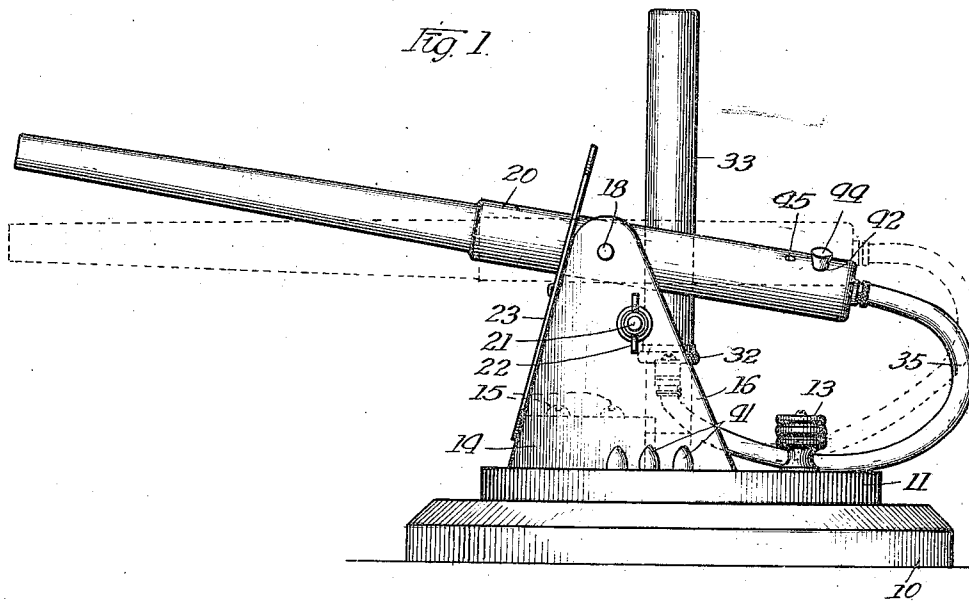
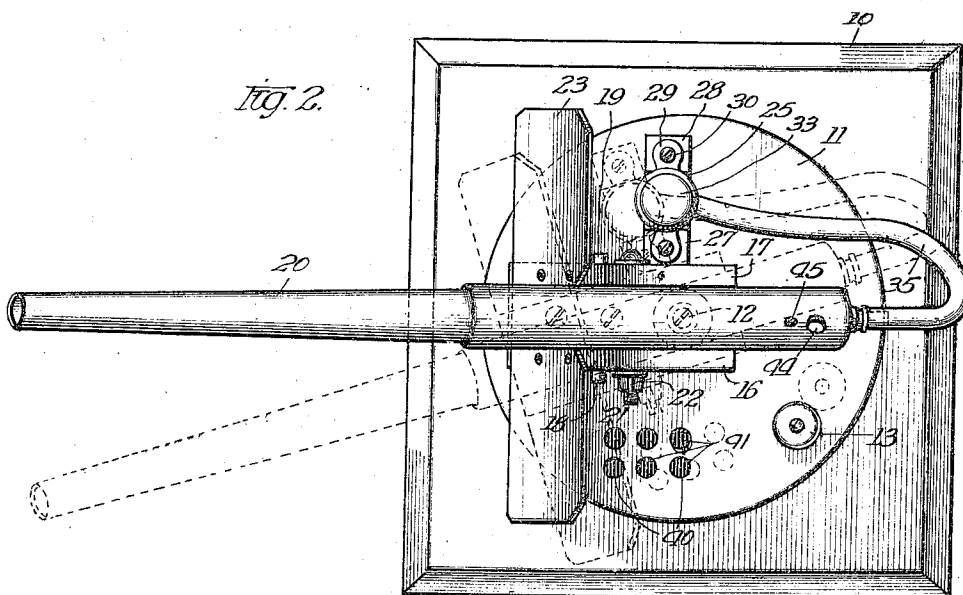


W. F. BEACHY.
PNEUMATIC GUN.
APPLICATION FILED JAN. 5, 1917.

1,262,004.

Patented Apr. 9, 1918.
2 SHEETS—SHEET 1.



