No. 645,229. Patented Mar. 13, 1900.

H. L. MÖLLER.

TRAVELING TARGET.

(Application filed July 6, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

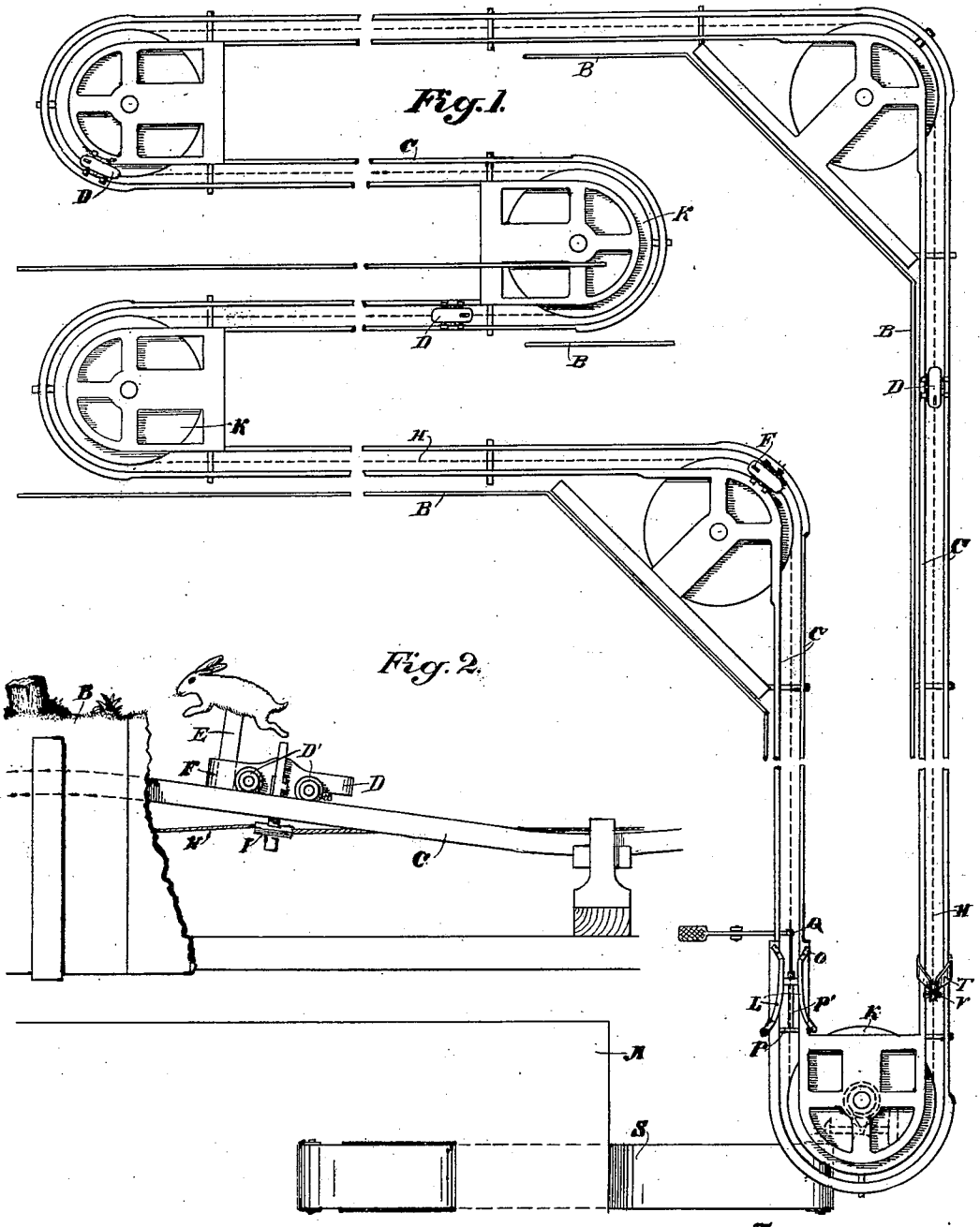

Fig. 2.

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Fig. 3.

