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TOY PISTOL

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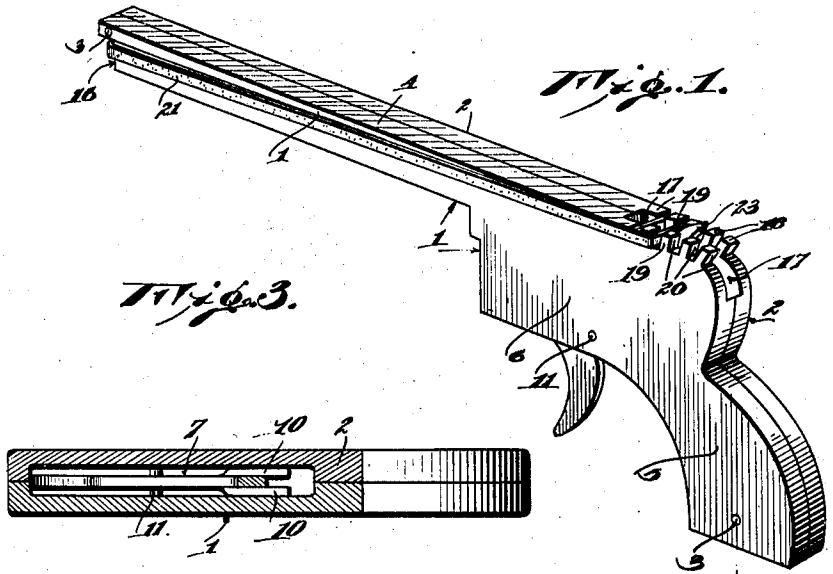


Fig. 1.

Fig. 2.

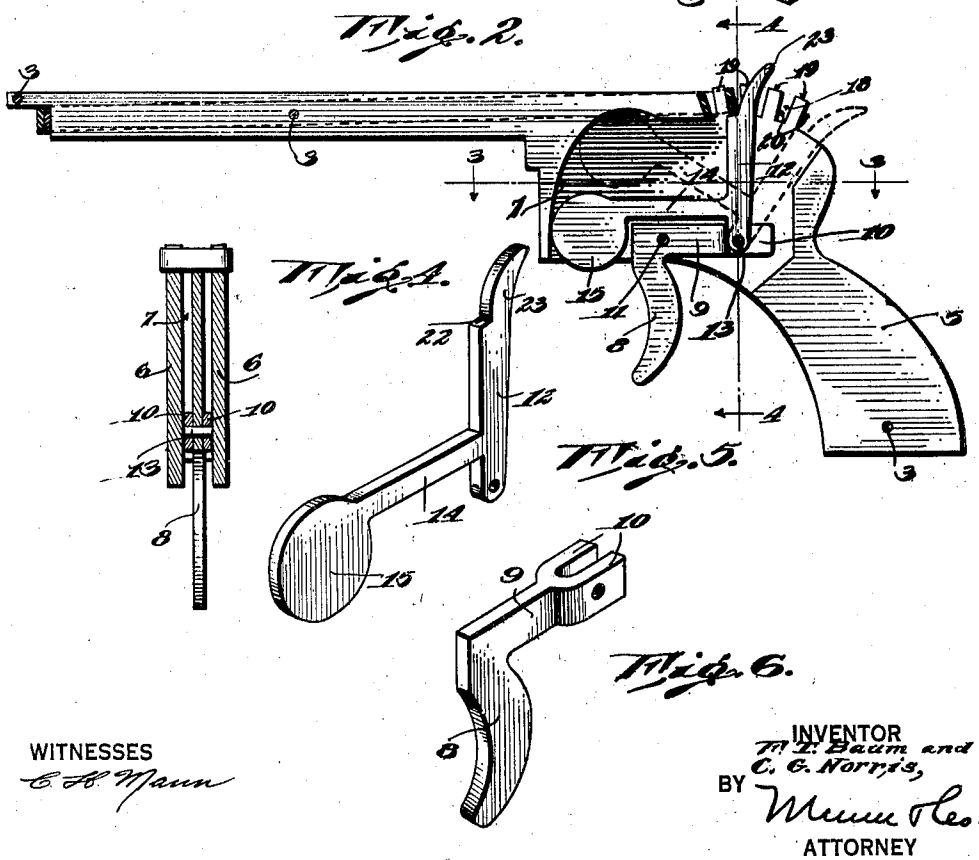


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

WITNESSES

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TOY PISTOL

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This invention relates to the toy art, and is particularly concerned with a toy of pistol conformation constructed and adapted to hold and "shoot" by release, a plurality of elastic bands held thereon under tension and successively releasable rapidly or at intervals as desired, the toy gun thereby having the properties of a "repeater" or magazine type toy.

