33-253. OR 1,406,620 SR

Draftsman

L. C. DEAR.

GUN SIGHT.

APPLICATION FILED OCT. 11, 1920.

1,406,620. **Patented Feb. 14, 1922.**

Fig. 1.

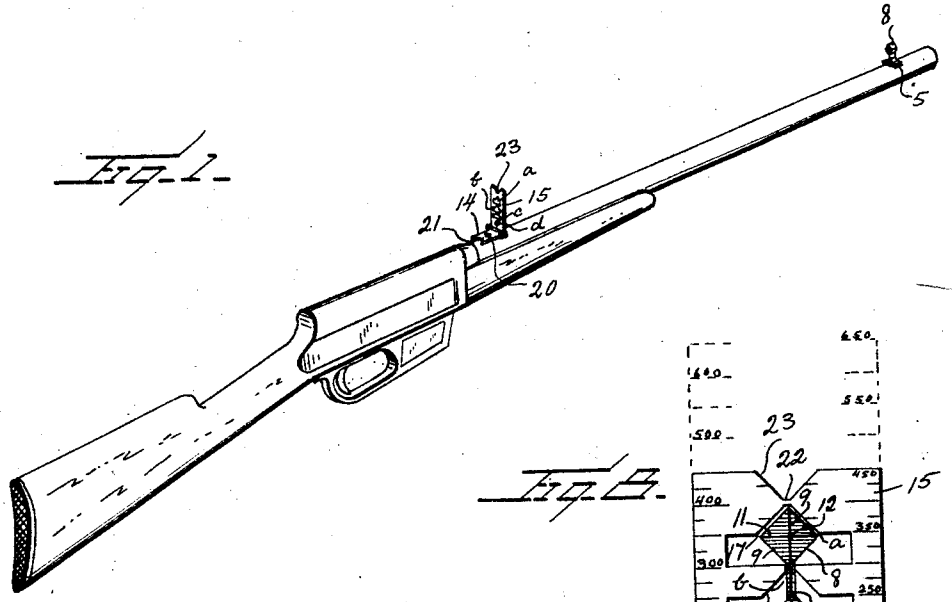


Fig. 3.

Fig. 7.

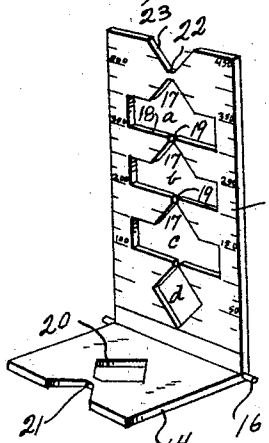


Fig. 2.

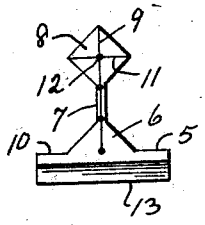


Fig. 4.

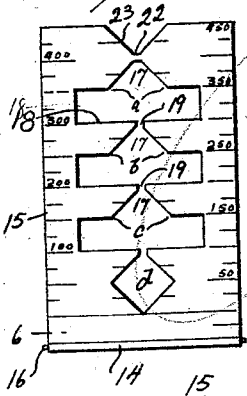


Fig. 5.

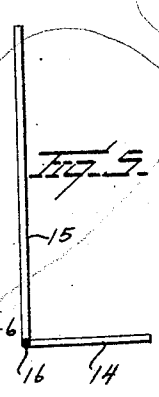


Fig. 6.

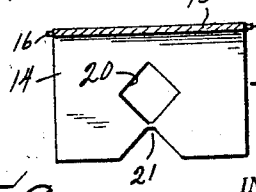


Fig. 8.

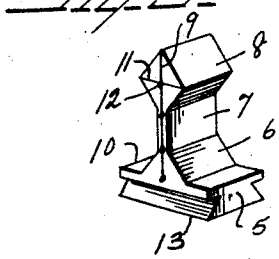
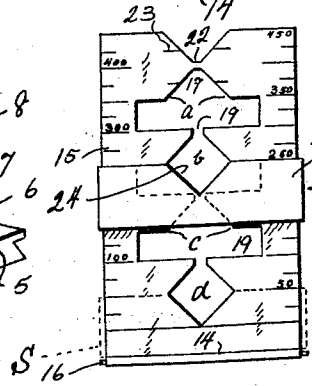


Fig. 9.



