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Draftsman.

D. L. ROSCOE.

GUN SIGHT.

APPLICATION FILED SEPT. 22, 1908.

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**909,941.**

Patented Jan. 19, 1909.

*Fig. 1.*

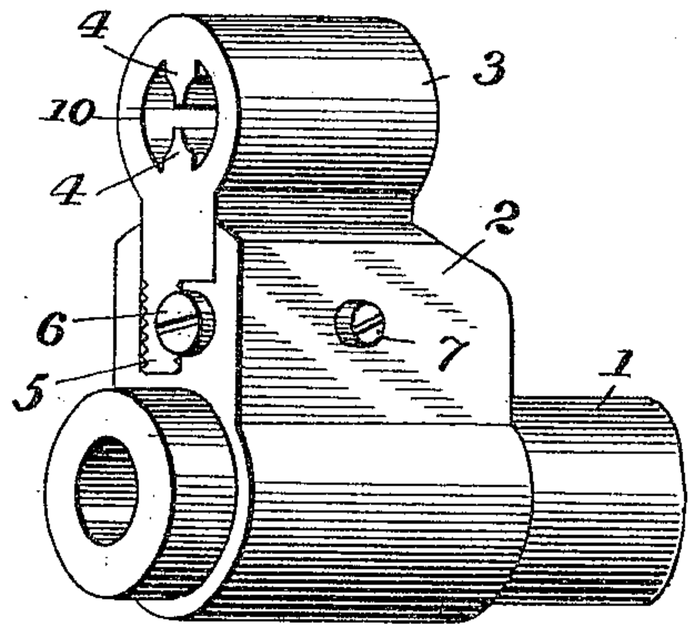



*Fig. 2*

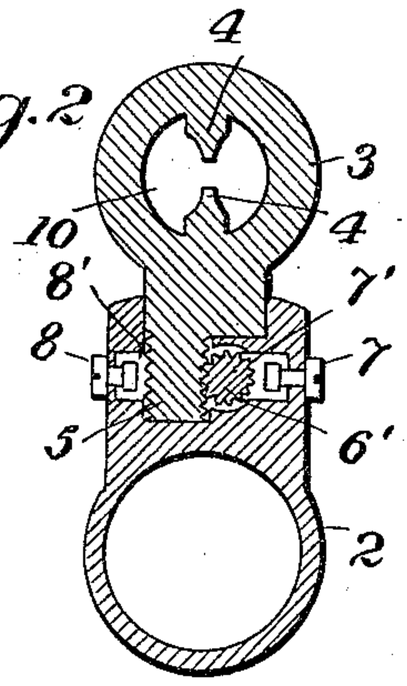



*Fig. 3.*


*Fig. 4.*

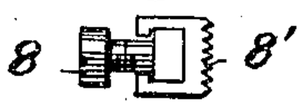



*Fig. 5.*

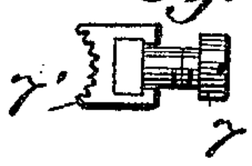



*Fig. 6.*

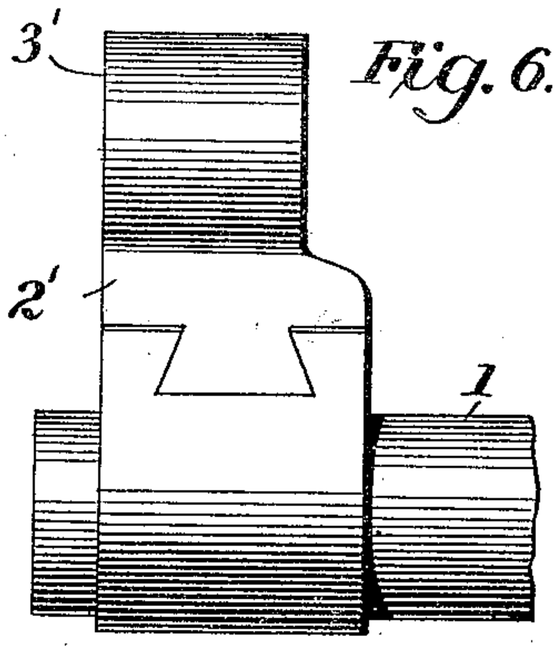



*Fig. 8.*

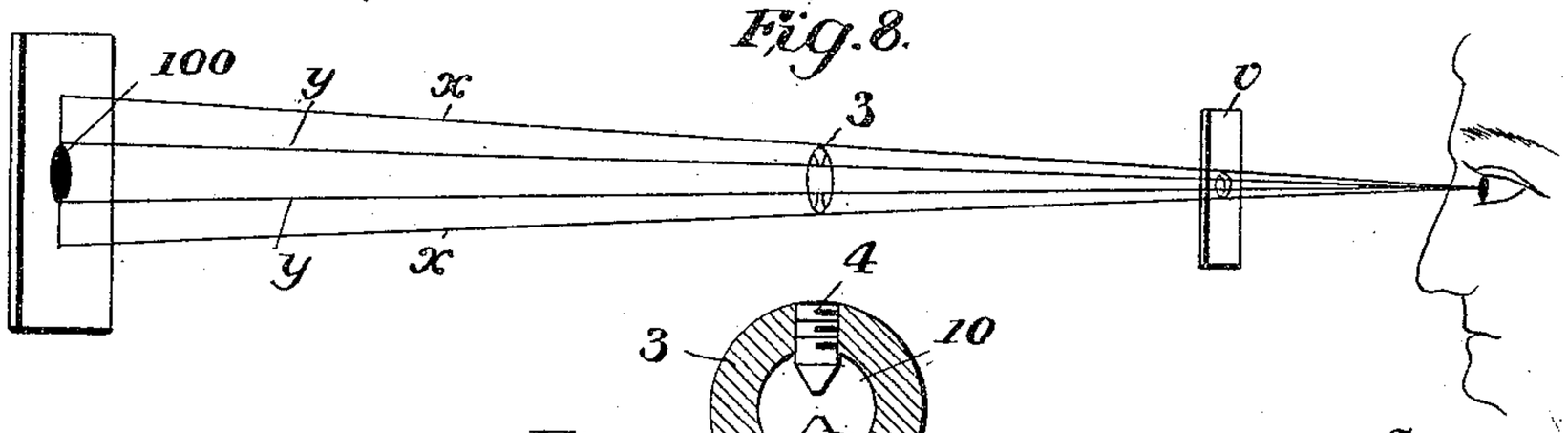
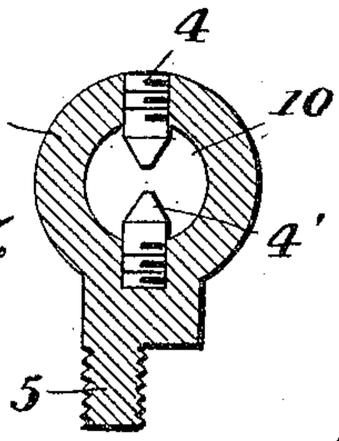



*Fig. 7.*




Witnesses

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# UNITED STATES PATENT OFFICE.

DAVID L. ROSCOE, OF THE UNITED STATES ARMY.

## GUN-SIGHT.

No. 909,941. Specification of Letters Patent. Patented Jan. 19, 1909.

Application filed September 22, 1908. Serial No. 454,136.

*To all whom it may concern:*

Be it known that I, DAVID L. ROSCOE, second lieutenant, United States Army, citizen of the United States, residing at Gallatin, in the county of Sumner and State of Tennessee, have invented certain new and useful Improvements in Gun-Sights, of which the following is a specification.

This invention relates to gun sights and more particularly to front sights for rifles.

The front sight now in use on most military, and other rifles, is so constructed that there is no means whereby to accurately measure the amount of sight which is to be brought into alinement with the bull's-eye of a target, or other object, and in order to center the sight on the object a great amount of judgment and skill are required. This difficulty is principally due to the fact that most front sights partly obscure the object being aimed at, so that in the case of a large bull's-eye it is almost impossible to locate the center thereof by the sight, and is also due to the fact that with the present arrangement on bright days, one instinctively takes a finer sight than on dark or dull days.

