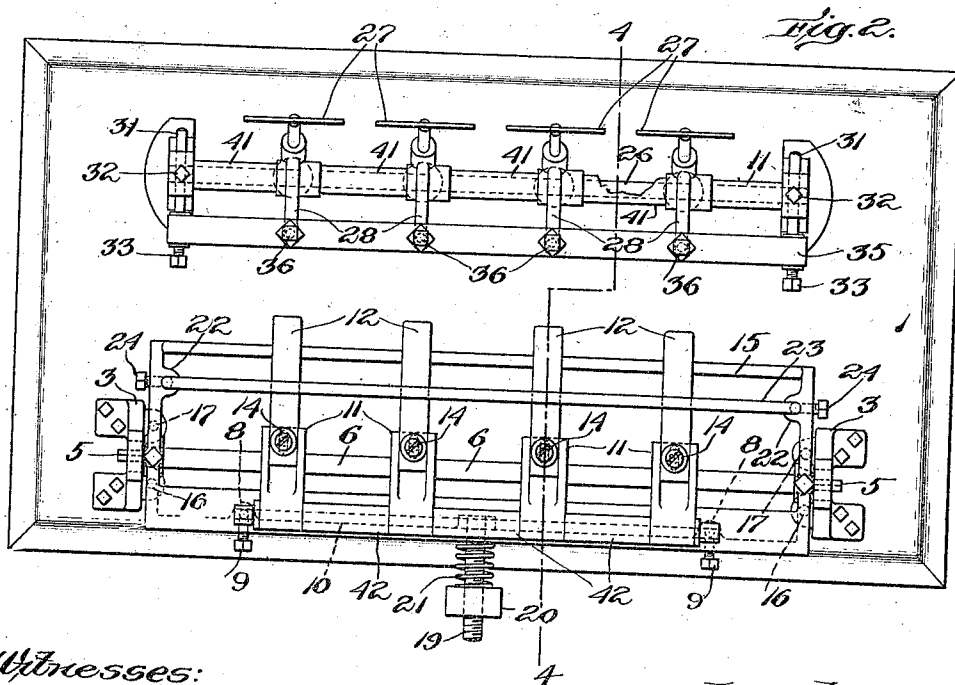
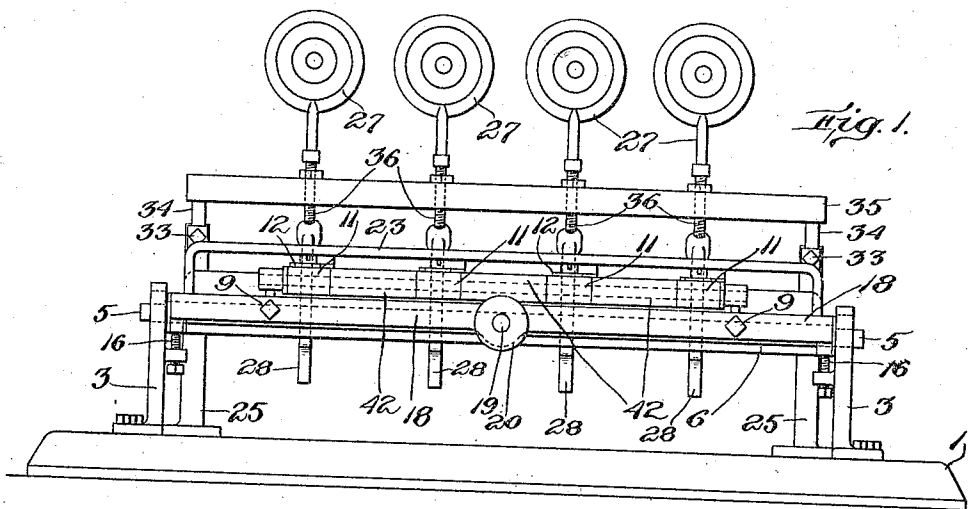


C. W. HARPER.
 TARGET APPARATUS.
 APPLICATION FILED MAR. 13, 1911.

996,712.

Patented July 4, 1911.

2 SHEETS-SHEET 1.



Witnesses:
 Joseph T. Brennan
 Mary A. O'Brien.

