United States Patent [19]

Sallans

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[54] **GUNSIGHT**

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[52] **U.S. Cl.** **356/254**, 33/245, 350/301, 356/255

[51] **Int. Cl.** **F41g 1/30**

[58] **Field of Search** 33/233, 245; 350/52, 301; 356/253–255

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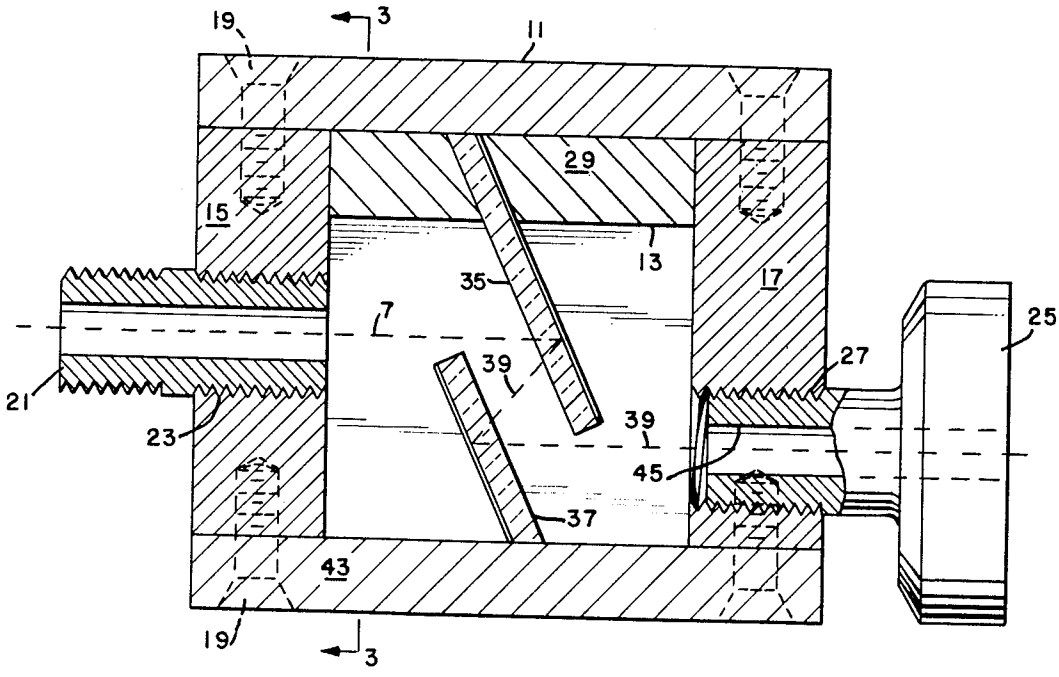
[57] **ABSTRACT**

Discloses a gunsight for use with one of the sights of a firearm to neutralize, and render clear and distinct, both the view of the target sighted and the front sight of the firearm. Parallel first and second relfecting surfaces mounted in the gunsight housing are arranged and disposed such that the sight line from the sighted target strikes the first reflecting surface at an angle of incidence of 25° and the reflected ray of the sight line from the first reflecting surface strikes the second reflecting surface at an angle of incidence of 25°.

Also discloses a modification of the gunsight invention in which one of the reflecting surfaces has an aperture to filter out and prevent passage of incident rays emanating from the sighted target other than the sight line of the target.

Also discloses a further modification of the gunsight invention in which the other reflecting surface has an aperture to filter out and prevent passage of reflected incident rays emanating from the sighted target other than the reflected ray of the sight line from the target.

8 Claims, 5 Drawing Figures



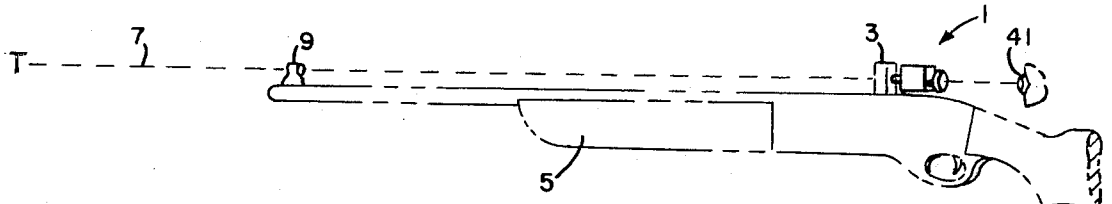


FIG. 1.

