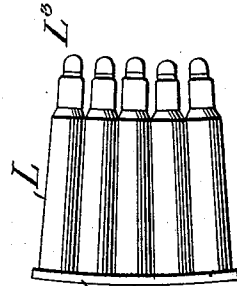


1,016,150.

2 SHEETS--SHEET 1.



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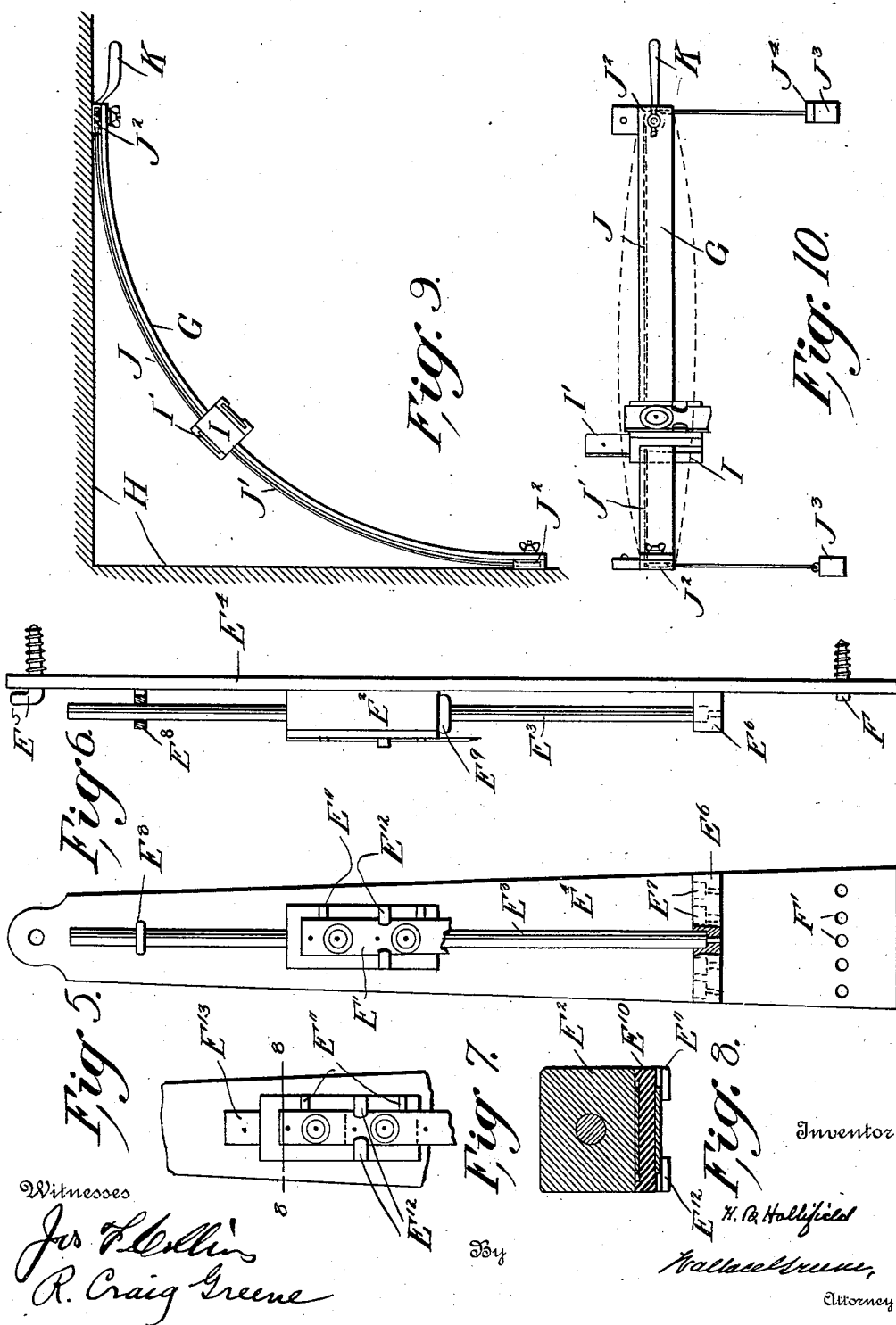
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PRACTICE APPARATUS FOR SMALL ARMS.
APPLICATION FILED FEB. 17, 1910.

