N. B. POTTIER.

TOY PISTOL.

APPLICATION FILED APR. 3, 1918.

1,269,854.

Patented June 18, 1918.

3 SHEETS—SHEET 1.

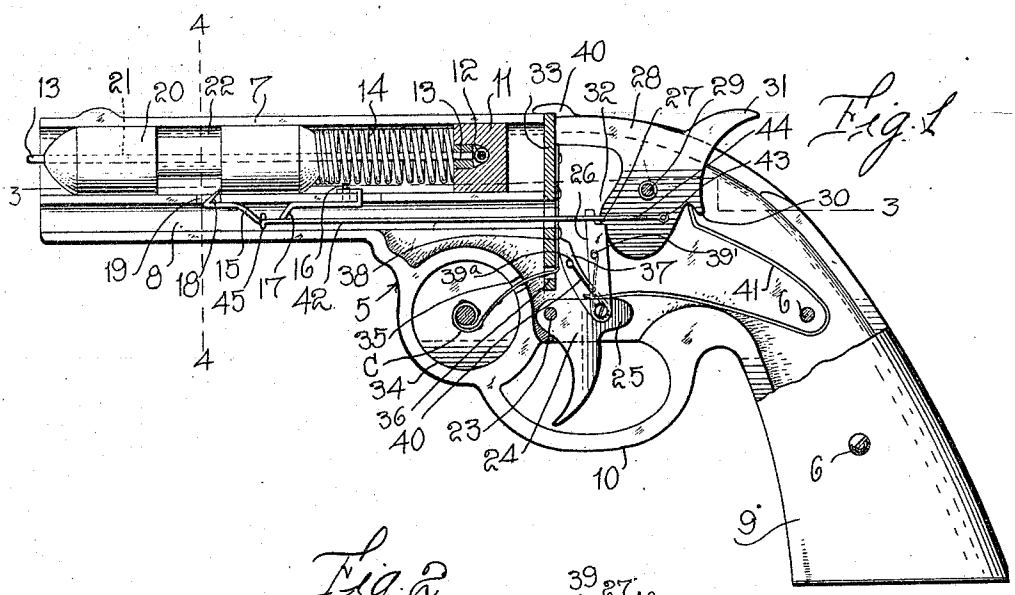


Fig. 1

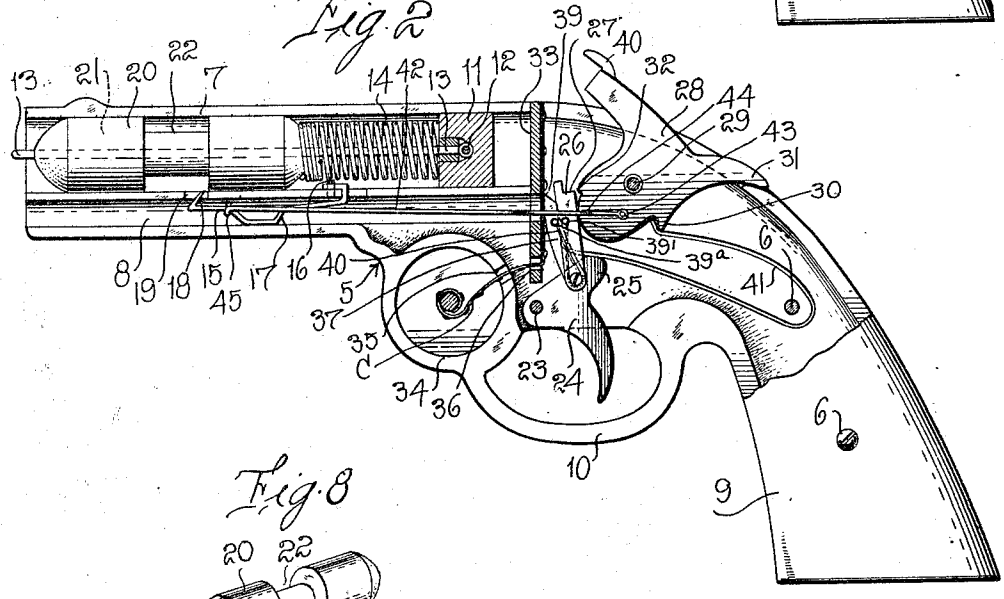


Fig. 2

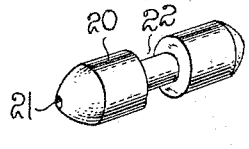


Fig. 8

Inventor

Napoleon B. Pottier

By Watson E. Coleman

Attorney

N. B. POTTIER.

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3 SHEETS—SHEET 2.

