M. A. PALEN.

MOVABLE TARGET SYSTEM.

APPLICATION FILED JUNE 24, 1912.

1,087,507.

Patented Feb. 17, 1914.

2 SHEETS—SHEET 1.

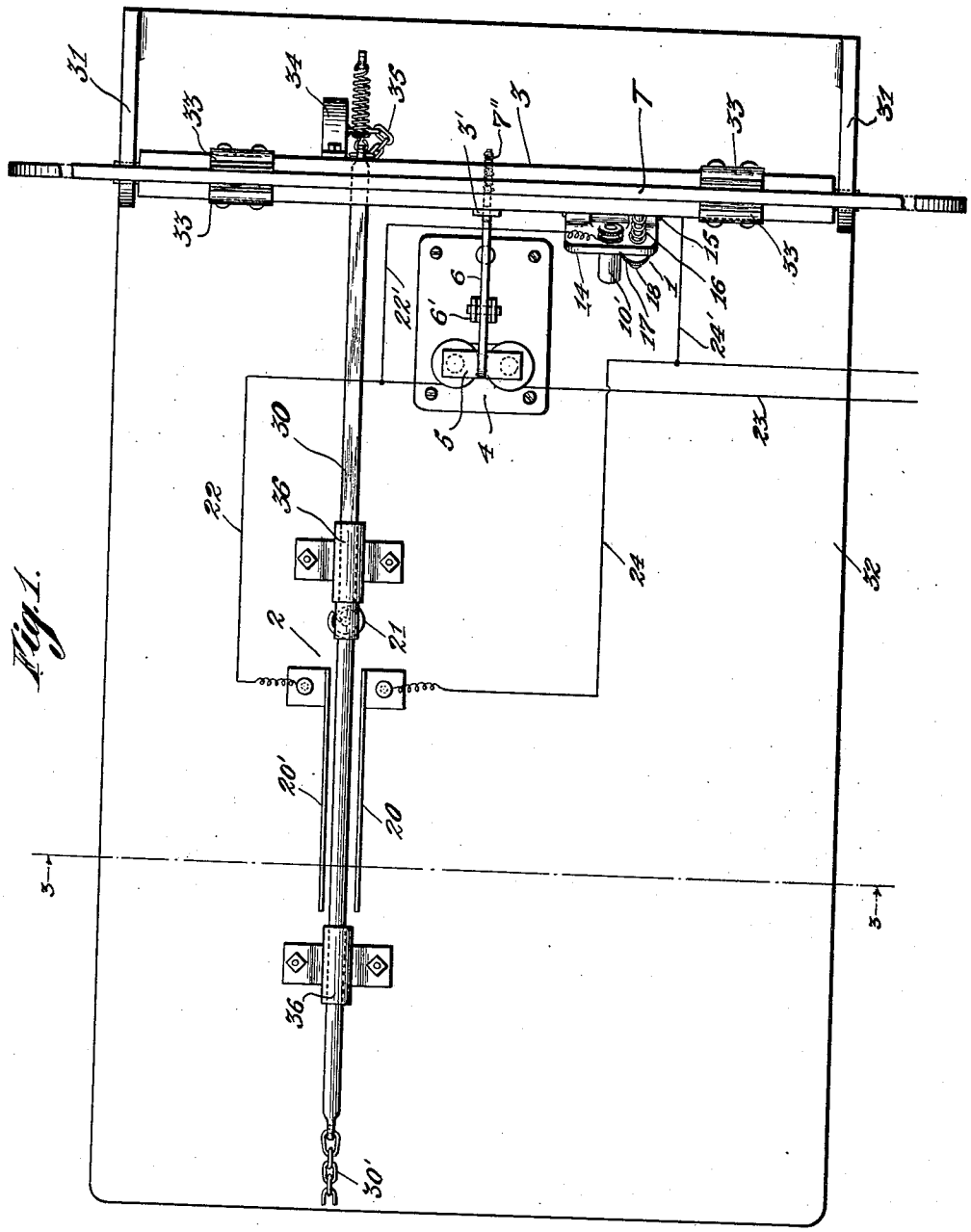


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

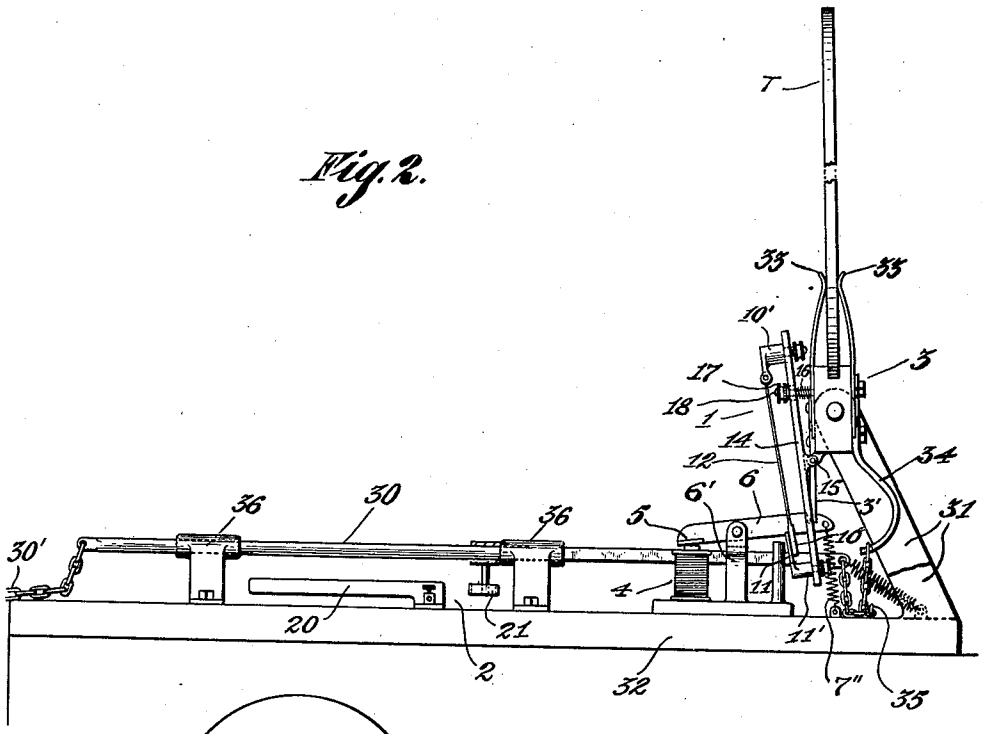
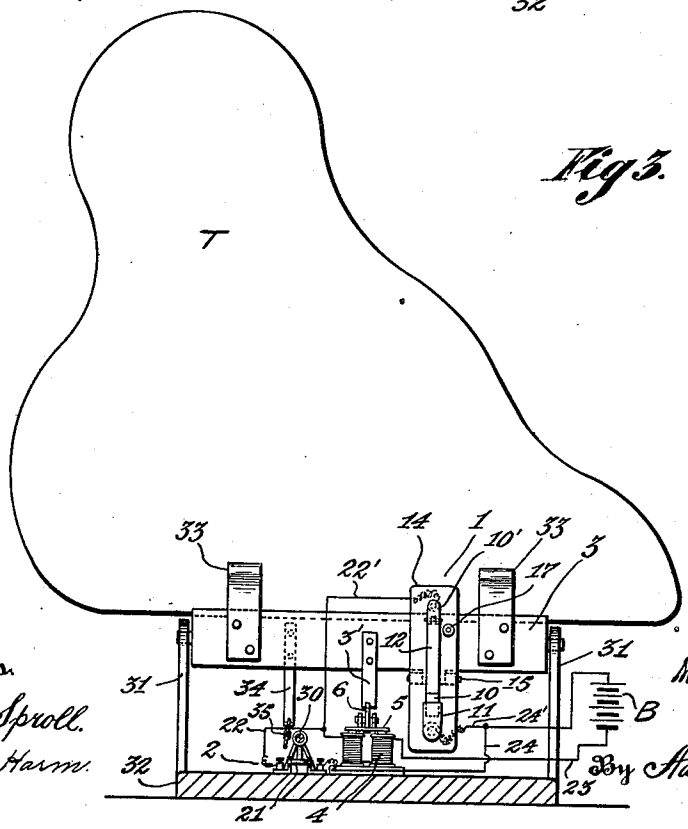


Fig. 3.



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UNITED STATES PATENT OFFICE.

MATTHEW A. PALEN, OF THE UNITED STATES ARMY.

MOVABLE-TARGET SYSTEM.

1,087,507. Specification of Letters Patent. Patented Feb. 17, 1914.

Application filed June 24, 1912. Serial No. 705,635.

To all whom it may concern:

Be it known that I, MATTHEW A. PALEN, lieutenant, Twenty-fifth Infantry, United States Army, a citizen of the United States of America, and a resident of Fort Lawton, in the county of King and State of Washington, have invented certain new and useful Improvements in Movable-Target Systems, of which the following is a specification.

The present invention pertains to an electrical target controlling system primarily devised for a target of the falling type and it consists in certain novel provisions whereby the target will be automatically released when hit by a bullet and can be reset from a remote point.

Other objects will be set forth as my description progresses and those features of construction, arrangements and combinations of parts on which I desire protection, succinctly defined in my annexed claims.

