April 12, 1932. E. S. PEAKE 1,853,832

TOY PISTOL

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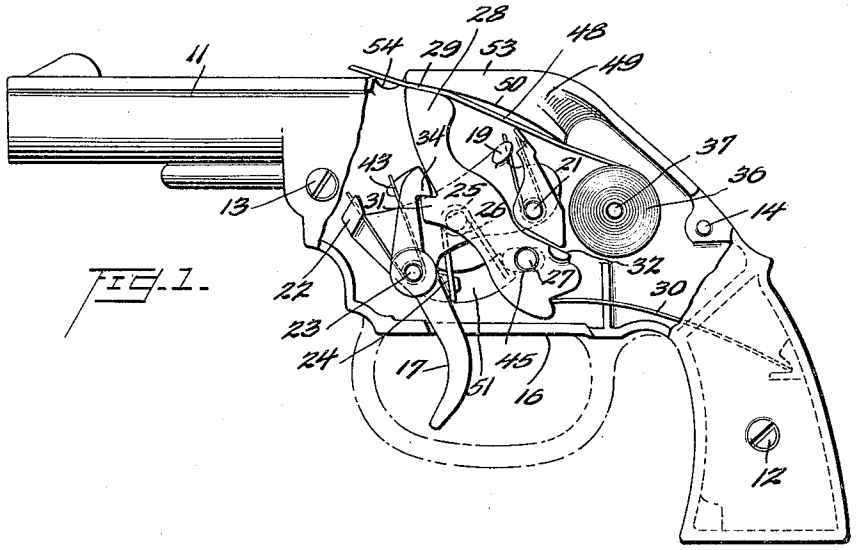

FIG. 1.

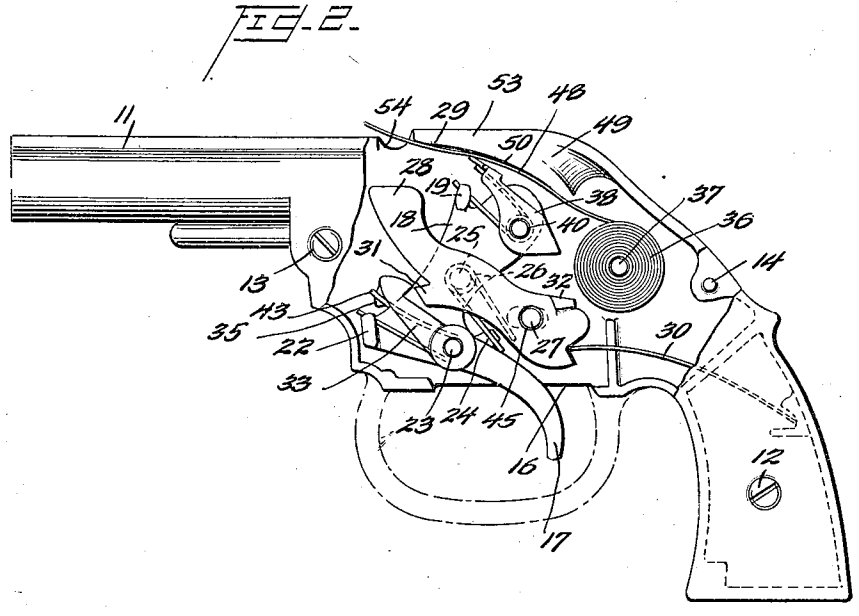

FIG. 2.

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FIG. 3.

