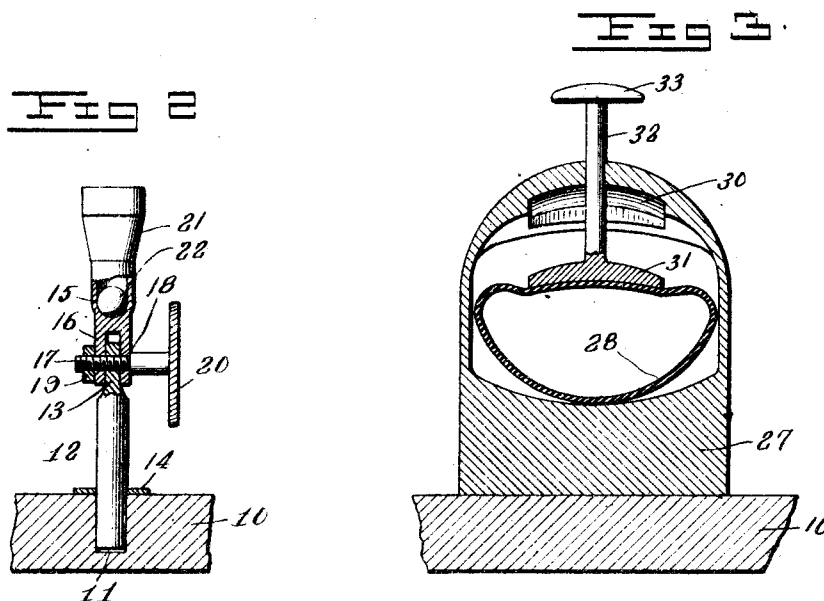
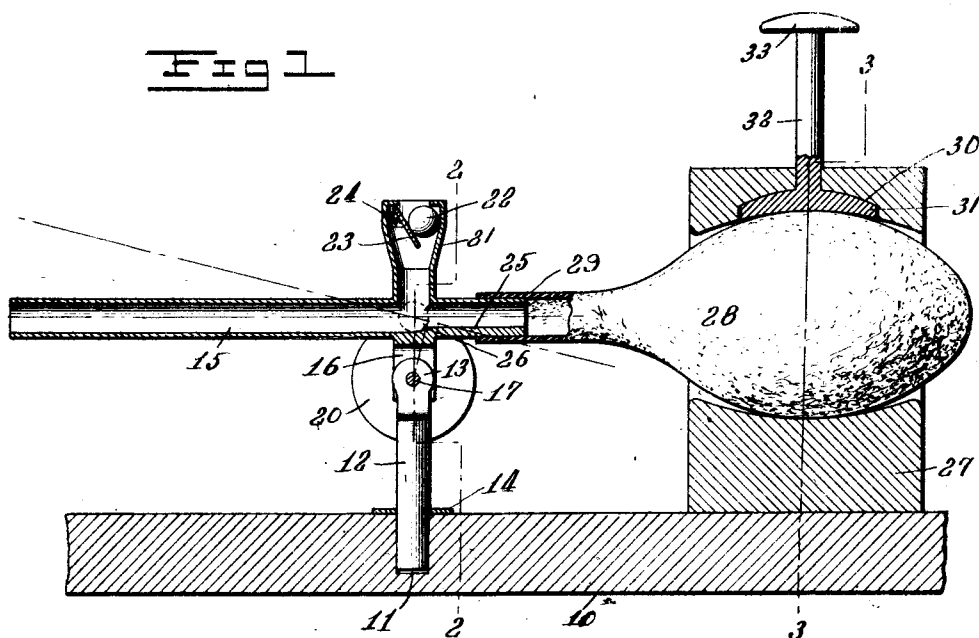


R. FUDA.
 TARGET AIR GUN.
 APPLICATION FILED DEC. 21, 1911.

1,033,094.

Patented July 23, 1912.



Inventor

Ralph Fuda

Witnesses

H. C. Polmetto
 J. T. Marhman

By *Wm. C. Leachman*
 Attorney

UNITED STATES PATENT OFFICE.

RALPH FUDA, OF NORFOLK, VIRGINIA

TARGET AIR-GUN.

1,033,094.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed December 21, 1911. Serial No. 667,251.

