April 10, 1956 J. S. ARNOLD 2,741,238

TOY GUN

Filed May 26, 1954 2 Sheets-Sheet 1

Fig. 1

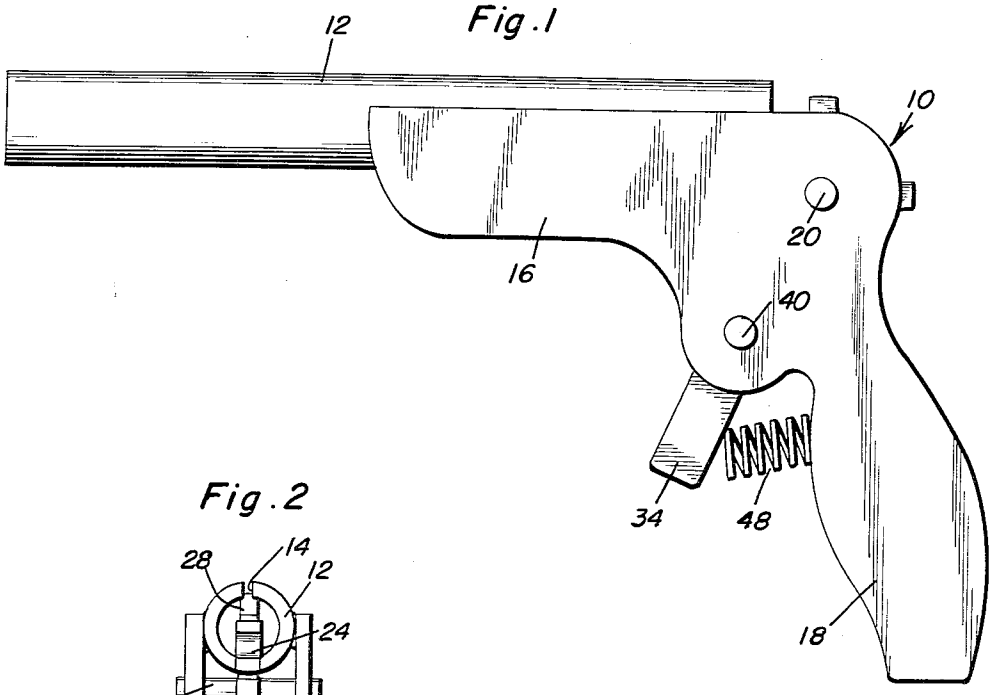
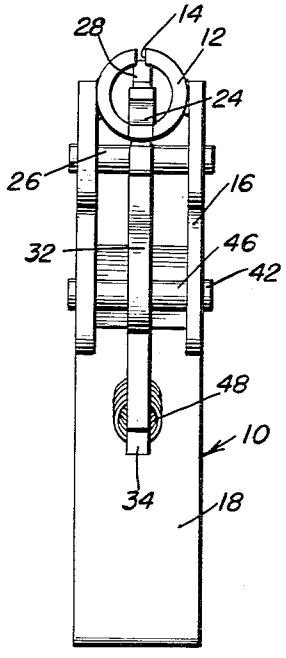


