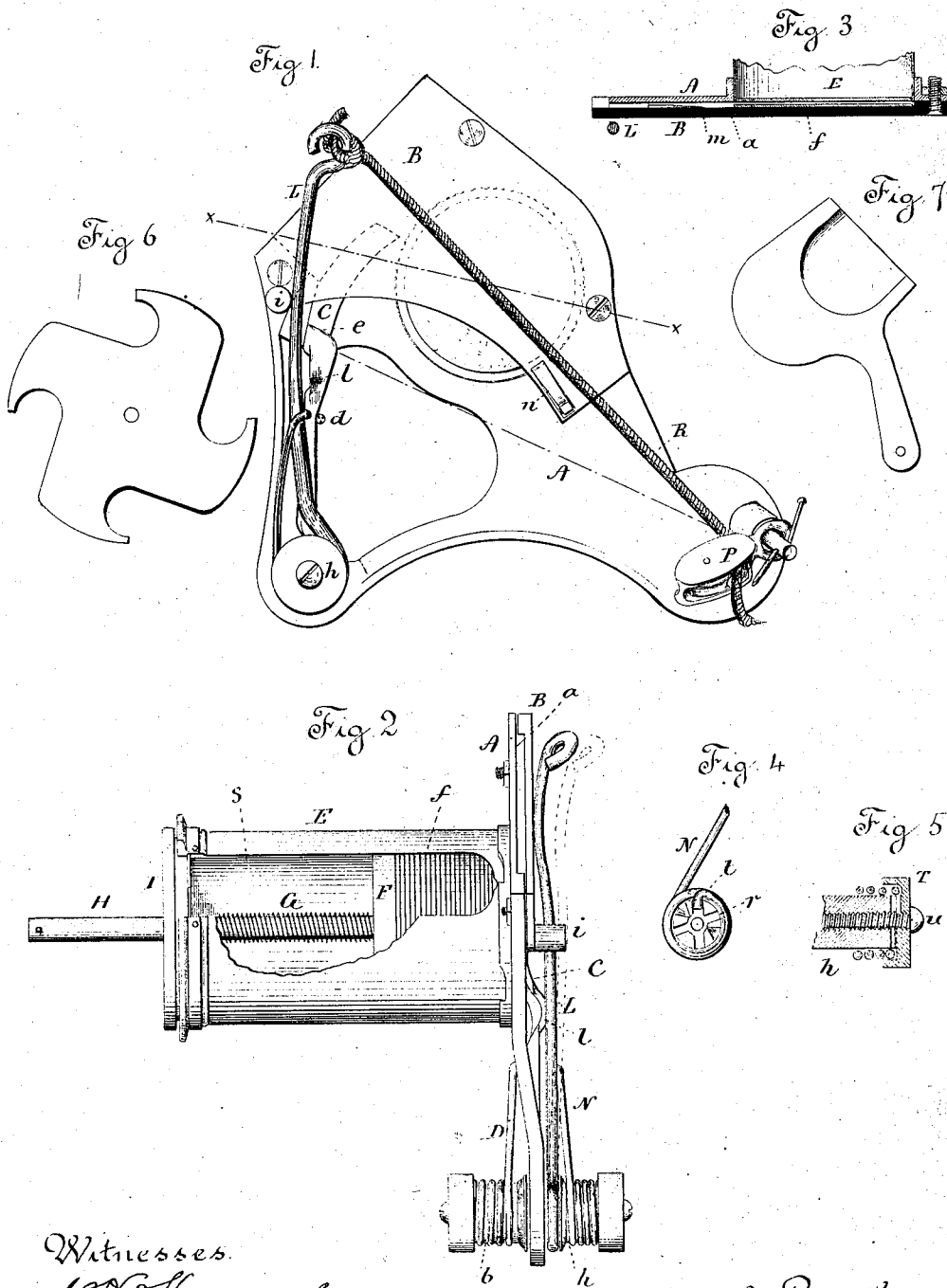


(No Model.)

J. L. RAUB.
TARGET TRAP.

No. 329,211.

Patented Oct. 27, 1885.



Witnesses.
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TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 329,211, dated October 27, 1885.

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To all whom it may concern:

Be it known that I, JOSEPH L. RAUB, of New London, in the county of New London and State of Connecticut, have invented a new
5 Improvement in Target-Traps; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same,
10 and which said drawings constitute part of this specification, and represent, in—

Figure 1, a face view of the trap complete; Fig. 2, a side view, a portion of the cylinder broken away to show the spring of the fol-
15 lower; Fig. 3, a section through the pocket on line *x x*; Fig. 4, an end view of the studs on which the arm or lever turns, showing the radial grooves in the end for the adjustment of the spring; Fig. 5, a longitudinal section
20 through the stud, showing the spring-holding device; Fig. 6, a modification; Fig. 7, a second modification, both modifications on a reduced scale.