An important object of this invention is to so construct a front sight for guns that a bull's-eye or other object may be accurately centered thereby, and in such manner that one can measure the proper amount of front sight for a given bull's-eye, or other object, and take exactly that same amount of sight every time.

Another object of this invention is to provide a front sight for guns which will be so constructed as to accurately center a bull's-eye, or other object, and which may be set to suit an average marksman for a bull's-eye of a given size and for a known range, but is capable of adjustment in a simple manner, if found necessary, to make the usual graduations on the rear leaf sight approximately correct.

With the above and other objects in view, as will hereinafter appear, my invention consists in a front sight so constructed and arranged that the same is inclosed in an opening, preferably circular, whose diameter subtends the same angle, or an angle not less than, the usual small peep sight opening in the rear sight, the vertex of such angle being at the eye, thus affording the same field of vision as said opening, and in providing in said front sight opening two projections which are vertically arranged and extend towards the center of the opening, the projections being separated a suitable amount whereby, when the front sight is set a proper distance from the rear sight, the terminal points of the projections will subtend the same angle (whose vertex is at the eye), as a bull's-eye of a given size, at a known range, whereby a marksman is enabled to accurately encompass the bull's-eye between the two points, each point being tangent to the upper and lower edges of said bull's-eye, respectively. The bull's-eye thereby remains entirely in view, instead of being partly obscured by the front sight, as heretofore, and the front sight is protected without the necessity of a front sight cover as an extra piece, as is required at present.

My invention further consists in providing a front sight so constructed as to accurately center a bull's-eye, with a simple form of adjusting mechanism to vary the elevation of the sight as hereinafter more particularly described.

In the accompanying drawings, in which like characters of reference denote like parts throughout the several views:—Figure 1 is a perspective view showing the improved front sight attached to a rifle. Fig. 2 is a vertical cross-sectional view through the front sight. Fig. 3 is a detail view of the spindle to adjust the elevation of the sight. Figs. 4 and 5 are detail views representing the set-screws for holding the spindle and sight in adjusted position. Fig. 6 is a side elevation of an alternative construction to attach the front sight to a rifle. Fig. 7 is a vertical sectional view illustrating a modification. Fig. 8 is a diagrammatical view illustrating the principle of the invention.

Each of the several views is drawn on a slightly enlarged scale.

In the drawings, 1 represents the front end of the barrel of a military rifle, or other firearm, to which is applied my improved front sight comprising the parts 2 and 3. The part 2, hereinafter referred to as the base of the sight, is preferably shrunken on to the barrel, and as herein shown is recessed to receive adjustably the shank 5 of the upper portion of the sight, said shank having preferably upon its opposite sides longitudinal teeth or ribs.

The base of the sight 2 is longitudinally bored from end to end, to afford a bearing

for the spindle 6, the same having the teeth 6′ thereon to engage the teeth upon one side of the shank 5. This spindle preferably extends entirely through the base 2, and has upon each end a slotted head whereby it may be engaged and turned by an ordinary screw driver. A set-screw 7, having swiveled thereon a head 7′, plays in a hole tapped in the base 2, the head 7′ being, as shown, curved to agree with the curved surface of the spindle 6, and having teeth thereon to engage the teeth upon the spindle, whereby to securely hold said spindle in its different positions of adjustment. A similar set-screw 8, having a swiveled head 8′, is rotatably mounted in an aperture upon the opposite side of the base 2, said head having a toothed surface to engage the teeth upon the opposite side of the shank 5 to that which is engaged by the corrugations on the spindle 6. By this construction, the upper part 3 of the front sight may be readily adjusted, up or down, and reliably secured in any of its positions of adjustment.

The upper part 3 of the sight comprises the shank portion 5, which is preferably reduced and provided with the teeth, as above described, and the upper portion, herein shown as cylindrical in form and having an opening or bore 10, therethrough whose cross-section is preferably a circle, said opening being interrupted at diametrically opposite points by the projections 4, 4. Said projections extend in a vertical direction and terminate in points which are spaced apart a proper distance to enable the marksman to center the bull's-eye of a target, or other object, therebetween, as will be hereinafter more particularly described.