1,016,150.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 2.



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HORATIO B. HOLLIFIELD, OF WASHINGTON, DISTRICT OF COLUMBIA.

PRACTICE APPARATUS FOR SMALL-ARMS.

1,016,150.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed February 17, 1910. Serial No. 544,465.

To all whom it may concern:

Be it known that I, HORATIO B. HOLLIFIELD, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Practice Apparatus for Small-Arms, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to apparatus by the use of which persons may become familiar with the manipulation and firing of small arms without actually firing them, and the general object is to provide means for becoming familiar with every detail of the use of such arms, except that the recoil of actual firing is lacking.

The apparatus involves parts carried by the arm itself and also miniature target apparatus, and it provides for rapid firing with repeating arms, with loading and ejection of shells, as in using service cartridges, and also for firing at a moving target.

In the accompanying drawings, Figure 1 is a side elevation of an ordinary revolver, partly in section, and provided with novel practice devices, a portion of the miniature target devices being also illustrated. Fig. 2 is an enlarged axial section of the novel parts carried by the arm, those parts being shown in the same operative relation but the revolver itself being omitted. Fig. 3 is a section of a slightly modified cartridge member of the apparatus. Fig. 4 shows a series of such cartridges mounted in an ordinary "clip", commonly used with repeating rifles. Fig. 5 is a front elevation of a miniature target apparatus. Fig. 6 is a side view of the same apparatus. Fig. 7 is a partial view similar to Fig. 5, illustrating a particular way of using the apparatus. Fig. 8 is a section on the line 8—8, Fig. 7. Fig. 9 is a plan view showing a miniature target mounted to move horizontally from side to side or upward and downward, or both, as may be desired. Fig. 10 is a front elevation of the devices seen in Fig. 9.

In these views, A represents a revolver, without novelty, and B a tube, preferably of brass or the like, adapted to be inserted at the muzzle and to fit, removable, in the barrel and to extend from end to end of the same, its rearward movement being limited by a milled enlargement B'.

Within the tube, near its forward end, is fixed a centrally perforated bearing B² in

which slides a rod B³ having at its forward end a head B⁴ provided with a marking point B⁵ and having at its rear end a block B⁶ loosely fitting in the tube, preferably projecting slightly therefrom and having its terminal face slightly rounded marginally. Between said bearing and block is a light, longitudinally compressible spring B⁷ which normally holds the rod in its rearmost position with the marking point B⁵ within the tube. In the cylinder D of the arm are placed dummy cartridges adapted to be inserted and ejected like service cartridges and each consisting of a shell D' carrying a bullet-like head D² and an internal sliding block D³, both axially perforated to form bearings for a sliding rod D⁴, provided at its rear end with a terminally rounded head D⁵ adapted to slide in a corresponding aperture in the end wall of the shell and normally held in its rearmost position by a light spring, D⁶, which, however is not indispensable. The head is rounded so that as the cartridge moves laterally into alinement with the marking devices, the impact-transmitting rod being moved forward slightly by contact with parts of the arm adjacent to said head, actual contact with the marking devices is insured, obviating or avoiding any blow and loss of force due to a gap between the mechanisms.

When the weapon is cocked, one of the cartridges, as usual, alines with the barrel, and its rod rests against the block B⁶, and when the trigger is pulled, the impact of the hammer or firing pin upon the head D⁵ shoots the rod D⁴ forward and thus suddenly impels the rod B³ forward against the resistance of the spring in the barrel. The momentum of the rod and attached parts causes the head and its marking point to be suddenly projected to some distance from the forward end of the tube, to mark a miniature target E near which the muzzle is held.

For varying the position of the target to accommodate persons of different height and to provide for practice corresponding to actual firing at targets at different distances or when there is a cross wind, devices best seen in Figs. 5, 6, 7, 8 are employed.