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UNITED STATES PATENT OFFICE.

LUKE C. DEAR, OF BUTTE, MONTANA.

GUN SIGHT.

1,406,620. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed October 11, 1920. Serial No. 416,123.

To all whom it may concern:

Be it known that I, LUKE C. DEAR, a citizen of the United States, residing at Butte, in the county of Silver Bow and State of Montana, have invented certain new and useful Improvements in Gun Sights, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to gun sights, and particularly sights of that class in which the foresight consists of a bead or like member and the rear or hind sight of a leaf having therein a plurality of openings through which the bead may be observed at different elevations of the gun barrel.

The general object of the present invention is to provide a sighting device for guns which does away with the necessity of having to raise or lower the rear sights for distance, as is now the case on long range sporting and army rifles, thus eliminating the loss of time incident to adjusting the sights, and the loss of good chances.

A further object is to provide fore and rear sights for a gun in which the foresight has a particular shape in cross section and the rear sight has a series of openings corresponding partially or entirely in shape to the cross sectional shape of the foresight so that in fine sighting the foresight may be brought into correspondence with the opening in the rear sight in such manner as to permit a thread or border of light to show around the upper half of the foresight.

A further object is to so form the rear sight that while the head or bead of the foresight is disposed into certain position with relation to the rear sight, the neck of the front sight will cut a certain opening in the rear sight, thus giving practically a double sight, and furthermore indicating plainly if the gun is canted to the least degree toward the right or left, or in other words if the gun is not being held properly.

Other objects will appear more fully upon a consideration of the detailed arrangement and construction of the sights.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a gun with my fore and rear sights applied thereto;

Figure 2 is a rear elevation of the foresight;

Figure 3 is a perspective view of the foresight shown in Figure 2;

Figure 4 is a face view of the rear sight;

Figure 5 is a side elevation of the rear sight;

Figure 6 is a section on the line 6—6 of Figure 4;

Figure 7 is a perspective view of the rear sight;

Figure 8 is a fragmentary elevation of a portion of a rear sight showing the manner in which the foresight coacts therewith under certain circumstances;

Figure 9 is a face view of a rear sight provided with a sight adapted to coact with the notches of the rear sight to form a diamond-shaped peep sight.

The foresight is constructed as illustrated in Figures 2 and 3, and comprises a base 5 having at its middle an upwardly extending, approximately triangular portion 6, an upwardly extending neck 7 extending from the apex of the triangular portion, and a bead 8 which is diamond-shaped in cross section. There is a vertically extending indented line 9 extending from the apex of the diamond-shaped bead 8 to the lower corner of the diamond-shaped bead along the neck and intersecting the triangular portion 6 and terminating at a point flush with the lateral shoulders 10. A transverse line 11 intersects the line 9 and the lateral corners of the diamond-shaped bead 8. These lines 4, 9 and 11 are preferably indented with a heavier indenture 12 at the center of the crossed line. These indented lines may be black against the steel color of the foresight, or they may be inlaid with ivory or gold or otherwise formed so as to be readily distinguishable. The lower end of the line 9 terminates in a relatively deep indenture 13. The lower end of the base 5 is constructed for connection with the barrel in the usual manner.

It will be noted that the neck 7 of the front sight has a vertical length equal to half the distance between the uppermost corner and the lowermost corner of the bead 8 and that the triangular or half diamond portion 6 of the base is one-half of the full diamond 8 so that from the apex of the sight to the shoulders 10 and the indenture 13 is equal to two full diamonds 8.

The rear sight is composed of two leaves 14 and 15. These leaves are disposed at right angles to each other, and mounted

