C. L. ALLEN.

TOY FIREARM.

APPLICATION FILED FEB. 4, 1920.

1,347,433.

Patented July 20, 1920.

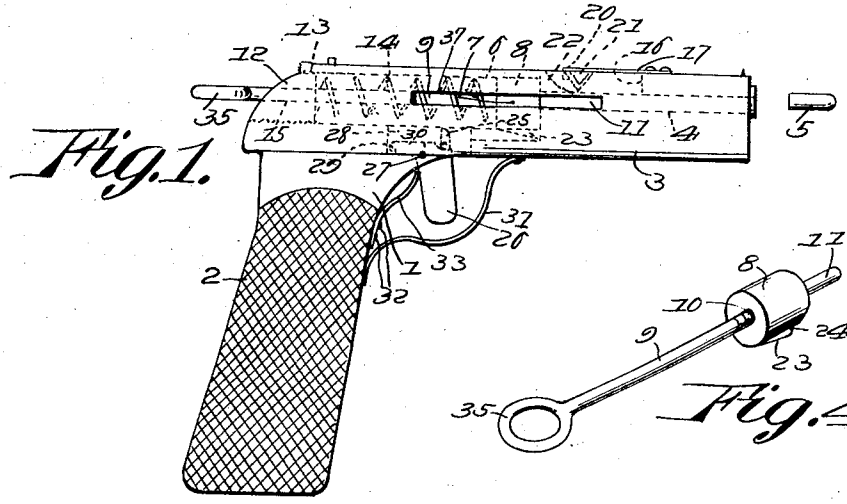


Fig. 1.

Fig. 4.

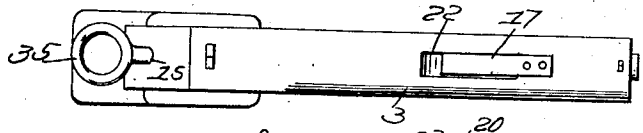


Fig. 2.

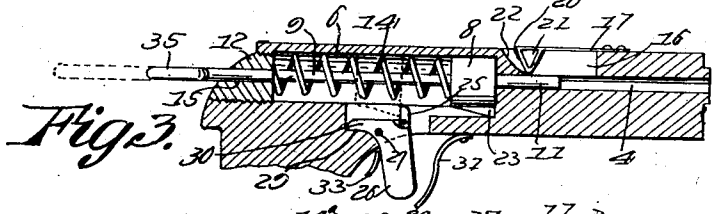


Fig. 3.

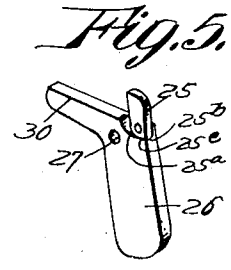


Fig. 5.

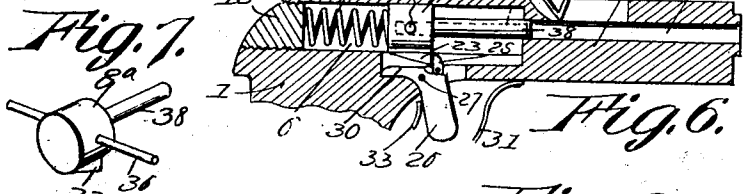


Fig. 6.

Fig. 7.

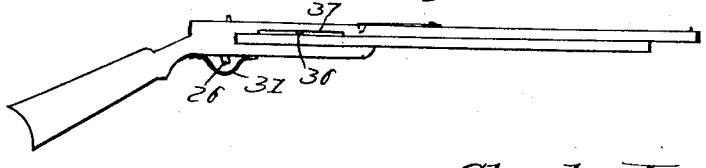


Fig. 8.

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TOY FIREARM.

1,347,433. Specification of Letters Patent. Patented July 20, 1920.

Application filed February 4, 1920. Serial No. 356,169.

To all whom it may concern:

Be it known that I, CHARLES L. ALLEN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Toy Firearms, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved toy firearm, and an object of the invention is to provide a simple, improved, efficient and practical device which is capable of being constructed for a relatively low cost and sold at a reasonable profit.