A feature of the invention is the provision of a pistol form mount providing at its front end an anchoring abutment for the overlaid front ends of a series of elastic bands and rearwardly provided with a succession of fixed band tensioning abutments over which the rear ends of successive bands are drawn and held tensioned, with trigger or other manually operable means for releasing the tensioned ends of successive bands from said tensioning abutments.

In the specific embodiment presented, a trigger operated band releasing or "firing" pin is automatically positioned by release of firing pressure on the trigger for engagement with the tensioned ends of successive bands so that one or a rapid succession of "shots" may be "fired" as desired, the rate of and intervals between discharges being entirely under manual control.

The described and other features are more fully set forth in and will be more clearly apparent from the following detailed specification which is to be read in conjunction with the accompanying drawings forming part thereof and in which:—

Figure 1 is a perspective view of a toy pistol constructed in accordance with the present invention with two bands positioned thereon for firing.

Figure 2 is a central longitudinal vertical section therethrough.

Figure 3 is a transverse horizontal section through the "firing" chamber taken on line 3—3 of Figure 2.

Figure 4 is a vertical section through the "firing pin" and trigger taken on line 4—4 of Figure 3.

Figure 5 is a perspective detail of the firing pin and its positioning weight, detached from the pistol.

Figure 6 is a similar view of the trigger.

Referring to the drawings, it will be seen from Figures 1 and 2 that the body of the pistol is formed of complemental flat or substantially flat plates 1 and 2, which may be of stamped metal, or otherwise and variously formed, and appropriately joined as by pins 3 to provide a pistol shaped body having a flat top barrel 4, a handle grip 5, and an intermediate trigger and firing pin section 6. The abutting faces of the trigger sections 6 are recessed to form a chamber 7, Figures 2 and 3, within which the trigger and firing pin are mounted.

The trigger, best seen in Figures 2 and 6 is in the form of an angle arm having a lower vertical finger piece 8 and an integral rearwardly extending arm 9 formed with bifurcations 10 at its rear end. At the angular junction of the finger piece and arm, the trigger is pivotally hung in the chamber 7 on a pivot pin 11 whose ends are upset or riveted to the plates 1 and 2 and serve to join the trigger sections of these plates together. The bottom of these sections in line with the chamber 7 are slotted to permit the finger piece 8 to extend downwardly therebelow for engagement by the finger.

An upstanding firing pin is pivotally carried at its lower end between the bifurcations 10 of the trigger and is provided with a counter-weighted forwardly extending arm normally tending to move the upper end of the pin forwardly. As shown in Figures 2 and 4, the firing pin 12 has its lower end pivotally mounted on a pin 13 spanned and fixed to the bifurcations 10 and above its pivoted lower end is formed with an arm 14 extending forwardly over the arm 9 of the trigger and provided at a point forwardly of the end of said arm with a weighting enlargement 15 which normally tends to swing the upper end of the firing pin forwardly and acts also as a counter-weight for the trigger to return it to lowered position after firing pressure thereon is released.

The upper end of the firing pin 12 cooperates with the tensioned ends of elastic bands in the following manner. The forward end of the barrel section 4 is cut back below its upper

edge to form an anchoring abutment 16. The upper edge of the trigger sections 6 are slotted at 17 in line with the chamber recess 7 with the edges formed on a curve centered on the pivot 13 of the firing pin. The upper edges of these sections at opposite sides of the slot 17 are formed with transversely alining notches 18 providing a series of transversely alined upstanding and substantially radial fingers 19 whose rear faces forming tensioning and retaining abutments 20 spaced by the slot 17, which may vary in number. As shown, five retaining abutments are provided, and a series of five elastic bands 21 may be used. The front end of the first band is laid over the anchoring shoulder 16 and it is tensioned to permit its rear end to be slipped over the foremost abutment face 20. The front end of a second elastic band 21 is next laid over the front end of the first band and the anchoring abutment 16 and is tensioned to permit its rear end to be slipped over the next abutment face 20, and so on until the full "load" of bands has been applied.

