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Dec. 21, 1937. S. D. SHEPARD 2,103,189

GUN SIGHT

Filed Jan. 23, 1935

Fig. 1.

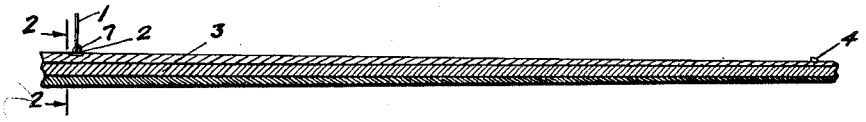


Fig. 2.

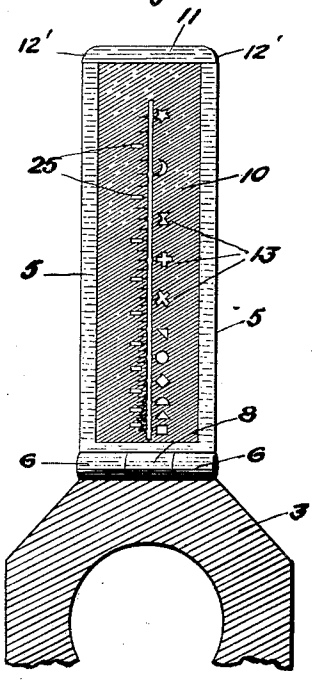
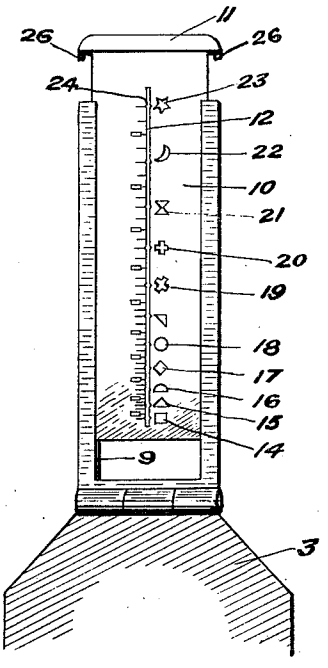


Fig. 3.



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33. GEOMETRICAL INSTRUMENTS.
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Patented Dec. 21, 1937 2,103,189

UNITED STATES PATENT OFFICE

2,103,189

GUN SIGHT

Samuel D. Shepard, Chevy Chase, Md.

Application January 23, 1935, Serial No. 3,127

1 Claim. (Cl. 33—51)

This invention relates to sights for use on firearms, and more particularly to rear sights for use on rifles and similar weapons.

In the prior art there have been a variety of sights suggested for use. While some of these have proved satisfactory they are of relatively expensive construction. Further in many prior art sights, the sighting devices depend for utility on structures which at least in part interpose obstructions in the line of sight, and any such obstruction even though of relatively small size is of course undesirable.

One of the objects of the present invention is the production of a gun sight of relatively inexpensive construction.

Other objects include a sight that is capable of rapid sight alignment without interposition of any substantial obstruction in the line of sight.

Still further objects and advantages will appear from the more detailed description set forth below, it being understood, however, that such more detailed description is given by way of illustration and explanation only, and not by way of limitation, since various changes therein may be made therein by those skilled in the art without departing from the scope and spirit of the present invention.

In connection with that more detailed description, there is shown in the accompanying drawing, in

Figure 1, a fragmentary side elevational view of a rifle type barrel carrying a gun sight in accordance with the present invention; in

Figure 2, a section on the line 2—2 of Figure 1 looking in the direction of the arrow; and in

Figure 3, a front elevation of the plate portion of the sight carrying distance symbolizing openings.

As illustrated in the drawing, the sight involved in the present invention is of the rear sight type preferably, and is generally indicated at 1 in Figure 1, and as indicated may be hingedly mounted as shown at 2 on the rifle barrel 3. Such hinge mounting is desirable because it permits the sight to be swung down contiguous to the barrel when the sight is not in use. The hinge mounting is thus preferred, but any other type of mounting and a rigid mounting may be utilized if desired. The sight of the present invention may be used in conjunction with any and all front gun sights available on the market today, one such type of sight being illustrated at 4.

In connection with gun sights produced in accordance with the present invention, structures are employed in which the sighting is permitted through relatively small or narrow openings. By sighting through such small or narrow openings, no obstruction is placed in the line of sight, so that the view is unimpaired. And further, the opening through which the sighting is done is readily used, since light passes through such opening, and visibility is unobscured even when the light, such as at dusk, is diminishing in character. However, in the use of such openings for sighting purposes, and also for distance indications as further explained below, the light shining through such openings when such openings are of any material depth, as when the metal is relatively heavy or thick, shows the usual aberration. The latter can be readily avoided by having the sight made of relatively thin metal, and in such cases there is no aberration of light.

A sight produced in accordance with these features of the invention is illustrated in the drawing. The sight generally indicated at 1 in Figure 1 is desirably produced with a frame portion having side members 5, 5, each said side member being desirably provided with means for attaching it to the barrel 3, which means may take the form of an ear 6 with an opening 7 therethrough adapted to cooperate with an ear 8 mounted on the barrel 3, and centrally thereof, so that the ears 6, 6 on the side members 5, 5, and the ear 8 on the barrel 3 when placed contiguously to each other as shown in Figure 2 form a hinge joint through which the usual pintle may be inserted and held in position. This type of construction is inexpensive and readily produced, and offers a simple hinge joint by which the sight may be mounted on the barrel. Each of the side members 5, 5, is provided along its inner wall portion with a vertically extending groove 9 that extends the entire length of the side members. These vertical grooves 9, 9 are adapted to receive the plate portion 10 of the sight.