upon trunnions 16. These trunnions in turn may be pivotally mounted upon the gun in any suitable or desired manner which will permit either leaf to be turned into a vertical position when the other leaf is turned to a horizontal position. Thus in all of my figures I have illustrated the leaf 15 as extending upward and the leaf 14 as lying flat upon the gun stock, but the arrangement is such that the leaf 15 may be turned into a horizontal position and the leaf 14 elevated. The leaf 15 is formed with four or more openings *a*, *b*, *c* and *d*. The openings *a*, *b* and *c* are alike in shape. The openings *a*, *b* and *c* extend transversely across the leaf 15 and on the upper side of each opening the opening is extended in the form of a triangle, as at 17, having an area half the size of the diamond-shape or square cross section of the bead 8, and the distance between the apex of each triangular portion 17 and the lower wall 18 of the openings *a*, *b* and *c* is equal to the vertical distance between the upper and lower corners of the bead 8. The fourth opening *d*, which is disposed adjacent the lower end of the leaf 15, is square or diamond-shaped, and the openings *a*, *b* and *c* might also be square or diamond-shape in place of having the form that they do, except that the lower halves of these openings *a*, *b* and *c* are laterally cut out or extended for quick sighting and shooting.

Between each of the openings *a*, *b*, *c* and *d*, there is a connecting opening 19. The leaf 14 has the depth of a diamond and a half, or in other words is the duplicate of the lower section of the leaf 15, and it is provided with a diamond-shaped or square-shaped opening 20 and a triangular opening 21. As illustrated, the leaf shown in Figure 4 is intended to be used at a range up to 450 yards. The 100-yard mark, as illustrated, comes at the base of the opening *c*, the 200 yards at the horizontal base of the opening *d*, the 300 yard mark at the horizontal base of the opening *a*, and the 400 yard mark at the neck 22 forming the top of the triangular portion 17 of the opening *a*. The upper end of the leaf is formed with a depending triangular opening 23. The opposite side of the sight is preferably marked for 50 yards. Thus it is marked with the numeral 50 immediately opposite the lateral corners of the opening *d*, the numeral 150 at the upper edge of the opening *c*, 250 yards at the upper edge of the opening *d*, 350 yards at the upper edge of the opening *a*, and 450 yards on a line slightly below the upper end of the sight. Of course, it will be obvious that this sight might be longer than is illustrated and be marked for any desired range, being provided with a corresponding number of openings *a*, *b*, and *c*. Between the marked graduations 100, 200, 300, 50, 150, 250, etc., there are on both edges of the leaf 15 the 25-yard graduations, and these graduations also are disposed to intersect the openings *a*, *b*, *c*, and *d*, as shown. The leaf 14 is to be used for all distances up to 150 yards.

It will be noted that the front sight is so constructed and has such dimensions relative to the rear sight that the sportsman has from three to four views through the back sight, at 50 yards apart each, at the same time and at the same elevation. In Figure 8, for instance, I have shown a view of the front sight seen through the leaf 15 with the gun elevated for a distance of 400 yards. It will be seen that under these circumstances the half diameter base 6 of the front sight takes in the space from 200 to 250 yards. The neck 7 extends from 250 to 300 yards, and the full diamond-shaped bead from 300 to 400 yards. The indented horizontal line 12 of the front sight comes even with the top edge of the opening *a*, and in raising or lowering the front sight for 100 yards, the indented horizontal line of the front sight will come even with the base line of the back sight opening *a*, *b*, etc., with the heavy indented dot at the intersection of the lines 9 and 12 at the open center of the back sight of this line. It will likewise be seen that the angles of the front sight and of the back sight conform to each other. For very fine sighting, as illustrated in Figure 8, the top corner of the bead 8 is brought up to the apex of the triangular portion 17 of any one of the openings *a*, *b*, *c* or *d*, and the top corner of the front sight will cut this opening 19, thus giving a thread of light around the upper half of the front sight, as clearly shown in Figure 8, while the neck of the front sight cuts the connecting opening of the triangular space below so that virtually one has a double sight.

It is to be understood that the half diamond or triangular portions 17 have at all times the same height, width and angle and define the same area for all the various openings *a*, *b*, *c*, etc., but that it is necessary that the distance between the bases of the several openings and the apices of the several triangular portions 17 should increase for each increase of range. This increase is taken care of by increasing the width of the transversely extended portions of these openings *c*, *b*, and *a*. In other words, the space between the 100-yard marks get wider apart as the distance of the target increases, and this increase of distance is provided for in the increased width of the base portions of the openings *c*, *b* and *a*, while the upper half of the opening, that is the triangular portion 17, is likewise the same. Thus it will be noted in Figure 4 that the distance between the 100 and 150 yards is slightly smaller than the distance between 200 and 250 yards, and that the distance between

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300 and 350 yards in turn is greater than the distance between 200 and 250 yards, that is these openings *c*, *b*, and *a* gradually increase in size from the bottom toward the top of the leaf. Of course it is to be understood that the relative sizes of the openings *a*, *b*, *c* and *d* and the bead 12, neck 7, and the triangular portion 6 of the foresight are such that when the foresight is in place on the extremity of the barrel and the back sight adjacent the rear end of the barrel, the square bead will accurately fill the space between the base of one of the openings *a*, *b*, etc., and the apex of said opening, as indicated in Figure 8.

