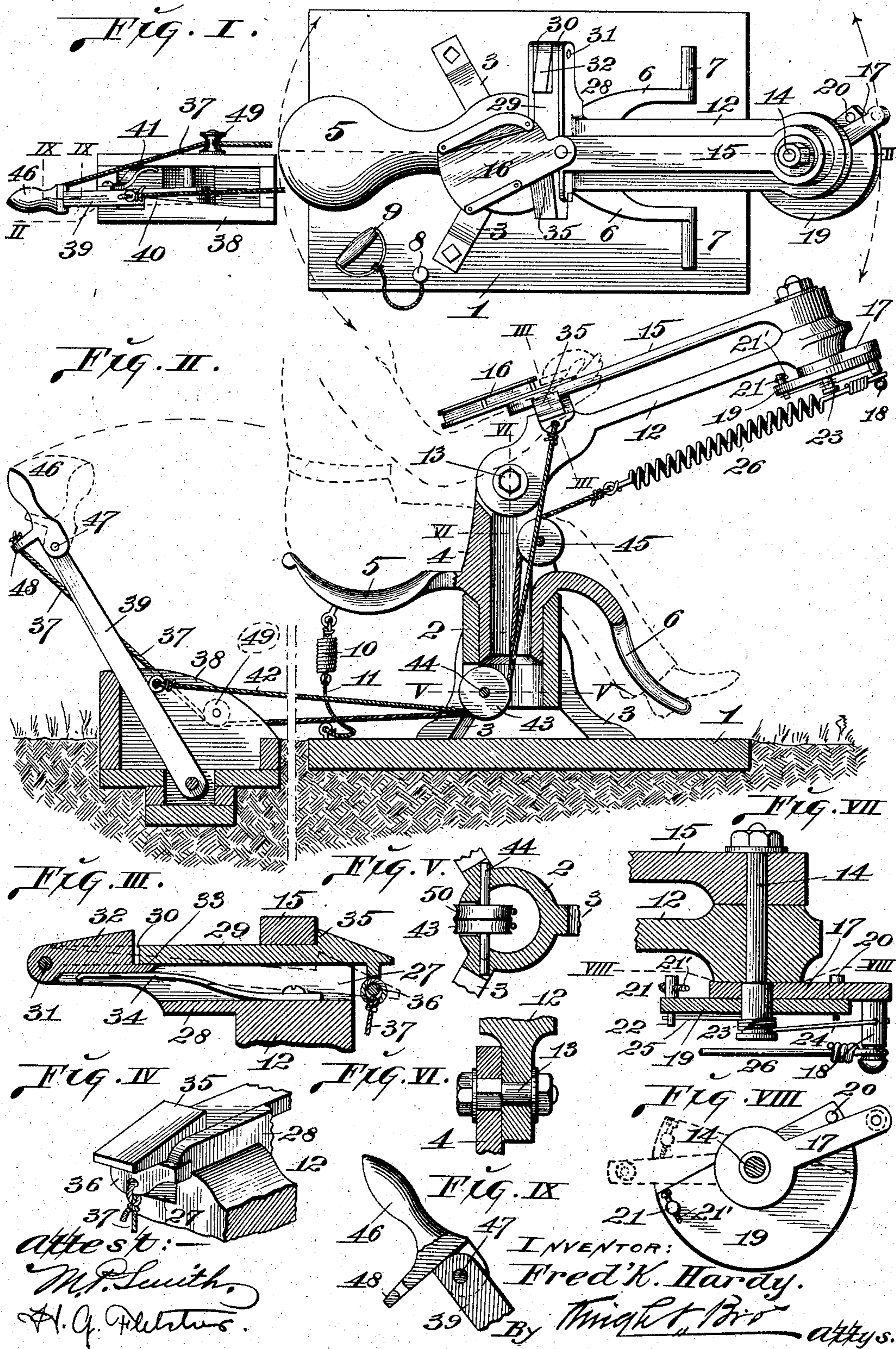


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F. HARDY.
TARGET TRAP.

APPLICATION FILED APR. 18, 1904.



UNITED STATES PATENT OFFICE.

FREDERICK HARDY, OF MOUNTPLEASANT, TENNESSEE.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 791,776, dated June 6, 1905.

