O. S. JONES.

TOY GUN.

APPLICATION FILED DEC. 11, 1912.

1,063,803.

Patented June 3, 1913.

3 SHEETS—SHEET 1.

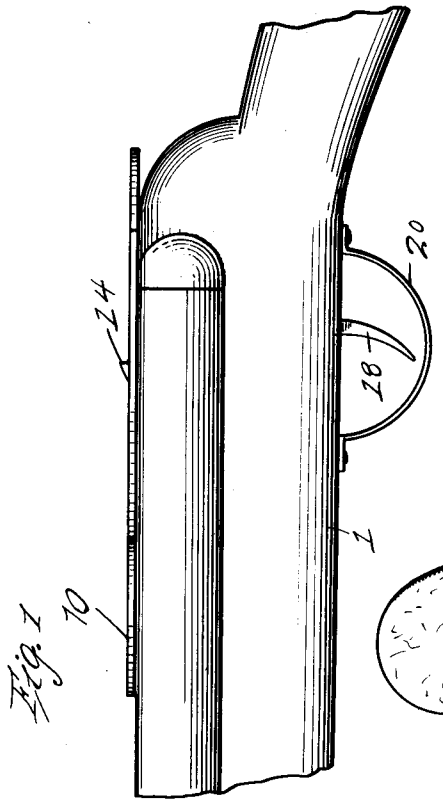

Fig. 1

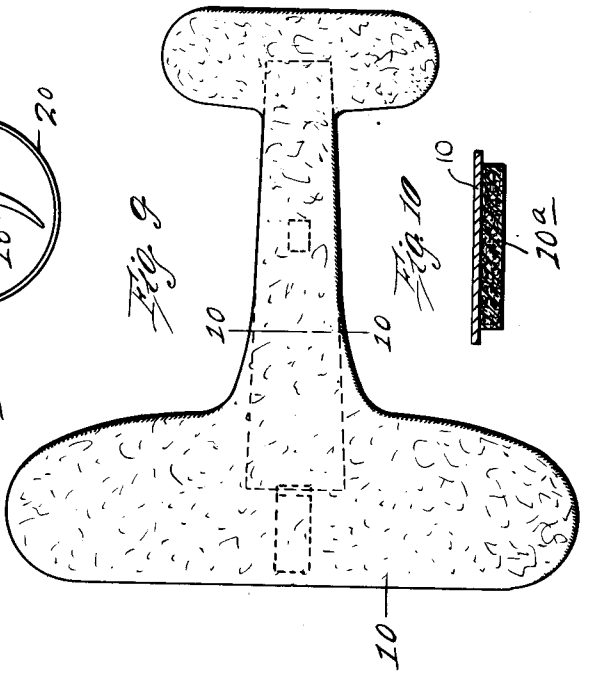

Fig. 9

Fig. 10

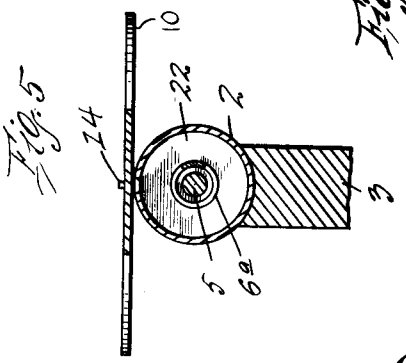

Fig. 5

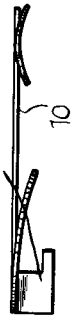

Fig. 11.

Witnesses

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3 SHEETS—SHEET 2.

