Aug. 8, 1933. E. S. PEAKE 1,921,133

TOY PISTOL

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Fig. 1.

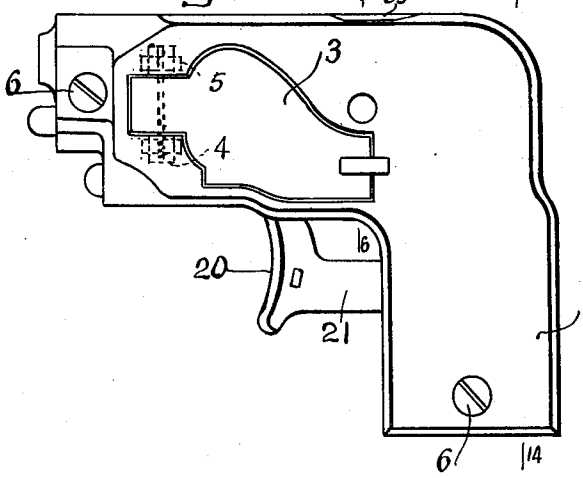


Fig. 4.

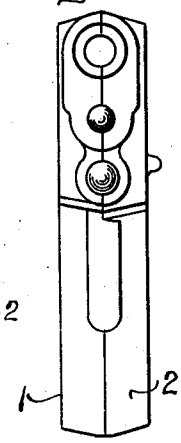


Fig. 5.

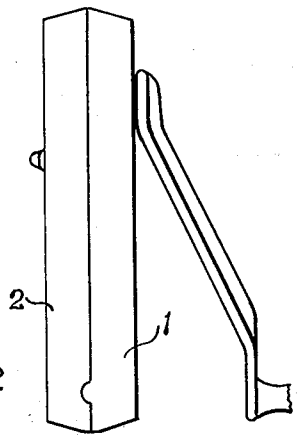


Fig. 2.

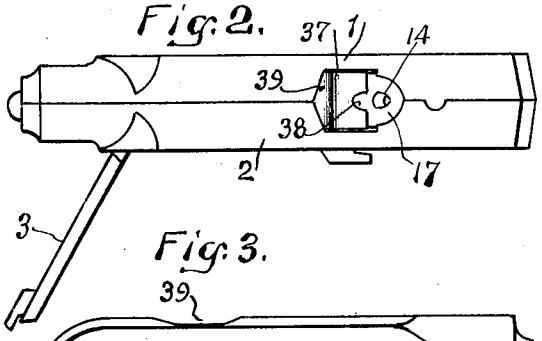


Fig. 6.

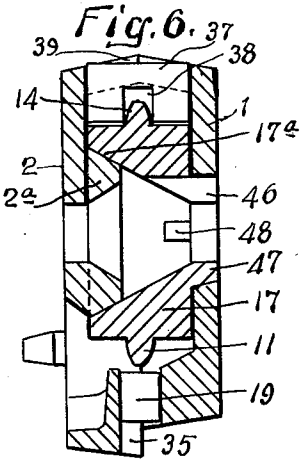


Fig. 3.

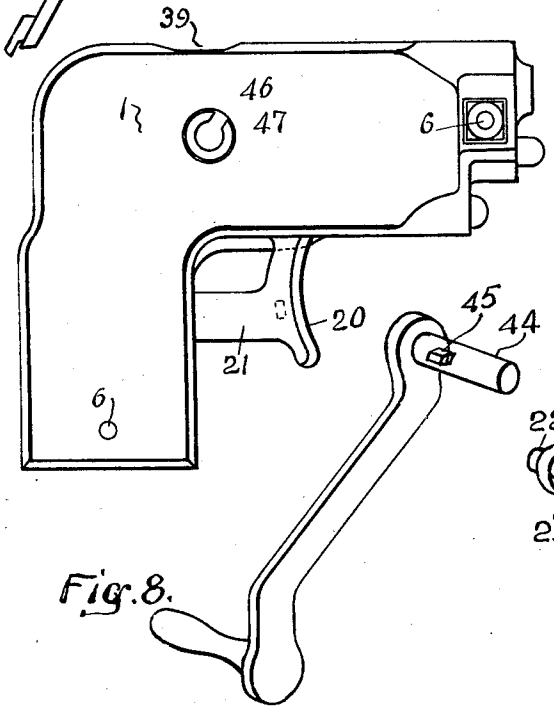


Fig. 7.

