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Aug. 6, 1946. H. F. MOSSBERG ET AL 2,405,512

FIREARM REAR SIGHT

Filed July 13, 1943 2 Sheets-Sheet 1

Fig. 1.

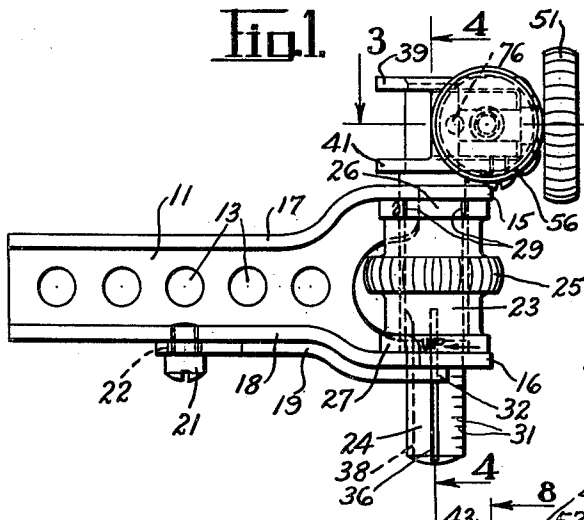


Fig. 2.

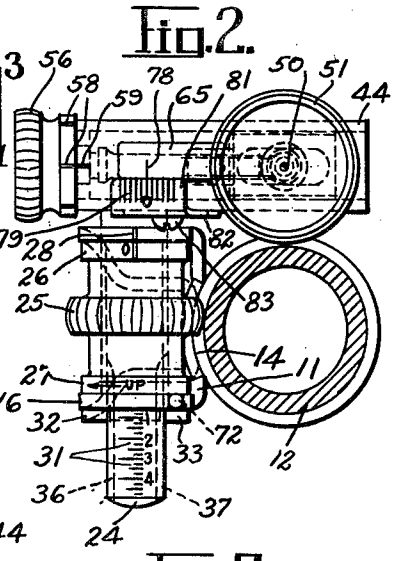


Fig. 3.

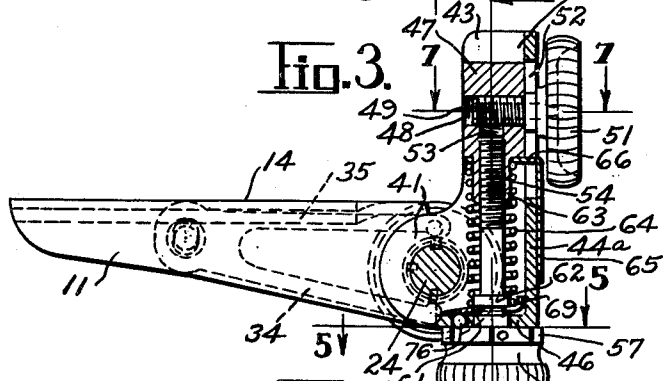


Fig. 5.

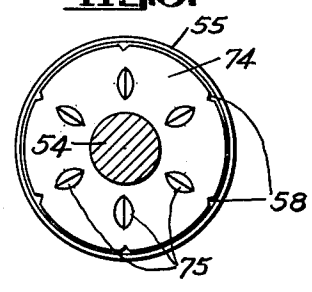


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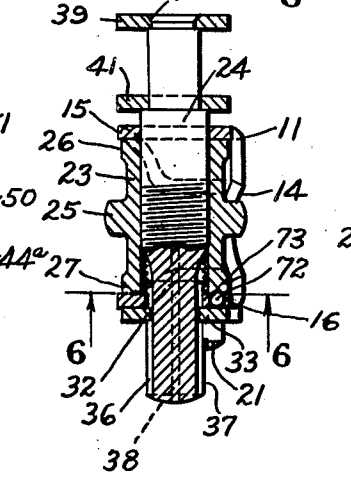


Fig. 6.

