No. 764,367. PATENTED JULY 5, 1904.

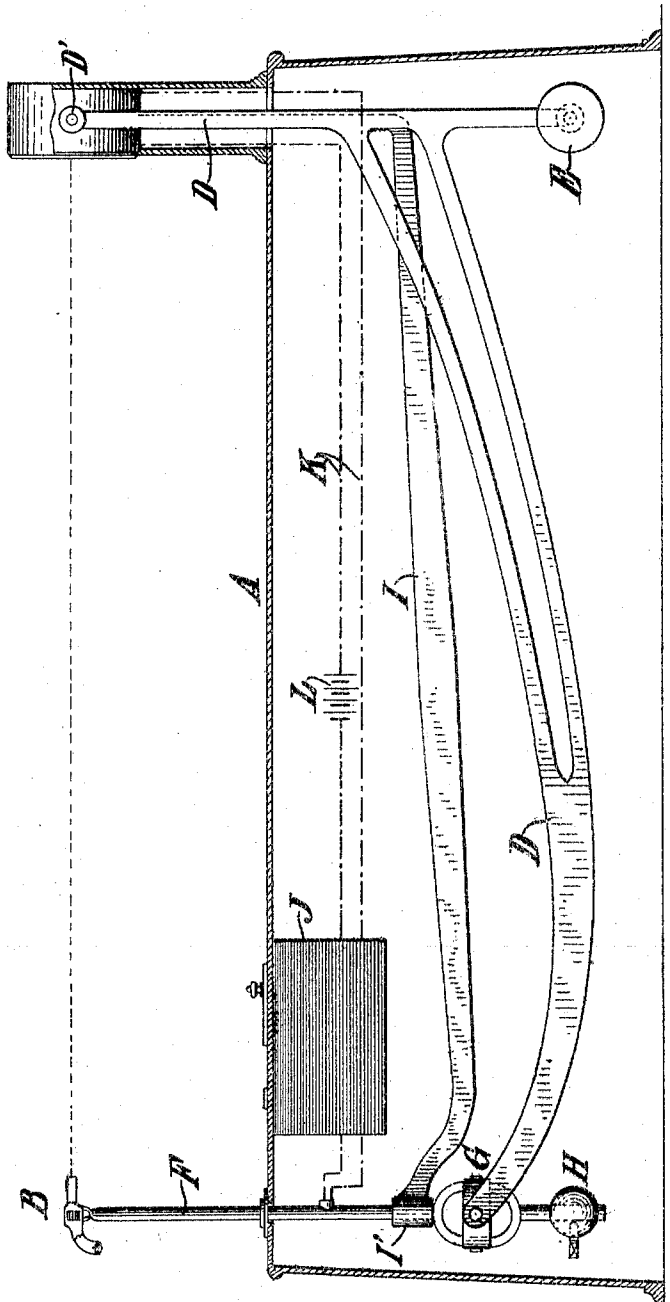
J. L. McCULLOUGH.

TARGET APPARATUS.

APPLICATION FILED MAR. 31, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

Peter A. Ross

H. A. Connett

INVENTOR

John L. McCullough

BY

Henry Connett

ATTORNEY

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J. L. McCULLOUGH.

TARGET APPARATUS.

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NO MODEL. 3 SHEETS—SHEET 2.

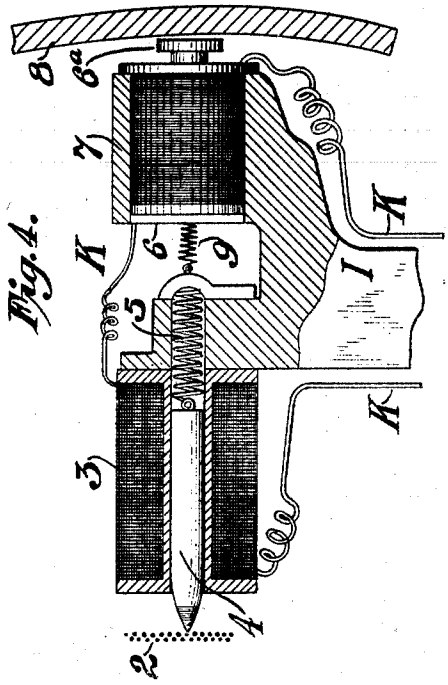


Fig. 4.

