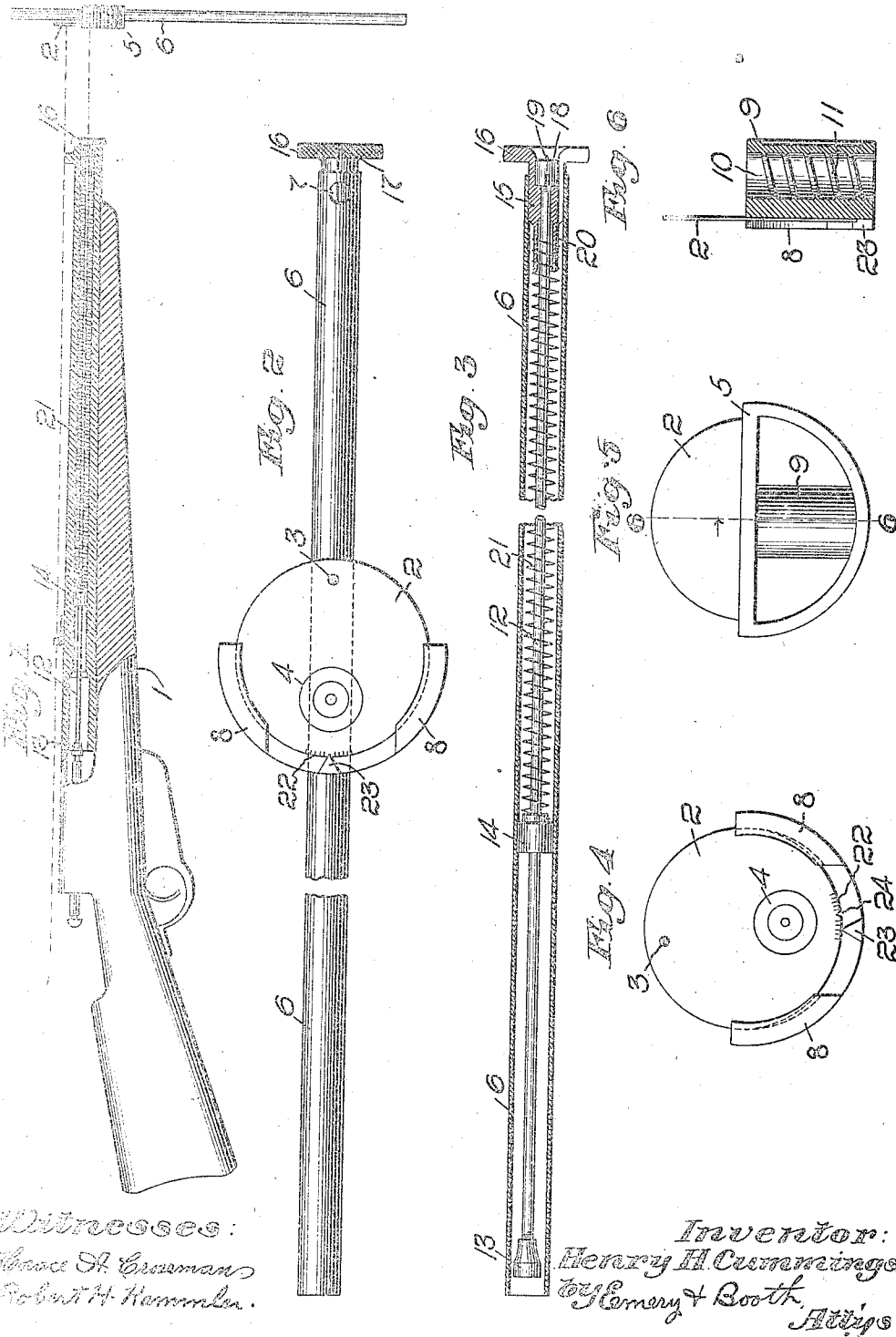


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 TARGET PRACTICE APPARATUS.
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942,615.

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UNITED STATES PATENT OFFICE.

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TARGET-PRACTICE APPARATUS.

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To all whom it may concern:

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Target-Practice Apparatus, (Case A.) of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

My invention relates to target practice apparatus, being more particularly intended for the practice of marksmanship where record of the aim is secured without the necessity of using ammunition. In the present embodiment of my invention I have provided a simple attachment for a rifle or other fire arm which in combination with a record target, provides means for recording the aim in a comparatively simple manner.

My invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

Referring to the drawings:—Figure 1 is a side elevation, partly broken away, showing a rifle equipped with one form of my invention; Fig. 2 is a side elevation of an attachment embodying one form of my invention complete and ready for transportation; Fig. 3 is a section taken through the tubular casing shown in Fig. 2 showing the method of inserting the recording attachment therein; Fig. 4 is a front elevation of the target and target holder with the target adjusted for windage; Fig. 5 is a rear elevation of the target holder; and Fig. 6 is a sectional elevation taken on the line 6—6 in Fig. 5.