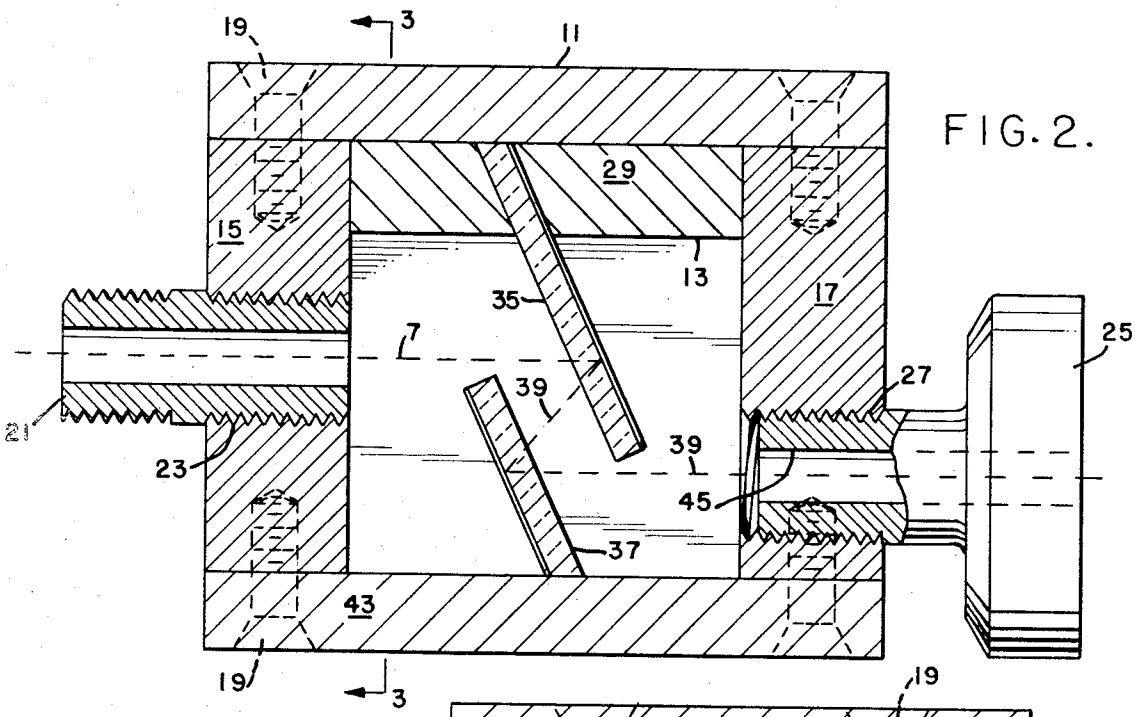


FIG. 2.

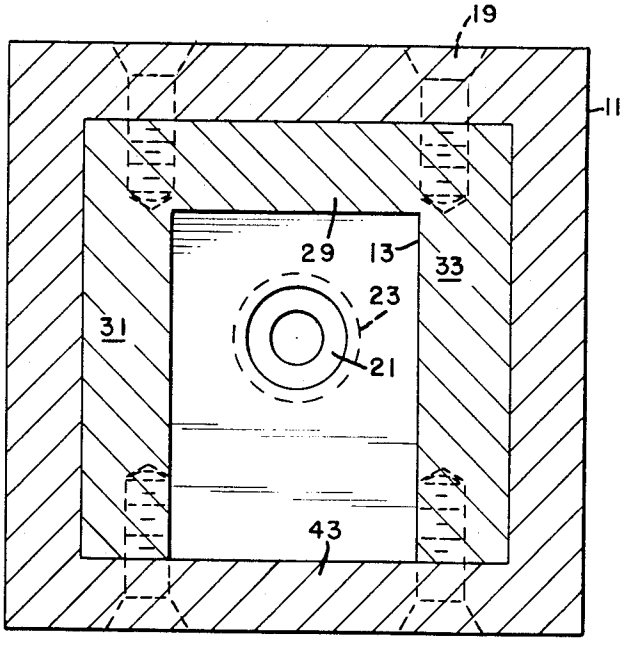


FIG. 3.

