arrow, means for holding the arrow in position with reference to said lugs and in contact with the adhering skin of the vane, and means for yieldingly holding the jaws in contact with each other, said means being located at opposite ends of said jaws and being independently adjustable.

5. A device for feathering arrows comprising a clamp having a pair of elongated flat opposed jaws, each of said jaws having

outwardly extending divergent lugs for receiving an arrow, one of said jaws having bolts carried thereby, said bolts slidably passing through the other of said jaws, springs surrounding said bolts and bearing against said last mentioned jaw, and nuts for compressing said springs.

6. A device for feathering arrows comprising a clamp having a pair of elongated flat opposed jaws, each of said jaws having outwardly extending divergent lugs for receiving an arrow, one of said jaws having bolts carried thereby, said bolts slidably passing through the other of said jaws, springs surrounding said bolts and bearing against said last mentioned jaw, and nuts for compressing said springs, said last mentioned jaw having the apertures through which the bolts slide slightly larger than said bolts to permit relative tilting of said jaws.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

ROY I. CASE.