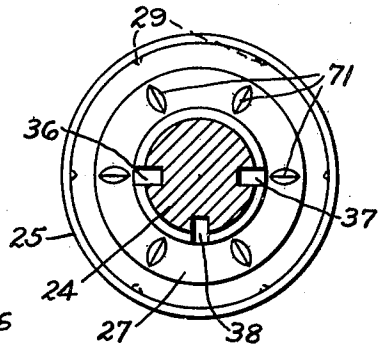
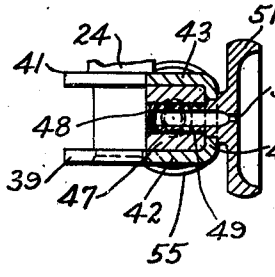


Fig. 7.



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FIREARM REAR SIGHT

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Fig.9.

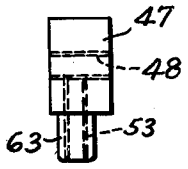


Fig.10.

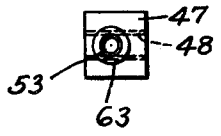


Fig.11.

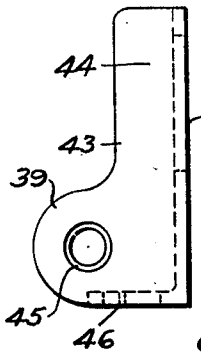


Fig.13.

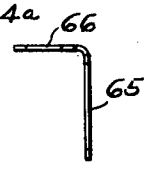


Fig.15.

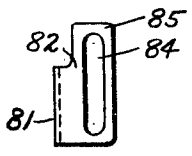


Fig.14.



Fig.12.

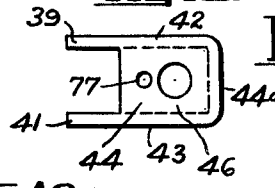


Fig.16.

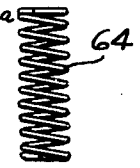


Fig.20.

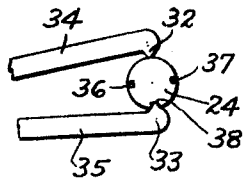


Fig.18.

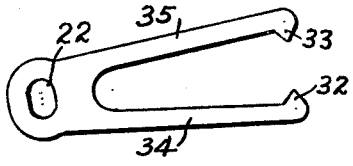


Fig.17.

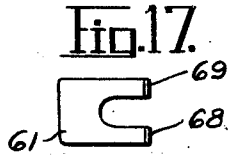


Fig.8.

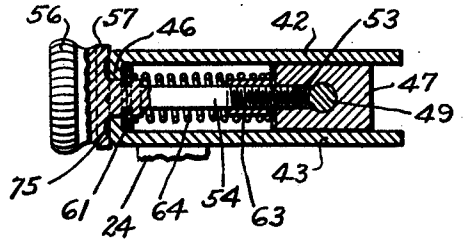
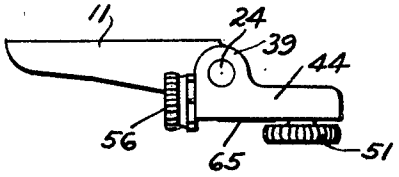


Fig.19.



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2,405,512

UNITED STATES PATENT OFFICE

2,405,512

FIREARM REAR SIGHT

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Application July 13, 1943, Serial No. 494,546

12 Claims. (Cl. 33—56)

1

This invention relates to improvements in firearm rear sights and more particularly to a rear sight having peep sight elevating, wind direction and velocity compensating means, and improved means to adjust said elevating and windage means, in its structure.

One object of this invention is to provide an improved form of firearm rear sight.

Another object is to provide in a sight of the above nature improved elevation and windage adjusting means for the peep disc of said sight.

A further object of this invention is to provide in a firearm rear sight improved manually operable means to elevate a peep disc holding frame and means carried by said frame to adjust the peep disc on the frame to compensate for wind direction and velocity.

A still further object is to provide an improved rear sight which will be relatively inexpensive to manufacture, simple in construction, compact, ornamental in appearance, and very efficient and durable in use.