Application filed April 18, 1904. Serial No. 203,657.

To all whom it may concern:

Be it known that I, FREDERICK HARDY, a citizen of the United States, residing in Mountpleasant, in the county of Maury and State of Tennessee, have invented certain new and useful Improvements in Target-Traps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a trap for use in throwing targets, such as clay pigeons, for sharp-shooters' practice; and it embodies a construction in which provision is made for the seating of one person in connection with the trap-frame in such manner that said frame may be readily rotated to vary the direction in which a target is thrown from the trap, whereby said person is in a position to feed the targets readily into the throw-arm carrier.

It also includes means whereby a second person, preferably located at a distance from the trap, may quickly and efficiently actuate the target-trap throw-arm spring mechanism and latch mechanism.

Figure I is a top or plan view of my trap and operating mechanism with parts of the operating mechanism broken out. Fig. II is a vertical longitudinal view, partly in section, on the line II II, Fig. I. Fig. III is a vertical cross-section taken on line III III, Fig. II. Fig. IV is a perspective view of the forward portions of the throw-arm latch mechanism. Fig. V is a horizontal section taken on line V V, Fig. II. Fig. VI is a vertical section taken on line VI VI, Fig. II. Fig. VII is an enlarged vertical longitudinal section taken through the outer ends of the supporting-arm of the trap-frame, throw-arm, and parts co-existent therewith. Fig. VIII is a horizontal section taken on line VIII VIII, Fig. VII, with parts beneath said line shown in top or plan view. Fig. IX is an enlarged vertical section taken on line IX IX, Fig. I.

1 designates the foundation or base on which my trap is mounted, and 2 is a tubular stand having legs 3 seated on said foundation.

4 is a rotatable head having its lower end seated in the stand 2, the said head being tubular, as illustrated in Fig. II.

5 is a seat or saddle projecting from the head 4 and upon which the person feeding the trap and controlling the direction in which it is positioned for target-throwing action sits.

Projecting from the head 4, at the opposite side thereof from that at which the seat is located, are a pair of foot-arms 6, bearing foot-rests 7, upon which the trap operator places his feet, so that he is always supported by the head 4 to move with the trap as said head is rotated from side to side. For the purpose of permitting the trap operator mounted on the seat 5 to swing himself, and consequently the trap, I provide a post 8, extending upwardly from the foundation 1, and connect to said post a handle 9, which may be grasped by the operator. It will be seen that when the seat is in a position adjacent to the post 8 the operator may place his hand thereagainst to push himself in a direction away from the post and that by maintaining a hold upon the handle 9 he may when the seat has been swung into a position more remote from the post draw himself and the seat in a direction toward the post, thereby securing any desired position around the axial line of the head 4. To provide for a more ready return of the seat to a normal position after it has been moved laterally in either direction from its normal position, I connect to the seat a return-spring 10, that is in turn united to the foundation 1 by a cord 11 or other suitable connection.

12 designates a main supporting-arm, the inner end of which is connected to the upper end of the head 4 by a clamp-bolt 13 in such manner that the arm may be adjusted vertically to secure any desired inclination thereof with respect to said head.

14 is a shaft that passes loosely through the outer end of the main supporting-arm. To this shaft is fixed the target throw-arm 15, to the free end of which is secured the target-carrier 16, that is preferably of the form illus-

trated in the drawings, but for which no invention is herein claimed, the said part being made the subject-matter of a separate application for patent at present pending in the United States Patent Office, Serial No. 195,029, filed February 24, 1904. The lower end of the shaft 14 extends to a position beneath the outer end of the main supporting-arm 12, and loosely fitted to said shaft is a swing-arm 17, that is provided with a leg 18.

19 is a plate fixed to the shaft 14 and bearing stop-pins 20 and 21, the latter of which contains a stop-screw 21' and is provided with a stud 22, that projects beneath the lower face of said plate.

23 is a retractile spring coiled around the shaft 14 and having an arm 24, that is connected to the swinging-arm leg 18, and an arm 25, that is connected to the stud 22.

26 is a main power-spring that is connected to the swinging-arm leg 18 and in which power is stored when the spring is placed under tension by means to be hereinafter described.

I will next describe the latch mechanism by which the throw-arm 15 is held while the target to be thrown is fed into the target-carrier previous to being discharged on the operation of the throw-arm.