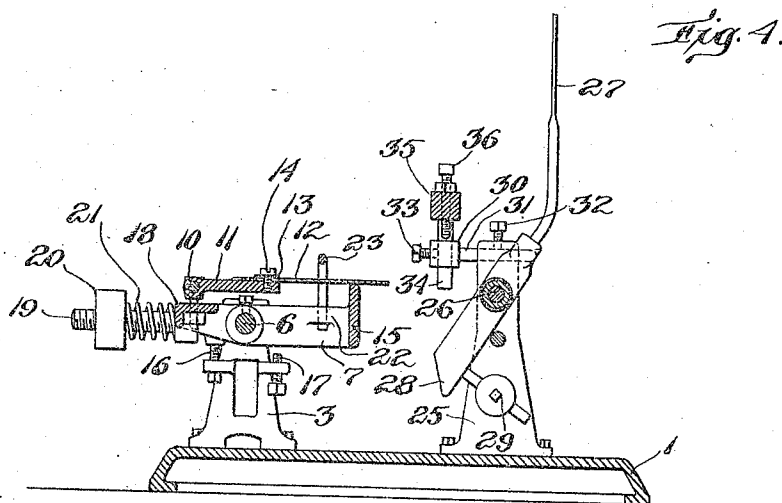
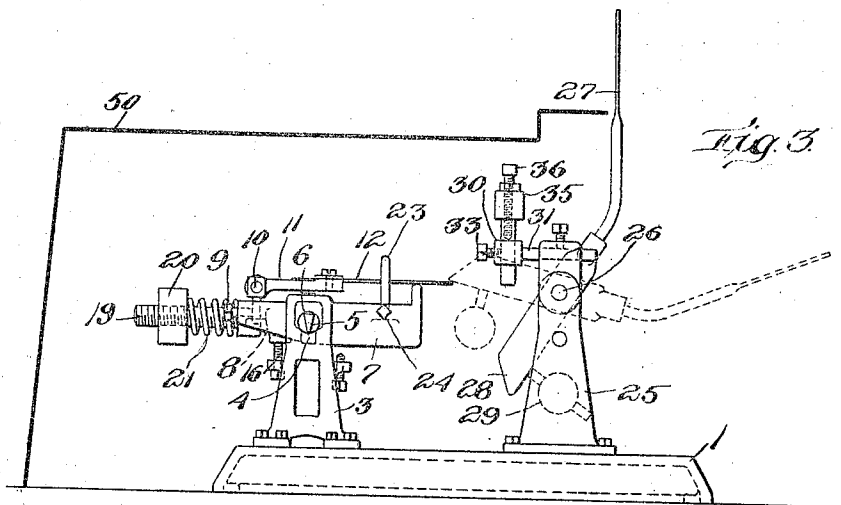
Inventor:
 Charles W. Harper,
 by Mitchell, Chadwick & Kent,
 his attys.

C. W. HARPER.
 TARGET APPARATUS.
 APPLICATION FILED MAR. 13, 1911.

996,712.

Patented July 4, 1911.

2 SHEETS—SHEET 2.



Witnesses:

Joseph T. Brennan.
 Mary A. O'Brien.

Inventor:

Charles W. Harper,
 by Mitchell, Chastnut & Kent,
 his attys.

UNITED STATES PATENT OFFICE.

CHARLES W. HARPER, OF EVERETT, MASSACHUSETTS.

TARGET APPARATUS.

996,712.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed March 13, 1911. Serial No. 613,972.

To all whom it may concern:

Be it known that I, CHARLES W. HARPER, a citizen of the United States, residing at Everett, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Target Apparatus, of which the following is a specification.

My invention relates to multiple target apparatus, and particularly to target apparatus for use upon a rifle range or the like.

The object of my invention is to provide an improved multiple target apparatus which will be operated by the projectiles striking it so as to be automatically reset.

My improved multiple target apparatus comprises a plurality of movably supported targets each adapted to be thrown out of its normal position by the impact of a projectile, combined with means for effecting the automatic resetting of the targets when the last of a predetermined number thereof is thrown out of its normal position. This construction obviates the necessity of the shooter himself resetting the targets and provides a target apparatus that is particularly adapted to long ranges and other situations where it is inconvenient, undesirable or impossible to provide manually operated target resetting devices.