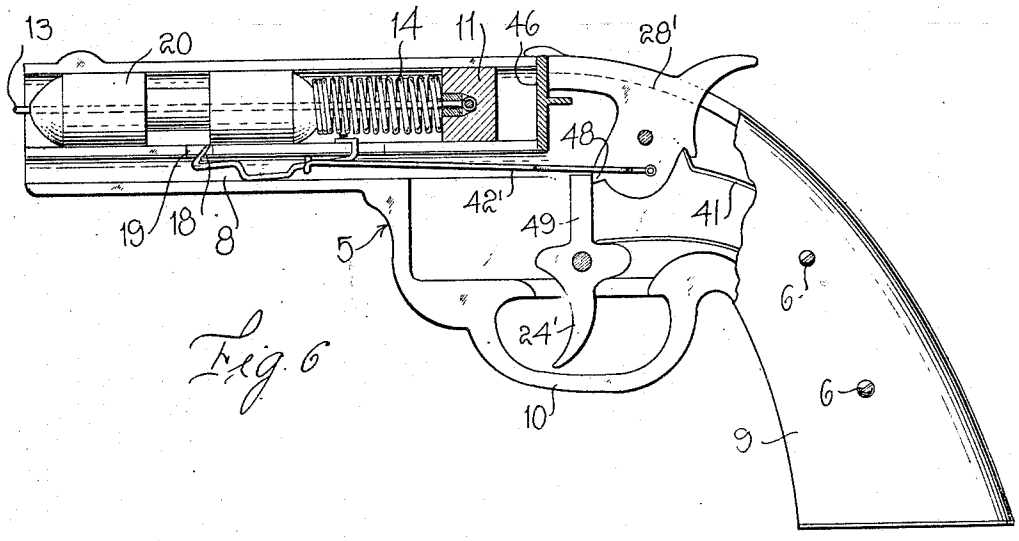
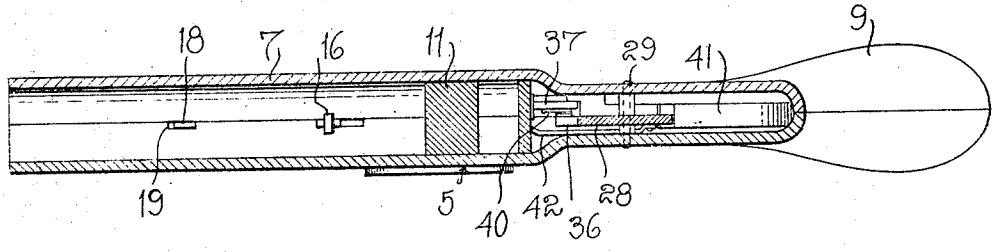


Fig. 6

Fig. 3



Inventor

Napoleon B. Pottier

By Watson E. Coleman

Attorney.

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3 SHEETS—SHEET 3.

