Aug. 16, 1949. J. M. RICHARDS 2,479,262

ELECTRIC SIGHTING ATTACHMENT FOR GUN BARRELS

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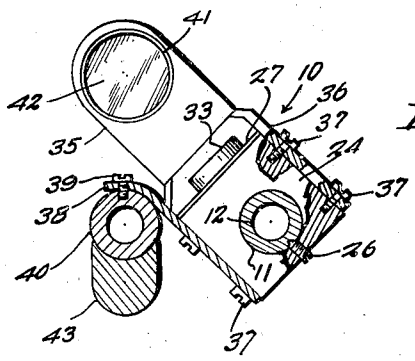


Fig. 3.

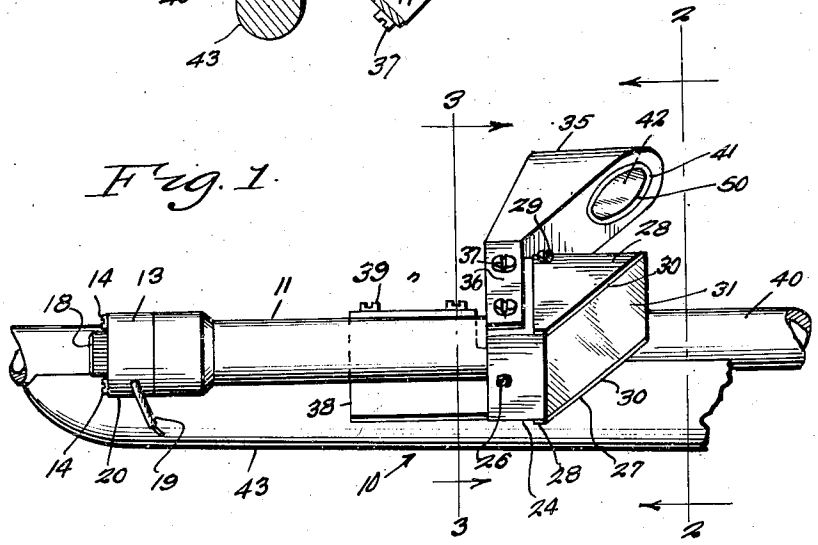


Fig. 1.

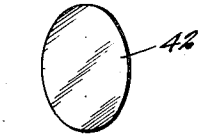


Fig. 8.

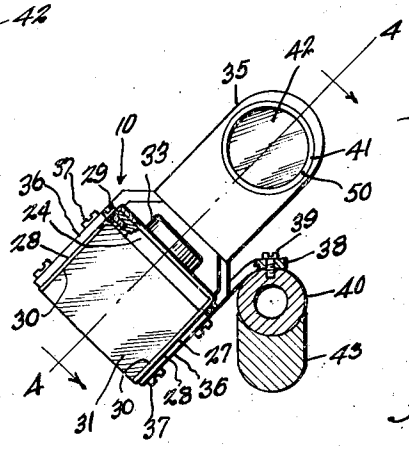


Fig. 2.

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Fig. 7.

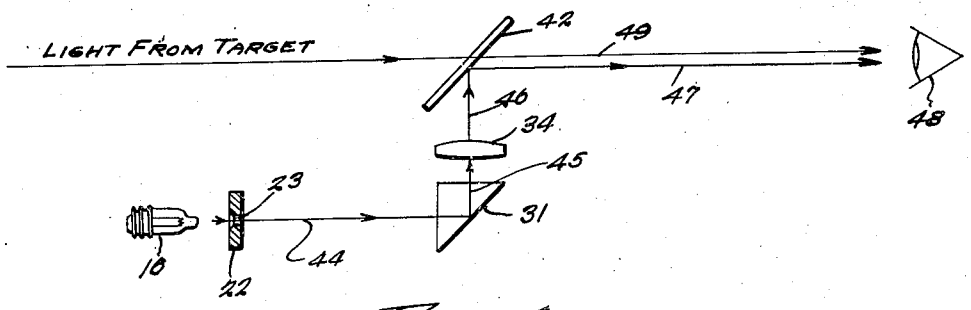


Fig. 4.

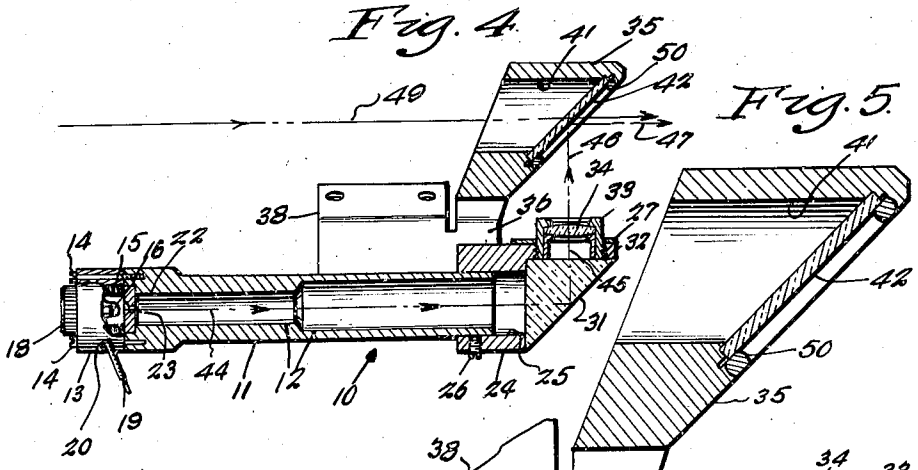


Fig. 5.