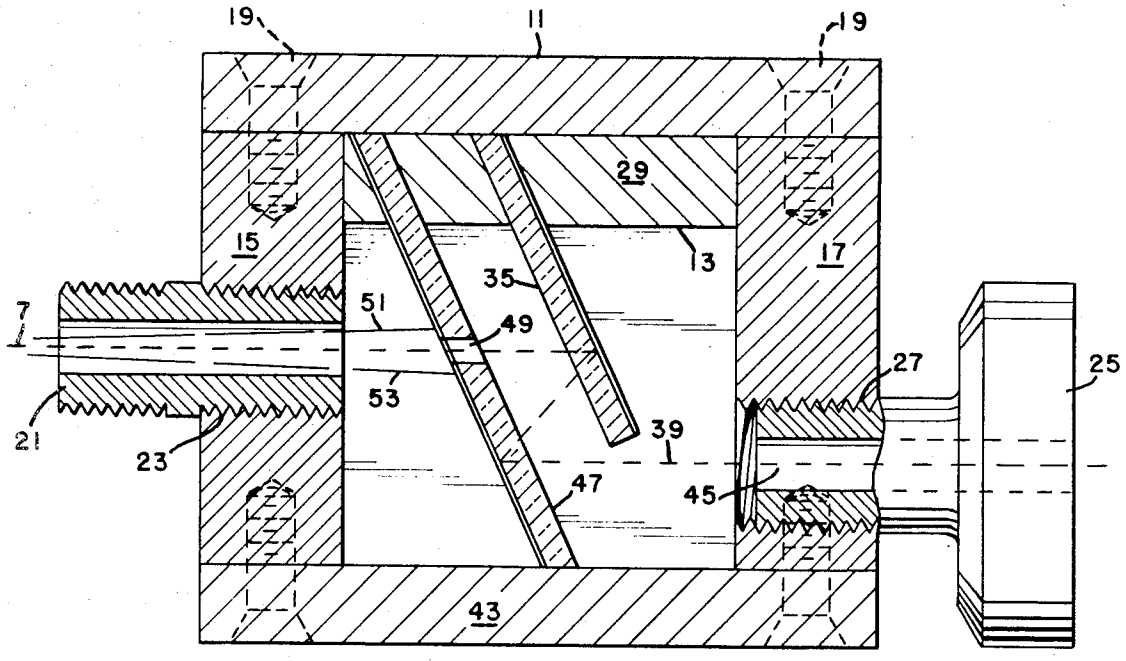

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FIG. 4.

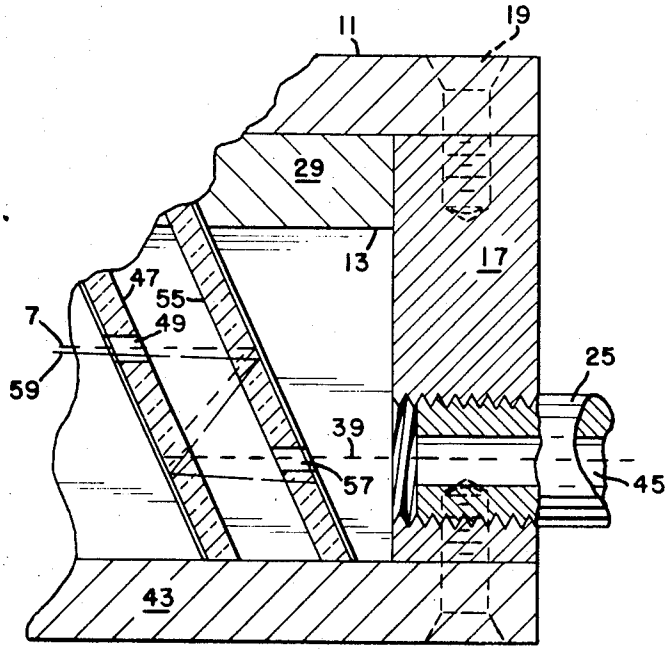

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FIG. 5.