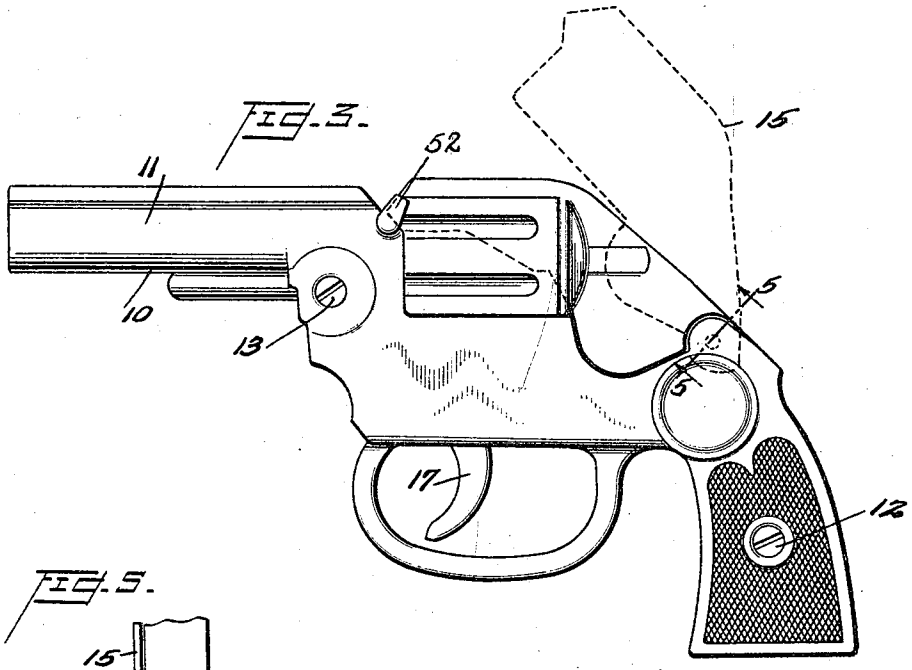

FIG. 5.

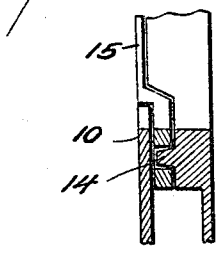

FIG. 4.

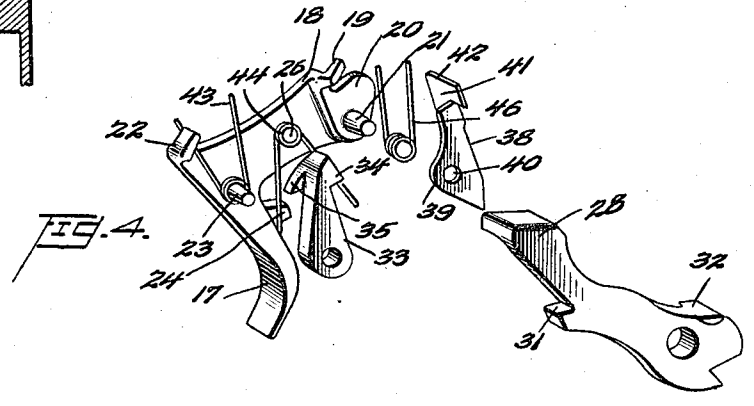

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FIG. 6.

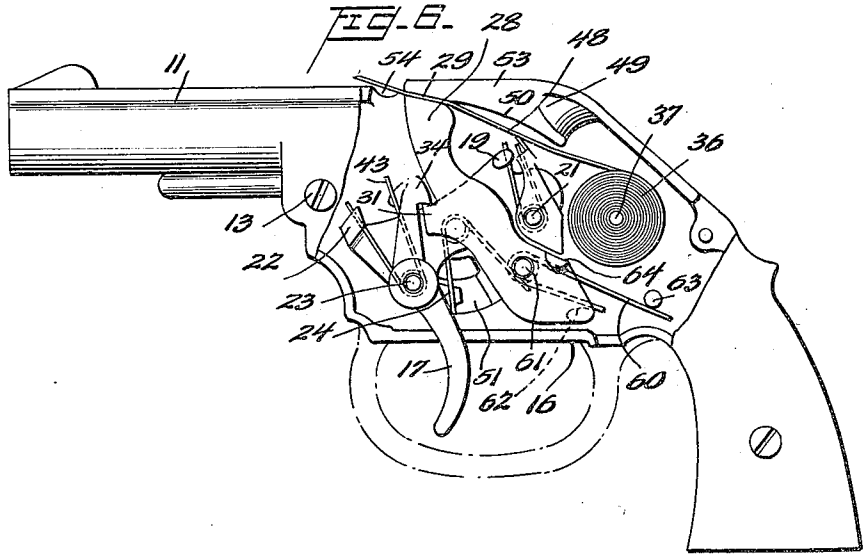


FIG. 7.

