



# UNITED STATES PATENT OFFICE.

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## TOY CANNON.

SPECIFICATION forming part of Letters Patent No. 632,005, dated August 29, 1899.

Application filed April 15, 1899. Serial No. 713,104. (No model.)

*To all whom it may concern:*

Be it known that I, EDMUND J. BOWEN, a citizen of the United States, residing in the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Toy Cannons, of which the following is a specification.

This invention relates to toy guns or cannons wherein a spring-piston when released expels the projectile; and the object is to provide a simple and inexpensive trigger device for holding the piston drawn back when the firing-spring is compressed.

In this class of toys it is essential that the construction shall be simple, effective, not liable to derangement, and, above all, inexpensive, as the goods are sold at very low prices. Hence the trigger device of the present invention is designed expressly to meet all of these requirements.

In the accompanying drawings the invention is illustrated as applied to a toy cannon made from wood in the most simple and inexpensive manner.

Figure 1 is a sectional side elevation of the cannon, and Fig. 2 is a rear elevation thereof. Figs. 3 and 4 show slight variations in the arrangement of the form of trigger seen in Fig. 2.

A represents the cannon mounted on a carriage B, furnished with wheels C. Within the bore of the cannon is a simple spiral firing-spring D, through which extends the rod E of the piston F. This rod plays through a hole in the breech of the cannon and bears on its outer end an operating-knob *e*, which simulates the cascabel-knob of a cannon. G is a projectile of any kind to be expelled by the piston F. All of these features, together with some means for holding the piston and rod in the position seen in Fig. 1, ready for firing, are well known in this class of toys.

This invention relates to the particular means or trigger device for holding the piston drawn back with the firing-spring compressed, as in Fig. 1, and for releasing said piston, so that the spring may act; and this trigger device will now be described.

H is a gravity-trigger, which may be con-

veniently cut from sheet metal and provided with a hole at one end to fit loosely on a headed pivot-pin *h*, which passes through the hole in the trigger and is driven into the rear end of the cannon. The pin is situated with respect to a horizontal plane *x* in Fig. 2, passing through the axis of the cannon, so as to be above said plane and to one side of a vertical plane *y* in Fig. 2, passing through said axis, and preferably so as to be in a plane oblique to and nearly midway between said planes. This trigger engages by gravity a shoulder *e*<sup>x</sup> on the rod E when the said rod is drawn out to the position seen in Fig. 1, and thus serves as a detent. To fire the gun, the free end of the trigger is pressed upward far enough to free the trigger from said shoulder *e*<sup>x</sup>, when the spring will act on the piston to fire the projectile.

The trigger seen in Figs. 1 and 2 is made disk-like and has a slot to engage the rod E. This slotted construction prevents the trigger from being thrown clear over when pressing it upward.

It will be noted that the slot in the trigger not only provides a detent to engage the shoulder on the piston-rod, but also a part of the trigger to engage the said rod at its opposite side, and thus limit the movement of the trigger at the moment of firing.

Fig. 3 shows the same construction as Fig. 2, except that the thumb-piece *h*<sup>x</sup> of the trigger is placed on the opposite side and the pressure is downward to release the piston, and Fig. 4 is the same as Fig. 3, except that the thumb-piece and pivot are at the right instead of the left side. In these views, *h*<sup>'</sup> designates the slot in the trigger.

In Figs. 2, 3, and 4 the knob *e* is broken away the better to show the engagement of the trigger with the shoulder on the rod E.

I am aware that spring-detents of various kinds have been employed to accomplish this object; but they are not so simple and inexpensive as the gravity device described. A spring device is not easy to fix to the breech of the gun, and it is apt to become bent or "set," so as not to operate when it should. The loose free gravity-trigger shown may be



secured to the gun or cannon by one simple pin and may be stiff and relatively heavy, so as not to get out of order.

Having thus described my invention, I  
5 claim—

1. In a toy cannon of the character described, the combination with the piston, its rod provided with a shoulder, and the firing-spring, of a gravity-trigger pivoted on the  
10 cannon and adapted to engage the shoulder on the said rod when the latter is drawn out, said trigger having a part which engages the said rod on the side opposite to the shoulder thereon which limits the movement of the  
15 trigger when the cannon is discharged, substantially as set forth.

2. In a toy cannon of the character described, the combination with the piston, its rod, and the firing-spring, of a gravity-trigger  
20 pivoted on the breech of the cannon and having in it a slot  $h'$ , through which the piston-

rod plays and a thumb-piece  $h^x$ , said trigger engaging by gravity a shoulder on the said rod when the latter is drawn out, substantially as set forth.

3. In a toy cannon of the character described, the combination with the piston, its rod, and the firing-spring, of a gravity-trigger pivoted on the cannon and adapted to engage  
25 a shoulder on the said rod when the latter is drawn out, said trigger having a part which takes under said rod and limits the upward  
30 movement of the trigger when the cannon is discharged, substantially as set forth.

In witness whereof I have hereunto signed  
35 my name, this 12th day of April, 1899, in the presence of two subscribing witnesses.

EDMUND J. BOWEN.

Witnesses:

JOHN F. SULLIVAN,  
MICHAEL BIRMINGHAM.