GUNSIGHT

This invention relates to a gunsight for use with a receiver-type rear sight of a firearm and of the type commonly referred to as a peep sight.

In viewing a target through the rear and front sights of a firearm, the firearm user sometimes encounters the vision problem commonly referred to as "football-image" and concomitant distortion of the target and front sight. This problem increases with the age of the firearm user and is pronounced in the situation of the firearm user whose vision is impaired. There is a need for a comparatively inexpensive gunsight which can be simply and easily mounted on the receiver-type rear sight of the firearm to obviate and prevent football-image and concomitant distortion of the target and front sight to thereby enable the firearm user to view the sighted target and front sight clearly, distinctly and consistently and with the firearm user's view of the sighted target and front sight being neutralized, and rendered clear and distinct. In addition to the described advantages of this gunsight invention being utilized with the rear sight, the rear sight continues to function as a rear sight without interference, such as interference with the elevation adjustment of the rear sight. Accordingly, the object of this invention is to contribute to solving the discussed problem of the art.

This object and other objects of the invention should be discerned and appreciated by reference to the detailed specification taken in conjunction with the drawings, wherein like reference numerals refer to similar parts throughout the several views, in which:

FIG. 1 is a view showing the gunsight mounted on the rear sight of a rifle;

FIG. 2 is a sectional view of the gunsight;

FIG. 3 is a sectional view taken in the direction of the arrows 3—3 in FIG. 2;

FIG. 4 is a sectional view of the gunsight showing a modification thereof; and

FIG. 5 is a fragmentary sectional view showing a further modification of the gunsight shown in FIG. 4.

To facilitate the understanding of the invention, a nomenclature list is hereby provided:

NOMENCLATURE

1 generally refers to the invention
3 receiver-type rear sight or peep sight
5 rifle
7 sight line
9 front sight
11 square-shaped housing
13 U-shaped member
15 front wall
17 rear wall
19 screw
21 double-threaded nipple
23 tapped hole in front wall 15
25 sight disc
27 tapped hole in rear wall 17
29 top wall of U-shaped member 13
31 sidewall of U-shaped member 13
33 sidewall of U-shaped member 13
35 first reflecting surface
37 second reflecting surface
39 reflected ray
41 eye of rifleman
43 bottom wall of housing 11

45 aperture of rear sight 3
47 second reflecting surface
49 aperture through second reflecting surface 47
51 incident ray
53 incident ray
55 first reflecting surface
57 aperture through first reflecting surface 55
59 incident ray

In FIG. 1 of the drawings, reference numeral 1 generally refers to the gunsight invention shown mounted on the rear sight 3 of the rifle 5. Rear sight 3 is a receiver-type rear sight, commonly referred to as a peep sight, and has a tapped hole therein to conventionally receive a sight disc in mounted relationship therewith. The sight line 7 from the target T constitutes the center line of the rays emanating from target T. Sight line 7 is shown as passing through the front sight 9 and rear sight 3.

With reference to FIGS. 2 and 3 of the drawings, gunsight 1 comprises a square-shaped housing 11 receiving therein in inverted position a U-shaped member 13, as shown. U-shaped member 13 is disposed in housing 11 between and in abutting relationship with a front wall 15 and rear wall 17. Front wall 15 and rear wall 17 are received within housing 11, and are secured to housing 11 by means of screws 19 disposed through holes bored through housing 11 and engaged with aligned holes tapped in front wall 15 and rear wall 17, as shown. A double-threaded nipple 21, threaded on both ends, is received in engaged relationship with a tapped hole 23 formed in front wall 15, as shown. A threaded sight disc 25 is received in engaged relationship with a tapped hole 27 formed in rear wall 17, as shown.

