Dec. 21, 1954 J. V. McELVEEN 2,697,425

TOY GUN

Filed March 29, 1952

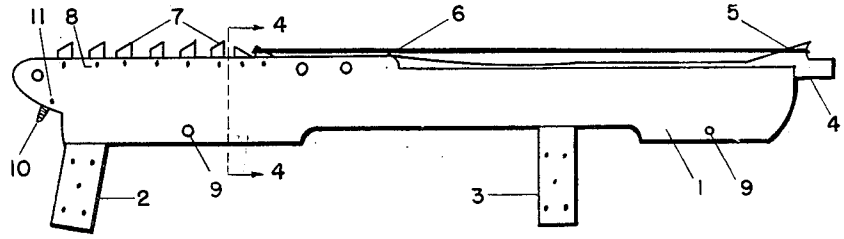


FIG. 1

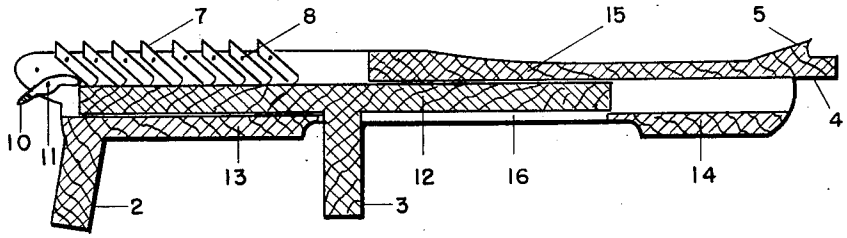


FIG. 2

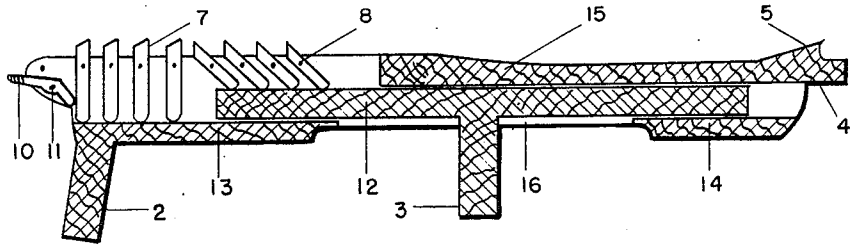


FIG. 3

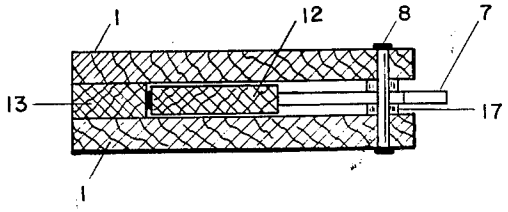


FIG. 4

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TOY GUN

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6 Claims. (Cl. 124—19)

This invention relates to toy guns adapted for the use of elastic bands as projectiles, more specifically, those designed to project a plurality of bands either singly or in rapid succession, simulating the "bursts" of an automatic weapon.

In guns with rotatable detents aligned longitudinally of the gun, the present development of the art requires that projection of the bands follow a sequence whereby the band engaged on the forwardmost detent is projected first and succeeding bands projected from detents aligned progressively to the rear, the band on the rearmost detent being projected last. This sequence of projection is required because bands engaged to the rear, if projected first, become lodged upon detents aligned in front. This is a shortcoming that has seriously limited the adaptability of longitudinally aligned rotatable detents for use in elastic band guns, for given this sequence of projection, loading of the bands encounters either one or the other of the following difficulties:

1. If the bands are engaged upon the detents in the same sequence as that in which they are projected, i. e., the first band being engaged upon the forwardmost detent, then the forward end of each band must be looped over a separate and individual surface at the muzzle end of the gun in order to prevent the bands from overlapping and entangling each other in projection, a complicated procedure, increasing in unwieldiness directly with the number of bands so engaged.

2. If the bands are engaged upon the detents in sequence reverse of the sequence in which they are projected, i. e., the first band being engaged upon the rearmost detent, then the bands may be looped over a common surface at the muzzle end of the gun, however, engagement of the bands upon the detents becomes extremely difficult since a band, once engaged upon a detent, partially, if not totally, obstructs access to the detents aligned in front.