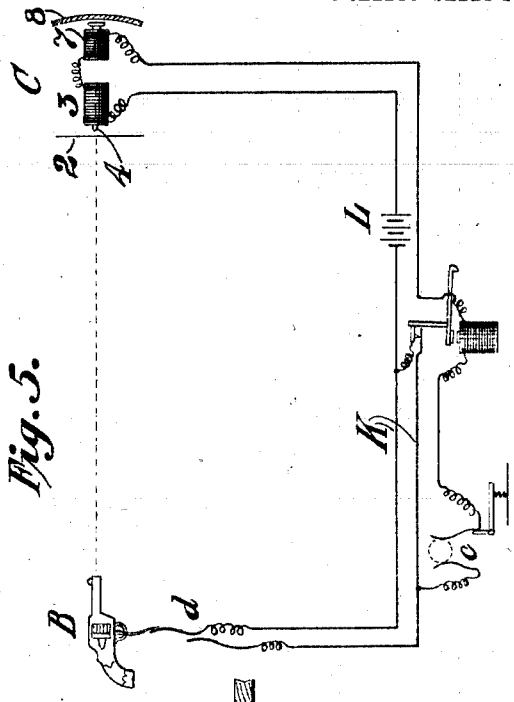


Fig. 5.

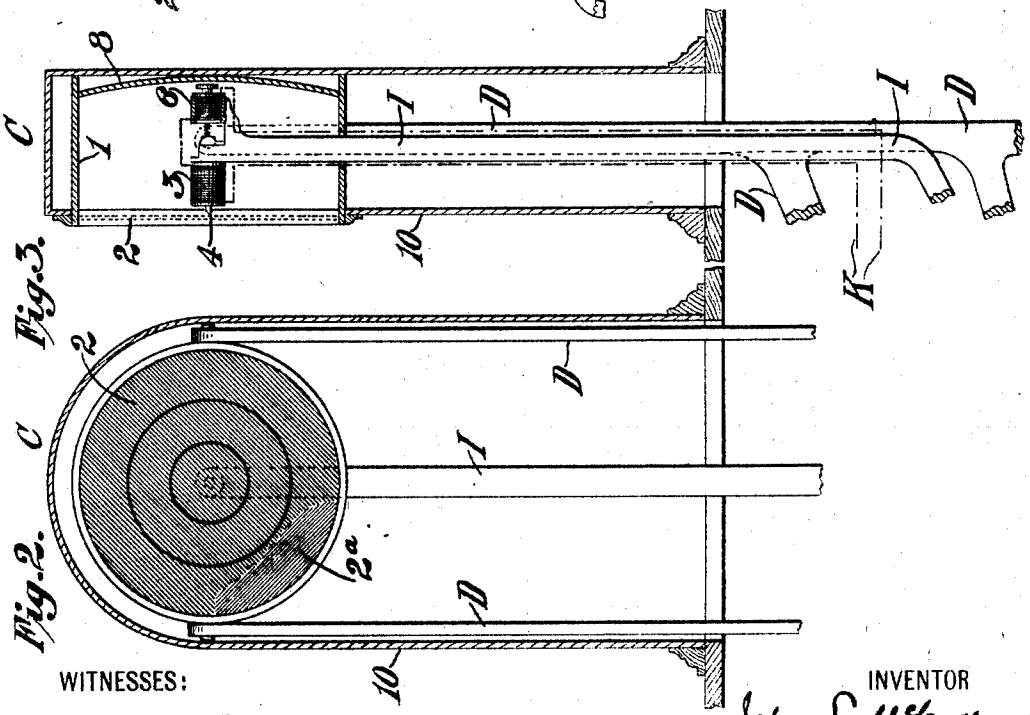


Fig. 3.

Fig. 2.

WITNESSES:

Peter A. Ross

H. A. Bonnell

INVENTOR

John L. McCullough

BY

Munn & Co.

ATTORNEY

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J. L. McCULLOUGH.

TARGET APPARATUS.

APPLICATION FILED MAR. 31, 1902.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 7.