Inverted, U-shaped member 13 has a top wall 29 and depending side walls 31 and 33, as shown. Complemental slots formed in top wall 29 and side walls 31 and 33 receive therein in emplaced relationship the first reflecting surface or mirror 35; and complemental slots formed in side walls 31 and 33 receive therein in emplaced relationship the second reflecting surface or mirror 37. Reflecting surfaces 35 and 37, thusly received in their respective complemental slots, are maintained in fixed relationship in their respective slots by gluing or the like.

In the preferred embodiment of the invention, the reflecting surfaces 35 and 37 are mounted and disposed in parallel relationship with each other and such that the sight line 7 from the target T, as conventionally sighted through front sight 9 and rear sight 3, will strike the first reflecting surface 35 at an angle of incidence of 25° and will be reflected from the first reflecting surface 35 at an angle of reflection of 25°. This reflected sight line or reflected ray 39 thereupon will strike the second reflecting surface 37 at an angle of incidence of 25°, will be reflected from the second reflecting surface 37 at an angle of reflection of 25° and will pass through the center of sight disc 25 to the viewing eye 41 of the rifleman. Accordingly, sight line 7 is parallel with that portion of reflected ray 39 that is reflected from the second reflecting surface 37.

To effect such described angles of incidence and reflection of sight line 7 and reflected ray 39, the first reflecting surface 35 is structurally arranged and disposed to form an acute angle of 65° with the top wall 29 of the U-shaped member 13, as viewed in FIG. 2; and the second reflecting surface 37 is structurally arranged and disposed parallel to the first reflecting sur-

face 35 and with the second reflecting surface 37 forming an acute angle of 65° with the bottom wall 43 of housing 11, as similarly viewed in FIG. 2. The sight disc 25 is structurally arranged and disposed relative to rear wall 17 such that the aperture 45 of sight disc 25 will be concentric relative to the reflected ray 39 passing therethrough.

To minimize the scatter effect of incident light from the target T, the interior surfaces of the nipple 21, housing 11, U-shaped member and sight disc aperture 45, exposed to such incident light from the target, are suitably lampblacked or darkened.

In the modification of the gunsight invention shown in FIG. 4, the second reflecting surface 47 is structurally different from the second reflecting surface 37 only in that second reflecting surface 47 has an aperture 49 formed therethrough and only in that second reflecting surface 47 is further extended in height. An additional complemental slot similarly is formed in top wall 29 of U-shaped member 13 and complemental slots further are correspondingly formed in side walls 31 and 33 to thereby accommodate and receive therein in emplaced relationship the lengthened top portion of second reflecting surface 47 as compared to second reflecting surface 37.

The sight line 7 from the target T is shown in FIG. 4 as passing through nipple 21, aperture 49 of second reflecting surface 47 and striking first reflecting surface 35 where sight line 7 is reflected, strikes second reflecting surface 47 where it is reflected and passes through aperture 45 of sight disc 25 to the sight-viewing eye 41 of the rifleman. The functional purpose and effect of aperture 49 of second reflecting surface 47 is to filter out and prevent passage of additional incident rays such as incident rays 51 and 53 emanating from the target T, and to thereby prevent these additional incident rays from being reflected from reflecting surfaces 35 and 47 to and through aperture 45 of sight disc 25. Such described filtering effect of aperture 49 of the second reflecting surface 47 results in further neutralization of the target T and with the sighted target T being rendered clearer and more distinct in comparison to the target T sighted by means of the embodiment shown and described with reference to FIGS. 2 and 3.

Further modification is shown in FIG. 5 of the embodiment of the invention shown and described with reference to FIG. 4. In FIG. 5, the first reflecting surface 55 is structurally different from the first reflecting surface 35 only in that the first reflecting surface 55 has an aperture 57 formed therethrough and only in that the first reflecting surface 55 is further extended in length to have the same length as second reflecting surface 47. Complemental slots further are correspondingly formed in side walls 31 and 33 to thereby accommodate and receive therein in emplaced relationship the lengthened bottom portion of first reflecting surface 55 as compared to first reflecting surface 35.

