

F. X. MULHOLLAND.
Spring-Trap for Throwing Target-Balls.

No. 221,694.

Patented Nov. 18, 1879.

Fig. 1.

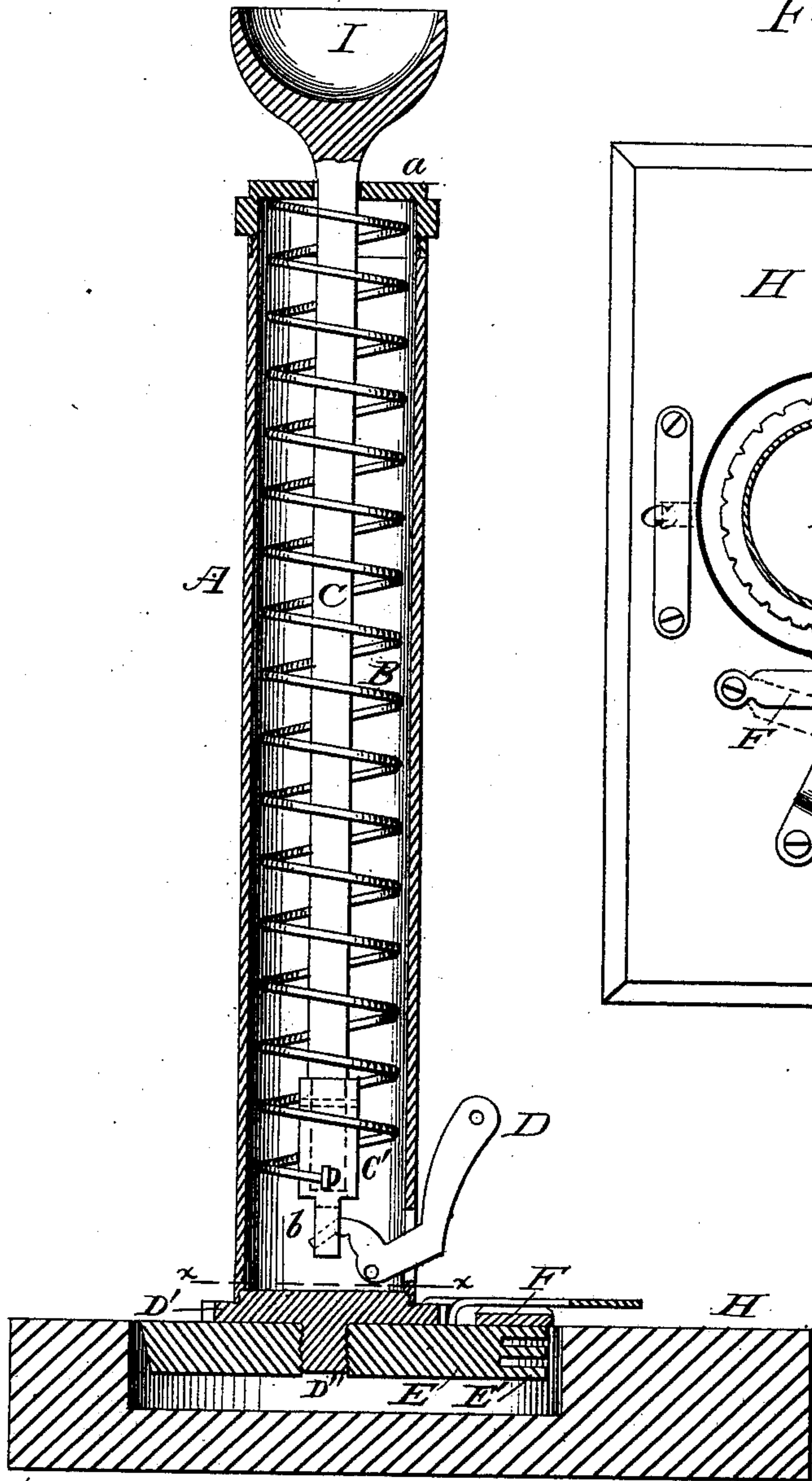
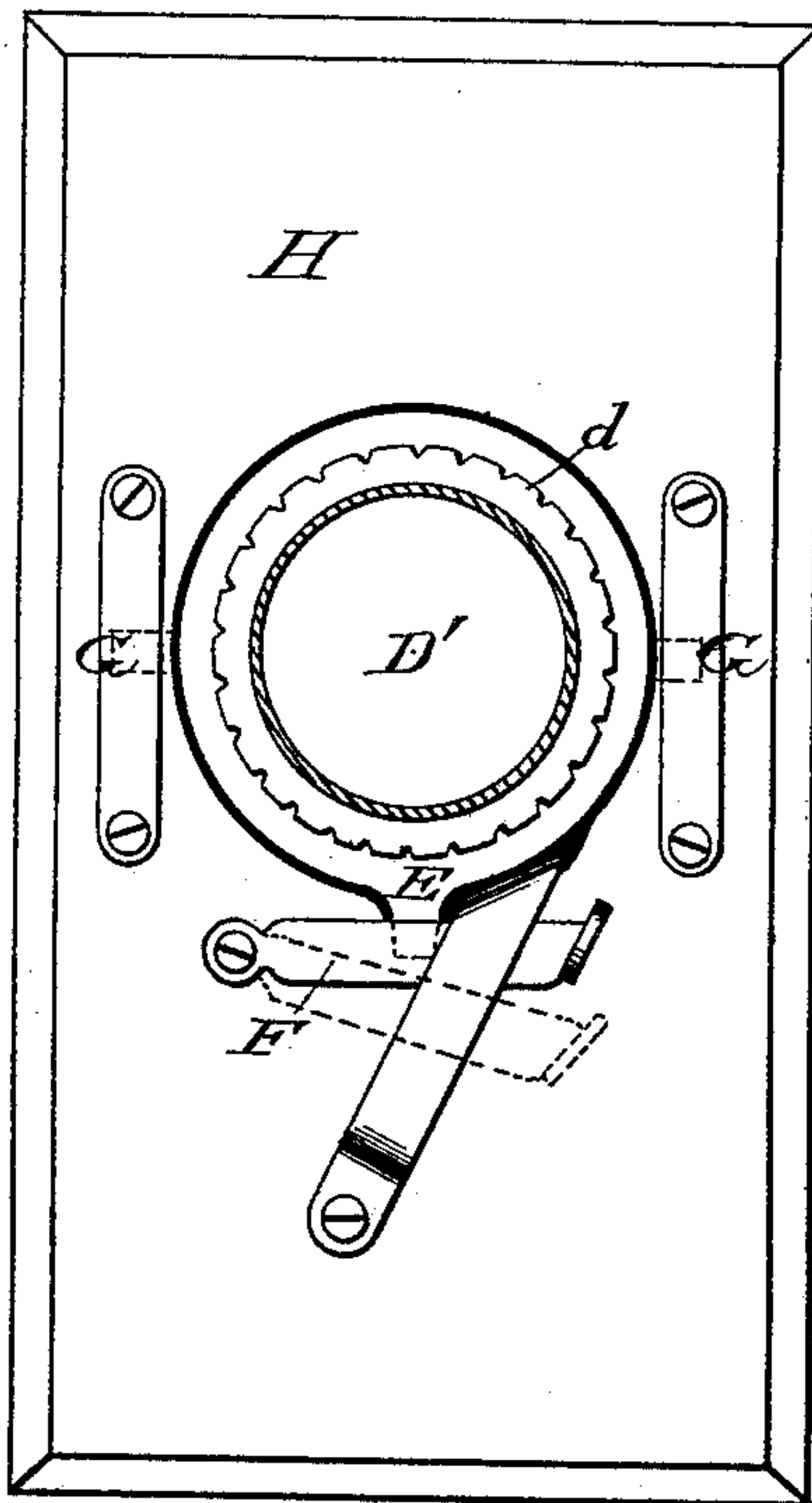


Fig. 2.



