33-253. OR 1,903,326 SR

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April 4, 1933. T. B. CRAWLEY 1,903,326

FRONT SIGHT FOR RIFLES

Filed Jan. 27, 1930

Fig. 1.

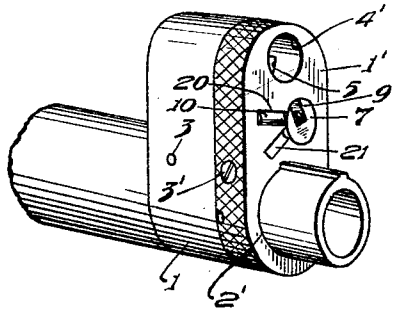


Fig. 2.

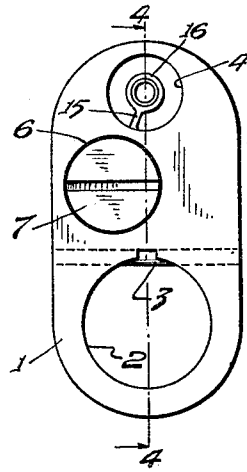


Fig. 3.

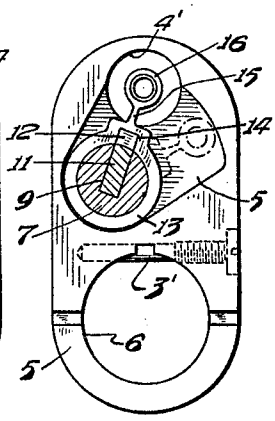


Fig. 4.

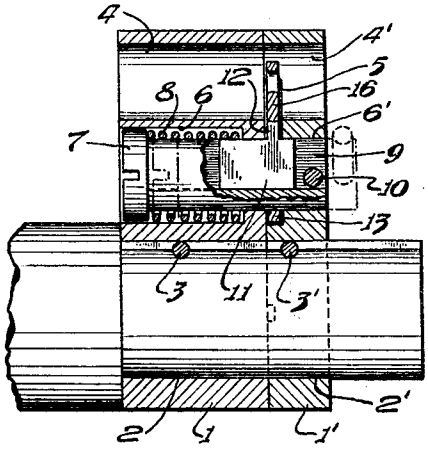


Fig. 5.

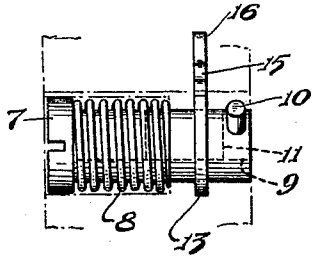


Fig. 6.

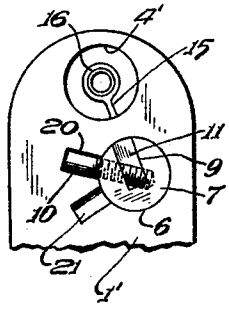


Fig. 7.

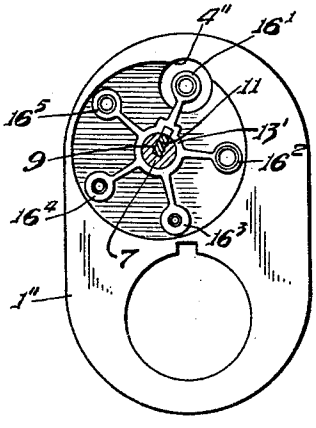
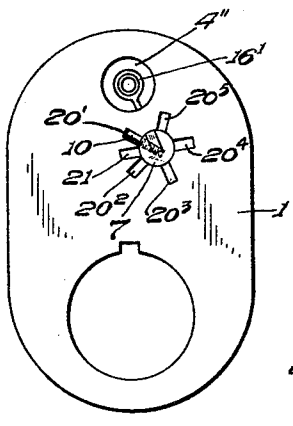


Fig. 8.



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INVENTOR
Theodore B. Crawley
BY Fitter & Fitter
His ATTORNEYS

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Search Room

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UNITED STATES PATENT OFFICE

THEODORE B. CRAWLEY, OF WEST POINT, KENTUCKY

FRONT SIGHT FOR RIFLES

Application filed January 27, 1930. Serial No. 423,799.

The invention relates to certain improvements in front sights for rifles and has for its object to provide a sturdy, durable primary sight, particularly adapted for military service rifles, including a base with a sight opening therethrough and an auxiliary sight associated with the primary sight, and preferably mounted in the structure of the latter for pivotal movement transversely therein, whereby the auxiliary sight may be moved into axial alignment with the primary sight opening or may be moved into the position in which it is completely housed and protected in the body of the primary sight, the auxiliary sight including a sight ring on the end of an arm, which latter, when the sight ring is moved into axial alignment with the primary sight opening, is at an angle to the vertical axis of the primary sight, so that a clear vision below the ring sight is provided.