The upper side of the main supporting-arm 12 at the location of the latch is grooved, as seen at 27, Figs. III and IV, and extending laterally from said arm is a grooved extension 28.

29 is a main latch-arm that is bifurcated at its rear end to produce a pair of fork-arms 30, that are pivoted to the outer end of the extension 28 by a pin 31.

32 is an auxiliary latch positioned between the fork-arms 30 and also mounted on the pivot-pin 31, this last-named latch being provided at its inner end with a lip 33, that occupies a position beneath the latch 29, as seen in Fig. III, and the upper portion of the latch projects to a greater elevation than the rear-most portion of the latch 29.

34 is a spring secured at one end to the supporting-arm 12 and having its free end positioned beneath the auxiliary latch 32, so that it serves to normally uphold both the auxiliary latch and main latch, due to the engagement of the lip 33 with the main latch.

At the upper side of the forward end of the main latch is a projection 35, that receives the engagement of the throw-arm 15. At the under side of the main latch is an eye 36, to which is connected a pull-cord 37.

38 designates a boxing that is preferably located adjacent to the position occupied by the sharp-shooters at practice. To this boxing is pivoted a hand-lever 39, and at one side of the boxing is a catch 40, (see Fig. I,) into engagement with which said hand-lever is pressed in a lateral direction through the medium of a spring 41, that is carried by the

hand-lever and rides against the wall of the boxing opposite that bearing said catch.

42 is a pull-cord that leads from the hand-lever 39 to the main power-spring 26, traversing in its course a sheave 43, mounted on a shaft 44, seated in the stand 2, from which it passes upwardly through the stand and the rotatable head 4 and over a sheave 45 to extend into connection with the main power-spring.

46 is a rocking handle pivoted at 47 to the hand-lever 39, the said handle being so fitted to the hand-lever, as illustrated in Fig. IX, as to limit its rearward movement and provide for only forward rocking movement thereof. At the rear side of the handle 46 is an arm 48, to which is connected the pull-cord 37, that is united to the main latch 29, as previously stated. This pull-cord passes from the arm 48 downwardly and beneath a sheave 49 and therefrom to a sheave 50 on the shaft 44, from which it extends to the connection with the main latch.

In the use of the trap the operation is as follows: The operator, who feeds the trap and controls the direction in which the targets are thrown, occupies the seat 5 and introduces the targets into the carrier 16 each time that the throw-arm is brought into engagement with the latch mechanism of the trap subsequent to the throwing of a target and at the same time swings the trap-frame by rotative movement imparted to the frame in the manner explained. The operator who actuates the throw-arm power-spring mechanism and the throw-arm-controlling latch actuates these members through the medium of the hand-lever 39 and its handle 46. In putting the parts into operative condition for the throwing of a target the hand-lever handle is first grasped and drawn rearwardly to move the said lever into engagement with the catch 40, thereby distending the main power-spring 26 and storing power therein, at which time the swinging arm 17, to which the power-spring is connected, occupies the position illustrated in the drawings, Figs. I, II, VII, and VIII, in which it rests against the stud 20 of the plate 19. The hand-lever handle 46 is then rocked forwardly into the position seen in dotted lines, Fig. II, thereby placing the pull-cord 37 under strain to lower the main latch 29 and disengage it from the throw-arm 15 to permit the rotation of said throw-arm and discharge the target previously placed in the carrier 16. During the rotation of the throw-arm the plate 19 is carried therewith, and therefore the studs 20 and 21 on said plate move in a circle corresponding to the movement of the throw-arm. At the time that the throw-arm and said plate have completed their circuit the swinging arm 17 will occupy a position, as indicated by dotted lines, Fig. VIII, against the stud 21, due to said arm being loosely

