

No. 679,162.

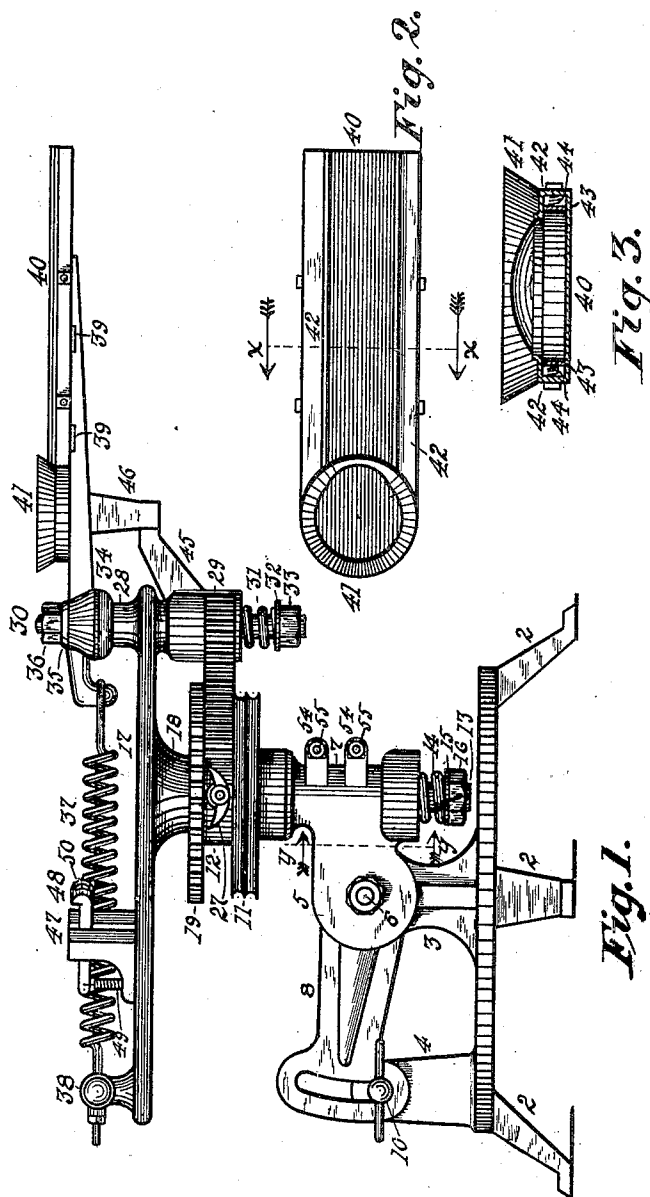
Patented July 23, 1901.

E. D. SCHMITT.
TARGET TRAP.

(Application filed Dec. 28, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

Wetwood
Bessie Brook.

Inventor:

Edward D. Schmitt,
by Humphrey & Humphrey,
Attorneys.

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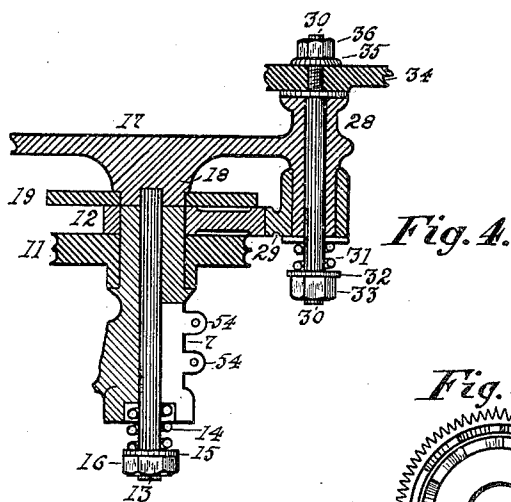


Fig. 4.

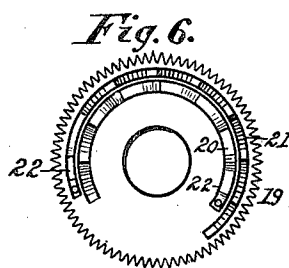


Fig. 7.