Fig. 2



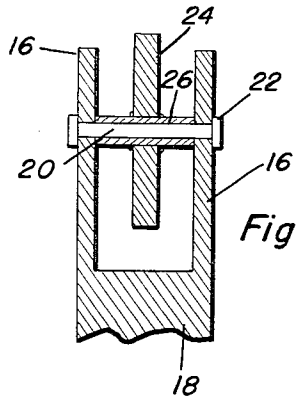


Fig. 7

Joseph S. Arnold
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

April 10, 1956 J. S. ARNOLD 2,741,238

TOY GUN

Filed May 26, 1954 2 Sheets-Sheet 2

Fig. 3

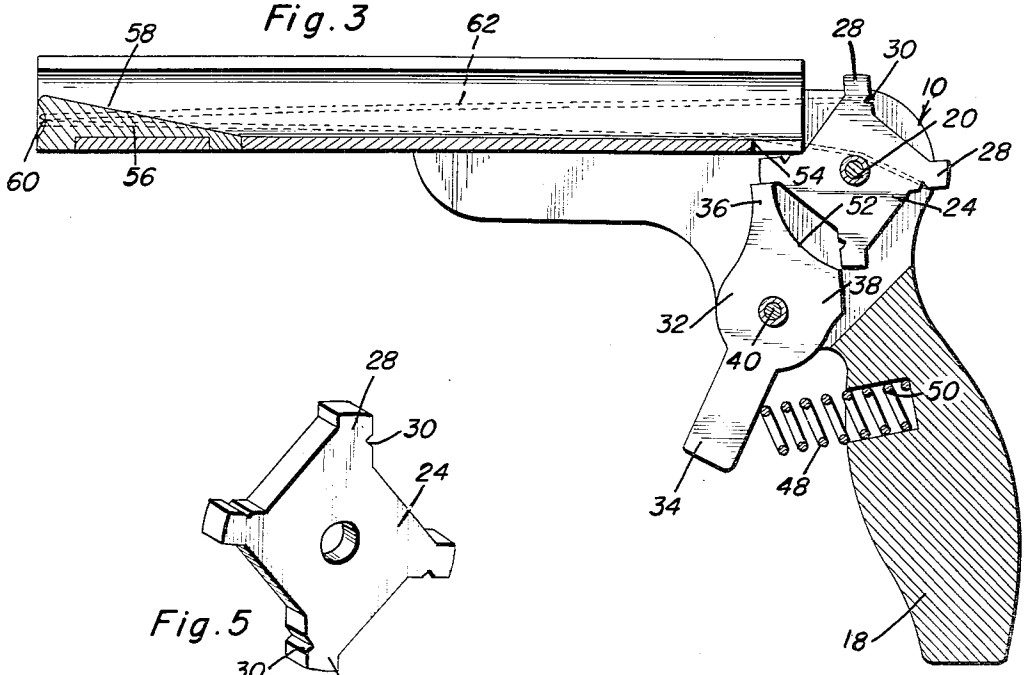


Fig. 5

Fig. 4

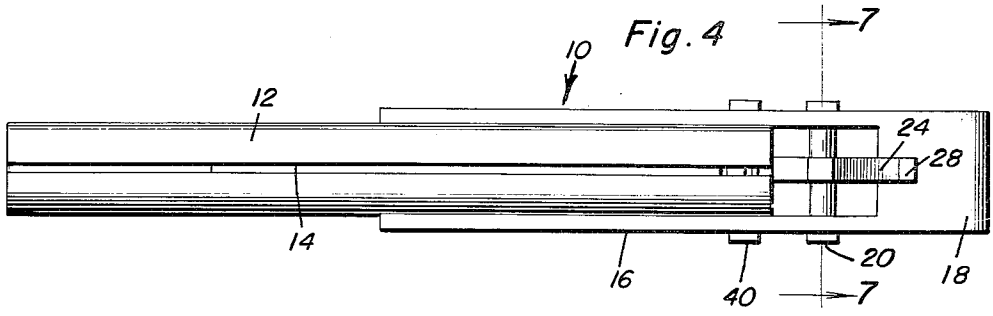
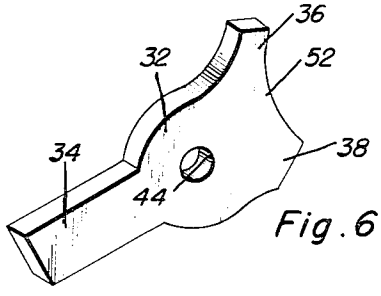


Fig. 6



Joseph S. Arnold
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 2,741,238 Patented Apr. 10, 1956

2,741,238

TOY GUN

Joseph S. Arnold, Fairfield, Ala.

Application May 26, 1954, Serial No. 432,358

1 Claim. (Cl. 124—19)

This invention relates to a toy gun and more specifically provides an improvement in the construction of a toy gun for shooting elastic bands or the like.

