

C. ROCK.
TARGET.

(Application filed Apr. 16, 1900.)

(No Model.)

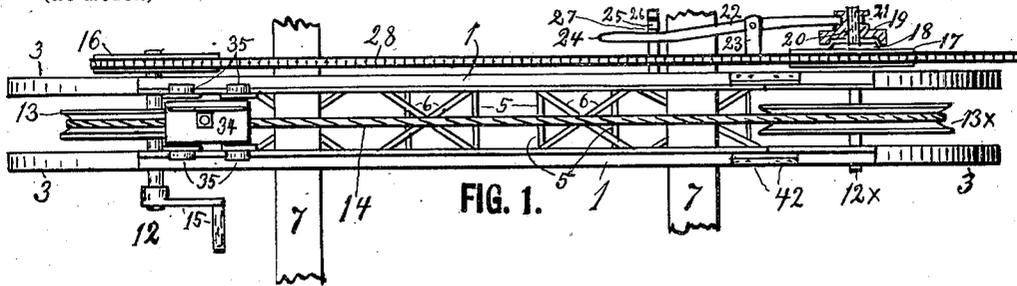


FIG. 1.

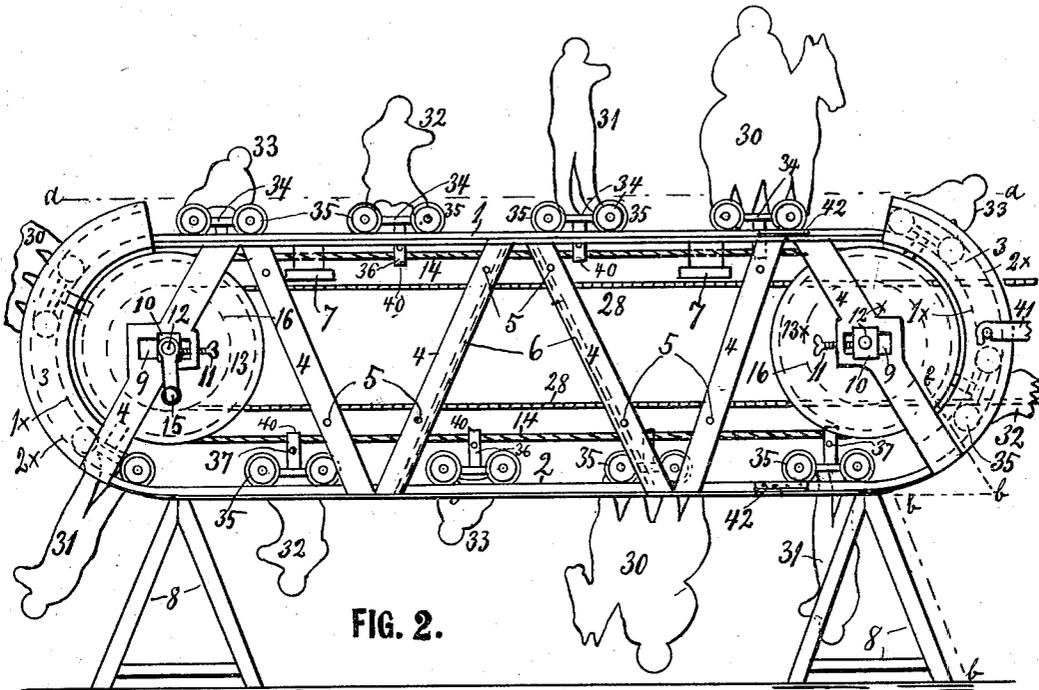


FIG. 2.

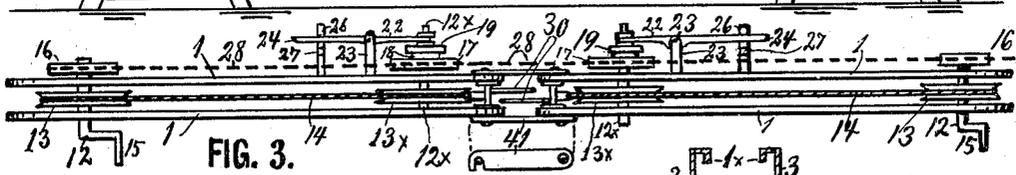


FIG. 3.