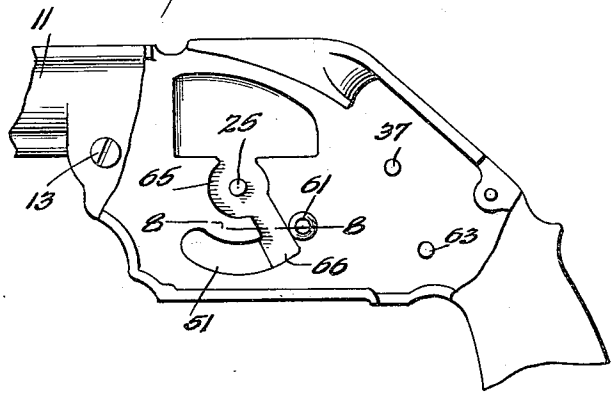
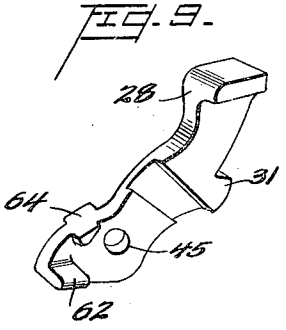


FIG. 9.



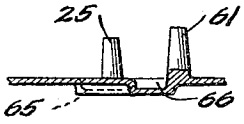


FIG. 8.

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UNITED STATES PATENT OFFICE

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TOY PISTOL

Application filed October 28, 1930. Serial No. 491,785.

My invention relates to toy pistols of the type known as repeaters and has for its principal object to provide a construction in which the cap strip will be fed automatically without any possibility of wrinkling of the strip, resulting in the pistol missing fire.

A further object of the invention is to provide a construction in which all the parts are rigid and wherein the number of parts is materially reduced over the number commonly employed in constructions of this character.

In the drawings,

Figure 1 is a view partly broken away showing the parts in normal position.

Figure 2 is a similar view showing the parts in the position they occupy when the trigger is retracted.

Figure 3 is a side elevation.

Figure 4 is a detailed view of the operating mechanism.

Figure 5 is a section on the line 5—5 of Figure 3.

Figure 6 is a view of a modification.

Figure 7 is a similar view of the modification with the operating parts removed.

Figure 8 is a section on the line 8—8 of Figure 7.

Figure 9 is a detailed view of the hammer.

Referring to the drawings, the pistol comprises mating cast sections 10 and 11 which are bolted together as at 12 and 13. The section 11 is provided with a projection 14 about which pivots a cover plate 15, and which is retained in position by the section 10, as shown in Figure 5, where it will be observed that the cover plate 15 is retained between the sections 10 and 11 to pivot on the projection 14 when the sectional castings are united as described.

The section 11 is provided with a slot 16 through which a trigger 17 projects when the castings are united, as shown in Figure 1.

The trigger 17, as shown in Figure 4, is provided with an extension 18. This extension terminates in lug 19 and a further upstanding flat portion 20. The flat portion 20 is provided with a laterally projecting integral pin 21. A lug 22 is formed on the trigger at the opposite end from the lug 19 and a pin 23 is made integral with the trigger and located at the end opposite from the pin 21. The lugs 19 and 22, the pins 21 and 23, and the extended portion 20 are all formed on one side of the trigger, as shown. At the opposite side, and adjacent the finger portion, a laterally extending lug 24 is made integral with the trigger.

The casting 11 is provided with upstanding integral pin or shaft 25 and the trigger is provided with an opening 26 which receives the said pin. In this manner the trigger is pivotally mounted for operative movement.

The casting 11 is also provided with an integral laterally extending pin or shaft 27 upon which is pivotally mounted the hammer 28. The hammer is normally held in engagement with the anvil 29 formed on the casting 11 by a leaf spring 30, as shown.

