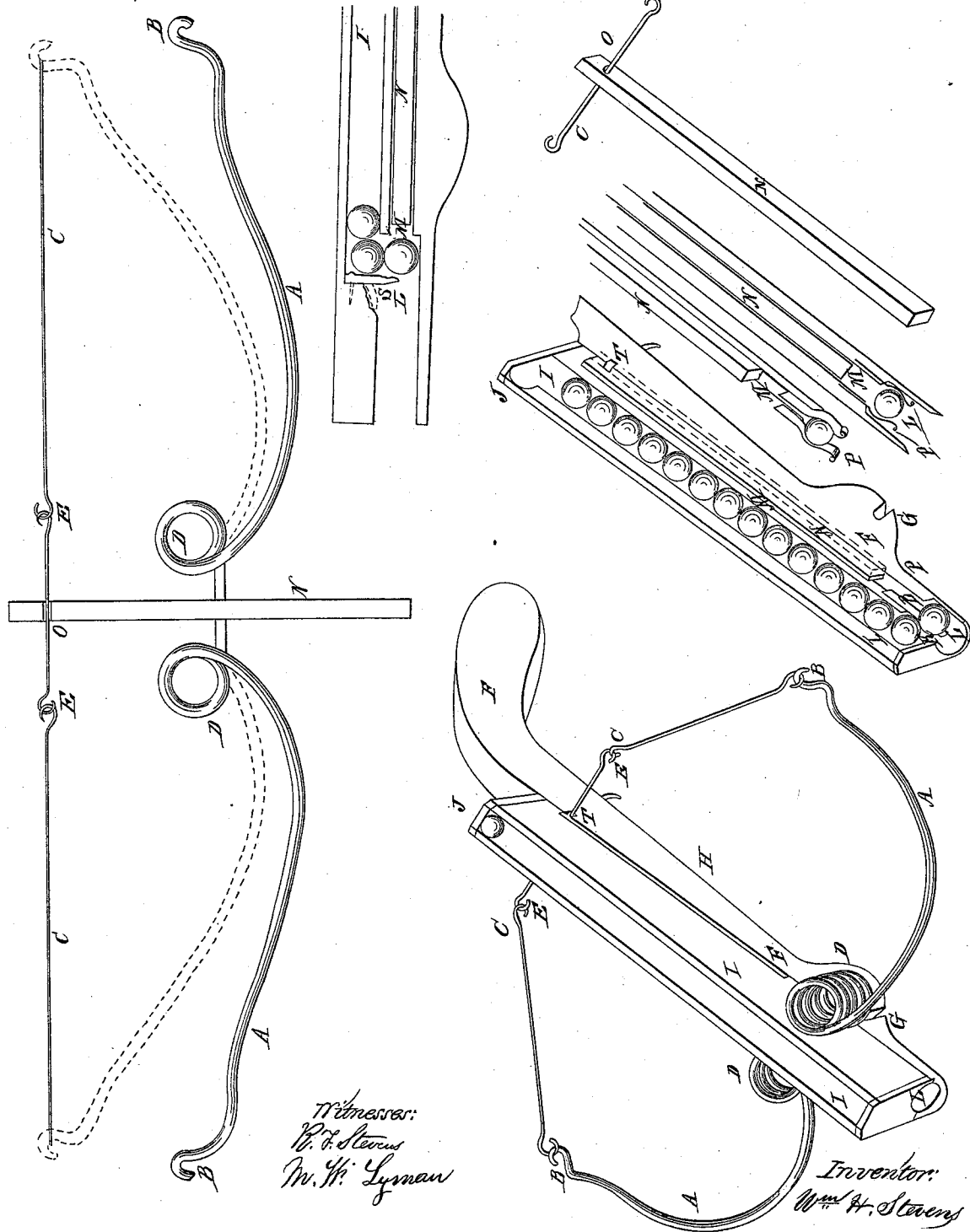


W. H. Stevens,

Cross-Bow,

Patented June 12, 1860.

N^o 28,698.



UNITED STATES PATENT OFFICE.

WILLIAM H. STEVENS, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN TOY GUNS.

Specification forming part of Letters Patent No. 28,698, dated June 12, 1860.

To all whom it may concern:

Be it known that I, WILLIAM H. STEVENS, of the city of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Toys for Throwing Balls or other Projectiles; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification.

To construct my invention make a bow, A, of iron wire or other suitable metallic wire, having the ends bent, as at B, to connect the bow-string C. In the central part of the wire bend it into one or more coils, D, in order to increase the spring power of the bow. By the use of the coiled springs in the bow, greater spring force is obtained than can be obtained by the same amount of metal in any other form. Connect the extremities B of the bow by jointed wire C, the joints E E serving to allow the straining of the bow without bending the wire of the different sections of the bow-string C. The bow may be made of one continuous piece of wire, or in parts, and connected between the coils D, as convenience directs. Connect the bow A with the stock F at G, so that the bow-string can pass through and work in the slot H. To the stock F connect the loading-chamber I, having an upward opening, J, at the rear end and a downward opening, K, at the forward end, communicating with muzzle L. In the stock F make the groove or barrel M, for the reception of the arrow or rod N. Connect the rear end of the rod N to the bow-string at O. The muzzle L may be made of sufficient size or diameter to receive the balls fed to it through the feeding-chamber I. At some convenient point within the muzzle of the gun place an elastic obstruction, which may be made of metallic springs, as shown at P, or of any other elastic spring obstruction—as rubber S, leather, &c.—which shall prevent the ball rolling from the gun by its own weight, and yet afford but a slight resistance to the projecting force of the arrow.

The operation of my invention is as follows: Place balls in the chamber I through the opening J. By lowering the muzzle the balls will run forward and be prevented from passing down into the muzzle by the arrow N. Draw the string and rod backward until the string is locked in the notch T. The outer end of the rod will then be drawn within the muzzle, and one of the balls will drop into the

space between the forward end of the rod N and the elastic obstruction P.

By disengaging the string C from the notch T the action of the bow throws the rod N forward with great force against the ball, and projects the ball at any object toward which the gun is aimed.

By again drawing back the rod by the string another ball falls in front of the rod, and thus alternately all the balls contained in the feeding or loading chamber may be discharged.

By making the coils in the bow I am enabled to obtain sufficient elasticity from common wire, and a cheaper article is thus obtained.

By the use of joints in the bow-string I can make use of wire instead of a less durable material.

By the attachment of the feeding-chamber, a number of balls may be discharged in rapid succession without reloading.

By connecting the rod to the bow-string the rod is prevented from being discharged from the gun, and is drawn within the barrel by the act of straining the bow, thus allowing or causing a ball to fall into the muzzle before the rod.

The purpose of placing a spring or other elastic body within the muzzle is to retain the ball until struck by the projecting rod.

What I claim, and desire to secure by Letters Patent, is—

1. Constructing the metallic wire bow A with one or more coils, D, substantially in the manner and for the purpose stated.

2. Providing bows with metallic wire strings C, when the same are made with joints E, for the purpose stated.

3. Connecting the arrow or projecting rod N with the bow-string, substantially as stated.

4. The loading-chamber, when so arranged with respect to the muzzle as to operate substantially in the manner set forth.

5. The attachment to the muzzle of the gun of a yielding or elastic material, (as the springs P or equivalent device,) when the same operates to hold the ball substantially in the manner set forth.

6. The arrangement of the several parts or their equivalent, substantially as described, and operating as a whole substantially in the manner and for the purpose stated.

WM. H. STEVENS.

Witnesses:

R. F. STEVENS,
M. W. LYMAN.