ABSTRACT OF THE DISCLOSURE

A toy blow gun and missile in which the gun is provided with a barrier to prevent insertion into the mouth too deeply and the missile is provided with wings retracted into a slot during the firing of the missile and extended by spring element when the missile is in free flight.

This invention relates to a blow gun and missile toy of the type wherein the missile is placed in the blow gun and ejected therefrom by the application of air pressure at one end of the gun.

In brief term, the instant invention comprises a blow gun including an elongate tubular section for receiving and guiding a missile during the early portion of its flight, a handle positioned intermediate the tubular section providing a convenient hand grip for supporting the section in an aimed condition, a plate secured to the section closely adjacent the air pressure receiving end preventing the insertion of the section too far into the mouth of the user, and a missile slidablely mounted in the tubular section for movement therethrough upon the creation of a high pressure area adjacent the pressure receiving end.

A primary object of the instant invention is to provide a toy which may be used to eject a flying missile therefrom in an aimed condition.

Another object of the instant invention is to provide a blow gun of the character described including a handle intermediate the tubular section facilitating the aiming of the missile ejected from the blow gun.

Another object of the instant invention is to provide a blow gun of the character described including sighting means at one end thereof for aiming the ejected missile at a target.

A further object of the instant invention is to provide a blow gun including a mouthpiece at one end thereof comprising a plate secured to the tubular section preventing the insertion of the section too far into the mouth of the user.

A still further object of the instant invention is to provide a blow gun and missile toy in which the missile includes a pair of outwardly biased wings giving the missile a floating action during flight.

Still another object of the instant invention is to provide a missile for use with a blow gun which is aerodynamically stable and which simulates the exterior configuration of a ballistics missile.

Other objects and advantages of the instant invention reside in the combinations of elements, arrangements of parts, and features of construction and operation, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there is shown a preferred embodiment of this inventive concept.

In the drawing:

FIGURE 1 is a side elevational view of the combined blow gun and missile toy made in accordance with the principles of the instant invention, certain parts being broken away to expose the missile residing in the gun;

FIGURE 2 is an enlarged transverse cross-sectional view of the blow gun and missile toy of FIGURE 1 taken substantially along line 2—2 thereof as viewed in the direction indicated by the arrows;

FIGURE 3 is an enlarged longitudinal cross-sectional view of the device of FIGURE 1 taken substantially along line 3—3 thereof as viewed in the direction indicated by the arrows illustrating the interior configuration of the missile including the collapsed wings;

FIGURE 4 is a longitudinal cross-sectional view of the missile of the instant invention illustrating the wings in the expanded position giving the missile a floating action during flight; and

FIGURE 5 is a rear elevational view of the missile of FIGURE 4 as may be seen from along line 5—5 thereof as viewed in the direction indicated by the arrows.

Referring now to the drawing in detail, wherein like reference characters designate like elements throughout the several views thereof, the blow gun and missile toy of the instant invention is illustrated generally at 10 having as its major components a blow gun shown generally at 12 and a missile designated generally at 14. It will be readily apparent to those skilled in the art that missile 14 is received interiorly of blow gun 12 and is ejected therefrom by the user's pressing orbit one end of gun 12 and blowing thereon to move missile 14 through blow gun 12 and eject it into a flight path.

Blow gun 12 includes an elongate straight generally tubular section 16 of slightly greater internal diameter than the external diameter of missile 14. Tubular section 16 includes an air pressure receiving or mouthpiece end 18 about which the user places the mouth to provide sufficient air pressure to propel missile 14 and a discharge end 20 from which the missile is ejected. It will be readily apparent that tubular section 16 contains missile 14 through an early portion of its flight path thereby acting to aim or direct missile 14 in the direction of the axis of blow gun 12. Although it should be understood that the length of tubular section 16 may be varied to meet the circumstances, it is preferred to be about 30 inches in length having an internal diameter of about 3/8 inch to accommodate a moderate sized missile and for effecting a well directed flight path thereof.