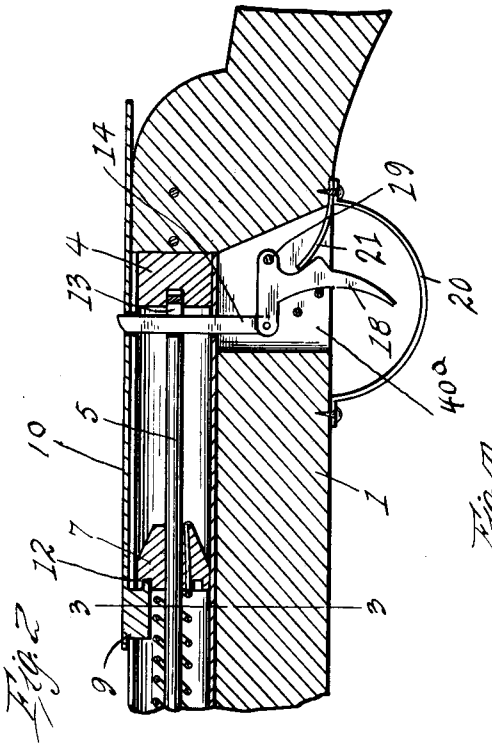


Fig. 2

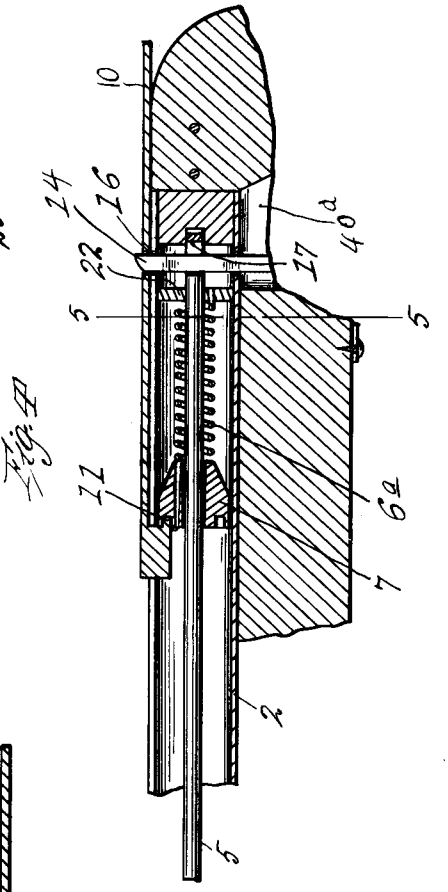
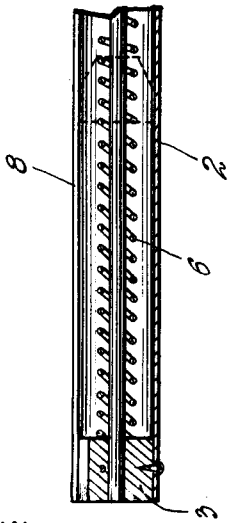


Fig. 4



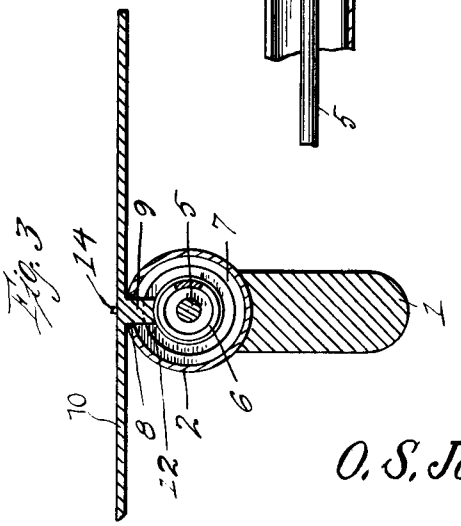


Fig. 3

Witnesses

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3 SHEETS—SHEET 3.

