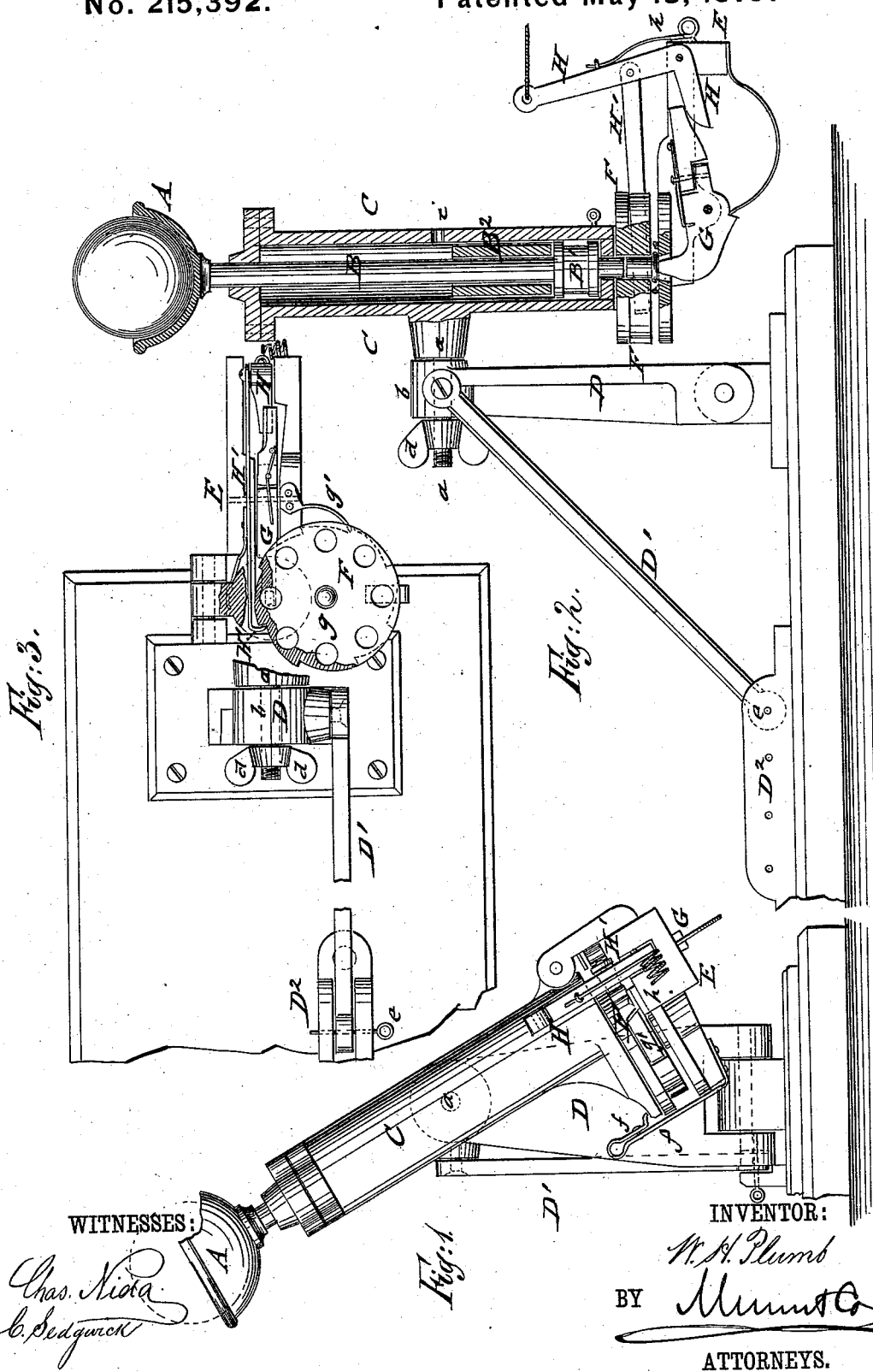


W. H. PLUMB.  
Percussion Ball-Trap.

**No. 215,392.**

Patented May 13, 1879.



# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PERCUSSION-BALL TRAPS.

Specification forming part of Letters Patent No. **215,392**, dated May 13, 1879; application filed September 6, 1878, and renewed April 25, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM H. PLUMB, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and Improved Percussion-Trap for Throwing Glass Balls, of which the following is a specification.

In the accompanying drawings, Figure 1 represents a rear elevation of my improved percussion-trap for throwing glass balls; Fig. 2, a sectional side elevation; and Fig. 3, a top view, partly in horizontal section, of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish for the extensively-practiced sport of shooting at glass balls an improved percussion-trap, by which the balls may be thrown in more rapid succession than by the spring-traps at present employed, and also be thrown in any desired direction, the percussion-trap working in more uniform manner, and being more durable and reliable than the spring-traps, which frequently give out.