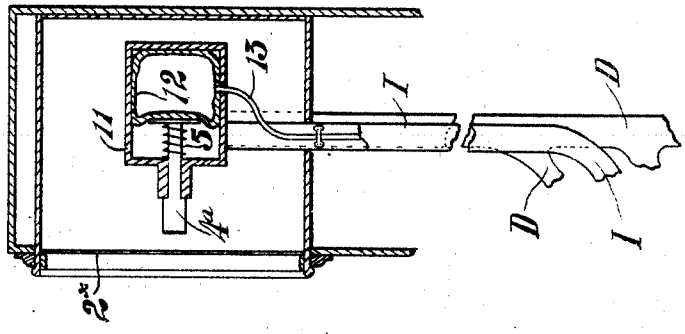
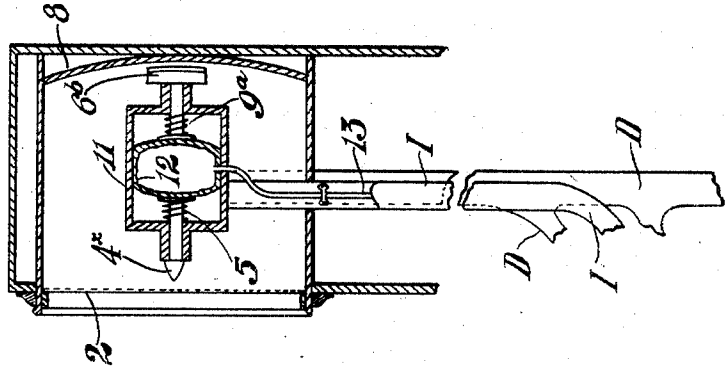


Fig. 6.



WITNESSES:

C. Smitshen,

Peter A. Ross.

INVENTOR

John L. McCullough

BY

Henry Connett

ATTORNEY.

No. 764,367. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

JOHN L. McCULLOUGH, OF BROOKLYN, NEW YORK, ASSIGNOR TO AUTOMATIC TARGET MACHINE COMPANY, OF NEW YORK.

TARGET APPARATUS.

SPECIFICATION forming part of Letters Patent No. 764,367, dated July 5, 1904.

Original application filed December 31, 1901, Serial No. 87,978. Divided and this application filed March 31, 1902. Serial No. 100,656. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. McCULLOUGH, a citizen of the United States, and a resident of the borough of Brooklyn, county of Kings, and city and State of New York, have invented certain new and useful Improvements in Target Apparatuses, of which the following is a specification.

This invention, which is in the main a division of my application upon which was based United States Patent No. 708,245, issued on September 2, 1902, relates to the target and the means for indicating the point aimed at by the marksman on the face of the target.

In order to better illustrate the character and scope of the present invention, it may be well to explain that in my said pending application I have shown a firearm, or a device simulating a firearm, which is adapted when aimed at the target and moved about to cause an indicator back of the target to traverse the field of the latter, following closely the movements of the firearm in aiming, and when the trigger of the latter is pulled or the firearm "fired" this has the effect to cause the indicator to advance to the face of the target at the point aimed at by the marksman and make a visible indication at that point. In this class of target devices no projectile is fired and no explosive is employed, and the firearm employed only simulates an actual firearm.

The pre ent invention relates to the target and its accessories only, and not to the gun or firearm and the means controlled by the latter for operating the target devices.

In the accompanying drawings, which illustrate embodiments of the invention, Figure 1 is a general view, on a small scale, showing the pistol or firearm, its mountings, and the target. Figs. 2 and 3 are respectively a face view and a sectional view of the target device on a larger scale than Fig. 1. Fig. 4 is an enlarged detail view of the indicator mechanism of the target device. Fig. 5 is a diagrammatic view showing the circuit connections. Figs. 6 and 7 illustrate the operation of the indicating devices by a fluid, and also illustrate in Fig. 7 an indicating means different from that of the principal views.

Referring primarily to the first five figures of the drawings, A designates (in Fig. 1) a casing of any kind; B, a pistol or other simulated firearm; C, a target as a whole; D, a carrying-frame suspended from the target-casing at D′ and provided with a counterweight E; F, an upright support for the firearm, said support being mounted by a universal joint G on the arms of the carrying-frame and provided with a balancing-weight H, and I is the arm which carries the indicator at the target, said indicator-arm being secured rigidly to the upright support F at I′. The firearm may be raised and lowered, turning about the point D′, and when shifted for aiming (turning about the universal joint G) the arm I causes the indicator at the target to follow the movements of the firearm. In the casing is a box or inclosure J, containing the coin or check controlled devices; K, is an electric circuit which, in one form or embodiment of the invention, operates the indicator; and L is the battery or generator which supplies the circuit. The circuit has a break closed by an inserted coin or check, and the circuit is completed by pulling on the trigger of the firearm.

All of the above construction is fully illustrated and described in my before-mentioned application.

The parts relating to the present invention will now be described.

