Aug. 23, 1938. D. W. KING ET AL 2,127,565

RIB PISTOL AND REVOLVER SIGHT

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Fig. 1.

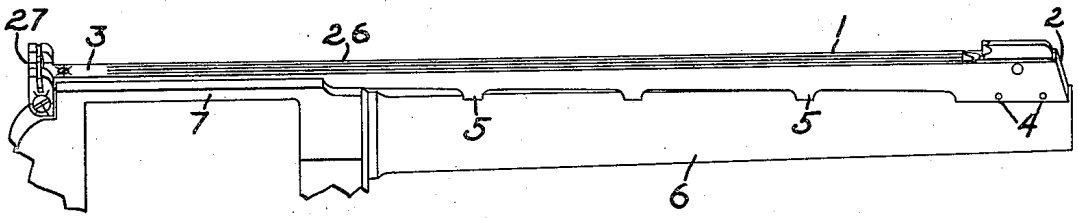


Fig. 2.

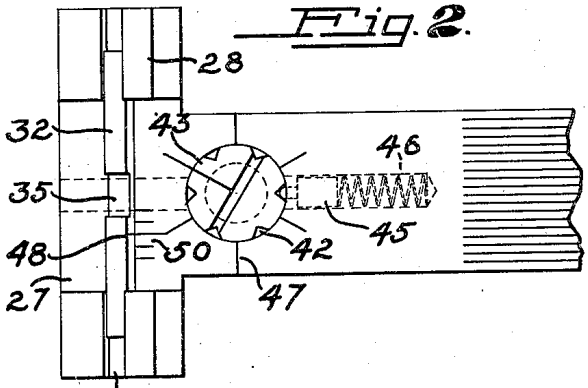


Fig. 3.

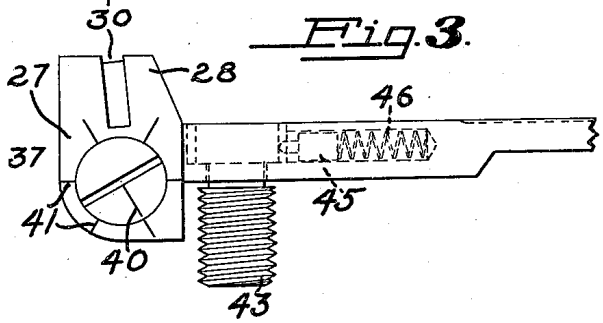


Fig. 4.

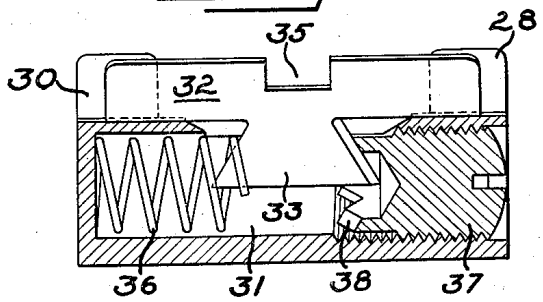


Fig. 5.

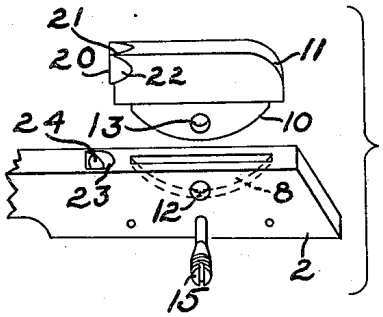
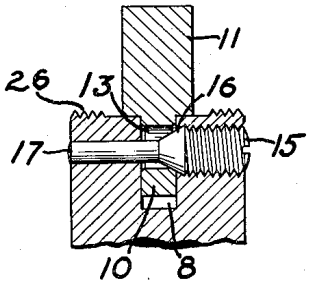


Fig. 6.



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ATTORNEYS.

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2,127,565

RIB PISTOL AND REVOLVER SIGHT

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Application November 11, 1936, Serial No. 110,235

9 Claims. (Cl. 33—56)

This invention relates to sights for firearms, and particularly to sights for pistols in the broad sense, i. e., to single shot and automatic pistols and revolvers.