The hammer at one edge thereof is provided with a notch 31 and adjacent one end on the opposite edge is provided with a flattened portion extending laterally upon opposite sides of the hammer, as shown at 32.

An actuating member is indicated as a whole at 33 and, as shown, pivots upon the pin 23 on the trigger. This actuating member is provided with a notched offset portion 34 on one edge and at its edge opposite said notch is formed with a laterally extended portion having a lug 35.

A roll of caps, such as is usually employed in repeater pistols of this type, is indicated at 36 and is positioned for rotation upon a pin 37, preferably formed integral with the casting 11. The cap strip passes from the roll 36 to the anvil where it is fired in the operation of the pistol.

The cap strip engaging member is indicated at 38 and comprises a piece of sheet metal having an enlarged portion 39. One edge of such enlarged portion is curved as shown and the side edges of the cap engaging member at one end extend together as shown. An opening 40 is formed in the cap engaging member and receives the pin 21 of the trigger. At its opposite end, the said cap engaging member is bent over to form a web 41 extending laterally from opposite sides of the cap engaging member. The edge 42 of the said web constitutes the cap engaging por-

tion of the member 38 when the pistol is actuated. The parts are assembled in position with the trigger pivoted on the pin 25 and the actuating member pivoted on the pin 23. A loop spring 43 has its loop received on the pin 23 with one leg of the spring engaging the lug 22 of the trigger and the other leg engaging the other lug 35 of the actuating member so that the actuating member is normally projected from the trigger. The hammer is mounted in position upon the pin 27 and a loop spring 44 is received over the pin 25, one leg of said spring engaging the lug 24 on the trigger and the other leg of the spring engaging an enlargement 45 constituting the base of the pin 27. It will be understood that the enlargement 45 forms the bearing upon which one side of the trigger rotates and spaces the trigger the proper distance from the body of the casting, the said base extending laterally upon opposite sides of the pin, as shown, and allows the hammer to overlie the trigger.

The cap engaging member is pivoted upon the pin 21 and a loop spring 46 is received over said pin, one leg of the spring 46 engaging the lug 19 and the other leg engaging the cap engaging member near its contact edge 42 as shown.

In this manner the actuating member is carried by the trigger and normally projected therefrom, while the hammer is normally projected toward the anvil by the spring 30, but by reason of the loop spring 44, the trigger is normally projected away from the hammer while its body portion is urged toward the hammer. The cap engaging member, is carried by the trigger and is normally projected toward the cap strip 48, by reason of the weak spring 46.

The purpose of the actuating member will be perceived upon inspection of Figures 1, 2, and 4 of the drawings, the lug 34 normally engaging in the notch 31 of the hammer. Thus, when the trigger is retracted, the hammer is propelled away from the anvil until the sliding contact of the surfaces of the notch and lug is such that their engagement ceases and the hammer can then strike the anvil under the force of the spring 30. The trigger is returned to normal position by reason of the spring 44 which is stronger than the weak spring 43, and as a result, the actuating member rides over the edge of the hammer and is projected back into the notch 31 therein by the spring 43, and this operation is assisted by the movement of the body of the trigger toward the hammer owing to the pivoted disposition of the trigger and the spring 44.

When the trigger is actuated, the extension 20 rises in an arc toward the anvil and, of course, carries with it the cap engaging member 38. The extent of the arc carries the contact edge 42 into engagement with the strip, and it will be noted that the casting 11 is provided with a laterally extending portion 49 having a curved lower edge 50 against which the contact edge 42 compresses the strip 48 and moves it progressively relative to the anvil 29 in which the edge 50 terminates.

The parts are so related that upon each actuation of the trigger, the hammer is retracted and simultaneously the cap strip is propelled toward the anvil to bring a cap in the proper position to be exploded by the hammer when it is released through the retracting movement of the trigger.

The operation of the pistol is entirely automatic and notwithstanding that the trigger is given a quick successive actuation, there is no opportunity for the parts to bind or for the cap strip to wrinkle or pile up which have been customary obstacles to a repeater pistol of this type.