An object of the present invention is to provide a toy gun with a freely revolvable wheel and a unique mechanism for retaining a plurality of elastic bands and to further provide means for sequentially and automatically releasing successive elastic bands thereby forming an automatic toy gun.

Another object of this invention is to provide a toy gun which is simple in construction, easy to utilize, well adapted for its purposes, and relatively inexpensive to manufacture.

A still further object of this invention is to provide a toy gun having a novel means for tensioning a plurality of elastic bands and improved means for sequential release of said elastic bands.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view showing the toy gun of the present invention;

Figure 2 is an end elevational view looking at the forward end of the toy gun of the present invention;

Figure 3 is a longitudinal, vertical sectional view taken substantially along a plane passing through the longitudinal center line of the toy gun of the present invention;

Figure 4 is a top plan view of the construction of Figure 1;

Figure 5 is a detailed perspective view showing the rotatable elastic band tensioning wheel;

Figure 6 is a detailed perspective view showing the trigger utilized in the toy gun of this invention; and

Figure 7 is a detailed, vertical sectional view taken substantially along section line 7—7 of Figure 4 showing the details of construction of the mounting means for the revolvable or rotatable elastic band tensioning wheel.

Referring now specifically to the drawings, it will be seen that the numeral 10 generally designates the toy gun of the present invention. While the device is illustrated as being employed in a piston, it will be understood that the device may be employed in conjunction with a simulated rifle or other type of gun.

The toy gun 10 of the present invention includes a generally elongated and hollow barrel 12 having a longitudinal slot 14 along its upper surface. The barrel 12 is mounted in a suitable body portion 16 which has a depending handle 18 secured thereto thereby simulating the usual handle grip found in a pistol. It will be seen in Figure 2 that the body portion 16 is formed of two spaced plates rigidly secured to each side of the barrel 12. Adjacent the rear portion of the body plate 16 is a transverse pin 20 extending through the plates and having a headed portion 22 for rigid attachment to the plate 16. A generally rectangular wheel 24 is secured to an elongated hub 26 which is rotatably received on the pivot pin 20. Each corner of the rectangular plate 24 is provided with a projecting member 28 having a notch 30 in one edge thereof. It will be seen that the plate 24 is mounted on the pivot pin 20 with the notches 30 facing away from the rear portion of the barrel 12 when the projecting portion 28 having the notch 30 thereon is positioned behind the barrel 12 substantially as illustrated in Figure 3.

A trigger 32 having a finger gripping portion 34 projecting from one side thereof and having a pair of abutment members 36 and 38 in opposition to the finger gripping portion 34 is pivotally received on a pivot pin 40. The pivot pin 40 is also provided with headed projections 42 for securing the pivot pin between the plates 16 and the trigger 32 is provided with an aperture 44 for receiving and securing to a hub 46 wherein the hub 46 retains the trigger 32 substantially midway between the plates 16.

Referring specifically to Figures 1 and 3, it will be seen that a compression coil spring 48 is received in a socket 50 in the forward portion of the handle 18 thereby retaining the spring 48 in the path of movement of the finger gripping portion 34 of the trigger 32. It will be seen that the spring 48 engages the finger gripping portion 34 thereby urging the trigger 32 about the pivot pin 40 wherein the finger gripping portion 34 is urged away from the depending handle portion 18 of the gun 10. When the trigger 32 is in the position normally caused by the action of the spring 48, the projection 36 engages under the portion of the projection 28 opposite from the notches 30 thereby retaining the wheel 24 from rotating about pivot pin 20. It will be seen that the upper end of the trigger 32 between the projections 36 and 38 is provided with an arcuate recessed portion 52 for permitting rotational movement of the wheel 24 wherein the projection 28 will slide along the arcuate surface 52 and when the projection 28 passes above the projection 36 on the trigger 32, reaction of the spring 48 will urge the projection 36 into engagement under the projection 28 thereby preventing the wheel 24 from rotating in a counter-clockwise direction. Also, it will be seen at the rear end of the barrel 12 is provided with a slot 54 for receiving the rotating wheel 24.