The plate portion 10 is desirably produced from metal and may be readily stamped out of a sheet of metal of a thickness adapted to fit the grooves 9, 9, so that the metal plate 10 may be inserted into the grooves 9, 9 and held in position therein. Desirably the plate 10 carries a head member 11 having rounded corners 12', 12', so that when the plate portion 10 is inserted into the grooves 9, 9, the head 11 and the side members 5, 5 form a continuous frame about the plate 10.

The plate 10 carries the sighting openings, and any other indicia such as distance symbolizing openings. While other means for indicating distances may be employed, the openings are desirably used for reasons analogous to those discussed

above in connection with the use of the sighting openings, so that through these distance symbolizing openings, the light may pass through them, and they thus become readily usable in all conditions.

Desirably the sighting opening takes the form of a relatively small or narrow opening, and as illustrated may consist of a vertically disposed slit 12 centrally located in the plate 10, running vertically through most of the length of the plate 10. By using a narrow vertical slit 12 in this way, the user is given an unobstructed view, and the slit may be made narrow enough to insure absolute accuracy for when the front sight shows inside the narrow slit the gun is perfectly aligned, and the narrow vertical slit itself insures horizontal accuracy. While a discontinuous vertical slit could be utilized, which would consist of a series of vertical slots in alignment, desirably a continuous vertical opening is employed, so that there will be no obstructions to the view of the user.

Any type of distance symbolizing markings may be employed, but desirably in accordance with the present invention, openings or apertures are cut through the plate portion 10 at various points therein, desirably adjacent to the vertical slit 12. These distance symbolizing openings may be of any character and might actually take the form of numerals, but desirably symbols are employed to symbolize particular distances as further explained below. The arrangement of these distance symbolizing openings is such that when sighting is made by sighting at a particular point along the vertical slit 12 corresponding with one of the distance symbolizing openings, on the sight 4 at the front of the gun, trained on the desired object, the trajectory of the weapon is set for a particular distance. Such distance symbolizing openings are indicated at 13 in Figure 2. For simplicity in use and for ready distinguishing of the various distance symbols, a series of differently configured openings is employed. This has been exemplified in the drawing where the square opening 14 may be used to indicate sighting an object at a distance of 100 yards; the triangular opening 15 for 200 yards; the half circle 16 for 300 yards; the diamond 17 for 400 yards; the circle 18 for 500 yards; the "x" 19 for 600 yards; the cross 20 for 700 yards; the double triangle 21 for 800 yards; the crescent 22 for 900 yards; and the star 23 for distances of 1000 yards. As shown in Figures 2 and 3, the series of distance symbolizing openings 14 to 23 are desirably arranged to correspond with the necessary trajectory of the weapon to produce accurate sighting at the distances indicated thereon, and consequently since the trajectory of a high-power firearm is flat for the first several hundred yards, the figures or symbols denoting said distances are necessarily closer together when the firearm is used at those smaller distances, whereas they gradually separate as the distance for use increases. The distance symbolizing openings 14–23 may, therefore, be arranged in a particular manner on the plate portion 10 in accordance with recognized ordnance practice or principles, and the symbols employed may become universally standardized for definite distances, so that upon being memorized are as directly usable as numerals themselves would be.

The vertical slit 12 is desirably provided with notches 24 horizontally aligned with the distance symbolizing openings 14 to 23 so that accurate sighting is thus readily available. But by placing the distance openings 14–23 close to the vertical slit 12, the notches 24 are not essential, but may desirably be employed. For intermediate distances a series of small slots 25 may be employed, which are also desirably cut through the metal, and which are also desirably placed close to the vertical slit 12. By utilizing the vertical slit 12, the distance symbolizing openings 14 to 23, and the slots 25 cut through the metal plate itself as particularly indicated in Figure 4 ready sighting is effected, since the light shines through such openings even under reduced lighting conditions such as at dawn or at dusk, and they are clearly seen even in dim light.

A sight produced in accordance with the present invention desirably composed of the two parts including the frame portion made up of side members 5, 5, and the plate portion 10 results in exceedingly inexpensive articles. Thus the plate 10 may readily be made of thin steel or other desired metal, and may be stamped from a metal sheet of the desired thickness. The plate portions 10 are thus readily replaced in case of breakage, or a series of metal plates 10 having indicia for different ranges may be readily employed and used as a set in connection with particular firearms.

In order to produce a more rigid structure, lugs or projections 26, 26 may be provided on the ends of the head member 11, which lugs fit into the grooves 9, 9 when the plate portion is in position.

It will be seen that a structure of the character herein set forth is inexpensively manufactured, but produces a sight that is readily employed at varying distances without requiring any movement of parts of the sighting devices, and without requiring moving parts on such sights. This enables accurate sighting to take place under almost all lighting conditions as long as there is some light available, since the openings permit the light to shine through and distinctly accentuate the particular sighting desired. Further, as pointed out above, by having the plate portion 10 of relatively thin metal light aberration can be substantially eliminated.

Having thus set forth my invention, I claim:

A gun sight consisting of two detachable parts; one part consisting of an integral U-shaped frame having means for hingedly mounting the same on a firearm, each of the vertical legs of said frame having a longitudinal groove on the inner face thereof; the second part consisting of a thin sheet metal plate having its vertical edges slidable in said grooves, said plate having a rigid bar attached to the top edge thereof with portions extending edgewise therefrom, said portions resting on the ends of said legs and having means interengaging with said legs whereby the frame around said plate is rigidified; said plate having openings for sighting, such openings including a narrow vertical slit centrally placed in said plate and distance symbolizing openings adjacent said vertical slit, said slit having slight enlargements adjacent such symbolizing openings.

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