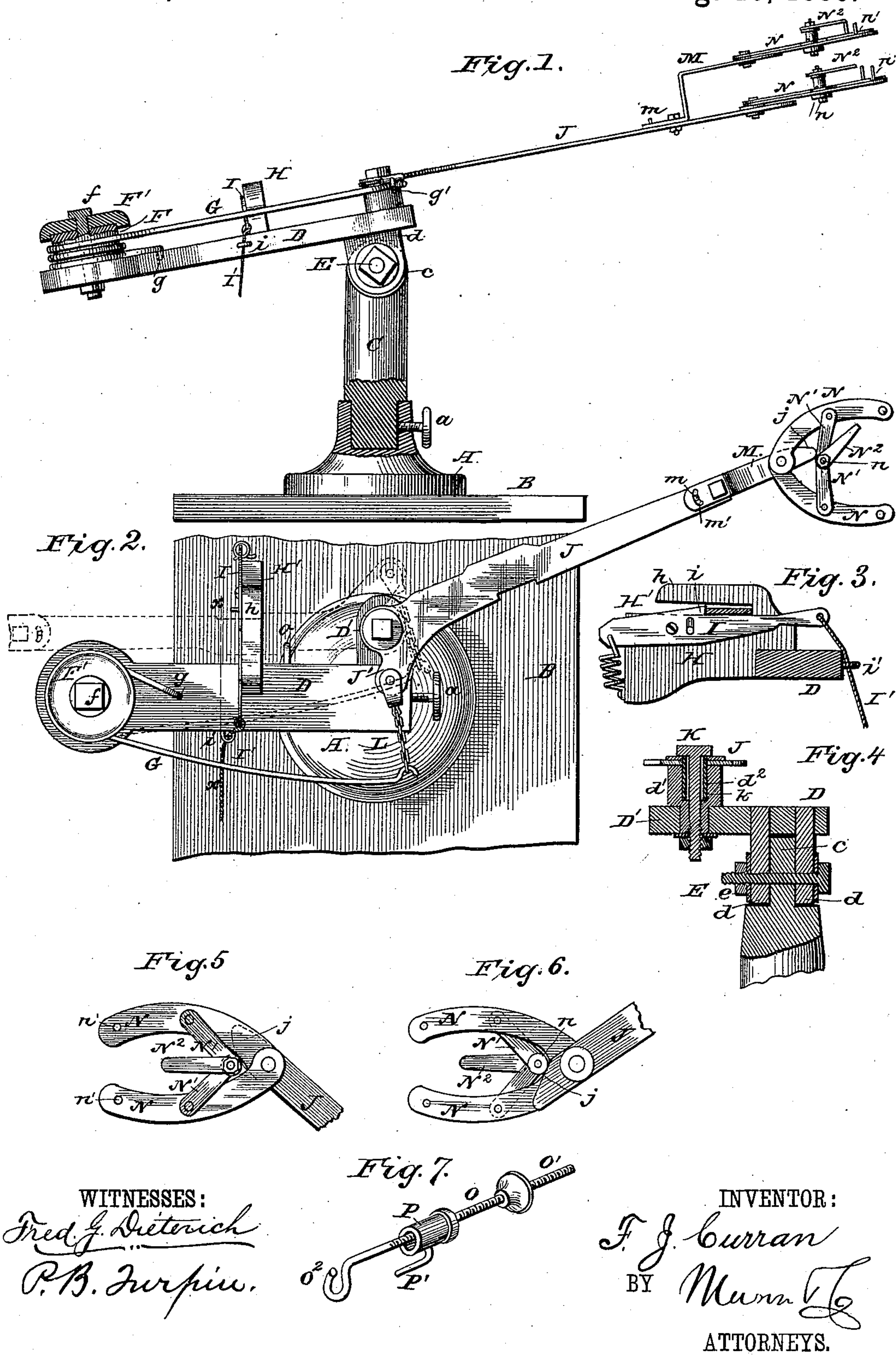


(No Model.)

F. J. CURRAN.
TARGET TRAP.

No. 346,988.

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UNITED STATES PATENT OFFICE.

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TARGET-TRAP.