fitted to the shaft 14 and the throw-spring remaining active with respect to said swinging arm after the throw-arm has been actuated. The rotation of the throw-arm having been thus effected, the next step is to place the parts in their previous normal positions, and this is accomplished by releasing the hand-lever 39 from the catch 40 and moving it forwardly, thereby permitting the contraction of the main throw-spring and eliminating the tension therein. The swinging arm 17 is therefore rendered free of restraint by the main power-spring, and it is returned to its operative position through the medium of the spring 23, connected to the swinging-arm leg, as explained, so that said swinging arm will again bear against the plate-stud 20 to move said plate and actuate the throw-arm, when the power-spring is again placed under tension and the throw-arm released in the manner previously described. Each time that the throw-arm is brought into engagement with the latch members of the trap said arm passes over the auxiliary latch 32, which after the passage of the arm immediately ascends to prevent retrograde movement of the throw-arm and confine it between the auxiliary latch and the top projection 35 of the main latch. The swinging arm 17 in each movement thereof toward the stop-pin 21 comes in contact with the stop-screw 21', which may be adjusted in said stop-pin as desired to properly position the swinging arm when it is brought to rest against the stop-screw, for the purpose of so locating the swinging arm that it will be the more readily acted upon by the return-spring, by which it is retracted to the stop-pin 20, when the main power-spring is relieved of tension.

I claim as my invention—

1. In a target-trap, the combination with a stand, a trap-frame and target-throwing members supported thereby, of a rotatable member supported by said stand and carrying said frame, and a seat supported by said rotatable member to move therewith, substantially as set forth.

2. In a target-trap, the combination with a stand, a trap-frame and target-throwing members supported thereby, of a rotatable member supported by said stand and carrying said frame, a seat supported by said rotatable member to move therewith, and foot-supporting members also carried by said rotatable member, substantially as set forth.

3. In a target-trap, the combination of a stand, a rotatable member fitted to said stand, a seat carried by said rotatable member, means for returning said seat and rotatable member after rotation thereof, a frame carried by said rotatable member, and target-throwing mechanism connected to said frame, substantially as set forth.

4. In a target-trap, the combination of a stand, a rotatable member fitted to said stand, a seat carried by said rotatable member, a spring connected to said seat and held at a point apart from said seat, a frame carried by said rotatable member, and target-throwing mechanism carried by said frame, substantially as set forth.

5. In a target-trap, the combination of a throw-arm, means whereby said throw-arm is supported, a power-spring by which said throw-arm is actuated, a hand-lever having connection with said power-spring, a latch for receiving the engagement of said throw-arm, a rocking handle carried by said hand-lever, and means of connection between said latch and rocking handle, substantially as set forth.

6. In a target-trap, the combination of a throw-arm, means for supporting said throw-arm, a shaft fixed to said throw-arm and extending through said supporting means, a swinging arm loosely fitted to said shaft, a plate fixed to said shaft and arranged to receive the engagement of said swinging arm, a main power-spring having connection with said swinging arm, and means for placing said power-spring under tension, substantially as set forth.

7. In a target-trap, the combination of a throw-arm, means for supporting said throw-arm, a shaft fixed to said throw-arm and extending through said supporting means, a swinging arm loosely fitted to said shaft, a plate fixed to said shaft and arranged to receive the engagement of said swinging arm, a main power-spring having connection with said swinging arm, means for placing said power-spring under tension, and means for returning said swinging arm to normal position after said power-spring has been relieved of tension, substantially as set forth.

8. In a target-trap, the combination of a throw-arm, a supporting-arm, a shaft fixed to said throw-arm and passing through said supporting-arm, a plate fixed to said shaft, studs carried by said plate, a swinging arm loosely fitted to said shaft, a power-spring connected to said swinging arm, and a return-spring carried by said shaft and having engagement with said plate and said swinging arm to carry said swinging arm to its normal position after said power-spring has been relieved of tension, substantially as set forth.

9. In a target-trap, the combination of a throw-arm support, a throw-arm rotatably mounted on said support, a main latch having pivotal connection with said support, a pivotally-mounted auxiliary latch provided with means for engaging said main latch, a spring for upholding said latches, and means for withdrawing said main latch from engagement with said throw-arm, substantially as set forth.

10. In a target-trap, the combination of a

throw-arm support, a throw-arm rotatably mounted on said support, a main latch having pivotal connection with said support and provided with a bifurcated rear end, an auxiliary
5 latch pivotally mounted within the rear end of said main latch and provided with a lip engaging said main latch, a spring for support-

ing said latches, and means for withdrawing said main latch from engagement with said throw-arm, substantially as set forth.

FREDERICK HARDY.

In presence of—

NELLIE V. ALEXANDER,
BLANCHE HOGAN.