Fig. 6

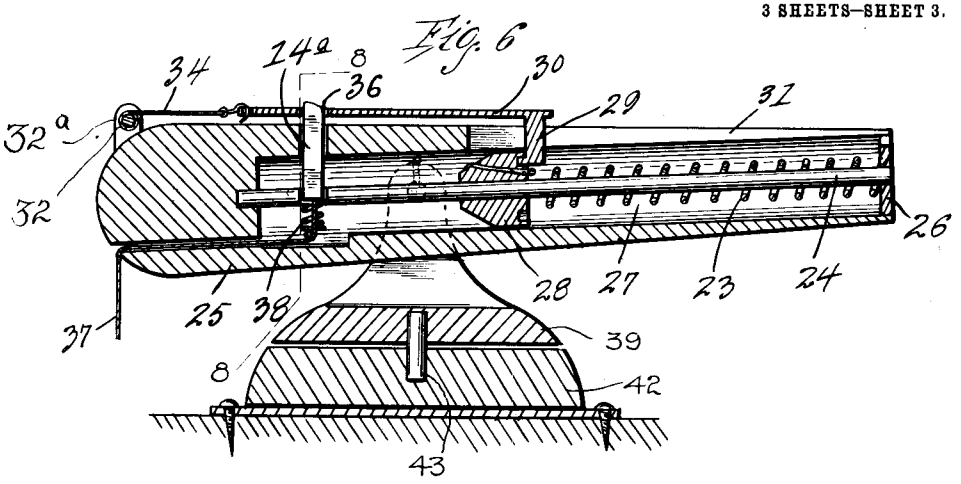
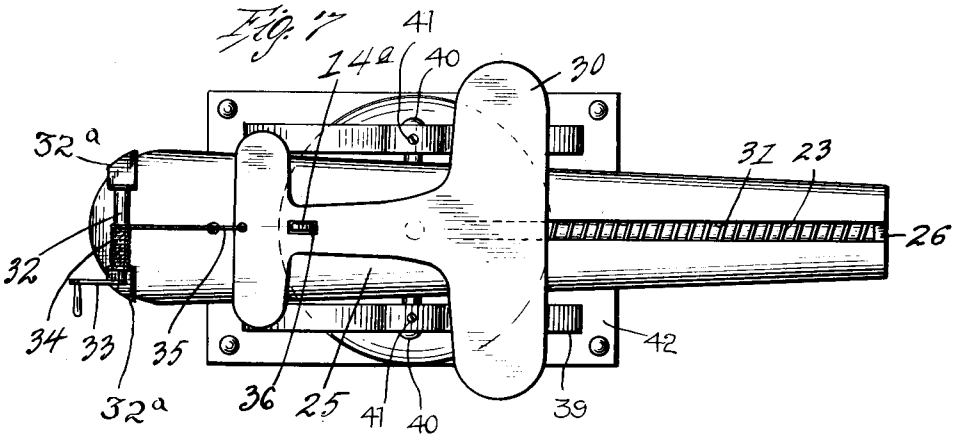


Fig. 7



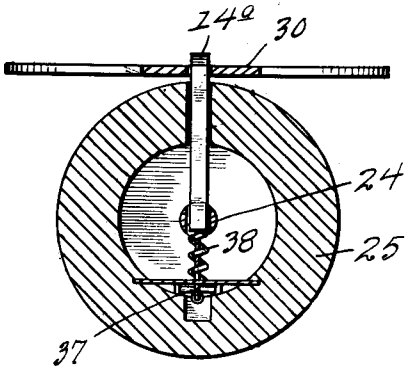


Fig. 8

Witnesses

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UNITED STATES PATENT OFFICE.

OSCAR S. JONES, OF UTICA, NEW YORK, ASSIGNOR OF SEVENTEEN ONE-HUNDREDTHS TO CHARLES K. GETCHELL, SEVENTEEN ONE-HUNDREDTHS TO CHARLES D. GETCHELL, AND SEVENTEEN ONE-HUNDREDTHS TO C. FIELD FRANK, ALL OF SCHENECTADY, NEW YORK.

TOY GUN.

1,063,803. Specification of Letters Patent. Patented June 3, 1913.

Application filed December 11, 1912. Serial No. 736,191.

To all whom it may concern:

Be it known that I, OSCAR S. JONES, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Toy Guns, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in toys of the aerial type and relates particularly to an improved spring gun, by which term it is to be understood pistols and the like are included.

This invention has for its primary object a simple, durable and efficient construction of a gun of this character, the parts of which may be cheaply manufactured and readily assembled and not liable to get out of order.

This invention has also for one of its main objects an improved spring actuated gun designed to project a toy aeroplane or glider which will soar upon pulling the trigger of the gun, thereby being of considerable interest and affording amusement.

A further object of the invention is to provide a device of this character which may be easily operated by a child and which, when the invention is embodied in the form of a cannon, or the like, including a relatively strong spring, may also be easily operated without any great manual exertion, by instrumentalities and mechanical accessories which will be hereinafter more specifically described.

The invention also aims to generally improve devices of this character so as to render them more useful and commercially desirable.

