March 6, 1945. T. R. MENDLES 2,371,059

TOY GUN

Filed May 29, 1943 3 Sheets-Sheet 1

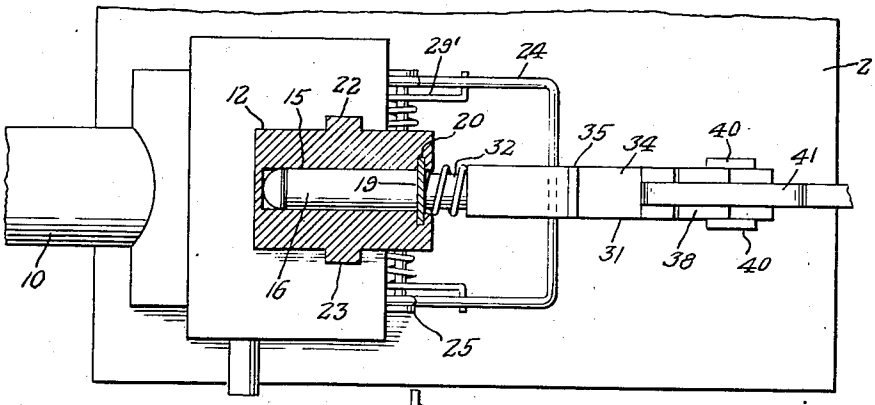


Fig. 4.

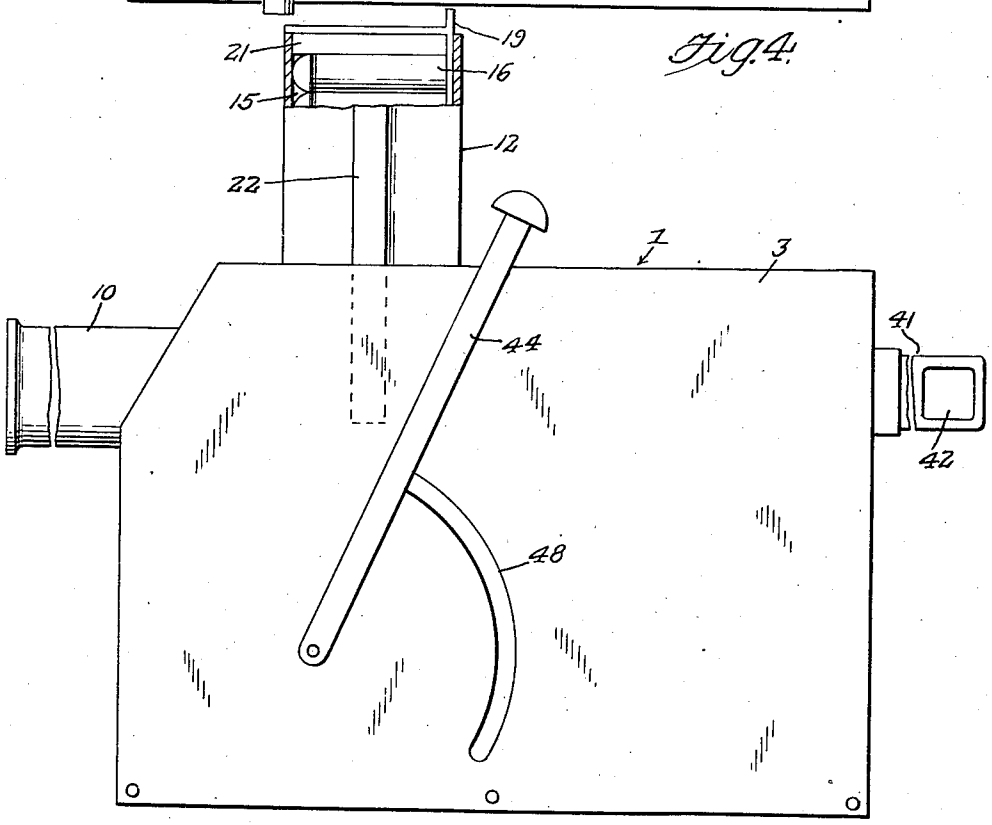


Fig. 1.

