

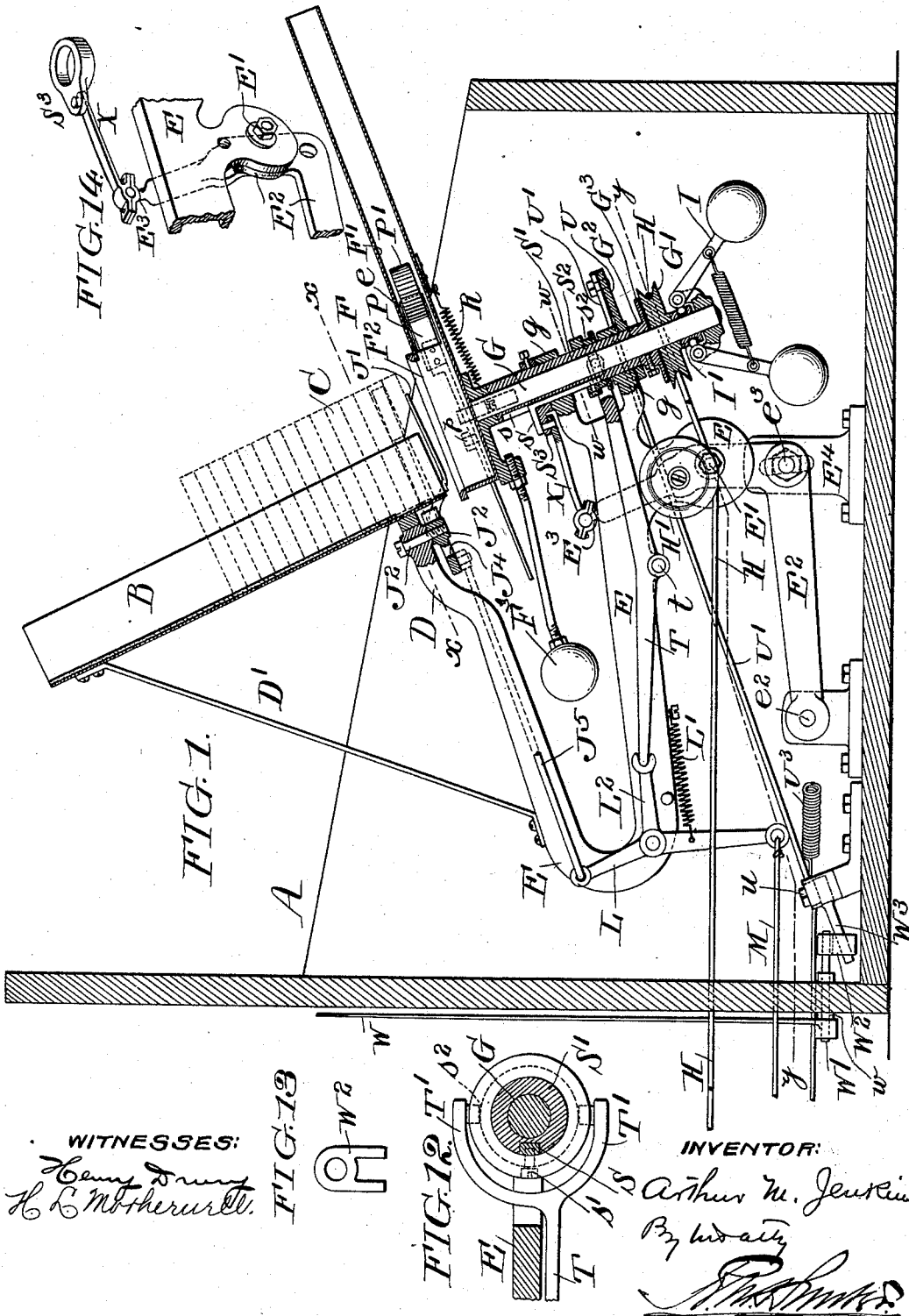
(No Model.)

3 Sheets—Sheet 1.

A. M. JENKINS.
TARGET TRAP.

No. 540,318.

Patented June 4, 1895.