With this and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which,

Figure 1 is a side elevation of one form or embodiment of my invention, partly broken away to economize space. Fig. 2 is a longitudinal sectional view of such embodiment also broken away. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is a longitudinal sectional view of another embodiment of the invention. Fig. 5 is a transverse section on the line 5—5 of Fig. 4. Fig. 6 is a longitudinal sectional view of still another form of the invention, hereinafter specifically described. Fig. 7 is a plan view thereof. Fig. 8 is a transverse sectional view on the line 8—8 of Fig. 6. Fig. 9 is a detail plan view of the toy aeroplane or glider. Fig. 10 is a transverse section thereof on the line 10—10 of Fig. 9, and Fig. 11 is a detail side elevation of one form of glider or projectile which may be employed.

Corresponding and like parts are referred to hereinafter in the following description and designated in the different views of the accompanying drawings by like reference characters.

In that embodiment of my invention which is illustrated in Figs. 1, 2 and 3, the device is in the form of a gun (although it is to be understood that it may be embodied, with substantially the same construction and arrangement of parts in a pistol or carbine, the device including a stock 1 and a cylindrical barrel 2 which may be secured to the stock in any desired way. Within the forward end of the barrel 2, a block 3 is secured by fastening devices of any desired character, and a similar block 4 is secured in the rear end of the barrel, as clearly illustrated in Fig. 2. A longitudinally extending rod 5 disposed in the central axis of the barrel 2 is supported at its ends by the blocks 3 and 4 and is encircled by a contractile spring 6, the forward end of the spring being secured to the block 3 and the rear end of the spring being secured to the sliding member 7 in the form of a block or spool mounted for a longitudinal movement on the guide rod 5. The barrel 2 is formed on its upper side with a longitudinally extending slot 8 in which the guide lug 9 of the toy aeroplane or glider 10 is adapted to fit and move, said lug being formed with a rearwardly projecting nib 11 adapted to detachably fit within a recess 12 formed in the forward face of the sliding block 7. Preferably, the recess 12 is in the form of an annular groove, whereby the nib 11 will fit therein irrespective of the precise axial po-

sition of the sliding block 7. The aeroplane 10 may be of any desired type, within the scope of my invention and in the present instance is illustrated as a monoplane with forward laterally extending wings and a laterally elongated tail connected to the wings by a longitudinally elongated body portion. The supporting or guiding rod 5 is formed at its rear end with a longitudinal slot 13 accommodating the latch bar 14 which projects upwardly therethrough and which protrudes at its upper end through an opening 15 formed in the upper side of the barrel 2. The upper projecting end of the latch 14 is designed for engagement in an aperture 16 formed in the body portion of the aeroplane 10. Preferably, in order to prevent the slot 13 from contracting and thereby binding upon the latch 14, I insert a spacer 17 within the rear end of the slot, it being understood that for convenience in manufacture, said slot is formed by cutting into the rear end of the guide rod. The lower end of the latch 14 is pivotally connected to the trigger 18, said trigger being pivotally mounted or fulcrumed, as at 19, within the chamber formed, as at 40^a, in the stock 1, the lower projecting end or finger piece of the trigger being protected by the usual or conventional finger guard 20 which is secured to the stock 1 by screws or similar fastening devices, one of which also holds in place the trigger actuating spring 21 clearly illustrated in Fig. 2. From as much of the description as has preceded, in connection with the correlated views of the accompanying drawings, the operation of this form or embodiment of my invention will be apparent. In the practical use of the device, the lug 9 of the aeroplane 10 is inserted in the barrel 2 through the forward end of the slot 8 and the nib 11 of said lug is engaged in the sliding block 7. By grasping the tail of the aeroplane, or otherwise, it is manifest that the block 7 may be pulled rearwardly in the barrel so as to place the spring 6 under tension. As soon as the aeroplane has been drawn back far enough, the upper projecting end of the latch 14 is caused to engage with the rear wall of the opening 16 in the aeroplane and the gun is then set ready for firing. The rearward pressure of the operator's finger upon the trigger 18 will obviously draw the latch 14 downward and thereby release the aeroplane, whereupon the spring 6 will be permitted to act and will instantly draw the sliding block 7 forward so as to project the aeroplane from the forward or muzzle end of the barrel and cause it to soar or glide.