A handle 22 is affixed to the exterior of section 16 and extends toward mouthpiece end 18 providing a convenient hand grip for supporting blow gun 12 in an aimed condition. It should be evident that handle 22 is spaced from mouthpiece 18 a distance slightly less than the arm length of small children so that the device of the instant invention may be used by persons of all ages. A sighting means 24 is affixed on the exterior of tubular section 16 at discharge end 20 and comprises a planar blade similar in configuration to a rifle sight. Sighting means 24 is preferably positioned 180° opposed from handle 22 to facilitate the aiming of blow gun 12.

A plate 26 is positioned closely adjacent the terminus of mouthpiece end 18 and preferably about one inch therefrom to prevent an individual, particularly a small child, from inserting the end of blow gun 12 too far into the mouth to cause injury to the user. If the individual were to fall on blow gun 12 while mouthpiece end is received by the mouth, plate 26 will prevent the end of tubular section 16 from being forced toward the throat of the user. Because of the large surface area between plate 26 and the surrounding area of the user, little or no injury will result from such an accident.

Missile 14 includes a body comprised of a rear hollow substantially cylindrical segment 28 and a forward hollow substantially conical segment 30, the axis of segments 28, 30 being substantially colinear. The forward end of conical segment 30 is preferably blunt to avoid injury to one hit by missile 14 and is preferably slightly weighted as by the use of a heavy metal plug 32 interiorly of segment 30.
3

The rear end of cylindrical segment 28 forms a pair of slots 34, 36 having rearwardly diverging faces 38, 40 for purposes more fully explained hereinafter. As shown in FIGURE 5, slots 34, 36 are spaced on opposite sides of a longitudinal plane extending vertically through missile 14. A wing 42, 44 is mounted for respective movement through slots 34, 36 by a mounting means shown generally as 46.

Mounting means 46 includes a stationary pin 48 extending across rear segment 28 perpendicular to each of wings 42, 44 and is received by apertures formed in the ends of wings 42, 44. It should be apparent that the openings in wings 42, 44 are sufficiently large to allow pivotal movement of wings 42, 44 about the axis of pin 48. A spring shown generally at 50 acts to bias wings 42, 44 into the expanded position shown in FIGURE 4 and includes a first leg 52 extending through an aperture 54 in wing 42, an intermediate coiled section 56 surrounding pin 48 and a second leg 58 extending through an aperture 60 in wing 44. It is therefore apparent that spring 50 is connected to each of wings 42, 44 and biases them into the position shown in FIGURE 4.

In the operation of toy 10, missile 14 is inserted into blow gun 12 as by pushing it through the mouthpiece end 18. The insertion of missile 14 through mouthpiece 18 will act to move wings 42, 44 into the collapsed position shown in FIGURE 3 because of contact of wings 42, 44 with tubular section 16. The user then places the mouth about mouthpiece 18 and blow to propel missile 14 through blow gun 12 into a flight path exterior thereof. When missile 14 exits from tubular section 16, spring 50 biases wings 42, 44 apart and into engagement with faces 38, 40 of slots 34, 36. It will therefore be apparent that wings 42, 44 are stationary during flight and give missile 14 a floating action.

Where a group of people are firing missiles 14 into the air, another person may utilize a similar blow gun and missile without wings 42, 44 to attempt the destruction of the winged missiles in flight, thereby assimilating a ballistics missile attack and the use of interceptor missiles. It should be noted in this regard that missile 14 is shaped in the configuration of a ballistics missile lending reality to the game. The provision of sighting means 24 and handle 22 further enhances the possibility of an interceptor contacting the incoming missiles because of the greater facility of aiming the discharged device.

It should be noted that blow gun 12 and missile 14 may be made of any suitable material, such as metal or the like, but is preferably made of plastic thereby lessening the cost and weight of toy 10.

It is now seen that there is herein provided an improved blow gun and missile toy which accomplishes all of the objects and advantages of the instant invention and other, including many advantages of great practical utility and commercial importance.

Since many embodiments may be made of the instant inventive concept, and since many modifications may be made of the embodiments hereinbefore shown and described, it is to be understood that the foregoing is to be interpreted merely as illustrative and not in a limiting sense.