Fig. 5

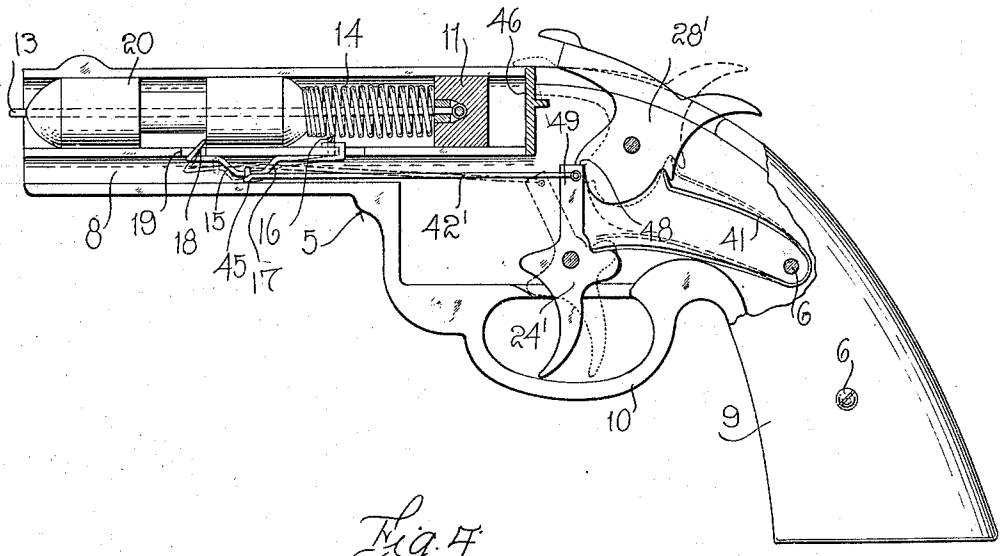


Fig. 4

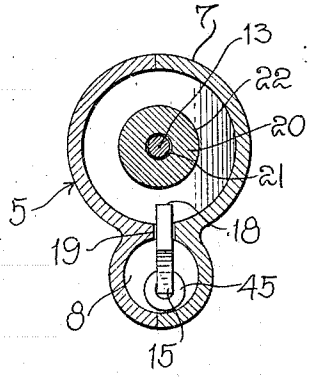
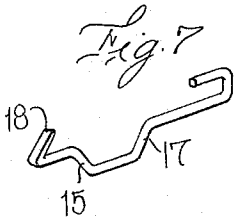


Fig. 7



Inventor

Napoleon B. Pottier

By *Watson E. Coleman*

Attorney

UNITED STATES PATENT OFFICE.

NAPOLEON BONAPARTE POTTIER, OF CHARLESTON, WEST VIRGINIA.

TOY PISTOL.

1,269,854. Specification of Letters Patent. Patented June 18, 1918.

Application filed April 3, 1918. Serial No. 226,481.

To all whom it may concern:

Be it known that I, NAPOLEON B. POTTIER, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Toy Pistols, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to toy pistols, and has for its primary object to provide a toy pistol of that general character wherein a projectile is discharged from the barrel or muzzle, having improved trigger controlled means provided for effecting the release of the projectile.

It is also another important object of the invention to provide a toy pistol having means for simultaneously discharging the projectile and exploding a detonating cap.

It is still another object of the invention to provide improved trigger actuated means for feeding the detonating caps from a magazine into position to be engaged by the hammer of the pistol.

And it is a further general object of my invention to provide a toy pistol as above characterized which is relatively simple in its construction, not liable to get out of order, and which can be manufactured and sold at comparatively small cost.

With the above and other objects in view, the invention consists in the improved combination, construction and arrangement of the several parts, as will be hereinafter more fully described, subsequently claimed and illustrated in the accompanying drawings, in which similar reference characters designate corresponding parts throughout the several views, and wherein:

Figure 1 is a side elevation with one-half of the body or casing of the pistol removed.

Fig. 2 is a similar view showing the relative positions of the parts when the trigger has been actuated, and the projectile and the hammer are about to be released;

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1;

Fig. 4 is a section taken on the line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 1 showing a slightly modified construction of the device;

Fig. 6 is a similar view showing another modification;

Fig. 7 is a detail perspective view of the latch element for the projectile; and

Fig. 8 is a perspective view of the projectile.

Referring in detail to the drawing, and more particularly to Figs. 1 to 4 thereof, 5 designates the body or shell of the pistol which is constructed in two sections which are of similar configuration and are securely connected together at intervals by means of the screws or rivets indicated at 6 and also by means of the pivot pins or bolts for the several operating parts of the mechanism to be hereinafter mentioned.

The two sections of the pistol body when assembled and secured together provide a barrel, shown at 7 and a tubular guideway 8 below and in parallel relation to said barrel. It is also provided with the usual hand grip 9 and the trigger guard 10.