Witnesses:

Robert H. Weir
Arthur W. Carkey

Inventor:

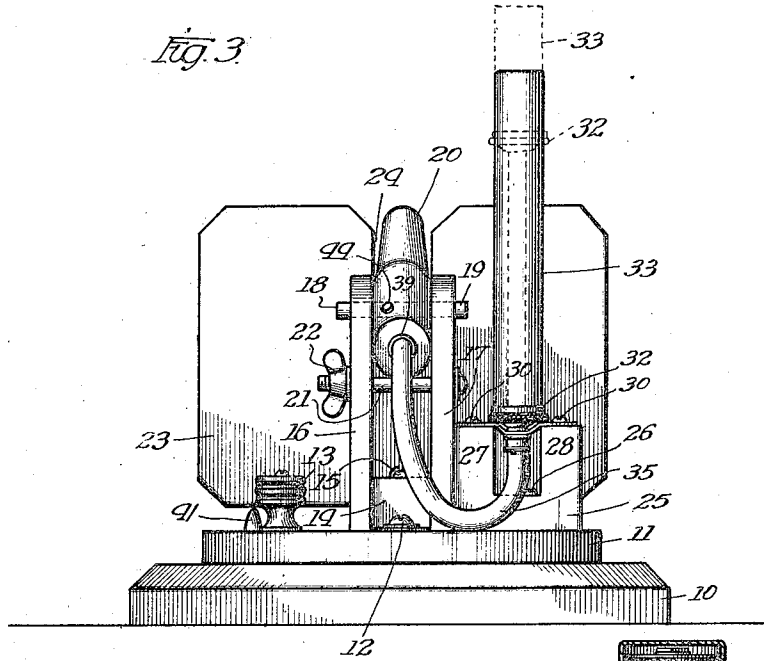
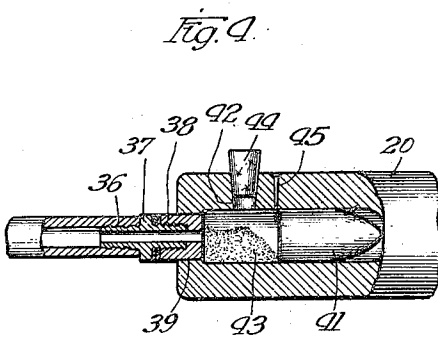
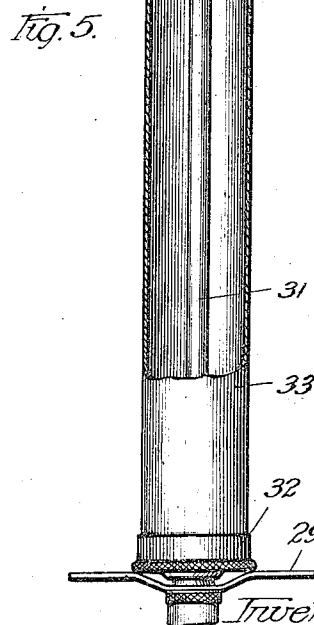
Walter F. Beachy

James R. Coffey, Atty.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WALTER F. BEACHY, OF CHICAGO, ILLINOIS.

PNEUMATIC GUN.

1,262,004.

Specification of Letters Patent.

Patented Apr. 9, 1918.

Application filed January 5, 1917. Serial No. 140,848.

To all whom it may concern:

Be it known that I, WALTER F. BEACHY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pneumatic Guns, of which the following is a specification.

My invention relates to an improved pneumatic gun and involves features of construction and arrangement which particularly adapt such gun as a safe, instructive and interesting toy for children.

My invention can be applied to different types of guns but it is preferably applied to the cannon type. One of the important features of the invention is to provide a barrel arranged to be adjusted laterally and for elevation. Another object is to provide air pressure producing means operable without disturbing the adjustment of the barrel and to produce any degree of compression or expulsion force against a bullet or shell placed in the barrel. Another object is to adapt the pressure producing means for producing suction to draw the bullet or shell to the breech of the gun ready for its expulsion when air under pressure is introduced into the barrel at the breech. Another object is to provide an inlet opening at the breech for the insertion of pulverized material to be discharged from the barrel with the bullet to give the appearance of smoke and also to lubricate the interior of the barrel for the frictionless passage therethrough of the bullet.

On the accompanying drawings I have shown my invention applied to a toy cannon. In the drawings—

Figure 1 is a side elevational view,

Fig. 2 is a plan view,

Fig. 3 is a rear elevational view,

Fig. 4 is an enlarged diametral sectional view of the breech end of the barrel and the connecting end of the flexible hose leading from the pump, and

Fig. 5 is an enlarged elevational view partly in section of the pump for producing pressure and suction.