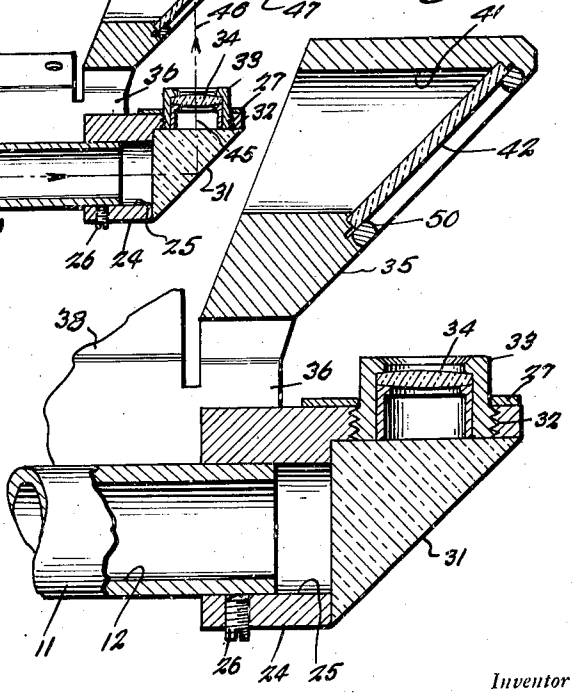
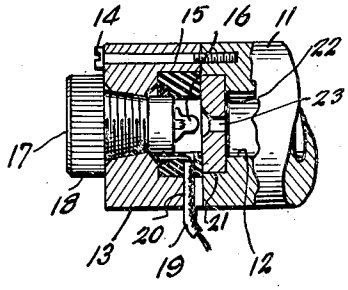


Fig. 6.



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2,479,262

ELECTRIC SIGHTING ATTACHMENT FOR GUN BARRELS

John Mark Richards, Ferndale, Mich.

Application August 3, 1946, Serial No. 688,376

3 Claims. (Cl. 88—2.3)

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This invention relates to new and useful improvements and structural refinements in sights for firearms, and the principal object of the invention is to provide a device of the character herein described, such as may be effectively and conveniently employed for the precision sighting of the target.

A further object of the invention is to provide a sight for firearms which may be employed, without modification, on various types of shotguns, rifles, and the like.

Another object of the invention is to provide a sight for firearms which can be quickly and easily mounted on the gun with which it is used.

An additional object of the invention is to provide a sight for firearms which is simple in construction and operation.

A still further object of the invention is to provide a sight for firearms which will readily lend itself to economical manufacture.

With the above more important objects in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the gun barrel, showing the invention in situ thereon,

Figure 2 is an end view of the invention, taken substantially in the plane of the line 2—2 in Figure 1,

Figure 3 is a cross-sectional view, taken substantially in the plane of the line 3—3 in Figure 1,

Figure 4 is a cross-sectional view; taken substantially in the plane of the line 4—4 in Figure 2,

Figure 5 is an enlarged, cross-sectional view of a portion of the invention,

Figure 6 is an enlarged, cross-sectional view of another portion thereof,

Figure 7 is a diagrammatic view illustrating the operation of the sight, and

Figure 8 is a plan view of a transparent mirror used in the invention.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a sight designated generally by the reference character 10, the same embodying in its construction an elongated housing 11 forming a substantially cylindrical chamber 12, one end of the housing carrying a

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removable cap 13 which is secured thereto by a plurality of suitable bolts 14.

The cap 13 is provided with an insulated insert 15 which forms a seat for an electric lamp 16. This lamp is removably mounted in a socket 17, the latter being removably receivable in the cap 13 and being provided with an externally disposed, knurled head 18. The current is delivered to the lamp by means of a suitable conductor 19 which passes through the apertures 20 provided in the cap 13 and in the insert 15.

The end of the housing 11 adjacent the cap 13 is formed with a counterbore 21 adapted to receive a disc 22, this being formed at the center thereof with an opening 23. It will be noted that this opening is disposed in alignment with the filament of the lamp 16 and the opening will be hereinafter referred to as the recticle.