I claim:
1. A toy comprising:
   a blow gun including:
   an elongate tubular section for receiving and guiding a missile during the early portion of its flight,
   a handle, intermediate the ends of the tubular section, extending away therefrom providing a convenient hand grip for supporting the section in an aimed condition,
   a plate, secured to the section closely adjacent the air pressure receiving end, preventing the insertion of the section too far into the mouth of the user,
   a missile, slidably mounted in the tubular sec-
   tion, for movement therethrough upon the creation of a high pressure area adjacent the pressure receiving end, said missile including an elongate hollow body having a longitudinal slot extending through the rear thereof, said body having a generally cylindrical rear segment and a generally conical front segment, the axes of the cylindrical segment and the conical segment being collinear, the body simulating the configuration of a ballistics missile, a pair of wings mounted in the slot for pivotal movement between a retracted position substantially coextensive with the exterior of the body, and an expanded position extending laterally of the body a substantial extent, a stationary pin extending across the rear segment with said wings rotatably mounted thereon and means biasing the wings toward the expanded position including a spring having one leg secured to one wing, an intermediate coiled section received around the pin and a second leg secured to the other wing.

2. The toy of claim 1 further including sighting means, on the tubular section adjacent the other end thereof.

3. The toy of claim 2 wherein the sighting means includes an upstanding blade disposed on the tubular section adjacent the other end thereof substantially 180° opposed from the handle.

4. The toy of claim 3 wherein the handle is inclined away from the blade.

5. A toy comprising:
   a blow gun including:
   an elongate tubular section for receiving and guiding a missile during the early portion of its flight,
   a handle, intermediate the ends of the tubular section, extending away therefrom providing a convenient hand grip for supporting the section in an aimed condition,
   a plate, secured to the section closely adjacent the air pressure receiving end, preventing the insertion of the section too far into the mouth of the user,
   a missile, slidably mounted in the tubular section for movement therethrough upon the creation of a high pressure area adjacent the pressure receiving end, said missile including an elongate hollow body having a longitudinal slot extending through the rear thereof, a pair of wings mounted in the slot for pivotal movement between a retracted position substantially coextensive with the exterior of the body, and an expanded position extending laterally of the body a substantial extent, means biasing the wings toward the expanded position, said slot being formed of the two distinct segments, the first slot segment residing on one side of an imaginary longitudinal plane and the second slot segment residing on the other side thereof.

6. The toy of claim 5 wherein the wings are rotatably mounted about a stationary pin extending across the rear segment in side-by-side relation.

7. A toy comprising:
   a blow gun including:
   an elongate tubular section for receiving and guiding a missile during the early portion of its flight, a handle secured to said tubular section intermediate the ends thereof, a missile slidably mounted in the tubular section, for movement therethrough upon the creation of a high pressure area adjacent the pressure receiving end of said section, said missile including
an elongate hollow body having a longitudinal slot extending through the rear thereof,
a pair of wings mounted in the slot for pivotal movement between a retracted position substantially coextensive with the exterior of the body, and an expanded position extending laterally of the body a substantial extent,
a stationary pin extending across the rear of said missile with said wings rotatably mounted thereon, and means biasing said wings toward the expanded position including
a spring having one leg secured to one wing,
an intermediate coil section received around said pin, and
a second leg secured to the other wing.
8. The toy of claim 7 further including sighting means, on the tubular section, adjacent the other end thereof.
9. The toy of claim 8 wherein the sighting means includes an upstanding blade disposed on the tubular section adjacent the other end thereof substantially 180° opposed from the handle.

10. The toy of claim 9 wherein the handle is inclined away from the blade.

References Cited
UNITED STATES PATENTS
1,084,599 1/1914 Ballentine 124—12
1,394,551 10/1921 Hitt 273—106.4
1,771,991 8/1930 Bissiri 124—12
3,190,654 6/1965 Ross 124—12
FOREIGN PATENTS
208,199 8/1940 Switzerland
1,067,184 11/1952 France
1,260,116 3/1961 France

RICHARD C. PINKHAM, Primary Examiner.
R. W. DIAZ, Jr., Assistant Examiner.

U.S. Cl. X.R.
46—80; 273—106.5