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W. D. O'QUINN

2,588,036

TOY PISTOL

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Fig. 1.

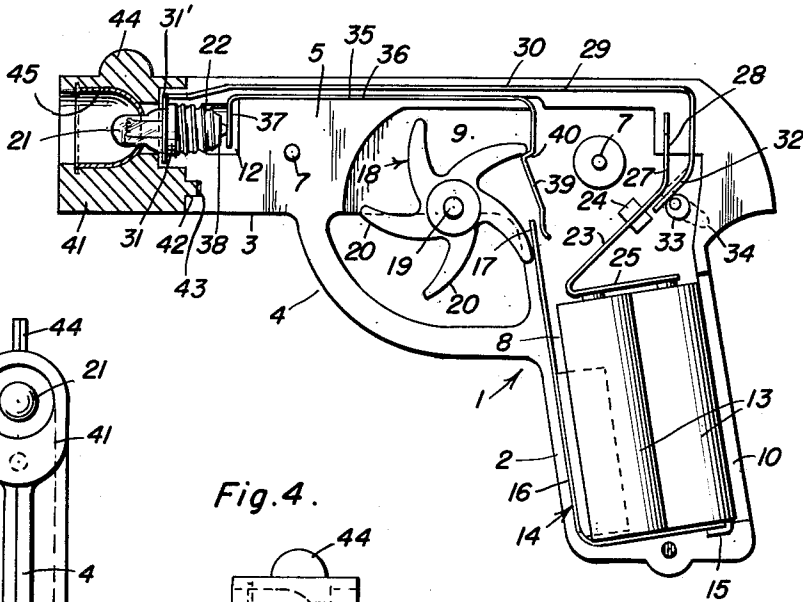


Fig. 2.

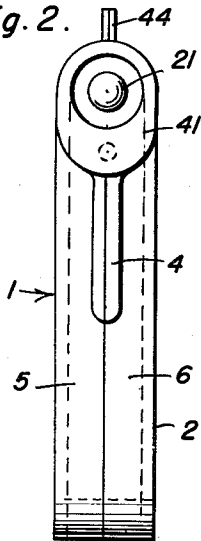


Fig. 4.

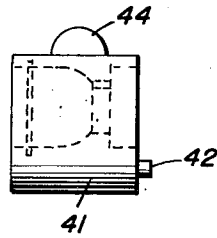
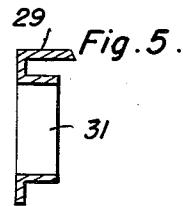
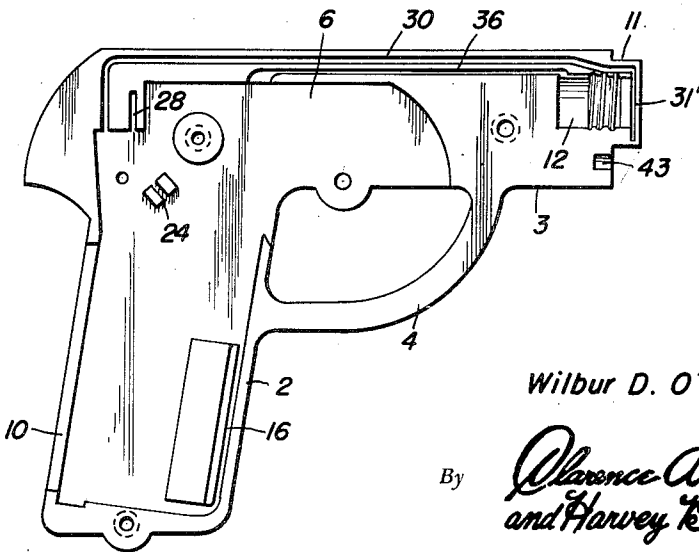


Fig. 3.



Inventor

Wilbur D. O'Quinn

By

Clarence A. O'Brien  
and Harvey B. Jacobson  
Attorneys

# UNITED STATES PATENT OFFICE

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## TOY PISTOL

Wilbur D. O'Quinn, Wilmington, N. C., assignor  
of one-half to J. H. Ferguson, Wilmington, N. C.