An exemplification of the invention as applied to the present standard military rifle is shown in the accompanying drawing, in which:—

Fig. 1 is a perspective view of the sight secured to the end of the rifle barrel.

Fig. 2 is a rear elevation of the sight.

Fig. 3 is a rear elevation of the front base member.

Fig. 4 is a sectional elevation on the line 4—4 of Fig. 2.

Fig. 5 is a side elevation of the spindle and the auxiliary or ring sight arm.

Fig. 6 is a fragmentary front elevation of the sight.

Fig. 7 is a view corresponding to that in Fig. 3, showing a modification involving several auxiliary ring sights.

Fig. 8 is a front elevation of the sight shown in Fig. 7.

Referring to the drawing, the primary sight involves two body members 1, 1′ formed of steel having a generally flat sided ellipsoidal shape in vertical cross section, the rear base or body portion 1 having an opening 2 therein adapted to form a relatively tight fit with the end of the rifle barrel, to which it is secured by means of the usual seating rib on top of the barrel and a drift pin 3 which is driven in through an opening in the member 1 and traverses a transverse groove in the rib on top of the barrel or in the barrel itself. The upper part of the member 1 is provided with a longitudinal opening 4 circular in cross section.

The front section or base member 1′ is provided with a similar lower opening 2′ which registers with the opening 2 in the rear base member and is secured to the rifle barrel by a set screw 3′, the end of which engages a slot in the seating rib on top of the barrel or in the body of the barrel, as more particularly shown in Fig. 4. The front base member 1′ also has an opening 4′ registering with the opening 4 in the member 1, the two openings 4, 4′ constituting a relatively open front sight, when the two sections are rigidly secured to the rifle barrel and, as this circular sight orifice is relatively long, it will be apparent that, for shooting of the character other than fine target practice, it will suffice if the person using the rifle view the object to be hit through the large aperture, along the rifle barrel, thereby obviating the necessity for careful aiming, such as is necessary with the older types of rifle sights. However, the primary sight, consisting of the mating block sections 1, 1′, as hereinbefore described, is associated with a secondary or auxiliary sight, preferably including an arm pivoted for movement transversely within the body of the primary sight, said arm terminating in a ring sight adapted to be moved into axial alignment with the sight orifice constituted by the bores 4, 4′, or to be moved and housed wholly within the body of the primary sight, the movement of the auxiliary sight being effected within a sector-shaped recess 5, which is preferably formed in the rear face of the front base or body section 1′, the upper portion of said recess opening into the sight opening section 4′. Each of the sections 1, 1′ is provided with longitudinal bores or openings 6, 6′, respectively, which are in alignment and constitute a bearing for a spindle 7, one end of which is provided with a slotted head and the other end having formed therein a threaded bore to receive a locking pin 10. The rearward portion of the bore 6 is of larger diameter than the spindle 7 to accommo-

date a helical spring 8 which is confined between the shoulder between the larger and smaller diameters of the bore 6 and the head of the spindle 7, said spring serving to force the spindle longitudinally of the bore until it is arrested by the engagement of the locking pin 10 with the forward face of the front body portion 1'.

The spindle 7 supports the auxiliary or secondary sight and serves as a means for adjusting the latter to its operative and inoperative position with respect to the primary sight, the adjustment being effected by partial rotation of the spindle. In order to detachably secure the auxiliary sight to the spindle, said auxiliary sight is formed with a collar section 13, which is engaged by the spindle and is locked to the spindle to permit sliding movement of the latter by means of a detent or slide 11 engaging a longitudinal slot 9 formed in the body of the spindle, said slide having an upwardly extending finger 12, which engages a recess formed in the interior wall of the collar member 13. The auxiliary sight also includes a shank 15, which terminates in a relatively small annulus or ring sight 16. In the particular form of the invention shown, in which the shank 15 is radially disposed with respect to the collar section 13, the bores 6, 6' in which the spindle 7 is journaled are offset laterally with respect to the vertical axis of the primary sight or to one side of a plane passing through the longitudinal axes of the bores or openings 2, 2' and 4, 4', so that, when the ring sight 16 is moved into axial alignment with the primary sight aperture, formed by the bores 4, 4', the shank 15 will lie to one side of the vertical axis of the primary sight and thereby permit a clear vision below the ring sight 16, as more particularly shown in Figs. 2, 3 and 6. This disposition and arrangement of the auxiliary sight enables the user to get a clear view of the target through the ring sight and completely avoids the blurring or obscuring of the target by the shank, which is a common fault of the ordinary ring sight, when it is mounted on a shank normal to the axis of the rifle barrel.

