May 13, 1952 C. E. BETHKE 2,596,522

ILLUMINATED GUN SIGHT

Filed June 10, 1950 2 SHEETS—SHEET 1

Fig. 1.

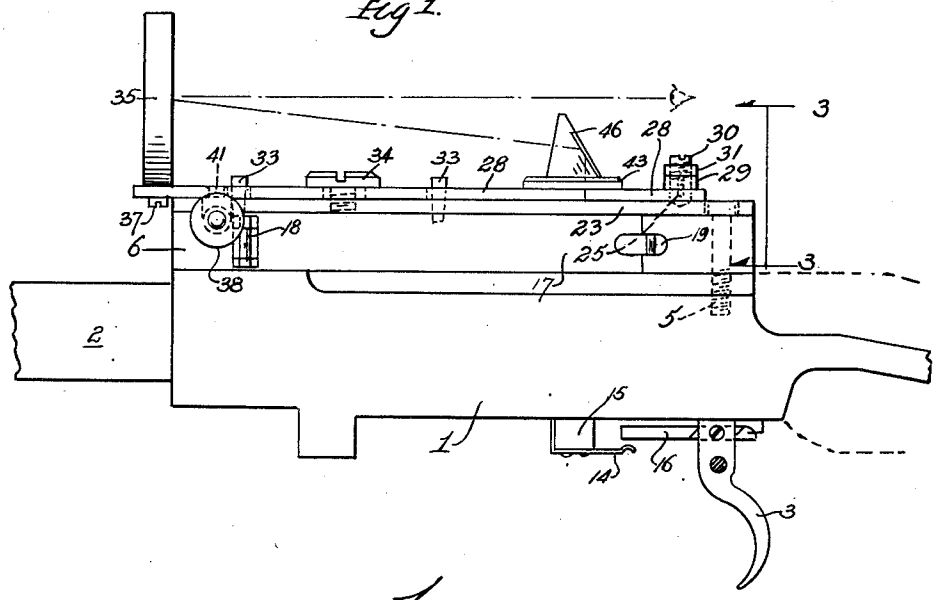

Fig. 2.

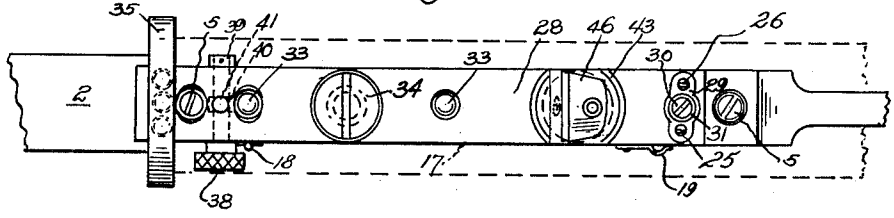

Fig. 3.

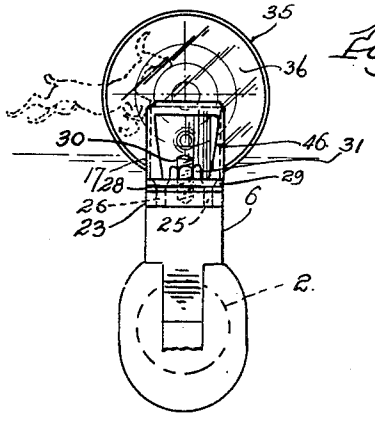

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Fig. 4.

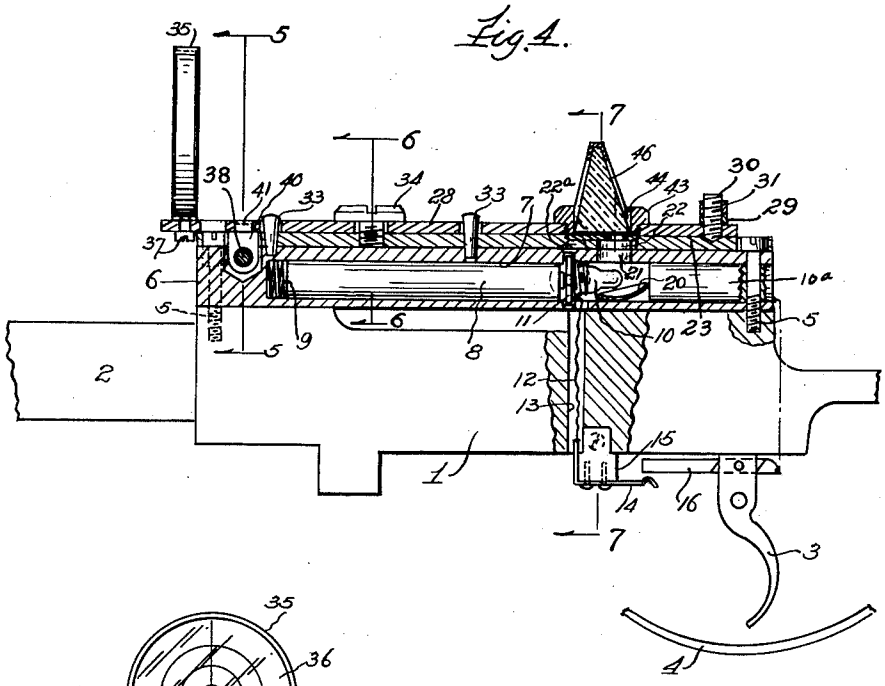


Fig. 5.