In the preferred construction, illustrated in Figs. 1, 2 and 6 of the drawings, the projections 4, 4 are in the form of ribs which extend entirely, or nearly, through the upper part 3 of the sight; and in practice I have found it best to make them approximately one-half inch in length in order to secure sufficient rigidity and durability, though of course the projections may be made of any length found desirable.

In Fig. 7 of the drawings, which illustrates a modification, the projections are in the form of screws, 4′, 4′, whereby they may be adjusted to vary the distance between their points to any desired degree. It is, however, preferable to find by experiment the proper distance to space the points apart and fix the projections at such distance, as in the form shown in Figs. 1, 2 and 6.

By referring to Fig. 8, the principle of this invention will be clearly understood. The front sight 2 is secured to the rifle barrel at such distance from the rear sight $v$ that the diameter of the opening 10 subtends the same angle as the peep-sight opening in the rear sight, as indicated by the lines $x$, $x$, the vertex of said angle being at the eye, thus affording the same field of vision; and the points terminating the projections 4, 4, subtend the angle of the periphery of the bull's-eye 100, as indicated by the lines $y$, $y$, the vertex of this angle being also at the eye. It will thus be seen that the bull's-eye is not obscured by the front sight, and may be accurately centered, and that when the sight is once properly adjusted as to elevation for a given range the marksman will know with certainty that his piece is in proper position when the bull's-eye is located centrally between the points.

In practice, it has been found best to have the two points a slightly greater distance apart than is required theoretically on account of the expansion of the metal due to the heating of the piece in firing. This would show a small margin of white between the edges of the object and the points of the projections, when the piece was cold, perhaps, but the same could be instantly detected by the marksman and the object centered properly between the two points.

In practice with this sight, it has been found that the angles subtended by an eight-inch bull's-eye at from two hundred to three hundred yards; by a twenty-inch bull's-eye from five hundred to six hundred yards; and by a thirty-six inch bull's-eye from eight hundred to one thousand yards, are nearly the same.

Fig. 6 shows how the improved front sight may be attached to the military rifle as at present in use in the U. S. Army without shrinking on a new band, the regular front sight thereon being removed and the improved sight being provided with a dovetail projection to engage the groove in the base of the old sight, as shown at 2′. Of course under this plan, the adjustable feature of the improved sight is eliminated.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. The combination with a front sight constructed with an opening and two vertical, diametrically arranged, separated projections, of a rear sight having an opening therein, said parts being so relatively positioned for a given range that when the diameter of the front sight opening and the diameter of the rear sight opening subtend an angle whose vertex is at the eye, the distance between said projections and the diameter of the bull's-eye or other object of definite size will subtend an angle whose vertex is also at the eye, whereby said bull's-eye or other object will be accurately centered and will be unobstructed by said front sight.

2. A front sight for guns comprising an elongated portion having a bore of circular cross-section and two vertically-disposed

spaced ribs therein extending substantially throughout the length of such portion, said ribs being diametrically arranged.

3. A sight for guns comprising a base constructed for attachment to a barrel and having a longitudinal aperture and a recess, in combination with an upper portion provided with an externally toothed shank to fit the recess, a toothed spindle fitting the longitudinal aperture in the base and engaging the teeth on the shank portion, and a toothed screw engaging the spindle to lock the same against movement.

4. A sight for guns comprising a base provided with a recess and a longitudinal aperture, in combination with an upper portion having a shank provided with teeth upon its opposite sides, a toothed spindle rotatably fitting the aperture in the base and operatively engaging some of the teeth in said shank, means to lock said spindle against rotation, and means to engage the other teeth in said shank, whereby the upper portion of the sight may be adjusted and effectively locked in adjusted position.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID L. ROSCOE.

Witnesses:
C. A. MASON,
CHARLES LOWELL HOWARD.