On a base 10 a circular platform 11 in the form of a disk is pivoted for axial rotation by a screw 12 passing therethrough and into the base 10, a knob 13 being provided on the platform for facilitating its rotation. On the platform a block 14 is secured by screws 15 and seated on the platform and secured

against the sides of the block are the trunnion plates 16 and 17 for pivoting the trunnion pins 18 and 19 extending from the barrel 20. A bolt 21 extends from one trunnion plate through the other and receives a wing nut 22 by means of which the trunnion plates can be drawn together to frictionally clamp the barrel and to hold it in position after it has been swung in a vertical plane to be adjusted for elevation. Secured to the front edges of the trunnion plates is a shield 23 which has the vertical slot 24 for receiving the barrel.

At one side of the trunnion structure a block 25 is secured to the platform by screws 26 and on the tops of risers 27 and 28 from such block the cross plate 29 is secured by screws 30, this cross plate being secured to the outer end of the piston rod 31 extending through the end cap 32 of the pump barrel 33, the piston rod at its inner end supporting the piston 34. The piston rod is in the form of an open-ended tube and secured to its outer end is the flexible tube 35 preferably of rubber, the other end of this tube being secured to the notched nipple 36 extending from the coupling member 37 which screws into the plug 38 which plug is securely inserted in the opening in the breech end of the barrel.

The platform 11 has a plurality of vertical cylindrical holes 40 for the storage of ammunition in the form of bullets or shells. These bullets are preferably inserted in the gun barrel by the force of suction produced when the pump cylinder 33 is drawn upwardly, the bullet being then sucked into and through the gun barrel to the breech end thereof. Then, when sudden downward pressure is applied on the pump cylinder, the air compressed behind the bullet will cause its rapid expulsion from the gun barrel. In order to make operation of the gun more realistic I provide a hole 42 therein near the breech end for the insertion of powder 43, and a cork 44 is provided to close this opening after a charge of powder has been poured in. To provide space for this powder a stop is provided for limiting the inward movement of the bullet. As shown, a nail 45 is driven through the side of the gun barrel to project into the bore thereof to form a stop for the bullet. After the bullet has been drawn into the gun barrel against the stop by suction created by the pump, powder is charged into the space behind the

bullet and the cork 44 securely inserted. Then, when the pump cylinder is depressed, the powder will be forced out with the bullet and will give the appearance of smoke. I
 5 preferably use powder which has lubricating properties, as for example, talcum powder. When this powder is blown through the barrel it will adhere to the sides of the bore and will lubricate the bore to reduce the friction
 10 to permit frictionless passage of the bullet therethrough.

By means of the swiveled platform 11 the gun barrel can be adjusted laterally and the trunnion support will enable vertical ad-
 15 justment of the gun barrel for elevation. The force and velocity of the projectile is determined by the degree and suddenness of pressure applied to the pump cylinder. The gun can therefore be fired with considerable
 20 power and great accuracy, and with safety. It can be constructed of metal or wood and of various sizes and shapes.

I do not desire to be limited to the exact construction, arrangement and operation
 25 shown and described, changes and modifications being no doubt possible which would still come within the scope of the invention. I claim as follows:

1. In a pneumatic gun, the combination
 30 with a barrel, of a pump device adapted to produce suction for drawing a bullet into

the barrel and also to produce compressed air for discharging the bullet from the barrel, and means for charging powder into the barrel behind the bullet to be discharged
 35 from the barrel with the bullet.

2. In a pneumatic gun, the combination with a barrel of a pump device adapted to produce suction for drawing a bullet into the barrel and also to produce compressed air
 40 for discharging the bullet from the barrel, said barrel having an opening at its breech end for the charging in of powder behind the bullet to be expelled from the barrel with the bullet, and a closure for said opening. 45

3. In a pneumatic gun, the combination with a barrel, of a pump device connected with the breech end thereof and adapted to produce suction for drawing a bullet into the barrel and to produce compression to pro-
 50 ject the bullet from the barrel, a stop for limiting inward movement of the bullet in order to leave a space at the end of the barrel behind the bullet, said barrel having a hole leading to said space for charging in powder
 55 thereto to be expelled with the bullet and a closure for said hole.

In witness whereof I hereunto subscribe my name this 3rd day of January, A. D. 1917.

WALTER F. BEACHY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."