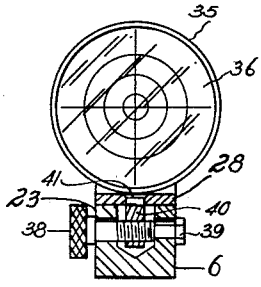


Fig. 6.

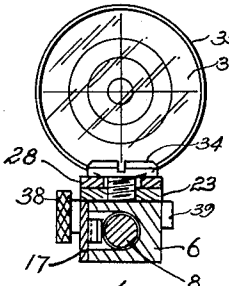


Fig. 7.

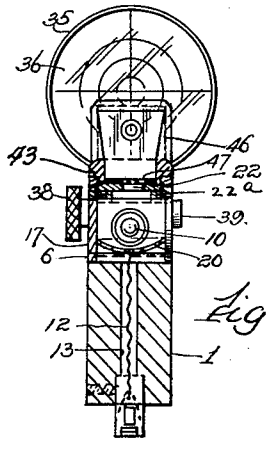


Fig. 8.

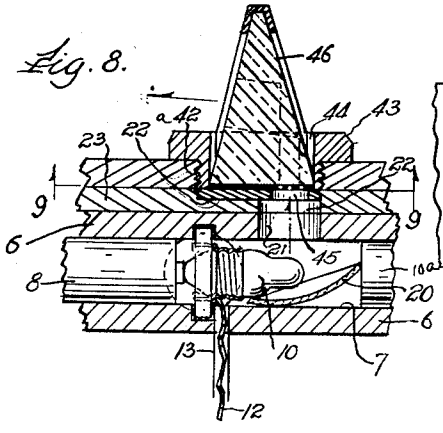
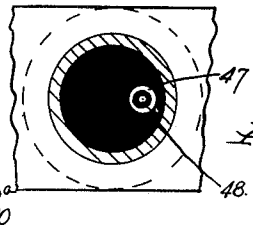


Fig. 9.



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UNITED STATES PATENT OFFICE

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ILLUMINATED GUN SIGHT

Clarence E. Bethke, Milwaukee, Wis.

Application June 10, 1950, Serial No. 167,417

2 Claims. (Cl. 33—47)

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This invention relates to gun sights and more particularly to high powered rifle and shot gun sights. One object is to provide a sight that is readily adjustable to accommodate variations that will be met in different guns. A further object is to provide a gun sight that is just as serviceable on bright, clear sunshiny days as on cloudy, overcast or dark days. It is well known that certain types of gun sights are rendered inefficient on bright days as the center dot or bull's-eye of the sight is rendered almost or quite invisible by strong light.

A further object is to provide a gun sight that is readily mounted to the gun, that is readily capable of such adjustment longitudinally or laterally of the gun as may be desired or necessary and that when properly mounted is rigidly held in position.

A still further object is to provide a simple and efficient gun sight that is electrically illuminated so that accurate sighting is assured at all times. A further object is to provide a novel gun sight that is inexpensive to manufacture, durable in use, that does not get out of order easily and that is reliable and always ready for instant accurate use, and one wherein all adjustments are made with the sight completely assembled and mounted on the gun.

With the foregoing and other objects in view the invention consists in the construction, combination and arrangement of elements hereinafter described, defined in the claims and illustrated in the accompanying drawings forming part of this disclosure and wherein:

Fig. 1 is a fragmentary view of a gun in side elevation illustrating the application of the instant gun sight.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 is an elevational end view of Fig. 1 taken substantially on the line 3—3.

Fig. 4 is a view in longitudinal vertical section through the gun sight and a portion of the gun equipped therewith.

Figs. 5, 6 and 7 are vertical sectional views taken approximately on the lines 5—5, 6—6 and 7—7 respectively of Fig. 4.

Fig. 8 is an enlarged detail sectional view through the gun sight, and,

Fig. 9 is a longitudinal sectional view through Fig. 8 on the line 9—9.

Referring to the drawings by characters of reference the numeral 1 denotes a gun receiver, 2 the barrel, 3 the trigger and 4 the trigger guard. Secured to the receiver 1 by screws 5 in slightly enlarged wells is the mounting base

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6 formed interiorly with the longitudinally extending cavity 7 for the flashlight battery 8, the spring 9 of the flashlight abutting one end of the cavity, the bulb 10 of the flashlight spaced from an insert plug 10a in the opposite end of the cavity, a perforate threaded block 11 embedded in the mounting base securing the flashlight battery removably in position.