With the above and other objects in view, which will appear as the description proceeds, there has been illustrated in the accompanying drawings, a form in which the invention may be embodied in practice.

In the drawings:

Figure 1 is a side elevational view of a firearm rear sight embodying the features and principles of this invention;

Figure 2 is a rear elevational view of the same;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a sectional view taken on the line 4—4 of Figure 1;

Figure 5 is an enlarged sectional view taken on the line 5—5 of Figure 3;

Figure 6 is an enlarged sectional view taken on the line 6—6 of Figure 4;

Figure 7 is a broken sectional view taken on the line 7—7 of Figure 3;

Figure 8 is a broken sectional view taken on the line 8—8 of Figure 3;

Figures 9 and 10 are top and end views respectively of the peep disc holding slide of the sight illustrated;

Figures 11 and 12 are top and end views respectively of the peep disc carrying frame;

Figures 13 and 14 are top and end views respectively of the slide cover of the sight illustrated;

Figure 15 is a bottom view of an adjustable windage scale piece of the sight illustrated;

Figure 16 is a detail view of a coiled spring used in the sight illustrated;

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Figure 17 is a side view of a spring washer used for the sight illustrated;

Figure 18 is an underside view of a dog spring for the sight illustrated;

Figure 19 is a top view of the sight illustrated with certain of the parts swung into another position and being of smaller scale; and

Figure 20 is an enlarged bottom view showing the relationship between the dog spring and the elevation adjusting spindle when the parts of the sight are in the position shown in Figure 19.

Referring now to the drawings wherein like components are designated by like reference numerals throughout the several views, the numeral 11 denotes a base member adapted to be secured to the side of a barrel, or receiver, 12 of a firearm in any desired position by screws (not shown) passed through selected openings 13 and screw-threaded into the firearm part, such as the barrel, or receiver 12. The base member 11 is arranged to extend along the barrel, or receiver, 12, being formed on one surface 14 to conform and fit the surface conformation of the part to which it is secured, so that a tight and rigid fit will be obtained between them.

The base member 11 is bifurcated at its rear end to provide spaced apart horizontally disposed ears 15 and 16 which extend from the base member 11 substantially at right angles to the surface 14. Top and bottom flanges 17 and 18, respectively, extend forwardly from the ears 15 and 16 and outwardly from the surface 14 to strengthen the base member 11, the bottom flange 18 being adapted to support a dog spring, 19, and to have the same secured thereto at its forward end, by a screw 21. The screw 21 passes through a transversely elongated hole 22 provided in the dog spring 19 and screw-threads into the flange 18.

An elevation adjusting sleeve nut 23 is disposed between the ears 15 and 16 and threadingly engages a vertically disposed elevation adjusting spindle 24. The vertical spindle 24 is adapted to pass through and protrude above and below the ears 15 and 16 respectively. The sleeve nut 23 is provided with an annular knurled rib 25 intermediate its ends whereby it may be readily rotated on the spindle 24 to cause the latter to be adjusted vertically. The upper and lower ends of the sleeve nut 23 are provided with annular rings 26 and 27 respectively on the peripheral surface of which suitable indicia is provided to indicate the amount of rotation, and the direction of rotation, respectively, to be given the sleeve nut 23 for the desired adjustment of the spindle 24, a line 28 being provided on the peripheral edge of the

upper ear 15 for comparison with the indicating lines 29, provided on the upper ring 26. Indicating lines 31 are also provided on the peripheral surface of the lower end of the spindle 24 for comparison with the lower edge of the ear 16 to indicate the elevational range at which the spindle may be adjusted. Each line 31 may represent one revolution of the sleeve nut 23.

The spindle 24 is prevented from rotation, while the sleeve nut 23 is being rotated, by pointed ends 32 and 33 provided on spaced apart and rearwardly extending arms 34 and 35 respectively, of the dog spring 19. The pointed ends 32 and 33 engage the spindle 24 in axially extending diametrically opposite grooves 36 and 37 respectively, provided in the outer surface of the lower end of the spindle 24. A third groove 38 is provided in the spindle 24 to be engaged by the pointed end 35 when the spindle 24 is manually rotated to position the parts as shown in Figure 19.