Other features of my invention, including the structural peculiarities of the particular embodiment of my invention shown in the accompanying drawings, are hereinafter pointed out.

In the accompanying drawings, Figure 1 is a front elevation of a target apparatus embodying one form of my invention; Fig. 2 is a plan view of the apparatus shown in Fig. 1; Fig. 3 is a side view of the apparatus shown in Fig. 1; Fig. 4 is a section on line 4-4 of Fig. 2.

Having reference to the drawings, 1 represents the base portion of the framework of my apparatus, upon which are secured two upright brackets 3, 3 made with seats 4, 4 upon which rest the knife-edge extremities 5 of rock shaft 6. The rock shaft 6 has fixed to it a frame 7 made with sockets 8, 8 in which the perpendicular ends of a bar 10 are adjustably fixed by means of screws 9, 9. The bar 10 carries a plurality of gravity latches each made up of a member 11 pivoted loosely on said bar 10 and a member 12 formed with a slot 13 adjustably se-

cured to the member 11 by a screw 14, extending through said slot into a tapped hole near the free end of the member 11. At their free or outer ends the members 12 of the latches rest upon a cross-bar 15 forming part of the frame 7. Each vertical bracket 3 is provided with a pair of adjustable stops 16 arranged at one side of the shaft 6 and a pair of adjustable stops 17 arranged at the opposite side of shaft 6, these two sets of stops being adjustable so as to permit of the frame 7 rocking to a limited extent from the knife-edges 5. The frame 7 also is made with a cross-bar 18, from which projects a threaded rod 19 carrying an adjustable weight 20 in the form of a nut interiorly threaded and screwed onto said bar. A spring 21 on rod 19 between weight 20 and bar 18 serves to hold weight 20 against rotary displacement on the bar 19. The side bars of the frame 7 are made with sockets 22 to receive the perpendicular ends of a stop bar 23 whose main portion extends across from one side of frame 7 to the other, above the members 12 of the latches, with its ends adjustably secured in the sockets 22 by screws 24. Base 1 also has mounted upon it a pair of brackets 25 which support a shaft 26 fixed at its ends in said brackets. On the shaft 26 is loosely pivoted a plurality of independently movable targets 27, one for each of the latches on frame 7, and each made with a nose 28 beveled on its upper face to cooperate with its latch on the frame 7. A weight 29 provided on each nose 28 holds the target 27 thereof normally in the vertical position shown in full lines in the drawings. The weights 29 are adjustable, as shown, so as to provide for properly aligning the targets 27. Adjacent each bracket 25 is a socket member 30 made with a horizontally extending shank 31 adjustably secured to the adjacent bracket 25 by a screw 32, and within each socket member 30 is adjustably secured, by means of a screw 33, a vertical rod 34. The two rods 34 are connected with the ends of a cross-bar 35 carrying a plurality of vertically adjustable stops 36 one for each target 27.

Sleeves 41 on shaft 26 serve to hold the targets 27 against lateral displacement on said shaft, while similar sleeves 42 on pivot rod 10 hold the latches 11-12 against lateral displacement on said rod. When a projectile hits one of the targets 27, the latter is swung backward on shaft 26 while its nose