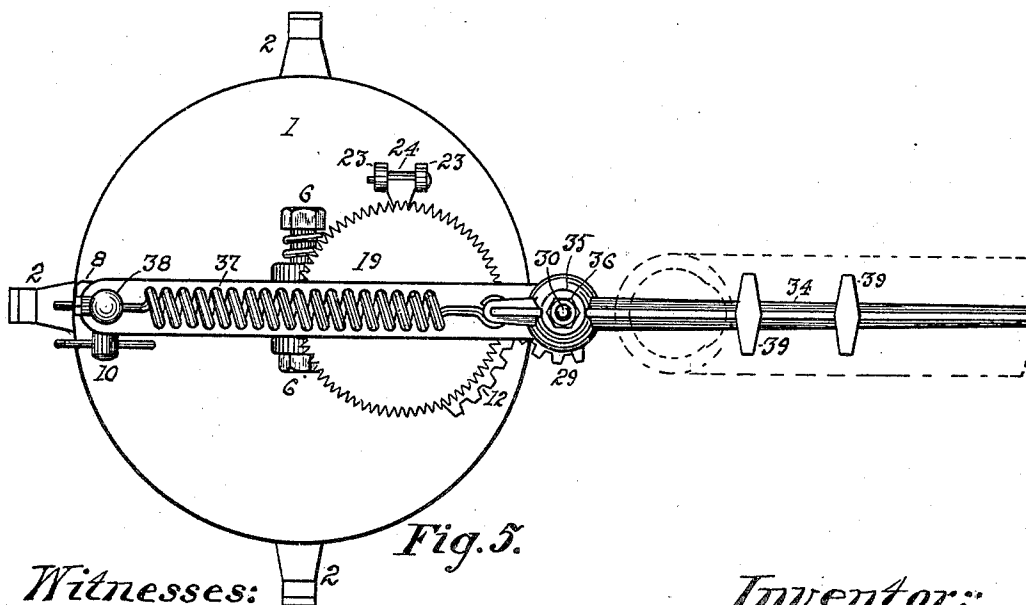


Fig. 5.

Witnesses:

W. H. Wood
Bessie Crook.

Inventor:

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by Humphrey & Humphrey,
Attorneys.

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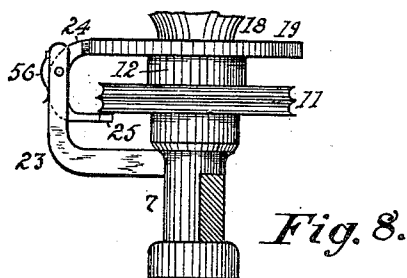


Fig. 8.

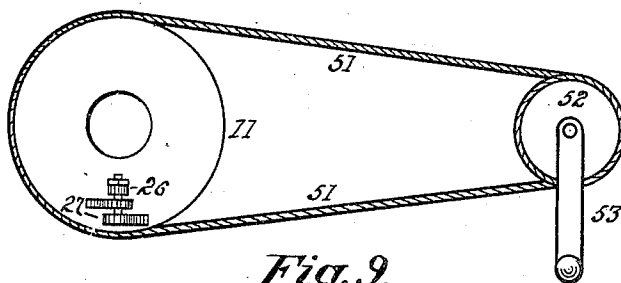


Fig. 9.

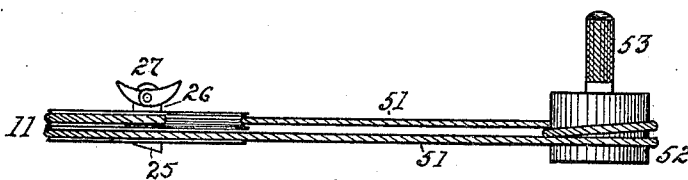


Fig. 10.