The invention consists of a ball-supporting cap attached to the end of a piston-rod whose piston is guided in an adjustable barrel, and thrown up by the successive discharge of cartridges in a revolving cylinder. The piston is arranged with a cushioning-spring and the barrel with exit-holes for the gases of combustion. The chamber is turned by a pawl connected with the trigger, and the hammer dropped thereby after each forward motion of the chamber, so as to discharge a cartridge. The barrel is adjusted by a pivot bearing on an adjustable standard to admit the throwing of the balls in any desired direction.

Referring to the drawings, A represents a cup into which the glass or other balls are placed for being thrown up into the air. The cup is attached to the upper end of a piston-rod, B, that is guided in the suitably-stuffed head of a barrel, C. To the lower end of the piston-rod B is applied a piston, B<sup>1</sup>, that is fitted by packing to the interior of the barrel. The barrel C is supported by a pivot-shaft, *a*, extending at right angles from the barrel in top bearings, *b*, of a hinged standard, D, for being adjusted to any desired lateral inclination.

When the barrel is let into the proper position it is rigidly secured by a clamping thumb-nut, *d*, to the standard. The hinged standard D is also readily adjusted into forward and backward direction by a pivot-arm, D<sup>1</sup>, whose lower end slides in guides D<sup>2</sup> of the base-frame of the trap, and is locked thereto by a pin or other device, *e*, passing through holes of the guides and arm. The barrel may thereby be adjusted to any angle of inclination in the direction of the longitudinal axis of the device, while the pivoting of the barrel admits of lateral adjustment. The glass ball may therefore, by this compound adjustment, be thrown in any direction—forward, sidewise, or back, as desired.

To the lower part of the barrel C, and at one side thereof, is hinged a bracket-frame, E, which is attached by a suitable locking device, *f*, to the opposite side of the barrel, so as to be firmly retained in position at the lower end of the same. The bracket-frame E carries a revolving cylinder, F, immediately below the lower end of the barrel, a hammer, G, and the trigger H.

The cylinder is arranged with any desired number of chambers and pivoted to a center-pin, *g*, of the frame E, the pin entering a socket of the barrel when the bracket-frame is locked thereto. The spring-acted trigger H is connected, by means of a pivoted and spring-acted lever hook or pawl, H', with the cylinder F, whose circumference is notched or toothed, so as to be taken hold of by the pawl and moved forward, bringing thereby successively one cartridge after the other below the bottom opening of the barrel.

A spring check-pawl, *g'*, secures the regular motion of the cylinder. The trigger is acted upon by a strong spring, *h*, that tends to throw it forward, so as to move the hook-pawl H' forward for engaging the next tooth of the cylinder. The trigger is of elbow shape, its lower shorter arm engaging the rear end of the fulcrumed and spring-acted hammer G, and raising the same when the trigger is pulled back by the attendant. The cylinder is simultaneously therewith moved by the pawl and the hammer dropped at the moment when the trigger releases its rear end, so as to strike one of the cartridges that has arrived at the

same time below the bottom opening of the barrel. The cartridge is thereby discharged, the force of the percussion propelling the piston upward, and throwing thereby the ball up into the air.

The forward motion of the trigger imparted by its spring causes its lower arm to pass side-wise of the laterally-swinging and spring-acted rear part of the hammer, so as to assume the position again below the rear part, and raise and drop the hammer by the next pulling of the trigger by the attendant.

By feeding new balls to the cup, either automatically from a hopper or other device or by hand, and quickly pulling the trigger, as many balls as there are cartridges in the cylinder may be thrown up in rapid succession without the loss of time and the trouble caused by the readjustment of the spring-traps. The piston is cushioned by a rubber sleeve or other spring arrangement, B<sup>2</sup>, placed above the piston, so as to neutralize the concussion of the piston with the head of the barrel. The piston is returned by its own weight and that of the cup and ball as soon as the gases of combustion have passed out through holes *i* at the middle part of the barrel.

Any suitable construction of the revolving cylinder, hammer, and trigger may be used for discharging the cartridges, provided that a quick and reliable operation of these parts is obtained.

The rapidity with which the balls may be

thrown with my percussion-trap increases the pleasure of this sport, and renders it more interesting and exciting, while furnishing a simpler mode of working it, as only a charged cylinder has to be substituted for the discharged one for continuing the throwing of the balls.

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

1. A percussion-trap for throwing glass balls, consisting of a barrel with a cushioned piston and a piston-rod carrying the ball-cup, and of a percussion mechanism by which the piston and balls may be quickly and successively thrown, substantially as described, and for the purpose set forth.

2. The combination, with a barrel having gas-escape holes, of a sliding and inclined piston and cup-carrying piston-rod, and of percussion mechanism secured to the lower part of the barrel, substantially as specified.

3. The combination of a barrel, having a stuffed top head, bottom spring, and gas-escape holes, with a sliding and cushioned piston and a guided cup-carrying piston-rod, and with percussion mechanism that is hinged and locked to the lower part of the barrel, substantially as herein shown and described.

WILLIAM H. PLUMB.

Witnesses:

JOS. A. STERLING,  
PAUL GOEPEL.