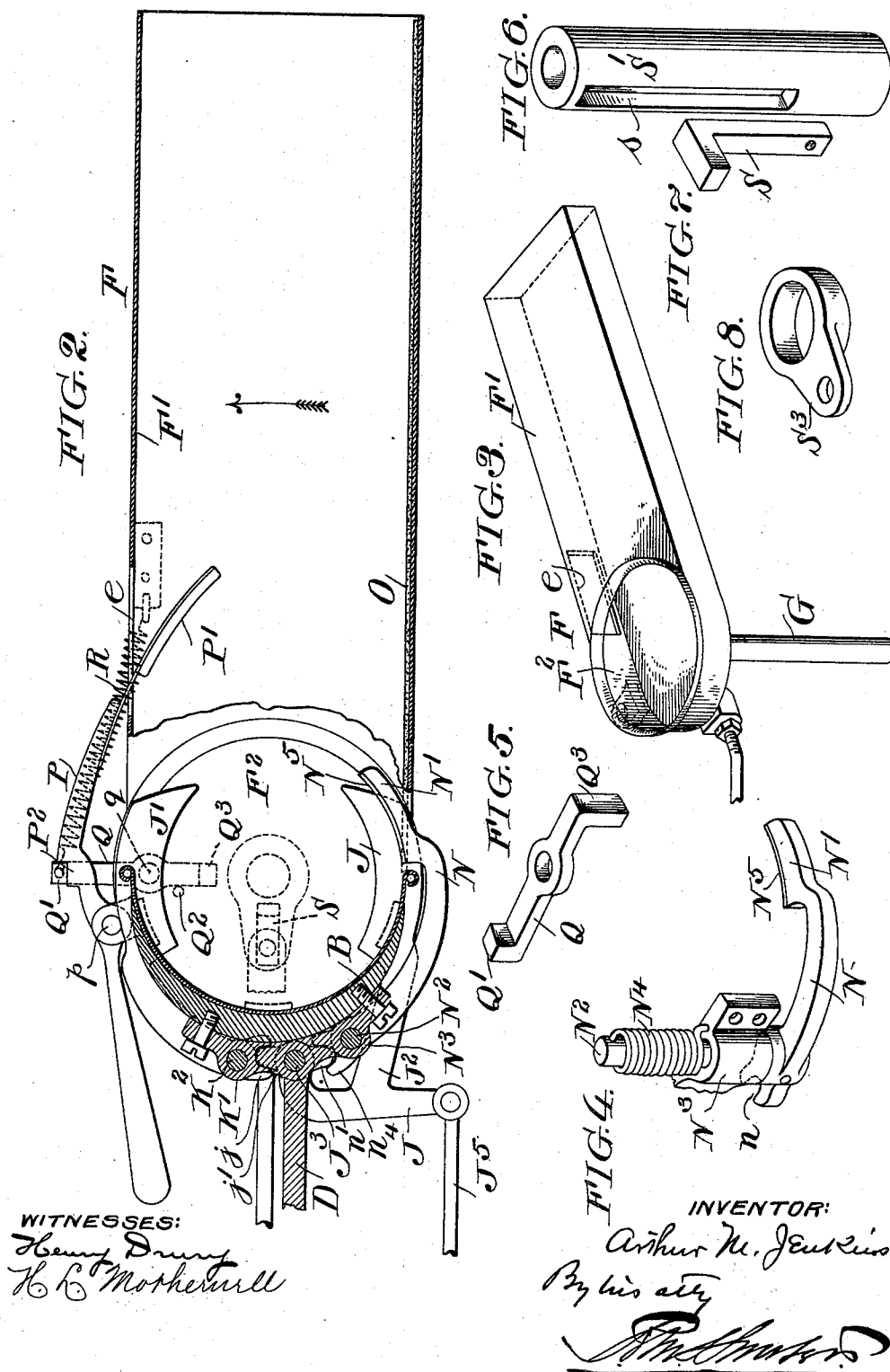
(No Model.)

3 Sheets—Sheet 2.

A. M. JENKINS.
TARGET TRAP.

No. 540,318.

Patented June 4, 1895.



WITNESSES:

Henry Drury
H. L. Motherwell

INVENTOR:

Arthur M. Jenkins
By his atty
J. M. [Signature]

A. M. JENKINS.
TARGET TRAP.

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FIG. 11.

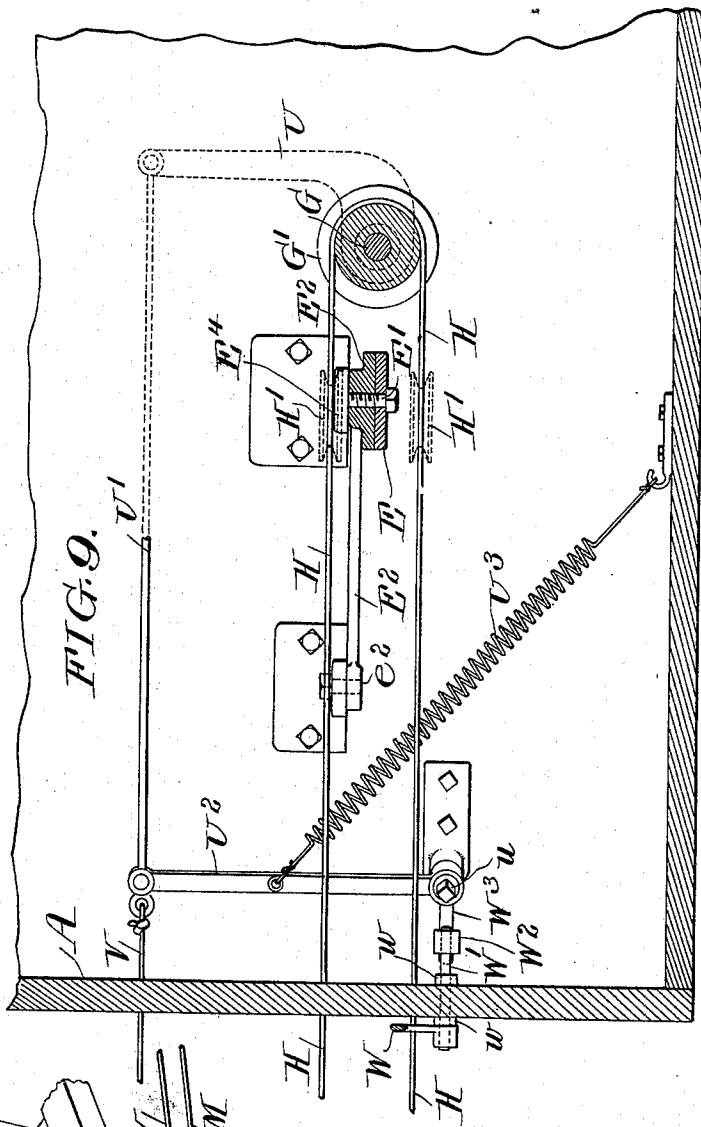
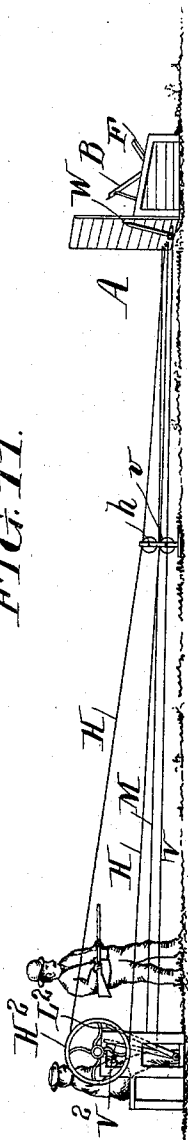