Referring to the drawings and particularly to Fig. 1, I have there shown the rifle 1, as provided with a recording attachment adapted to be applied to the same, herein by insertion through the muzzle of the rifle bore. Such rifle, when equipped with the said attachment, may be aimed at an adjacent objective mark or aim fixing spot and record of the aim effected upon a suitable record target or bull's eye. While aim might be taken at the same marking upon which record is made or the objective mark might be entirely separate from the recording target, herein I have provided the target slip 2, which carries both the objective mark 3 and

also the recording marking 4. Such target is herein mounted in a suitable holder 5, the latter carried by an appropriate support 6, which may be suspended upon the wall or other fixed support. Herein the support is in the form of a tubular casing, preferably of metal, and is provided with a transverse hole 7 at one end, by which the same may be suspended upon a nail or other support upon the wall.

The target herein is circular in form and the holder is provided with sides 8 which present a substantially circular recess to the target. The rear of the holder is provided with a supporting portion 9 having a longitudinal opening 10 therethrough which fits over the tubular support 6. While the target holder may be constructed of any suitable material and in any suitable fashion, herein, for simplicity and cheapness, and, furthermore, to provide a yieldable backing for the target, I preferably mold the same in a single piece out of rubber or other slightly yielding material. In order to secure a frictional grip upon the tubular support, the interior of the opening 10 is provided with a helical projection 11 which frictionally grips the tubular casing, so that, while the holder may be vertically adjusted thereon, it will remain in any desired position.

Referring now to the recording attachment, the latter comprises a marking rod 12 adapted to be inserted in the bore of the rifle through the muzzle end. Said rod carries at its rear end a head 13 which in its normal position of adjustment is positioned at the rear of the cartridge chamber of the rifle and within the path of the firing pin. In front of the head 13 the rod is provided with a guide member 14 fixedly secured to the rod and having a sliding fit within the bore of the rifle. At its forward end the rod has a sliding fit through the plug piece 15 which is adapted to fit the bore of the rifle, the knurled head 16 overlying the end of the muzzle. The plug is made expansible by being partly split at 17, as shown, to secure a frictional grip within the bore and has an enlarged or bored portion at its front end to receive the enlarged marking head 18 which carries the fine marking or prick point 19. The head 18 is threaded on the end of the marking rod, being partly split as shown to secure a frictional hold

thereon. With the marking rod in its normal position, the head is withdrawn within the counterbored portion of the plug so that the rifle presents its ordinary appearance, the head seating against the contracted portion of the plug. The rear of the plug is provided with the reduced portion 20, about which is positioned one end of a light coiled spring 21, one end of which therefore seats against the plug and the opposite end against the guide member 14.

With the attachment applied to the rifle as shown in Fig. 1, the spring 21 holds the marking rod retracted within the rifle with the head 13 lying within the path of the firing pin. When aim is taken at the objective target and the trigger pulled, the firing pin strikes the head 13, driving the rod forward against the spring 21, which latter is so proportioned as to permit quick protrusion of the marking head from the end of the rifle for a distance of six or eight inches or even more. With aim taken at the target a few inches distant from the muzzle of the rifle, this permits record of the aim to be effected, which is followed by the instant retraction of the marking rod again within the rifle.

The objective target and record target are so positioned upon the target slip or card that when a true line of sight is taken at the former the marking point will prick through the bull's eye on the latter. The two targets are also preferably so proportioned that target practice upon any given range may be simulated; that is to say, if it is desired to imitate the conditions on a range of two hundred yards the target 3 is preferably so proportioned as to appear like a standard target at that distance to the marksman who is but a few feet away, and the record target is so proportioned that the record made thereon of the deviation from a true line of sight will be the same record which would be produced at a range of two hundred yards.

It will be seen that the support being suspended, the tube 6 will hang down vertically and the objective target will lie normally in the same vertical line which is, of course, essential to a correct record. The target, however, may be adjusted to displace the objective target relatively to the recording target so that such vertical adjustment may be destroyed and a windage adjustment thereby provided. For this purpose it is only necessary to turn the target slightly one side or the other in its holder, as shown in Fig. 4. This offsets the two targets from the same vertical line, so that in order to secure a record upon the bull's eye of the record target, allowance must be made for windage when aiming at the objective target. To estimate the windage adjustment the target is preferably provided with a

scale, such as the scale 22 which may be read in connection with a reference point, such as the projection 23 on the holder. To facilitate introduction of the target within the holder, the projection 23 is V shaped and adapted to register with a notch 24 in the edge of the target when the latter is centrally arranged. To adjust the windage, the target may be slightly tipped to one side or the other as shown in Fig. 4.

The recording attachment can be readily removed from the rifle by merely seizing the knurled head of the plug and withdrawing the entire rod. The tubular casing 6 has an interior diameter the same as the bore of the rifle, so that, when withdrawn from the rifle, the rod may be inserted within the tubular casing, as represented in Fig. 3, the casing thereby serving as a protective holder for the attachment in which the same may be stored or transported.