Witnesses:

Henry M. Whiting
John A. Diederichsen

Inventor:

Francis X. Mulholland

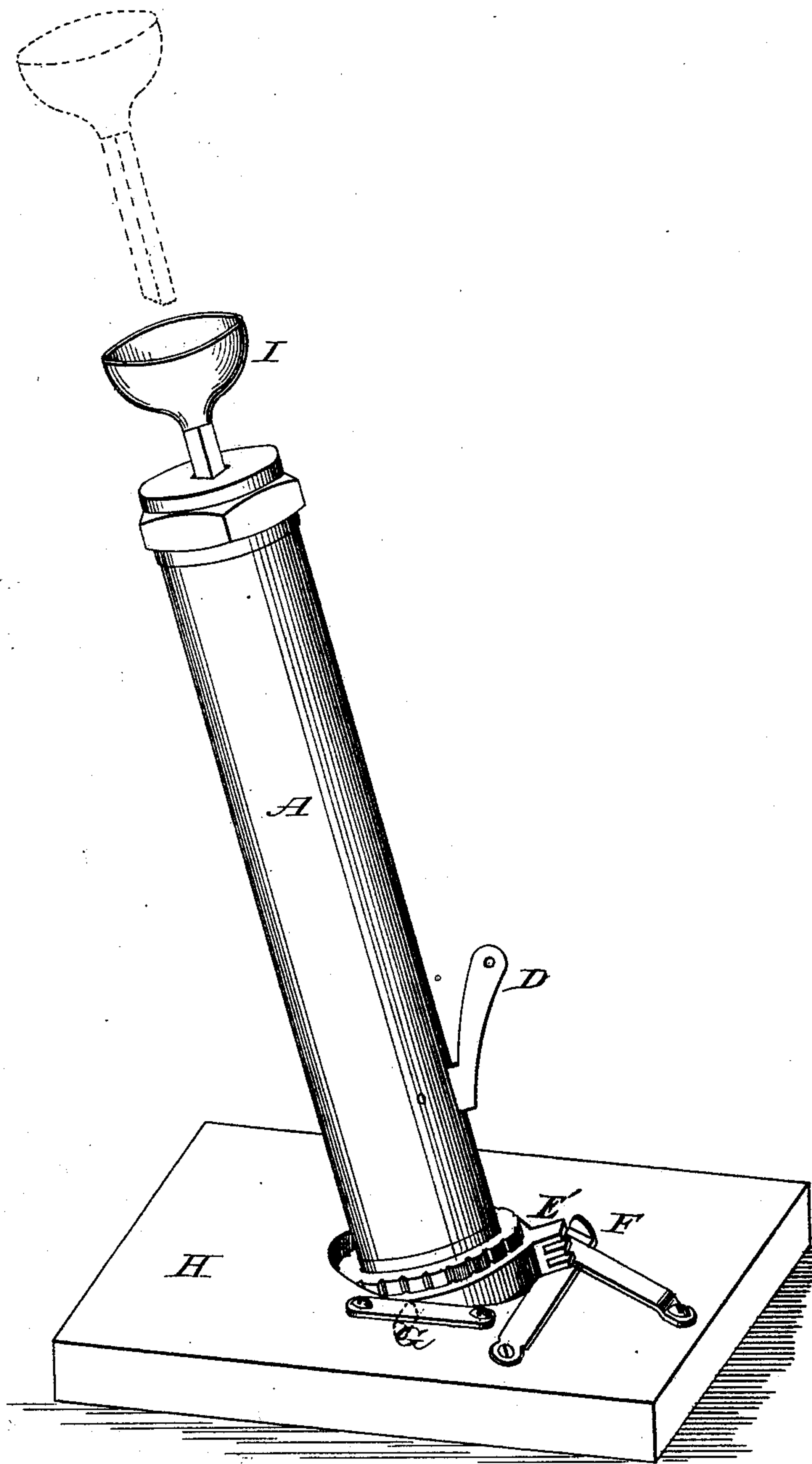
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Fig. 3.



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UNITED STATES PATENT OFFICE.

FRANCIS X. MULHOLLAND, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SPRING-TRAPS FOR THROWING TARGET-BALLS.

