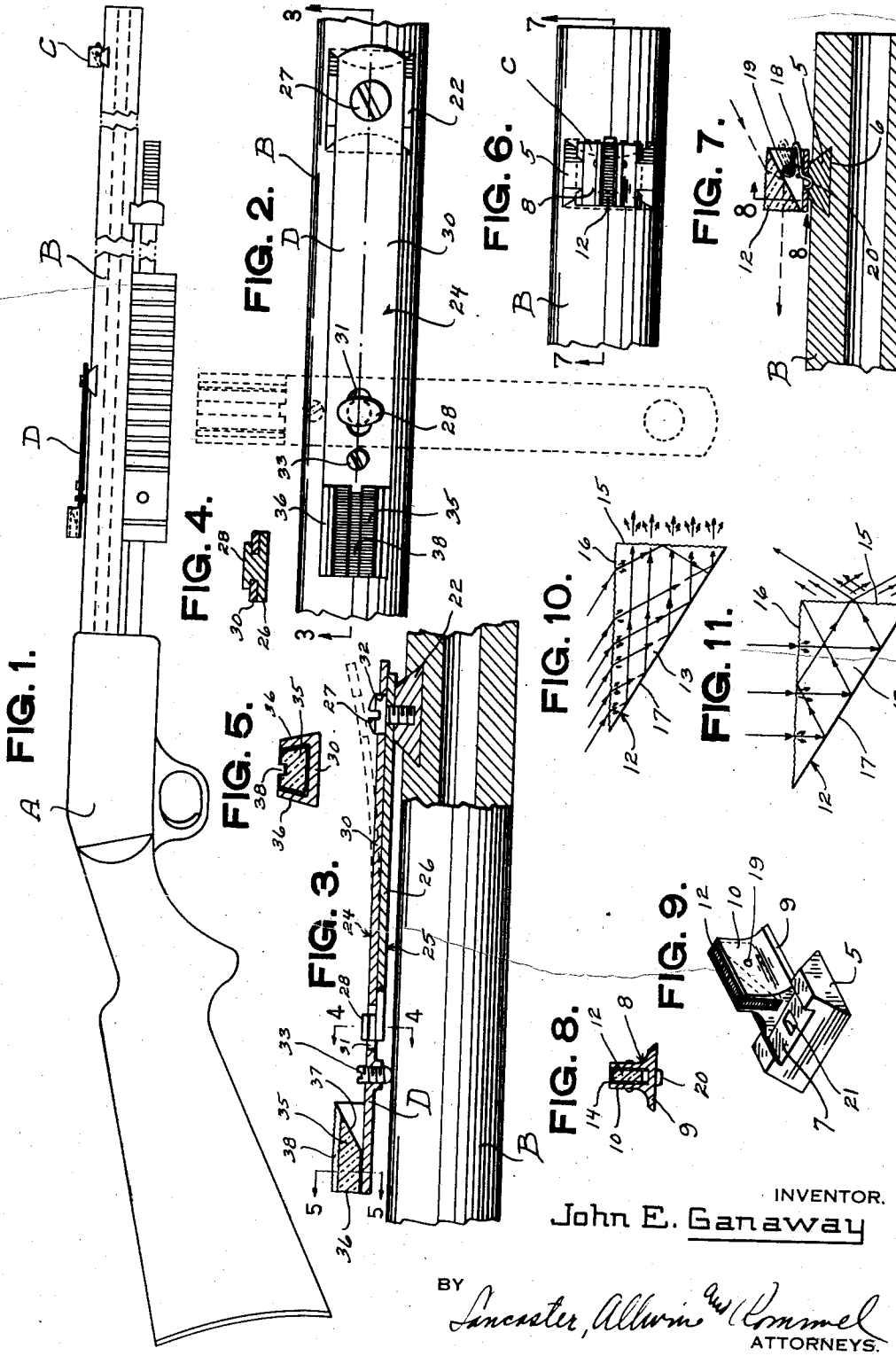
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GUN SIGHT

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## GUN SIGHT

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The present invention relates to sighting means for firearms and the primary object of the invention is to provide a sight for rifles and the like, wherein use of an optical principle is employed for making the sights clearly visible under various conditions of light and permitting accurate aiming regardless of the direction of the light rays falling upon the sights from above.

A further object is to provide a sighting means for firearms embodying prisms so arranged as to reflect light rays falling upon the upper face of the prisms toward the eye of the shooter.

A further object is to provide a gun sight employing readily interchangeable prisms whereby the sights may be made clearly visible under various conditions of background.

A further object resides in the specific formation and novel manner of mounting the sighting prisms whereby a soft diffused glow of light is had over the entire rear face of the sights.

A still further object is to provide sights of this character which may be readily applied to existing rifles, and wherein the sights will appear as if lighted from within.

Other objects and advantages of the invention will be apparent from the following detailed description, taken in connection with the accompanying drawing forming a part of this specification and in which drawing:

Figure 1 is a side view of a rifle provided with the prism sights.