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To all whom it may concern:

Be it known that I, FRANKLIN J. CURRAN, a citizen of the United States, residing at Stanford, in the county of Lincoln and State of Kentucky, have invented certain new and useful Improvements in Target-Traps, of which the following is a description.

This invention is an improvement in target-traps intended for casting the frangible targets used in shooting-matches; and it consists in certain novel constructions and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation, parts being broken away and other parts shown in section. Fig. 2 is a top plan view thereof with dotted motion. Fig. 3 is a detached sectional view on line $x x$, Fig. 2, showing the latch and guard-piece. Fig. 4 is a detail view illustrating the joint between the standard and the arm for supporting the casting-lever. Figs. 5 and 6 are respectively top and bottom plan views of the target holding and releasing devices, and Fig. 7 shows the spring holding and compressing device.

A pedestal, A, is mounted on a base, B, and is socketed to receive the foot of the standard C, which is rotatable therein, and may be held at any point of rotary adjustment by means of a screw, a , turned through the pedestal and bearing against the foot of the standard. At the upper end of the standard is formed a perforated lug, c .

The supporting-arm D is provided at its inner end with depending perforated lugs d , which fit on opposite sides of lug c , and therewith form hinge-knuckles, the pintle of said hinge being the bolt E, having nut e . By means of this construction the arm D may be set to and held at various angles to the horizontal, in order that the targets will be cast at different angles, as may be desired.

The arm D may be provided at its inner end with a lateral forward extension, D', near the extremity of which is supported a stud, d' , on which to support the casting-lever. The object of this lateral forward extension is to so support the lever that the spring will exercise a longer and stronger force thereon. A drum, F, is supported on the outer end of the arm D, and on such drum is secured a cap-piece, F', which is removably held by means of the

bolt f . This drum serves as a support for the coils of the spring, which may be removed by detaching the cap F'. The spring G is coiled on the drum and has one end held, as at g , to the supporting-arm, and its other end is hooked at g' , or otherwise adapted for engagement with the connections between the spring and the casting-lever. A bracket, H, projects forward from the supporting-arm at a point about midway between its ends, and forms a support for the latch I, which is pivoted to the bracket, and has a shoulder, i , to engage the casting-lever. This latch is preferably spring actuated and operated by a cord, I', passed through an eye, i' , on the base, and thence carried in any desired direction to the operator. The bracket is slotted at H', forming a guard-piece, h , which projects alongside of and close to the casting-lever, when the latter is held by the latch, and prevents the lever from being released by any accidental contact therewith of the person of the operator. The casting-lever J is pivoted to the arm, usually on the stud d' . This stud is socketed at d^2 in its upper end, and a bolt-opening of less diameter than such socket leads from its base through the supporting-arm.

The pivot-bolt K is formed or provided with a stop, which, engaging the base of socket d^2 , prevents the pivot-bolt from binding and locking the casting-lever, no matter how tightly the retaining-nut may be turned upon such bolt, as will be understood from Fig. 1. This stop is preferably a sleeve, k , surrounding the pivot-bolt, as shown; but manifestly, where desired, the bolt may be formed with a shoulder, whereby to engage the bottom of the socket d^2 , and which would perform the same function as the sleeve.

The lever J is connected with the operating-spring by means of an intermediate connection, L. This connection may be disposed around a pulley on the support and be united directly to the main or long arm of the lever. It is preferred, however, to connect it in the following manner: It is also preferred to form said connection of a series of links, into either of which the hook of the operating-spring may be engaged in order to give more or less force to casting-arm.

The lever J is formed with a short arm or extension, J', and the connection L is secured

to the said short arm at or near its extremity. By this arrangement the spring operates as a yielding stop for the casting-lever as well as to give same its throwing impulse.