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2 Claims. (Cl. 46—175)

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My invention relates to improvements in toy pistols, the primary object in view being to provide a simply constructed, inexpensive, pistol form of toy adapted to produce a noise when the trigger is actuated and to light a flashlight in the muzzle thereof so as to simulate the flash produced at the muzzle by a real gun each time the gun is fired.

Another object is to provide a pistol of the type and for the purposes above set forth, in which electric wires are eliminated and which may be operated with or without the flashlight, as desired.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawing, set forth in detail in the succeeding description, and defined in the claims appended hereto.

In said drawing:

Figure 1 is a view partly in side elevation and partly in longitudinal section illustrating my improved toy pistol with one of the body sections removed to disclose the interior structure of the pistol;

Figure 2 is a view in front elevation;

Figure 3 is a view in side elevation of the removed section;

Figure 4 is a view in side elevation of the muzzle cap member;

Figure 5 is a detail view in transverse section of the thimble for fitting around the shell of the light bulb.

Referring now to the drawing by numerals, according to my invention, as illustrated, a pistol is provided comprising a body 1 shaped to simulate a pistol grip 2 with a barrel 3 and a trigger guard 4.

The body 1 is split longitudinally, in the median plane thereof, to form a pair of side by side sections 5, 6 secured together by pins 7 and with flat sides opposed. Preferably the body 1 is formed of insulating plastic material.

The pistol grip 2 is hollow to provide a battery receiving chamber 8 therein opening into a longitudinal chamber 9 formed in the barrel 3 to extend forwardly over the trigger guard 4 and which is open at its bottom over said guard. The pistol grip 2 has a longitudinally extending rear edge opening 10 therein for inserting batteries into said chamber 8.

The muzzle end of the barrel 3 is provided with a reduced end nub 11 through which an internally threaded bore 12 extends for a short distance into said barrel, for a purpose presently seen.

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A pair of suitable flashlight batteries of the usual dry cell type, and designated 13 are provided in the battery receiving chamber 8 with negative ends resting on a right angled leaf spring conductor 14 of steel having one end suitably fixed, as at 15, in the bottom of said chamber 8. The conductor 14 extends upwardly along the front edge of the pistol grip 2, through a slot 16 in said edge, and with an upper free end 17 projecting out of said slot and adapted to be flexed rearwardly to react and snap against the front edge of said grip to produce a loud noise. As will presently more clearly appear, the conductor 14 forms in conjunction with a trigger member, presently described, a snap action noise maker and also one element of a flasher switch.

A rotary trigger member 18 is mounted in the chamber 9 over the trigger guard 4 on a transverse pin 19 with a plurality of trigger arms 20 arranged in coplanar relation and adapted to be revolved successively, by rotation of said member, in the proper direction, into wiping engagement with said free end 17 of the conductor 14 to flex said end rearwardly and then release the same. As will be understood, the trigger arms 20 revolve into the trigger guard 4 so that by pulling with one finger on one arm a preceding arm may be revolved into engagement with said free end 17 and a succeeding arm 20 positioned in said guard 4 for finger operation.

A light bulb 21 has its socket end shell 22 threaded into the bore 12 and is designed to be energized each time the free end 17 of the conductor 14 is flexed by the trigger arms 20, and through the following means.

A second leaf spring conductor 23 of steel is anchored intermediate its ends in the rear end of the chamber 9 between guide lugs 24 with an acute angled free end 25 bridging the positive terminals of the batteries 13 and reacting against the same to form with the conductor 14 a spring clamp for retaining the batteries in the battery receiving chamber 8. The other end 27 of said conductor 23 is anchored in a cross-slot 28 in the rear end of the barrel 3, and, as will presently more clearly appear, forms one element of a circuit closing switch.