Figure 2 is an enlarged fragmentary top plan view of the rifle barrel and showing the rear sight in place.

Figure 3 is a longitudinal section thru the rear sight on the line 3—3 of Figure 2.

Figures 4 and 5 are transverse sections on the respective lines in Figure 3.

Figure 6 is a top plan view of the muzzle end of the rifle barrel and showing the front sight in place.

Figure 7 is a section on the line 7—7 of Figure 6.

Figure 8 is a transverse section thru the front sight on the line 8—8 of Figure 7.

Figure 9 is a perspective view of the front sight and showing the manner in which the front sight is detachably secured in place in the base.

Figure 10 is an enlarged side view of the prism for the front sight and showing the effect of light falling on the sight from above and forwardly of the sight.

Figure 11 is an enlarged side view of the prism for the front sight and showing the effect of light falling on the sight from directly above the sight.

In the drawing and wherein like reference characters designate corresponding parts thruout the several views, the sighting means has been shown applied to a rifle A having the barrel B upon which is mounted the detachable front sight C and the detachable rear sight D.

Referring first to the front sight C, the same embodies a dovetail base block 5 adapted for permanent mounting in the usual transverse dovetail slot 6 provided adjacent the muzzle end of rifles. Provided in the upper face of the base block 5 is a dovetail slot or groove 7 which extends longitudinally of the barrel B and provides a guide for removably receiving the prism holder or mounting 8. This holder or mounting 8 is preferably formed of suitable metal and embodies a dove-tail base plate 9 for slidably fitting in the slot 7 from either end of the slot. Extending upwardly from the center of the base plate 9 are two parallel spaced apart vertical side plates 10 which extend from end to end of the base plate and longitudinally of the rifle barrel.

Mounted between the side plates 10 is a glass prism 12 in the form of a right triangular prism having flat parallel side faces 13 which snugly fit between the side plates 10. If preferred, the prism may be cemented at its side faces to the plates 10 as shown at 14. The prisms for use in the removable holders 8 may be made of suitable glass for use under various conditions of background. The right triangular prism 12 provides a vertical flat rear face 15 which preferably extends thruout the height of the side plates 10 in alignment between the rear edges of the plates, a horizontal flat upper or top face 16 which preferably extends thruout the length of the side plates 10 in alignment between the upper edges of the plates, and a flat diagonal face 17 providing a reflecting surface. These faces 15, 16 and 17 are at a right angle to the side faces 13 and the diagonal face 17 is preferably at an angle of less than 45° to the upper horizontal face 16.

When the prism 12 is so mounted in the holder 8, a triangular shaped recess is formed beneath the prism which opens at the front end of the holder and this recess provides space for mounting of a spring member 18 serving to releasably retain the holder in place in the base block 5. This spring member 18 is of V-shape and has the free end of its upper arm hinged on a pin 19 mounted in the side plates 10 of the holder. The free end of the lower arm of the spring mem-

ber 18 is formed into a loop 20 which projects thru an opening in the base plate 9 and is projected into a substantially semi-circular shaped recess 21 provided in the bottom face of the dovetail slot 7. As shown in Figure 7, when the loop 20 engages in the recess 21, the holder is secured in position in the base block 5. The apex of the spring member projects slightly beyond the forward end of the holder whereby this projecting end may be raised as shown in dotted lines in Figure 7 for withdrawing the loop 20 from the recess 21 and permits the holder to be withdrawn from the dovetail slot 7. By this arrangement, holders having different prisms may readily be associated with the base block 5.

The rear sight D is also adapted for detachable connection with the barrel B whereby different prisms may be substituted for the rear sight. Fitted in the transverse dovetail slot adjacent the rear end of the barrel B is a dovetail base block 22 forming a mounting for the rear sight D. The rear sight D comprises upper and lower members 24 and 25 respectively, the lower member 25 providing a mounting member for attachment to the base block 22 and the upper member 24 forming a removable prism holder. The lower member 25 consists of a spring leaf 26 which is secured at its forward end to the base block 22 as by a fillister head screw 27 and extends longitudinally of the barrel in slightly spaced relation above the barrel. Provided at the rear end of the spring leaf 26 is an oval headed stud 28 having its major dimension extending transversely of the spring leaf and barrel as shown in Figure 2.

The upper member 24 comprises a spring leaf 30 having an oval-shaped opening 31 adjacent its rear end for receiving the oval head 28, and a round opening 32 adjacent its forward end for fitting over the head of the screw 27. The oval-shaped opening 31 has its major dimension extending lengthwise of the spring leaf 30 and when the members 24 and 25 are in assembled position, the forward end of the leaf 30 projects slightly beyond the forward end of the leaf 26 to form a finger gripping portion. To remove the upper member 24 from the lower member 25 it is merely necessary to raise the forward end of the spring leaf 30 free of the screw head 27 as shown in dotted lines in Figure 3 and then swing the member 24 at a right angle to the barrel as shown in dotted lines in Figure 2 so that the oval opening 31 aligns with the oval head of the stud 28. Threaded thru the leaf 30 just rearwardly of the oval opening 31 is an elevating screw 33 adapted to bear upon the barrel B. The elevating screw 33 when once adjusted will not need to be changed and the member 24 can be removed and replaced with the assurance that the elevation is correct.