With the above in mind, as well as other details that are explained herein, the objects of my invention are:

First, to provide a toy gun of the character described which may be loaded with a plurality of elastic bands and is equipped with means whereby the bands may be released and projected either singly or in rapid succession;

Second, to provide a toy gun of the character described which shall comprise few and simple parts, which shall be easy to assemble, rugged in construction, safe to use, easy to operate, and which is adaptable to a structure resembling in appearance conventional small-arms weapons;

Third, to provide in a toy gun of the character described, novel detaining and releasing mechanism in which the detents to stretched elastic bands are individually pivoted members aligned longitudinally of the gun, which, upon disengagement with an arrester, rotate forward and upward to project the bands, thus preventing the bands from becoming lodged or caught, during projection, upon detents aligned in front;

Fourth, to provide in a toy gun of the character described, detaining mechanism for stretched elastic bands upon which the bands may be engaged in sequence, the first band being engaged upon the forwardmost detent and succeeding bands engaged, progressively, on detents alined to the rear, the last band being engaged upon the rearmost detent, and releasing mechanism whereby the bands may be projected in sequence reverse of the sequence in which they are engaged;

Fifth, to provide in a toy gun of the character described, a stock designed to house and permit the proper functioning of the related parts.

With the above general objects in view, and others that will appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawing forming a part of this application and in which like designating numerals refer to corresponding parts throughout the several views:

Figure 1 is a side elevational view of a toy gun embodying my invention;

Figure 2 is a view similar to Figure 1, but having a side plate thereof removed disclosing the interior mechanism;

Figure 3 is a view similar to Figure 2, but showing the interior mechanism in a different stage of operation;

Figure 4 illustrates a sectional view along the line 4—4 of Figure 1, looking in the direction of the arrows.

Continuing now more in detail with the drawings, it will be noted that while the latter illustrate a facsimile of the sub-machine-gun type of weapon, other conventional weapons may be imitated without departing from the construction of parts employed and herein described.

The body and stock of the gun are formed by spaced plates 1. The rear grip is indicated by the numeral 2, the front grip by 3, the barrel by 4, and the sight by 5. The elastic bands 6, which constitute the projectiles, are looped over the front of the sight 5 and stretched and hooked over the retaining members 7 which are pivoted between the spaced plates 1 by retaining pins 8. The spaced plates 1 are secured by ordinary wood screws or rivets 9.

The pivoted members 7 are rotated to the cocked or loading position by downward pressure applied upon the cocking hammer 10 which pivots between the spaced plates 1 on the cocking hammer retaining pin 11. The serrated end of the cocking hammer 10 protrudes from between the spaced plates 1 in the rear of the gun where it can be conveniently operated by the thumb. The other end of the cocking hammer 10 rests against the rear edge of the rearmost pivoted member 7 in such position that when downward pressure is applied to the serrated end of the cocking hammer 10, the other end of the cocking hammer 10 pushes against the rearmost pivoted member 7 which rotates and in turn causes all pivoted members 7 to rotate to the cocked position. Thus must be done so that the arrester 12 may be engaged with the lower edges of the pivoted members 7, arresting their rotation and locking them in position to engage and retain stretched elastic bands.

In loading, the first elastic band is hooked or looped over the forward pivoted member 7 and succeeding bands are hooked progressively to the rear, the last being hooked on the rearmost pivoted member 7. This loading sequence must be followed because in shooting the gun the band on the rearmost pivoted member 7 is projected first and the band on the forwardmost pivoted member 7 is projected last, which is obvious in the several illustrations.

The arrester 12 has a path between the spaced plates 1 which is a channel formed by the rear arrester support 13, which is part of the rear grip 2, the front arrester support 14, and the arrester guide 15, a portion of which protrudes above the barrel forming the sight 5. Part of the arrester 12 protrudes through the slot 16 and provides the front grip 3.

In this channel provided between the spaced plates 1, the arrester 12 may be engaged and disengaged with the retaining members 7 by the rearward or forward movement of the front grip 3.

It will be noted in Figure 2 that when the arrester 12 is in its rearmost position, the pivoted members 7 are locked in a position whereby the lower portion of each rests upon the arrester and the upper portion of each protrudes above the surface of the gun inclined rearwardly, providing a series of surfaces that extend at right angles to the line of sight. Each of these surfaces will retain the loop end of a stretched elastic band.

To shoot the gun, when loaded as previously described,

the forward grip **3** is moved in the direction of the muzzle of the gun. This causes the arrester **12** to free the rotary movement of the pivoted members **7** permitting them to rotate and project the elastic bands **6**. It will be noted that it is not possible to cause the projection of any two or more elastic bands simultaneously; however, if the front grip **3** is moved forward rapidly, extremely rapid projection of the bands is effected.

Figure 3 shows the arrester **12** intermediate its forward and rear position. In the illustration the rearmost four pivoted members **7** have rotated to their release positions and the forwardmost four pivoted members **7** are still engaged with the body of the arrester **12**.

It will be noted that the pivoted members **7** are of such arrangement that in projecting the elastic bands the retaining surface raises the band above the level of the pivoted members **7** immediately in front. This prevents the bands from becoming lodged or caught during projection.

