No. 791,828. PATENTED JUNE 6, 1905.

F. H. SIEFKEN.

TARGET TRAP.

APPLICATION FILED FEB. 6, 1904.

Fig. 1.

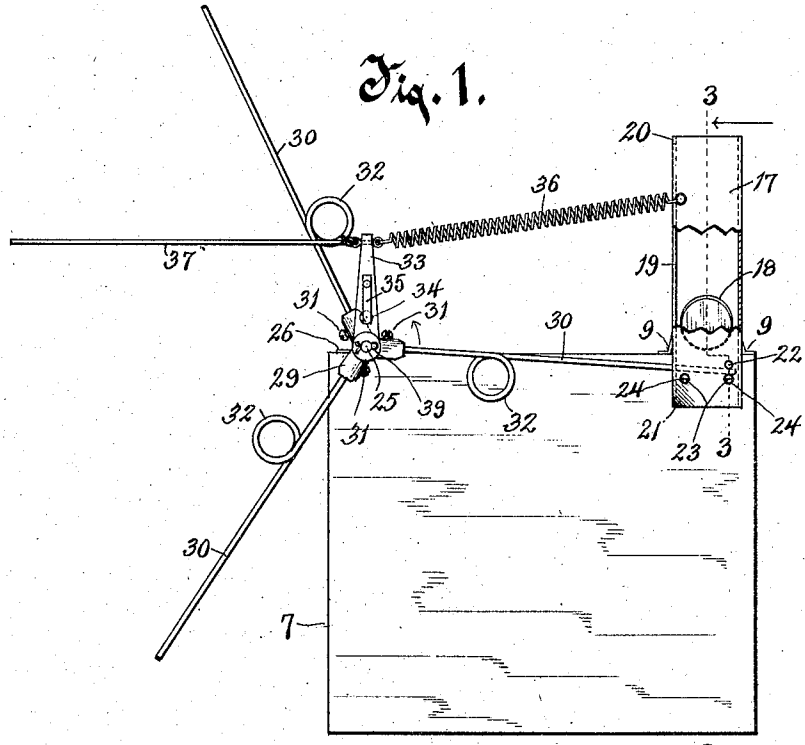


Fig. 4.

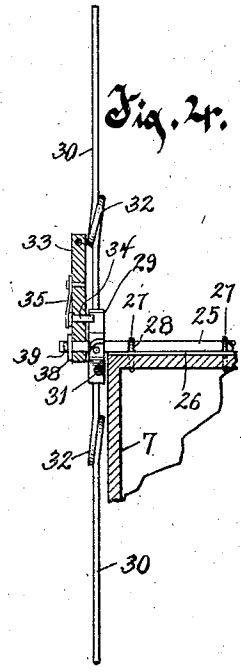


Fig. 2.

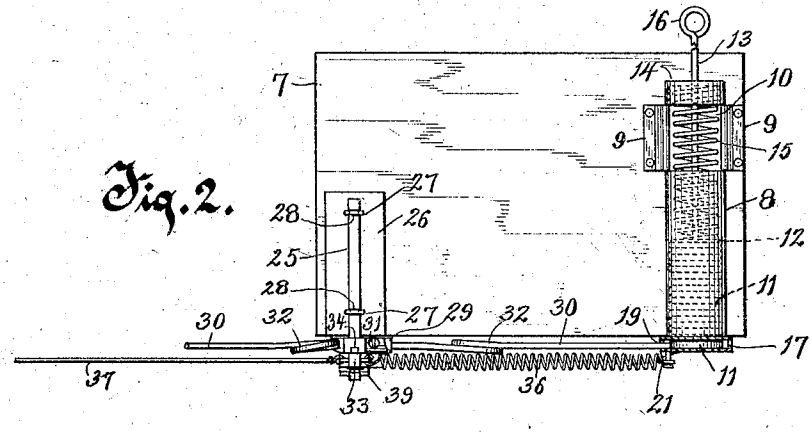
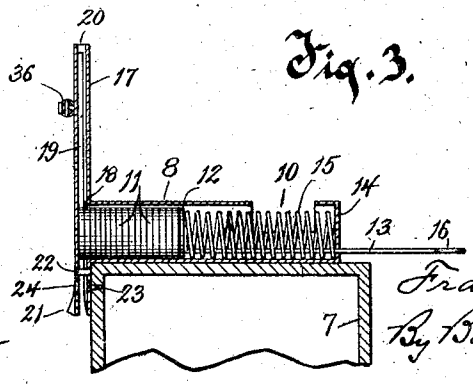


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK H. SIEFKEN, OF MILWAUKEE, WISCONSIN.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 791,828, dated June 6, 1905.