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Fig. 2.

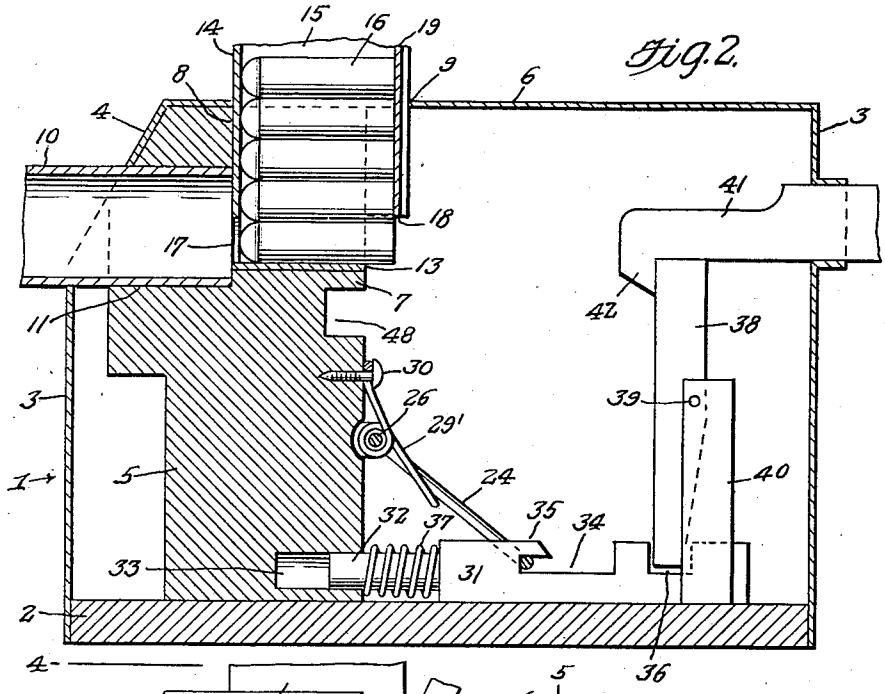
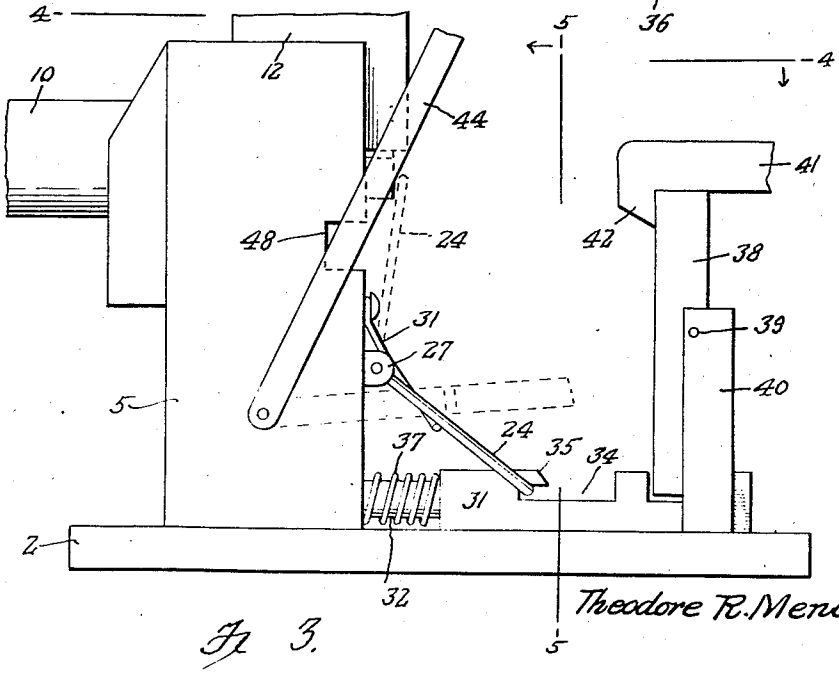


Fig. 3.



