Aug. 25, 1953 C. L. PARRIS 2,649,849

PISTOL CONSTRUCTION

Filed July 17, 1950

Fig. 1

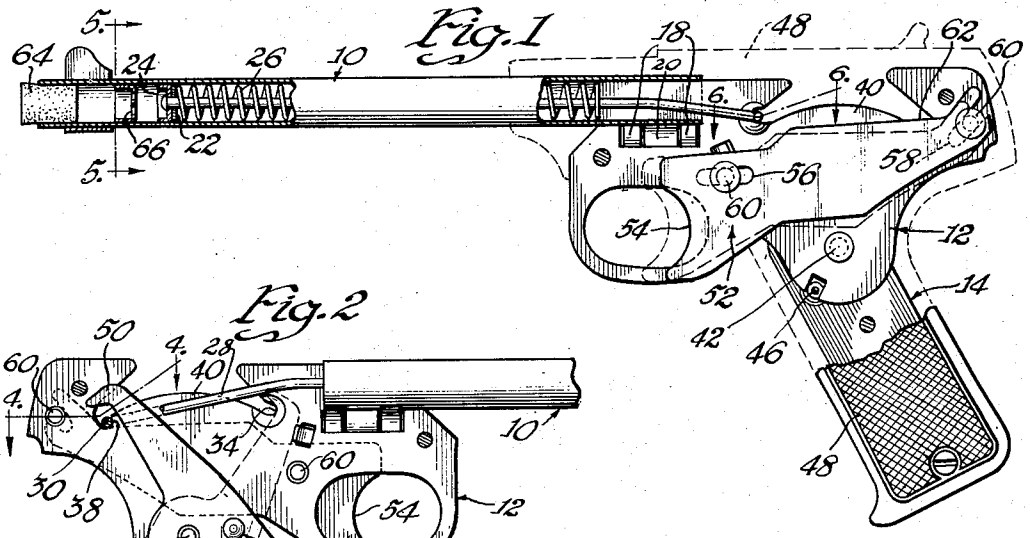


Fig. 2

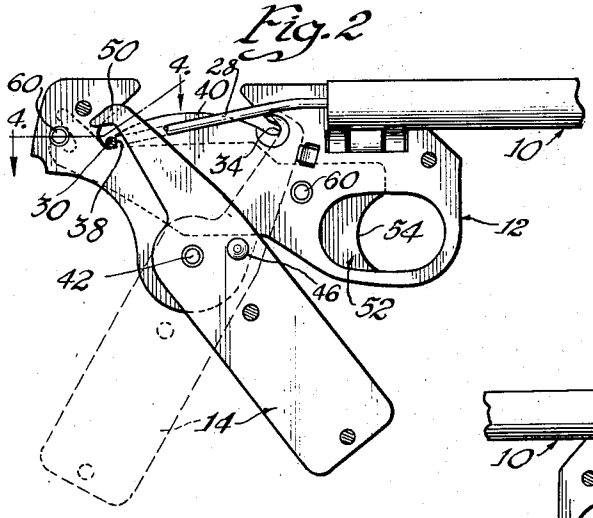


Fig. 3

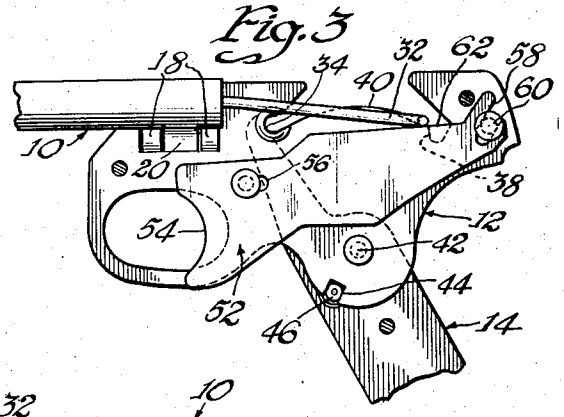


Fig. 4

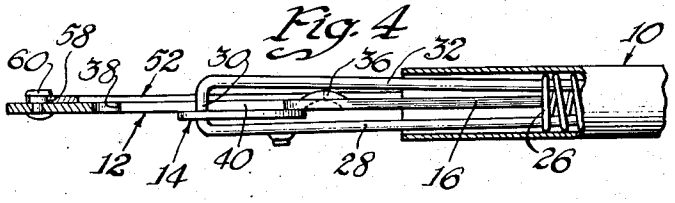


Fig. 5

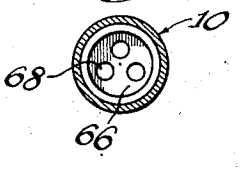
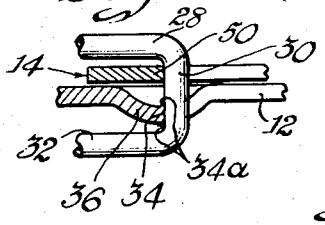


Fig. 6



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PISTOL CONSTRUCTION

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5 Claims. (Cl. 124—14)

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This invention relates to a pistol construction and particularly a toy pistol of the air-operated type for "firing" corks.