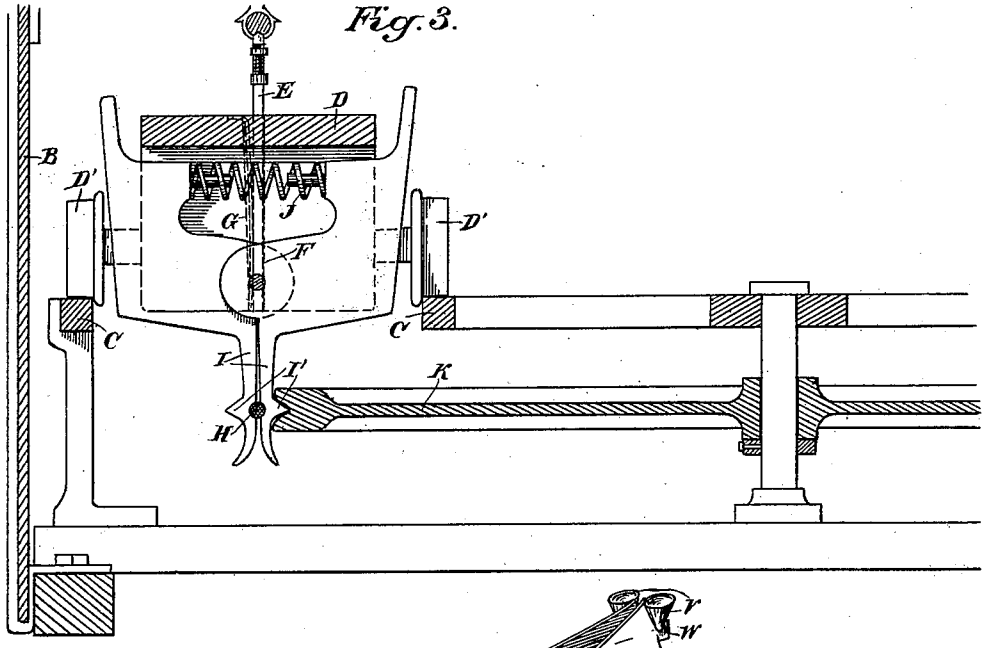


Fig. 4.

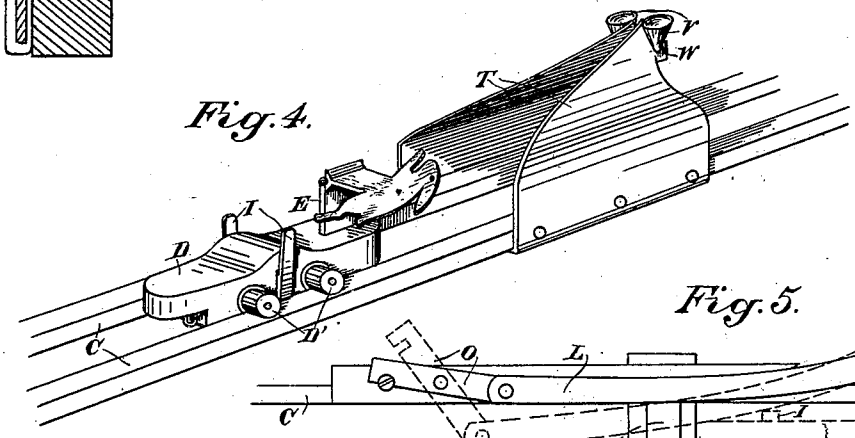


Fig. 5.

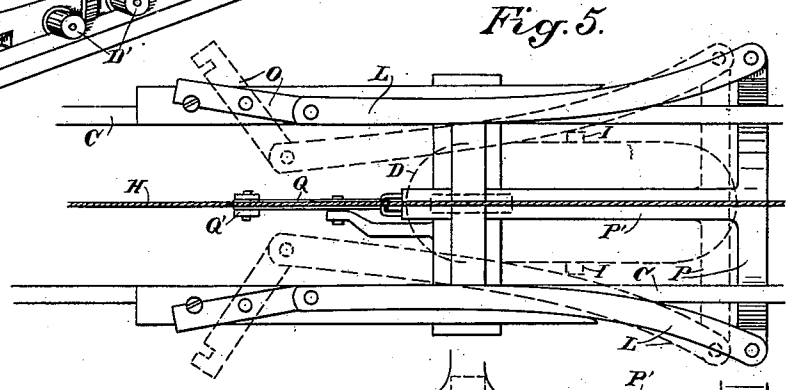
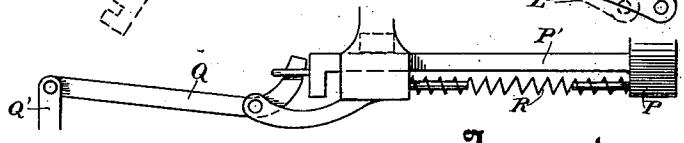


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERMAN L. MÖLLER, OF SAN FRANCISCO, CALIFORNIA.