Witnesses:

W. L. Wood
Bessie Crook.

Inventor:

Edward D. Schmitt,
by Humphrey & Humphrey,
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD D. SCHMITT, OF BALTIMORE, MARYLAND, ASSIGNOR TO HALLACK
A. PENROSE, OF SAME PLACE.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 679,162, dated July 23, 1901.

Application filed December 28, 1900. Serial No. 41,333. (No model.)

To all whom it may concern:

Be it known that I, EDWARD D. SCHMITT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented a certain new and useful Improvement in Target-Traps, of which the following is a specification.

My invention has relation to improvements in devices for projecting frangible disks, technically called "pigeons," to constitute flying targets.

The object of my invention is to produce an improved trap of the general class named that shall be efficient for the purpose, easily adjusted and operated, and to simplify the construction and reduce the number of parts.

To the aforesaid object my invention consists in a fixed stand, on which is mounted a revoluble head, to which is pivotally attached an oscillating arm carrying a discharging-chute and having a spring to maintain it in different definite positions and to restore it when turned in either direction, and a latch to retain it when deflected.

It also consists in means for turning the head upon the stand from a distance, changing it when desired, and locking it when turned.

It further consists in means for changing the angle of elevation of the head and arm; and finally it consists in certain details of construction and combinations of parts hereinafter fully described and then specifically pointed out in the claims, reference being had to the accompanying drawings, which form a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 is an elevation of my improved trap; Fig. 2, a plan of the delivery-chute; Fig. 3, a cross-section, enlarged, of Fig. 2 at the line X X; Fig. 4, a vertical central section, enlarged, of a portion of Fig. 1; Fig. 5, a plan of the apparatus with spring and latch detached; Fig. 6, an inverted plan of the adjusting ratchet-wheel; Fig. 7, a detached view of one of the stop-hooks on the ratchet-wheel; Fig. 8, an elevation of a portion of the apparatus in section at the line Y Y of Fig. 1; Fig. 9, a plan of the driving-drum, crank, belt, and

pulley detached for operating the trap; and Fig. 10, a side elevation of Fig. 9.

Referring to the drawings, 1 is the base, which consists of a circular metallic plate supported by feet 2 and from the top of which extend two posts 3 4, the latter having lateral web-braces for greater security. On the post 3 is pivotally mounted, by means of ears 5 and bolt 6, a sleeve 7, and from the back of one of the ears 5 extends an arm 8, having in its end a curved slot 9, by which it is adjustably secured to the post 4 by means of the locking-screw 10.

The upper part of the sleeve 7 is accurately turned, and on this portion is freely mounted a grooved sheave 11 and a segmental gear 12, the two being connected and arranged to move in unison. Through the center of the sleeve 7 is a shaft 13, constantly drawn downward by a spring 14, that fits in a recess in the lower end of the sleeve and is retained by a washer 15 and nut 16. The upper end of the shaft 13 projects above the sleeve 7, and on this projecting end is rigidly mounted an elongated head 17 by means of a boss or projection 18, which boss is turned for part of its length from below concentric with the sleeve 7, on which it rests, and on the turned portion is rigidly secured a wheel 19, having peripheral teeth. The under face of the wheel 19 bears two annular concentric ratchet-courses 20 21, Fig. 6, with their teeth turned in opposite directions, and each provided with a stop-hook 22 at one end, these stop-hooks being at alternate ends of the adjacent courses and for a purpose to be stated.

Extending from one side of the sleeve 7 is an arm 23, Fig. 8, with its outer end bent upward and bifurcated, and in this end is pivotally mounted a two-armed pawl 24, having its upper end bent inward and conformed to engage and fit the peripheral teeth of the wheel 19 and its lower end bent to rest under the grooved sheave 11 and arranged to be engaged by a projecting cam-stud 25 on the under face of the sheave, Fig. 8, and to be rocked outward, thus swinging the upper end into engagement with the toothed wheel 19 and locking it, and on this pawl is a spring 26, that constantly forces the lower end inward. On the upper face of the pulley 11,