While I have herein shown and described for purposes of illustration one specific form of my invention, it will be understood that the same is for illustrative purposes and that extensive deviations may be made from the disclosed details without departing from the spirit of the invention.

Claims.

1. An aim recording attachment for a firearm comprising a marking rod adapted to be inserted in the bore thereof, a target and target holder, and a tubular member on which said target holder may be adjustably supported, said member being adapted to receive the marking rod when removed from the firearm.
2. An aim recording attachment for a firearm comprising a marking device, a target holder and a tubular support on which the holder is adjustable, said support being formed to serve as a container for the marking device when the latter is out of use.
3. An aim recording attachment for a firearm having a marking device for recording the aim thereof, a target holder of resilient material for holding the target on which the aim is recorded, and a supporting rod said holder having an opening to embrace said supporting rod, and a friction holding formation whereby a friction hold is secured thereon by the resilient material of the holder.
4. In a target practice apparatus, the combination with an aiming device, of a recording marker, and a target holder, the latter having retaining walls for the target, a relatively heavy backing portion and a supporting portion projecting from the backing portion, all composed of a single molded piece of resilient material.
5. In a target practice apparatus, the combination with an aiming device for aiming at a suitable aim-fixing spot, of an aim-recording means, a target holder having cir-

cular target-receiving walls, and a circular target provided with a bull's eye for receiving record of the aim said target being adjustable in said holder to adjust said bull's eye relatively to the aiming spot.

6. In a target practice apparatus the combination with an aiming device, of an aim recording attachment, a target holder, a target slip, an aim-fixing spot and a bull's eye presented both by the same target slip, one to the line of sight and the other to the action of the recording attachment, and holding means on said holder to hold said target slip adjustably in different relations to vary the relation of said bull's eye to the line of sight.

7. The combination with an aiming device having a recording attachment comprising a marking rod adapted to be projected from the barrel of the aiming device through the movement of the firing mechanism, of a target holder for carrying a recording target to receive the record of the aim made by said marking rod, a holder support for adjustably carrying the holder, and a supporting portion on said holder provided with an opening to receive and embrace the support, said portion having gripping means to adjustably hold the holder on the support for varying the height of the target.

8. In a target practice apparatus, the combination with an aiming device for aiming at a suitable aim-fixing spot, of a recording attachment comprising a marking member adapted to be projected from the barrel of the aiming device by the firing mechanism, a target holder, and a target having a recording marking or bull's eye presented to the marking member, said target holder also presenting an aim-fixing spot to the line of sight and said target with its recording marking being adjustable in said holder to adjust its relation to the line of sight taken at the aim fixing spot.

9. In a target apparatus the combination with an aiming device, of a recording attachment comprising a marking member adapted to be projected from the barrel of the aiming device by the firing mechanism, a target holder, a target mounted for turning adjustment in the holder, and a recording marking or bull's eye presented by the target to the marking member, said marking being positioned for displacement on the holder by the turning adjustment of the target.

10. In a target practice apparatus, the combination with an aiming device, of a recording attachment having a marking member adapted to be projected from the barrel of the aiming device by the firing mechanism, a target holder, a target for said holder having a recess cut in its edge,

and a projection on the holder adapted to enter the said recess to position the target.

11. In a target practice apparatus, the combination with an aiming device, of a recording attachment having a marking member, a target holder, a target having a bull's eye to receive the record of the aim from said marking member, said target being adjustable to adjustably present said bull's eye on the holder, and a scale and reference mark, one on the target and the other on the holder to indicate the adjustment of the bull's eye.

12. In a target practice apparatus, the combination with a firearm having a bore and an enlarged cartridge chamber, of an aim-recording attachment comprising a marking rod having a single piece or section adapted to be inserted directly within the unlined walls of the firearm bore and of a suitable length to reach through the enlarged cartridge chamber, a return spring for said rod, a thrust receiving guiding plug removably applied to the muzzle end of the bore and adapted to guide the forward end of said rod and receive the thrust of said spring, a marking point at the outer end of the rod, and a slidable guide member fixed on the rod and engaging directly the walls of the bore, said slidable guide member being located to afford a substantial unsupported extension of the rod to the rear of the sliding guiding member.

13. In a target practice apparatus, the combination with a firearm having a bore and an enlarged cartridge chamber, of an aim recording attachment comprising a marking rod having a single piece or section adapted to be inserted directly within the unlined walls of the firearm bore and of a suitable length to reach through the enlarged cartridge chamber, a return spring for said rod, a thrust receiving guiding plug removably applied to the muzzle end of the bore, and adapted to guide the forward end of said rod and receive the thrust of said spring, a marking point at the outer end of the rod, a slidable guide member fixed on the rod and engaging directly the walls of the bore, said slidable guide member being located to afford a substantial unsupported extension of the rod to the rear of the slidable guiding member, and an enlarged striking head carried by the rear end of the rod to receive the blow of the firing pin.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HENRY H. CUMMINGS.

Witnesses:

ROBERT H. KAMMLER,
EVERETT S. EMERY.