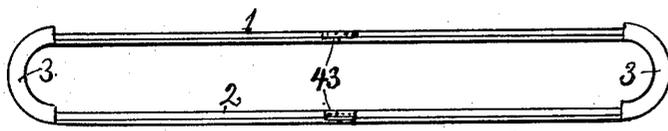


FIG. 4.

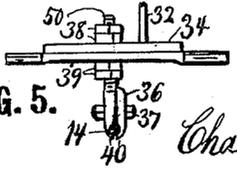


FIG. 5.

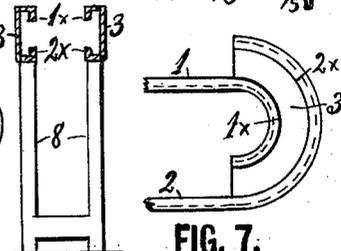


FIG. 6.

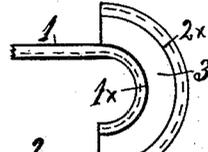


FIG. 7.

WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES ROCK, OF ST. PAUL, MINNESOTA.

TARGET.

SPECIFICATION forming part of Letters Patent No. 668,219, dated February 19, 1901.

Application filed April 16, 1900. Serial No. 12,986. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ROCK, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Targets; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in targets for militiamen and others to practice on and learn to shoot at moving objects, especially cavalry and infantry, in various positions.

The novel features and advantages of the invention are fully set forth in the below description and claims and are illustrated in the accompanying drawings; in which—

Figure 1 is a top view of a complete section of my target-frame with only one of the target-carrying trucks shown on it. Fig. 2 is a side elevation of Fig. 1 with all the targets on an ordinary frame-section shown. Fig. 3 is a top view of two frame-sections like Fig. 1 connected to be operated by one crank or other source of power, but to have the targets on each section under control to start and stop them independently of the targets on the other sections. Fig. 4 is a side view showing how two or more frame-sections may be connected into one continuous track for all the targets to move on and secured to a single endless rope or chain, as will be more fully described below. Fig. 5 is a detail end view of one of the target-carrying trucks with its carrier-wheels removed. Fig. 6 is a sectional view on the line *b b* in Fig. 2 looking from right to left. Fig. 7 is an inside side elevation of the parallel end curves of the tracks on which the target-trucks move.

Referring to the drawings by reference-numerals it will be seen that the framework on which my targets move consists of a two-railed endless track constructed in about the following manner: Each of the upper rails 1 has its ends curved downward to about a half-circle 1^x and the lower rail 2 has its ends curved upward, forming half-circles 2^x , par-

allel with and by the web or plate 3, secured to the curve 1^x of the upper track. The frame-yokes thus formed are strengthened by the braces 4 and secured together by the cross-bars 5 and the oblique braces 6, Figs. 1 and 2. The frame thus formed is supported on trestles 8 in the usual trench or pit, the top of which is represented by the line *a a* in Fig. 2, or the frame may be suspended on horizontal bars, like 7, put through the frame and left to rest upon the edges of the pit. When trestles are used, they are open nearly to the bottom for the targets to pass through them, as shown to the right in Fig. 2 and in Fig. 6.

In the braces 4, nearest the ends of each frame-section, I form a horizontal slot 9, in which slides the block 10, adjustable by turning the screw 11 forward against it. In these blocks are journaled the two shafts 12 and 12^x , carrying the two rope-pulleys 13 and 13^x , over which is stretched the endless chain or wire rope 14. The shaft 12 is loose in the pulley 13, is provided at one end with a hand-crank 15 or other means for turning it by, and at the other end with a secured chain-wheel 16, from which runs an endless chain 28, engaging the loose chain-wheel 17 on the shaft 12^x . The latter chain-wheel has a clutch member 18, adapted to be engaged frictionally by the clutch member 19, (best shown in section in Fig. 1,) sliding on the shaft 12^x and on its key or feather 20. (Shown in dotted lines in Fig. 1.)

In an annular groove 21 in the clutch member 19 engages the shifter or lever 22, fulcrumed in the stud 23 and having its handle end 24 sprung and moved into the notch 25 in the arm 26 when the clutch is to work and into the notch 27 when the clutch is disengaged, as in Fig. 1. The chain 28 is thus operated by the wheel 16, shaft 12, and crank 15 (or other means for turning it) and revolves the wheel 17; but the wheel 13^x and its shaft 12^x and all the targets stand still until the clutch members are forced into frictional contact with each other.

