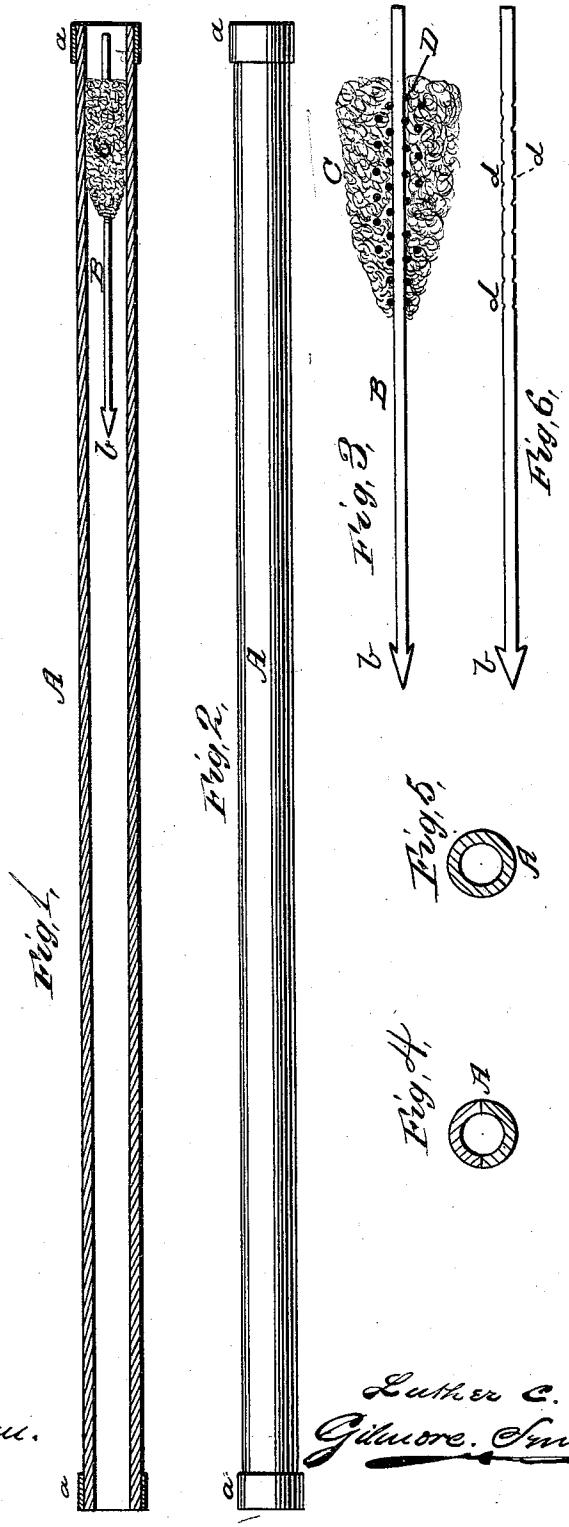
L. C. WHITE.

BLOW-GUN AND ARROW.

No. 186,651. Patented Jan. 23, 1877.



WITNESSES

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LUTHER C. WHITE, OF JASPER, TEXAS.

IMPROVEMENT IN BLOW-GUNS AND ARROWS.

Specification forming part of Letters Patent No. **186,651**, dated January 23, 1877; application filed October 14, 1876.

To all whom it may concern:

Be it known that I, LUTHER C. WHITE, of Jasper, in the county of Jasper and State of Texas, have invented a new and valuable Improvement in Blow-Guns and Arrows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my blow-gun, and Fig. 2 is a front elevation of the same. Fig. 3 is a plan view of my arrow, part sectional. Figs. 4 and 5 are transverse sectional views of my blow-gun, and Fig. 6 is a detail view of my arrow.

This invention relates to blow-guns and missiles for the same. The nature of said invention consists, first, in the peculiar construction and shape of the bore of the blow-gun, hereinafter particularly described. It also consists in an arrow-shank having a floss of cotton or similar material secured to it near one end by winding a cord or its equivalent in a double coil about the said shank and floss. It consists, finally, in providing the arrow-shank with helical grooves or notches, to receive the fastening-cord and prevent the same from slipping.