A third leaf spring conductor 29 of steel extends along the top of the barrel 3 in a groove 30 with an annular front end, flanged thimble 31 fitting in the bore 12 and in an annular groove 31' in the nub 11, and also adapted to fit around the shell 22 of the light bulb 21 to electrically connect said conductor 29 and said shell. The rear end 32 of the third conductor 29 depends, at

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a right angle, into the chamber 9 alongside the end 27 of the second conductor 23 to flex into and from engagement therewith.

A cam plug 33 rotatably mounted in the barrel 3, and operative by a crank arm 34 on one end thereof, is provided for flexing said end 32 of the conductor 29 into engagement with said end 27 of the second conductor 23 and form therewith the circuit closing switch before mentioned.

A fourth leaf spring conductor 35 of steel extends along the top of the barrel 3 in a groove 36 with a front end 37 extending into the bore 12 into engagement with the usual rear end terminal 38 for the light bulb 21. A rear end portion 39 of the fourth conductor 35 depends into the chamber 9 behind the trigger member 18 and the free end 17 of the conductor 14, and against which said end 17 is adapted to be flexed by the arms 20 of the trigger member 18.

As will now be seen, the rear end portion 39 of the fourth conductor 35 forms with the free end 17 of the conductor 14, and the trigger member 18, the previously mentioned flasher switch.

A shoulder forming bend 40 is formed in the rear end portion 39 of the fourth conductor 35 which provides a stop past which the arms 20 of the trigger member 18 are adapted to wipe and which is adapted to snap under the tips of said arms to prevent reverse rotation of the trigger member 18.

A muzzle cap member 41 is fitted on the nub 11, frictionally, with an aligning stud 42 thereon fitting frictionally in a socket 43 in the muzzle end of the barrel 3, said cap member being removable for access to the light bulb 23 and having a sight lug 44 thereon.

A suitable reflector 45 is provided in the cap member 41 into which said light bulb 21 extends. The light bulb 21 is extended out of the nub 11 into said cap member and reflector so that when said cap member is removed, the light bulb may be easily grasped for removal and replacement.

The described conductors 14, 23, 29, 35 are designed to be molded into the grooves 16, 28, 30, 36 in the section 5 so that the other section 6 may be removed without displacing the internal parts of the pistol, and the pin 19 and cam plug 33 are designed to be permanently mounted in said section 5 with section 6 removably arranged relative thereto.

As will readily be seen, when the trigger member 18 is operated repeatedly, the free end 17 of the conductor 14 will be flexed intermittently into engagement with the end portion 39 of the fourth conductor 35. Therefore, if the cam plug 33 has been set to flex the end 32 of the third conductor 29 into engagement with the end 27 of the second conductor 23 to close the switch formed thereby, a circuit will be closed and opened intermittently to energize the light bulb 21 intermittently. Each time the light bulb 21 is energized, the free end

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17 of the conductor 14 is released by one of the trigger arms 20 to snap against the front edge of the pistol grip 2 and produce a loud noise. By setting the cam plug 33, in the proper direction, the end 32 of the third conductor 29 will be permitted to flex away from the end 27 of the second conductor 23 so that the electric circuit is permanently opened and the pistol may be used as a noise maker without flashing the light bulb 21. The trigger member 18 is also formed of insulating plastic.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept and right is herein reserved to such modifications as follow in the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. In a toy pistol of the type having a hollow pistol grip and barrel, means to produce noise and to electrically illuminate said barrel internally and intermittently at the muzzle end thereof comprising a flasher switch consisting of an electrically conductive leaf spring in said hand grip secured to and normally reacting resiliently into engagement with the trigger side of said grip and flexible away from said side, a star wheel trigger made of insulation material journaled in said barrel and rotatable in one direction to allow each arm of said star wheel successively to intermittently engage and flex said spring and release the same, said spring when released reacting into normal engagement with said side with a snap action to produce a loud noise, and a second electrically conductive leaf spring resiliently mounted in said barrel and contacted by the first named spring when flexed to close the switch, said second spring having means thereon wipingly engaging an arm of said trigger and preventing reverse rotation of said trigger.

2. A toy pistol according to claim 1 wherein said means comprises a stop shoulder on said second spring.

WILBUR D. O'QUINN.

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