(No Model.)

G. LIGOWSKY.

FLYING TARGET.

No. 304,534. Patented Sept. 2, 1884.

FIG. 1.

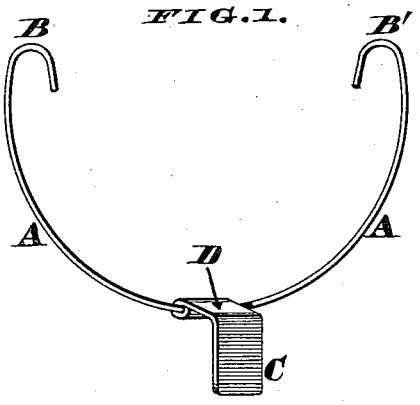


FIG. 2.

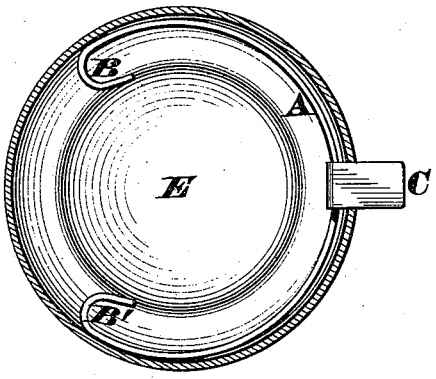


FIG. 3.

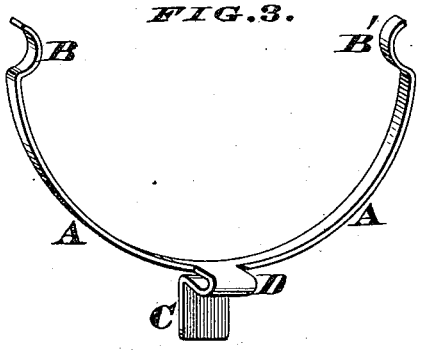


FIG. 4.

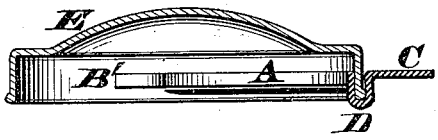


FIG. 5.

FIG. 6.

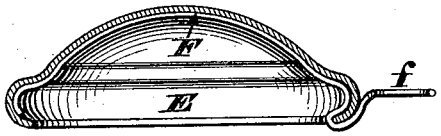


FIG. 7.

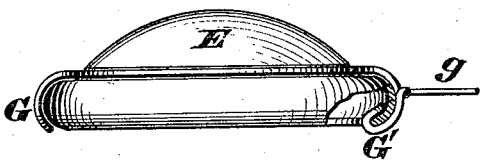


FIG. 8.

FIG. 9.

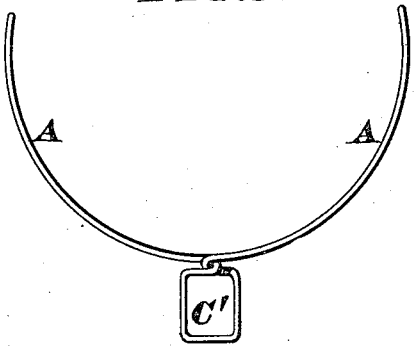
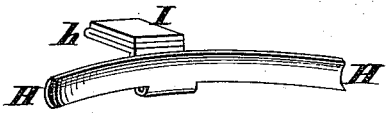


FIG. 10.



Attest.
S. S. Carpenter,
Chas. Morath.

Inventor.
George Ligowsky
by James K. Layman
Atty.

UNITED STATES PATENT OFFICE.

GEORGE LIGOWSKY, OF CINCINNATI, OHIO, ASSIGNOR TO THE LIGOWSKY CLAY-PIGEON COMPANY, OF SAME PLACE.

FLYING TARGET.

SPECIFICATION forming part of Letters Patent No. 304,534, dated September 2, 1884.

Application filed August 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LIGOWSKY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Flying Targets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a novel method of applying projecting tongues or lugs to flying targets, the improvement being especially adapted to the concave or dish-shaped devices seen in the various patents heretofore granted to me.

The present improvement consists, essentially, of a light bar or wire bent into a practically semicircular shape, and adapted to spring outwardly, so as to engage snugly within the annular rim of the target, said spring being furnished at its mid-length with the tongue or lug that is to be grasped by the jaw or clamp of the trap used for projecting said target. This laterally or horizontally projecting tongue may be secured to the spring-bar with solder or otherwise, or it may be integral with said bar. It is evident, however, that the method of applying the tongue by means of a spring or its equivalent clamping device may be varied to suit the fancy of the sportsmen or the peculiar construction of the target, as hereinafter more fully described, and pointed out in the claims.

My invention further consists in providing the ends of the spring-bar with bends or hooks, in order that said bar may be readily contracted preparatory to snapping it into the rim or other appropriate bearing in the target, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a perspective view of one form of my spring-bar. Fig. 2 is a horizontal section through a target with the spring-bar in position. Fig. 3 is a perspective view of a modification of the spring-bar. Fig. 4 is a vertical section showing said bar applied to the cylindrical cup-shaped target seen in the patent granted to me September 7, 1880. Fig. 5 is a plan of another form of the spring-bar. Fig. 6 is a vertical section showing this bar fitted into the target. Fig. 7 shows a spring-bar clamped around the target. Figs. 8, 9, and 10 represent other modifications of the invention.