The upper end of the firing pin at a point below its upper end and spaced from its pivot a distance corresponding with the radius of the curved upper edge of the slotted portion 17, is cut back rearwardly to form a band engaging shoulder 22 with a curved stop finger 23 extending upwardly and rearwardly of the shoulder. This upper end of the firing pin extends through the slot 17 and the surface of the finger at the shoulder 22 will engage the rear face of the elastic bands and position the shoulder 22 under their edges. In the mounting of the bands on the pistol stock over the tensioning abutment faces 20, the firing pin is tilted back beyond the rearmost abutment, as suggested in dotted lines in Figure 2, until the full complement or desired number of bands have been applied as described. It is then released and is moved by its counter weight 15 to bring its shoulder 22 under the edge of the rear end of the rearmost band 21. When the fingerpiece 8 of the trigger is pressed rearwardly, the firing pin will be lifted by its connection with the bifurcated rear end of the trigger arm and will lift the tensioned rear end of the rearmost band 21 above its retaining abutment face 20, thereby releasing it and permitting it to "shoot" forwardly. Pressure on the trigger finger 8 is released; the weight 15 quickly returns both firing pin and trigger to initial position with the shoulder 22 swung forwardly under the edge of the band 21 next forward in the series; the trigger finger is again pulled rearwardly repeating the band discharging action, and so on until the full "load" of bands has been discharged. These discharges may be effected singly or in as rapid succession as desired or as permitted by the return of the firing pin and trigger.

The construction provided lends itself to economical manufacture and while the particular form of the invention which we have disclosed and described, represents a preferable embodiment thereof, it is intended as illustrative rather than restrictive of the invention, the structural features of which are subject to modification and change in accordance with conditions of manufacture and use in consonance with the spirit of the invention and the scope of the amended claims.

What we claim, therefore, and desire to secure by Letters Patent is:

1. A toy pistol for shooting elastic bands comprising a pistol form body providing at its front end an anchoring abutment for the overlaid front ends of a series of elastic bands and provided rearwardly thereof with a succession of fixed band-tensioning and retaining abutments for the rear ends of successive bands, with a single manually operated means for releasing the tensioned ends of successive bands from said tensioning abutments.

2. A toy pistol for shooting elastic bands comprising a pistol form body providing at its front end an anchoring abutment for the front end of an elastic band and having an internal chamber rearwardly thereof, said body having its upper edge slotted in alinement with said chamber and provided with transversely alined band tensioning and retaining abutments spaced by and at opposite sides of said slotted edge to receive the tensioned rear end of the elastic band, and a releasing member mounted within said internal chamber for extension through said slotted edge between said spaced abutments to engage and lift the rear tensioned end of a band above said retaining abutments.

3. A toy pistol for shooting elastic bands comprising a pistol form body providing at its front end an anchoring abutment for the front end of an elastic band and having an internal chamber rearwardly thereof, said body having its upper edge slotted in alinement with said chamber and provided with transversely alined band tensioning and retaining abutments spaced by and at opposite sides of said slotted edge to receive the tensioned rear end of the elastic band, and means mounted within said internal chamber for extension through said slotted edge between said spaced abutments to engage and lift the rear tensioned end of a band above said retaining abutments, said means including a band engaging and lifting element, and a connected manually operable actuator therefor projecting from said body.

4. A toy pistol for shooting elastic bands comprising a pistol form body provided at the front end of a barrel section with an anchoring abutment for the overlaid front ends of a series of elastic bands, and provided on its upper edge rearwardly of said barrel section with a longitudinal series of fixed band-tensioning and retaining abut-

ments for the rear ends of successive bands, and a single manually operable means for lifting and successively releasing from said longitudinal series of abutments from rear to front of the series, the tensioned rear ends of successive bands retained thereon.

5. A toy pistol for shooting elastic bands comprising a pistol form body providing at the front of its barrel section, an anchoring abutment for the overlaid front ends of a series of elastic bands, and provided rearwardly of said barrel section with a longitudinally spaced series of fixed band tensioning and retaining abutments over which the tensioned rear ends of successive bands are placed, and means for successively lifting and releasing from said abutments the tensioned rear ends of consecutive bands retained thereby comprising a movable band engaging and lifting member and a connected actuating trigger, with means operative automatically to move said member to engage with the next successive band end after an actuation of said trigger moves said member to release a band.

6. A toy pistol for shooting elastic bands comprising a pistol body formed of complemental substantially flat plates of pistol contour joined to form a barrel portion at one end, a hand grip at the other end, and formed on their inner faces intermediate of barrel and hand grip to provide an internal chamber with alined communicating slots in its upper and lower edges, the front end of the barrel portion having an anchoring abutment for the overlaid front ends of a series of elastic bands and the upper edge of said intermediate portion at opposite sides of the slot therein having a longitudinally extending series of transversely alined pairs of band tensioning and retaining abutments spaced by said slot and adapted to receive and retain the tensioned rear ends of successive bands whose front ends are anchored for tensioning on said barrel abutment, a band engaging and lifting member housed in said chamber with its upper end projectible through said abutment spacing slot to engage and lift from said abutments the tensioned rear ends of successive bands retained thereon, and a connected actuator therefor having a trigger portion depending from said lower slotted edge of the pistol body.

