J. E. Blythe,

Spring Gun,

No. 45,789. Patented Jan. 3, 1865.

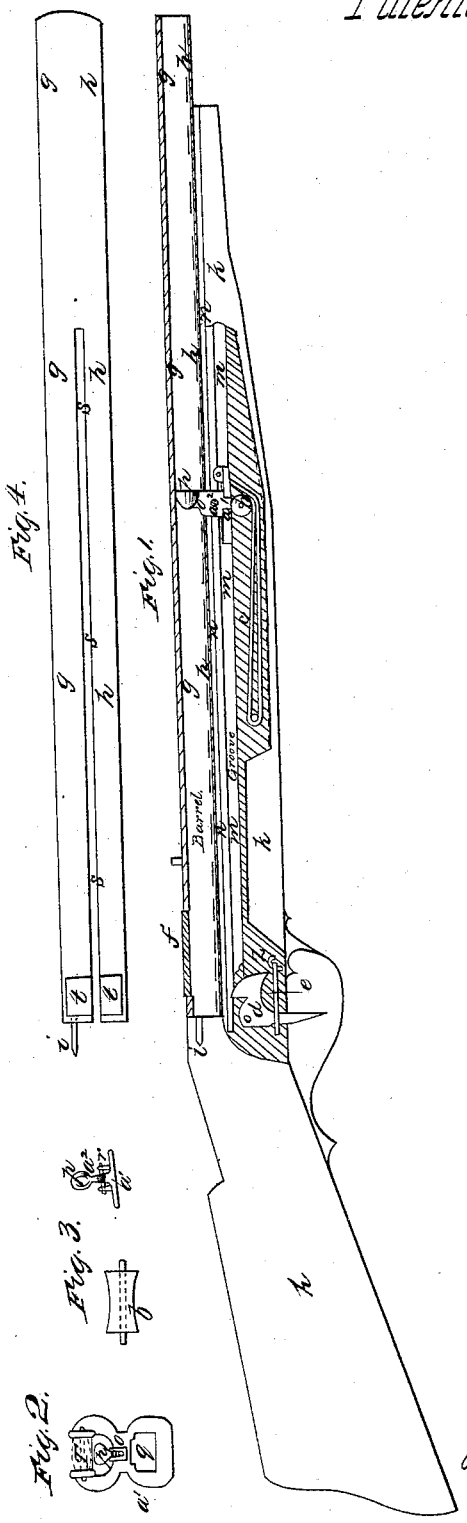

Fig. 4.

Fig. 1.

Fig. 3.

Fig. 2.

Witnesses:
Thos. J. Murphy
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UNITED STATES PATENT OFFICE.

JNO. E. BLYTHE, OF NEW YORK, N. Y., ASSIGNOR TO M. VEDDER AND HENRY S. MYERS.

SPRING-GUN.

Specification forming part of Letters Patent No. **45,789**, dated January 3, 1865; antedated May 2, 1862.

To all whom it may concern:

Be it known that I, JOHN E. BLYTHE, of the city of New York, in the State of New York, have invented a new and useful Spring Gun or Pistol for Toy, Target, and other Shooting Purposes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

Figure 1 is a sectional view of the gun. Fig. 2 is a top view of the slide. Fig. 3 is a front view of a concave roller or pulley, and Fig. 4 is a bottom view of the barrel.

Figure 1: letter *a'* shows the position of the slide when at rest in the gun; a^2, the hole in the upright of the slide to receive the key; *b*, the position of the roller or pulley; *c*, the india-rubber spring in its position and arrangement, one end attached to the pin *r*, Fig. 2, in the slide *a'*, and the other to a pin, *x*, in the gun-stock; *d*, the trigger; *e*, rubber trigger-spring; *f*, opening and its cover for loading at breech; *g g g* and *h h h*, the barrel; *i*, pin holding the barrel in its place at the breech; *k k k*, the stock; *m m m*, the groove in the sides of the stock; *n n n*, the slit or opening between the barrel and the stock for the passage of the key.

Letter *o*, Fig. 2, shows the upright of the slide; *p*, the plug or cradle; *q*, the notch in which the trigger catches; *r*, the pin to which the rubber spring is attached.

Letters *s s s* in Fig. 4 show the slit in the bottom of the barrel; *t*, set-off to fit the barrel in its place at the breech.

The gun and pistol have the same general shape and are of the length of the ordinary rifle and horse-pistol, the stock immediately in front of the breech being somewhat deeper, then tapering toward the muzzle. For toys the size is proportionately diminished. The stock *k k k* is hollowed out beneath the barrel at *z z z*, varying at points in depth, making space for the slide *a'*, pulley *b*, and rubber spring *c*, and their movements in loading and discharging.

On each side of the hollowed-out portions of the stock, beneath the barrel, there is a groove, *m m m*, in which the slide moves, when loading, toward the breech until the notch *q*, Fig. 2, is caught by the trigger *d* and back again when discharging. To give play for its momentum and prevent its violently striking any part of the stock, the grooves are extended beyond the roller *b* toward the muzzle.

In the place of grooves a set-off may be made for the slide to rest upon, or a slit may be made through each side of the stock.

The barrel has a slit, *s s s*, Fig. 4, at the bottom extending from the breech to within about six inches of the muzzle.

The gun, pistol, and barrel may be made of wood, metal, or other material equally hard, the trigger cast of metal and the roller or pulley made of wood, ivory, or metal.

The gun or pistol is operated by a key, which is simply a piece of ordinary steel wire three or more inches long, and of sufficient diameter or thickness to bear the strength of the rubber spring *c* in drawing it back. This key or piece of wire is inserted in the hole a^2 of the upright *o* of the slide *a'*, giving purchase for the fingers by extending on each side of the stock. The slide *a'* is then pulled back in the grooves *m m m*, the key or wire moving in the slit *n n n* between the barrel and the stock until the notch *q*, Fig. 2, is caught by the trigger *d*, thus loading the gun or pistol by stretching the rubber spring *c* upon or around the roller or pulley *b*.

The ball, dart, arrow, or other projectile is propelled in the barrel by the plug *p*, Fig. 2, on the upright *o* of the slide *a'*, which upright moves through the slit *s s s*, Fig. 4, in the barrel.

If desired to increase the size and thickness of the india-rubber spring beyond the strength of the individual to load in the manner specified, a windlass, lever, or other mechanical contrivance increasing power may be attached to facilitate loading.

What I claim, and desire to procure Letters Patent for, is—

1. The use and application to guns and pistols of one or more revolving concave rollers

or pulleys, upon or around which india-rubber or other elastic material is made to pass, thus securing an additional length of stretch or propelling force in a given space, increasing in proportion to the number of rollers used.

2. The combination of india-rubber in guns and pistols with slide, roller, and groove, as described.

New York, October 25, 1861.

JNO. E. BLYTHE.

Witnesses:

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