The targets 30, 31, 32, and 33, representing, respectively, a man on horseback and men in standing, kneeling, and lying or inclined positions, are each secured upon a platform or truck 34, provided with four flanged wheels 35, riding on the tracks 1 and 2 of the frame.

Said tracks are preferably made of angle iron or steel. As best shown in Fig. 5, each truck is provided with a central rope-clamp 36, which by the turning of its bolt or screw 37 5 grips the rope 14 very tightly, and said clamp is adjustable toward the truck by its screw-threaded shank 50 and the nuts 38 and 39, some of which are jam-nuts to prevent the other nuts from loosening. The jaws 40 of 10 the clamp are made very thin and rounded, so as to raise the rope as little as possible off the bottom of the groove in the pulley when passing over the same.

The semicircular spaces between the curves 15 of the upper and lower tracks fit the truck-wheels so snugly diametrically that the targets in passing the curves are thereby steadied and prevented from tilting and bringing an undue strain on the rope moving them. The 20 targets are secured on the rope 14 at such distances apart as the "firing regulations" may require.

The target frame or track in a single section may be made of any desired length; but 25 as a single section of very great length would for many reasons be objectionable I have planned to connect or combine several separable sections into one line and operate them from a single source of power when so required or desired. This I do in two modified 30 ways as follows: In Figs. 2 and 3, 41 are hooks by which the frame-section may be connected together in line. The chain 28 is then extended along all the sections engaging such 35 outside pulleys or chain-wheels thereof as will operate the target when the clutches are applied. In this way while the rope 14 is running either of the frame-sections may, by the lever 24, have all its targets stopped and 40 started by a friction-clutch to avoid jerk or blow on the mechanism. Another way to combine the sections is to unscrew the fish-plates 42, (see Figs. 1 and 2,) remove the curved end portion of the frame and likewise 45 remove the curved end of the next section, and then secure together by the fish-plates, as at 43 in Fig. 4, two or more sections into a continuous track. Then join together by suitable couplings (not shown) the necessary 50 length of the ropes 14 and likewise of the chain 28 to make several sections work in a continuous line.

In order to give a galloping motion to the horse 30, the shaft of the front wheels is secured in the wheels beyond their centers and 55 journaled to the truck or platform, so that the wheels act as eccentrics; also, the hind wheels may be journaled in the same way, if desired.

60 From the above description the construction and operation of the target itself will be understood, and as for the use of it in prac-

tice army officers will readily see the many advantages offered, some of which are that a line of several hundred feet long of targets 65 may be operated by a single motor at one end and present a moving army to fire at; also, that by touching the various clutch-levers, and thus start and stop the various sections alternately, the targets represent "advance 70 by rushes" and "reinforcement of the firing-line by the flank," &c.

I am aware that it is old to make movable targets on endless belts traveling in various planes. I therefore do not claim such target 75 broadly; but

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

1. In a target or shooting gallery and mounted in a suitable framework, the combination 80 with an upper horizontal track having its ends curved downward to form a part of a circle, and a lower horizontal track having its ends curved upward some distance beyond, parallel to and in vertical plane with the curves of 85 the upper track, two pulleys or wheels journaled concentric with the curves at the ends of the track, an endless wire rope or chain placed over said pulleys, trucks or carriages secured to the rope or chain and targets 90 mounted on the trucks, said trucks having at both ends carrier-wheels adapted to run upon the upper and upon the lower track and to fill diametrically between the end curves of the upper and lower tracks, and means for 95 applying power to one or more of the pulleys to turn them and move the targets.

2. A target or shooting gallery comprising a series of detachable sections adapted to be used separately or connected in line after 100 each other and operated from a single source of power, each section having a series of moving, disappearing targets and a clutch by which the targets may be started and stopped independently of the other sections. 105

3. A moving target consisting of the figure or outlines of a horse with a man on it, a wheeled truck carrying said horse and having eccentric wheels to give a galloping or rocking movement to the horse. 110

4. In a target of the class described, the combination with the target-truck 34, of the rope-clamp 36, adapted to take a firm hold on an endless rope pulling the targets, and having a screw-threaded shank with nuts above 115 and below the platform of the target-truck, substantially as and for the purpose set forth.

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

CHARLES ROCK.

Witnesses:

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WALTER C. FISCHER.