Among the objects of our invention are:

To provide a sight-mount and sight assembly which serve as an aid to aligning the arm as it is brought up into firing position; to provide a mount for front and rear sights which holds the sights in adjustment regardless of the temperature of the barrel of the arm; to provide a rib sight-mount which is ventilated in order to reduce unequal heating and cooling effects on the barrel, and hence does not destroy the accuracy of the arm under conditions of rapid fire; to provide a sight-mount wherein the sights are maintained in their proper relative positions resiliently, so that if they be displaced by shock or otherwise they will return to their proper positions without destroying the accuracy of their setting; to provide a sight which is adjustable for range and windage, and wherein adjustments of known predetermined magnitude may be made by the sense of touch only, without sacrifice in the accuracy of such adjustment; and to provide a sight-mount and assembly which not only does not impair the appearance and balance of the arm, but actually improves these properties.

Our invention possesses numerous other objects and features of advantage, some of which, together with the foregoing, will be set forth in the following description of specific apparatus embodying and utilizing our novel method. It is therefore to be understood that our method is applicable to other apparatus, and that we do not limit ourselves, in any way, to the apparatus of the present application, as we may adopt various other apparatus embodiments, utilizing the method, within the scope of the appended claims.

Referring to the drawing:

Figure 1 is a partial perspective view of a revolver equipped with the sight of our invention.

Figure 2 is an enlarged fragmentary view showing in plan the rear end of the rib sight-mount of our invention, and the rear sight which forms a part thereof.

Figure 3 is a similar view showing in elevation the parts shown by Figure 2.

Figure 4 is a detailed sectional view, showing the construction of the rear sight.

Figure 5 is a detailed perspective view of the front end of the sight-mount, showing the method of assembling the front sight.

Figure 6 is a detailed sectional view through the front sight and rib.

Considered broadly our invention comprises a rib sight-mount which is secured to the barrel of the arm only adjacent to the muzzle thereof, i. e., at about the position where the front sight is ordinarily mounted. The rib extends backward along the barrel and is spaced therefrom by one or more abutments resting against the barrel or frame of the arm, but leaving an unsupported rear end which preferably extends into a groove milled into the frame of the arm which gives lateral support to the rib. The forward end of the rib carries the front sight, which may be of any convenient form, while the rear sight is mounted at the end of the projecting portion of the rib. Means are provided for flexing the rear end of the rib toward the arm against its own resiliency, these means preferably comprising a graduated adjusting screw which is notched or recessed to engage a detent so that adjustment of the screw is accomplished by known or predetermined increments. The rear sight proper comprises a notch or aperture formed in a slide which is mounted in a slotted lug carried by the rear end of the rib. A spring tends to force this slide laterally, but this lateral movement is resisted by an adjusting screw whose end is serrated so that the lateral adjustment of the slide also takes place by definite predetermined increments. Means are also provided for protecting the sight slide itself against accidental impacts or wear, and for retaining the slide within the slot.

The application of our invention to any form of small arm will be readily understood from the description of a preferred form as applied to a standard revolver and as illustrated in the drawing.

A rib **1** is preferably formed from a carbon steel having a spring temper, and tapers back gradually from the muzzle end **2** to the rear end **3**. It is secured at the muzzle end to the original sight with which the weapon is ordinarily provided, or (in weapons whereon our sight is provided as original equipment) to a lug fastened to the barrel in the same manner as the sight, by means of pins **4** passing through both rib and sight or lug. In mounting a rib on a pistol provided with ordinary sights, the original sight may be milled by a straddle mill to fit exactly into a corresponding recess in the bottom of the end abutment of the rib.

Spaced from the end abutment are one or more intermediate abutments **5**, whose lower surfaces are formed to fit against the barrel **6** of the pistol, and which serve to hold the main body of the rib away from the barrel but in fixed spaced relation thereto, to permit the circulation of air between the rib and the barrel so that the latter will cool

uniformly, and to permit expansion of the barrel without causing distortion due to the lesser degree of expansion of the cooler rib. The rear portion of the rib is unsupported, but extends backward into a groove milled in the frame 7 of the arm, this groove being accurately proportioned to receive the overhanging end of the rib and prevent any lateral motion thereof, and being of sufficient depth so that the rib does not normally press against the bottom of the groove, but is held away therefrom by its own resiliency, although the rib may so press at the forward end of the groove, which then forms the rear abutment.

