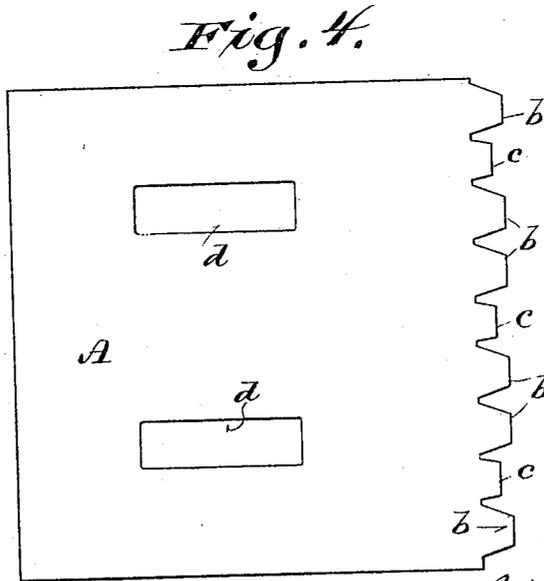
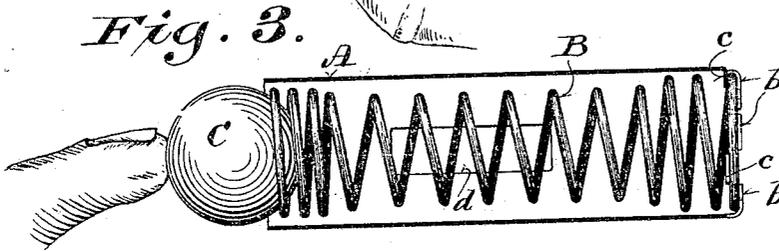
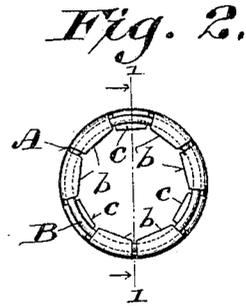
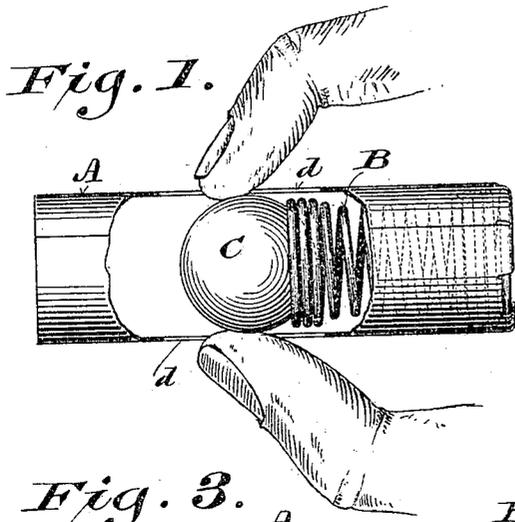


V. KELLER.
MARBLE SHOOTER.
APPLICATION FILED OCT. 2, 1905.



Witnesses:
 Fred Palm.
 George Felber.

Inventor:
 Valentin Keller.
 By Olyphant & Young,
 Attorneys.

UNITED STATES PATENT OFFICE.

VALENTIN KELLER, OF MILWAUKEE, WISCONSIN.

MARBLE-SHOOTER.

No. 819,891.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed October 2, 1905. Serial No. 280,926.

To all whom it may concern:

Be it known that I, VALENTIN KELLER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Marble-Shooters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed, its object being to provide simple economical marble-shooters.

Figure 1 of the drawings represents a side elevation of a marble-shooter in accordance with my invention, partly in section on the plane indicated by line 1 1 in Fig. 2, the marble being held against a compressed spiral-spring element of the shooter; Fig. 2, a rear elevation of said shooter; Fig. 3, a longitudinal section view of the aforesaid shooter and illustrates said marble being held against the expanded spring; and Fig. 4 a plan view of the blank for the tube element of the shooter.

Referring by letter to the drawings, A indicates a tube that is preferably made from sheet metal notched at one end to present lips *b c*, that are preferably of different lengths. Cut in the blank longitudinally of the same are slots *d* diametrically opposite one another in the finished tube.

Arranged within the tube is a spiral spring B, the same being approximately the same length as said tube when expanded. The lips *b* of the tube are bent in over the rear coil of the spring and the other lips *c* are bent in ahead of said coil, whereby said spring is permanently connected to said tube in a sim-

ple economical manner. It is preferable, as herein shown, to so coil the spring that it is of reduced diameter for the greater portion of its length, the coils of the greatest diameter being at the ends.

In practice a marble C is set in the tube A against the free end of the expanded spring B and forced back with a finger of one hand against the resistance of said spring until it can be caught, through the diametrically opposite slots *d* of said tube, by the thumb and forefinger of the other hand. The marble being released it is projected by the expansion of the compressed spring, the force of the projection being proportionate to the compression of said spring. The intermediate coils of the spring being of less diameter than the end coils, said spring, when expanding, will not obtrude itself against the thumb and forefinger of the operator exposed through the tube-slots.

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

A marble-shooter consisting of a tube provided with opposite slots longitudinally thereof, and a spiral spring fastened at its rear end in the tube and of reduced diameter for the greater portion of its length, the coils of greater diameter being at its ends, said spring being of approximately the same length as said tube when expanded.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

VALENTIN KELLER.

Witnesses:

N. E. OLIPHANT,
GEORGE FELBER.