5 The target holding and releasing devices are supported on the outer end of the casting-lever. It is preferred to employ two or more of these devices, one above the other, in order that a plurality of targets may be cast at
10 one operation of the traps. By the arrangement of the clamps one above the other the targets will be cast in different vertical planes. The object obtained by this arrangement is that the targets at all points in their flight remain in different vertical planes, and are thus
15 both distinguishable from all points of the compass, and one cannot be hidden by the other from any point of view. The lever forms the support for the lower holding and releasing devices, and the upper ones are held on a supplemental support, M, having its inner end pivoted on the casting-lever and provided with a stop, by which to limit the movement of the supplemental support on its lever. This stop
20 consists of a pin or stud, m , projecting into or through a slot, m' , in the supplemental support. By this construction the target carried by the supplemental support will be cast slightly after that thrown by the main support, causing the targets to be further separated in their flight. These holding and releasing devices are similar in construction, and the description of one will answer for both.

35 The extremity of the support is beveled or slanted at j on its rear side. Arms $N N$ are pivoted at one end on the support in rear of the beveled portion. Between their ends these arms $N N$ are connected by links $N' N'$, pivoted at one end, one to each of the arms $N N$,
40 and at their other ends together, and are provided at their pivotal joint with a depending stud, n , which may have an anti-friction roller, as shown, and is arranged to engage the beveled edge of the support. This beveled edge forces the pin or stud forward, and the links N' spread the arms N apart and release the target. The pin is brought into engagement with the beveled edge at the end of the casting-stroke of the lever, as will be seen.

The targets, when "pigeons" are used, are formed with opposite radial notches, into which the pins n' on the clamping-arms N fit, and for greater security I prefer, when clay pigeons
55 are used, to employ a keeper-bar, N^2 , secured to the toggled links N' at the joint thereof, and fixed to the rear links, N' , in such arrangement that when the clamping-arms are drawn together on the target said keeper-bar
60 will rest with its point on the target and prevent any upward displacement thereof, and when the clamping-arms are spread apart the bar N^2 will incline to the rear with reference to the line of motion.

65 The device may be adapted to cast glass balls by providing each of the clamping-arms with conical sockets adapted to partially en-

velop the ball, but the trap is especially adapted for casting that class of targets known as "pigeons."

70 In a full-sized machine the tension of the spring will be very strong. To enable the convenient adjustment of the spring into any one of the links of the connection, I provide the device shown in Fig. 7, and consisting of
75 a bar or rod, O , having threads O' at one end and a right-angled eye, O^2 , at the other. The eye O^2 in operation is fitted over a stud, o , on the forward edge of the supporting-arm. On the threads O' is slipped a sleeve, P , having a
80 hook, P' , fitted to engage the spring, and this sleeve may be adjusted back and forth by a set-screw turned on threads O' , as will be understood.

Having thus described my invention, what I
85 claim as new is—

1. The target holding and releasing devices herein described, comprising a support having an inclined edge, two arms pivoted at one end to the support and adapted at their other
90 ends to hold the target, two toggle-links pivoted to the arms and together, and a pin projecting from said links in position to engage the inclined edge of the support, substantially as set forth.

95 2. The target holding and releasing devices consisting of the support having an inclined edge, two clamping-arms pivoted to the support, toggle-links pivoted together and to the clamping-arms, a pin projecting from said
100 toggle-links in position to engage the inclined edge of the support, and a keeper-bar supported on said links and projected forward therefrom, substantially as set forth.

105 3. The combination, with a support having an inclined bearing, of target-holding arms pivoted to said support, toggle-links pivoted to such arms and together, and a projection on said links whereby to engage the inclined bearing, substantially as set forth.

110 4. In a target-trap, the combination of the pivoted casting-lever provided with a target-carrier, a supplemental support, also provided with a target-carrier and pivoted to the casting-lever, and a stop for limiting the motion
115 of the supplemental support on its pivot, substantially as set forth.

120 5. The combination of the supporting-arm, the spring, the lever pivoted on the arm and connected with the spring, a latch whereby to secure the casting-lever, and a guard-plate whereby said lever is held from accidental disengagement with said latch, substantially as set forth.

125 6. The combination of the supporting-arm having a stud, d' , provided with a socket, d^2 , and having a small opening leading therefrom through the supporting-arm, the lever, and the pivot-bolt K , provided with a stop, whereby to engage the inner wall of socket d^2 , all arranged and operating substantially as set forth.

Witnesses: FRANKLIN J. CURRAN.

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