TRAVELING TARGET.

SPECIFICATION forming part of Letters Patent No. 645,229, dated March 13, 1900.

Application filed July 6, 1899. Serial No. 722,938. (No model.)

To all whom it may concern:

Be it known that I, HERMAN L. MÖLLER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Traveling Targets; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to movable targets for practice shooting.

It consists of an endless track or runway with changes of direction, cars adapted to travel upon the track and means by which they are propelled, a means for engaging and disengaging the cars with the propelling devices, a protecting-wall by which the cars are concealed, and a target of any description carried upon the car and projecting above the wall, so as to be in view of the marksman.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a plan view of my device. Fig. 2 is an elevation of a portion of the track. Fig. 3 is a horizontal cross-section through the track in line with one of the guide-pulleys and a car. Fig. 4 shows the means for straightening and repainting the target. Fig. 5 is a plan of the car-stopping device. Fig. 6 is an elevation of the lower part of the same.

The object of this invention is to provide movable targets having various regular or irregular oscillations and at varying distances from the marksman as they pass with means for turning the targets to the marksman's stand after they have passed the circuit and for removing and replacing them.

A may represent the shooting-stand.

B is a protecting-wall standing sufficiently high to prevent damage to the operating parts.

C is a track, which extends from the shooting-stand down to a position beyond the protecting-wall, thence passing transversely back and forward at increasing distances, and finally returning parallel with the first portion to the shooting-stand. Upon this endless track cars D are adapted to travel, and these cars carry the targets. These targets may be the figures of hares, birds, animals, or any desired device, and they are mounted upon standards E, which are adapted to slip into slots F, made in some portion of the car D.

In the side of the slot or channel F is fixed a spring G, having sufficient pressure to firmly hold the standard E when the latter has been introduced, but allowing it to be easily removed.

The cars D are mounted upon wheels D', which run upon the track, and the propelling power consists of an endless traveling rope or cable H, running between the track and passing around the various direction-pulleys, which keep it always in proper position with relation to the track, so that when the cars are connected with it they will follow the course.

In order to engage and disengage the cars, spring-pressed clamps I are formed with grooves coincident with the rope, and these clamps are pivoted together, as shown, so that by means of springs J between them the upper ends are separated and the lower ends are caused to grasp the rope.

K are guide-pulleys around which the rope passes in its change of direction, and in order to allow the clamps to pass these pulleys I have shown the outer faces made with projecting V-shaped lugs I', which fit into the grooves of the pulleys as they pass, and the rope is temporarily lifted out of the pulley-groove, but allowed to drop back into it after the clamp has passed.

At the end near the marksman's stand is mounted a device consisting of arms L, situated above the line of the track, having one end pivoted to a short fulcrumed lever O. The opposite ends diverge from each other, as shown, and are fixed to the upper ends of the yoke P. This yoke has a horizontal bar P', which is suitably guided and slidable, and the end of the yoke is connected with a bell-crank lever Q, fulcrumed, as shown, and having its outer end connected by a pitman-rod Q' with a treadle-lever. A spring R acts to normally force the yoke and the bars L outward; but when the foot is placed upon the treadle it depresses the connected arm of the lever Q, and this draws the slide P' back, moving the yoke P with it. This acts to move the bars L, and by their connection with the fulcrumed levers O the bars will be drawn

toward each other, so that the space between them is made considerably narrower than the normal. The upwardly-projecting arms of the levers I, which act to clamp the rope, pass between these side bars L, and when the latter are in their normal position they do not contact with the clamping-bars I, but allow the car to run through and continue its course.

If it is desired to stop a car for the purpose of removing a target or for any purpose, the operator places his foot upon the treadle, and this, acting as previously described, draws the rear ends of the lever L nearer to each other, so that when the arms I of the clamps on the car pass between these bars the upper ends will be pressed together and the lower ends correspondingly separated, thus letting go of the driving-rope, so that the car will become stationary. As soon as the foot is removed from the pedal the parts resume their normal position, the bars L being separated, so as to allow the grip to again take hold of the rope and the car to continue its motion. When the car has thus been stopped and targets have been removed and it is desired to send them to the shooting-stand, as in case where the marksman desires to keep a target, the targets are placed upon an endless traveling belt S, which is kept in motion by suitable gearing from the driving mechanism, and the target being placed upon this belt will be delivered at the shooting stand or table.

