

Aug. 16, 1966

E. F. WARREN ET AL

3,266,806

DART-LIKE PROJECTILE WITH HOLLOW NEEDLE

Filed Sept. 18, 1964

FIG. 1

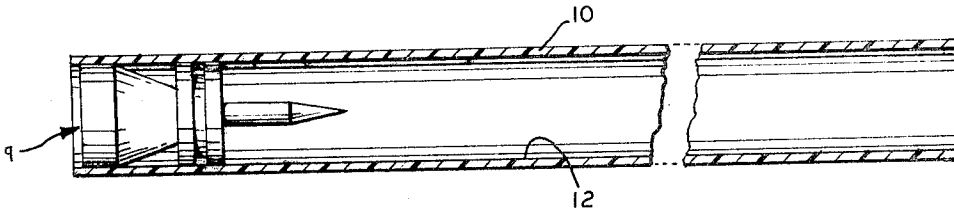


FIG. 3

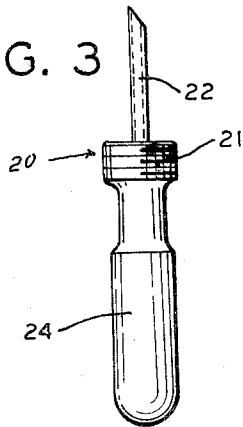


FIG. 5

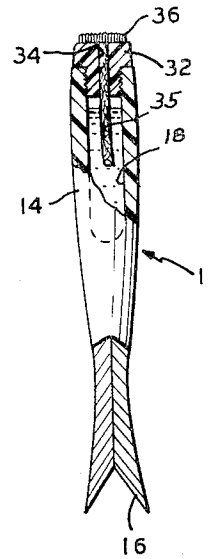


FIG. 2

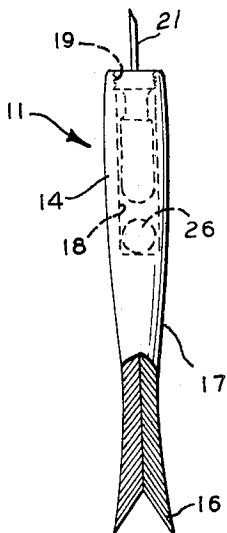
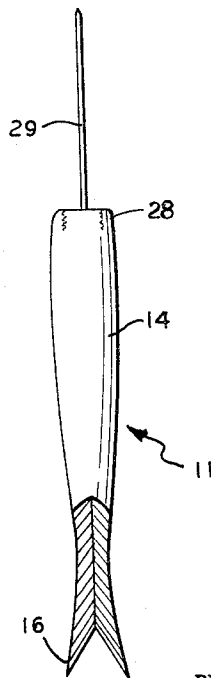


FIG. 4



INVENTOR
EDWIN F. WARREN
BY ANDREW STYKA

JOHN P. CHANDLER
HIS ATTORNEY.

1

2

3,266,806

DART-LIKE PROJECTILE WITH HOLLOW NEEDLE
Edwin F. Warren, Whitestone, N.Y. (112—15 14th
Road, College Point 56, N.Y.), and Andrew Styka,
42—25 Hampton St., Elmhurst, N.Y.
Filed Sept. 18, 1964, Ser. No. 397,782
1 Claim. (Cl. 273—106.5)

This invention relates to the combination of a blowgun with a special projectile therefor which can be used as a sporting weapon for injecting a liquid into an animal or bird upon impact to render it unconscious for a short period of time. The reason why blowguns have not proven satisfactory for the foregoing purpose or for any purpose other than a toy, is that with conventional barrels, insufficient power is developed when the only driving force is the fluid pressure provided by the human mouth applied to one end of the tube.

An important object of the present invention is to provide an improved blowgun having a smooth mirror-like inner surface of uniform diameter throughout its length and which prevents any drag on the projectile or blow dart as it traverses the length of the barrel.

The use of injection projectiles for stunning birds and animals without killing them has proven more humane than shooting a bullet but the gun so used is nevertheless a firearm and subject to all the legal restrictions applying to firearms. Such a weapon is dangerous, especially in the hands of a child or a careless person. The blowgun of the present invention has a greater range than conventional blowguns, is more accurate, and is much less dangerous to handle than weapons using gunpowder. It also violates no laws in its normal use and develops a sporting skill which has a greater appeal than archery or shooting with a gun. In a given instance, it may propel a lethal projectile and its use is completely silent.

The blowgun combination of the present invention employs a dart type of projectile having a rear section forming a piston element which is acted upon by air under pressure as great as the human lungs can muster. It also has a section provided with a needle point which may be of the type disclosed in Patent No. 2,821,397 or it may have a forward section of the injection type comprising a reservoir for poisonous or medicated material capable of producing temporary paralysis and having a tiny opening in its point. When the projectile finds its mark and its speed is arrested the inertia of the fluid in the reservoir propels a reasonable amount of the fluid forwardly through the tiny opening, and injecting it into the skin of the animal or bird. It also has means of increasing pressure on the reservoir to make the injection more certain.