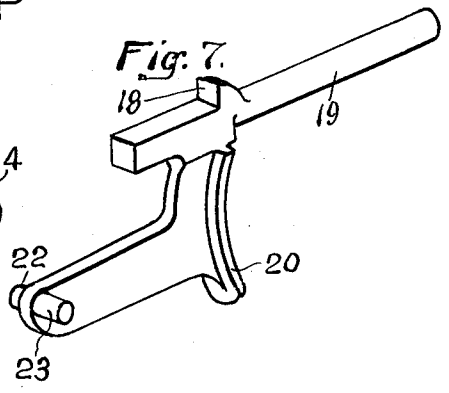


Fig. 8.

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Fig. 9.

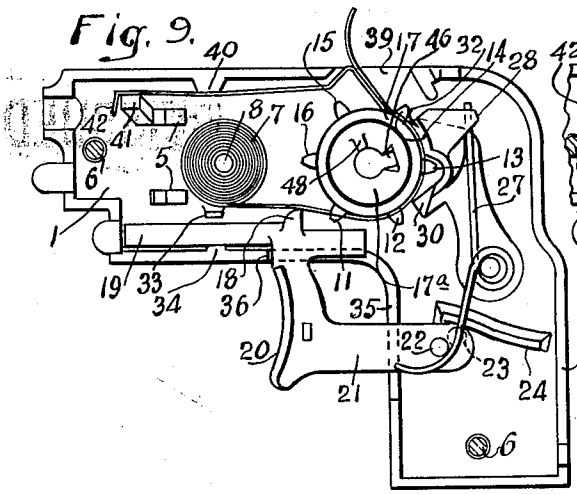


Fig. 12.

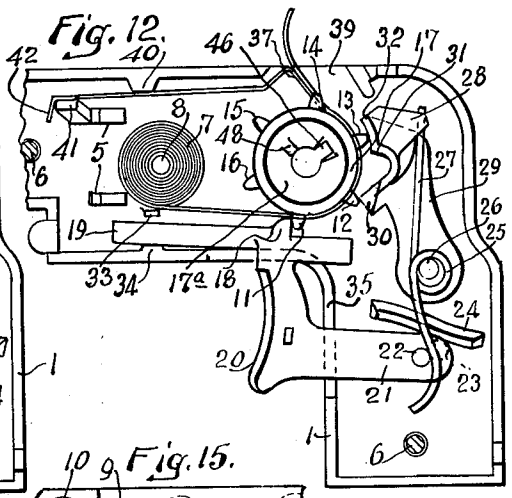


Fig. 15.

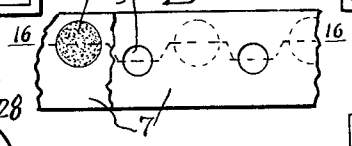


Fig. 10.

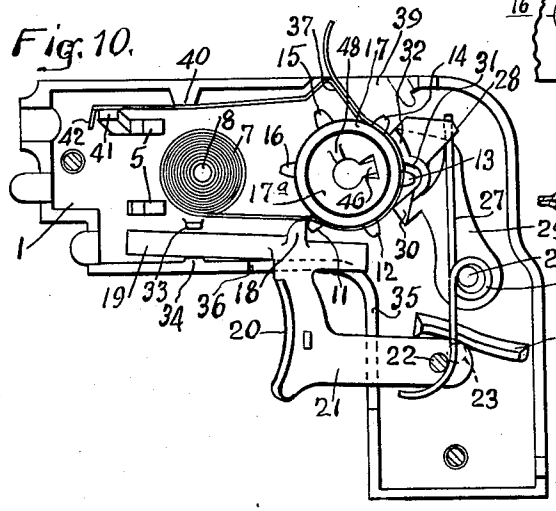


Fig. 16.

