(No Model.)

E. J. B. WHITAKER.

TOY POP GUN.

No. 580,967. Patented Apr. 20, 1897.

Fig. 1.

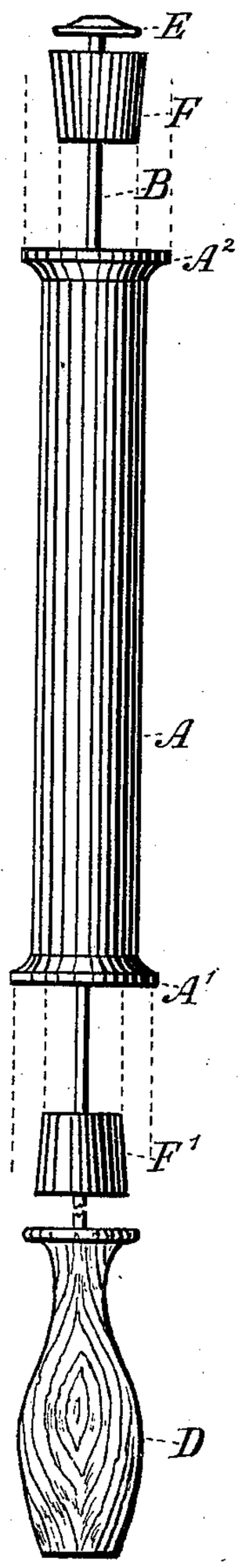
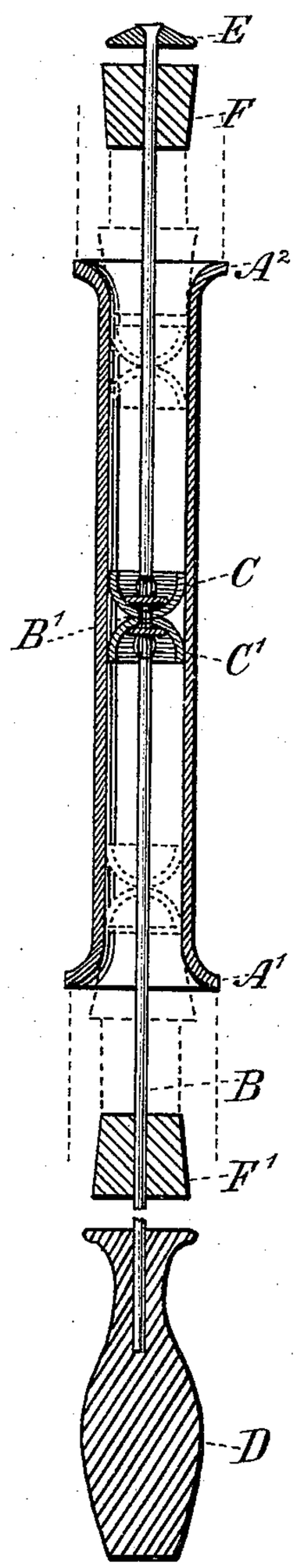


Fig. 2.



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ELIJAH J. B. WHITAKER, OF NEW YORK, N. Y.

TOY POP-GUN.

SPECIFICATION forming part of Letters Patent No. 580,967, dated April 20, 1897.

Application filed June 8, 1896. Serial No. 594,661. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH J. B. WHITAKER, a citizen of the United States, residing at New York, county and State of New York, have invented a new and useful Improvement in Pop-Guns, of which the following is a full, clear, and exact description enabling others skilled in the art to which it pertains to make the same.

My invention relates to a pop-gun designed as a child's toy.

It consists in fitting the air-tube used in such devices on a rigid shaft provided with a compound-cup-shaped plunger, of regulating the manipulated excursions of said tube upon said shaft, and other features, fully described farther on and illustrated in the accompanying drawings, in which like letters refer to like parts in each.

Figure 1 is a side elevation of the device. Dotted lines show the limit of the excursions of air-tube when manipulated. Fig. 2 is a longitudinal section of the device, dotted lines showing position of plugs and movement of tube while being manipulated.

In the drawings, A represents the air-tube, which is preferably made of wood. This, however, is mere selection, as metal, paper, or any other material may be used. This tube is made with a flare A′ and A² on either end. With the exception of these flaring ends the interior of the tube or air-chamber has parallel walls, forming a smooth piston-chamber, in which the piston-rod B operates. This rod B has a flattened or enlarged portion B′ located about the center of the rod, and at this point the two flexible cups or plungers C and C′ are fixed to the rod B. These two cups may be made separately and placed a short distance apart, in which event there would be formed on the rod B two enlargements. As these enlargements are used only for the purpose of more easily and firmly affixing the cups C and C′ in position on the rod B, their position on the rod would govern the position of the cups. The rod B is provided with a handle D, which is shown in the drawings as made of wood, and into which the end of the rod B is driven and secured. At the other extremity of the rod B is fixed a button E. Upon the rod B are strung the two plugs F F′. These plugs are loosely strung on the rod B, so that they will slide along it. They are preferably made of cork and saturated with a lubricant, so as reduce the amount of friction upon the rod B. They are made cone-shaped, with their smaller end pointed toward the tube to admit of their properly wedging in the flared ends A′ and A² when the device is operated.

The operation and further description of the construction of the device are as follows: The tube A is constructed of a single piece of material with a flare on either end. Into and through this tube the rod B is run, bearing the cups C and C′, attached firmly to it centrally, and upon one end is the button E and loosely strung upon it are the two cone-shaped plugs F and F′. These plugs are placed one on the end where the button E is fixed and between that button and the flexible cup C and one on the end where the handle is attached and between that handle and the flexible cup C′. Now the flexible cups are shown connected, and when thus made may be made of one piece, thus forming a compound cup. In operating the device the tube is held in one hand and the handle is grasped by the other. The tube is now rapidly drawn back and forth on the rod B to the full extent of the rod. The cups acting as plungers make an excursion almost entirely through the tube, but never entirely through it. Dotted lines in Fig. 2 show the length of the cups' excursions. Now the tube is thrust backward on the rod until its flared end A′ is forcibly brought in contact with the plug F′. That plug being conical in shape and its conical end being forced by the blow into the tube as it is pressed between the end of the tube and handle, it retains its position by frictional contact until by a reversal of the motion of the tube the air between the small end of the plug and the cup-shaped plunger C′ has become compressed to such an extent as to overcome that frictional contact. Then the plug is violently expelled with a loud noise, caused by the release and expansion of the compressed air contained in the tube. The forward movement of the tube causes the flared end A² to come in contact with the plug F, which is seated in the same manner as described, and thus a rapid movement of the tube forward and backward causes an explosion with each movement, the plug F′ being

pressed into the tube at A^2 by pressure between A^2 and the button E.

The within-described pop-gun is an improvement on my Patent No. 302,367, dated July 22, 1884.

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

A self-charging pop-gun consisting of an open-ended tube, a double-cup-shaped plunger fixed to a rigid rod having a handle fixed on one end and a button on the other operating in said tube, and two cone-shaped plugs loosely strung one at each end of said tube upon said rod; as herein shown and for the purpose described.

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