The upper member 24 carries at the upper side of its rear end portion, a glass prism 35 secured between upstanding side plates or flanges 36 which may or may not be formed integral with the spring leaf 30. The prisms for use in these removable prism holders 24 may vary, that is, each prism holder will be provided with a different type prism. The prism 35 has a flat rear face 36 and a flat diagonal face 37 providing a reflecting surface. Provided to extend longitudinally of the upper face of the prism 35 is a square cornered sighting slot 38 which extends thruout the length of the prism. It may here be well to note that the sighting means shown provides for a square cornered top front sight coacting with a square cornered slot in the rear sight.

Referring now to the construction of the prisms and more particularly to the showings in Figures 10 and 11 whereby light striking the prisms from above will be reflected toward the eye of the shooter, it has been discovered thru use that the most efficient illumination of the rear vertical face 15 of the prism is obtainable when the diagonal face 17 is at an angle of less than 45° to the upper horizontal face 16. The side faces 13 are preferably polished, and the diagonal face 17 is polished so that this face forms a reflecting surface for the light rays. The upper horizontal face 16 and the rear vertical face 15 are frosted by grinding or any other desired means so as to form ridges extending crosswise of the faces as exaggerated in Figures 10 and 11. If grinding is employed, these ridges constitute the grinding marks. By the specific formation of faces of the prism, and referring particularly to Figure 10, light rays falling upon the upper surface 16 from above and in front of the sight will be diffused by the ridges on the upper surface and these diffused rays will be reflected by the diagonal reflecting face 17 to the rear face 15 where the light rays are again diffused by the ridges on this rear face and emerge as a soft uniform glow over the entire rear face. Figure 11 shows the effect of light rays falling vertically on the prism as when the sight is used under an electric light as in target shooting. Under these conditions, the ridged faces 15 and 16 will prevent any image of the lamp filament being reflected to the rear face 15 and cause an annoying glare to the eye of the shooter.

Also, by having the ridges or grinding marks extend crosswise of the faces 15 and 16, diffuses the light in a manner and direction in relation to the reflecting face 17 that utilizes all light falling upon the face 16 and prevents loss of some light due to polarisation such as would occur were the ridges or grinding marks extended lengthwise of the faces 15 and 16. Light coming from the rear of the sight will be reflected direct from the rear vertical face 15 to the eye of the shooter.

By having the sights C and D readily removable, the sights may be changed to meet various conditions of light and background so as to render the sights clearly visible for aiming. When shooting against a dark background for instance, one type of prism will be used and when shooting against a light background a different type of prism will be used.

From the foregoing it will be seen that an improved sighting means for firearms has been provided which will permit accurate aiming under various conditions of light, and embodying an arrangement whereby the prism sights are readily interchangeable to meet various conditions of background.

Changes in detail may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. In a sighting means for guns, a front sight embodying a base block for attachment to the gun barrel and having a dovetail groove extending longitudinally of the barrel, a holder slidably fitting in said groove and having upstanding opaque side plates, yieldable means on the holder and engageable with the base block for releasably retaining the holder in position on the base block, and a prism mounted between said plates and having exposed top and rear faces.

2. In a front sight for guns, a holder having parallel spaced apart upstanding side plates and

a base plate, a right triangular prism secured between the side plates, a base block for slidably receiving the base plate and having a recess, and a V-shaped spring member arranged between said side plates with the free end of one of its arms connected to the side plates and the free end of its other arm formed into a loop for engaging in said recess, the apex of the spring member projecting slightly beyond one end of the side plates.

3. In a sighting means for guns, a right triangular prism providing a flat light diffusing top face, a flat light diffusing rear face and a flat diagonal reflecting face disposed at an angle of between 45 and 30 degrees to the top face, and means for mounting the prism on a gun barrel with said top face parallel to the bore of the gun and said rear face perpendicular to the bore whereby light rays falling upon the top face of the prism are directed so as to illuminate the rear face of the prism in the line of sight of the gun.

4. In a rear sight for guns, a lower spring leaf having an oval headed stud at its rear end, a fillister head screw securing the leaf at its forward end to the gun barrel, an upper spring leaf having an oval opening for receiving said stud and a round opening receiving the head of said screw, an elevating screw carried by the upper spring leaf, and a sighting prism mounted upon the rear end of the upper spring leaf.

5. In a sighting means for guns, a front sight mounted upon the forward portion of the gun barrel comprising a right triangular prism forming a top face, a rear face and a diagonal reflecting face, a holder for the prism including opaque side plates covering opposite sides of the prism, a rear sight mounted upon the rear portion of the gun barrel comprising a sighting prism having a sighting slot in its upper face in line with said front sight prism, and a holder for the rear sighting prism including opaque side plates covering opposite sides of the prism.

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