To all whom it may concern:

Be it known that I, RALPH FUDA, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented new and useful Improvements in Target Air-Guns, of which the following is a specification.

This invention relates to toy target air guns, and has among its objects to provide a gun, the discharging of which requires a certain amount of skill, to provide means for compressing air and introducing it into the barrel of the gun to discharge the ball, and to provide improved means for feeding the ball to the breach of the gun and for sealing the breach of the gun when the ball is in position.

Another object of this invention is to produce a gun requiring skill not only in adjusting the position of the ball with respect to the target, but also in compressing the air against the ball to discharge it with sufficient impetus to carry the ball to the target and to strike the target with the force desired.

A still further object of this invention is to provide a gun which is comparatively simple in construction, of relatively small proportions, and a device which may be produced at a minimum cost so as to provide a toy gun of this character which is practical not only in its operation, but also in its production and distribution to the public.

The invention comprises, broadly, a barrel mounted upon a support for adjustment to swing both in a vertical plane and in a horizontal plane to give the gun or cannon a relatively wide range. The barrel of the cannon is provided with means for holding it rigid when adjusted in the vertical plane, so that certain skill will be required to hold it in the desired horizontal position, with a ball-feeding device through which the balls are introduced into the barrel and which seals the breach or inner end of the barrel, and to provide means for compressing air and directing it into the rear end of the barrel against the ball to discharge the same, the air-compressing means having a hand-operable plunger compressing a bulb to exhaust air therefrom into the barrel, and admitting of the quick or slow collapsing of the bulb to give the desired impetus to the ball to carry it through the desired distance and with the desired force, thereby requir-

ing a certain amount of skill in discharging the device.

To said ends my invention consists in novel features of construction, arrangement, and combination of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which,

Figure 1 is a longitudinal vertical section, taken centrally through the improved toy-gun; Fig. 2 is a section on the line 2—2 of Fig. 1, disclosing a ball in position in the barrel; and Fig. 3 is a section on the line 3—3 of Fig. 1, disclosing the plunger slightly compressed.

Referring to the drawing, in which like parts are designated by similar characters of reference throughout the several views, the numeral 10 designates a base upon which are mounted the several parts of the improved device. The base 10 is provided in its upper side with a circular depression or recess 11, into which is fitted for rotation the lower rounded end of a standard 12. The standard 12 is reduced and flattened at its upper extremity to form a lug 13, which is centrally apertured and preferably rounded for a purpose hereinafter set forth. A collar or washer 14 is secured about the lower end of the standard 12 midway of its extremities and rests upon the upper face of the base 10 to support the standard in upright position and provide a relatively large base or supporting surface for the gun.

As disclosed in the drawings, the main portion of the gun is formed integral, or in one piece, to provide the necessary parts for introducing and holding the ball and for conducting compressed air against the ball. This integral member is in the form of an elongated barrel 15 provided with depending spaced ears 16 which register and provide a fork, the ears 16 engaging against the opposite flat sides of the lug 13 of the standard and having central openings there-through adapted to register with the opening in the lug 13. A binding screw 17 is passed through the fork and the lug when the same are brought into registration, the binding screw having an enlarged end forming a shoulder 18 fitting against the adjacent ear 16, and carrying upon its opposite end a binding nut 19 adapted to engage against the opposite ear 16 to contract the fork and hold the barrel 15 rigid in the desired adjustment upon the standard 12. The screw

17 is provided with a preferably knurled thumb nut 20 upon its enlarged end whereby the screw may be readily turned to release or bind the fork upon the lug.

6 The supporting fork of the barrel 15 depends therefrom at a point adjacent to its rear extremity, and immediately above the fork is provided the feed hopper 21 through which the balls 22 are introduced into the barrel 15. As will be noted, particularly from Fig. 1, the feed hopper 21 is enlarged at its upper end and closed by an inwardly swinging leaf 23 normally pressed up into closed position by a spring 24 carried within the hopper to seal the hopper and the breach of the barrel 15. The hopper 21 is contracted at its lower end to a diameter slightly greater than that of the ball 22 so as to snugly receive the ball and convey it into the barrel which is also of a diameter but slightly greater than the ball. The rear end of the barrel 15 is provided with a lower thickened wall 25 terminating in a rounded shoulder 26 immediately beneath the hopper 21 to receive the balls 22 thereagainst to hold the same from movement outwardly through the inner end of the barrel 15.

