E. & A. Buckman,

Toy Gun.

No. 107,442. Patented Sept. 20. 1870.

Fig. 1

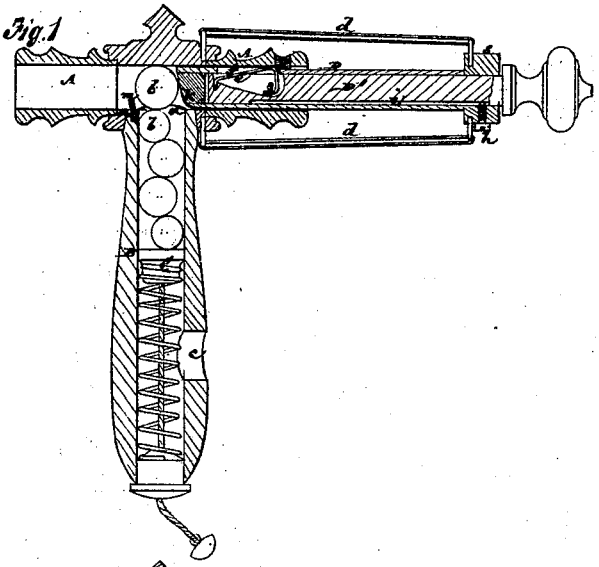
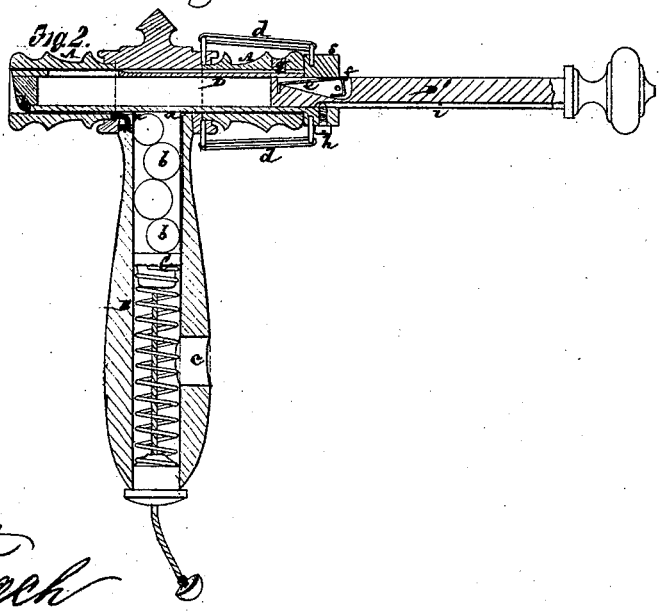


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD BUCKMAN AND ALEXANDER BUCKMAN, OF BROOKLYN, N. Y.

IMPROVEMENT IN TOY GUNS.

Specification forming part of Letters Patent No. **107,442**, dated September 20, 1870; antedated September 5, 1870.

To all whom it may concern:

Be it known that we, EDWARD BUCKMAN and ALEXANDER BUCKMAN, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Toy Guns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 represent vertical longitudinal sections of a toy gun constructed in accordance with our improvement, showing the plunger in different positions.

Similar letters of reference indicate corresponding parts.

In our improved toy gun, which is the subject of this specification, the barrel of the gun has connected with it a magazine for the projectiles arranged to lie in a crosswise direction to the barrel, and serving to form a handle whereby to hold the gun. The projectiles, which may be marbles or other like articles, are entered within the magazine through a hole in the side of the latter, and are fed up into the barrel, one by one, through the action of a spring-follower upon the plunger, which ejects them, being drawn back, so as to uncover a supply-aperture connecting the magazine with the barrel. The plunger is of a compound description, the same being formed in two parts, the one of which fits or slides within the other, and is connected with the outer section by a spring, that in drawing back the entire plunger is depressed by coming in contact with a projection in the barrel, whereby the outer plunger, section is released and caused by the action of an outside spring or springs to fly forward into the barrel and eject the projectile.

The improvement also embraces certain peculiarities in the construction of the details, including a peculiar form of the plunger at its nose or firing end, whereby in using projectiles of varied sizes but one can be ejected at a time, although two be fed by the magazine into the barrel; also including a spring-stop to prevent the dropping out of the projectile from the barrel prior to the gun being discharged.