One object of the invention is to provide a pistol construction which is readily fabricated in an inexpensive manner from metal stampings, molded plastic coverings and stock parts but which in the final assembly produces a reliable-acting air pistol capable of many thousands of operations without breakdown.

Another object is to provide for cocking the pistol by means of a cocking handle pivoted at a point spaced rearwardly of the trigger grip, making it convenient to hold the barrel of the pistol in one hand while swinging the cocking lever with the other hand.

Still another object is to provide a construction in which a cocking wire when released engages a shoulder to limit movement of a spring behind a cup leather in the barrel of the pistol, the shoulder being so formed in an offset part of a stamping so that the burr caused thereby does not interfere with the swinging action of the cocking handle.

A further object is to provide a simplified trigger action in which a stamping is slidably mounted for movement in a generally rearward direction with respect to the pistol but has an inclined slot in a portion thereof adjacent the cocking wire for elevating the cocking wire out of a cocking notch of the frame of the pistol.

Still a further object is to provide an air pistol with a safety plug which eliminates the possibility of shooting rocks or other hard objects from the pistol which might cause damage or injury.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a pistol construction embodying my present invention, a portion of the plastic cover thereof being removed to show internal constructional details and the outline of the remaining portion of the cover shown dotted.

Figure 2 is a fragmentary view of the reverse side of the pistol showing the cocking lever in cocked position.

Figure 3 is a view similar to a portion of Figure 1 showing the cocking wire being released from a cocking notch by pressure on the trigger of the pistol.

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Figure 4 is a partial plan and partial sectional view on the line 4—4 of Figure 2 showing the parts enlarged and the cocking handle in a half-cocked position.

Figure 5 is an enlarged sectional view on the line 5—5 of Figure 1 showing a front elevation of a safety plug; and

Figure 6 is an enlarged sectional view on the line 6—6 of Figure 1 showing the construction of the stop notch for the cocking wire.

On the accompanying drawing I have used the reference numeral 10 to indicate a cylindrical barrel, 12 a frame plate formed of a metal stamping, and 14 a cocking lever also formed of a metal stamping.

The frame plate 12 has a projection 16 located in the barrel 10 for aligning the two with relation to each other. The portion 16 is a force fit in the barrel 10. Adjacent the portion 16 the frame plate 12 has a pair of ears struck at an angle in one direction and a single ear 20 struck at an angle in the opposite direction against which the barrel 10 seats in order to cooperate with the portion 16 in aligning the barrel properly with respect to the frame plate 12.

Slidable in the barrel 10 is a cup leather 22 behind which I provide a metallic washer 24. A spring 26 is interposed between the washer 24 and the front end of the extension 16 of the frame plate 12. A cocking wire 28 is connected with the cup 22 and the washer 24. The wire 28 extends rearwardly as shown in Figure 6 and has a right angle bend at 30 terminating in a return bend at 32 which extends back into the barrel 10 to some extent. The portion 30 of the cocking wire 28 normally rests against a stop shoulder 34 formed in the frame plate 12, the frame plate being offset or embossed as shown at 36 in Figure 6 for a purpose which will hereinafter appear.

The frame plate 12 also has a cocking shoulder 38 spaced some distance rearwardly from the stop shoulder 34 and the two shoulders are connected by an arcuate edge 40 of the frame plate.

The cocking lever 14 is pivoted at 42 to the frame plate and the frame plate is provided with a notch 44 into which a spring detent 46 of the cocking lever 14 normally protrudes. When the cocking lever is forced from the dotted position of Figure 2 (full line position of Figure 1) to the cocked position of Figure 2, the detent leaves the notch at the beginning of such movement. When the cocking lever is returned as in Figure 3, the detent assures that the cocking lever 14 and a plastic handle 48 which encloses it will be at the proper operating angle and stay at that

angle without dislodgment from the impact of shooting the pistol.

It will be noted that the cocking lever **14** has a hook **50** normally positioned adjacent the stop shoulder **34** as shown by dotted lines in Figure 2 and this hook, during the cocking of the pistol, engages the portion **30** of the cocking wire **28** to move it from the stop notch to the cocking notch as shown by solid lines in Figure 2.

It is obvious that in order to remove the portion **30** of the cocking wire **28** from the cocking notch for "firing" the pistol, the portion **30** must be lifted. This is accomplished by a trigger plate **52** which has a finger engageable portion **54**, a slot at **56**, and an inclined notch at **58**. The slot and notch coact with shouldered rivets **60** mounted in the frame plate **12** so that the trigger in normal position shown dotted in figure 1 can be pulled rearwardly and will cause a portion thereof indicated at **62** to rise in relation to the cocking notch **38** for releasing the portion **30** of the cocking wire **28** therefrom as shown in Figure 3. Thereupon the compressed spring **26** may expand for forcing the cup leather **22** forwardly in the barrel **10**, thus compressing air behind a cork **64** therein which serves as "ammunition."