The upper extending end of the spindle 24 passes through lugs 39 and 41 extending respectively from upper and lower horizontally and forwardly directed flanges 42 and 43 of a frame member 44, and is riveted over at its upper end into a countersink 45 to firmly secure the frame 44 to the spindle 24. The frame 44 is provided with a rear wall 44a joining the rear edges of the flanges 42 and 43, and an end wall 46 joining the flanges 42 and 43 and the lugs 39 and 41. A slide 47 is slidingly disposed in the frame 44 between the flanges 42 and 43 and has a threaded hole 48 provided therein directed across the same substantially parallel to the axis of the firearm barrel, or receiver, 12. The threaded hole 48 is adapted to threadingly receive a threaded shank 49 of a sighting member herein shown as being a peep disc 51 having a peep hole, 50. The shank 49 passes through an elongated opening 52 provided in the wall 44a of the frame 44 wherein the shank 49 is adapted to slide in a horizontal plane substantially at right angles to the axis of the firearm barrel, or receiver, 12 whenever the slide 47 is so adjusted.

The slide 47 is also provided with a threaded opening 53 into which the threaded end 54 of a windage adjusting screw 55 is screw-threaded. The threaded opening 53 is substantially at right angles to the threaded hole 48 whereby rotation of the screw 55 will move the slide 47 and with it the peep disc 51 in the direction desired for windage adjustment. The screw 55 passes through the end wall 46 of the frame 44 and is provided with a knurled head 56 and an annular ring 57, the latter being adjacent to the end wall 46 and having indicating lines 58 thereon for comparison with a line 59 provided on the adjacent end of the wall 44a of the frame 44. The screw 55 is prevented from movement through the end wall 46 by a spring washer 61 which is bifurcated to straddle the screw 55 between the inner surface of the end wall 46 and an end surface of a collar 62 formed on the screw 55. The end surface of the collar 62, engaged by the spring washer 61, forms a shoulder which faces and is spaced from an end surface 74 of the screw head 56.

The slide 47 has a cylindrical portion 63 extending therefrom axially in respect to the screw 55, toward the end wall 46. A coiled spring 64 is disposed about the slide portion 63 and reacts between the slide 47 and the end wall 46 to firmly maintain the slide 47 in its windage adjusted position. A sheet metal slide cover 65 is provided having an end 66 bent at right angles to its body portion and disposed between the flanges 39 and 41. The end 66 of the cover 65 is provided with a hole 67 whereby it may be slipped over the portion 63 of the slide 47 and be disposed in between the spring 64 and the slide 47 to be firmly held in place by the spring 64. The spring 64 reacts against the spring washer 61 and cooperates with bent up ears 68 and 69, provided on the washer 61, to lock it in place and to assist in its spring action to be hereinafter described.

The sleeve nut 23 is provided upon and in its lower end surface with a plurality of equally spaced apart and radially directed notches 71, in this instance there being an equal number of notches 71 and indicating lines 29, one notch being in radial alignment with one line. A ball 72 disposed in a hole 73, provided in the ear 16 of the base member 11, is adapted to seat in each of the notches 71 by spring action of the pointed end 33 of the dog spring arm 35 thereagainst. This action is such that the user will feel the amount of rotation given the sleeve nut 23 and the sleeve nut 23 will be releasably locked in its adjusted position. The elevational adjustment so indicated by feel, or by visually comparing the line 28 with a line 29, is a fine, or delicate, one, substantially large elevational adjustments being indicated by comparison of the lines 31 with the edge of the lower ear, 16.