FIG. 9.

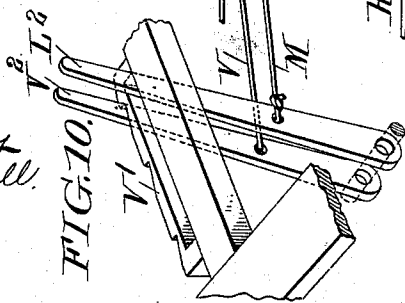


FIG. 10.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ARTHUR M. JENKINS, OF NORRISTOWN, PENNSYLVANIA.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 540,318, dated June 4, 1895.

Application filed August 14, 1894. Serial No. 520,239. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR M. JENKINS, of the city of Norristown, county of Montgomery, and State of Pennsylvania, have invented an Improvement in Target-Traps, of which the following is a specification.

My invention relates to target traps for ejecting artificial "birds" or disks, and consists of certain improvements which are fully set forth in the following specification and are shown in the accompanying drawings, which form a part thereof.

It is one of the objects of my invention to impart to the "bird" or disk a more steady flight, and to the accomplishment of the object I employ an ejecting apparatus of improved construction whereby the "bird" or disk is caused to travel out from or near the axis of the ejecting frame and to be discharged therefrom at a distance from the axis by the action of centrifugal force. As the "bird" or disk travels through the retaining frame or ejector it may have a rotary motion upon its axis imparted to it by the creation of friction upon its periphery at one side.

It is also an object of my invention to provide an improved construction of feeding apparatus for feeding the disks to the ejecting devices.

Another part of my invention relates to the employment of devices for changing the direction or quarter in which the disk or "birds" are ejected, and also of devices for changing the angular inclination or elevation of the ejecting devices, and to enable the change in angular direction or elevation to be accomplished automatically with a change in the quarter or direction of discharge.

My improvements are preferably embodied in an automatic trap in which the operations of discharging the "birds," feeding the ejector, and changing the direction or quarter of flight, or any of them, may be performed by means exterior to the trap and at a distance therefrom.

My invention embraces many novel constructions and combinations of parts which are hereinafter fully described and claimed.

I shall now refer to the accompanying drawings for the purpose of more particularly describing the invention, in which—

Figure 1 is a longitudinal vertical sectional

view of my improved target-trap, showing the operative mechanism partly in elevation and partly in vertical section. Fig. 2 is a sectional plan view of a portion of the same on the line *xx* of Fig. 1. Fig. 3 is a perspective view of the ejector. Fig. 4 is a perspective view of the detaining stop or finger of the magazine. Fig. 5 is a similar view of the lock for controlling the detaining finger or stop of the ejector. Figs. 6 and 7 are perspective views of the revoluble trip-sleeve and trip by which the operation of the detaining-finger of the ejector is controlled. Fig. 8 is a perspective detail view of one of the parts for controlling the angle of inclination of the trap. Fig. 9 is a sectional plan view of the trap in the line *yy* of Fig. 1. Fig. 10 is a perspective view of part of the trap operating devices. Fig. 11 is an illustrative view of the trap and operating devices. Fig. 12 is a transverse sectional view on the line *ww* of Fig. 1. Fig. 13 is a detail view of one of the parts, and Fig. 14 is a perspective view of mechanism for automatically changing the inclination of the ejecting apparatus for "quartering birds."

A is the box or case of the trap, open at the top and having the front extended upward as at A' to conceal the working parts.

B is the magazine which contains the artificial "birds" or disks C and supplies them to the ejector.

The particular construction of the magazine is not material. I prefer the construction shown, consisting of a half cylinder of metal open at the bottom and secured at an inclination to an arm D of a frame E.

D' is a brace piece between the frame E and the upper part of the magazine.

F is the ejector or discharging piece which is located below the magazine and receives the artificial "birds" or disks as they are delivered from the magazine, and discharges them from the trap. As shown this ejector consists of a somewhat extended box or hollow frame F' open at its outer end and provided at its inner closed end with an opening F² in its top to receive the "birds" from the magazine. The ejector is located with its opening F² below the end of the magazine B.

