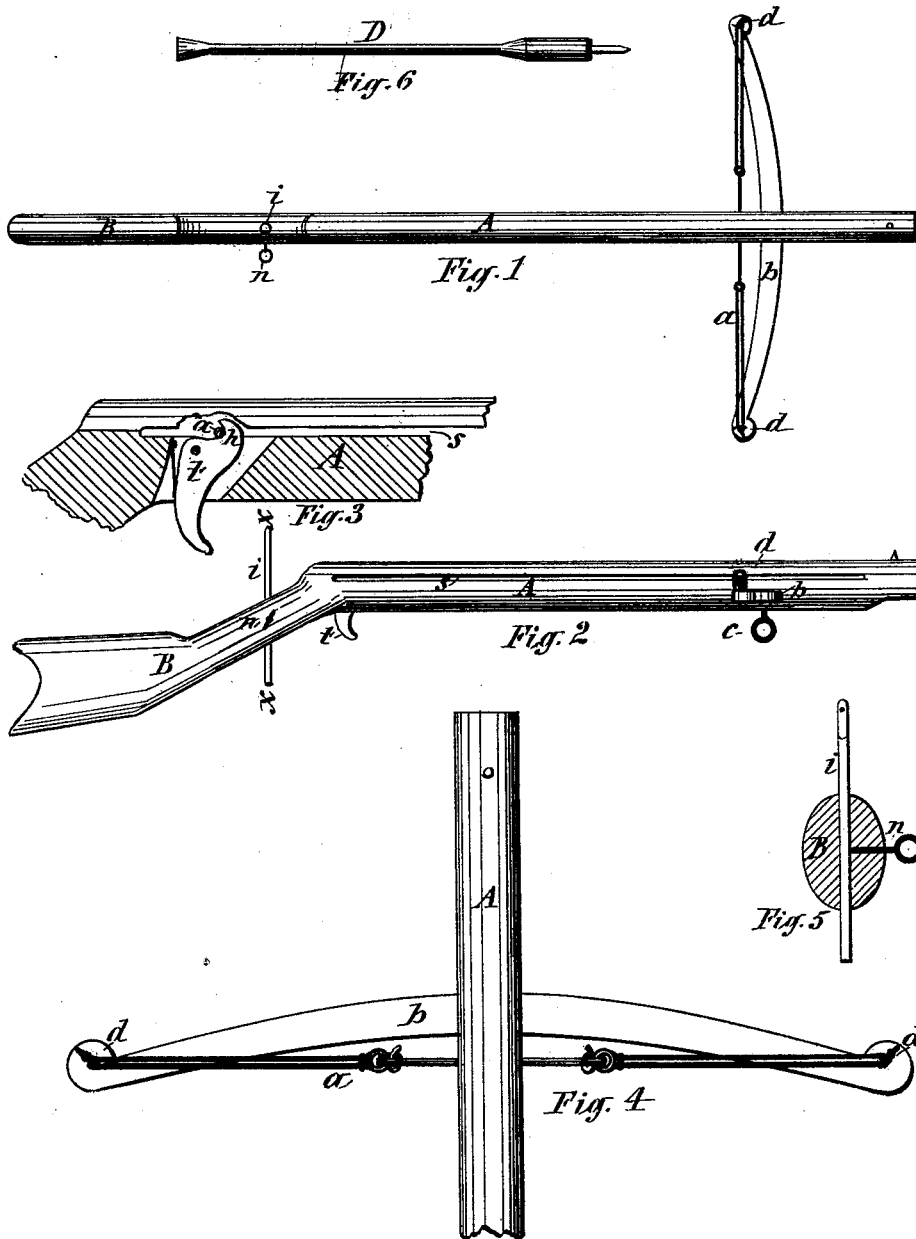


W. H. GRAVES.  
Spring-Gun.

No. 208,810.

Patented Oct. 8, 1878.



WITNESSES:  
H. Hill  
C. Bendixen.