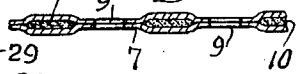


Fig. 14.

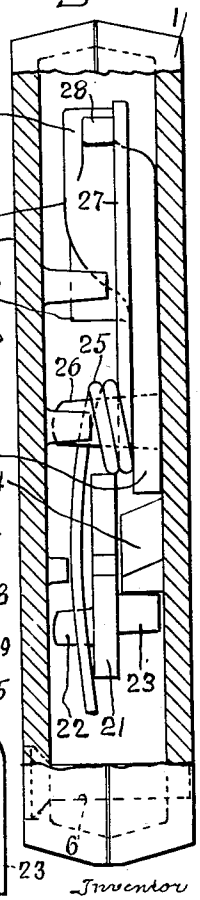


Fig. 17.

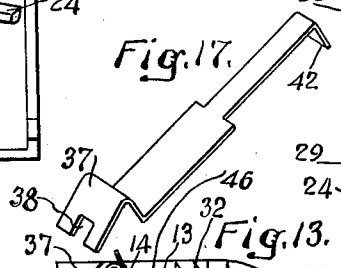


Fig. 11.

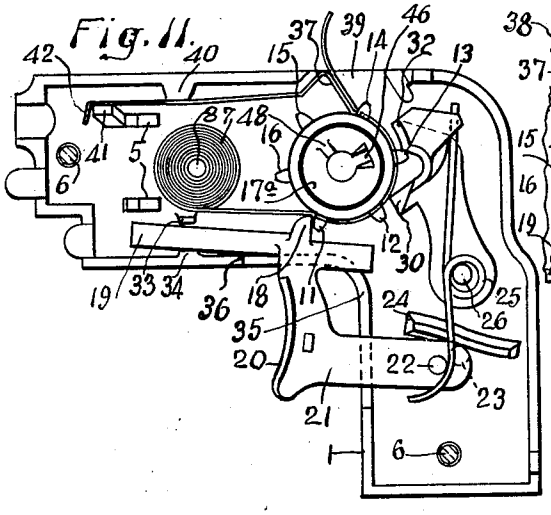
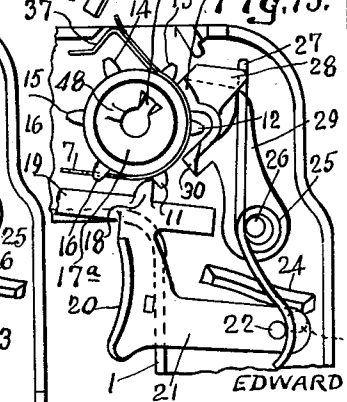


Fig. 13.



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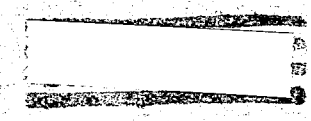
Patented Aug. 8, 1933 1,921,133

UNITED STATES PATENT OFFICE

1,921,133

TOY PISTOL

Edward S. Peake, Westerville, Ohio, assignor to The Kilgore Mfg. Company, Westerville, Ohio, a Corporation of Ohio



Application September 29, 1932
Serial No. 635,349

20 Claims. (Cl. 42—57)

My invention relates to toy pistols and ammunition therefor.

It is the object of my invention to provide a toy pistol operable either by a trigger or by a handle, it being possible to operate by the handle without disturbing the trigger mechanism.

It is a further object to provide ammunition especially designed to fit the pistol and suitably arranged so that the ammunition is positively mounted upon and aligned upon the ammunition actuating mechanism so that the spots of explosive material will be positively presented when and as desired.

It is a further object to provide a single spring action for both the trigger and the hammer, and for uniformly actuating these members in connection with the feeding mechanism.