The screw head 56 is provided in and upon its inner end surface 74 adjacent the end wall 46 with a plurality of equally spaced apart and radially directed notches 75, in this instance there being an equal number of notches 75 and indicating lines 58, one notch 75 being in radial alignment with one line. A ball 76 is disposed in a hole 77, provided in the end wall 46, and is adapted to seat in each of the notches 75 by spring action of the spring washer 61 and the assistance of the coiled spring 64 acting through the spring washer 61. This action is such that the user will feel the amount of rotation given the windage screw 55, and this screw will be releasably locked in its adjusted position. The windage adjustment so indicated by feel, or by visually comparing the lines 58 with the line 59, is a fine, or delicate, one, substantially large windage adjustments being indicated by comparison of a line 78, provided on the slide cover 65, with indicating lines 79, provided on a portion 81 of an adjustable angle piece 82, adjustably secured to the frame 44 by a screw 83 which passes through an elongated opening 84 provided in a portion 85 of the angle piece 82 and screw-threads into the frame 44. One line 79 may indicate one revolution of the screw 55. The portion 81 of the angle piece 82 is substantially at right angles to the portion 85 and overlies the wall 44a of the frame 44 directly below and adjacent to the lower edge of the slide cover 65 while the portion 85 underlies the frame 44.

By the provision of the novel features and structure above described in a rear sight, the peep disc carrying frame 44 is swingable in respect to the sight base 11 into a releasably locked position substantially parallel to the barrel, or receiver, 12 to be out of the line of sighting, and into a position to avoid any possible interference with the use of other sights provided on the barrel, or receiver, 12. By swinging the frame 44 on the base 11 with the elevation adjusting spindle 24 as its pivot, the adjustments given to the windage adjusting screw 55 and to the elevation spindle 24 will not be disturbed when the frame 44 is swung out of sighting position, for instance, when

other sights are to be used or adjustments are to be made to the firearm or its parts. By positioning the indicating indicia, as shown, whereby they are substantially in the line of vision of the user, sighting adjustments may be quickly made without removing the firearm from its firing position.

It will be understood that the novel features and principles of this invention may be embodied in other specific forms without departing from the spirit and essential attributes thereof, and it is therefore desired that the present embodiment be considered in all respects as illustrative, and not restrictive, reference being had to the claims rather than to the foregoing description to indicate the scope of the invention.

Having thus fully disclosed the invention, what is claimed as new and for which it is desired to secure Letters Patent, is:

1. In a firearm sight, a base adapted to be secured to a firearm, a sighting member holding frame, a threaded spindle carried by said base and rotatably mounted therein, rotatable means engaging said base and threadingly engaging said spindle to elevate the spindle when rotated, said frame being carried by said spindle, resilient releasable means engaging said spindle to prevent said spindle from rotating in respect to said base when said rotatable means is rotated to elevate said spindle, and means acted upon by said resilient releasable means to engage said rotatable means to hold it from rotating when said spindle is rotated.

2. In a firearm sight, a base adapted to be secured to a firearm, a sighting member holding frame, a threaded spindle carried by said base and rotatably mounted therein, rotatable means engaging said base and threadingly engaging said spindle to elevate the spindle when rotated, said frame being carried by said spindle, and releasable means to prevent said spindle from rotating in respect to said base when said rotatable means is rotated to elevate said spindle, said releasable means being adapted to releasably lock said spindle in a predetermined position into which it is rotated.

3. In a firearm sight, a base adapted to be secured to a firearm, a sighting member holding frame, a threaded spindle carried by said base and rotatably mounted therein, rotatable means engaging said base and threadingly engaging said spindle to elevate the spindle when rotated, said frame being carried by said spindle, and releasable means to prevent said spindle from rotating in respect to said base when said rotatable means is rotated to elevate said spindle, said releasable means being springable and adapted to releasably lock said spindle in a predetermined position into which it is rotated, and means acted upon by said springable means to indicate to the user by the sense of feel the amount of elevational adjustment given to said spindle when said rotatable means is rotated.

4. In a sight for firearms, a base having spaced apart flanges, a threaded spindle extending through said flanges and rotatable therein, a sight member holding frame carried by said spindle, a threaded sleeve disposed between said flanges and threadingly engaging said spindle, rotation of said sleeve causing elevational adjustment of said spindle and frame, notches in an end face of said sleeve, a member adapted to engage said sleeve in said notches, and spring means acting against said sleeve notch engaging member to press said member into the notches, and against said spindle to releasably prevent rotation of said spindle in said flanges, when said sleeve is rotated.

