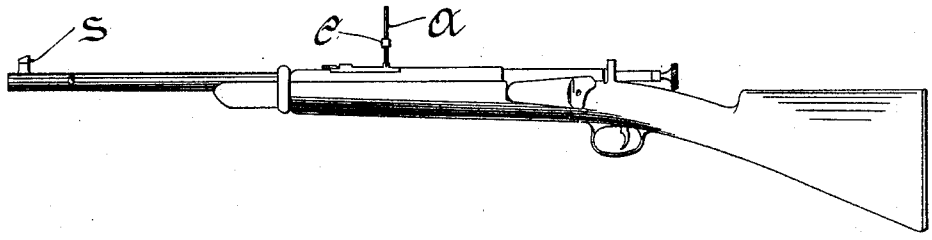
No. 806,142. PATENTED DEC. 5, 1905.

G. P. HERRICK.

REAR SIGHT FOR GUNS AND THE LIKE.

APPLICATION FILED MAR. 17, 1905.

Fig. 1



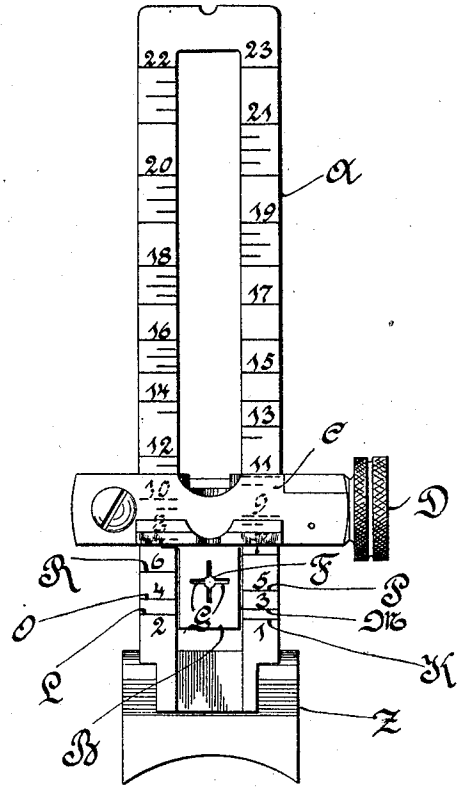


Fig. 2

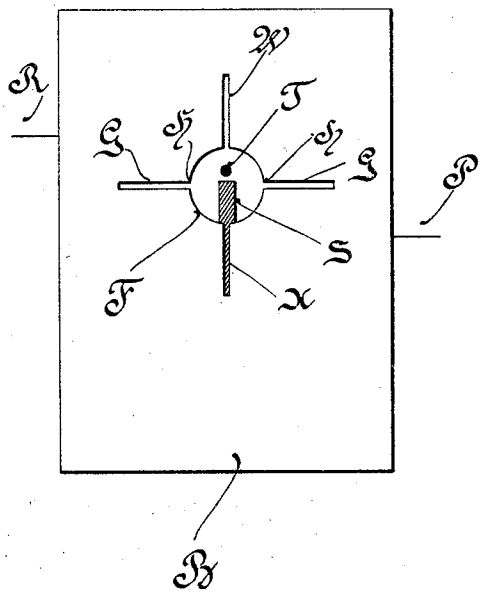


Fig. 3

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REAR SIGHT FOR GUNS AND THE LIKE.

No. 806,142. Specification of Letters Patent. Patented Dec. 5, 1905.

Application filed March 17, 1905. Serial No. 250,509.

To all whom it may concern:

Be it known that I, GERARD P. HERRICK, a citizen of the United States, residing at New York, State of New York, have invented certain new and useful Improvements in Rear Sights for Guns and the Like, of which the following is a clear, full, and exact description.

My invention relates to an improved rear sight, and it is my object to improve the same whereby when used with a gun increased accuracy of fire may be obtained.

My invention will be set forth in the claims.