7. A toy pistol for shooting elastic bands comprising a pistol body formed of complemental substantially flat plates of pistol contour joined to form a barrel portion at one end, a hand grip at the other end, and formed on their inner faces intermediate of barrel and hand grip to provide an internal chamber with alined communicating slots in its upper and lower edges, the front end of the barrel portion having an anchoring abutment for the overlaid front ends of a series of elastic bands and the upper edge of said intermediate portion at opposite sides of the slot therein having a longitudinally extending series of transversely alined pairs of band tensioning and retaining abutments spaced by said slot and adapted to receive and retain the tensioned rear ends of successive bands whose front ends are anchored for tensioning on said barrel abutment, a band engaging and lifting member housed in said chamber with its upper end projectible through said abutment spacing slot to engage and lift from said abutments the tensioned rear ends of successive bands retained thereon, and a connected actuator therefor having a trigger portion depending from said lower slotted edge of the pistol body, and means within said chamber connected to said lifting member and normally effective progressively to move the upper band-engaging end of said member progressively forward from the rearmost retaining abutment into lifting engagement with the next forward band end.

8. A toy pistol for shooting elastic bands comprising a pistol body formed of complemental substantially flat plates of pistol contour joined to form a barrel portion at one end, a hand grip at the other end, and formed on their inner faces intermediate of barrel and hand grip to provide an internal chamber with alined communicating slots in its upper and lower edges, the front end of the barrel portion having an anchoring abutment for the overlaid front ends of a series of elastic bands and the upper edge of said intermediate portion at opposite sides of the slot therein having a longitudinally extending series of transversely alined pairs of band tensioning and retaining abutments spaced by said slot and adapted to receive and retain the tensioned rear ends of successive bands whose front ends are anchored for tensioning on said barrel abutment, an actuating trigger pivotally mounted in said chamber having a depending finger piece extending through the alining slot in its lower edge and an arm extending rearwardly of said chamber, a band engaging and lifting member pivotally mounted at its lower end on said trigger arm and having a shouldered upper end projectible through said abutment spacing slot to engage and lift from said abutments the tensioned rear ends of successive bands retained thereon, an arm extended forwardly from said lifting member, and means connected with said arm effective to move the upper band engaging end of said member progressively forward from the rearmost pair of band retaining abutments into lifting engagement with the next forward band end after said member has been projected upwardly by rearward pull of the trigger finger piece to release an engaged band end from its retaining abutment, said means being coincidently and automatically operative to re-

turn the trigger and lifting member to initial lowered position.

9. A toy pistol for shooting elastic bands comprising a pistol body formed of complemental substantially flat plates of pistol contour joined to form a barrel portion at one end, a hand grip at the other end, and formed on their inner faces intermediate of barrel and hand grip to provide an internal chamber with alined communicating slots in its upper and lower edges, the front end of the barrel portion having an anchoring abutment for the overlaid front ends of a series of elastic bands and the upper edge of said intermediate portion at opposite sides of the slot therein having a longitudinally extending series of transversely alined pairs of band tensioning and retaining abutments spaced by said slot and adopted to receive and retain the tensioned rear ends of successive bands whose front ends are anchored for tensioning on said barrel abutment, an angled trigger member pivotally mounted within said chamber at the junction of its angled sides having a finger piece arm depending through the slot in the lower edge of said pistol body and a rearwardly extending arm within said chamber, an upstanding lifting member pivoted at its lower end on said rearwardly extending trigger arm and projected upwardly through the abutment-spacing slot in the upper edge of the pistol body with its upper end provided with a shouldered front edge positioned to underlie the lower edges of the tensioned rear ends of bands retained on said abutments, said lifting member having an arm extending forwardly over and beyond the rearward arm of said trigger and provided with a weighted end effective and normally tending to swing the upper band engaging end of said arm progressively forward from the rearmost pair of bands retaining abutments to bring its shouldered upper end into engagement with successive forward band ends after each lifting band releasing movement imparted to said member by rearward movement of said trigger fingers, said weighted arm functioning automatically upon release of trigger pressure to lower said trigger arm and lifting member to their initial positions for successive band releasing actuations.

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