As shown in the drawings, the cars D travel backward and forward across the space in front of the shooting-stand, the direction-pulleys changing the motion, so that they pass alternately to the right and left as many times as may be desired, each time going a little farther away from the shooting-stand. The track is also made undulating, so that the target will have a rising-and-falling motion as well as a forward one. The protecting-wall B is preferably covered with artificial trees or shrubs, and other walls may be interposed between the portions of the track over which the cars travel, which are farther to the rear, so that in shooting at such a target the difficulty increases with the distance, partly on that account and partly because of the greater number of objects interposed, so that the moving target will appear and disappear as it passes between or behind the interposed shrubbery or other concealing devices. Having passed around the circuit, the targets are then brought to a position near the shooting-stand and may be stopped by the mechanism previously described or allowed to continue on their course again.

As many cars and targets may be attached to the driving-rope as desirable, so that several targets can be running upon the same rope at the same time.

In some cases the target is mounted upon a hinged standard, as shown in Fig. 4, so that when struck by a shot it will be thrown down upon its side. It will remain in this position until it arrives at the shooting-stand, when passing between the upturned or inclined flanges T, Figs. 1 and 4, these flanges will raise it to an upright position again. In order to remove the mark of the shot, cups V are mounted upon the flanges T, and these supply paint or other material to brushes W, between which the target passes and by which the marks are obliterated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A movable-target mechanism consisting of a tortuous track, an endless traveling rope moving coincidently with the line of track, carriages with means for attaching targets thereto, and means including spring-pressed grips for detachably connecting the carriages with the carrier-rope.

2. In a movable-target apparatus, a tortuous line of track, an endless traveling rope following the line of the track, cars adapted to travel upon the track, means for attaching targets thereto and spring-pressed grips carried by the cars adapted to grasp the rope or to be released therefrom.

3. In a movable-target mechanism, an endless tortuous track, cars fitted to move thereon, a traveling rope following the line of the track, grips upon the cars adapted to engage the rope, and means whereby they may be automatically released therefrom.

4. In a movable target, a tortuous undulating line of track, cars adapted to move thereon, an endless traveling rope moving along the line of the track, and spring-pressed grips upon the cars adapted to close and connect the cars with the rope or to be opened to allow the cars to be disconnected therefrom.

5. In a movable-target mechanism, a tortuous line of track extending from the shooting-stand to a distance therefrom thence backward and forward across the range, thence returning to a position near the shooting-stand, cars adapted to move on the track, an endless traveling rope following the line of track, grips including spring-pressed members by which the cars are connected with or disconnected from the rope.

6. In a movable-target apparatus, the line of track with target-carrying cars movable thereon, an endless traveling rope following the line of the track, spring-pressed grips upon the car by which the rope is seized, so that the car is moved along the line of the track and parallel bars between which the grip-levers normally pass, and a means for closing the bars together so as to engage the grip-levers and disengage them from the rope and stop the car.

7. In a movable-target apparatus, the endless track carrying cars movable thereon, an endless traveling rope with grips mounted upon the cars adapted to clamp the rope, so as to move the cars, a frame consisting of bars parallel with the line of travel of the

cars, and the grip-levers thereon, a yoke and connecting foot-lever by which said bars are movable in one direction, and a returning-spring therefor, levers with which the rear ends of the bars are connected so that a longitudinal movement of the device in one direction closes the bars so that they will contact with the car grip-levers as the latter pass between them, and thus disengage the grips from the rope, and allow the car to stop.

8. A movable-target mechanism consisting of a tortuous line of track, cars running thereon and adapted to carry targets, an endless traveling rope following the line of the track-grips by which the cars are connected with or disengaged from the rope, and a belt traveling in unison with the rope adapted to transfer the targets from the car to the shooting-stand.

9. A movable-target mechanism consisting of cars, a track and a movable driving-rope, said cars having sockets formed for the reception of the standards of the targets, and spring-plates fitting the sides of the slots so as to grasp the target-standards when the latter are introduced.

10. A traveling target with hinged support to allow it to fall when struck, stationary guides between which it subsequently passes and by which it is restored to its normal position, and one or more brushes in the line of travel of the target by which marks upon the target are obliterated.

In witness whereof I have hereunto set my hand.

HERMAN L. MÖLLER.

Witnesses:
S. H. NOURSE,
GEO. H. STRONG.