In the inner end of the barrel 7, a block or head 11 is rigidly fixed therein by means of the transverse bolt or screw 12 connecting the two sections of the pistol body. One end of a rod 13 is secured in said head by means of the screw 12 and extends axially through the barrel 7 and projects slightly beyond the outer open end thereof. A light coil spring 14 surrounds this rod 13 and at its inner end is suitably fixed to the head 11.

15 designates a resilient wire latch element one end of which is securely held or fixed to the dividing webs between the barrel 7 and tube 8 by means of a suitable clip or other clamping element indicated at 16. The wire latch member extends forwardly from its fixed end in the tube 8 and at an intermediate point is downwardly bent or bowed, as shown at 17. The terminal of this wire latch is extended upwardly and inwardly at an acute angle as indicated at 18 and normally projects through a slot or opening 19 into the barrel 7.

The projectile 20, preferably of wood or other light material has a central bore or opening 21 therethrough to receive the rod 13. This projectile is further provided at its center with a peripheral groove 22 and the ends of the projectile are rounded or convexed so that they will readily ride over the angularly disposed terminal 18 of the latch element when either end of the projectile is inserted into the barrel 7. It will be readily understood from the above description that the projectile is engaged upon

the projecting end of the rod 13 and inserted into the barrel until the angular end 18 of the latch element engages the shoulder formed by the groove 22. Thus the projectile is securely held against the expansive action of the spring 14 which has been compressed in the insertion of the projectile into the barrel. The manner in which the latch element is actuated to release the projectile so that it is discharged from the pistol will presently be described in detail.

Upon the fixed pivot pin 23 a trigger 24 is mounted for rocking or pivotal movement, said trigger being formed with a rearwardly projecting arm 25. To this arm a pawl or dog 26 is pivotally connected at its lower end, said dog adjacent its free end being formed with a shoulder 27. The hammer indicated at 28 is also mounted for pivotal movement upon the transverse pin or rivet 29 fixed in the side walls of the pistol casing or shell, said hammer being provided at its rear side with a lug 30 and at its upper side with the usual finger engaging projection 31. The hammer 28 is further provided at a point just below its pivot 29 and at the forward side thereof with a single lug or projection 32 with which the shoulder 27 on the end of the dog 26 is adapted to coact.

One section of the pistol casing or shell is formed with a vertically disposed transverse web 33 which is disposed substantially in line with the pivot 23 of the trigger 24. Forwardly of this web and below the plane of the guide tube 8, a magazine chamber 34 is provided to receive a rolled strip of detonating caps indicated at C. The wall of the magazine chamber is provided with a slot or opening 35 through which the cap strip is drawn, and a similar guide slot or opening 36 is formed in the lower end of the web 33 and substantially in horizontal alinement with the slot 35 in the wall of the magazine chamber. A feeding finger 37 is loosely mounted upon the pivot connecting the dog 26 to the arm 25 of the trigger and the upper pointed end 38 of this finger is yieldingly urged toward the web 33 by means of a double acting spring 39. This spring consists of a single length of wire having its medial portion coiled and engaged upon the pivot 35. One end of the spring wire is extended upwardly from the coil and suitably secured at its extremity to the dog 26 adjacent the upper end of the latter, as shown at 39′ while the other end portion of the spring wire is similarly extended and secured to the upper end of the finger 37, as shown at 39ª. Thus the dog 26 and finger 27 are urged in relatively opposite directions, the former being yieldingly held in operative engagement with the hammer while the pointed end of the finger 37 is forced into gripping engagement with the cap strip which extends upwardly over the rear side of the web 33.

At its forward end and on the upper side thereof the hammer 38 is provided with a longitudinally disposed lip 40 which extends over the upper end of the web 33, and obviates the possibility of injury to the user from the flash of the detonating cap when the latter is exploded.

A leaf spring 41 has its central portion engaged around one of the fastening screws or rivets 6, for the two sections of the pistol shell, and one terminal of this leaf spring is engaged to the under side of the lug 30 on the hammer 28 while the other terminal of said spring exerts a downward bearing pressure upon the upper side of the arm 25 of the trigger. Thus this single leaf spring operates to urge the hammer and the trigger to their normal positions.