Another object of the invention is to provide a projectile receiving chamber communicative with the bore of the barrel of the firearm, in combination with means to protrude into the chamber and retain the projectile in position in the bore, whereby a trigger retained and releasing plunger will act to discharge the projectile from the bore.

A further object resides in the provision of a spring retained trigger, and an abutment retained detent on the trigger, adapted to position in front of a part of the projectile, to retain it in a receded position, whereby upon the actuation of the trigger, the plunger is released for firing the projectile.

While the design and construction at present illustrated and set forth is deemed preferable, it is obvious that as a result of a reduction of the invention to a more practical form for commercial purposes, the invention may be susceptible to changes, and the right to these changes is claimed, provided they are comprehended within the scope of what is claimed.

The invention comprises further features and combination of parts, as will be hereinafter set forth, shown in the drawings and claimed.

In the drawings:

Figure 1 is a view in elevation of a toy firearm constructed in accordance with the invention, illustrating the invention as applied to a pistol,

Fig. 2 is a plan view of the firearm shown in Fig. 1,

Fig. 3 is a longitudinal sectional view through the firearm, showing the detents thereof,

Fig. 4 is a detail perspective view of the plunger,

Fig. 5 is a detail perspective view of the trigger and the detent,

Fig. 6 is a longitudinal sectional view through a firearm, showing the plunger slightly modified to that shown in Fig. 3,

Fig. 7 is a detail perspective view of the plunger shown in Fig. 6, and

Fig. 8 is a detail view in elevation of a firearm designed to represent a gun.

Referring more especially to these drawings, 1 designates the firearm as a whole, which in Figs. 1, 2, 3 and 7 is in the form of a toy pistol, which comprises a conventional form of hand grip 2 and the barrel 3, which is mounted upon the upper part of the hand grip, and preferably forms an integral part therewith. The barrel 3 has a bore 4 for the reception of a projectile 5. This bore 4 is in communication with a plunger receiving chamber 6 in which the plunger 7 is mounted. This plunger comprises a piston part 8 and a rod part 9, which passes through the piston part 8 and is connected thereto in any suitable manner preferably by means of threads as indicated at 10. In fact, the piston rod 9 passes sufficiently through the piston 8 to form a reduced extension 11, which extends into the bore so as to contact sufficiently with the projectile to fire or discharge the same from the bore.

The rear end of the chamber 6 is threaded and is adapted to receive a plug 12 which is threaded as indicated at 13 into the rear end of the chamber 6. In assembling the plunger in the chamber 6, the piston 8 is first inserted in the chamber and then a spring 14. The threaded plug 12 is then threaded into the rear end of the chamber 6, after which the piston rod 9 is passed through the bore 15 of the plug, and then threaded into the piston 8, sufficiently to form the extension 11. The upper part of the barrel 3 has a projectile receiving chamber 16, which is immediately above and in communication with the chamber 4. A leaf spring 17 is secured from the top part of the barrel as shown, and has its greater portion overlying the chamber 16, there being an enlargement 20 carried by the leaf spring and adapted to engage into the chamber 16. This enlargement 20 is beveled as shown, or in other words, the enlargement is tri-angular shaped, and its inclined edge 21 is substantially opposed to the curved or inclined end face 22 of the chamber 16, so that a projectile can be inserted between

the inclined faces 22 and 21. When a projectile is forced into the chamber 16 and passes between the inclined faces 21 and 22, it causes the leaf spring 17 to yield upwardly, allowing the projectile to enter the projectile receiving chamber 4. After entering said chamber 4, the triangular enlargement will bear down upon the projectile and hold it in place, but not sufficiently to retard its discharge, when contacted with by the extension of the plunger. The piston 8 has a downwardly extending elongated beveled flange 23, the nose 24 of which is adapted to engage the pivoted detent 25 of the trigger 26. This trigger is pivotally mounted at 27 in a gouged out or cut away chamber 28, and is angular in elevation as shown clearly in Figs. 1, 3 and 7.