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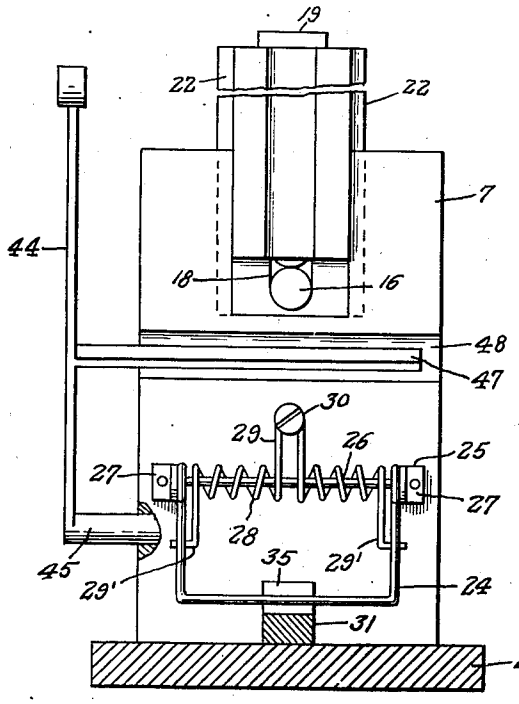


Fig. 5.

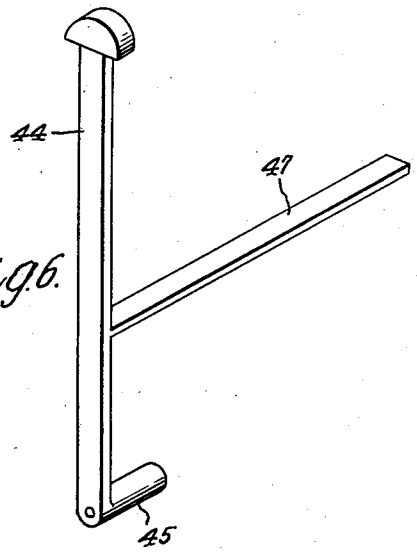


Fig. 6.

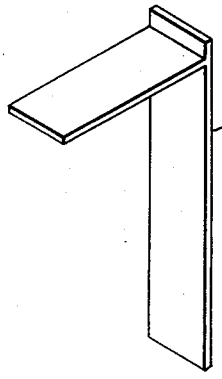


Fig. 7.

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Patented Mar. 6, 1945 2,371,059

UNITED STATES PATENT OFFICE

2,371,059

TOY GUN

Theodore R. Mendles, Jersey City, N. J., assignor of one-half to Joseph Bassetti, Jersey City, N. J.

Application May 29, 1943, Serial No. 489,054

3 Claims. (Cl. 124—16)

My invention relates to improvements in toy guns, the primary object in view being to provide a simply constructed, compactly arranged toy gun of the self-loading type for shooting a number of bullet-like imitation projectiles accurately and for a substantial distance, and which is adapted for easy operation by a child, will not get out of order readily, and is inexpensive to manufacture.

Other and subordinate objects are also comprehended by my invention, all of which, together with the precise nature of my improvements, will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in side elevation, partly broken away, of my improved toy gun in its preferred embodiment,

Figure 2 is a view in vertical longitudinal section,

Figure 3 is a view in side elevation with the shell removed,

Figure 4 is a view in horizontal section taken on the line 4—4 of Figure 3,

Figure 5 is a view in transverse section taken on the line 5—5 of Figure 3,

Figure 6 is a view in perspective of the cocking lever, and

Figure 7 is a view in perspective of the closure plate.

Referring to the drawings by numerals, my improved toy gun, in the illustrated embodiment thereof, comprises a substantially rectangular turret 1 for maneuvering by a child on the floor, or another support, and including a flat base panel 2, and a shell 3 having an open bottom fitted over and suitably secured to the edges of the panel 2, said shell 3 having an upper front beveled portion 4. Within the shell 3, in the front part thereof, is a column 5 fitted between the panel 2 and the top 6 of the shell 3 and suitably secured to the panel in the longitudinal center thereof. The upper rear part of the column 5 forms a breech block 7 provided with a vertical rectangular socket 8 therein open at the rear of the block and opening at its top into a rectangular opening 9 in the top 6 of the shell 3 for a purpose presently seen. A barrel 10 extends through the portion 4 rearwardly and is fitted in a horizontal bore 11 in the column 5 with its breech end opening into said socket 8 above the bottom of the socket.