It is another object to provide a feeding wheel anvil and in conjunction with it to provide a spring stripper for stripping the strip after the ammunition has been fired.

In particular it is a feature of my invention that as the trigger engages a tooth on the wheel to start feeding, then the second tooth from the one engaged by the trigger starts the hammer lifting operation against a cam surface on the bottom part of the face of the hammer, making the first lifting of the hammer a very easy action, and as soon as this lifting is started then the tooth next to the one engaging the trigger lifts a lug located on the hammer at a lower place and performs the balance of the lifting. This avoids having all of the lifting performed by one tooth or lug, which makes the action too hard for a child to operate.

It is a further object of this invention to provide a trigger with a guide rod reciprocating in the front of the pistol, that is in the barrel, thereby holding the trigger in line so it will perform properly.

Referring to the drawings:

Figure 1 is a side elevation from the loading side of the pistol.

Figure 2 is a top plan view thereof, with the loading door swung open.

Figure 3 is a side elevation of the pistol from the side opposite to Figure 1.

Figure 4 is a front elevation of the pistol.

Figure 5 is a rear elevation of the pistol with the operating handle in position.

Figure 6 is a section on the line 6—6 of Figure 1.

Figure 7 is a perspective of the combined trigger and ammunition actuator with its spring support and guide.

Figure 8 is a perspective of the operating handle.

Figure 9 is a side elevation from the loading side, with the cover removed, of the mechanism in inoperative position.

Figure 10 is a similar view showing the ammunition actuator about to engage one tooth of the feeding wheel anvil.

Figure 11 is a similar view showing one of the teeth on the feeding wheel anvil proceeding to lift the upper part of the trigger, this tooth being one tooth removed from that tooth engaged by the trigger.

Figure 12 is a similar view showing the tooth next to the one engaged by the trigger actuator now engaging the bottom of the hammer to complete the lifting operation.

Figure 13 is a similar view showing the parts in firing position.

Figure 14 is a section on the line 14—14 of Figure 1.

Figure 15 is a plan view of the ammunition.

Figure 16 is a section on the line 16—16 of Figure 15.

Figure 17 is a perspective of the spring stripper.

Referring to the drawings in detail, the casing of the pistol is formed into a righthand half designated 1, which supports the mechanism and the ammunition, and a lefthand half designated 2, which acts as a cover and carries a swinging loading door 3. This loading door is mounted upon cams 4 engaging with corresponding cams 5 on the half 1, and with the inside of the half 2 so that the combined cam and spring action of the respective halves, which are attached together by retaining screws 6, will give sufficient spring action to hold the door in either open or closed position.

Through this opening a roll of ammunition 7 is introduced and mounted upon a supporting pin 8 on the half 1. From this supportitng pin 8 the roll 7 is fed off at the bottom toward the righthand so that its perforations 9 between the ammunition spots 10 will be engaged by the teeth 11, 12, 13, 14, 15 and 16 in succession, with the ammunition spots 10 resting on the feeding wheel anvil 17 carrying these teeth, said ammunition spots being located between the teeth.

In order to move this ammunition strip with the feeding wheel anvil it is necessary to engage one of these teeth, such as the tooth 11, by a projecting shoulder 18, which is the ammunition actuator that actuates the ammunition by engaging the tooth 11, etc. of the feeding wheel anvil 17.

The shoulder 18 as the ammunition actuator is

mounted on the horizontal guide rod 19 of the trigger mechanism, from which depends the trigger 20, having a rearwardly and horizontally disposed spring support 21 carrying a spring-engaging pin 22 on one side, and a guide pin 23 on the other side which engages with a guiding cam 24 on the inside of the half 1 of the pistol casing.

The single spring action in this pistol comprises a coil 25, coiled around the hammer pivot pin 26 mounted on the half 1 of the pistol casing; and provided with a free end 27 engaging a shoulder 28 of the hammer 29, and a second free end engaging the pin 22 of the trigger 20. The hammer 29 is loosely mounted upon the supporting pin 26.