on a post 26, is pivotally mounted a double-ended pawl 27, adapted to alternately engage the ratchet-courses 20 21. The shorter end of the head 17 has a vertical bearing or sleeve 5 28, accurately bored internally and the lower part accurately turned. On this lower part is freely mounted a segmental gear 29, of less radius than and which meshes with the segmental gear 12. In the sleeve 28 is freely fitted 10 a shaft 30, which projects beyond the sleeve in each direction, and on the lower end is a coiled spring 31, that presses against a washer on the hub of the gear 29 and is held by a nut 33 and washer 32 on the lower end of the shaft, and thereby retains the gear in position. 15 On the upper end of the shaft 30 and resting on the sleeve 28 is a horizontally-swinging arm 34, retained by a washer 35 and nut 36. This arm is mounted near one end, and its 20 shorter end is bent downward and connected with one end of a coiled spring 37, the opposite end of which spring is fastened to a post 38 on the end of the head 17, by which arrangement this arm is constantly drawn to 25 rest in alinement with the head 17. Attached to the longer end of the arm 34 by means of cross-pieces 39 is a chute 40, having at its inner end a hopper 41 for the reception of "birds" and open at one side to permit them 30 to escape into the chute. The upper edges 42 of this chute project inward, thus creating a narrow channel along each side, and in each channel is a strip 43, of a suitable material, preferably metal, pressed inward at intervals by springs 44, Figs. 2 and 3. 35

Attached to and projecting from the hub of the gear 29 is a wing 45, arranged to engage a like wing 46, depending from the arm 34, adapted to turn the arm upon its shaft, as 40 hereinafter described. On the head 17, in up-rights 47, is pivotally mounted a hook-latch 48, normally held upward by a coiled spring 49 and provided with a perforated lug 50 to form means for attaching a releasing-cord. 45 The apparatus is operated by means of a cord 51, Figs. 9 and 10, the ends of which are passed in opposite directions about the sheave 11 and fastened therein, and its central part is coiled about a drum 52, located back of the 50 marksman's position and operated by a crank 53.

The operation of the apparatus is as follows: The crank 53 is turned in one direction, and through the drum 52 and cord 51, 55 the sheave 11, segmental gear 12, and wings 45 and 46 the arm 34 is swung around until it is engaged by the catch 48, and a bird placed in the hopper 41 by an attendant. The motion of the drum is then reversed until the wing 45 is swung back out of the way 60 of the return of the wing 46 on the arm when the arm is released. The trap is now ready to discharge the bird by the releasing-cord freeing the catch 48. As the catch is released the arm by force of the spring 37 flies 65 back, and the bird is discharged from its end by centrifugal force. The operation of turn-

ing the drum in one direction to swing the arm 34 back to the catch and in the opposite 70 direction to remove the wing 45 out of the path of the wing 46 in its return also changes the horizontal direction of the point of discharge of the bird in the manner following: The double pawl is so constructed as to be 75 overbalanced and remain with one point up to engage one of the ratchet-courses 20 or 21, and when in that position it will remain, and as the sheave 11 is partially rotated and returned in setting the trap it will successively 80 engage its proper ratchet-course and partially rotate the gear 19, and with it the head 17. This it will continue to do until it encounters one of the stop-hooks 22, which will 85 tilt it so as to bring the other point up, which will in its turn successively engage the other ratchet-course and progressively turn the head 17 about in the opposite direction. Thus 90 as the process of setting the trap is repeated each operation will swing the head around to a different direction from that it occupied immediately before, this swinging being progressive first a number of times in one direction and then a like number in the other 95 without any volition or knowledge on the part of the operator. This process of setting the trap, operating to cause only a partial revolution of the head, arises from the fact that the segmental gear 12 is of greater diameter than the gear 29, and hence when the arm 34 is swung back to the catch 48 the 100 wheel 19 will have made but a partial revolution. The amount of the revolution of the wheel 19 will depend upon the amount of revolution which the operator gives to the drum 52, which will only be sufficient to rock 105 the arm 34 back far enough to engage the catch 48. To prevent the partial rotation of the head by the operation of swinging the arm 34 back to its catch, the pawl 24 is employed. This pawl is normally held away 110 from the toothed wheel by a spring 56, excepting when the sheave is at rest, at which time a lug 25 on its under face engages its lower end and rocks its upper end into engagement with the teeth. To further prevent 115 the turning of the head by the operation of swinging the arm 34 back, the sleeve 7 is split lengthwise on one side, and on each side of this cut are ears 54, through which pass bolts 55, by tightening or loosening 120 which the friction between the sleeve and shaft 13 is increased or diminished.