The sight line 7 from the target T is shown in FIG. 5 as passing through aperture 49 of second reflecting surface 47 and striking first reflecting surface 55 from which sight line 7 is reflected, strikes second reflecting surface 47 from which it is reflected, and then passes through aperture 57 of first reflecting surface 55 and through aperture 45 of sight disc 25 to the sight-viewing eye 41 of the rifleman. Shown in FIG. 5 is an additional incident ray 59 emanating from the target T that has passed through nipple 21 and aperture 49 of second reflecting surface 47, that has been reflected from the first reflecting surface 55 and thereafter from second reflecting surface 47. The functional purpose and effect of aperture 57 of first reflecting surface 55 is to filter out and prevent passage of additional incident rays, such as described with reference to incident ray 59, that emanate from the target T, and to thereby prevent these additional incident rays reflected from second reflecting surface 47 from passing through aperture 45 of sight disc 25. Such described further filtering effect of aperture 57 of first reflecting surface 55 results in greater neutralization of the target T in comparison to the embodiment shown and described in FIG. 4 and with the sighted target T being rendered comparatively clearer and more consistently distinct.

It should be discerned and appreciated that the benefits resulting from use of the gunsight embodiment of this invention with the rear sight 3, along with the additional benefits resulting from the described modifications, also apply in obviating and preventing football-image and concomitant distortion with respect to the viewed front sight 9 while the rifleman or firearm user is sighting the target T. By using the gunsight invention, not only is the firearm user's view of the sighted target improved by being neutralized, and rendered clear and distinct, but also the firearm user's view of the front sight 9 improved by being similarly neutralized, and rendered clear and distinct.

Having thusly described my invention, I claim:

1. A gunsight for use with one of the sights of a firearm to neutralize, and render clear and distinct, both the view of the target sighted and the front sight of the firearm, to thereby enable the firearm user to view the sighted target and front sight clearly, distinctly and consistently, said gunsight comprising first and second reflecting surfaces structurally arranged and disposed such that the sight line from the target is reflected from said first reflecting surface to said second reflecting surface and is reflected from said second reflecting surface to the viewing eye of the firearm user with the view of the sighted target and front sight being neutralized, and rendered clear and distinct, wherein said first and second reflecting surfaces are parallel to each other, wherein the sight line from the sighted target strikes said first reflecting surface at an angle of incidence of 25° and wherein the reflected ray of the sight line from said first reflecting surface strikes said second reflecting surface at an angle of incidence of 25°.

2. A gunsight in accordance with claim 1, wherein one of said reflecting surfaces has an aperture therethrough to filter out and prevent passage therethrough of incident rays emanating from the sighted target other than the sight line from the target.

3. A gunsight in accordance with claim 1, wherein one of said reflecting surfaces has an aperture therethrough to filter out and prevent passage therethrough of reflected incident rays emanating from the sighted target other than the reflected ray of the sight line from the target.

4. A gunsight in accordance with claim 1, wherein one of said reflecting surfaces has an aperture therethrough to filter out and prevent passage therethrough of incident rays emanating from the sighted target other than the sight line from the target, and wherein the other of said reflecting surfaces has an aperture therethrough to filter out and prevent passage therethrough of reflected incident rays emanating from the

sighted target other than the reflected ray of the sight line from the target.

5. A gunsight in accordance with claim **1,** wherein said gunsight further comprises a housing, member, front wall and rear wall, wherein said housing receives said member, wherein said member carries said first and second reflecting surfaces, and wherein said front and rear walls retain said member in its disposed relationship within said housing.

6. A gunsight in accordance with claim **5,** wherein said gunsight further comprises a nipple adapted for engaged mounting relationship with one of the sights of the firearm and wherein said front wall carries said nipple.

7. A gunsight in accordance with claim **5,** wherein said gunsight further comprises a sight disc and wherein said rear wall carries said sight disc.

8. A gunsight in accordance with claim **1,** wherein said gunsight further comprises a housing, member, front wall, rear wall, nipple and sight disc, wherein said housing receives said member, wherein said member carries said first and second reflecting surfaces, wherein said front and rear walls retain said member in its disposed relationahip within said housing, wherein said nipple is adapted for engaged mounting relationship with one of the sights of the firearm, wherein said front wall carries said nipple, and wherein said rear wall carries said sight disc.

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