This hammer is provided with three essential parts. A lower final lifting cam surface 30, an intermediate recess and cam surface 31 for initial lifting, and an arcuate firing face or hammer head 32.

Returning to the trigger once more, it will be noticed that its guide rod 19 moves between the lugs or shoulder pieces 33 and 34 in order to guide it and also to permit it to rock slightly. This rocking is caused by the lowering of the rear end of the trigger through the engagement of the guide pin 23 with the cam shoulder 24. As the half 1, in which the trigger reciprocates, is cut away at 35 for this purpose the shoulder 36 limits the forward movement of the trigger under the impulse of the spring.

The ammunition strip 7 is stripped from the feeding wheel anvil and its pins, such as 11 to 16, inclusive, by a spring stripper plate having on the rear end thereof an inclined face 37 with an open-ended slot 38 for receiving the pins which can pass through the slot while lifting the fired portion of the strip 7 on the face 37 of the stripper so that the strip will be ejected through the opening 39 in the top of the pistol after the ammunition has been fired in that portion of the strip. This stripper member is held yieldingly down on the surface of the feeding wheel anvil by having its upper surface engaged by the lug 40, and its lower surface engaged by a supporting lug 41 over which the free end 42 of the spring stripper is bent. The feeding drum 17 has an interiorly tapered surface 17*a* for engaging and being supported by a tapered axle support 2*a*. The anvil is provided with a sleeve 47 that has a slot 46 for admitting the lug 45 into the interior of the anvil 17 so that it can engage with the actuating lugs 48.

Method of operation.—Starting with the parts as in Figure 9, the operator grasps the stock of the handle or the butt of the pistol in the usual manner, and starts drawing backwardly against the spring action on the trigger 20. The ammunition actuator 18 engages, for instance, the bottom of the strip 7 to maintain it upwardly over the pin 11 and then engages the pin 11.

The continued movement of the trigger serves to start the rotation of the feeding wheel anvil 17, carrying the feeding pins 11, 12, 13, etc. so that the pin 13 in the recess cam surface 31 of the hammer engages that surface to start an easy, quick initial lifting of the hammer, as will be seen in Figure 11. It continues to do so until the pin 12 engages the lower cam surface 30 for the final lifting action, and when both pins 12 and 13 are out of the road the hammer, thus lifted, is allowed to descend so that its hammer head surface 32 will engage the ammunition spot 10 on the feeding wheel anvil 17, firing it, and by continued motion for the next succeeding strip action the fired ammunition strip will be stripped from the feeding wheel anvil 17 by the stripper 37 and ejected through the opening 39. This operation is repeated as many times as desired by the reciprocation of the trigger 20, which is returned to its initial position by the spring action.

It will also be observed that in order that the actuator 18 may suitably follow the arcuate path that the ammunition will describe around the bottom of the feeding wheel anvil and to clear the teeth thereof upon the consummation of one firing operation, the trigger mechanism is allowed to rock and thereby move in an arcuate path in which it is guided by the arcuate cam shoulder 24 engaging the pin 23 on the trigger mechanism.

Machine gun firing

When it is desired to utilize this pistol as a machine gun, a handle 43 is employed having an actuating pin 44 with a lug 45 which is inserted through the slot 46 of the sleeve 47 to engage with lugs 48 on the interior of the feeding wheel anvil 17.

This handle takes the place of the trigger, operates the ammunition strip and hammer, as heretofore described, but does not disturb the trigger, which remains at rest. As the handle is detachable it is possible to have, in a single toy pistol, either the trigger movement or the machine gun handle movement.

It is desired to comprehend within the invention such modifications as may be embraced within the claims and the scope of the invention.

Having thus fully described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

1. In a toy pistol, a reciprocating trigger, a pivoted hammer operated by the trigger, a rotary feeding wheel anvil, said pistol having means for supporting a roll of perforated ammunition engageable with said feeding anvil, pins on said feeding wheel anvil for engaging said perforations, and means on the trigger to engage the pins to rotate the anvil.