It will be obvious that the least lateral inclination of the gun is noticeable, as if the gun is canted to any extent at all, the angles of the openings in the rear sight and the portions 6 and 8 of the foresight will not conform to each other, nor will the neck 7 be disposed in alignment with the openings 19. It is obvious that these sights may be extended to any distance that the explosive power of the gun requires, and it will be noted that the 25 yards and 50 yards marks on the rear sight are nearly as easily caught as are the 200 and 300-yard marks.

With this device there is no necessity for adjusting the sights for distance, but it is only necessary to adjust the distance to the target and the sights are all set for that distance. I do not wish to be limited to the specific details illustrated, as these may be modified in many ways without departing from the spirit of the invention.

The two especial features or advantages of this sight reside in the angular shape of the foresight and of the openings in the rear sight, and doing away with the necessity of vertically adjusting the back sight for extended distances. The apex or top corner of the front sight of the bead portion 8 is the marking point for distances on the rear sight.

In Figure 9 I have illustrated the rear sight as provided upon the end leaf 15 thereof with a vertical adjustable slide S having in its upper surface a triangular notch 24 adapted to coact with the notches *a*, *b*, and *c* to form a complete diamond-shaped peep sight, which may be utilized in sighting at any of the 100 yard graduations. It will be noted that the slide S when in the position shown in dotted lines in Figure 9 does not in any manner interfere with the sighting views at any of the ranges. The mounting of the slide upon the end leaf may be of any desired character and is preferably removable. With this slide a perfect peep sight may be formed through which the foresight will be observed with a thread of light entirely around the sight. The slide may be used to great advantage in the instruction of pupils in the use of the sight.

I claim:—

1. A gun having a foresight and a rear sight, the latter having a vertical series of openings conforming each at one portion to the shape of the foresight in rear elevation.

2. A gun having a foresight and rear sight, the latter having a vertical series of openings conforming each in its upper portion to the shape of the upper end of the foresight in rear elevation.

3. A gun having a foresight and rear sight, the latter having a vertical series of openings, the foresight being approximately diamond-shaped in rear elevation, and portions of the openings in the rear sight being triangular to conform in part to the angular shape of the foresight.

4. A gun having a foresight and a rear sight, the latter having a vertical series of openings connected along the vertical axis of the rear sight, the foresight having a bead approximately diamond-shaped in rear elevation, and the upper portions of the openings in the rear sight being triangular to conform to the angular shape of the upper portion of said bead.

5. A gun having a foresight and a rear sight, the latter having a vertical series of openings, the foresight having a triangular base portion, a relatively thin, vertical neck and a diamond-shaped bead, the openings in the rear sight having upwardly extending, triangular-shaped portions, the height of said openings from the apex of the triangular portion to the base of the opening being equal to the height of said bead and equal to the height of the triangular base portion and the neck.

6. A gun having a foresight and a rear sight, the latter having a vertical series of openings, the foresight having a triangular base portion, a relatively thin, vertical neck and a diamond-shaped bead, the openings in the rear sight having upwardly extending, triangular-shaped portions, the height of said openings from the apex of the triangular portion to the base of the opening being approximately equal to the height of said bead and approximately equal to the height of the triangular base portion and the neck, the foresight on its rear face having a vertically extending line cutting the center of the bead and extending to the base of the triangular base portion, and the bead having a transverse line from its lateral corners intersecting the first named line.

7. A gun having a foresight and a rear sight, the foresight having a bead diamond-shaped in rear elevation, a neck having a length equal to one half of the vertical height of the bead and a triangular base one-half the height of the bead, and the rear sight having a vertical series of open-

ings, each of said openings having a height approximately equal to the vertical height of the bead, each opening formed to provide an upper triangular-shaped portion approximately equal to one-half the depth of the bead, the lateral margins of the rear sight having distance graduations marked thereon.