It will also be noted that the retaining pins **9**, which provide the fulcrums upon which the pivoted members **7** rotate, are much nearer the projecting surfaces than they are to the portion of said members that engages the arrester **12**. The increased leverage, thus provided, at the point of engagement of the pivoted members **7** with the arrester **12** reduces the downward pressure caused by the tension of the stretched elastic bands and reduces friction to a minimum. This principle parmits the arrester **12** to be operated quite easily even when the gun is loaded with elastic bands.

Figure 4, a vertical cross section of the gun looking in the direction of the arrows along the line **4—4** of Figure 1, shows a pivoted member **7** in the cocked position in relation to its retaining pin **8**, washers **17**, arrester **12**, rear arrester support **13**, and spaced plates **1**.

In manufacture, the pivoted members may be stamped or pressed from sheet metal or plastic. The spaced plates **1**, arrester **12**, arrester supports and guide, **13**, **14** and **15**, and the front grip **3** and rear grip **2**, while very adaptable to manufacture from wood, are also adaptable to fabrication from metal or plastic.

While there is described herein a preferred embodiment of my present invention, it is, nevertheless, to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:

1. A toy gun of the character described for shooting elastic bands comprising a pair of spaced plates, defining the body of a gun, a plurality of longitudinally aligned, pivoted members between said plates, their upper ends normally protruding above the stock of the gun and inclined rearwardly for retaining elastic bands engaged in stretched condition over the barrel of the gun, said pivoted members being partially rotatable, their upper ends describing a forward and upward arc for disengagement of said bands, an arrester traversing a path between said plates, slidably engageable and reversably disengageable with the lower ends of said pivoted members to arrest and, conversely, to free said pivoted members for consecutive, individual, partial forward and upward rotation, a protrusion on said arrester providing a grip for manual activation thereof, and a cocking lever aligned in the rear of said pivoted members providing means for rotating said members to position for engagement with said arrester.

2. A toy gun of the character described for shooting elastic bands comprising a pair of spaced plates, defining the body of a gun, a plurality of longitudinally aligned members pivoted between said plates, their upper ends normally protruding above the stock of the gun and inclined rearwardly for retaining elastic bands engaged in stretched condition over the barrel of the gun, said pivoted members being partially rotatable, their upper ends describing a forward and upward arc for disengagement of said bands; an arrester traversing a path between said plates, slidably engageable and reversably disengageable with the lower ends of said pivoted members, to arrest and, conversely, to free said pivoted members for consecutive, individual, forward and upward rotation, and means for engaging and disengaging said arrester with said pivoted members.

3. A toy gun of the character described for shooting elastic bands comprising a gun proper, a plurality of longitudinally aligned pivoted members on said gun, their upper ends normally protruding above the stock of the gun and inclined rearwardly for retaining elastic bands engaged in stretched condition over the barrel of the gun, said pivoted members being rotatable, their upper ends describing a forward and upward arc for disengagement of said bands; an arrester mounted on said gun, engageable and reversely disengageable with said pivoted members, to arrest and, conversely, to free said pivoted members for consecutive, individual, forward and upward rotation, and a protrusion on said arrester providing a grip for manual activation thereof.

4. A toy gun of the character described for shooting elastic bands comprising a gun proper, a plurality of longitudinally aligned members pivoted on said gun, their upper ends normally protruding above the stock of the gun and inclined rearwardly, an arrester engageable with the lower ends of said pivoted members, arresting said pivoted members in their normal state of protrusion above the stock of the gun, said arrester slidable from beneath said lower ends of said pivoted members to free said pivoted member for consecutive, individual, forward and upward rotation, and means to engage and disengage said arrester with said pivoted members.

5. A toy gun of the character described for shooting elastic bands comprising a gun proper, a plurality of longitudinally aligned members pivoted on said gun, their upper ends normally protruding above the stock of the gun and inclined rearwardly, said pivoted members being partially rotatable, their upper ends describing a forward and upward arc; means to arrest said pivoted members in their normal state of protrusion above the stock of the gun and, conversely, to free said pivoted members to consecutive, individual, partial forward and upward rotation, said means including an arrester, said arrester engageable with said pivoted members to arrest the same and disengageable to free said pivoted members for rotation.

6. A toy gun of the character described for shooting elastic bands comprising a gun proper, a plurality of longitudinally aligned members pivoted on said gun, their upper ends normally inclined rearwardly for retaining elastic bands engaged in stretched condition over the barrel of the gun; an arrester engageable with the lower ends of said pivoted members, arresting said pivoted members in normal position for engagement with said bands, said arrester slidable from beneath said lower ends of said pivoted members to free said pivoted members for consecutive, individual, forward and upward rotation.

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