The cocking wire **28** is preferably formed of piano wire or similar hard metal to make the same long-lasting. The stamping **12** may be made of semi-hard steel to reduce burring of the stop notch **34**. Even so some burring will occur as indicated at **34***a* in Figure 6. The burr on the upper side in this figure would interfere with the action of the cocking lever hook **50**, if it projected beyond the upper surface of the stamping **12** in Figure 6. I therefore provide the offset at **36** so that even with considerable burring the action of the cocking lever will not be interfered with. This is an important feature in the economical production of a toy pistol that will have a satisfactory life.

In the use of ordinary air pistols or so-called "pop pistols" it is possible for the user to insert rocks and similar hard objects in place of corks and this sometimes results in damage to property or injury to persons. To avoid this possibility, I provide a safety plug **66** which is merely a cup-shaped metal plug provided with a plurality of openings **68**. The openings, of course, are smaller than the bore of the barrel **10** and while they may permit very small rocks to be inserted, such rocks would not be fired from the gun because they would settle behind the safety plug but at the same time the pistol can be used as intended to compress air behind the cork **64**. This is a simple yet effective arrangement to make the pistol safe.

From the foregoing specification, it is obvious that I have provided a pistol construction which is inexpensive from a manufacturing standpoint and yet provides a construction that has a relatively long life and one that is safe to operate.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure and use of mechanical equivalents which may be reasonably included within their scope without sacrificing any of the advantages thereof.

I claim as my invention:

1. In a pistol construction, a frame plate, a cocking lever pivoted thereto, a barrel mounted on said frame plate, a spring propelled element in said barrel, a cocking wire for compressing the spring, said frame plate having a stop notch therefor and a cocking notch therefor, said cocking lever having a handle portion on one side of its pivot and a hook portion on the opposite side thereof for directly engaging said cocking wire and propelling it in an arcshaped path from said stop notch to said cocking notch, a trigger plate slidably mounted on said frame plate for generally rearward movement, the rear end thereof having an inclined notch for effecting elevation of the rear end of the trigger plate which rear end engages said cocking wire and lifts it from said cocking notch as said trigger plate is moved in a rearward direction.

2. In a pistol construction, a frame plate, a plate-like cocking lever pivoted thereto in face-to-face relation thereto, a barrel mounted on said frame plate, a spring propelled element in said barrel, a cocking wire for compressing the spring, said frame plate having a stop notch therefor and a cocking notch therefor, said cocking lever having a hook formed as a part thereof for directly engaging said cocking wire and propelling it from said stop notch to said cocking notch, a trigger plate slidably mounted on said frame plate for generally rearward movement, the rear end thereof having an inclined notch for effecting elevation of the rear end of the trigger plate for engaging said cocking wire and disengaging it from said cocking notch, said frame plate adjacent said stop notch being offset to prevent a burr formed on said stop shoulder of said frame plate from interfering with the movement of said cocking lever across the face of said frame plate.

3. In a pistol construction, a frame plate, a plate-like cocking lever pivoted thereto in face-to-face relation therewith, a barrel mounted on said frame plate, a spring propelled element in said barrel, a cocking wire for compressing the spring, said frame plate having a stop notch therefor, a cocking notch therefor and an arcuate guide edge between said notches, the center of the arc being at the pivot point of said cocking lever to said frame plate, said cocking lever having a portion for engaging a hooked portion of said cocking wire and swinging it from said stop notch and along said guide edge to said cocking notch, a trigger plate for disengaging said cocking wire from said cocking notch, the metal of said frame plate adjacent said stop notch being offset away from the face thereof next to the face of said cocking lever to prevent a burr formed on said stop shoulder from interfering with the movement of said cocking lever across the face of said frame plate.

4. In a device of the class described, a frame plate, a cocking lever pivoted thereto, a barrel mounted on said frame plate, a spring propelled element in said barrel, a cocking wire for compressing the spring, said frame plate having a stop notch for the cocking wire, a cocking notch for the cocking wire spaced from said stop notch, the pivot of said cocking lever being positioned laterally of the gun barrel at a point intermediate said notches, said cocking lever having a rigid handle portion on one side of its pivot and a hook portion rigidly carried by said lever on the opposite side of said pivot, said hook portion being positioned to directly engage said cocking wire to move it from said stop notch to said cocking notch, and a trigger plate for disengaging said cocking wire from said cocking notch.

5. In a device of the class described, a frame plate, a plate-like cocking lever pivoted in face-

to-face relation thereto, a barrel mounted on said frame plate, a spring propelled element in said barrel, a cocking wire for compressing the spring, said frame plate having a stop notch therefor and a cocking notch therefor, an arc-shaped guide edge between said notches and leading into said cocking notch, said cocking lever having a hook formed as a part thereof for directly engaging said cocking wire and propelling it from said stop notch along said arcuate guide edge to said cocking notch, a trigger plate for disengaging said cocking wire from said cocking notch, the metal of said frame plate adjacent said stop notch being offset away from the face of the frame plate next to the face of said cocking lever, to permit

repeated operation of the gun in the presence of a burr formed on said stop notch of said frame plate due to impact of said cocking wire thereon.

CECIL L. PARRIS.

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