8. A gun having a foresight and a rear sight, the foresight having a bead diamond-shaped in rear elevation, a neck having a length equal to one-half of the vertical height of the bead and a triangular base one-half the height of the bead, and the rear sight having a vertical series of openings connected on the vertical axial line of the sight, each of said openings having a height approximately equal to the vertical height of the bead, each opening formed to provide an upper triangular-shaped portion approximately equal to one-half the depth of the bead, the lateral margins of the rear sight having distance graduations marked thereon.

9. A gun having a foresight and a rear sight, the foresight having a bead diamond-shaped in rear elevation, a neck extending from the bead and having a length equal to one half of the vertical depth of the bead and a triangular base portion one-half the height of the bead, and the rear sight having a vertical series of openings, the lowermost opening being diamond-shaped and having an area approximately the same as that of the diamond-shaped bead as seen through the opening and having a series of openings above the diamond-shaped opening, each of said last named series of openings extending transversely across the sight and having at their middles and extending upward a series of triangular portions, the triangular portion of one opening being connected to the base portion of the opening above, each of said openings having a height approximately equal to the height of the bead as seen through the opening, and the triangular portion of each opening being approximately equal to one-half the height of said bead as seen through the opening, the rear face of the foresight being provided with a vertically extending line from the upper corner of the bead to the base of the sight, and the bead having a transversely extending line from its lateral corners, the rear sight having distance graduations upon its lateral margins.

10. A gun having a foresight and a rear sight, the foresight having a bead diamond-shaped in rear elevation, a neck extending from the bead and having a length equal to one half of the vertical depth of the bead and a triangular base portion one-half the height of the bead, and the rear sight having a vertical series of openings, the lowermost opening being diamond-shaped and having an area approximately the same as that of the diamond-shaped bead as seen through the opening and having a series of openings above the diamond-shaped opening, each of said last named series of openings extending transversely across the sight and having at their middles and extending upward a series of triangular portions, the triangular portion of one opening being connected to the base portion of the opening above, each of said openings having a height approximately equal to the height of the bead as seen through the opening, and the triangular portion of each opening being approximately equal to one-half the height of said bead as seen through the opening, the rear face of the foresight being provided with a vertically extending line from the upper corner of the bead to the base of the sight, and the bead having a transversely extending line from its lateral corners, the rear sight having distance graduations upon its lateral margins, each main line of the graduations being coincident with the base line of one of said openings, and each intermediate line being coincident with the upper margin of the laterally extending portion of the opening and the base of the triangular portion.

11. A gun having a foresight and a rear-sight, the latter having a vertical series of openings conforming at one portion to the shape of the foresight in rear elevation and a slide adjustably mounted upon said rear sight and embodying a notch adapted to selectively combine with the last named portions of the openings of the rear-sight to form a peep sight opening conforming to the shape of the foresight in rear elevation.

12. A gun having a foresight and a rear-sight, the latter having a vertical series of openings conforming each in its upper portion to the shape of the upper end of the foresight in rear elevation and a slide mounted upon said rearsight and provided at its upper edge with a notch adapted to selectively combine with the upper portions of the rear-sight, said notch conforming to the shape of the lower portion of the foresight in rear elevation.

13. A gun having a foresight and a rear sight, the latter having a vertical series of openings, the foresight being approximately diamond-shaped in rear elevation and portions of the openings in the rearsight being triangular to conform to the angular shape of the foresight and a slide adjustably mounted upon the rear sight and provided with a triangular notch adapted to selectively combine with the triangular portions of the openings of the rearsight to form a diamond-shaped peep sight opening.

14. A gun having a foresight and a rear-sight, the latter having a vertical series of openings connected along a vertical axis of the foresight, the foresight having a bead approximately diamond-shaped in rear ele-

vation, the upper portions of the openings in the rearsight being triangular to conform to the shape of the upper portions of said bead and a slide mounted upon said rear sight and vertically adjustable thereon, said slide being provided in the upper edge thereof with a triangular notch having the apex thereof downwardly directed and adapted to selectively combine with the triangular portions of the openings of the rearsight to form a diamond-shaped peep sight opening.

In testimony whereof I hereunto affix my signature.

LUKE C. DEAR.