5. In a sight for firearms, a base having spaced apart flanges, a threaded spindle extending through said flanges and rotatable therein, said spindle having axially extending grooves therein, a sight member holding frame carried by said spindle, a threaded sleeve disposed between said flanges and threadingly engaging said spindle, rotation of said sleeve causing elevational adjustment of said spindle and frame, notches in an end face of said sleeve, a member adapted to engage said sleeve in said notches, and spring means acting against said sleeve notch engaging member to press said member into the notches to releasably prevent said sleeve from rotating when said spindle is rotated in said flanges and thus maintain the elevational adjustment and engaging in the grooves in said spindle to releasably prevent rotation of said spindle, when said sleeve is rotated.

6. In a sight for firearms, a base, a frame mounted on said base, a sight member carried by said frame and slidable relatively thereto for windage adjustment, a windage adjusting screw carried by said frame for actuating said sight member, said screw having a notched surface and a stop member, a member adapted to engage said screw in the notches therein, and common spring means to engage said stop member to retain said screw in operable position on said frame and to press said member into said notches.

7. In a firearm sight, a base adapted to be secured to a firearm part, a sight holding frame, a threaded spindle depending from the frame and extending through the base, said spindle having peripherally spaced apart and axially extending grooves in its peripheral surface, a nut rotatable in the base and screw-threaded on said spindle, notches in an end face of said nut, a member adapted to engage said nut in the notches therein, and a spring member secured to the base and tensioned to press against said nut engaging member and to engage said spindle in the grooves therein.

8. In a firearm sight, a base adapted to be secured to a firearm part, a sight holding frame mounted on said base, a sight member slidably mounted on said frame, a screw having a notched face and a stop collar spaced from said face, said screw adapted to act on said sight member to slide it on said frame, a notch engaging member, and a spring member engaging said stop collar to retain the screw in place and reacting between it and said notch engaging member to press the member into a notch.

9. In a firearm sight, a base adapted to be secured to a firearm part, a sight holding frame mounted on said base, a sight member slidably mounted on said frame, a screw having a notched face and a stop collar spaced from said face, said screw adapted to act on said sight member to slide it on said frame, a notch engaging member, and a spring member bifurcated to straddle said screw adjacent said collar and being in engagement with said stop collar to retain the screw in place, said spring reacting between said collar and said notch engaging member to press the member into a notch.

10. In a firearm sight, a base adapted to be secured to a firearm part, a sight holding frame mounted on said base, a sight member slidably mounted on said frame, a screw having a notched

face and a stop collar spaced from said face, said screw adapted to act on said sight member to slide it on said frame, a notch engaging member, a spring member engaging said stop collar to retain the screw in place and reacting between it and said notch engaging member to press the member into a notch, a coiled spring reacting between said sight member and said spring member, an indicating member having a portion disposed between said coiled spring and said sight member to be held in place thereby and to move with said sight member secured to said frame in position to be compared with said first mentioned indicating member to show the amount of adjustment of said sight member.

11. In a firearm sight, a base adapted to be secured to a firearm part, a sight holding frame, a threaded spindle depending from the frame and extending through the base, said spindle having peripherally spaced apart and axially extending grooves in its peripheral surface, a nut rotatable in the base and screw-threaded on

said spindle, notches in an end face of said nut, a member adapted to engage said nut in the notches therein, and a spring member having arms straddling said spindle, the ends of said arms being adapted to engage said spindle in the grooves therein, one of said arms engaging said nut engaging member to press it into a notch therein.

12. In a firearm sight, a sight member holding frame, a sight member adjusting screw extending through a portion of the frame and having a notched first transverse surface on one side of the frame portion and a second transverse surface on the other side of the frame portion, a notch engaging member, and a spring washer disposed between the second transverse surface and the frame portion to retain the screw in place and being in engagement with said notch engaging member to press it into a notch.

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