In order to lock the auxiliary sight in its operative position and also in its inoperative position, the front face of the member 1' is provided with two slots 20 and 21 disposed radially with respect to the bore 6', into which the projecting end of the pin 10 snaps under the action of the spring 8 carried by the spindle 7. In order to adjust the sight to the two positions indicated, the spindle is moved longitudinally in its supporting bores against the tension of the spring by pressure applied to the head and the partial rotation of the spindle by the tool engaging the slot in the head of the latter, thereby forcing the pin 10 out of engagement with one of the slots, so that, when the spindle is released, the spring will retract the latter and snap the pin 10 into the other slot. During this longitudinal movement of the spindle, in either direction, the slot 9 in the spindle admits of the relative movement between the spindle and the slide 11, which connects the spindle with the auxiliary sight arm, without interrupting the operating connection between the slide and the sight arm.

When the auxiliary sight is adjusted to operative relation with the primary sight orifice, the auxiliary sight is rigidly held in this position, so that the ring sight 16 is in exact axial alignment with the primary sight orifice formed by the registering bores 4, 4', and, similarly, when the auxiliary sight is moved to its alternative position, so as to be wholly housed within the primary sight, as indicated in dotted lines in Fig. 3, is likewise locked against accidental displacement.

The primary sight is preferably formed of two sections, as indicated, so that the entire sighting mechanism may be disassembled for cleaning or repairs and then reassembled without the use of special tools other than a screw driver, such as usually forms part of the equipment furnished with a firearm of this character.

It will be particularly noted that all of the elements of the compound sight are of sturdy construction that will withstand even the rough usage of field service without danger of impairment and also that the more delicate auxiliary sight with its mounting and operating accessories are housed within the body of the primary sight, so that damage or impairment of any of these parts is practically impossible.

While for ordinary usage, the auxiliary sight will include only a single ring sight 16, it may be found desirable to provide the auxiliary sight with a number of ring sights of varying apertures, so as to adapt the sight for use in accurate firing at different ranges or at targets of varying sizes. Such a modification is illustrated in Figs. 7 and 8, in which the structure of the primary sight is substantially identical with that illustrated in the preceding figures, except that the body portion of the primary sight is made a little wider and the recess 5' in the rear face of the front member of the primary sight is made circular to accommodate the radiating or spider-like arrangement of the auxiliary sight, the latter comprising, in the instance shown, five radiating arms formed integrally with the central collar or hub section 13', the arms terminating in sight rings 16^1, 16^2, 16^3, 16^4 and 16^5, any one of which may be brought into axial alignment with the primary sight orifice by properly rotating the spindle 7, the primary sight being locked in any of its adjusted positions by engaging the pin 10 on the spindle 7 with an appropriate notch 20^1, 20^2, 20^3, 20^4 and 20^5, as more particularly

illustrated in Fig. 8. When it is desired to lock the auxiliary sight in inoperative position, in which none of the ring sights is in alignment with the primary sight orifice, the pin is engaged with the notch 20^1.

From the foregoing description, it will be apparent that the combination sight presents many novel features of construction and operation and presents many inherent advantages which are not to be found in any of the front sights heretofore in vogue. In the first place, the improved sight provides thorough protection for all vulnerable parts. It is particularly simple in construction and operation and requires no mechanical skill to mount, dismount or adjust, as these operations may be performed with a screw driver or a section of flat metal, and the adjustment may even be effected by the fingers of the operator by pushing the spindle against the tension of the spring thereon and turning the spindle by the locking screw with the fingers of the other hand. The parts require no fine fitting or machining to function properly and the accurate functioning of the parts is not impaired, if the parts become more or less worn. The application of the relatively fine ring sight or sights on the auxiliary sight member adapts the device to targets of varying sizes without special adjustment, other than bringing the particular ring sight into alignment with the primary sight orifice, when more than one ring sight is employed. By reason of the shielding of the auxiliary ring sight within the bore of the primary sight orifice, the device is admirably adapted to both weak and strong eyes, as all glare is eliminated and the target will be brought out in strong relief, even when at a great distance. The disposition of the shank of the ring sight wholly to one side of the vertical axis of the primary sight orifice provides a maximum field of vision around the target and avoids the blurring or obscuring of the target by the shank which would inevitably occur, if said shank were disposed in alignment with the vertical axis. The adjustment of the auxiliary ring sight in axial alignment with the bore of the primary sight orifice constitutes an arrangement calculated to insure correct sighting by means of concentric circles. The sight, as a whole, is conducive to natural form in shooting with or without the auxiliary sight, in that, in open shooting, the firer will know that he is on the target as soon as the same appears through the primary sight opening. When employed for fine shooting, including careful aiming at distant objects or targets, the auxiliary sight enables the user to get on the target in the shortest possible time, as his view of the target is practically unobstructed. The compound sight may be readily dismounted from one barrel and transferred to a similar barrel without the exercise of special mechanical skill or experience.