I claim as my invention—

1. In a target-trap the combination with a base having two upright posts, and a sleeve 125 having a lateral wing pivotally connected with one of said posts, an extended slotted arm adjustably connected with the second post, and means for retaining and releasing said arm, of a shaft mounted to revolve in 130 said sleeve and bearing rigidly-secured target-discharging mechanism, substantially as shown and described.

2. In a target-trap, the combination with a

base and a vertical bearing, of a shaft mounted in said bearing, a head mounted on said shaft, a counter-shaft mounted in said head, a horizontally-rocking arm mounted on said counter-shaft a target-discharging apparatus mounted on said arm, and means for rocking said arm, and devices such substantially as shown for changing the horizontal direction of said head, substantially as shown and described.

3. In a target-trap the combination with a supporting-base and a head adapted to oscillate thereon and bearing a horizontally-rocking delivery arm and chute and means for rocking said arm and for successively changing the horizontal direction of said head, of devices to cause the rocking of said arm and means to alternately automatically move said head progressively in opposite directions, substantially as shown and described.

4. In a target-trap the combination with the revoluble head and pulley for intermittently turning it, and having a toothed wheel connected and adapted to turn with it, of a double-armed pawl arranged to engage said toothed wheel and lock said head, and a cam-stud on said pulley arranged to engage one arm of said pawl, and disengage it, substantially as shown and described.

5. An improved chute for delivering targets by centrifugal force consisting of a shallow trough having movable side pieces and means, as springs to constantly force said movable side pieces toward the center of said chute, substantially as shown and described.

6. In an improved chute for delivering targets by centrifugal force, the combination with a bottom and sides with inturned overhanging edges and means for attaching it to an axis on which to vibrate horizontally, of movable side pieces within said overhanging edges, springs to press said side pieces inward, and an opening for the reception of targets located eccentric to the axis of vibration, all arranged substantially as shown and described.

7. In a target-trap the combination with a base having a sleeve-bearing, a shaft jour-

naled in said sleeve and bearing a revoluble head to carry the target-projecting mechanism, a ratchet-wheel connected with said head and adapted to revolve therewith, and a sheave freely mounted on said sleeve and adapted to be driven to operate said trap, of a pawl pivotally supported on an arm attached to said sleeve provided with a spring to throw it out of contact with the ratchet-wheel, and a boss on said sheave adapted to engage said pawl and cause it to enter said ratchet, as said sheave is revolved, all constructed and arranged to operate, substantially as described.

8. In a target-trap the combination with a base, a sleeve pivotally mounted thereon, a shaft journaled in said sleeve and a head mounted on said shaft to carry the target-projecting mechanism, of a wheel having double concentric ratchet-courses on one face, a sheave freely mounted on said sleeve and provided with a double pawl adapted to alternately engage said ratchet-courses and a driving-drum and cord to operate said sheave, substantially as shown and described.

9. In a target-trap the combination with a base a sleeve pivotally mounted thereon, a shaft journaled in said sleeve and a head mounted on said shaft to carry target-projecting mechanism, embodying a rocking arm, of a toothed wheel connected with said head adapted to revolve therewith, a segmental gear mounted on said sleeve, a second segmental gear mounted on a sleeve surrounding said rock-shaft, to cause said second rock-shaft to rotate, and a double-grooved sheave attached to said segmental gear and adapted to move therewith, substantially as described.

In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

EDWARD D. SCHMITT.

In presence of—

RODERICK D. COE,

FREDERICK W. HENTJE.