For the purpose of ejecting the "birds" from the frame F, I impart a rotary or swinging movement to the ejector.

G is a shaft or pin depending from the inner end of the frame F' and journaled in suitable bearings *g* of the frame E.

G² is a friction disk fast on the shaft G with which the face of the pulley G' is adapted to make frictional contact to drive the shaft. A friction pad or washer G³ may be arranged between the pulley G' and the friction disk G².

H is a belt or cord passing about the pulley G', under guide pulleys or idlers H' within the trap and thence to an operating wheel, or lever H², exterior to the trap. By the operation of this wheel or lever H², motion will be imparted to the pulley G' and thence to the ejector F through the friction disk G² and shaft G. By this means the ejector F may be rotated at a high velocity.

As it is desirable that the trap shall be operated from a distance, *e. g.*, from behind the marksman, the operating device H² may be appropriately located, as shown in Fig. 11. An idler *h* may be employed to guide the cord H between the trap and the operating device H².

To control the rotation of the shaft G a governor I may be employed. As shown the governor is carried on the end of the shaft G and operates upon the pulley G' through a sleeve or collar I', and normally maintains the frictional contact between the pulley G' and the friction disk G². The rear end of the ejector frame F' may be provided with a counterweight F³.

I shall now refer to the mechanism for feeding the "birds" or disks to the ejector.

J, J' are movable supports or wings located below the end of the magazine and adapted to be projected inward to a greater or less extent so as to support the lowermost disk or "bird." These supports J, J' are operated to receive and support the disk and then to move away from the opening to release the disk and permit it to drop into the ejector. As shown one of the wings, as J, is provided with a frame J² carrying a pin J³ journaled in the arm D, and connected by an arm J⁴ and link J⁵ with a lever L fulcrumed on the frame E. By the operation of the lever L the wing J will be oscillated. The other wing J', is shown provided with a pin K² journaled in a block or piece K' carried by the frame E, and having at its rear end a jaw or notch *j* adapted to engage a projection or lug *j'*, on the rear end of the wing J. Through the jaw *j* and lug *j'* the wing J' will be oscillated with the wing J. A spring L' acting on the lever L normally holds the wings or supports J, J' in an open position.

M is the lever pull or cord for operating the lever L to move the supports J, J' over the open end of the magazine to receive the disk or "bird." The cord extends through an opening in the box A and is connected with a lever or operating device L².

To prevent more than one disk or "bird" dropping from the magazine when the bottom supports J, J' are opened, I employ an ar-

resting device or stop operating in connection with the bottom supports to hold the series of disks in the magazine when the supports are moved to release the lowermost disk.

N is an arresting piece or finger located above the supports or wings J, J', and having its end N' arranged to act normally upon the periphery of the lowermost disk. As shown the finger N is provided with a pin N² journaled in a piece N³ carried by the frame E and is maintained in normal position by a spring N⁴ between the pin N² and the bearing piece N³. The rear end of the finger N is provided with a notch or jaw *n*, which engages a projection or lug *n'* on the arm J². When the arm J² is operated in the manner heretofore described to close the supports J, J', over the end of the magazine the lug *n'* acting on the jaw *n* throws the finger N outward and releases the end N' of the finger from the periphery of the "bird" or disk. The disks being thus released descend in the magazine until the lowermost "bird" or disk rests upon the supports J, J', below the finger N. When the lever L is released and returns to its normal position, under the action of the spring L' the rod J⁵ moves back and throws the supports J, J' open, thus permitting the lowermost "bird" supported by them to drop into the ejector F. The return movement of the rod J⁵ in opening the supports J, J' to release the lowermost "bird" permits the finger N to be returned by the action of its spring N⁴ so that its end presses on the periphery of the next to the lowermost "bird," thus retaining all the "birds" in the magazine except the one released by the supports J, J'.

The arresting device or stop finger N should be operated slightly before the supports J, J' have been fully opened, so that it will clamp the second disk before the first one has been actually released.

The end N' of the finger N may be provided with a friction pad N⁵ of felt, rubber or other suitable material.

Upon each operation of the lever L through the lever pull M a single disk or "bird" will be dropped from the magazine into the ejector F, the dropping of the "bird" taking place on the release of the lever pull M and return of the lever L.

I shall now refer particularly to the ejecting devices. The width of the frame F' should be slightly greater than the diameter of the disk or "bird" so that the latter may move freely through it. The inner face of that side of the frame to the rear in the direction of operative movement (as indicated by the arrow in Fig. 2) may be lined with felt or other friction creating material, as shown at O in Fig. 2, so that a rotary motion will be imparted to the disk as it traverses the frame F', by the friction created on one side by the lining O. By this means the disk has a rotary motion about its center when it leaves the ejector and the extent of its flight is increased. It is not absolutely necessary that the lining O of

friction creating material should be employed to impart the rotary motion to the disk, as the friction of the side of the frame F itself may be made sufficient for that purpose. As the disk is thrown from the ejector by the centrifugal force due to the oscillation of the frame F' and as it is desirable that the disk should be discharged in a more or less certain direction or angle, I employ a detaining finger or stop to hold the disk or "bird" within the ejector frame F' until the proper movement for its release.

P is the detaining finger pivoted as at *p*, to a projection on the ejector and having its front end P' normally projecting into the frame through an aperture *e* thereon. When the disk enters the ejector it will be in the rear of the finger P and will be detained thereby and prevented from passing out while the ejector oscillates until the finger is released.