Referring to Fig. 1, A represents a piece of spring-wire bent into an approximately semicircular shape, and adapted to fly outwardly when allowed to assume its normal position. This wire terminates at its opposite ends with inwardly-curved bends or hooks, B B′, of such a size as to readily admit a person's finger. Soldered or otherwise secured to this wire at a point about equidistant between the hooks B B′ is a tongue, C, composed, preferably, of sheet metal, and having a short bend, D, that enables said tongue to just clear the lower edge of the target-rim.

In Fig. 2 the spring-bar is shown applied to a target, E, such as described in the patent issued to me April 11, 1882, to which patent reference is made for the peculiar shape and construction of said fragile target.

To apply the spring-bar it is necessary only to insert the ends of the thumb and forefinger in the hooks B B′, and then contract or draw together the extremities of the bar sufficiently to allow it to be placed in the target-rim. The thumb and finger being now withdrawn from said ends, the wire A instantly springs outwardly and bears against the interior of said rim. From this description it is evident the spring-bar can be snapped into the target in a moment, and when thus applied the edge of tongue C is presented in the direction of progress, and affords no material obstruction to the air when said target is thrown from a trap or sender. Furthermore, this internal spring-bar imparts a strain or tension to the target and causes it to be more readily shattered when struck with shot, which projectiles will not be liable to injure either the bar or its attached tongue. Consequently, these devices can be used for an indefinite number of targets or "clay-pigeons," as they are commonly termed.

In the modification seen in Figs. 3 and 4, a light spring-bar, A, is substituted for the wire A, the tongue C D being integral with said bar, and the hooks B B′ being bent in an opposite manner to what is shown in Figs. 1 and 2.

In Fig. 8 the spring is composed of two pieces of wire, *a a'*, united at the center by being twisted together, which twisted portion is subsequently flattened to form the tongue *c*.

In Fig. 9 the single wire A has a loop, C', at its center, which loop performs all the functions of a tongue.

In Fig. 5 the spring is shown as composed of a single piece of wire bent parallel at F F', and twisted together at *f* to form the tongue. Fig. 6 shows how this spring is snapped into the target E and conforms to the interior shape of the latter; but, by slightly modifying the shape of said spring, it may be made to pass over the top or crown of the target.

Fig. 7 shows a form of spring adapted to be clamped around the exterior of the target and to fit in a groove or reverse curve at the junction of the target-rim with its crown. This spring has two bends, G G', that either clamp against or beneath the target-rim. *g* is the tail-piece or tongue of said spring.

The construction seen in Fig. 10 shows a curved and dished spring, H, adapted to fit into the concave rim of the target, the tongue *h* of said spring being covered either with a piece of paper, leather, or other suitable material, I, capable of affording a firm hold in the jaw of the throwing-trap. Again, the curved springs seen in Figs. 1, 3, 8, and 9 may be complete circles instead of semicircles, thereby distributing the weight uniformly around the periphery or rim of the target.

Other and almost numberless modifications of the device will readily suggest themselves to any skillful artisan.

Finally, my invention is not to be construed as applicable only to the peculiar form of target herein described, as it is evident the spring-bar may be snapped in between lugs or flanges or other bearings or seats of any flying target, no matter what size or shape the latter may be or of what material it is composed.

I claim as my invention—

1. As a new article of manufacture, a bar, wire, or plate formed with a projecting tongue and suitably bent or curved to fit snugly around, within, or over a concave or chambered flying target, and grasp said target by frictional contact with its walls, substantially as herein described.

2. As a new article of manufacture, a spring bar, wire, or plate of whatever material, suitably bent or curved to fit snugly around, within, or over a concave or chambered flying target, and having a projecting tongue that is grasped by the jaw or clamp of the trap, substantially as herein described.

3. A spring bar, wire, or plate of whatever material, suitably bent or curved to fit snugly around, within, or over a concave or chambered flying target, and having an integral projecting tongue that is grasped by the jaw or clamp of the trap, substantially as herein described.

4. The spring bar, wire, or plate A, suitably bent or curved to fit snugly around, within, or over a concave or chambered flying target, said spring being provided at its opposite ends with hooks B B', and having at or near its mid-length a projecting tongue, C, that is grasped by the jaw or clamp of the trap, as herein described.

5. The spring bar, wire, or plate A, suitably bent or curved to fit snugly around, within, or over a concave or chambered flying target, said spring being provided at its opposite ends with hooks B B', and having at or near its mid-length a projecting tongue, C, that is integral with said spring, and is grasped by the jaw or clamp of the trap, as herein described.

6. In combination with a concave or chambered flying target, E, the spring bar or wire A, suitably bent to fit snugly within the rim of said target, the spring being provided at its opposite ends with hooks B B', and having at or near its mid-length a projecting tongue, C, that is grasped by the jaw or clamp of the trap, as herein described.

7. In combination with a concave or chambered flying target, E, a spring bar, wire, or plate suitably bent to fit snugly around, within, or over said target, the spring having a projecting tongue that is grasped by the jaw or clamp of the trap, substantially as herein described.

8. The combination, with a frangible flying target, of an expanding spring inserted within the periphery of said target, and adapted to assist in its complete disruption when struck by shot.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE LIGOWSKY.

Witnesses:
JAMES H. LAYMAN,
SAML. S. CARPENTER.