It is to be understood that my invention is not limited to the use of a contractile spring, to an embodiment in a gun or pistol, or in any wise except as required by the scope of the appended claims, as various changes may be made in the construction and arrangement of the parts without departing from the spirit of the invention. For example, I may use, instead of a contractile spring 6, an expansion spring 6^a, as clearly illustrated in Figs. 4 and 5, one end of the spring 6^a bearing against the sliding block 7 and the other against the abutment wall 22 fixed in any desired way within the rear end of the barrel 2. In view of the foregoing description, the operation of this form or embodiment of my invention will be at once evident.

Referring now to that embodiment of my invention which is illustrated in Figs. 6, 7, and 8, it will be noted that the invention is applicable for embodiment in a cannon or the like as well as in the form of a gun or pistol. When the invention is embodied in the form of a cannon, it is naturally to be assumed that it will be made larger than when embodied in a gun or pistol, and consequently, when it is made larger, the spring would be made stronger and require greater power to place it under tension. Specifically describing that form of the invention which is illustrated in Figs. 6 to 8, inclusive, it will be seen that the actuating coiled spring 23 encircles the guide rod 24 which is secured at its rear end in any desired way within the cannon 25 and at its forward end in a holding member 26 secured in any desired way within the forward end of the bore 27 of the cannon. The forward end of the spring 23 is secured to the member 26 and the rear end of the spring is connected to the sliding block 28 formed for detachable engagement by the lug 29 of the aeroplane or glider 30, said lug being movable within the slot 31. Now, in order to facilitate the setting of the device just hereinbefore referred to, I preferably provide a transversely extending shaft 32 which is journaled in bearings 32^a formed in or secured to the butt end of the cannon, said shaft being provided with a handle 33 or similar actuating device and having a cord 34 mounted to wind thereon. One end of this cord is connected to a hook 35, which is designed to engage in an aperture formed on the tail end of the aeroplane, here designated 30. Manifestly, by turning the shaft 32 and the winding of the cord 34 thereon, the aeroplane may be drawn rearward so as to engage with the latch 14^a to hold the cannon in set position ready for firing. By using the cord on the winding shaft, it is obvious that less manual exertion will be required to place the spring 23 under tension than if it were necessary to directly grasp the rear end of the aeroplane and draw the same rearward in the same manner described in connection with the form of the invention illustrated in Figs. 1 and 2.

As clearly illustrated in Fig. 6, I may use in this embodiment of my invention, in-

stead of the trigger and its connected parts, a lanyard 37 so as to more nearly simulate the appearance and operation of a cannon. One end of the lanyard is connected directly to the latch 14ª and the latter is normally held in its upper operative position by means of a spring 38, as clearly illustrated in Figs. 6 and 8. In order to adapt the aeroplane for use over a lake, pond or any similar body of water, I may make it buoyant in any desired way. For example, as past illustrated in Figs. 9 and 10, I may secure to the elongated body portion, a section of cork, wood, or other buoyant substance whereby the device will float when it lights on the water.

Preferably, the cannon is mounted upon a carriage 39, as illustrated in Figs. 6 and 7, by means of trunnions 40, whereby it may be directed to different inclinations. Set screws 41 are preferably provided for holding the cannon at the desired inclination. In order that the cannon may be turned around on its support, the carriage is preferably mounted upon a base 42, by means of a dowel pin or axis 43.

From the foregoing, in connection with the accompanying drawings, it will be seen that I have provided a very simple toy which may be used in a set for playing games such as mimic warfare or merely projecting an aeroplane or the like, and that the device is a simple one in all of its embodiments and capable of being easily operated and not liable to get out of order.

It is to be understood that wherever, in the appended claims, the term "barrel" is used, such term is to include not only a cylindrical member like the barrel 2 secured to the stock 1, but also the cannon illustrated in Figs. 6, 7 and 8 or any equivalent member.

What I claim is:—

1. A device of the character described, including a barrel provided with a longitudinal slot, a longitudinally extending rod axially supported within the barrel, a sliding member mounted within the barrel and movable on said rod, a spring mounted within the barrel and operatively connected to said sliding member to move the same toward the muzzle end of the barrel, a projectile above the barrel and having a portion extended through the barrel slot and engaged with the sliding member, and releasable means for holding the projectile and sliding member in a predetermined position with the spring under tension.