Arising out of the socket 8 through the aperture 9 is a transversely rectangular, elongated magazine block 12 suitably fitted at its lower end in said socket 8 to rest on the bottom of the same when in use and for removal for replenishing the magazine. The magazine block 12 is provided with a bottom 13, and a front wall 14 forming a longitudinal chamber 15 in the block in the vertical plane of the barrel 10, said chamber being open at its top and back and adapted for containing a number of vertically stacked longitudinally disposed bullet-like projectiles, or missiles, 16. The front wall 14, at its bottom, is formed with a discharge aperture 17 opening into the breech end of the barrel 10. The lower end of the magazine block 12 is undercut and open, as at 18, and said block is wider from front to rear than the socket 8, so that the butt end of the lowermost projectile 16 extends out of the socket 8 rearwardly of the breech block 7 for a purpose presently seen. A right angled closure plate 19 slidable in longitudinal guideways 20 in the magazine block 12, closes the top of the chamber 15 and the back thereof above the opening 18. A weight 21 is provided in the top of the chamber 15 to be imposed on the stack of projectiles 16 to prevent the latter from binding and canting in the chamber 15. The block 12 may be formed with side guides 22 fitting in guideways 23 in the top of the shell 6 and in the socket 8.

A U-shaped, bail-like, striker 24 with eyelet ends 25 is pivotally mounted below the breech block 7 on the rear side of the column 5 on a horizontal rod 26 passing through said ends 25, the rod having its ends suitably fixed in apertured ears 27 on the column 5, said striker being vertically swingable upwardly and forwardly to impact the butt end of the lowermost projectile 16, and also swingable into a downwardly and rearwardly inclined cocked position. A coil spring 28 surrounds the rod 26 and is provided with a central upstanding loop 29 adjustably secured to the column 5 by a set screw 30, and with right angled legs 29' bearing rearwardly and upwardly against the sides of the striker 24 whereby said striker is tensioned for upward and forward swinging. By adjusting the set screw 29', the loop 29 may be flexed to vary the tension exerted by the spring 28.

A catch bolt 31 endwise slidable forwardly and rearwardly on the panel 2 in the longitudinal center of the latter and in the rear of the column 5 provides for releasably locking the striker 24 in cocked position. The catch bolt 31 is formed with a reduced pilot end 32 slidable in a socket 33 in the column 5, a cutout top portion 34 terminating in a rearwardly extending hook 35, and a top notch 36 in the rear of the cutout 34. A coil spring 37 surrounds the pilot end 32 between the bolt 31 proper and the column 5 and urges the catch bolt 31 rearwardly. By sliding the bolt 31 forwardly, the striker 24 may be swung down into cocked position into the cutout 34 so that under rearward sliding of said bolt the hook 35 may catch over said striker and hold the same cocked

for release when said bolt is again slid forwardly.

A trigger mechanism is provided for sliding the catch bolt 31 forwardly in opposition to the spring 37 and which comprises a vertically disposed lever 38 pivoted intermediate its ends, as at 39, to be swung from a normal position over the catch bolt 31 in the plane thereof, and between a pair of upright posts 40 arising from the panel 2 and forming guides for the rear end of said catch bolt. The lower end of the lever 38 depends into the notch 36 so that under swinging of the lever from normal position, said lever will project said bolt 31 forwardly to move the hook 35 from over the striker 24 and release said striker. As will be seen, upon release of the striker 24 it will be swung upwardly by the spring 26 out of the cutout 34 to impact the butt end of the lowermost projectile 16 and project the same out of the aperture 17 and out of the barrel 10. For swinging the lever 38, a horizontal trigger bar 41 is slidably mounted in the rear end of the shell 3 to overly the upper end of said lever and be pulled rearwardly, the bar being provided with a depending hooked front end 42 for engaging the upper end of the lever to swing said lever and thereby project the bolt 31. A finger grip opening 42' is provided in the rear end of the trigger bar 41 for operating the bar. Obviously, upon release of the trigger bar 41, the lever 38 will be returned to normal position by the catch bolt 31 under the action of the spring 37.