INVENTOR:  
William H. Graves  
per C. Laess Atty

# UNITED STATES PATENT OFFICE.

WILLIAM H. GRAVES, OF SYRACUSE, NEW YORK.

## IMPROVEMENT IN SPRING-GUNS.

Specification forming part of Letters Patent No. **208,810**, dated October 8, 1878; application filed July 19, 1878.

*To all whom it may concern:*

Be it known that I, WILLIAM H. GRAVES, of the city of Syracuse, in the county of Onondaga in the State of New York, have invented new and useful Improvements in Spring-Guns, of which the following, taken in connection with the accompanying drawing, is a full, clear, and exact description.

This invention consists principally in a new mode of utilizing the elasticity of rubber as a means of propelling projectiles from a gun.

It also consists in a novel, simple, and inexpensive construction of a gun provided with the aforesaid means of propelling the missile, all as hereinafter fully described.

The invention is clearly illustrated in the accompanying drawing, wherein Figure 1 is a top view of my improved target-gun; Fig. 2, a side view of same; Fig. 3, an enlarged detail view of the trigger; Fig. 4, an enlarged view of my improved means of propelling missiles from a gun; Fig. 5, a transverse section on line *x x*, in Fig. 2; and Fig. 6 an enlarged view of my improved dart or arrow, designed for the class of guns to which my invention pertains.

Similar letters of reference indicate corresponding parts.

A represents the barrel, and B the stock, of the gun, made of the usual external form, and generally of one piece of wood. The barrel is provided with a transverse slot, *s*, intersecting the bore or internal channel at its center, and extending nearly the length thereof and parallel with it. *b* is a rigid, inflexible cross-bar, preferably in the form of a bow, which, for the sake of convenience in transportation, and for the purpose of facilitating its repairs or renewal, is secured in a mortise transversely through the barrel, below the bore, by means of a set-screw, *c*, inserted from the under side of the barrel.

In order to allow full play to the resilience of the propelling-cord when in action, and thus utilize all the effective force of its elasticity, the bar *b* is placed some distance from the forward extremity of the slot *s* in the barrel, and the propelling-cord *a* is attached at its ends to studs *d*, or other suitable fastenings, on top of the ends of the bar *b*, so as to maintain the said cord in line with the slot *s*.

To enable the propelling-cord *a* to withstand the wear and strain upon its central

part, I employ a stout inelastic cord or wire for the said part, and connect to the ends thereof endless rubber bands, which are hooked onto eyebolts or studs *d* on the ends of the cross-bar.

*t* is the trigger, consisting of a block of a form similar to an inverted L, pivoted at the junction of its two limbs in close proximity to the bore of the gun, and having its shorter limb extending forward and provided on its end with a hook, *h*, by which it engages the propelling-cord *a*. By the peculiar form and relative position of the pivot, the trigger is enabled to retain the propelling-cord *a* without the aid of a spring or other auxiliaries, and thus produces a perfectly safe, simple, and inexpensive lock.

*i* represents an adjustable rear or breech sight, consisting of a straight pin passing vertically through the center of the breech and secured in its position by a set-screw, *n*, inserted at the side of the stock. The upper extremity of the pin may be pierced or notched to form a point of sight.

D represents an arrow or dart, specially designed for use in connection with the class of guns to which my invention pertains. Its two ends are of a caliber to fit the bore of the gun, and the main body is reduced in diameter and tapered to the enlarged ends, thus producing at the rear end a radial flare, which, by the uniform pressure of the air upon its periphery, balances the weighted head of the dart and guides it in its direction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination and arrangement with the barrel A, provided with slot *s*, of the bow or cross-bar *b*, located below the bore of the gun, and having the points of attachment for the propelling-cord in line with the plane of the slot *s*, and sufficiently distant from the forward end thereof to allow for the resilient play of said cord, substantially in the manner specified.

In testimony whereof I have hereunto set my hand this 16th day of July, 1878.

WILLIAM H. GRAVES.

Witnesses:

C. BENDIXEN,  
H. HILL.