Q is a locking piece pivoted as at *q* to the frame F' near the finger P and having a lug Q' adapted to act upon a shoulder or notch P² in the finger. A spring R between the locking piece Q and the frame F' normally holds the lug Q' against the shoulder P² and locks the finger against movement. A stop Q² limits the movement of the locking piece Q under the action of the spring R.

S is a trip, carried in a revoluble sleeve S' about the shaft or pin G, and adapted to strike a lug Q³ on the lock Q and move the lock against the action of its spring R to release the finger P. The trip S is movable longitudinally in a slot *s* in the sleeve S' and normally occupies the position out of the path of the lug Q³ of the lock Q, so that the ejector F may be oscillated without the release of the finger P except when the trip S has been elevated into position to operate the lock Q. For the purpose of elevating the trip S, I employ a sleeve S² keyed to the sleeve S' and engaging one end of a lever T, which is fulcrumed, as at *t*, to the frame E, and engages at its rear end a notched arm L² of the lever L. The sleeve S² is connected with the trip S as by the screw *s'* and the trip S acts as the means of keying the sleeve S² to the sleeve S'. When the lever L is operated the lever T is rocked and elevates the trip S. When the trip S is thus elevated it will strike the end Q³ of the lock Q, as the ejector rotates, and will release the detaining finger P and permit the "bird" to pass out. As the instant when the trip S operates upon the lock Q regulates the moment when the "bird" is released, it is necessary that this operation should take place when the end of the ejector is turned in the proper direction, in order that the "bird" may have the desired direction of flight, and as it is desirable from time to time to change the direction of the flight of the "bird" for variety in shooting, the instant of operation of the trip S should be made adjustable so that "right" or "left quartering" as well as "straightaway birds" may be thrown from the trap. To accomplish this purpose I

employ the revoluble sleeve S' with means to turn it upon the pin or shaft G so as to change the position of the trip S when it acts upon the lock Q. The sleeve S² through which the trip S is operated is provided with an annular groove *s*² and the lever T is provided with a yoke T' engaging the groove *s*². By this means the sleeves S' and S² may be turned without affecting the operative connection of the lever T.

U is a crank arm fast to the sleeve S' and connected by a link U' with a lever U² fulcrumed as at *u* to a stud in the base of the trap A and normally retracted by a spring U³ to maintain the parts in normal position.

V is a lever pull or cord connected with the lever U² and connected with the operating device or lever V² outside of the trap.

It is apparent that the operator by pulling the lever V² may operate the sleeve S' through the cord V, lever V², link U' and crank U, and may thus turn the trip S into any desired position.

V' is a catch bar for locking the lever V² into any of the desired positions.

As it is necessary that the "birds" should be thrown upward from the trap so as to rise into the air, the ejector F is arranged at a greater or less angle, and as the same angle or elevation will obviously not be occupied by the end of the ejector when it is in a position to release a right or left "quartering bird," it becomes necessary to increase the angle of elevation of the ejector, so that its end will be at a proper elevation to throw upward a "right" or "left quartering bird," whenever the trip is operated to release the "bird" in that direction. To accomplish this purpose the frame E, which carries the magazine and ejecting devices, is made to rock upon a horizontal axis E'. In the drawings I have shown the frame E pivoted upon the axis or pin E' carried by the frame E², and free to rock upon the said axis or pin.

X is a connection between an extension E³ of the frame E² and a small crank S³ carried by the trip sleeve S'. The connection X serves to sustain the frame E and the parts which it carries, and also acts with the crank S³ to change the inclination or elevation of the frame E and the ejector when the trip sleeve S' is operated. When the trip sleeve S' is turned to move the trip S into position to actuate the lock Q and release the detaining finger P in a quartering position, the crank S³ is turned also, and as the crank is connected by the connection X with a stationary frame E², a pull will be exerted upon the ejector and the frame E will consequently swing upon its axis or pivot E' and cause the ejector to assume a greater angle of inclination, so that the end of the ejector frame F', even when in a quartering position, will assume the proper angle of inclination to give the "bird" an upward flight. With the crank S³ and connection X the angular adjustment of the ejector for "quartering birds" is accomplished synchro-

nously with the adjustment of the trip for controlling the detaining finger.

To adjust the normal inclination of the frame E' , and thus to regulate the upward flight of the "birds," I prefer to make the frame E^2 to which the frame E is pivoted adjustable. In the drawings I have shown an angular frame E^2 fulcrumed as at e^2 and adjustably connected by a pin and slot e^3 to a standard E^4 . By raising or lowering the frame E^2 on its fulcrum e^2 the normal angle of inclination of the frame E and the ejecting apparatus may be increased or decreased.

As it is often desirable that the direction in which the "bird" is to fly should be indicated to the marksman, I provide the trap with an indicator or pointer controlled by the lever pull V , so that the indicator will point in the direction of flight whenever the trip S has been adjusted.

W is a pointer or finger, on the outside of the front of the blind carried on a pin W' journaled in suitable bearings w . W^2 is a notched arm on the inner end of the pin W' , which engages an arm W^3 of the lever U^2 . As it is not always required that the marksman should know the direction of flight of the "bird" the pointer W may be removable.

From the foregoing description of the apparatus the operation will be readily understood.