Specification forming part of Letters Patent No. **221,694**, dated November 18, 1879; application filed June 17, 1879.

To all whom it may concern:

Be it known that I, FRANCIS X. MULHOLLAND, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Spring-Traps for Throwing Target-Balls, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of the trap embodying my invention. Fig. 2 is a horizontal section in line *x x*, Fig. 1. Fig. 3 is a perspective view.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a plunger fitted to a socket-piece, which is formed with an eye for engagement of the trigger. The cylinder, which is supported on a proper base, has a cap at top, through which the plunger passes, and to which is connected the impelling-spring, whose lower end is secured to the aforesaid socket-piece.

By this construction the power of the spring is exerted the entire distance between the top cap and bottom socket-piece, and the trigger is operative at the lower end of the plunger, so that the latter is held and discharged without any side strain or play, and consequently darts forward true.

It also consists of an oscillating bed-plate and connected parts for imparting perpendicular or oblique directions to the cylinder, as hereinafter set forth.

Referring to the drawings, A represents an upright cylinder, within which is a coiled spring, B, and a plunger, C, said spring having its upper end connected to the closing-cap *a*, through which the plunger passes at the top of the cylinder, and its lower end attached to the bottom of the plunger C by means of a socket or socket-piece, C', which receives the end of the plunger, and is formed with an eye, *b*, for the engagement of the nose of a trigger, D, which is pivoted to the cylinder, and has connected to it the cord or other means for tripping or discharging the plunger.

The plunger has at its upper end a cup, I, for receiving the ball to be thrown, and said

plunger and cup may be made of wood, for purposes of lightness and imparting swiftness to the plunger in its upward movement, the effect whereof on the ball is evident.

The cylinder is screwed to a plug, D', having a milled edge, *d*, and a screw-stem, D'', centrally on its lower side, which stem is fitted to a bed-plate, E, supported on a block or base, H, by means of journals G, whereby an oscillating motion may be imparted to the bed-plate for tilting the cylinder and plunger.

Projecting horizontally from the circumference of the bed-plate are teeth, E', arranged one above the other, and with each tooth a latch, F, is adapted to engage, for the purpose of holding the cylinder in its tilted or canted positions, said latch being pivoted to the base H and provided with a suitable keeper.

The operation is as follows: The lever D is raised, the plunger C depressed to full extent, and the lever let go or manipulated so that its nose enters the eye *b* of the socket C'. The ball is placed in the cup I, and when all is ready for shooting the lever is drawn out or down, thus releasing the plunger, the latter then darting swiftly upward and throwing the ball true with great velocity, the subsequent action of the marksman being well known.

When the ball requires to be thrown at an angle the cylinder is tilted the required extent, the bed-plate E turning on its axis or journals G, and the latch F is engaged with one of the teeth of the bed-plate, whereby the cylinder will be securely held in its oblique position, an example of which is shown in Fig. 3. The plug D' sustains the cylinder A, and is in turn firmly supported on and connected to the bed-plate. When, however, the trap is to be carried or transported, the plug is unscrewed, its milled rim permitting the convenient operation thereof, and the cylinder is separated from the base, the plug closing the bottom of the cylinder and preventing entrance of improper substances.

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

1. In a ball-thrower, the cylinder A, with

trigger D at bottom, and the plunger C, in combination with the socket-piece C', receiving the end of the plunger, and formed with an eye, b, and the coiled spring encircling the plunger, connected at bottom to said socket-piece, and at top to the closing-cap a, through which the plunger passes, substantially as and for the purpose set forth.

2. In a ball-thrower, the bed-plate E, formed with journals G, fitted to the base H and supporting the plunger-cylinder A, in combina-

tion with latching mechanism, substantially as and for the purpose set forth.

3. In a ball-thrower, the cylinder A, in combination with the oscillating bed-plate E, formed with teeth E', the latch F, and base H, substantially as and for the purpose set forth.

FRANCIS X. MULHOLLAND.

Witnesses:

S. CLAIR A. MULHOLLAND,
M. J. MULHOLLAND.