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TOY GUN CONTAINING RICOCHET NOISE MECHANISM

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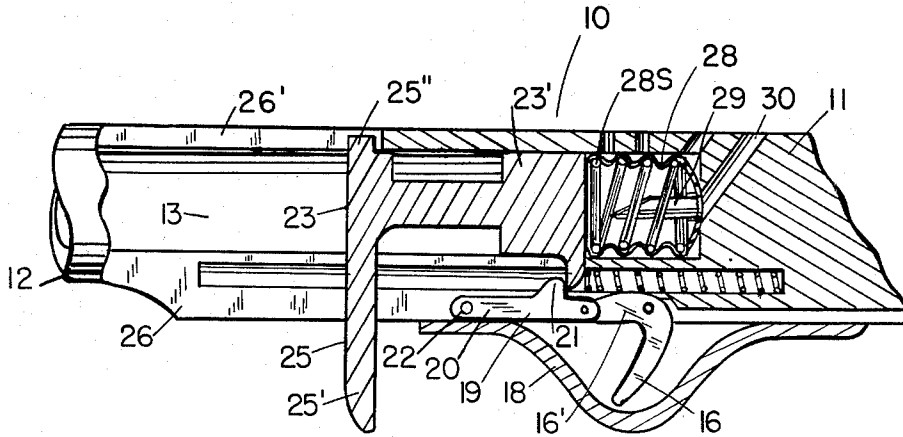


Fig. 1

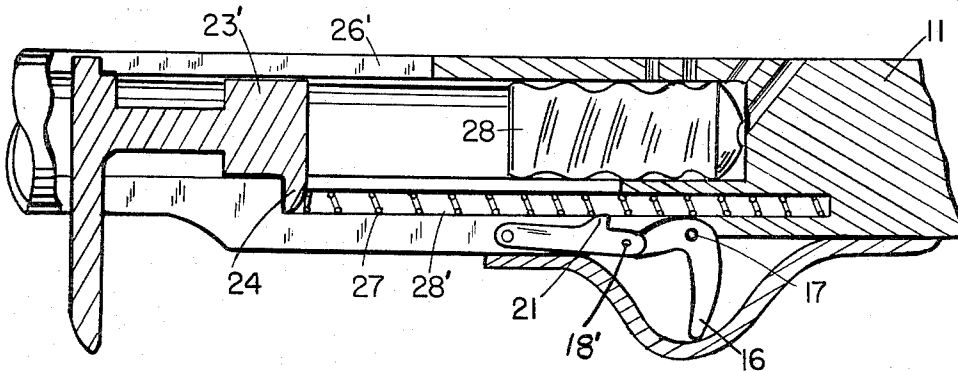


Fig. 2

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TOY GUN CONTAINING RICOCHET NOISE MECHANISM

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Original application Nov. 13, 1953, Ser. No. 392,186,
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794,486

2 Claims. (Cl. 46—175)

This invention relates to noise-making toys and in particular to a toy gun adapted to emit a shrill whistle or whining sound simulating a ricocheting bullet in flight or the like. This is a division of my co-pending application Serial No. 392,186, entitled "Action Toys" and filed on November 13, 1953, and now Patent No. 2,885,824.

Toy guns such as toy pistols and rifles are known in the art which fire pellets and in some cases simulate the sound of an exploding cartridge by means of the explosion of a percussion cap or by the percussion of a sounding board struck by a hammer mechanism when the trigger of the gun is pulled. Toy guns of these types have been used for many years and while they are appealing to the average child, few modifications have been developed thereof which add to their realism and improve their amusement as well as play value. The sound of a ricocheting bullet is quite well known to most children who have watched motion pictures or television programs in which shooting and gunfire occurs. Such a sound generally occurs a fraction of a second after a gun is fired and quite often is audible to the person firing the gun.

Accordingly, it is a primary object of this invention to provide a new and improved toy gun having means for automatically providing, after the trigger thereof is squeezed or operated, a sound simulating that of a bullet ricocheting in flight.

Another object is to provide an improved toy gun having relatively simple, inexpensive and fool proof means for providing a realistic noise simultaneously with the operation of the gun.

Another object is to provide a toy gun having a mechanism for producing a whining or whistling noise when the gun is operated, said mechanism being simple to install and remove from said gun.

Another object is to provide a toy gun with a means for producing a whining bullet sound immediately after the trigger of the gun is actuated thereby providing a realistic effect which children may associate with a bullet ricocheting in flight and resulting from actuation of the gun trigger.

With the above and other such objects in view, as may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts as will hereinafter be more fully described, and illustrated in the accompanying drawings wherein is shown an embodiment of this invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a fragmentary view in cross-section taken along the longitudinal axis of a toy gun showing the trigger and operating mechanism therefor which includes means for producing a shrill whining sound after the trigger is pulled, said trigger and mechanism being shown in a cocked or pre-firing condition; and

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Figure 2 shows in cross-section the mechanism of Figure 1 after release of the mechanism by operation of the gun trigger.