Supposing a "bird" to be in the ejector F in the rear of the detaining finger P , the ejector is rotated at a greater or less velocity by the operation of the wheel H^2 in the manner described. The "bird" tends to fly out through the open end of the frame F' by centrifugal force, but is detained by the finger P . When the operator pulls the lever L^2 and through the cord M operates the lever L , the trip S is lifted and the lock Q is operated in the manner described to release the finger P . The instant the finger P is unlocked the "bird" is free to pass out of the ejector by centrifugal force, and it passes through the frame F' obtaining a rotary motion by the action of the frictional surface O and flies out into the air rotating upon its axis as it flies. Immediately after the operation of the trip S to release the "bird" the wings J, J' are closed and the detaining finger N retracted in the manner heretofore described, and a new "bird" is dropped from the magazine upon the supports J, J' . Upon the return of the lever L under the action of the spring L' the trip S is lowered and the detaining finger P is relocked by the return of the lock Q under the action of the spring R . By the same action the supports J, J' are opened and a new "bird" is dropped into the box F' through the opening F^2 . The "birds" are thus dropped into the ejector after the detaining finger P has become reset. If it is desired that the next "bird" thrown should be a "quartering bird," the operator pulls the lever V^2 and through the cord V and mechanism described turns the trip S into the desired

position, at the same time changing the angle of inclination of the ejector by the crank S^3 and connection X , and moving the pointer W , if the same is in use. On the operation of the lever L^2 the "bird" will be released in the manner previously described but its flight will be in a quartering direction, because of the unlocking of the detaining finger P while the end of the ejector is in a quartering position.

So far as I have described the apparatus it is applied to an automatic trap capable of operation at a distance, but so far as the ejecting devices for ejecting a "bird" and imparting to it a rotary flight by the creation of friction upon one side of the disk as it passes through the ejector under the action of a centrifugal force is concerned, my invention is not to be limited to an automatic trap, but is equally applicable to the well known spring traps in which the "bird" is ejected by centrifugal force from a spring actuated arm moving through a greater or less arc. It is obvious that an ejector of my improved construction in which the "bird" is caused to travel through an ejector box or frame and receive a rotary motion by the friction imparted to it as it travels through the frame may be substituted for the ordinary arm of a spring trap, and in this manner the desirable rotary flight may be imparted to the "bird." It is not necessary in such a construction to employ a detaining finger, as the arm or ejector is not rotated, but is merely moved through a greater or less arc by the action of the spring.

It is apparent that the particular construction of the ejector frame is not material to the invention provided it is of a character which will receive the bird at a distance from its end and permit it to travel outward and fly from the open or unobstructed outer end when the ejector is operated.

The minor details of construction shown are not to be taken as limitations of my invention but may be varied in many ways if desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a target trap an ejector consisting of a retaining frame of substantial length open at one end to permit the "bird" to pass out and receiving the "bird" at its lower end, combined with means to impart rapid movement to the ejector on an axis whereby the "bird" may be caused to travel through the retaining frame and to pass out of the open end thereof under the action of centrifugal force due to the movement of the retaining frame upon its axis.

2. In a target trap an ejector consisting of a retaining frame pivoted upon an axis and having an open end at a substantial distance from the axis, and a support for the "bird" adjacent to the axis and at a distance from the open end, in combination with means to impart a rapid movement to the retaining frame upon its axis, whereby the "bird" will move

by centrifugal force from the support adjacent to the axis of the retaining frame and will pass out through the open end.

3. The ejector consisting of a hollow frame F' open at its outer end to permit the "bird" to pass out, and having the opening F² at its rear or inner end to admit the "bird," in combination with means to impart a rapid movement to the frame F' upon an axis whereby the "bird" will be caused to travel by centrifugal force from the inner end of the frame and to pass out of the open end.

4. In a target trap the combination of an ejector consisting of a retaining frame, to receive the "bird," having an open end and pivoted upon an axis, a friction surface within the retaining frame adapted to act upon the periphery of the "bird" on one side and impart a rotary motion thereto as it travels through the frame, and means to rapidly move said frame upon its axis, whereby the "bird" will be ejected from the frame by centrifugal force with a rotary motion upon its axis.

5. In a target trap the combination of a retaining frame to receive the "bird" pivoted upon an axis and having an open end distant from the axis, means to impart a rapid movement to the frame upon its axis, and a movable retaining finger or stop projecting into the retaining frame and adapted to temporarily retain the "bird" therein.

6. In a target trap the combination of an ejector consisting of a hollow frame F' pivoted on an axis and having an open end distant from the axis and provided with a frictional lining O upon one of its inner faces, and means to rapidly move the frame F' upon its axis whereby a "bird" or disk will be caused to pass out of the open end of the hollow frame F' with a rotary motion imparted by the frictional lining O.

7. In a target trap the combination with a rotary ejector for the "bird" having an opening for the discharge of the "bird" at a distance from its axis, a detaining finger or stop to detain the "bird" within the ejector, a lock for locking the detaining finger or stop, and a trip for actuating the lock to release the retaining finger or stop and permit the "bird" to pass out of the open end of the ejector by centrifugal force.

8. In a target trap the combination with a rotary ejector for the "bird" having an opening for the discharge of the "bird" at a distance from its axis, of a governor acting upon the rotary ejector and controlling the speed of rotation thereof.