This invention relates to an improvement in
25 traps for throwing targets into the air for target practice, the object of the invention being the construction of a trap which may be supplied with several disks to be successively and rapidly thrown into the air as targets;
30 and it consists in the construction, as herein-after described, and more particularly recited in the claims.

A represents the frame or base to which the operative parts are attached. This frame is
35 adapted to be arranged in any convenient position in the plane in which the target is to be thrown. In the base is a pocket, *a*, formed by a plate, *B*, attached to the outside of the base *A*, and in a plane therewith, so as to
40 leave a space between, and as indicated in broken lines, Fig. 1. On a pivot below the pocket a blade-like arm, *C*, is hung, and to it a spring, *D*, is applied, the spring being of wire coiled about a stud, of which the pivot
45 is the center, with an arm extending up and turned behind the arm *C*, as at *d*, and so that the action of the spring is to force the arm toward the mouth of the pocket, and so that in its normal condition it rests against a
50 shoulder or stop, *e*. The arm is adapted to be drawn back against the power of the spring

toward the bottom of the pocket, as indicated in broken lines, Fig. 1. In rear of the base a cylinder, *E*, is attached, opening through the base into the pocket, as seen in Fig. 3. 55 This cylinder is adapted to receive a series of flat disks, *f*, each disk being thinner than the width of the pocket, as seen in Fig. 3. In the cylinder a follower, *F*, is arranged movable longitudinally in the cylinder under the power of a spring, *G*, around a spindle, *H*, which extends from the follower out through the head *I* at the extreme end of the cylinder. This head is removable, and is attached by a bayonet-joint in a well-known manner, so that 65 it may be introduced and locked by a partial rotation, or removed by returning the head until the shoulders escape—a construction of fastening too well known to require particular description. The several disks are introduced 70 into the cylinder by removing the follower and head, and then replacing the follower and head, and when the head is locked the follower bears against the column of disks under the power of the spring *G*, and, as seen in Fig. 2, tend- 75 ing to force the disks into the pocket, and so that as one disk is removed another will take its place, and so on until all the disks have been removed.

As a convenient means for actuating the 80 arm *C*, a lever, *L*, is hung upon a pivot, *h*, provided with a spring, *N*, arranged to bear against the back of the lever, and tending to force and hold the lever against a stop, *i*, on the base. The arm *C* is constructed with a 85 projection, *l*, which stands in the plane of and back of the lever *L* when in the normal condition, as seen in Figs. 1 and 2, and so that if the lever be drawn away from its stop and backward it will strike the projection *l* on 90 the arm *C* and carry it with it. The upper end of the arm *C* terminates in a blade-like shape, *m*, (see Fig. 3,) and so that it readily passes between the plate *B* and the front face of the first disk in the column. The lever *L* 95 is drawn rearward, taking with it the arm *C*, until the upper end of the arm has passed below the first disk, as indicated in broken lines, Fig. 1. The column of disks yield for the passage of the blade-like portion of the arm 100 *C*; but so soon as the arm has passed the first disk the column is forced forward, bringing

that disk over the arm, as indicated in Fig. 1. If, now, the arm C be released, it will fly forward under the action of its spring and take with it the first disk, throwing that disk with great force through the mouth of the pocket and into the air, and in such movement the disk will roll against the upper edge of the pocket under the action of the arm, and so that in its discharge it will receive a rotary motion in its own plane, which rotary motion greatly facilitates the movement of the disk through the air, and serves to maintain it in substantially the same plane throughout its movement. One disk having been thus discharged, the arm is drawn back and a second disk thrown out, and so on until the whole column has been discharged, and this discharge may be as rapid as the movements of the arm can be made. To make these movements so rapid, the lever L is employed, and as it approaches the extreme opening movement the lever strikes an inclined trip, *n*, on the face of the trap, and so that in the continued movement it will be thrown outward, as indicated in broken lines, Fig. 2, so far that the projection *l* may escape from the lever, leaving the arm free to fly forward under the action of its spring, independent of the power which drew the arm backward, so that in operation it is only necessary to draw the lever backward to its extreme position, and the arm escapes at that extreme position; hence the discharge of the target may be as rapid as the lever L can be drawn backward and permitted to return.

For convenience of drawing the lever, and to insure its proper relation to the arm C, I arrange a carrying-pulley, P, on the front of the base, around which a suitable cord, R, or its equivalent passes, one end of the cord being engaged with the lever L, and the cord extending to any convenient position for the person operating the trap.