In the drawings, which show the preferred embodiment of my invention, Figure 1 represents a Krag-Jorgensen carbine provided with a front sight and also a rear sight, the leaf of the sight being turned up into position for use. Fig. 2 is an enlarged rear elevation of the rear-sight leaf provided with my improved construction, the same being enlarged to twice the ordinary size; and Fig. 3 is a rear elevation of my improved peep-hole construction enlarged about ten times.

It is old in the art to provide a gun with a front sight and a rear sight having a minute aperture or peep-hole which are adapted to be alined with the object aimed at. As the eye of the marksman is when using a rifle about fifteen inches in the rear of the rear sight and is focused upon the distant bull's-eye or other object aimed at, the peep-hole apparently enlarges in size, and, while the peep-hole alone, together with the front sight, gives a rough guide by which an approximately correct sight may be had, it has given much dissatisfaction in not indicating with sufficient accuracy and sureness the amount of front sight to be seen. This is especially true at the longer ranges, such as from six hundred to one thousand yards. For example, in aiming at a bull's-eye—say five hundred yards distant—it is usual to position the front-sight leaf so that a line of white may be seen between the bull and the tip of the front sight. Now it will be evident that if the tip of the front sight is always seen at the same height from the lower edge of the peep-hole, or, as it is usually expressed, if the same amount of front sight is always seen, the gun will always be sighted the same for any given elevation of the peep-hole; but it will also be evident that if the same amount of front sight is not seen through the peep at every shot the range will vary. For example, it is usually desirable to position the tip of the front sight in the center of the peep-hole; but because the eye is focused upon the distant bull's-eye the peep-hole is not sharply defined to the eye at such moment and the surrounding portion becomes a blur, and it is therefore extremely difficult to be sure that one is always seeing the same amount of front sight through the peep-hole when the eye is focused upon the distant target, and it is the object of my invention to provide a construction which will provide an efficient guide by which the tip of the front sight may be accurately positioned, so that the tip of the same will not vary with relation to the hole. Other persons have attempted to do this by providing on the portion through which the peep-hole is formed a line—such, for example, as a piece of ivory let into the metal; but this is extremely unsatisfactory and is practically of no advantage for many reasons.

In carrying out my invention I have in the present embodiment provided the pivoted sight-leaf A with an opaque portion B. This in the present embodiment is attached to a slide C, provided with a lock-nut D, by which the portion B may be raised and lowered and locked in any adjusted position. F is a peep-hole through the same, and G G are horizontal slits through the portion B and much narrower than the diameter of the peep-hole. These slits G G extend from each side of the hole and in the present embodiment open into the hole itself, which is the construction I prefer. In practice I prefer to make them as narrow as possible, and I prefer to make them of the form shown. These slits have been shown as located between the top and bottom of said hole, and in the embodiment shown in the drawings they are located radially of said hole and open into said hole.

In Fig. 2, K is the one-hundred-yard mark, L the two-hundred-yard mark, M the three-hundred yard, O the four-hundred yard, P the five-hundred yard, and R the six-hundred-yard mark, and if the peep-hole is positioned exactly opposite the five-hundred-yard mark, for example, the gun will be sighted for a five-hundred-yard range, providing that the marksman exactly positions the tip of his front sight in the exact center of this peep-hole. If, however, he does not exactly so position the tip of his front sight, the range will be increased or decreased, depending upon whether the tip of his front sight is slightly above or slightly below the center of the peep. Now, as illustrated in Fig. 2, the

peep-hole is of such a diameter (the diameter of the hole from which the present drawing was made being approximately one and one-quarter millimeters) as to allow a variation in range of substantially seventy-five yards when positioned at the range shown, for it will be seen that the bottom of the peep is substantially on a line with the five-hundred-yard mark P, and the top of the peep-hole is only slightly below the six-hundred-yard mark R. From this it will be obvious that great variations of range will occur unless the tip of the front sight is accurately alined.

In Fig. 2 the center of the peep is positioned for substantially five hundred and forty yards range.

In Fig 3, S represents the front sight as it should be seen through the peep.