30 The base 10 is provided with a suitable bulb support 27 spaced rearwardly from the standard 12 and being in the form of a substantially solid body having a longitudinal opening through its upper end, the upper and lower walls of the opening being concaved to receive, somewhat snugly, the opposite faces of a flexible bulb 28 which is suitably secured by an elastic neck 29 to the rear extremity of the barrel 15. The support 27 is provided in its upper end and within the longitudinal opening with a recess 30 receiving snugly therein a concavo-convex plunger adapted to rest upon the upper side of the bulb 28 and to be moved down thereagainst for compressing the bulb by a stem 32 extending through the top of the support 27 and being provided with a handle 33.

From the foregoing description, the operation of the improved device will be understood, since when it is desired to fire the improved gun, a ball 22 is forced down into the hopper 21 against the leaf 23, the spring 24 being compressed to admit of the swinging of the leaf 23 down into the hopper 21 until the ball 22 passes the leaf 23. The ball 22 drops down into the barrel 15 against the shoulder 26 and the spring-compressed leaf 23 moves upwardly to seal the hopper 21. The operator now loosens the screw 17 to release the fork-ears 16 from the sides of the lug 13 whereupon the barrel 15 is adjusted in a vertical plane to the desired position when the screw is again tightened to hold the barrel rigidly in such position. 65 The operator now grasps the rear end of

the barrel 15, or adjacent parts of the gun, and swings the same in a horizontal plane into the desired position for directing the ball 22 toward the target. The operator now places the palm of the hand upon the handle 33 and forces the same down to compress the bulb 28. The compressed air in the bulb 28 passes through the neck 29 into the breech of the barrel 15 when it is conducted against the ball 22 and, since the leaf 23 closes the hopper 21 is expelled from the outer end of the barrel 15 carrying with it the ball 22. It is readily seen that if the plunger 31 is forced downward quickly that the air will be placed under greater pressure and will project the ball 22 from the barrel with greater force and velocity than if the plunger 31 were removed downward slowly. There are thus two adjustments to be made by hand in the discharging of the ball 22. One of these adjustments is in holding the ball in the desired position in a horizontal plane, while the second adjustment is in the movement of the plunger 31, to compress the bulb with the required rapidity to eject the ball 22 with the force necessary to carry the ball to the target.

It will be understood that this invention contemplates various changes in the minor details of the invention within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A toy-gun comprising a one-piece barrel having an integral feed-hopper opening into one side thereof and an integral supporting fork upon its opposite side, a standard, a connection between said standard and said fork to adjust said barrel, a support, a bulb carried in the support and communicating with the rear end of the barrel, and a hand-operated plunger mounted in the support for compressing the bulb.

2. A toy-gun comprising a barrel having a depending fork, a rotatable standard having a lug upon its upper end fitting into the fork, a binding screw carried by the fork and engaging through the lug to bind the fork upon the standard; an upwardly opening hopper carried by the barrel for the reception of a ball, a leaf normally closing the upper end of the hopper, a bulb communicating with the rear end of the barrel, and a plunger operable against one side of the bulb to compress the same.

3. A toy-gun comprising a base, a standard rotatable upon the base, a barrel mounted for vertical adjustment upon the standard, a feed-hopper opening upwardly from the barrel, a spring-pressed hinged leaf carried in the upper end of the hopper for normally closing the same, and air-compressing means communicating with the rear end of the barrel.

4. A gun comprising a barrel the inner
diameter of which is reduced at the rear end
of the barrel providing an outwardly facing
shoulder, said barrel having a hollow pro-
5 jection at one side in registration with the
shoulder providing a ball-feed hopper, a
flexible tube communicating at one end with
the rear end of the barrel, a collapsible bulb
connected to the opposite end of the tube,
10 a support for the bulb arranged adjacent to
the barrel and adapted to nearly inclose the

bulb, and a hand operated plunger slidable
through one side of the support and en-
gaging against the bulb to collapse the same.

In testimony whereof I have hereunto set 15
my hand in presence of two subscribing wit-
nesses.

RALPH FUDA.

Witnesses:

REGINALD J. B. PAGE,

IVOR A. PAGE.