The remaining end of the housing 11 carries an extension 24, this assuming the form of a substantially rectangular block and being provided with a cylindrical bore 25 to receive the end portion of the housing 11. A U-shaped retaining member 27 provided with substantially triangular side plates 28 is secured to the extension 24 by means of the screws 29. The side plates 28 are provided with marginal flanges 30, these being employed for retaining a prism 31 on the extension 24, as is best illustrated in the accompanying Figures 1, 4 and 5.

The extension 24 is also provided with a screw-threaded bore 32, this extending at right angles with respect to the aforementioned bore 12 of the housing 11, the bore 32 being adapted to removably receive an externally threaded socket 33. This socket serves as mounting means for a simple, positive, achromatic lens 34, the purpose of which will hereinafter be more fully explained.

A bracket designated generally by the reference character 35 is configurated substantially as shown and includes a pair of spaced parallel side arms 36, these straddling the aforementioned extension block 24 and being secured thereto by means of suitable screws 37. The bracket 35 also includes an extension plate 38, this being suitably angulated and secured by means of further screws 39 to the barrel 40 of the gun with which the sight is associated. In this manner, the entire sight is rigidly mounted upon the barrel and it will be noted that the axis of the chamber 12 is disposed in parallel to the axis of the barrel. With reference to the accompanying Figures 2 and 3, it will be also noted that the housing 11 is positioned at one side of the barrel 40 and the configuration of the extension plate 38 is such

that a bore 41, provided in the main body portion of the bracket 35, is disposed in vertical alignment with the barrel.

A transparent mirror 42, that is, a mirror which possesses characteristics of both transparency and reflection, is mounted in the bore 41 of the bracket 35, the mirror 42 being substantially elliptical in configuration and being disposed, preferably, at forty-five degrees with respect to the axis of the aforementioned bore 32.

Having thus described the invention, its method of operation will now be explained.

The sight is mounted upon the barrel as has been already set forth, and the conductor 19 is connected to suitable batteries (not shown) such as may be conveniently housed in the gun stock 43 or carried upon the person of the user.

The light rays emanating from the lamp 16 will pass through the reticle 23 as at 44 in Figure 7, whereupon they will be directed by the prism 31 to pass through the lens 34. The chamber 12 together with the lens 34 will collimate the light rays into a parallel beam 46 which will project an image of the reticle 23 upon the mirror 42.

This image will be reflected by the mirror as at 47 to the observer's eye 48 and at the same time, a line of sight from the target will pass through the mirror 42 to the eye, as is indicated at 49.

It will be apparent that in this manner, the line of sight 49 will be coordinated with the reflected rays 47, more specifically, with the image produced upon the mirror 42, so that the image will appear to the observer as being superimposed upon and in focus with the target. Since the rays 44 and 47 are parallel to the line of sight 49, the bore of the gun barrel will, of course, be aimed directly at the target.

It should be added that no adjustments are necessary to compensate for variations in the distance of the eye 48 from the mirror 42, or from the target, and that the position of the eye 48 need not be accurately centered with respect to the beam 47. It will be found that the eye 48 may, in effect, be moved anywhere with respect to the central axis of the rays 47, within a circle of the same diameter as the diameter of the lens 34.

The mirror 42 is of elliptical configuration so as to appear circular when viewed in the angulated position in which it is mounted, the mounting of the mirror being effected in any suitable manner, as exemplified in the drawings by the snap ring 50.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is considered unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this

invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

1. A sight for firearms comprising an anchor member fixed to a gun barrel and projecting outwardly and downwardly therefrom, a support removably carried by the anchor member and having a socketed end portion, a housing slidably engaging the socketed end portion of said support, means carried by said support for adjustably securing the housing relative thereto, a source of light mounted in said housing, a reticle adjacent the source of light, a transparent mirror carried by the anchor member, a prism carried by the support, and a lens carried by the support adjacent the prism for collimating light rays from the source to project an image of said reticle on said mirror, said mirror being disposed above the barrel of a gun.

2. The combination of claim 1 wherein said mirror is of an elliptical configuration and is inclined relative to the longitudinal axis of the housing to appear circular when viewed in the angulated position in which it is disposed.

3. A sight for firearms comprising an anchor member fixed to a gun barrel and projecting outwardly and downwardly therefrom, a support removably carried by the anchor member and having a socketed end portion, an open end cylindrical housing having one end slidably and adjustably positioned in the socketed end portion of said support, a cap removably secured to the remaining end portion of said housing, a bore provided in said cap terminating in an enlarged annular recess, a nonconductive ring positioned in the recess, a disc recessed in one end of the housing and engaging the non-conductive ring, said disc having an opening therein forming a reticle, a lamp bulb supporting member removably positioned in the bore provided in said cap, said non-conductive ring embracing the lamp bulb supporting member, a prism carried by the support, a transparent mirror carried by the anchor member, and a lens carried by the support adjacent the mirror for collimating light rays from a lamp carried by the lamp bulb supporting member to project an image of said reticle on said mirror.

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The following references are of record in the file of this patent:

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