One end of a rigid wire rod 42 is pivotally connected to the hammer 28 below the pivot 29 thereof, as seen at 43, said rod having an offset portion 44 to accommodate the dog 26 and the finger 37. This rod extends forwardly into the guide tube 8 and terminates at its forward end in an eye 45 which has loose sliding engagement upon the resilient latch wire 15, said eye being normally engaged upon the curved or bowed portion 17, of said latch wire.

In the operation of the pistol, as above described, assuming that it has been loaded with one of the projectiles 20 in the manner explained, the user simply grasps the handle 9 engages the trigger 24 with his forefinger and forces the same rearwardly. In the upward movement of the arm 25 as the trigger is rocked upon its pivot 23, the shoulder 27 of the dog 26 coacting with the lug or projection 32 on the hammer, rocks the hammer upon its pivot, moving the forwardly projecting hammer arm upwardly and rearwardly. At the same time, the finger 27 feeds one of the detonating caps on the paper strip into position at the upper end of the web 33 where it will be engaged by the end of the hammer arm when the latter is released. Now it will be seen that in this movement of the hammer, the rod 42 is forced forwardly and the eye 45 on the forward end of said rod finally moves between the resilient latch wire 15 in advance of the bowed or curved portion 17, and the division web or wall between guide tube 8 and the barrel 7. The forward end of the latch wire is thereby forced downwardly and the angular terminal 18 disengaged from the shoulder on the projectile 20. Simultaneously, the upper end of the dog 26 moves out of operative engagement with the lug 32 on the hammer, thereby releasing the latter. Thus the spring 14 by its expansive action promptly expels the projectile 20 with considerable force and at the same time

the spring 41 acts to return the hammer to its normal position and engage the hammer with the detonating cap whereby the latter is exploded. It is of course understood that the spring 41 also acts to properly return the trigger 24 to its normal position, shown in Fig. 1 so that the several elements are again set in their proper relative positions for the subsequent operation of the device.

From the above it will be seen that I have devised a double acting toy pistol of relatively simple construction whereby the projectile may be discharged at a suitable target and the detonating cap exploded whereby a very realistic simulation of a revolver is produced, affording considerable interest and amusement to juveniles.

In Figs. 5 and 6 of the drawings, I have shown several slightly modified forms of the device, and in each case the pistol is of the single acting type and merely discharges the projectile, the cap magazine and the cap feeding mechanism above described being dispensed with.

In each of these modifications, the single pistol casing or shell is formed at its upper side with a supporting wall or seat 46 against which a single cap is placed by hand. Likewise, in each of the illustrated alternative forms of my invention, the hammer 28′ is provided at its pivoted end and upon its forward edge with a shoulder 48 located below the hammer pivot. The trigger 24′ is formed with an upwardly projecting arm 49. In Fig. 5 of the drawings, the rear end of the rod 42′ is pivotally connected to the trigger arm 49, the forward end of said rod being slidably engaged upon the latch wire of the projectile, as described in connection with the preferred embodiment of the device. In the operation of the pistol shown in Fig. 5, the latter is cocked or set for the discharge of the projectile by pulling the hammer backwardly or rearwardly in the usual manner, the spring 41 holding the upper end of the trigger arm 49 in contact with the forward edge of the hammer until the shoulder 48 engages over the upper end of the trigger arm, when the hammer is released. To discharge the projectile, the operator merely forces the lower end of the trigger rearwardly with the finger, to move the rod 42′ forwardly and disengage the latch element from the shoulder of the projectile in the manner heretofore explained. In this movement of the trigger, the arm 49 is of course disengaged from the shoulder 48, thereby releasing the hammer so that the detonating cap which has been placed upon the seat 46 is exploded simultaneously with the expulsion of the projectile by the coil spring 14. This latter position of the trigger and the latch element is illustrated in dotted lines in Fig. 5.