Application filed February 6, 1904. Serial No. 192,328.

To all whom it may concern:

Be it known that I, FRANK H. SIEFKEN, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Target-Traps, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to certain new and useful improvements in target-traps and has for its object to provide a means controlled at a distance by a marksman or his assistant near him for throwing into the air inanimate targets.

Another object of this invention is to provide such a target-trap with means for automatically feeding targets to the throwing means successively, thus obviating the necessity for personal attention to the trap during the firing.

A further object of the invention is to provide a throwing means which by an intermittent rotation in one direction automatically sets itself.

A further object of the invention is to simplify the construction of the device, to render it effective in its operation, and cheap to manufacture.

With the above and other objects in view the invention consists in the devices and parts or their equivalents, as hereinafter set forth.

Referring to the accompanying drawings, in which like characters of reference indicate the same parts in the several views, Figure 1 is a front elevation of a target-trap embodying my invention. Fig. 2 is a plan view thereof. Fig. 3 is a vertical section taken on the line 3 3 of Fig. 1, and Fig. 4 is a vertical section through the center of the operating-shaft.

In the drawings, 7 represents a base which may be of any suitable material or shape that will provide a support for the several parts in their proper relations and which may be hollow, as shown.

A magazine 8, preferably of tubular sheet-metal construction, is secured to the base 7 by having ears 9 cut from its upper rear portion and bent down against the base 7 and fastened thereto by screws or other desirable means. The opening 10, produced in the rear portion of the magazine by the cutting out of the ears 9, forms a feed-opening, through which suitable targets 11, preferably disks of a material suitable for the purpose, may be inserted, and a follower 12, which is mounted on a stem 13, passing through an opening in the closed rear end of the magazine, presses the targets forward by a coiled spring 15, surrounding said stem and bearing at its ends upon the follower 12 and the magazine end 14. A loop-handle 16 on the projecting end of the stem 13 affords a means for drawing the follower 12 to the rear end of the magazine against the action of the spring 15, when the targets 11 may be passed through the feed-opening and then pressed forward into the front end of the magazine by the follower when the loop-handle is released. This may be repeated until the magazine is fully charged, there being means to be later described for preventing the targets freely passing out of the front end of the magazine.

A vertical flattened tubular guide-chute 17 is secured to the front end of the magazine and has an opening 18 in its rear face, which registers with the bore of the magazine, so that the column of targets being pressed forward in the magazine extends through this opening and the end target bears against the front wall of the chute 17. One side edge of the guide-chute 17 is provided with a slot 19, extending nearly its entire length, though there is an unslotted portion 20 at the extreme upper end of this side. The lower corner 21 of the front plate of the guide-chute 17 next to the slotted edge is curved outwardly, and the lower edge of slot 19 is inclined to produce a flaring mouth to the slot. A trip-pin 22 extends across the guide-chute 17 from the front to the rear plate thereof just below the opening 18 and near one side of the guide-chute. The guide-chute 17 is rigidly attached to the base 7 by means of screws 23 or other fastenings preferably passing through perforations in the lower end of the rear wall of the guide-chute, there being larger perforations 24 registering therewith in the front

plate of said guide-chute, through which the said screws may be applied. Thus a firm support for the guide-chute is produced without blocking the central passage-way therethrough.

At the opposite end of the base 7 from the magazine 8 is located an operating-shaft 25, which is journaled by being mounted upon a metal plate 26, with arch-shaped staples 27 passing over said operating-shaft and through perforations in said plate 26 and secured in position in any manner, such as by having their ends clenched to the under side of the base top. The staples 27 lie in circumferential grooves 28 of the shaft to prevent longitudinal movement of said shaft.

An arm-block 29, having one or more projecting lugs, is rigidly mounted on the outer end of the shaft 25, so as to turn therewith, and in radial bores of its projections are adjustably secured the inner ends of spring-arms 30 by means of set-screws 31. The spring-arms 30 are formed of stout spring-wire bent to form coils 32 near their middle portions, with their outer ends extending in a plane which includes the slot 19 of the guide-chute 17.