There is shown in Figures 1 and 2 details of the trigger and noise-making mechanism of a toy gun 10 which may comprise a pistol, rifle or other form of gun or simulation of a firearm. The body 11 of the gun may comprise, for example, the conventional rifle stock which extends to a barrel 12 having an elongated bore 13 therein which is preferably of cylindrical configuration. Slidably engaged in the bore is an actuating member 23, the function of which will be described. A trigger 16 is pivotally mounted on a pin 17 which is supported in a bearing or secured to the base or stock 11. Said trigger is partly surrounded by trigger guard 18. A portion 16' is integrally formed with the trigger and extends angularly beyond the pivot defined by pin 17. The forward end of 16' is slidably coupled to a pin 18' secured to an arm 19 which pivots near its other end on a pin 22 supported also by 11. A shelf or projection 21 protrudes upward from 19 and in Figure 1, is shown engaging a projection 24 from the lower portion of the actuator 23 to retain and prevent the forward movement of said actuator. When the trigger 16 is pulled or pivoted as illustrated in Figure 2 the projection 21 of 19 is urged down and out of the way of 24 permitting the actuator 23 to move forward.

The bore 13 terminates at one end above and to the rear of the trigger as illustrated. A spring actuated, normally expanded bellows noise-making device 28 is positioned in the space between the actuator 23 and the rear-most end of the bore. When the actuator is in the cocked position illustrated in Figure 1, the bellows is in a compressed state with its internally secured spring 28S compressed to a fraction of its normally extended length. The potential energy of the spring is thus available for operating the bellows 28. If the bellows is suddenly permitted to expand, preferably under the urging of its own spring, it will emit a high pitch noise of extended duration. If the tubular reed type noisemaker 29, which is assembled with the bellows and creates a noise upon the expansion thereof and the admittance of air thereto, is of the correct design, the bellows will emit a high shrill note which will simulate the whine of a bullet ricocheting in flight. The noise may be heard clearly from the exterior of the toy gun 10 by the provision of one or more holes or openings 30 to the chamber in which the bellows is mounted, there being several of said openings illustrated in Figures 1 and 2.

In the particular embodiment illustrated in the drawings, the actuator 23 is suddenly urged forward by the action of a second spring 27 situated in a sub-bore 28' below the main bore 13 of the gun. The actuator 23 comprises the integral formation of a piston-like rear portion 23' which slidably engages in the bore and a forward portion 25 having an arm 25' projecting sufficiently beyond the barrel for the operator to grasp in the act of cocking the actuator and compressing both the springs 28S and 27 and the bellows to the position illustrated in Figure 1 in which said actuator is retained by the projection 21 of arm 19 and is held until the trigger is pulled. Immediately upon release of the actuator, as in Figure 2, it is urged forward by the spring 27 and permits the spring 28S to expand the bellows to create said high pitch noise. The actuator or piston 23 is guided in its longitudinal travel through the bore by projection 24 and arm 25' which engage in a long slotted hole defined in part by the upper wall portion 26' of said barrel.

The present invention may be embodied in other specific forms and, accordingly, the above described embodiment is to be considered merely as illustrative and not restrictive, reference being made to the appended

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claims rather than to the foregoing specification, as indicative of the scope of the invention.

I claim:

1. In the combination of a toy gun consisting essentially of hand grip portion, a barrel portion, a trigger element for simulating the firing of a gun and a sound producing mechanism within the gun, the improvement which comprises:

- (a) a collapsible bellows device disposed adjacent one end of said barrel portion,
- (b) a spring loaded bellows compressing means at least partially disposed within said barrel portion for compressing said bellows and temporarily locking the bellows in a substantially collapsed condition,
- (c) means associated with said trigger element for releasing said spring loaded bellows compressing means and thereby causing the collapsed bellows to suddenly expand,
- (d) said collapsible bellows device being provided with a noise making device which is actuated when said bellows moves from a compressed to an expanded position,
- (e) whereby when said collapsible bellows is compressed under the action of said bellows compressing means and then subsequently the trigger element is caused to release said bellows compressing means, said collapsed bellows will suddenly expand and emit a sound which children can imagine and associate with the sound of a ricocheting bullet.

2. In the mechanical combination of a manually portable toy gun consisting essentially of a shaped hand grip

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portion, a barrel portion, a trigger element for simulating the firing of a gun and a sound producing mechanism located within the gun, the improvement which comprises:

- (a) a collapsible bellows device,
- (b) a spring loaded bellows compressing means for compressing said bellows and temporarily holding the bellows in a substantially collapsed condition,
- (c) means associated with said trigger element for releasing said spring loaded bellows compressing means and thereby causing the collapsed bellows to suddenly expand,
- (d) said collapsible bellows device being provided with a noise making device which is actuated when said bellows moves from a compressed to an expanded position,
- (e) whereby when said collapsible bellows is compressed under the action of said bellows compressing means and then subsequently the trigger element is caused to release said bellows compressing means, said collapsed bellows will suddenly expand and emit a sound which children can imagine and associate with the sound of a ricocheting bullet.

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