A single wire conductor 12 secured to the flashlight bulb socket extends through a perforation 13 in mounting base 6 and between the receiver and gun stock and is secured to one end of the angular contact or switch 14 fast to and carried by the block 15 secured to the gun stock, the free end of the contact 14 disposed in the path of the trigger spring plate 16 for engagement thereby as the trigger 3 is moved in normal manner to discharge the gun.

The cavity 7 opens through one side of the mounting base 6, a door 17 secured by a hinge 18 to a wall of the base closing the cavity, the door retained releasably in closed position by the spring latch 19. Arranged within cavity 7 freely and disposed at an oblique angle with the cavity floor immediately beneath the lamp bulb is the reflector 20, one end of which abuts the plug 10a, said reflector and bulb being in line with a desirably circular perforation 21 in the base 6, said perforation aligned with a perforation 22 in a circular recessed or reduced area 22a in the bed plate 23 secured direct to the mounting base 6, the lens plate at one end extending longitudinally beyond plate 23 and the opposite end spaced inwardly from the corresponding end of the bed plate 12.

Screws 25, 26 pass through the small screw plate 29 disposed upon the lens plate 28, a line-of-sight adjustment screw 30 connecting screw plate 29 and the plate 28 and bearing pivotally upon the bed plate 23 is provided with a locknut 31. Dowel pins 33 also connect the lens plate 28 and bed plate 23 to the base 6 to align bed plate 23 with base 6 while a locking screw 34 connects the plates 23 and 28 together. At the forward end of the lens plate 28 is the lens frame 35 for the lens 36, the frame secured in position by screws 37 passing through the lens plate, the lens inclined rearwardly preferably very slightly.

A windage screw 38 extending through mounting base 6 near one end thereof is provided upon its opposite end with a nut 39 and mounted upon screw 38 is the travelling nut 40 disposed in a relatively large perforation in plate 23, an extension 41 of the nut extending upwardly

through lens plate **28** to aid in keeping parts aligned. When the screw **34** is lightly loosened a lateral adjustment of the lens plate may be had by turning screw **38** causing slight travel of nut **40** with the plate **28**.

The screw **30** is the pivotal point to permit adjustment of the plate **28**. The reduced area **22***a* of the plate **23** is of the same size, and aligned with, a threaded perforate portion **42** in the lens plate **28** that receives a nut **43** having a cavity **44** in the base of which is a perforation **45** that registers with the materially larger perforation **22** in the adjustment plate **23**, the cavity **44** having mounted therein the prism lens projector **46** the base of which is received upon and completely covers the base of nut cavity **44** and perforation **45**, that face of said projector disposed toward the lens **36** disposed at a 20-degree angle to plate **28** and the opposite face at substantially a 40-degree angle thereto, the base of the projector painted a deep black except for an unpainted circular portion **47** concentric with perforation **45** and a circular dot portion **48** concentric with portion **47**, both portions **47** and **48** in line with the flashlight bulb **10** and reflector **20** so that the light from the bulb passes through said white circle and white dot in the projector base and is thrown by the projector against the lens **36** as a bull's eye in the objective field of view. The light rays being shielded by the mounting base, bed plate **23** and lens plate between the bulb **10** and prism lens projector **46** and confined to passage through the white circle and dot, there is no noticeable reflection of the painted bottom surface of the projector lens on the objective glass or field and the objective field will be found to be clear with a golden circle and dot or bull's-eye that is clear and bright even in bright sunshine. The sight is aligned with the bore of the gun, the gun being rigidly held in position so that a target or object may be sighted and centered through the bore of the gun. When the sight is properly aligned the center dot will also bear on the same target centered through the bore.

What is claimed is:

1. In a gun sight, a mounting base, a source of illumination in said base, a bed plate secured to said mounting base, a lens plate carried by said bed plate, a projector mounting in said lens plate, a light reflecting prism lens projector carried by said mounting, one face of said projector being opaque except for a defined light passageway therein, a light passageway connecting said source of illumination and said one face of said projector, and a lens carried by said lens plate in the path of light rays reflected by said projector.

2. In a gun sight, a mounting base, a source of electrical illumination in said base, a bed plate secured to said mounting base, a lens plate carried by said bed plate, a projector mounting in said lens plate, a light reflecting prism lens projector carried by said mounting, one face of said projector being opaque except for a light passageway therein, a shielded light passageway connecting said source of electric illumination and said one face of said projector, switch means for energizing said source of electrical illumination in the path of movement of the gun trigger mechanism, a reflector in said light passageway, and a lens carried by said lens plate in the path of the light rays reflected by said projector.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
953,426	Mills	Mar. 29, 1910
1,964,027	Bliss	June 6, 1934

FOREIGN PATENTS

Number	Country	Date
532,575	Great Britain	1941

OTHER REFERENCES

Publ.: "'Jack Rabbit' Sight," American Rifleman, December 1945, page 29.