9. In a target trap the combination with the rotary ejector having an open end for the discharge of the "bird" at a distance from the axis of rotation, a pulley for rotating the ejector, a driving cord passing about the pulley and extending to a distance exterior to the trap, and means for operating the driving cord located exterior to the trap.

10. In a target trap the combination of a rotary ejector provided with a driving axis

and having a discharge opening at a distance from said axis, a friction disk carried by said axis, a pulley loose upon said axis and making frictional contact with the friction disk, a governor acting upon the pulley to maintain the frictional contact thereof with the friction disk, and means for driving the pulley from a distance exterior to the trap.

11. In a target trap the combination of a rotary ejector provided with a driving axis and having a discharge opening at a distance from said axis, a detaining finger or stop projecting into the ejector for detaining the "bird" therein, a lock for locking said finger or stop, a movable trip for actuating the lock to unlock the finger, and means for moving said trip into and out of operative position from a distance exterior to the trap.

12. In a target trap the combination of a rotary ejector provided with a driving axis and having a discharge opening at a distance from said axis, a detaining finger or stop projecting into the ejector for detaining the "bird" therein, a lock for locking said finger or stop, a movable trip for actuating the lock to unlock the finger, means for moving said trip into and out of operative position from a distance exterior to the trap, and means for changing the operative position of said trip when the same is operated.

13. In a target trap the combination of a rotary ejector provided with a driving axis and having a discharge opening at a distance from the axis, a movable detaining finger or stop projecting into the ejector for temporarily detaining the "bird" therein, a lock for locking the detaining finger or stop, the sliding trip S, and means for moving the trip S into operative position to actuate the lock and release the retaining finger or stop.

14. In a target trap the combination of a rotary ejector provided with a driving axis and having an opening at a distance from the axis, a movable detaining finger or stop projecting into the ejector for temporarily retaining the "bird" therein, the lock for locking the finger or stop against movement, the revoluble sleeve S' carried on the driving axis of the ejector, means for turning the sleeve S' upon the driving axis, a movable trip carried by the sleeve S' and means for moving the trip in the sleeve into operative position to actuate the lock and release the detaining finger or stop.

15. In a target trap the combination of a rocking frame, a rotary ejector carried by said rocking frame and having an open end for the discharge of the "bird" at a distance from its axis, and means for moving the rocking frame to change the angle of inclination of the ejector.

16. In a target trap the combination of a rocking frame, a rotary ejector carried by the rocking frame, and having a discharge outlet at a distance from the axis, a detaining finger or stop projecting into the ejector for temporarily detaining the "bird" therein, trip mech-

anism for controlling the operation of the detaining finger, means for adjusting the trip mechanism to vary the point of its operation whereby the detaining finger may be actuated at different positions in the rotation of the ejector, means for actuating the trip mechanism to release the detaining finger, and a connection between the trip mechanism and a stationary part, whereby the inclination of the rocking frame and ejector will be changed with the adjustment of the trip mechanism.

17. In a target trap the combination of a rocking frame, a rotary ejector carried by the rocking frame, and having a discharge outlet at a distance from the axis, a detaining finger or stop projecting into the ejector a trip for controlling the operation of the detaining finger, means for adjusting the trip mechanism to vary the point of its operation whereby the detaining finger may be actuated at different positions in the rotation of the ejector, means for actuating the trip mechanism to release the detaining finger, a connection between the trip mechanism and a stationary part, whereby the inclination of the rocking frame and ejector will be changed with the adjustment of the trip mechanism, a pointer or indicator and connections between the pointer or indicator and the means for adjusting the trip mechanism.

18. In a target trap the combination with the rocking frame and rotary ejector and its detaining finger or stop, of the lock for controlling the detaining finger or stop, the revoluble sleeve S' on the axis of the rotary ejector, the trip S in the revoluble sleeve, means for turning the revoluble sleeve and its trip, means for moving the trip into position to act upon the lock, the crank S³ carried by the sleeve S', and the connection X between the crank S³ and a stationary part, substantially as and for the purpose described.

19. In a target trap the combination with a rocking frame and the rotary ejector carried thereby and its detaining finger, of trip mechanism for actuating the detaining finger, mechanism operated from a distance exterior to the trap for simultaneously adjusting the trip mechanism to change its moment of operation and varying the inclination of the rocking frame and ejector, and independent means operated from a distance exterior to the trap for operating the trip mechanism in any adjusted position to actuate the detaining finger or stop.

20. In a target trap the combination with a rocking frame and the rotary ejector carried thereby and its detaining finger, of trip mechanism for actuating the detaining finger, mechanism operated from a distance exterior to the trap for simultaneously adjusting the trip mechanism to change its moment of operation and varying the inclination of the rocking frame and ejector, a pointer or indicator, and connections between the pointer and trip adjusting and angle changing mechanism.

21. In a target trap the combination with a movable ejector for discharging a "bird" by centrifugal force, and means operated from a distance exterior to the trap for changing the quarter or direction in which the "bird" shall leave the ejector, of a pointer or indicator on the outside of the trap, and connecting mechanism between the pointer or indicator and the means for changing the quarter or direction in which the "bird" is ejected, whereby the direction in which the "bird" will be thrown may be indicated to the marksman by mechanism controlled from a distance exterior to the trap.