1 is the target-box, and 2 is a penetrable target mounted in the front of said box. Preferably this target will have the usual circular form seen in Fig. 2. The target is constructed of strands of thread or yarn drawn across a suitable ring or hoop by preference and placed closely side by side. Preferably there will be two layers or sets of these strands or threads, one layer or set overlying the other and the threads of one set crossing the other at an angle. Fig. 2 shows the construction, the outer layer of strands being broken away at 2^a to show the layer behind. The object

of this construction is to produce a target that may be easily penetrated by a rather blunt instrument, which will wedge apart the strands and protrude into view from the front without injury to the target, which latter will, however, present to the eye of the marksman the appearance of a solid and impenetrable surface. The threads or strands used may be white and the sections or zones of the target be indicated by dark circles marked thereon.

Within the target-box 1 behind the target 2 is a solenoid-indicator, mounted on the upright branch of the somewhat L-shaped arm I, which is secured to the support F of the firearm. This indicating device, which is represented in detail in Fig. 4, comprises a solenoid 3, the sliding core 4 of which is the indicator. This indicator 4 has a conical tip (which may be blackened) and this tip occupies normally a position near to and back of the target 2. If the solenoid be energized by sending a current through its coil, the indicator 4 will be driven out through the target, so that its blackened tip appears to the marksman on the outer face thereof. When the current ceases to flow, a suitable spring 5 retracts the indicator. To prevent the indicator from being shifted by handling the firearm during the momentary engagement of the threads of the target by the point of the indicator, an electromagnet 6 is slidably mounted in a bearing 7 on the upper end of the arm I, and its pole-face 6^a, which is convex, normally plays in close proximity to the inner concave face of an iron plate 8, fixed in the target-box. The coils of the magnet 6 are in the same circuit with the solenoid-coils, and when excited its pole-face moves instantly into contact with the face of the plate 8, thus offering considerable resistance to movement. A spring 9 withdraws the pole of the magnet out of rubbing contact with the plate 8 when the circuit through the magnet is broken.

Fig. 5 is designed merely to show the circuits. When a coin *c* is inserted so as to close a break in the circuit K and the trigger of the firearm B is pulled, this pull has the effect to complete the circuit at *d* through the solenoid and locking-magnet at the target.

The plate 8 is made slightly concave, as the magnet moves in a slightly-curved path; but as the curvature is small the plate 8 might have a plane surface.

Preferably the target-box 1 will be inclosed in an outer housing or casing 10, and it will be slotted to allow free entry and play of the upright branch of the arm I.

It is not essential to the invention that a solenoid or electromagnetic device shall be employed to actuate the indicator to bring it into view at the target.

Fig. 6 illustrates a construction where the indicator and the locking device are both actuated by a fluid under pressure—as air, for example. In this figure the arm I carries at its upper end a box 11, in which is slidably mounted an indicator $4^{\times}$, attached to an inclosed rubber bulb 12, to which a quantity of compressed air or other fluid under pressure is admitted at the proper time to advance the indicator. When the pressure is removed, a spring 5 retracts the indicator. The locking device comprises a slidable head 6^b, secured also to the bulb 12 and provided with a retracting-spring 9^a. The charge of compressed fluid is supplied through a pipe or tube 13, and exhausted through the same by suitable valve devices, not herein shown, but fully described in my said pending application.

Fig. 7 illustrates another form of the device wherein the bulb 12, when expanded, drives the flat blackened end of an indicator 4^a up to the inner face of a translucent target $2^{\times}$, so that said end or face may be visible through the target. In this construction no locking device is necessary, or at least essential.

I do not limit myself to the specific construction herein shown, as this may be varied considerably without departing materially from the invention.

Having thus described my invention, I claim—

1. A target device comprising a stationary target, an indicator back of the target, means for moving the indicator over the field behind the target, and means for advancing the indicator into contact with the target for rendering it visible to the marksman.

2. A target device comprising a stationary target, an indicator back of the target, means for moving the indicator across the field back of the target, and means for moving the indicator in a line perpendicular to the target, toward and from the same.

3. A target device comprising a stationary penetrable target, a pointed indicator back of the target, means for moving said indicator across the field back of the target, and means for moving said indicator into contact with said target in a line perpendicular to the same.

4. A target device comprising a penetrable target composed of non-interwoven threads or strands, and a movable, pointed indicator adapted to penetrate said target by displacing the said strands without injury to the target.

5. A target composed of non-interwoven strands or threads placed side by side and strained longitudinally.

In witness whereof I have hereunto signed my name this 28th day of March, 1902, in the presence of two subscribing witnesses.

JOHN L. McCULLOUGH.

Witnesses:

HENRY CONNETT,

PETER A. ROSS.