Fig. 5 shows a strip E', bearing a series of representations of targets with an aiming spot above each. This strip is carried by a block or target holder E² mounted to be adjusted along a guide or rod E³, itself

carried by a bar E⁴, supported in any suitable manner, for example, by hanging it upon a screw E⁵ or the like, fixed in a wall, and holding it vertical by a pin F. The bar 5 bears upon its face a transverse rib E⁶ having a series of recesses E⁷, each adapted to receive the lower end of the rod the upper portion of which slides in a suitable bearing E⁸, also borne by the bar. The block E² 10 may be adjusted along the rod which is preferably so arranged that it normally presses the block against the bar, whereby friction holds the block in any position in which it may be placed. The block may be 15 further secured against accidental descent by an elastic ring E⁹ sliding upon the rod. The block is preferably faced with a marginally held plate of rubber or the like, and this plate, E¹⁰ has upon one side of its face target-alining projections E¹¹ and also bears 20 fingers, E¹², beneath which the strip is frictionally held. The plate being held at its lateral margins and having its intermediate portion unattached thereto, a target E¹³ may 25 be slipped between it and the block so as to show at any desired height above the block, an aim-fixing spot, and this spot may be carried to the right or left out of normal vertical alinement, by simply swinging the 30 frictionally held card target. When this rear target slip is used, the target strip is raised to bring the bull's-eye at the desired distance from the top of the block. Without the use of the rear target slip, or to secure 35 wider adjustment, the bull's-eye and the aim-fixing spot may be thrown in either direction out of vertical alinement by raising the rod and inserting its lower end in another of the recesses E⁷, and a still further 40 adjustment may be had by disengaging the lower end of bar from the pin F, swinging it laterally, and causing the pin to engage in another hole of the series F'.

Fig. 3 shows a modified cartridge which 45 I prefer to use in repeating arms other than revolvers. In this form, the shell L holds a bearing block L' at its forward end and the rod, L², projects through this and bears a rigidly attached block L³ which normally 50 rests against the block at the rear end of the barrel mechanism, which is of course made of a length suitable for the particular barrel. The spring L⁴ is longer than the corresponding spring of the other form, and the 55 block D³ of that form is omitted. The passage in which the block L⁵ slides is reamed as shown at L⁶, so that in case the rod be pressed too far forward it will yet return automatically to position. These cartridges 60 may be inserted in the usual clip M, Fig. 4, and be fired and ejected like service cartridges. In either form, the omission of the spring leaves the device still operative since the barrel rod spring will return the 65 parts to initial position after firing; but for

various reasons I prefer not to omit the spring.

It is desirable to provide for practicing with a moving miniature target, and for this purpose I provide a curved bar G (Figs. 70 9, 10) and pivot its ends upon any suitable frame or support, shown for an example, simply, as the meeting side walls H of a room, and lock these ends by any suitable means to hold the track or bar in a horizontal 75 plane or otherwise. Upon this bar is mounted a target holder block, I, shown as saddle-like and preferably adapted to carry upon its front face a representation of a target and upon its rear face an upwardly projecting slip I' bearing a suitable object to 80 be aimed at. To the rear part of the block or carriage and behind the curved bar, are attached oppositely extending cords J, J' running over pulleys J², respectively, near 85 the ends of the bar, and each supporting a weight J³, adapted to hold its cord taut. Other weights J⁴ are provided and these are adapted to be readily added to or removed from either of the weights J³. Obviously 90 when either weight J³ is increased by the addition of other weights, the block, if at the opposite end of the bar, will be caused to travel along its track at a rate roughly corresponding to the excess weight added; 95 and transfer of the excess to the opposite cord will cause the block to move in the opposite direction.

Various expedients may be used to cause the moving object to rise and fall, while 100 moving or otherwise. By slightly loosening the bar holding clamps, the bar is permitted to swing through a small angle, as suggested in dotted lines in Fig. 10, and for swinging the bar I have shown a handle K 105 at one end of the bar, to be grasped by an attendant; but obviously means dispensing with an attendant may be employed.

In using the moving target devices, the marksman should stand approximately at 110 the center of curvature so that his distance from the moving object may not greatly vary.