2. In a toy pistol, a reciprocating trigger, a pivoted hammer, a rotary feeding wheel anvil, said pistol having means for supporting a roll of perforated ammunition engageable with said feeding anvil, pins on said feeding wheel anvil for engaging said perforations, means on said hammer adapted to be engaged by said pins for lifting it, and means on said trigger for engaging said pins for actuating the feeding wheel anvil.

3. In a toy pistol, a reciprocating trigger, a pivoted hammer, a rotary feeding wheel anvil, said pistol having means for supporting a roll of perforated ammunition engageable with said feeding anvil, pins on said feeding wheel anvil for engaging said perforations, means on said hammer adapted to be engaged by said pins for lifting it, means on said trigger for engaging said pins for actuating the feeding wheel anvil, and a spring action for said hammer and trigger.

4. In a toy pistol, a casing, a reciprocable trigger, a rotary feeding wheel anvil having pins thereon engaged by said trigger for actuating it, a hammer engageable by said pins for lifting it and allowing it to fall to engage the feeding wheel anvil between the pins, means for supporting a perforated ammunition strip for feeding thereto, and spring means for resisting the movement of the trigger and for actuating the hammer.

5. In a toy pistol, the combination of a casing, a rotary feeding wheel anvil, means for support-

ing an ammunition strip to be fed thereover, a trigger having means for engaging said feeding wheel anvil to actuate it, a pivoted hammer adapted to strike said feeding wheel anvil, means on said rotary feeding wheel anvil for lifting said hammer and permitting it to fall to fire the ammunition passing over the feeding wheel anvil, and spring means for actuating said hammer.

6. In a toy pistol, the combination of a casing, a rotary feeding wheel anvil, means for supporting an ammunition strip to be fed thereover, a trigger having means for engaging said feeding wheel anvil to actuate it, a pivoted hammer adapted to strike said feeding wheel anvil, means on said rotary feeding wheel anvil for lifting said hammer and permitting it to fall to fire the ammunition passing over the feeding wheel anvil, spring means for actuating said hammer, and spring means for resisting the movement of the trigger.

7. In a toy pistol, the combination of a casing, a rotary feeding wheel anvil, means for supporting an ammunition strip to be fed thereover, a trigger having means for engaging said feeding wheel anvil to actuate it, a pivoted hammer adapted to strike said feeding wheel anvil, means on said rotary feeding wheel anvil for lifting said hammer and permitting it to fall to fire the ammunition passing over the feeding wheel anvil, spring means for actuating said hammer, spring means for resisting the movement of the trigger, and means for so guiding the trigger as to rock it and move it partially in an arcuate path.

8. In a toy pistol, the combination of a casing, a rotary feeding wheel anvil, means for supporting an ammunition strip to be fed thereover, a trigger having means for engaging said feeding wheel anvil to actuate it, a pivoted hammer adapted to strike said feeding wheel anvil, means on said rotary feeding wheel anvil for lifting said hammer and permitting it to fall to fire the ammunition passing over the feeding wheel anvil, spring means for actuating said hammer, spring means for resisting the movement of the trigger, and means for so guiding the trigger as to rock it and move it partially in an arcuate path, said spring means being so arranged as to act as a common actuating and resisting means for both the hammer and the trigger.

9. In a toy pistol, the combination of a casing, a rotary feeding wheel anvil, means for supporting an ammunition strip to be fed thereover, a trigger having means for engaging said feeding wheel anvil to actuate it, a pivoted hammer adapted to strike said feeding wheel anvil, means on said rotary feeding wheel anvil for lifting said hammer and permitting it to fall to fire the ammunition passing over the feeding wheel anvil, spring means for actuating said hammer, and spring means for resisting the movement of the trigger, said hammer comprising a lower final cam lifting surface, and intermediate first cam lifting surface and a firing head, whereby the means on the rotary feeding anvil first engages the first cam lifting surface for easy starting of the lifting of the hammer and then the second cam lifting surface and thereupon release the hammer and allow it to fall upon the feeding wheel anvil.