It will be understood that the spring 46 is a relatively weak spring and is designed to project the cap engaging member away from the body of the trigger but in effect acts as a cushion for the cap engaging member in normal position and a guide for the cap strip as shown in Figure 1. The curved edge 39 of the enlarged portion of the cap engaging member will be guided or held in position by the adjacent curved edge of the hammer and the flat edge portion 32 of the hammer normally will act as a stop to limit the movement of the cap engaging member away from the trigger under the action of the spring 46, as will be seen from Figure 1.

When the trigger is pulled and the hammer is moved away from the anvil, the cap engaging member is released and with the portion 20 moves toward the curved edge 50. Thus the spring 46 will exert its full force upon the cap engaging member to move it into engagement with the cap strip and maintain the contact edge 42 in contact with the cap strip until the parts return to normal position.

The casting 11 is provided with an arcuate slot 51 and when the parts are assembled in position, the lug 24 moves in said slot. This construction serves to guide the trigger in its movement as well as limit it, and avoids the use of an excessive number of leaf springs which with some constructions have been found to occasion jamming and disengagement of the parts.

With the present construction, the leaf spring 30 is confined substantially throughout its length and is disposed in relatively deep notches while the remainder of the springs are carried by pins and are interposed between the respective parts with which the legs of the loops are engaged.

The cover plate 15 may be moved to uncover the pistol and allow a roll of caps to be replaced, as well as oil the machine, as

shown in dotted lines in Figure 3. When closed, the cover plate is held by frictional contact with a lug 52 formed on the casting 10, and the other side of the cover plate engages the lateral enlarged side 53 of the portion 49.

The cap strip it will be noted emerges through an opening 54 formed jointly by the casting 10 and 11.

In Figure 6 of the drawings I have illustrated a modification which comprises a structure wherein instead of the leaf spring 30 shown in Figures 1 and 2, a coil spring 60 is employed.

It will be observed that the coil spring 60 has its coil disposed over the pin 61 formed integral with one of the castings and that in this construction the enlargement 45 employed in connection with Figures 1 and 2 is eliminated. The legs of the spring respectively engage a lug 62 formed on the hammer and a pin 63 which is preferably integral with one of the castings. The longer leg of the spring which engages the pin 63 is also confined by the adjacent portion of the laterally extending lug 32, which in Figure 6 is indicated at 64.

It will be understood that the springs engaging the cap engaging member and the actuator are relatively weak springs, while the spring engaging the trigger is relatively stronger, and the springs 30 or 60, as the case may be, are quite strong in order to give the hammer a sufficient striking or exploding force.

Referring to Figure 7, it will be observed that the pin 25 upon which the trigger pivots is surrounded by a substantially circular groove 65 which communicates with a groove 66 extending axially away from the groove 65 and merging with the arcuate slot 51 in the casting. The groove 65 and its grooved arm 66 serve to confine the coil and one leg of the coil spring 26, the said leg engaging the pin 61 which is situated flush with the groove 66 as shown.

It will be understood that in both the construction shown in Figures 1 and 2 and the construction shown in Figures 6 and 7, pin 25 is shorter than the pin 27 and this is best illustrated in Figure 8. In this manner the trigger is allowed to operate and the hammer to overlie the trigger without any danger of the parts jamming, with the advantage that a very simple and reliable construction can be employed and confined within the contour and size of the usual pistol.

It will be understood that in the construction disclosed in Figures 6 and 7 that the spring for actuating the hammer has its one leg disposed in the groove 66 with its coil in the groove 65 and its other leg engaging the lug 24 on the trigger.

By reason of the modified construction shown in Figures 6 to 9 inclusive, the use of a leaf spring may be eliminated if desired, and at the same time the parts are permitted to operate without any opportunity for jamming and at the same time the hammer is provided with a sufficient impelling force to explode the cap.

I claim:

1. A pistol comprising a pistol casing, a trigger, a hammer, means carried by the trigger for retracting the hammer, and cap engaging means movable with the trigger and normally held against movement by the hammer, said cap engaging means adapted to engage and progress a cap strip toward an anvil on said casing when the trigger is retracted.