Any desired type of front sight may be mounted on the muzzle end of the rib. A preferred form of mounting is that shown in Figures 5 and 6, a recess of approximately semicircular form 8 being milled in the muzzle end of the rib, to receive a tongue 10 of similar form which projects on the lower side of the sight body 11. A threaded hole 12 extends through one side of the rib into the recess 8, and a coaxial hole of smaller size continues through the other side of the rib. A corresponding chamfered hole 13 is formed in the tongue 10. The sight is held in place, as is shown in Figure 6, by a set-screw 15 having a conical end 16 and a projecting unthreaded pilot 17. The tongue 10 and hole 13 are so proportioned that when the sight is positioned the conical end 16 will bear against the chamfer, tending to force the tongue down into the recess 8 and will also force the tongue against the opposite side of the recess, definitely aligning and positioning the sight. The friction of the pilot 17 in its corresponding hole, particularly when the screw is slightly deformed by tightening it, prevents any loosening of the screw and loss or misalignment of the sight.

The sight may be made more visible by applying any desired form of ivory, gold, or colored bead to the body 11. We prefer, however, to use colored sights of a rectangular or "post" form, securing a bead to the sight body by drilling a conical hole therein, and cementing a translucent post 20 in this hole. The drilling of the conical hole or recess in the rectangular sight body results in the formation of points 21 which project to protect the corners of the sight, while the parabolic surfaces 22, formed by the intersection of the plane of the sight body with the conical recess, permit the entrance of light from the sides through the translucent post, thus rendering the sight more visible.

Further illumination of the front sight can be secured by forming a recess 23 in the rib slightly to the rear of the bead or post, and mounting a small circular mirror 25 at an angle of about 45° within this recess. The mirror receives sky light and reflects it back against the bead. Such a construction is described in Patent No. 1,982,058 to D. W. King. Specular reflection or glare from the surface of the rib may be prevented by forming therein fine parallel grooves 26.

The rib 1 carries at its rear end a transverse lug 27 which is provided on either side with upwardly extending ears 28. A slot 30 is formed through the ears and into the lug, in a plane transverse to the rib and preferably, although not necessarily, inclined slightly toward the rear of the slot. This slot extends down into a hole 31 formed horizontally to the lug, and threaded at its open end. The rear sight comprises a slide 32 which fits into the slot 30, the slide having a dovetailed tongue 33 projecting from its lower edge, and carrying a suitable aperture or notch 35 in its upper portion. The main body of the slide is preferably of such width that the ears 28 project slightly above it, thus preventing the slide itself from damage due to accidental blows.

In assembling the rear sight, a compression spring 36 is first inserted in the hole 31, and then the slide is placed in position. An adjusting set-screw 37, having a hollow point and serrations 38 formed in the edges of this hollow point, is next inserted. This screw preferably has an index mark 40 on its head, which corresponds to graduations 41 spaced around the hole 31 on the end of the lug. The graduations correspond in number to the serration 38. The spring 36 forces one end of the dovetailed tongue 33 into the hollow point of the screw and against the serrations, the spring itself engaging the other end of the tongue. The screw and spring together hold the slide firmly in place. Furthermore, the tongue 33 acts as a detent which prevents rotation of the screw after the sight has once been set. The thread of the screw, and the number of serrations around its hollow point, are preferably so proportioned that turning the screw past one serration corresponds to a deflection of the line of sight by a small predetermined amount, as, for example, one inch or one-half an inch, at fifty yards.

Besides this arrangement for compensating for windage, or for personal idosyncrasies in sighting, provision is made for adjusting for elevation or range. This comprises a counterbored hole 42 drilled through the rib, preferably just ahead of the lug 27, and aligned with a tapped hole in the frame 7 of the pistol. A flat-headed screw 43 passes through the rib and into the hole in the frame, the head of the screw flexing the rib to adjust the elevation. The screw 43 is preferably relieved so as to be free from threads just under the head, so that the rib may be sprung down until it hits the bottom of the groove in the frame without catching on the thread. A number of notches are preferably formed around the head of the screw, which are engaged by a detent 45 urged against the screw head by a spring 46, the detent and spring being mounted in a hole drilled axially in the rib. Graduations 47 around the hole 42 permit the elevation to be set and reset accurately, the screw thread and the notches and graduations again preferably being properly proportioned to cause a predetermined difference in elevation or impact point at some predetermined range, such as fifty yards.

In addition to the graduations on the screw 37, there are preferably provided on the slide and lug respectively an additional index line 48 and graduations 50, these graduations being spaced so that one turn of the screw 37 will move the slide laterally by an amount equal to one graduation.