10. In a toy pistol, a rotary feeding wheel anvil having thereon teeth engaging and feeding an ammunition strip, a spring-pressed pivoted hammer engageable with said anvil and intermittently lifted by the teeth on the anvil, and means for engaging with said rotary feeding wheel anvil to rotate it to move the ammunition and control the hammer to cause the ammunition to fire.

11. In a toy pistol, a rotary feeding wheel anvil, means for supporting an ammunition strip to pass thereover and be fed thereby, a spring-pressed pivoted hammer engageable with said anvil and intermittently lifted thereby, handle means for engaging with said rotary feeding wheel anvil to rotate it to move the ammunition and control the hammer to cause the ammunition to fire, and trigger means adapted to engage said feeding wheel anvil to so actuate it but arranged to be inoperative when the feeding wheel anvil is being operated by said handle and to operate the feeding wheel anvil when the handle is inoperative.

12. In a toy pistol, a bifurcated casing, one-half of which guides and limits the movement of a trigger, a trigger having guiding means mounted therein through a slot in the side thereof, means for guiding said trigger in a partially arcuate path, a hammer pivoted therein, a common spring means for actuating said hammer and said trigger means therein for supporting a roll of ammunition strip, and a rotary toothed feeding wheel anvil engageable by said trigger and engaging said hammer.

13. In a toy pistol, a bifurcated casing, one-half of which guides and limits the movement of a trigger, a trigger having guiding means mounted therein through a slot in the side thereof, means for guiding said trigger in a partially arcuate path, a hammer pivoted therein, a common spring means for actuating said hammer and said trigger means therein for supporting a roll of ammunition strip, a rotary toothed feeding wheel anvil engageable by said trigger and engaging said hammer, and a spring stripping means adjacent an exit opening in said casing engageable with the ammunition strip of said feeding wheel anvil, and straddling the feeding pins thereon.

14. In a toy pistol, a casing, a reciprocable trigger having fore and aft guiding members and an ammunition actuator, a toothed feeding wheel anvil engaged by said actuator, means of supporting an ammunition strip engaged by said teeth on the anvil, a pivoted hammer having primary and secondary cam lifting surfaces and a firing head, and a spring means for actuating said hammer and trigger.

15. In a toy pistol, a casing, a reciprocable trigger having fore and aft guiding members and an ammunition actuator, a toothed feeding wheel anvil engaged by said actuator, means of supporting an ammunition strip engaged by said teeth on the anvil, a pivoted hammer having primary and secondary cam lifting surfaces and a firing head, spring means for actuating said hammer and trigger, and means for stripping yieldingly the ammunition strip when fired from said anvil without interfering with its movement.

16. In a toy pistol, a toothed feeding wheel anvil, a pivoted hammer having an initial lifting cam, a secondary lifting cam, and a firing head adapted to engage the anvil between the teeth thereof.

17. In a toy pistol, a new article of manufacture comprising a trigger having an upper forwardly extending guiding rod, an ammunition actuator mounted thereon, a depending intermediate finger piece, and a lower rearwardly extending spring-engaging and guiding member.

18. In a toy pistol, a bifurcated casing, a swing-

ing door in one side of said casing through which ammunition rolls are introduced, a reciprocable trigger in the bottom thereof, said casing having a top spent ammunition strip ejecting opening, a pivoted hammer therein, a common spring action for the trigger and hammer, and a rotary feeding wheel anvil.

19. In a toy pistol, a new article of manufacture for use as a feeding wheel anvil, comprising a drum having teeth on the periphery, and a handle engaging lugs on the interior of the drum adjacent a slotted sleeve on one side thereof, the interior of said drum having a tapered surface for engaging with a tapered support on which the drum rotates.

20. In a toy pistol, a rotary feeding wheel anvil, a reciprocating trigger for actuating it, a detachable handle for actuating it, a hammer, and a spring action adapted to actuate the hammer in conjunction with the trigger and the handle interchangeably.

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