2. A pistol comprising a pistol casing, a trigger having an extended body portion, a hammer overlying said body portion, means carried by the trigger at one side of the hammer for retracting the hammer, and cap engaging means carried by the trigger on the opposite side of the hammer and normally held against movement by the hammer, said cap engaging means adapted to engage and progress a cap strip toward an anvil on said casing when the trigger is retracted.

3. A pistol comprising a pistol casing, a trigger, a hammer, means normally urged toward the hammer and carried by the trigger for retracting the hammer, and cap engaging means normally urged toward the cap strip and normally held against movement by the hammer, said cap engaging means adapted to engage and progress a cap strip toward an anvil in said casing when the trigger is retracted.

4. A pistol comprising a pistol casing, a trigger, a spring acting on the trigger, a hammer, a spring acting on said hammer, means carried by the trigger and normally urged by a weak spring toward the hammer, said means being adapted to engage and retract the hammer, and cap engaging means normally urged toward a cap strip by a weak spring, said cap engaging means being movable with the trigger and normally held against movement by the hammer, said cap engaging means adapted to engage and progress said cap strip toward an anvil on said casing when the trigger is retracted.

5. A pistol comprising a pistol casing, a trigger having an enlarged body portion, a hammer pivotally mounted on said casing, an actuator pivotally mounted on the trigger and normally urged into engagement with said hammer, a cap engaging member pivotally mounted on said trigger and normally urged toward a cap strip, and means carried by the trigger and engaging in a slot in the casing for guiding and limiting the movement of said trigger, said cap engaging member being normally held against the action of said spring by said hammer.

6. A pistol comprising a pistol casing, a

trigger having an extended body portion, a hammer pivotally mounted on the casing, an actuator pivotally carried by the trigger for retracting the hammer, a cap engaging member pivotally mounted on said trigger and adapted to engage and move a cap strip, an anvil, and means adjacent said anvil cooperating with said cap engaging member to guide the cap strip toward the said anvil in its movement under the action of said cap engaging member when the trigger is pulled, said cap engaging member being normally held against the action of said spring by said hammer.

7. A pistol comprising a pistol casing, a trigger, a hammer, an actuator carried by the trigger and adapted to engage the hammer, a cap engaging member carried by the trigger and adapted to engage and move a cap strip, and springs engaging the trigger and actuator and the trigger and cap engaging member and interposed between the actuator and cap engaging member and the trigger, said cap engaging member being normally held against the action of said spring by said hammer.

8. A pistol comprising a pistol casing, a trigger, a hammer, an actuator carried by the trigger and adapted to engage the hammer, a cap engaging member carried by the trigger and adapted to engage and move a cap strip, springs engaging the trigger and actuator and the trigger and cap engaging member and interposed between the actuator and cap engaging member and the trigger, and a spring engaging said trigger and interposed between the trigger and the pistol casing.

9. A pistol comprising a pistol casing, a trigger, a hammer, means carried by the trigger for retracting the hammer, and cap engaging means normally urged toward a cap strip but limited in its movement by said hammer, said cap engaging means being movable with the trigger and normally held against movement by the hammer, said cap engaging means adapted to engage and progress said cap strip toward an anvil on said casing when the trigger is retracted.

10. A pistol comprising a pistol casing composed of mated castings secured together, a cover plate independent of said castings and pivotally mounted thereon, one of said castings having a projection engaging an opening in said cover plate and the other casting having an extended portion overlying the free end of said projection and the point of engagement of said cover plate, an enlarged portion formed on one of said castings and a cooperating lug formed on the other casting whereby when the cover plate is closed, it will be frictionally held between said lug and enlarged portion.

11. A pistol comprising a pistol casing, a trigger, a hammer, a coil spring acting on said hammer and underlying the hammer, one leg of the spring engaging a lug on the hammer and the other leg engaging a lug formed integral with the casing, a coil spring acting on the trigger, the coil of said spring and one leg thereof being disposed in a groove formed in the casting underlying the trigger, and the other leg engaging a lug on the trigger, and cap engaging means operable by said trigger.

In testimony whereof I have hereunto set my hand.

EDWARD S. PEAKE.