In Fig. 1, A designates a section of the blow-gun tube, which may be either of wood, metal, india-rubber, or any other suitable material, wood, however, being preferable. Said tube may have a tapering exterior, or one which is everywhere of the same diameter, as preferred; but the diameter of the bore tapers from the mouth end outward at the rate of one-sixteenth of an inch to the foot, or approximately so. Said tube may be made in separate sections, each being a foot or more in length, or it may be made in one long piece. It may also be constructed in longitudinal semi-cylindrical sections, as shown in Fig. 4. In any case, it is provided with annular strengthening-bands *a a*, which may serve as couplings also. These strengthening-bands may, however, be dispensed with without departing from the spirit of my invention. B designates an arrow or dart, which is provided with a head, *b*, and inserted longitudinally in the mouth end of tube A. Near the rear end of the shank of said dart an air-catching floss is secured thereto, as hereinafter described, tapering in size gradually from rear to front.

When the operator's mouth is applied to the said tube, the air from his lungs strikes against the rear of said floss, and drives said dart or arrow forward out of the tube with considerable force. Said floss is preferably constructed of the soft down of the silk-cotton tree. Said arrow or dart may be either of metal or wood. Instead of silk-cotton-tree down, ordinary cotton may be employed.

If tube A were constructed with a bore of unvarying diameter, the force of the blast would be lessened, since, before the arrow would reach the outer end of the said tube, a certain amount of air would be blown past it, unless the bore were made so small as to cause too much friction. On the other hand, if the degree of taper for each foot were much greater than one-sixteenth, the mouth end of the bore would necessarily be too large to allow the entire force of the blast to be expended upon the floss and the arrow, or else the friction at the outer end of the tube would be so great as to make the blow-gun almost inoperative. Many experiments have demonstrated that the degree of taper which I have given to the bore of tube A, and which is described above, is the very best that can be adopted for securing a long and strong flight of the said dart or arrow.

Each of said arrows is constructed as follows: By the use of two ordinary cotton-cards, I separate into filaments the mass of cotton (or its equivalent) which is to be manufactured into floss C. A cord or thread, D, is next looped twice about the shank of arrow or dart A, just in front of the point where the front of floss C is attached. Said thread is then wound backward toward the rear end of said arrow, where it is looped again to prevent it from slipping. Said thread is then driven into the wood of the arrow, (if said arrow is constructed of wood,) so as to form helical indentations *d d*. (Shown in Fig. 6.) If a metal arrow-shank is used, said helical indentations or screw-threads are made in the same; in either case, they operate to prevent the said thread or cord from slipping. Said

thread is then wound back toward its starting-point, the finely-divided cotton (or its equivalent) being interposed in successive layers between said thread and shank during the winding. The grain of said cotton lies nearly longitudinal with said arrow-shank, and when the attaching is complete, the said cotton is carded back toward the rear end. This gives to it the tapering shape shown in the drawings, and enables it to easily enter the said tube.

It is easier and cheaper to manufacture the said tube in two semi-cylindrical sections than in one piece.

What I claim as new, and desire to secure by Letters Patent, is—

1. A blow-gun having a bore which tapers from the mouth end outward at the ratio of one-sixteenth of an inch to each foot, substantially as and for the purpose set forth.

2. An arrow or dart, B, for a blow-gun, provided with a floss of cotton or its equivalent, secured to said dart by a helically-wound cord or thread, substantially as set forth.

3. An arrow or dart, B, provided with helical grooves or indentations, substantially as and for the purpose set forth.

4. The process of constructing a dart for a blow-gun, consisting, first, of separating cotton or its equivalents into filaments or small divisions, then securing a cord to a shank and winding it about the same toward the rear end thereof, then winding said cord back again over successive layers of the cotton, and finally securing said cord to the shank again, and carding said cotton backward, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LUTHER C. WHITE.

Witnesses:

JOHN F. ACKER, Jr.,

GEORGE E. UPHAM.