22. In a target trap the combination with an ejecting frame pivoted on an axis and having a discharge opening located at a distance from the axis, and means for imparting a rapid movement to the ejecting frame for the purpose of causing the "bird" to be ejected through the open end thereof by centrifugal force, of a magazine located above the ejecting frame for supplying "birds" thereto.

23. In a target trap the combination with an ejecting frame pivoted on an axis and having an open end at a substantial distance from the axis adapted to receive the "bird" at its lower end adjacent to the axis, of means operated from a distance exterior to the trap for imparting a rapid movement to the ejecting frame upon its axis and causing the "bird" to move outward from the center by centrifugal force and leave the open end of the trap, a magazine located adjacent to the ejector, and means operated from a distance exterior to the trap for supplying the "birds" to the ejector frame.

24. In a target trap the combination with an ejecting frame pivoted on an axis and having an open end at a substantial distance from the axis adapted to receive the "bird" at its lower end adjacent to the axis, of means operated from a distance exterior to the trap for imparting a rapid movement to the ejecting frame upon its axis and causing the "bird" to move outward from the center by centrifugal force and leave the open end of the trap, a magazine located adjacent to the ejector to contain the clay "birds" or disks, a movable support below the magazine to receive the lowermost bird therein, and means operated from a distance for moving the support to receive the lowermost "bird" or disk and permit it to pass into the ejector.

25. In a target trap the combination with an ejecting frame pivoted on an axis and having an open end at a substantial distance from the axis adapted to receive the "bird" at its lower end adjacent to the axis, of means operated from a distance exterior to the trap for imparting a rapid movement to the ejecting frame upon its axis causing the "bird" to move outward from the center by centrifugal force and leave the open end of the trap, a magazine located adjacent to the ejector to contain the clay "birds" or disks, a movable support below the magazine to receive the

lowermost "bird" therein, means operated from a distance for moving the support to receive the lowermost "bird" or disk and permit it to pass into the ejector, and a detaining finger adjacent to the magazine adapted to detain all of the disks in the series except the last when the support is open and controlled by the means for moving the support to release the "birds" when the support is closed.

26. In a target trap the combination of a rocking frame, an ejecting apparatus carried thereby and adapted to eject a "bird" or disk from the trap, means for operating the ejecting apparatus, a magazine carried by the rocking frame and arranged adjacent to the ejecting apparatus whereby the movement of the rocking frame will simultaneously adjust the inclination of the ejector and magazine, and means for supplying the "birds" or disks successively from the magazine to the ejecting apparatus.

27. In a target trap a rotary ejector for the "bird" or disk, a detaining finger projecting into the ejector for temporarily detaining the "bird" or disk therein, trip mechanism for releasing the detaining finger, a magazine adjacent to the ejector, means for supplying the disks or "birds" from the magazine to the ejector, and connecting mechanism between the means for supplying the disks or "birds" from the magazine and the trip mechanism for controlling the detaining finger of the ejector.

28. In a target trap a rotary ejector for the "bird" or disk, a detaining finger projecting into the ejector for temporarily detaining the "bird" or disk therein, trip mechanism for releasing the detaining finger, a magazine adjacent to the ejector, means for supplying the disk or "birds" from the magazine to the ejector, connecting mechanism between the means for supplying the disks or "birds" from the magazine and the trip mechanism for controlling the detaining finger of the ejector, and means operated from a distance for actuating the trip mechanism and means for supplying the disks or "birds" from the magazine.

29. In a target trap the combination with an ejecting frame and means to operate it to eject a bird, of a magazine located adjacent to the ejecting frame, a normally open movable support below the open end of the magazine, a

normally closed detaining stop above the movable support, and means controlled by the means for operating the ejecting frame to synchronously operate the support and detaining stop to close the support and retract the stop, whereby a single "bird" may be dropped upon the support, and will be released thereby and dropped into the ejecting frame when the parts return to their normal positions.

30. In a target trap the combination with an ejecting frame and means to operate it, of a magazine located adjacent to the ejecting frame, a spring pressed detaining stop to retain the "birds" in the magazine, a movable support located below the open end of the magazine, and means for temporarily closing the movable support, and simultaneously retracting the detaining stop, whereby a "bird" may be permitted to fall upon the closed support and to be released thereby when the support returns to normal open position.

31. In a target trap the combination with an ejecting frame and means to operate it, of a magazine located adjacent to the ejecting frame, a detaining stop for normally holding the "birds" or disks in the magazine, a support below the detaining stop for receiving the lowermost "bird" when released by the detaining stop, means for operating the detaining stop and support, and connecting mechanism between the means for operating the ejecting frame and the means for operating the detaining stop and support, whereby upon the operation of the ejector to release the "bird" the detaining stop is opened and the support is closed to receive a new "bird" from the magazine.

32. In a target trap the combination with an ejecting frame, and means for releasing the bird therefrom, of a magazine, releasing devices to release the "birds," one at a time from the magazine, and connecting mechanism between the means for releasing the "bird" from the ejecting frame and the releasing device of the magazine, whereby a "bird" is released from the magazine upon the operation of the means for releasing the "bird" from the ejector.

In testimony of which invention I have hereunto set my hand.

ARTHUR M. JENKINS.

Witnesses:

J. P. HALE JENKINS,
LULA JENKINS.