H. GOODMAN.
Ball-Target Thrower.

No. 212,213. Patented Feb. 11, 1879.

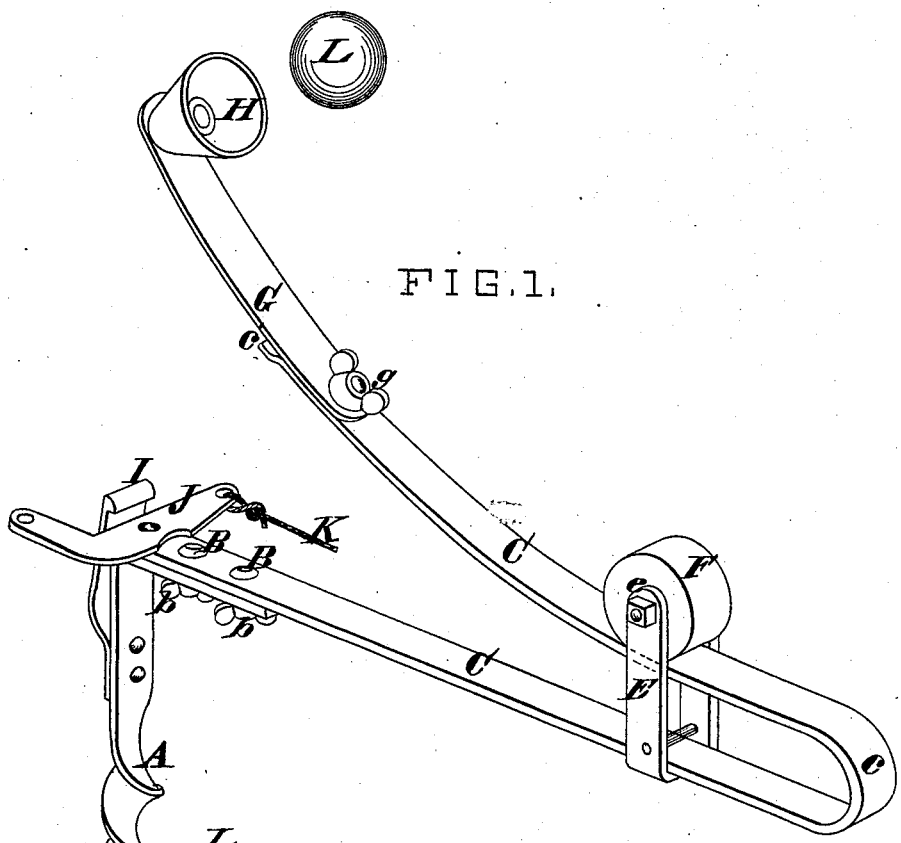

FIG. 1.

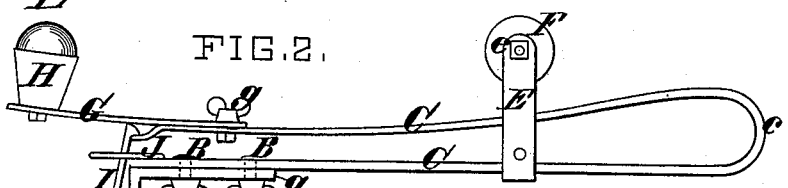

FIG. 2.

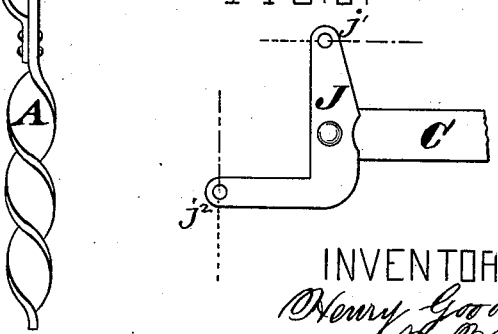

FIG. 3.

ATTEST.
Geo. H. Knight
Chas J. Gooch.

INVENTOR.
Henry Goodman
By Knight Bro's
Attys.

UNITED STATES PATENT OFFICE.

HENRY GOODMAN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF HIS RIGHT TO H. S. BROWN AND F. F. HILDER, OF SAME PLACE.

IMPROVEMENT IN BALL-TARGET THROWERS.

Specification forming part of Letters Patent No. **212,213**, dated February 11, 1879; application filed November 2, 1877.

To all whom it may concern:

Be it known that I, HENRY GOODMAN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Ball-Throwers for Shooting Practice, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My improvement has a "return-bend" spring-bar, to one end of which is attached a flat screw, to screw into the ground, and to the other end is pivoted a spring-arm, at whose end is a rubber cup to contain the ball.

In setting the trap, the end of the main-spring is engaged below a spring-catch, and the catch is thrown back to release the spring by a bent lever, to either of whose ends the trip-cord may be attached, so that the trip may be worked by a person standing in any direction from the thrower, as more fully described hereinafter.

In the drawings, Figure 1 is a perspective view of my improved ball-thrower after discharge of the ball. Fig. 2 is a side view, showing it in position for the reception of the ball and discharge of the same. Fig. 3 is a top view of the trip-lever.

A is a flat screw, fitted to screw into the ground, and which has at top a horizontal arm or bracket, *a*, having holes for the passage of screw-bolts B, fitted with thumb-nuts *b*. These bolts also pass through the lower end of the spring-bar C, and serve to attach it to the standard-bar A.

The spring-bar is made with a return-bend, *c*. The parts above and below the bend may be connected by an embracing link or strap, made to slide along the spring, so as to limit the throw, although any suitable device capable of accomplishing a like result may be employed.

In the drawings I have shown a link which consists of a clip, E, through whose end passes a bolt, *e*, forming the pivot of the rubber roller F.

G is a spring-arm, pivoted at one end to the upper end of the spring C by a pivot-bolt *g*.

At the outer end of the spring-arm G is a rubber cup, H, to receive the ball or other object to be shot at.

The extreme end *c'* of the spring C extends beyond the pivot-bolt *g*, for engagement with the spring-catch I, whose lower end is attached to the screw-post A.

J is a bent lever, turning on a fulcrum-pin, *j*, and having both its arms perforated for attachment of a trip-cord, K.

It will be observed that owing to the position of the lever-pivot *j*, (which is opposite the middle of the spring-catch,) whichever way the lever is turned, it will press the catch outward and disengage it from the end *c'* of the spring C, and allow the cup-carrying end to fly upward. For instance, if the trip-worker should stand near the line parallel with the spring-bar C, the cord would be attached to the straight arm j^1, as shown; but in case the person working the trip should stand at a point on the flank of the thrower, the cord would be attached to the bent arm j^2, the lever J acting upon the spring-catch by direct contact of its edge therewith.

To limit the upward movement of the cup the link E or other regulating device is moved upon the spring C.

To change the direction in which the ball is thrown, the spring-arm G may be set at an angle with the spring C, and by this the motions of the ball in rising may be much varied.

In packing the thrower together for transportation from place to place, the leg or post screw A may be disconnected from the spring C, and the arm G turned back in line with the spring, and the screw A may be inserted between the upper and lower parts of the spring C. In this form it takes little room and may readily be carried.

L is the ball, (target,) shown, respectively, in mid air in Fig. 1 and in the cup in Fig. 2.

I claim as my invention—

1. The combination of spring C, cup H, and ground-screw A, substantially as and for the purpose set forth.

2. The combination, with the spring C, of the pivoted spring G and cup H, substantially as set forth.

3. The combination, with the spring C and cup H, of the spring-catch I and trip-lever J, substantially as set forth.

HENRY GOODMAN.

Witnesses:
SAML. KNIGHT,
GEO. H. KNIGHT.