A lever 33 is rotatably mounted on the shaft 25 in front of the arm-block 29 and is held on said shaft by means of a washer 38, which bears against a cotter-pin 39, passing through a transverse opening in the shaft 25. The lever 33 carries a headed pin 34 in a transverse opening therethrough, which pin is pressed rearwardly by a spring 35, mounted on the lever 33 and bearing on the head of the pin. The rear end of the pin projects through the opening of the lever 33 and is adapted to engage with the several projections of the arm-block 29 as a spring-pressed pawl. The front edge of each projection as the block 29 turns in the direction of the arrow of Fig. 1 is beveled or rounded to press back the pawl 34, while the rear edge thereof presents an angular shoulder to the pawl to be engaged thereby for turning the block 29 with its shaft 25, the said block 29 serving as a ratchet for the pawl. A coiled spring 36 connects the upper end of the lever 33 with the guide-chute 17, so as to give said lever a tendency to move to the right, as shown in Fig. 1, while an operating-line 37 connects with said lever and passes through suitable guide-rings (not shown) to the operator, who stands at a considerable distance in front of the trap. The pull of line 37 is in a direction to oppose spring 35 and move the lever 33 to the left, as shown in Fig. 1, which operation causes the pawl 36 to engage with the rear or shoulder portion of the upper projection on the arm-block 29 and swing said arm-block with its spring-arms in the direction of the arrow. The outer end of the spring-arm 30, which is nearest to a horizontal position, having entered the slot 19 and engaged with the trip-pin 22, as shown in Fig. 1, is caused to bend by this turning of the shaft 25 until it has moved sufficiently to clear its end from said pin, when the end springs violently upward, carrying with it the first target 11, which stands in its path, and sending said target upward with great force out of the guide-chute 17 and high into the air to constitute a flying target. This movement of the spring-arm 30 takes place through the slot 19 and clears its end from the guide-chute entirely. When the line 37 is released, the spring 36 draws the lever 33 to the right, causing its pawl 34 to slide back by engaging the inclined edge of the next projection and then snap into engagement with the rear or shouldered edge thereof, and the spring-pressed follower 12 having pushed another target 11 into position in the guide-chute 17 as soon as the first target has been discharged the device is automatically reset for the next operation. The trip-pin 22 is so located with respect to the opening 18 that the spring-arms 30 in their bending engage the target to be thrown before the end of the spring-arm is released by the trip-pin 22. This avoids a hammer-blow of the spring-arm against the targets, which would have the tendency to break them, as they are usually formed of very fragile material, such as dried clay and the like. The adjustability of the spring-arms 30 in the projections of the arm-block 29 enables their being extended more or less, so as to first engage the trip-pin 22 farther from or nearer to their extremities, and thus vary the degree of bend given to them before being released, so as to vary the force with which the targets are thrown.

The rod 13 is located in the lower part of the magazine 8, so as to keep the coiled spring 15 away from the feed-opening 10, so that the convolutions of said spring will not engage with the edges of said feed-opening.

While I have shown a ratchet in the form of the arm-block 29, it is obvious that any other ratchet may be employed and that it need not necessarily be located as shown; but such ratchet may be placed at the other end of the shaft 25 or at an intermediate portion without affecting its operation and without departing from the invention.

The device as shown is capable of use for clay pigeons in the following manner: The follower 12 may be retracted and held by any suitable means, and the clay pigeons may be dropped into the guide-chute 17, where they will be engaged by the trip-pin 21 and held in position to be thrown by the spring-arms 30 in the manner described for throwing the disk targets 11. In this operation, however, the clay pigeons are fed separately and have to be inserted after each throwing operation. However, it is deemed within the scope of my invention to provide a chute of any desirable construction to feed clay pigeons or any other form of target to a position where they may

be engaged by the spring-arms 30, and such constructions are intended to be covered by claims.

What I claim as my invention is—

1. In a target-trap, a spring-arm having a pivotal movement, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and stationary means for supporting a target in the path of the arm where said arm will bend into engagement therewith so that it will be forcibly thrown by the arm when said arm passes the trip without being struck thereby.

2. In a target-trap, a spring-arm having a pivotal movement, a trip for engaging the spring-arm in its movement, and requiring it to bend before passing thereby, and a guide-chute for supporting a target in the path of the arm where said arm will bend into engagement therewith so that it will be forcibly thrown by the arm when said arm is released by the trip without being struck thereby.