What I claim is:

1. In recording practice apparatus for 115 small arms, a dummy cartridge similar in size and form to an ordinary service cartridge and provided with a longitudinally movable rod terminating approximately at the forward 120 end of the cartridge and having at the rear end of the cartridge a rounded slightly projecting end, said rod being arranged for transmitting the impact of the firing mechanism to target marking devices extending, 125 forwardly, from the forward end of the cartridge.

2. In practice apparatus for repeating small arms, the combination with a target marking apparatus adapted to extend forward in the barrel, from the cartridge space 130

and provided with a longitudinally sliding member having a rounded end normally yielding in position to project slightly into the path of a cartridge moving transversely into alinement therewith, of a transversely movable dummy cartridge provided with devices for transmitting the impact of the firing pin to said rounded end; whereby said end may be pushed forward slightly as the cartridge moves transversely into position and thus be held in close contact with said impact transmitting devices.

3. The combination with a target holder block, of a rubber face plate provided with means for holding a target slip upon its front face and having its lateral marginal portions secured to said block with the intermediate or body portion unsecured thereto, said plate being thus adapted to carry a target slip on its front face and to hold a second target slip adjustably between said intermediate portion and the block.

4. In recording practice apparatus for small arms, the combination with a suitably supported curved track, of a miniature target holder mounted to move along the concave side of said track, and means for at will causing it to so move.

5. In recording practice apparatus for small arms, the combination with a track curved in an approximately horizontal plane, of a target holder mounted to slide along said track, and means for causing the holder to so slide at a predetermined speed.

6. In recording practice apparatus for small arms, the combination with a curvilinear track concave toward the position to be occupied by the marksman and a target holder mounted for moving along said track, of means for causing the holder to travel along the track, and means for varying the height of the target during such travel.

7. In recording practice apparatus for small arms, the combination with a guiding bar adapted to be secured upon a vertical wall, of an approximately vertical guiding rod detachably secured to said bar by devices holding it at some distance in front of the same, and a target bearing block sliding upon said rod and pressed thereby into frictional engagement with said bar.

8. In recording practice apparatus for small arms, the combination with a bar adapted to be secured upon a wall and provided above with a sliding rod bearing and below with a transverse member having a series of sockets for the end of a rod, of an approximately vertical rod in front of the bar and having its upper end in said sliding bearing and its lower end in one of said

sockets, and a target block mounted to slide upon the central portion of the rod.

9. In a target carrier, the combination with a block, of an elastic face plate having its lateral marginal portions secured to the block and its body or portion between said marginal portions unattached to the block and further having upon its front face lateral marginal flanges or fingers projecting over the central portion to hold a target slip against the same; whereby a target slip may have its lower end inserted between the plate and block while a second target slip is held against the front face of the plate by said fingers.

10. In practice apparatus for small arms, the combination with a miniature target carrier, of means for moving said carrier in various directions to points approximately in the surface of the same sphere and at different distances from both a fixed vertical plane and a fixed horizontal plane.

11. In practice apparatus for repeating small arms, a dummy cartridge, similar in dimensions and form to the ordinary service cartridge, provided with a longitudinally movable member having a rounded rear end normally projecting from the rear end of the cartridge and adapted to transmit the impact of the firing mechanism to marking devices at the opposite end of the cartridge, and further provided with a spring resisting forward movement of said member; whereby the cartridge in moving laterally into alinement with the firing and marking mechanisms may be pressed slightly forward, by the adjacent portion of the arm, into actual contact with the marking device, and be restored to position by said spring.

12. In practice apparatus for small arms, the combination with the arm having devices for receiving a series of duplicate cartridges and moving them transversely into alinement, in succession, with the axis of the barrel, of a target marking device extending forward from the rear end portion of the barrel, and a series of duplicate dummy cartridges held in said receiving devices, each of said cartridges being provided with a longitudinally movable rod adapted to transmit the impact of the firing mechanism to said marking devices, whereby with repeating arms accuracy of aim during rapid loading, firing, and ejecting may be tested.

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

HORATIO B. HOLLIFIELD.

Witnesses:

JAMES L. CRAWFORD,
R. CRAIG GREENE.