

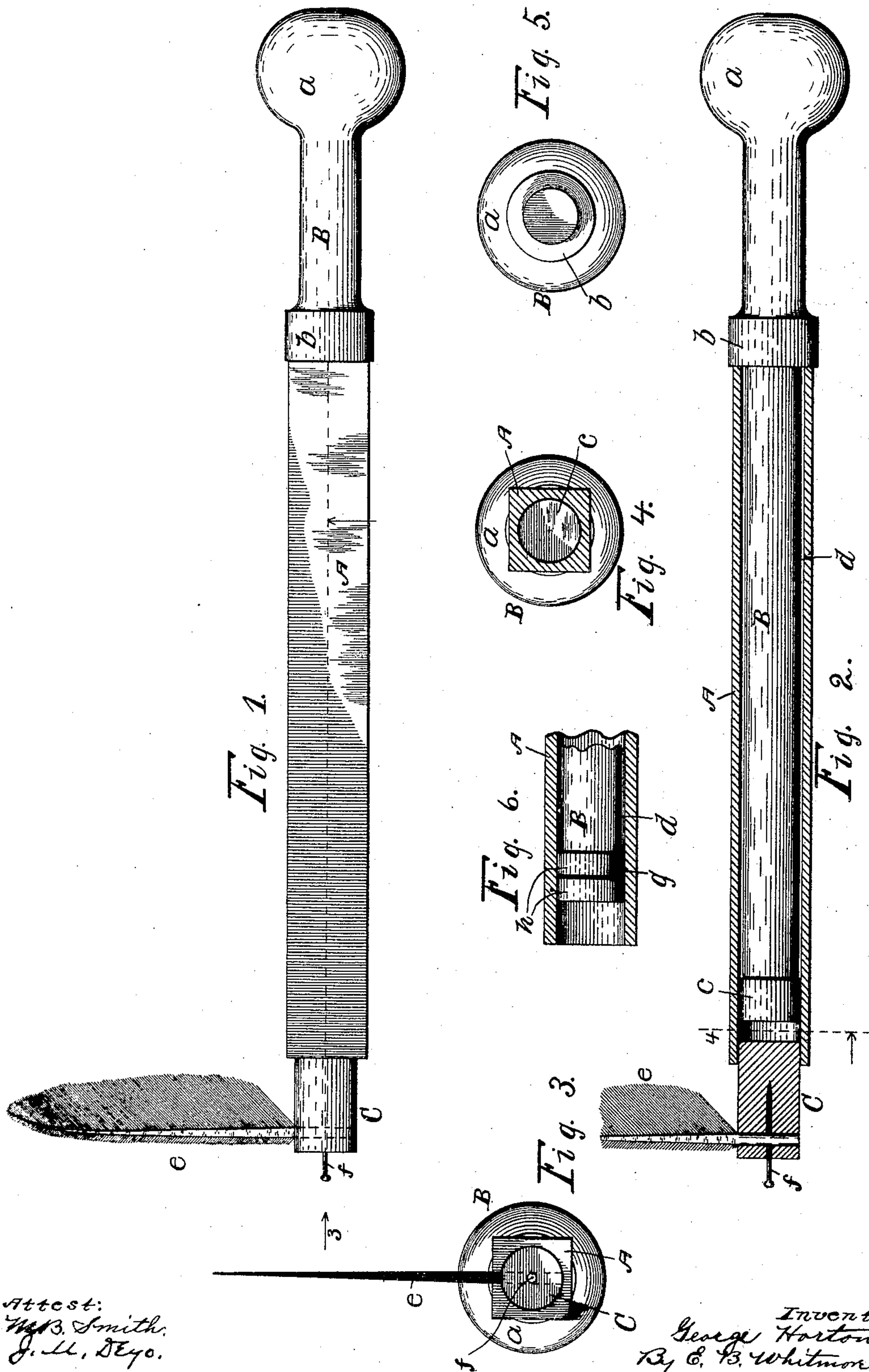
No. 765,924.

PATENTED JULY 26, 1904.

G. HORTON.
TOY AIR GUN.

APPLICATION FILED OCT. 9, 1903.

NO MODEL.



Attest:
W. B. Smith,
J. H. Devo.

Inventor:
George Horton,
By C. B. Whitmore, Att.

UNITED STATES PATENT OFFICE.

GEORGE HORTON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
OF ONE-HALF TO MARY S. HORTON, OF NEWARK, NEW YORK.

TOY AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 765,924, dated July 26, 1904.