3. In a target-trap, an adjustable spring-arm having a pivotal movement, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, the adjustment of the arm controlling the degree of bend thereof, and stationary means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

4. In a target-trap, a rotatable means, a spring-arm adjustable in a bore thereof, a set-screw for binding the spring-arm in its adjusted position, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, the adjustment of the spring-arm in said means controlling the degree of bend thereof, and stationary means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

5. In a target-trap, a spring-arm having a pivotal movement, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and stationary means for supporting a target in the path of the arm where it will be engaged by the arm while the arm is held by the trip and thrown thereby when said arm passes the trip.

6. In a target-trap, a rotatable means, a spring-arm secured thereto and having a coil bent in its intermediate portion, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and stationary means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

7. In a target-trap, a series of spring-arms rotatably mounted, a trip for engaging the spring-arms successively during the rotation thereof and requiring them to bend before passing thereby, and a means for supporting targets in the path of the arms where said arms will bend into engagement therewith so that they will be forcibly thrown by the said spring-arms without being struck thereby.

8. In a target-trap, a rotatably-mounted arm-block, a ratchet by which said block may be turned, a lever having a pawl engaging the ratchet, a spring-arm on the arm-block, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

9. In a target-trap, a suitable journaled shaft, a ratchet carried thereby, a lever having a pawl to engage the ratchet, a spring-arm carried by the shaft, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be thrown by the arm when said arm passes the trip.

10. In a target-trap, a base, a shaft journaled thereto by staples passing around the shaft and into the base, said shaft having grooves to receive the staples, a ratchet carried by the shaft, a lever having a pawl to engage the ratchet, a spring-arm on the shaft, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

11. In a target-trap, a rotatably-mounted arm-block, radial projections on the arm-block forming a ratchet, a lever having a pawl to engage the projections of the arm-block, a spring-arm carried by one of the projections of the arm-block, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

12. In a target-trap, a rotatably-mounted arm-block, radial projections on the arm-block having beveled front edges and shouldered rear edges, a lever having a spring-pawl to engage with the edges of the arm-block, a spring-arm carried by one of the projections of the arm-block, a trip for engaging the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

13. In a target-trap, a rotatable shaft, an arm-block rigidly mounted thereon, radial projections on the arm-block having beveled front edges and shouldered rear edges, a lever loosely mounted on the shaft and having a spring-pressed pawl to engage the projections of the arm-block, a spring-arm carried by one of the projections of the arm-block, a trip for engag-

ing the spring-arm in its movement and requiring it to bend before passing thereby, and means for supporting a target in the path of the arm so that it will be forcibly thrown by the arm when said arm passes the trip.

14. In a target-trap, a tubular magazine having ears cut therefrom and bent to form a support for the magazine, the opening formed thereby constituting a feed-opening for the magazine.

15. In a target-trap, a target-magazine, an actuated follower therein, a chute at the mouth of the magazine, and rotatable spring means operating through the chute to discharge targets fed thereto by the magazine, said rotatable spring means being restrained in its movements to enable it to bend into engagement with the targets before being released.

16. In a target-trap, a target-magazine, a spring-actuated follower therein, a chute located across the mouth of the magazine and adapted to receive targets therefrom, said chute having a slot therein, a trip-pin across the chute, and a movable spring-arm adapted to move through the slot of the chute and engage the trip-pin until bowed and then spring from said trip-pin to throw the end target out of the chute.

17. In a target-trap, a target-magazine having a feed-opening in its side and a rear closed end, a rod passing through an opening in said end and located opposite to the feed-opening of the magazine, a follower on the inner end of said rod, and a coiled spring within the magazine being nearly of the same diameter as the interior of said magazine and surrounding the rod, said rod serving to hold the spring out of engagement with the edges of the feed-opening.

18. In a target-trap, a target-magazine, a spring-pressed follower therein, a guide-chute extending across the mouth of the magazine and having a flaring-ended slot in one side thereof, said chute also having an opening in one wall registering with the mouth of the magazine, a trip-pin across the chute, a series of spring-arms rotatably supported and capable of entering the slot of the chute to engage the trip-pin until bowed and then springing away from said trip-pin to throw the end target fed to the chute by the magazine out of said chute, a lever having a ratchet engagement with the arm-support, a spring for moving said lever in one direction, and an operating-line for moving said lever in the other direction.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK H. SIEFKEN.

Witnesses:

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ALMA KLUG.