The chamber or recess 28 has a supporting shoulder 29 to be engaged by the arm 30 to assist in holding the trigger in place. A suitable guard 31 is secured to the barrel and the hand grip of the firearm as shown in Fig. 1. Secured at 32 to the hand grip of the firearm in Fig. 1 is a leaf spring 33, which bears against the trigger in the manner illustrated in order to hold the arm 30 of the trigger in position in contact with the shoulder 29, in order to hold the detent 25 in position to be engaged by the nose of the flange 23 of the piston 8. In order that the piston may properly engage and be retained in position in engagement with the detent, the leaf spring 33 has greater tension than the coil spring 14, so that when the piston is set ready for firing, the tension of the spring 14 will not overcome the tension of the leaf spring and cause the piston 8 to accidentally release. The rear end of the piston rod of the plunger terminates in a loop 35 to be engaged by the finger of an operator, so that the plunger may be set in engagement with the detent of the trigger, and owing to the leaf spring 33 being stronger than the coil spring 14 the plunger will be retained in a set position for the purpose of firing the projectile.

In Figs. 6 and 8 and also Fig. 7 the plunger is slightly modified. In fact, the piston rod 9 is eliminated, that is to say, the rod that passes through the plug 12, and in this instance the plug 12^a in Figs. 6 and 8 is solid and the coil spring 14^a coöperates between the piston 8^a and the plug, in order to tension the piston.

In order to set the piston 8^a, a transverse rod 36 is passed through the piston 8^a and engages the diametrically opposite elongated slots 37, which are formed in opposite portions of the barrel of the firearm and by grasping the extended parts of the rod 36, the piston 8^a may be pulled back until its flange or rib 23 engages behind the detent. It will be seen that when the trigger is actuated against the action of its leaf spring, the detent will be pulled from the path of the flange 23, permitting the piston to move forward quickly and with sufficient force to discharge the projectile from the bore of the barrel. The barrel of the firearm shown in Figs. 1 and 3 is also provided with diametrically opposite elongated slots 37, so that if desired the form of piston used in Figs. 6 and 8 may be employed in connection with the construction shown in Figs. 1 and 3, instead of using the piston rod 9 in the manner in which it is shown in Figs. 1 and 3. However, in Fig. 6, the piston 8^a has a reduced extension 38 to fit into the rear end of the bore of the barrel in order to contact with and discharge the projectile.

Adjacent the pivot of the detent 25, one edge of the detent is rounded as indicated at 25^a, to permit the detent to tilt in the direction of the receding movement of the plunger when being set, so as to permit the detent to engage in the path of the flange 23. After the detent has engaged the flange 23 it is prevented from movement in the opposite direction by the corners 25^b of the detent contacting with the shoulder 25^c of the trigger. This shoulder constitutes one wall of the recess 26^a of the trigger, and owing to the tension of the spring 14 being in the direction of the discharge of the projectile, the flange 23 will contact with the detent and hold the plunger in a set position.

The invention having been set forth, what is claimed as new and useful is:—

1. In a toy firearm, the combination with a firearm barrel having a projectile receiving bore and provided with a projectile receiving chamber above the bore, so that the projectile can enter the bore, spring tensioned means mounted in the barrel for discharging the projectile and a leaf spring having an enlargement protruding into the projectile receiving chamber above the bore, to retain the projectile in position in the bore.

2. In a toy firearm, the combination with a firearm barrel having a bore and provided with a projectile receiving chamber, so that the projectile can enter the bore, a tensioned device carried by the barrel and overlying said chamber and having means extending into said chamber to contact with and hold the projectile in the bore, means for discharging the projectile, and a device for retaining said means set and releasing the same for the purpose of discharging the projectile.

3. In a toy firearm, the combination with a firearm barrel provided with a chamber and having a projectile receiving bore in advance thereof, of means in said chamber for discharging the projectile, the lower part of the barrel having a chamber below the first chamber, a spring tensioned trigger pivotally mounted in the last mentioned chamber,

a detent carried by the trigger to be engaged by the discharging means to hold said means set, said detent being pivoted on the trigger in advance of the pivot of the trigger so that when the trigger is actuated, the detent will release the discharging means and permit the projectile to be discharged from the bore, said barrel having slot to permit the insertion of the projectile into said bore, and a leaf spring tensioned member carried by the barrel in a plane parallel thereto and having a lug projecting into the slot sufficiently to engage and retain the projectile in position in the bore.

In testimony whereof I hereunto affix my signature.

CHARLES L. ALLEN.