Application filed October 9, 1903. Serial No. 176,390. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HORTON, of Washington, District of Columbia, have invented a new and useful Improvement in Toy Air-Guns, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a toy air-gun for throwing projectiles, the projectile most commonly used with the gun being one consisting of a body, as of soft wood or cork, having an overhanging vane for influencing the flight and motion of the projectile while in the air.

The invention is hereinafter fully described, and more particularly pointed out in the appended claims, reference being had in this specification to the accompanying drawings, forming a part thereof.

Figure 1 is a side elevation of the toy gun and projectile. Fig. 2 is a longitudinal axial section of the barrel of the gun and the projectile, taken on the dotted line in Fig. 1. Fig. 3 is an end view of the device seen as indicated by arrow 3 in Fig. 1. Fig. 4 is a cross-section of the air-gun, taken as on the dotted line 4 in Fig. 2. Fig. 5 is an end view of the plunger detached seen in the direction in which Fig. 4 is seen. Fig. 6 is an axial section of a part at one end of the barrel, showing a modification in the form of the traveling cork.

Referring to the parts shown, A is the barrel of the gun, in form a hollow right prism, preferably square in cross-section, the barrel, with the bore d , being uniform throughout its length and alike at both ends.

B is the plunger for the barrel, formed with a convenient handle a , having an enlarged cylindrical part b to meet the adjacent end of the barrel and form a stop for the plunger when forced into the barrel.

c is a free cork or yielding body, closely fitting the bore of the barrel and adapted to slide or travel from end to end of the barrel. The plunger may be inserted at either end of the barrel and used to push the cork c from end to end thereof.

The projectile C is a substantially cylindrical cork adapted to enter the bore d a short

distance at either end of the barrel, as shown in Fig. 2, the cork projecting mainly beyond the end of the barrel. The body of the projectile is provided with a vane e , as a stiff feather or quill of a bird, projecting at one side and near the front end thereof, the shaft of the quill piercing the body diametrically and at right angles with the axes of the body and the barrel. The quill is conveniently secured to place in the body by means of a simple shaft, as a common pin f , inserted axially in the end of the body and piercing the shaft of the quill, no glue or other adhesive substance being employed. The quill is thus rendered adjustable in the body and removable therefrom, and it is so placed in the body that the plane of its barbs coincides substantially with the axis of the barrel.

The barbs of the quill are in most cases cut or trimmed along a line close to and parallel with the shaft of the quill at its advance or front (or upper) edge, as shown in Fig. 1, the barbs on the opposite side of the shaft being also usually slightly trimmed, though left longer than the barbs on the advance side of the shaft, this matter of trimming the barbs, however, depending upon the kind of quill used.

In using this toy gun the traveling cork being near one end of the barrel the projectile is inserted at the opposite end, both the cork and the projectile making tight joints with the walls of the bore d . Directing the forward end of the barrel upward the plunger is pressed vigorously against the cork, driving the latter quickly to the opposite or forward end of the barrel. This serves to compress the air in front of the cork, resulting in suddenly forcing the projectile out of the barrel with a considerable velocity, accompanied by a sharp sound or pop. The vane of the projectile being wholly on one side, and so out of balance, causes the projectile to whirl as it descends to the ground, its behavior or actions being similar to those of the winged seed of the maple tree, which suggested this invention. It has further been found desirable to divide the cork c transversely, as shown in Fig. 6, placing a semi-

solid lubricant of some kind, as tallow, in the space *g* between the separated parts *h h*. As this two-part lubricated cork is pushed by the plunger one way and the other within the barrel the tallow serves to fill the cavities and imperfections in the inner surface of the barrel and in the convex surfaces of the cork, rendering such surfaces smooth and lubricous. With the inner surface of the barrel and the adjacent surfaces of the cork thus filled and made smooth the cork will run smoothly within the barrel and with a better fit and with less liability of the compressed air in front of the cork escaping when pushed toward the projectile.

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

1. A toy air-gun comprising a barrel, a plunger for the barrel, a projectile held at one

end of the barrel, and a traveling cork in the barrel, the projectile having a quill disposed near one end and at right angles to the length thereof.

2. A toy air-gun comprising a barrel, a plunger for the barrel, a projectile held by the end of the barrel, a traveling cork in the barrel, the projectile having a quill projecting at one side, the plane of the quill coinciding with the longitudinal axis of the barrel and having its barbs on the advance side removed.

In witness whereof I have hereunto set my hand this 5th day of October, 1903, in the presence of two subscribing witnesses.

GEORGE HORTON.

Witnesses:

JOHN G. HOLDEN,
H. S. REESIDE.