

G. LIGOWSKY.
TARGET TRAP.

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TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 252,230, dated January 10, 1882.

Application filed May 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LIGOWSKY, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Target-Traps, of which the following is a specification.

The object of this invention is to furnish a trap especially adapted for throwing the peculiar form of flying targets seen in Letters Patent No. 231,919, granted to me September 7, 1880; and the trap consists, essentially, of a spring-lever, target-clamp, trigger, adjustable standard, and devices for maintaining said standard at any desired inclination, all as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a side elevation of my trap, the spring-lever being shown in its normal position and the target-clamp detached therefrom. Fig. 2 is a vertical section of a portion of the adjustable standard. Fig. 3 is a plan of the trap-head, the spring-lever being shown bent from its normal position and engaged with the trigger of the implement. Fig. 4 is an enlarged elevation of the target-clamp attached to the spring-lever. Fig. 5 is an elevation of the trigger.

Referring to Fig. 1, the base or stand of the trap is shown as consisting of a tripod, $A A' A''$, radiating from a common center, B , which latter is bored axially at b to admit the standard-spindle C , that is held in position by means of a collar or nut, c , or otherwise. This tripod is surmounted at top with an annular flange, that is notched so as to afford a circular rack, D , with which rack is engaged a detent or pawl, E , loaded at e and pivoted at e' to the lower member or section, F , of the adjustable standard. This section has a serrated or notched knuckle, f , wherewith is engaged a similar knuckle, g , of the intermediate standard-section, G . H is a pivot-bolt, and h a lever-nut, which devices lock firmly together these knuckles.

The upper end of section G has a knuckle, g' , engaged with a knuckle, i , of the third section, I , of the standard, a pivot-bolt, J , and nut, j , being employed for coupling the members G and I . Section I terminates with a circular flange, K , three radiating lugs, $L L' L''$, and a cylindrical hub or head, M , which latter has

applied to it a ring-cap, N , carrying a segmental rack, O , of any desired length. Located between this flange K and rack O , and surrounding the target-head M , is the coiled portion p of a spring-lever, P , the fixed end of said coil being engaged with the lug L , while the free end of the lever has a pin or other appropriate device, p' , for the convenient attachment of the target-clamp seen in Fig. 4. This clamp is composed of a bar, R , having at its inner end an attaching-socket, r , and at the outer end a button or disk, r' , a thumb-lever, S , being pivoted to said bar at s . The outer end of this thumb-lever has a button, s' , maintained in contact with the other button, r' , by a spring, T , coiled around a rod, t , which latter is screw-threaded and provided with a tension-nut, t' . Rod t passes freely through a slot in lever S , and has its lower end secured to the bar R .

$l' l''$ are steady-pins projecting upwardly from the two lugs $L' L''$.

Adapted to rotate on the top of head M is a swivel-hinge, m , to which is coupled a tension-arm, U , the free end of which is bent down so as to bring the trigger to the same level as the spring-lever P , which latter device must be so applied as to avoid contact with the segmental rack O . This trigger, as seen in Fig. 5, consists of a plate, V , slotted at its front end at v , and having pivoted to it at v' a jaw or catch, W . w is a spring that maintains this catch W in its normal or closed condition, said catch being opened at the proper moment by a cord, w' , that is carried down and passed under a sheave, X , and then controlled by the person who operates the trap. This sheave is adapted to run along a bar, Q , which latter is so applied to the frame Y as to locate said sheave in the most convenient position for causing the cord to operate the trigger. The frame Y is preferably triangular, and has holes y to receive spikes or stakes y' , wherewith the trap is securely pinned to the ground.

It is preferred to cast shoes $a a' a''$ to the feet of the tripod, which shoes should fit into the angles of the frame Y and be secured thereto with bolts Z , as seen in Fig. 3.

The trap is usually employed for imparting a horizontal flight to the target, which result

is accomplished by slackening the nuts *h j* and then setting the joints *f g* and *i g'* so as to preserve the standard *F G I* in an erect position and dispose the spring-lever *P* horizontally. The tension-arm *U* is then engaged with the third or fourth notch of rack *O*, and the lever *P* is swung around and locked by the catch *W* of trigger *V*, as seen in Fig. 3. The thumb-lever *S* is now opened far enough to admit between the buttons *r' s'* the tongue or other lateral projection of the target. These precautions having been carried out, the attendant then pulls the cord *w'* so as to depress the free end of catch *W*, thereby liberating the lever *P* and leaving it free to fly around in the direction indicated by the arrow in Fig. 3, the velocity of this sweeping motion being exactly proportioned to the tension imparted to the coil *p* when said lever was first engaged with the trigger. When this sweeping motion of the lever has attained its maximum velocity the tongue of the target is automatically disengaged from the clamp *r' s'*, and said target skims off with a spinning action that closely imitates the flight of a quail; but the moment this maximum velocity has been reached the further sweep of the lever is gradually arrested on its own coil *p*, thereby preventing a violent jar or concussion, and thus obviating the breakage of the target, which latter, being composed of a fragile material, would be shattered to pieces in case the lever should be checked with a sudden stop, as is customary with those traps employed for throwing the ordinary balls.

The trap can be set to throw the targets to any point of the compass by simply lifting the pawl *E* out of the rack *D* and then turning the standard *F G I* around as far as may be desired, after which act said pawl is re-engaged with the rack, and the standard is securely locked against rotation until it is again intentionally shifted.

By properly manipulating the joints the standard can be pitched to any suitable angle,

so as to cause the target to fly obliquely according to the force and direction of the wind.

From the above description it is evident the two lock-joints allow an almost unlimited range of angular adjustment of the trap, and at the same time they enable the implement to be held securely in position after the desired range has been obtained. It is also evident that by shifting the tension-arm *U* to the rear notch of rack *O* the spring *p* will be coiled with a very great degree of force; but by engaging said arm with any notch between the first and last one of said rack the power of the spring can be regulated to suit circumstances. Furthermore, the nut *t'* allows the lever *S* of the clamp to be adjusted so as to hold the target-tongue with any suitable degree of force.

I claim as my invention—

1. The combination, in a target-trap, of a spring-lever, a rack, and an adjustable tension-arm carrying the trigger, with which latter is engaged said lever, as herein described.

2. The combination of spring-lever *P p*, head *M*, segmental rack *O*, adjustable tension-arm *U*, and trigger *V W*, as herein described.

3. In combination with the target-trap, head *M*, having the spring portion *p* of lever *P* coiled around it, for the purpose described, the jointed standards *F G I*, notched knuckles *f g i g'*, bolts *H J*, and nuts *h j*, as herein set forth, and for the object stated.

4. The combination, in a target-trap, of a clamp consisting of the bar *R r'*, pivoted lever *S s'*, spring *T*, screw-threaded rod *t*, and adjustable nut *t'*, as described.

5. The trigger consisting of the slotted plate *V v*, pivoted catch *w' W*, and spring *w*, as described.

In testimony of which invention I hereunto set my hand.

GEORGE LIGOWSKY.

Witnesses:

JAMES H. LAYMAN,
SAML. S. CARPENTER.