It will be apparent from the foregoing that another object of the invention is to provide an improved sports weapon in the form of a blowgun capable of propelling a dart for a longer distance and with greater accuracy than previous devices of this character, which ability is due in no small measure to the close tolerance of the bore of the gun so that there is almost no loss of air as the projectile moves through the gun.

The gun tube is formed from fiberglass reinforced resin which is corrosion resistant and which gives the gun high flexural strength and which will recover to its original form should it be bent accidentally. The bending would, of course, ruin a similar gun made from aluminum or iron.

Another important object of the invention is to provide a blowgun of the character described which will not become dented except under a very severe blow and which is about four times lighter than a gun of comparable dimension made from steel.

A further object of the invention is to provide an improved dart for blowguns which has a basic body structure with interchangeable heads including (1) a sportsman's head for hunting and having a hollow needle connected with a reservoir for fluid for injection into the animal; (2) a needle point for adult target practice; and (3) a felt ink marker for children's target practice.

In the drawings:

FIG. 1 is a central section taken through a blowgun of the present invention;

FIG. 2 is a side elevation of one of the darts with a lethal head;

FIG. 3 is a side elevation of the insert for the dart of FIG. 2;

FIG. 4 is a side elevation of a dart using a needle point;

FIG. 5 is a side elevation partially in section of a dart employing a felt marker.

The combination of the present invention includes a blowgun element or blowpipe, as it is sometimes called, this being designated as **10** and a dart **9**. The blow dart shown in FIG. 1 is conventional in shape and contour. The gun barrel is preferably made from fiberglass reinforced resin having a through bore **12** with a smooth, mirror-like inner surface. The tube is of seamless construction and is produced from epoxy resin and is heavily reinforced with continuous fiberglass filaments. It can also be made from polyester, phenolic or melamine resins.

The improved dart **11** has a streamlined body section **14** with a feathered tailpiece having three or four equally spaced feathers or vanes **16** and further has a bore **18** extending inwardly from its forward end, the front portion of the bore being threaded at **19**. The contour of the body section is one which has the least resistance to air during its forward travel and may have a section **17** of reduced diameter just to the rear of the forward, full diameter section which closely fits to bore **12** in the barrel. Of the three interchangeable heads the first one **20**, which is the sportsman's dart for hunting, has a threaded intermediate section **21** which is screwed into the forward threaded section **19** of the bore, and a hollow needle **22** extending forwardly therefrom. Extending rearwardly from the thread section is a rubber receptacle or container **24** similar to an eye dropper but of shorter length. This container extends rearwardly about one-half the length of bore **18** and in the rear section of the latter there is a steel ball **26** which, due to inertia, is positioned at the rear of the bore **18** during flight, but when the dart finds its mark and its forward movement is arrested, the ball, still due to inertia, moves forwardly and strikes the rear of the receptacle, causing the liquid (not shown) contained therein, to issue from the forward end of the needle under pressure.

The second removable head shown in FIG. 4 consists of a rear threaded section **28** and a needle **29** secured to a threaded stud similar to section **21** of FIG. 3. This assembly is used for target practice.

The third head shown in FIG. 5 is a children's target dart with a colored ink marker and consists of an externally threaded plastic cap **32** with a central opening **34** receiving the tailpiece **35** of a felt ink marker **36**. In this case, bore **18** forms an ink reservoir.

While there have been described herein what are at present considered preferred embodiments of the invention, it will be obvious to those skilled in the art that many modifications and changes may be made therein without departing from the essence of the invention. It is therefore to be understood that the exemplary embodiments are illustrative and not restrictive of the invention, the scope of which is defined in the appended claim, and that all modifications that come within the meaning and

3

range of equivalency of the claim are intended to be included therein.

What we claim is:

A dart-like projectile for a blowgun and comprising a generally cylindrical body section, and feathered guides at the rear of the body section, said body section having a bore extending inwardly from its forward end and a projectile-like head removably positioned within said bore, said head including a fluid tight receptacle at its rear end and a hollow needle projecting forwardly from the receptacle, wherein a ball is slidably positioned within said bore to the rear of the receptacle and arranged to strike the latter upon impact.

4

References Cited by the Examiner

UNITED STATES PATENTS

2,277,743	3/1942	Crossman	-----	273—106.5
2,806,317	9/1957	Miniaini	-----	273—106.5
2,821,397	1/1958	Hartigan	-----	273—106.5
2,923,243	2/1960	Crockford et al.	----	273—106.5
2,952,089	9/1960	Maier et al.	-----	42—76.1
3,147,011	9/1964	Lemelson	-----	273—106.5

RICHARD C. PINKHAM, *Primary Examiner.*

W. R. BROWNE, *Assistant Examiner.*