28 swings upward past the cooperating latch 11—12 until its movement is arrested by its stop 36, whereupon said nose falls back by gravity on to its latch 11—12 by which it is supported in the position indicated by dotted lines in Fig. 3. The weight 20 is adjusted so that it will normally hold frame 7 against stops 16 with the latches 11—12 in their operative positions, and will maintain the frame in this normal position until all of the targets 27 have been thrown back into the positions indicated by dotted lines in Fig. 3. Then the combined weight of all the targets depresses frame 7 until the noses 28 clear latches 11—12, whereupon the targets 27 all resume their normal positions, while the weight 20 returns frame 7 to its normal position against stops 16. By relative adjustment of the members 11 and 12 of each latch, the targets 27 may be caused to all clear their latches at the same moment as their combined weights depress frame 7, thus insuring the automatic restoration of the apparatus to normal position as soon as all of the targets have been knocked down. The stops 23 and 36 are so adjusted that when each latch 11—12 is kicked upward by the nose 28 of its target, said latch engages stop bar 23 before nose 28 engages its stop 36 and this insures the return of each latch 11—12 to its normal operative position before the nose 28 of its target falls below said latch. That is, it causes the latch to fall back into the path of the nose before the latter passes the latch, so that it will catch and detain said nose during its descent. In this way each target is caught and held in its knocked-down position by its latch until all of the targets are down and then their combined weight rocks frame 7 so as to free said targets and allow the weights 29 to restore them to their normal position. The targets 27 are designed so that they are uniform in weight and ordinarily the best arrangement is to have the weight 20 adjusted so that it will counterbalance and support all of the targets but one, and when that one is knocked down and caught by its latch 11—12 the combined weight of all of the targets overcomes weight 20 and automatically resets the device. This, however, is not essential, since by adjustment of said weight on the rod 19 the frame 7 may be caused to be automatically depressed when any predetermined number of targets has been knocked down. It will be obvious that instead of using weight 29 to hold the target in normal position the same result may be attained by use of springs or any other mechanical equivalent.

Thus it is seen that one of the distinguishing features of my invention consists in providing a multiple target apparatus with automatic means for restoring the apparatus to its normal condition when the last of a

predetermined number of the targets is knocked down or operated by a projectile, whichever target of the apparatus may be the last one to be so knocked down or operated. A target apparatus having this peculiar construction and mode of operation is not only particularly adapted to long ranges or other situations where it is inconvenient or impossible to provide some resetting device controlled by the shooter from his distant position, but it adds an incentive to good marksmanship in that the shooter strives to cause the automatic resetting of the apparatus.

When in use the apparatus is provided with a shield 50 which covers all of the parts except the target surfaces of the targets 27.

What I claim is:—

1. A multiple target apparatus having, in combination, a plurality of targets operated by the impact of projectiles so as to be thereby thrown out of their normal positions; and automatic means for restoring the apparatus to its normal condition when the last of a predetermined number of the targets is operated.

2. A multiple target apparatus having, in combination, a plurality of targets operated by the impact of projectiles so as to be thereby thrown out of their normal positions, and automatic means for restoring the apparatus to its normal condition when all of the targets have been operated.

3. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held normally in upright positions; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile, and automatic means for freeing the targets from their latches when all of said targets have been operated.

4. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; a movable latch support, and means through which said latch support is automatically moved to free the targets from their latches when all of said targets have been operated.

5. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by

gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; and a pivoted latch support provided with a weight for counterbalancing the weight of a predetermined number of the targets which is less than the total number thereof.

6. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; and a pivoted latch support provided with a weight for counterbalancing the weight of a predetermined number of said targets which is less than the total number of said targets, and adapted when subjected to the weight of more than said predetermined number of targets to be operated so as to free the latter from their latches.

7. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; a pivoted latch support provided with a weight for counterbalancing the weight of a predetermined number of the targets which is less than the total number thereof; and a stop for holding said frame in its normal position with the latches in their operative positions.

8. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; a pivoted latch support provided

with a weight for counterbalancing the weight of a predetermined number of the targets which is less than the total number thereof; and stops to limit the movements of the pivoted latch support.

9. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; a pivoted latch support provided with a weight for counterbalancing the weight of a predetermined number of the targets which is less than the total number thereof; a stop for limiting the movement of said frame under the influence of said counterbalancing weight, and a stop for limiting the movement of said frame under the influence of the weight of said targets.

10. A multiple target apparatus having, in combination, a plurality of pivotally supported targets each operated by the impact of a projectile so as to be thereby thrown out of its normal position, said targets being held in their normal positions by gravity; a plurality of latches one for each target and each adapted to catch and hold its target when the latter is operated by a projectile; a movable latch support; means through which said latch support is automatically moved to free the targets from their latches when all of said targets have been operated, a stop for limiting the movement of the target under the influence of the projectile, and a stop for limiting the movement of each latch under the influence of the target, said latch stops being arranged relatively close to the latches so as to stop the movement of the latches before the movements of the targets are arrested by their stops.

Signed by me at Boston, Massachusetts, this 8th day of March, 1911.

CHARLES W. HARPER.

Witnesses:

JOSEPH T. BRENNAN,
MARY A. O'BRIEN.