In Fig. 6 of the drawings, the rod 42′ is connected to the hammer 28′ at substantially the same point with respect to the hammer pivot as in the first described form of the device. When the hammer is in its normal position, the terminal eye on the rod 42′ occupies a position on the resilient latch element for the projectile at a point rearwardly of the bend or bow 17 in said latch element so that the angular terminal 18 of the latch element is withdrawn through the slot 19 into the guide tube 8. When the hammer is cocked or set as above explained and the shoulder 48 engaged with the trigger arm 49, the rod 42′ is forced forwardly so that the eye on the forward end of the rod is positioned upon the bowed portion 17 of the latch wire thus permitting the latch wire to return to its normal position and project the angular end 18 thereof through the opening 19 into operative engagement with the projectile whereby the latter is held against outward movement in the barrel. Now, when the trigger 24′ is actuated and the hammer released, the rod 42′ is drawn rearwardly to its former position so that the terminal eye of said rod will move between the wall of the pistol shell or casing and the latch wire 15 rearwardly of the bend or bow 17 therein and thus withdraw the angular end 18 of the latch wire through the opening 19 and out of engagement with the shoulder of the projectile whereby the latter is released.

From the foregoing description taken in connection with the accompanying drawings, the construction, manner of operation and several advantages of the invention will be fully and clearly understood. It will be seen that I have devised a very simply constructed and positively operating toy pistol wherein the missile or projectile is retained within the barrel when the pistol is being aimed or pointed in any direction, but which may be instantly released and expelled upon the actuation of the trigger. The wire rod or guide extending axially through the barrel and through the bore of the missile, causes the latter to be expelled or rejected with great accuracy when aiming or shooting at a target. The releasing mechanism which I have devised for the projectile, is exceedingly simple, as well as positive and reliable in its action and is not liable to get out of order. It is also to be noted that by providing such a latch device for the projectile, the pistol must be used with a projectile of the peculiar construction which I have provided, and pebbles, metal slugs or other heavy projectiles which will be liable to cause considerable serious injury cannot be employed. Any one of the several forms of the device, as above described, provides a toy pistol which can be manufactured and sold at comparatively small cost. It will of course be understood

that it is not necessary to use the detonating caps, but the pistol may be operated simply to expel the projectile. The several parts of the pistol are very compactly arranged within the casing or shell, and the latter being stamped from sheet metal, it will be manifest that the pistol as a whole will be relatively light in weight.

While I have herein shown and described the preferred construction and arrangement of the several elements of my improved toy pistol, it is nevertheless to be understood that the same are susceptible of considerable modification therein, and I therefore reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is:

1. In a toy pistol, a barrel, an ejecting spring therein, a movable latch element projecting into the barrel to coact with a projectile inserted in the barrel to hold said projectile against the expelling action of the spring, and trigger controlled means including a shiftable member normally engaged upon the latch element intermediate of its ends and adapted to coact with the pistol barrel when shifted in one direction to move the latch element out of engagement with the projectile whereby the latter is released.

2. In a toy pistol, a barrel, an ejecting spring arranged therein, a movable latch element projecting at one end into the barrel and adapted to coact with a projectile to hold the same within the barrel against the expelling action of the spring, said latch element having an offset portion, and trigger controlled means including a shiftable member normally engaged upon the offset portion of the latch element and adapted to coact with the barrel when moved in one direction to disengage the latch element from the projectile and release the latter.

3. In a toy pistol, a barrel, ejecting means arranged within the barrel, a latch element mounted at one of its ends on the wall of the barrel and normally projecting at its other end into the barrel for engagement with a projectile to hold the same in the barrel against the action of the expelling means, and trigger controlled means including a shiftable rod slidably engaged upon the latch element and coacting with the wall of the barrel when moved in one direction to disengage said latch element from the projectile whereby the latter is released.

4. In a toy pistol, a barrel, an ejecting spring arranged therein, a resilient latch element fixed at one of its ends to the wall of the barrel and projecting into the barrel at its other end for engagement with a projectile to retain the latter within the barrel against the expelling action of the spring, said latch element being bowed intermediate of its ends, and trigger controlled means including a longitudinally movable member slidably engaged upon the latch element and movable, upon the actuation of the trigger, from the bowed portion of said element beyond one end of said bowed portion, said member coacting with the barrel wall to move the latch element at its free end and release the projectile.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

NAPOLEON BONAPARTE POTTIER.

Witnesses:

E. J. GEARY,

PETER YOUNG.