It will be seen that this construction permits the ready replacement of both front and rear sights to accommodate various lighting conditions or preferences of the shooter. Any setting of the sight for either elevation or windage may readily be reset with the same or a different slide. Moreover, owing to the action of the detents, the setting may be made by the sense of touch only, the detents and notches or serrations forming a "click" that indicates each increment of adjustment. It has been found by experiment that this arrangement of sight and sight-mount is conducive to a high degree of continuing accuracy. The rear sight slide is protected, and its resilient mounting makes it insensitive to shock. It has been found that when an arm

provided with the sights and sight-mount as above-described has once been "targeted in", the arm may be dropped, or the barrel pounded against a fence post, and the original high degree of accuracy will remain unimpaired. The balance and appearance of the weapon are actually improved, for the greater thickness of the rib at the muzzle end gives weight where it is most needed and prevents the muzzle from throwing up when the pistol is discharged.

We claim:

1. The combination with a pistol of a sight comprising a rib of resilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a rear sight mounted on the rear end of said rib, and a graduated screw passing through the rear end of the rib and into said pistol for adjusting the degree of resilient separation between said rib and the rear end of said barrel.

2. The combination with a pistol of a sight comprising a rib of resilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a rear sight mounted on the rear end of said rib, a groove being formed in the frame of said pistol adjacent the rear end of said barrel to receive the free rear end of the rib and prevent lateral movement thereof, and a screw passing through the rear end of the rib and into said pistol for adjusting the degree of resilient separation between said rib and the rear end of said barrel.

3. The combination with a pistol of a sight comprising a rib of resilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a lug on the rear end of said rib having a slot formed therein in a plane transverse to the rib, a slide provided with a sighting aperture therein mounted in said slot, means for forcing said slide laterally, adjustable means for resisting lateral movement of said slide for determining the position of said sighting aperture, and means for retaining said slide in said slot.

4. The combination with a pistol of a sight comprising a rib of resilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a lug on the rear end of said rib having a slot formed therein in a plane transverse to the rib, a slide provided with a sighting aperture therein mounted in said slot, means for forcing said slide laterally, an adjusting screw having serrations thereon bearing against said slide to resist lateral movement thereof, and means for retaining said slide in said slot.

5. The combination with a pistol of a sight comprising a rib of resilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a lug on the rear end of said rib having a slot formed therein in a plane transverse to the rib, a slide provided with a sighting aperture therein and a dove-tail tongue projecting from the lower edge thereof mounted in said slot, a coil spring mounted horizontally within said lug and bearing against one side of said tongue, and an adjusting screw bearing against the other side of said tongue and having a hollow point receiving the dove-tail to retain said slide within the slot.

6. The combination with a pistol of a sight comprising a rib of risilient material fixed to the barrel of said pistol adjacent the muzzle thereof, the rear end of said rib tending to spring away from said barrel, a front sight mounted on the muzzle end of said rib, a lug on the rear end of said rib having a slot formed therein in a plane transverse to the rib, a slide provided with a sighting aperture therein and a dove-tail tongue projecting from the lower edge thereof mounted in said slot, a coil spring mounted horizontally within said lug and bearing against one side of said tongue, and an adjusting screw bearing against the other side of said tongue and having a hollow serrated point to retain said slide within the slot and coact therewith to form a click mechanism insuring lateral adjustment of said slide by predetermined increments.

7. In combination with a pistol, a rib sight-mount only secured to said pistol adjacent the muzzle thereof and projecting rearward along the pistol barrel, an abutment projecting downward from said rib intermediate its ends and resting against the pistol, leaving an unsupported rearwardly projecting end of said rib, front and rear sights mounted on said rib, and adjusting means for flexing said projecting end downwardly to vary the respective elevation of said front and rear sights.

8. A sight-mount for firearms comprising a rib adapted to fit along the barrel of the arm, means for securing said rib to the barrel adjacent the muzzle of the arm only, front and rear sights mounted on said rib, a plurality of spaced abutments projecting downwardly from said rib and adapted to engage the barrel and space the rib therefrom, leaving a rearwardly extending end of said rib unsupported, and means for flexing said end by predetermined amounts to vary the relative positions of said front and rear sights.

9. In combination, a firearms barrel having a slot therein, a sight having a tongue extending into said slot and a stop for deterring the degree of penetration of said tongue, the side walls of said slot, and said tongue being bored to provide alined set-screw apertures, and a set-screw having a threaded portion, a pilot portion and a conically surfaced portion between said threaded portion and said pilot portion, said threaded portion engaging one wall of said slot, said pilot portion entering the opposite wall of said slot, and said conical surface engaging the tongue aperture only.

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