As a convenience for introducing the targets, a longitudinal opening, S, is made in the cylinder, from its rear end forward toward the base of the trap, sufficiently wide for the introduction of the fingers, and so that when the head and follower are removed the person tending the trap may take a number of disks—say a package of them—between his thumb and finger, and pass them through the then open end into the cylinder, his finger entering through the slot S, and so that he will be able to hold the disks in their proper relation to each other and to the cylinder until the follower may be introduced. Without such opening in the trap it would be difficult to introduce the disks and keep them in the proper plane and relation to each other until the follower be introduced. The opening enables the operator to hold them until they are properly arranged. It is desirable that the springs should be adjustable—that of the arm so that it may impart a greater or less force to the disk in its discharge, as occasion may require, and that of the lever L that the resistance to

the pull may be varied without effect upon the resistance of the spring of the arm C. To conveniently do this, the outer end of the stud on which the spring is arranged is constructed with radial grooves *r*, more or less in number. The end of the coil of the spring is turned inward, as at *t*, so as to enter and rest in either one of the said grooves; then upon the end of the stud a plate or cap, T, is arranged, secured to the stud or pivot by a screw, *u*, as seen in Fig. 5. The plate T firmly holds the ends *t* of the spring into either of the grooves *r* to which it may be set. If it is desired to increase or reduce the power of the spring, the plate T is removed and the spring adjusted to bring the end *t* of the spring into a groove farther forward or backward, according as the tension of the spring is required to be greater or less, and there reset.

While the lever L, as before described, is desirable for rapid firing, it may be dispensed with, and the cord be applied directly to the arm C, as indicated in broken lines, Fig. 1, and so that the pull in cocking or setting the trap will be made directly upon the arm, and when the arm has been pulled to its extreme cocked position the pull upon the cord may be instantly released, leaving the arm free to fly forward, and thus discharge the target. I therefore do not wish to limit the invention to the employment of the lever L.

The trap may be employed without the cylinder, the disks dropped in through the mouth of the pocket singly and discharged in the same manner as before described. The upper end or blade portion of the arm C is curved backward and downward. The tendency of this curve is to bear the disk against the upper side of the pocket, so that it surely rolls thereon, as before described, the curve of the arm tending to increase the rolling capacity of the disk.

It will be observed that the spring-arm works from the center; and while I prefer to make this throwing device in the form of an arm, it may be in disk shape, as seen in Fig. 6, adapted to revolve through the pocket, the disk having recesses in its edge to successively take the target-disks from the pocket. By the term "spring-arm," therefore, I wish to be understood as embracing such or other substantial equivalents therefor.

Instead of applying the plate B as a fixed part of the base, which, with the base, forms the pocket, the plate may be formed as a part of the throwing-arm, and so as to move with it, as indicated in Fig. 7. I therefore do not wish to be understood as making the pocket necessarily an integral part of the base.

I claim—

1. In a target-trap, the combination of the base A, provided with a pocket, *a*, adapted to receive the disk-target, and the spring-arm C, hung below the pocket, and so as to work in the plane of the pocket, the upper end of the arm curved backward and downward, substantially as described.

2. In a target-trap, the combination of the base A, provided with the pocket *a*, adapted to receive a disk-target, and the spring-arm C, adapted to work in the plane of the pocket, substantially as described.

3. The combination of the base A, constructed with the pocket *a*, adapted to receive a disk-target, the spring-arm C, adapted to work through said pocket and in the plane of the pocket, the lever L, arranged to swing in a plane parallel with the said spring-arm C, the spring-arm constructed with a projection, *l*, in the path of movement of said arm, and a trip on the face of the trap, adapted to throw the said lever out of engagement with the said arm as the arm approaches its extreme rear movement, substantially as described.

4. The combination of the base A, constructed with the pocket *a*, a cylinder, E, opening into said pocket at right angles to the plane of the pocket, the said cylinder adapted to receive a succession of flat disks, a spring-follower, F, arranged in said cylinder to bear against said column of disks, and a spring-arm, C, arranged to work in a plane through and parallel with said pocket and across the mouth of the disk, substantially as described.

5. The combination of the base A, constructed with the pocket *a*, the cylinder E, opening into said pocket at right angles to its plane, the said cylinder adapted to receive a succession of flat disks, a spring-follower, F, in said cylinder adapted to bear against said disks, the said cylinder constructed with a removable

head, I, and the longitudinal slot S, with a spring-arm, C, arranged to work in a plane through and parallel with said pocket across the mouth of the said cylinder, substantially as described.

6. The combination of the base A, constructed with the pocket *a*, the cylinder E, opening into said pocket at right angles to its plane, a spring-follower in said cylinder, the spring-arm C, and the lever L, the said arm constructed with a projection, *l*, in the path of and back of said lever, with a trip adapted to disengage said lever from said projection, substantially as described.

7. In a target-trap in which the target is thrown by an arm arranged to work in the plane of the direction in which the target is to be thrown, a coiled spring arranged upon a stud at right angles to the plane in which the arm moves, one end of the spring arranged to resist the opening movement of the arm, and thereby apply the force of the spring to throw the arm forward, the other end of the coil of the spring turned inward, the end of the stud constructed with two or more radial grooves, adapted to receive the turned-in end of the spring, and a holder adapted to hold the said turned-in end in either of said radial grooves, substantially as and for the purpose described.

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Witnesses:

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