For cocking the striker 24, a lever 44 is pivoted at one end in the column 5 to be swung rearwardly and downwardly alongside the shell 3, said lever having a lateral end stud 45 suitably extended through a side of the shell 3 into a socket 46 in the column 5 and forming an axis member. A lateral cocking arm 47 extends from the lever 44 intermediate the ends thereof and through a vertical arcuate slot 48 in said one side of the shell 3, said arm extending across the path of upward swinging of the striker 24 so that by rearward swinging of the lever 44 and arm 47, said arm will slidably engage the striker and swing the same downwardly and rearwardly into the cutout 34 of the catch bolt 31. The column 5 is provided in the rear side thereof with a horizontal cross groove 48 to receive the arm 47 when the striker 24 assumes impacting position.

As will be seen, when the lowermost projectile 16 is projected, or ejected, in the manner already described, the next succeeding one is fed by gravity into firing position. To replenish the chamber 15, the magazine block 12 is detached from the socket 8, the closure plate 19 detached from the block, and the required number of projectiles 16, or missiles, inserted into the chamber 15 through the top thereof with the hand covering the opening 18 and the aperture 17 for obvious reasons. The weight 21 is then replaced in the chamber 15, and the plate 19 in the block, and the block then inserted in the socket 8, all with the striker 24 cocked to prevent interference by the same with the replacement of said block.

Since the operation of the parts of the gun has been set forth in connection with the foregoing description of the structure, and relation of the parts, the preceding description will, it is believed, suffice to impart a clear understanding of the invention, without further explanation.

Manifestly the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications, as fall within the scope of the appended claims.

What I claim is:

1. Firing mechanism for a toy gun of the type adapted for firing a projectile under impact against the same, said mechanism comprising a bail-like striker pivotally mounted for vertical swinging from a cocked position into a striking position and adapted to impact said projectile in the strking position thereof, spring means for swinging said striker into striking position, means to releasably detain said striker in cocked position comprising a spring loaded catch bolt endwise slidable in a straight line in opposite directions to detain and release said striker, respectively, and having a notch therein, trigger mechanism operative to slide said bolt in a direction to release said striker comprising a lever pivoted intermediate the ends thereof for rocking movement and having one end inserted in said notch, a slide for rocking said lever including a hooked terminal for operatively engaging the other end of said lever, and means operative to swing said striker into cocked position.

2. Firing mechanism for a toy gun of the type adapted for firing a projectile under impact against the same, said mechanism comprising a bail-like striker pivotally mounted for vertical swinging from a cocked position into a striking position and adapted to impact said projectile in the striking position thereof, spring means for swinging said striker into striking position, means to releasably detain said striker in cocked position comprising a spring loaded catch bolt endwise slidable in a straight line in opposite directions to detain and release said striker, respectively, and having a notch therein, trigger mechanism operative to slide said bolt in a direction to release said striker comprising a lever pivoted intermediate the ends thereof for rocking movement and having one end inserted in said notch, a slide for rocking said lever including a hooked terminal for operatively engaging the other end of said lever, and means operative to swing said striker into cocked position, comprising a vertically swingable cocking lever, and a cocking arm extending from said cocking lever across said striker.

3. Firing mechanism for a toy gun of the type adapted for firing a projectile under impact against the same, said mechanism comprising a bail-like striker pivotally mounted for vertical swinging from a cocked position into a striking position and adapted to impact said projectile in the strking position thereof, spring means for swinging said striker into striking position, means to releasably detain said striker in cocked position comprising a spring loaded catch bolt endwise slidable in a straight line in opposite directions to detain and release said striker, respectively, and having a notch therein, trigger mechanism operative to slide said bolt in a direction to release said striker comprising a lever pivoted intermediate the ends thereof for rocking movement and having one end inserted in said notch, a slide for rocking said lever including a hooked terminal for operatively engaging the other end of said lever, and means operative to swing said striker into cocked position, said catch bolt comprising a hook part for overlying said striker in the cocked position of the striker.

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