2. A device of the character described, including a barrel formed with a longitudinal slot, a sliding member mounted within the barrel, a spring also mounted within the barrel and operatively connected to the sliding member to move the same toward the muzzle end of the barrel, a projectile movable along the barrel and provided with a portion accommodated in said slot and adapted to engage the sliding member, the projectile being formed with an opening, a latch extending through the barrel and adapted to engage in said opening to hold the projectile and the sliding member with the spring under tension, and means connected to the latch for retracting the same.

3. A device of the character described, including a barrel formed with a longitudinal slot, a rod disposed axially in the barrel and formed at its rear end with a slot, a latch movable in the slot of said rod and adapted to protrude from the barrel, a sliding member movable in the barrel and on said rod, a spring mounted within the barrel and operatively connected to said sliding member to move the latter toward the muzzle end of the barrel, a projectile movable along the barrel and having a depending lug extending into the barrel through said slot and engageable with the sliding member, the latch being adapted to engage the projectile to hold the latter and the sliding member in a predetermined position with the spring under tension, and means connected to the latch for disengaging it from the projectile.

4. A device of the character described, including a barrel provided with a longitudinal slot, a rod disposed axially in said barrel, a sliding member mounted within the barrel and movable on said rod, a spring mounted within the barrel and operatively connected to the sliding member to move the same toward the muzzle end of the barrel, the sliding member being formed with a recess, a projectile movable along the barrel and having a lug extending into the barrel and movable in said slot, the lug being formed with a rearwardly projecting nib engageable with the recess of the sliding member, a latch mounted within the barrel and engageable with the projectile to hold it in a predetermined position with the spring under tension, and means connected to the latch for disengaging it from the projectile.

5. A device of the character described, including a barrel formed with a longitudinally extending slot, a sliding member mounted within the barrel and formed in its front face with an annular recess, a spring mounted within the barrel and operatively connected to the sliding member to move the same toward the muzzle end of the barrel, a projectile movable along the barrel and having a depending lug adapted to extend through the slot into the barrel, the lug being formed with a rearwardly projecting nib engageable in said annular recess, and releasable means adapted to engage the projectile to hold the latter in a predetermined position with the spring under tension.

6. A device of the character described, including a barrel, a sliding member mounted within the barrel, a spring operatively connected to the sliding member to move the latter toward the muzzle end of the barrel, a projectile movable along the barrel and having a depending lug engageable with the sliding member, a transverse shaft carried by the barrel, a cord mounted to wind on said shaft, a hook connected to said cord and detachably engageable with the projectile, and releasable means adapted to engage the projectile to hold the latter in a predetermined position with the spring under tension.

7. A device of the character described, including a barrel formed with a longitudinal slot, a sliding member mounted within the barrel and having a recess in its forward face, a spring operatively connected to the sliding member to move the latter toward the muzzle end of the barrel, a projectile movable along the barrel and provided with a depending lug movable in said slot and engageable in the recess of said sliding member, releasable means adapted to engage the projectile to hold the latter in a predetermined position with the spring under tension, a transversely extending shaft carried by the barrel at the butt end thereof, a crank handle connected to said shaft to turn the same, a cord mounted to wind on said shaft, and a hook carried by said cord, the projectile being formed with an aperture for the reception of said hook.

8. A device of the character described, including a barrel, a projectile in the form of an aeroplane movable along the barrel, a sliding member mounted in the barrel and having a recess, said projectile having a lug engageable in the recess, a spring operatively connected to the sliding member to move the same toward the muzzle end of the barrel, and means carried by the barrel and engageable with the aeroplane to hold the latter in a predetermined position with the spring under tension.

9. A device of the character described, including a barrel, a rod extending longitudinally within the barrel and centrally disposed therein, the barrel being formed with a longitudinal slot and the rod being formed at its rear end with a slot, a sliding member movable within the barrel and on said rod, a spring mounted within the barrel and operatively connected to the sliding member to move the latter toward the muzzle end of the barrel, a projectile movable along the barrel and having a depending portion extending into the barrel through said slot and engageable with the sliding member, a latch extending through and movable in the slot of said rod and adapted to protrude from the barrel for detachable engagement with said projectile, and means connected to said latch for retracting the latter.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

OSCAR S. JONES.

Witnesses:

CHAS. D. GETCHELL,

JULIA M. WILLIAMS.