Although the sight has been illustrated and described as involving a base element adapted to surround and be locked to the end of the barrel of the standard service rifle, it is to be understood that the base may be so constructed as to be mounted upon and secured to the barrel by any other suitable means, without sacrificing any of the principal features of construction and operation of the sight.

What I claim is:

1. A front sight for firearms comprising a base having a sight aperture therein, an arm pivoted for movement within and transversely of the base and having a ring sight at its end of less diameter than said aperture adapted to be brought into axial alignment with the sight aperture with said arm at an angle to the vertical axis of the base to permit clear vision below the sight end of said arm.

2. A front sight for firearms comprising a base to be secured to the gun barrel and having a sight aperture therein, an arm pivoted for movement within and transversely of the base said arm including a shank having a ring sight on its end of less diameter than said aperture, and means for moving said arm to bring the ring sight into axial alignment with the sight orifice and the shank at an angle to the vertical axis of the base to permit clear vision below the ring sight.

3. A front sight for firearms comprising a base having an opening fitting the end of the gun barrel and a sight aperture above said opening, an arm pivoted for transverse movement relative to and within the base having a ring sight on its outer end, and means for locking said arm with the ring sight in axial alignment with the sight orifice in the base or with the arm housed within the base.

4. A front sight for firearms comprising a base divided transversely into front and rear sections each having registering openings fitting the end of the gun barrel and registering sight apertures above the barrel receiving openings, means for locking the sections to the barrel, a spindle mounted longitudinally of said sections, an arm connected to said spindle having a ring sight on its outer end, and means for locking said spindle with the ring sight of the arm in axial alignment with the sight orifice in the base or with said arm housed within the base.

5. A front sight for firearms comprising a base divided transversely into front and rear sections having registering openings to be engaged by the gun barrel and registering sight apertures therein, the inner face of one of said sections having a recess therein, means for securing the sections to the barrel, a spindle rotatably supported in the

base, an arm in said recess connected to the spindle within the base and having a ring sight on its outer end, and means for locking said spindle and arm with said ring sight in axial alignment with the sight orifice in the base or with said arm housed within the base.

6. A front sight for firearms comprising a base divided transversely into front and rear sections having registering sight apertures therein, means for securing the sections to the barrel, a longitudinally slotted spindle mounted for sliding and rotary motion in said base, an arm within the base having a collar surrounding the spindle on one end and a ring sight on the other end, a key in the spindle slot slidably connecting the spindle and arm, a spring interposed between the spindle and the base, and a pin on the end of the spindle, the base having slots therein to be engaged by said pin to lock the spindle and arm with the ring sight of the arm in axial alignment with the sight aperture in the base or with the arm housed within the base.

7. A front sight for firearms comprising a base divided transversely into front and rear sections having registering sight apertures therein, the front section having a recess in the face abutting the rear section, means for securing the sections to the barrel, a longitudinally slotted spindle mounted for sliding and rotary motion in said base, an arm in the recess of the front section of the base having a collar surrounding the spindle on one end and a ring sight on the other end, a key in the spindle slot slidably connecting the spindle and arm, a spring interposed between the spindle and the base, and a pin on the end of the spindle, the base having slots therein to be engaged by said pin to lock the spindle and arm with the ring sight of the arm in axial alignment with the sight aperture in the base or with the arm housed within the base.

8. A front sight for firearms comprising a base to be secured to the gun barrel and having a sight aperture therein, a spindle rotatably supported in and longitudinally of the base, radial arms connected to the spindle within the base and each having a ring sight on its outer end of less diameter than said aperture, and means for locking said spindle with any one of said ring sights in axial alignment with the sight aperture in the base or with all of said arms housed within the base and out of alignment with said sight aperture.

In testimony whereof I affix my signature.

THEODORE B. CRAWLEY.