With reference to the accompanying drawing wherein similar reference characters designate corresponding parts throughout the several views: Figure 1 is a plan of a falling target system embodying the features of my invention in such form as now preferred by me. Fig. 2 is a side elevation of the same with portions of some of its parts broken away, and Fig. 3 is a vertical section on line 3—3 of Fig. 1.

The invention comprises main and auxiliary electric-circuit controllers 1 and 2, which as shown, are combined with a horizontally pivoted target support 3 and a resetting means 30 and connected, one parallel with the other, in series with an electric battery B and an electro-magnet 4 whose armature 5 is secured to a spring retracted catch 6 which is pivoted to a rigid standard 6′, and normally held by the magnet in engagement with a lug 3′ of support 3.

Controller 1, which normally holds a closed circuit for magnet 4, comprises companion terminals 10 and 11 connected with upper and lower binding posts 10′, 11′ seated on a vertically inclined panel 14 which is connected with support 3 by a horizontal hinge 15 and pressed by a spring 16 against an adjusting nut 17 which is engaged with a screw threaded stud 18 projecting from support 3 through an aperture of the panel.

Terminal 11 as shown, is directly secured to post 11′, while terminal 10 is fixed to an arm 12, of electric current conducting material, which is pivotally connected with post 10′ for annular movement in a plane extending at right angles to that of target T and normally held by gravity with its terminal 10 in contact with terminal 11.

Support 3, which is in the form of a bar having end pivots journaled in standards 31 of a base plate 32, is provided with upwardly projecting spring clips or holders 33 for target T and equipped with a depending curved arm 34 connected by a normally slack chain 35 with resetting means 30 which comprises a spring retracted draw bar slidably mounted at right angles to support 3 in fixed bearings 36 of base 32 and connected at its rear end with a pull chain 30′.

Controller 2 comprises spaced apart terminals 20, 20′ secured to base 32 and extending parallel with bar 30 at opposite sides of the path of an electrical contact in the form of a spiral spring 21 which is secured to bar 30 and normally lies clear of the terminals 20, 20′.

Magnet 4 is electrically connected at one side with terminal 20′ and post 10′ by wires 22, 22′ and at the opposite side with one terminal of battery B by a wire 23, while the terminal 20 and post 11′ are electrically connected with the other terminal of the battery by wires 24, 24′.

When a hit is made in firing at target T the impact of the bullet on the target jars support 3 and panel 14 and thereby causes terminal 10 to bound from terminal 11 and disconnect magnet 4 from battery B whereupon catch 6, is retracted by action of its spring 7″, leaving support 3 free to turn with the target. During the resetting operation, which is effected by the marker pulling rearwardly on chain 30′, contact 21 slides along the terminals 20, 20′ and holds a closed circuit for magnet 4 whereby positive engagement of catch 6 with lug 3′ of support 3 is insured without relying on controller 1 which is susceptible to jars incident to the arresting of the support by the catch.

Having thus described my invention what I claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. In combination, a swingingly mounted target support, a yieldingly held panel pivotally mounted on said support, means for

securing said support against movement, and terminals on said panel in circuit with said securing means, one of said terminals being free for movement by a jar incident to the impact of a bullet on the target to thereby release said securing means.

2. In combination, a target, a movable support therefor, electrically operative means for securing said support from movement, an electric circuit controller in circuit with said securing means and connected with said support, said controller including a circuit controlling part operative by a jar incident to impact of a bullet on the target, means for returning said target to normal position, and a second circuit controller in circuit with said securing means and connected for operation by said last named means.

3. In combination, a movable target support, electrically operative means for securing said support from movement, means for moving said support, and a circuit controller in circuit with said securing means and connected with said second means for operation thereby.

4. In combination, a target, a movable support therefor, electrically operative means for securing said support from movement, an electric circuit controller in circuit with said securing means operative by a jar incident to impact of a bullet on the target, means for moving said support, and a second circuit controller in circuit with said securing means and operatively connected with said last means.

5. In combination, a movably mounted target support, electrically operative means for securing said support from movement, means for resetting said target support, and a pair of circuit controllers in circuit with said securing means for maintaining the same active, one of said controllers being operative by a jar incident to impact of a bullet on the target and the other operative by said resetting means.

6. In combination, a swingingly mounted target support, a panel pivotally mounted on the support, means yieldingly connecting the panel to said support on one side of the pivotal connection of said panel, means for securing said support against movement, and terminals on said panel in circuit with said securing means, one of said terminals being free for movement by a jar incident to the impact of a bullet on the target to thereby release said securing means.

Signed at Seattle, Washington this 14th day of June 1912.

MATTHEW A. PALEN.

Witnesses:
STEPHEN A. BROOKS,
CLARA A. HARM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."