Referring specifically to Figure 3, it will be seen that an anchor 56 is provided adjacent the outer end of the barrel 12 at the lower side thereof with the anchor 56 having an inwardly and downwardly tapering upper surface 58 and inwardly concaved notch 60 at its forward end. The notch 60 is provided for receiving an elastic band 62 and the band is stretched between the notch 60 on the anchor 56 to the notch 30 on the rotatable wheel 24. The downwardly tapering upper surface of the anchor 56 prevents the elastic bands 62 from engaging the inner end thereof and causing a misfire.

The operation of the device will be readily understood. The elastic bands 62 are positioned between the notch 60 and the anchor 56 and the notch 30 in the projection 28 of the wheel 24 by movement through the slot 14 in the barrel 12. After the first elastic band 62 has been placed on the notch 30 on the projection 28, the wheel 24 is rotated clockwise wherein the lowermost projection 28 slides along the arcuate recess 52 in the trigger 32 until it passes above the upper projection 36 wherein the action of the spring 48 causes the projection 36 to engage under the projection 28 thereby preventing the wheel 24 from rotating in a counter-clockwise direction. Another elastic band 62 may then be positioned between the anchor 56 and the projection 28 in the similar manner. Obviously, several of these rubber bands may be positioned on the wheel 24 in a similar manner. When it is desired to release a rubber band, the finger gripping portion 34 of the trigger 32 is pulled rearwardly against the action of

spring **48** wherein the upper projection **36** is disengaged from the projection **28** immediately thereover. The lower projection **38** of the trigger **32** moves into the path of movement of the projection **28** just released thereby limiting the pivotal movement of the plate **24** for discharge of only a single elastic band **62**. When the trigger finger portion **34** is released, the projection **36** moves back into the path of movement of the next adjacent projection **28** before the lower projection **38** releases the projection **28** that had just been released from the upper projection **36**. This assures that the rotatable wheel **24** will move only one-quarter of a turn for rearward movement of the finger gripping portion **34** of the trigger **32**. It will be seen that an elastic band **62** will be discharged or released from the notch **30** upon each actuation of the trigger **32** thereby making the device a repeating type toy gun. Obviously, the device may be constructed of any suitable material such as plastics, metals or wood and the device also may be constructed in a manner that will simulate rifles, shotguns or other similar types of guns thereby enhancing the attraction of the toy for children and providing a relatively safe and harmless toy for children of all ages.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A toy gun comprising an elongated barrel, a depending handle secured to one end of said barrel, a notch positioned at the other end of the barrel, a wheel rotatably journaled at the upper end of the handle, a plurality of

projections on said wheel, a notch on each projection for selective alignment in opposition to the notch on the barrel for retaining a tensioned elastic band therebetween, and means permitting sequential limited movement of said wheel thereby permitting successive notches on the wheel to pass below the barrel thereby releasing successive elastic bands, said barrel being tubular and provided with an elongated slot in the upper wall, said notch of the barrel being positioned in the front edge of an anchor on the lower wall in the forward end of the tubular barrel, said anchor having an inwardly and downwardly tapering upper surface thereby preventing the entanglement of the elastic bands, said wheel being polygonal with a projection projecting from each corner, said notches on the projections facing away from the barrel just prior to the release of an elastic band, said movement limiting means including a spring urged trigger pivotally mounted on said handle, said trigger having a pair of projections and an arcuate recess for positioning in the path of movement of the projections on the rotating wheel, with the lowermost projection on the trigger moving into the path of movement of the projections on the wheel when the uppermost projection on the trigger is disengaged from the wheel thereby limiting the pivotal movement of the wheel for each movement of the trigger, said barrel having a slot in said one end thereof for permitting passage of the projections downwardly past the said one end thereof for assuring removal of the elastic bands from the notches in the projections, said one end of the barrel extending beyond the notches in the projections when they pass through the slot.

References Cited in the file of this patent

UNITED STATES PATENTS

1,724,271	Fisher	Aug. 13, 1929
1,748,215	Fisher	Feb. 25, 1930
2,550,873	Siders	May 1, 1951