It will be observed that each slit G G in the present embodiment forms a sharply-defined angle H at the point where it meets said hole. In sighting the gun, the eye being focused upon the object aimed at—for example, a bull's-eye T on the distant target—the edges of the hole will blur and the slits will appear to broaden out. The slits shown in the drawings are not wide enough to obtain any material vision through the same, and to the eye they therefore give a line of light at each side of the hole, and the angles H will be fairly clear to the eye even with the eye focused upon the distant bull T, and consequently the marksman may raise or lower the muzzle of his gun so as to raise or lower the front sight and accurately aline the tip of it with such angles or with the line of light indicated to him by the slits G G. In this way a guide is provided for him which he will see without changing the focus of his eye from the distant target, and if he always brings the tip of his front sight up to such indicated line or point he will always sight with the same elevation for every shot. In Fig. 2 it will be observed that the variation of half the diameter of the peep will make a difference of about thirty yards in the range, and at the lower ranges, for instance, between three hundred and four hundred yards the variation of half a diameter would be very much greater, and at ranges still lower the variation of half a diameter would be about equal to one hundred yards difference in range, while at the longer ranges, such as eight hundred or one thousand yards, the same variation in sighting, although it will not vary the horizontal range so materially, will carry the bullet much farther above or below the bull's-eye than at the lower ranges, and at one thousand yards would probably miss the entire target. It will therefore be evident how important it is that an accurate guide should be provided which will be indicated to the eye of the marksman, although it is focused upon the distant target.

I also prefer to provide slits W and X, extending upward and downward, respectively, from the peep-hole, as they aid in preventing the apparent flattening or distortion of the hole when the eye is focused upon the distant target; but they may not be necessary in all cases.

It will be observed that in the drawings all of the slits constitute radial openings—that is, lines drawn through the centers of them would pass substantially through the center of the peep-hole. The four slits, together with the peep-hole, form a substantially symmetrical figure with the center of the peep-hole as a common center for the whole figure. In the present instance each pair of opposite slits are of the same shape as the other pair; but it may not be necessary that this should always be so, as the slits, for example, W and X, might be of a different shape and yet constitute radial openings and with the four openings and the peep-hole still forming a symmetrical figure. The object of such symmetrical arrangement is to have substantially the center of the peep-hole in the center of the figure formed by all such openings, so that the peep will be in the center of the light admitted through the openings, which is of a distinct advantage.

I am aware of the United States patent to Hofman, No. 716,710; but the construction shown in said patent is not used as a rear sight, and, furthermore, the openings therein are distinctly for the purpose of observation or vision through the same, and the construction would be impractical for other reasons.

I am aware that variations from the above-described construction may be made without departing from the spirit of my invention, and I therefore do not limit myself to the particular embodiment shown in the drawings.

What I claim is—

1. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole.

2. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and less than one-quarter the diameter of said hole.

3. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and having a substantially vertical slit running upward from said hole and located between the sides of said hole.

4. A rear sight comprising an opaque portion having a peep-hole through the same and

provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, each slit forming at least one sharply-defined angle where it meets said hole.

5. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, and means whereby said opaque portion may be raised and lowered.

6. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

7. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and less than one-quarter the diameter of said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

8. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, each slit forming at least one sharply-defined angle where it meets said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

9. A rear sight comprising an opaque portion having a peep-hole through the same and radial openings joining said peep-hole and, at the point where they join said peep-hole, less than it in width, and forming with said peep-hole a substantially symmetrical figure with the center of said peep-hole as a common center for the whole figure.

10. A rear sight comprising an opaque portion having a peep-hole through the same and provided with three or more radial openings joining said peep-hole and, at the point where they join said peep-hole, less than it in width and forming with said peep-hole a substantially symmetrical figure with the center of said peep-hole as a common center for the whole figure, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

Signed at New York, N. Y., this 15th day of March, 1905.

GERARD P. HERRICK.

Witnesses:
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BEATRICE NIROIS.