Referring to the accompanying drawings, A represents the barrel of the gun, and B its magazine, arranged to lie at right angles to the barrel intermediately of the length of the latter, and connecting therewith by an aperture, *a*. Said magazine, which also serves as a handle whereby to hold the gun, is charged with marbles or projectiles *b b* through a hole, *c*, in its side, near its bottom, on drawing down or back a spring-follower, C, that operates to feed up the projectiles into the barrel of the gun on the discharging-plunger being drawn back so as to uncover the aperture *a*.

The plunger is composed of two leading parts—namely, an outer tubular or discharging section, D, made to freely fit the barrel A, and operating to eject the projectile therefrom by the agency of a spring or springs, *d*, when released for the purpose after being drawn back. These springs may be india-rubber bands or straps that are stretched on drawing back the plunger and contract to give the necessary discharging stroke or force to it, the same being attached at their one end to the barrel and at their opposite end to the rear portion of the plunger-section D, which is provided with a collar, *s*, that acts as a stop to the plunger at the extreme end of its advance stroke. The other portion or section, D′, of the plunger consists of a rod arranged to fit the outer section, D, from its rear, so as to be capable of sliding longitudinally within said section, with which it is geared, for the purpose of drawing it back by a spring-catch, *e*, carried by the rod-section D′, and arranged to project through a slot, *f*, in the outer or sleeve section, D, so that when the plunger, as a whole, is about completing its back-stroke said spring *e*, by coming in contact with a projection, *g*, in the barrel, is forced inward and made to release the outer or tubular section, D, in order that the springs *d* may give the necessary forward or ejecting stroke to the section D of the plunger. Thus the plunger is released to eject the projectile in a sharp or quick and positive manner at a fixed point in its stroke, and while the handle or rod section of the plunger is being drawn out or back, which dispenses with all nicety or particularity of management, both in loading and firing. After the projectile has been discharged, the rod-section D′ is pushed forward into the tubular section D of the plunger until the spring-catch *e* again shoots into lock through the slot

f with said tubular section. The rod-section D′ has its stroke properly restricted, and is guided in its course to insure the spring *e* being retained in line with the slot *f* by a screw, *h*, in the outer section, made to project into a longitudinal groove, *i*, in the rod-section.

Figs. 1 and 2 represent the positions of the two sections D and D′ as locked and unlocked, Fig. 1 showing the same at or near the point of the release of the plunger-section which ejects the marble, and Fig. 2 representing the plunger after the projectile has been discharged, but before the rod-section D′ has been pushed forward to re-establish gear with the outer or tubular section, D.

Regarding the plunger as a whole, it is scooped or beveled and rounded off at the lower portion or half of its nose or shooting end, as at *k*, so that in case the projectiles vary in size and more than one be forced from the magazine into the barrel at a time, but one will be ejected, and the surplus marble or projectile be driven back into the magazine by the form of the plunger at its front when being projected forward.

Arranged within the barrel immediately in front of the magazine is a small piece of rubber or other suitable elastic material, forming a spring-stop, *m*, which, when not depressed by the plunger, projects into the barrel, as seen in Fig. 1, and serves to prevent the dropping out of the projectile fed into the barrel from the magazine, as liable to take place in the handling of the gun or dip of the barrel at its forward end, but which spring is forced into a recess, *n*, out of the way, as represented it Fig. 2, by the action of the plunger on the projectile when being shot, to allow of said projectile passing it.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The arrangement, substantially as specified, of the magazine and handle B, carrying a spring-follower, C, with the barrel A of the gun.

2. The combination of the plunger-sections D D′, the spring-catch *e*, slot *f*, and projection *g*, with the spring or springs *d*, substantially as shown and described.

3. The plunger constructed with a shelving portion, *k*, at its forward end, in combination with the barrel A and magazine B, substantially as specified.

4. The combination of the pin or screw *h* and groove *i* with the plunger-sections D D′, the spring-catch *e*, slot *f*, and projection *g*, substantially as described.

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Witnesses:
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