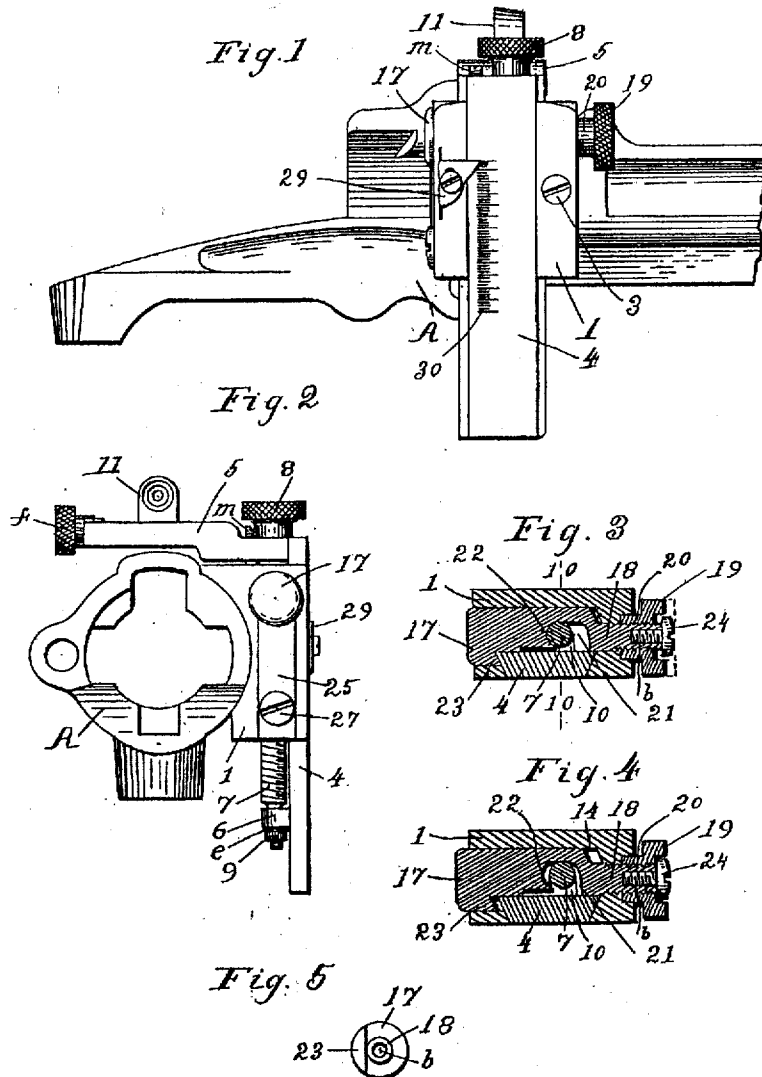


J. WINDRIDGE.
SIGHT FOR FIREARMS.
APPLICATION FILED FEB. 8, 1910.

997,726.

Patented July 11, 1911.

2 SHEETS—SHEET 1.



WITNESSES

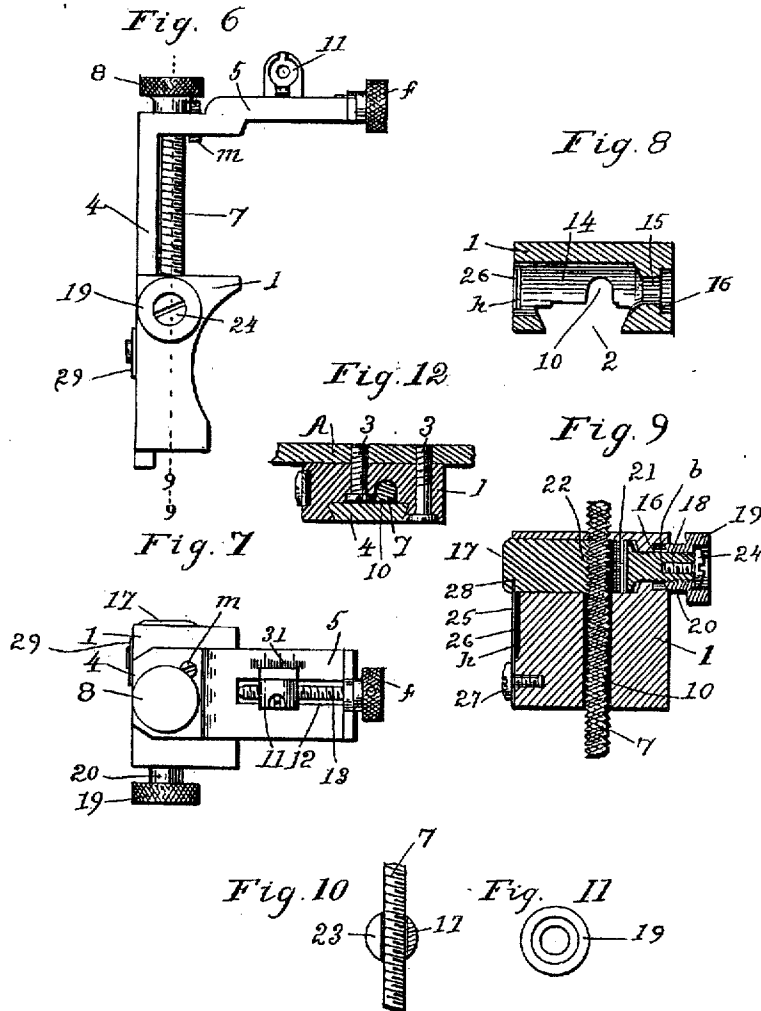
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2 SHEETS-SHEET 2.



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JAMES WINDRIDGE, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO THE LYMAN GUN SIGHT CORPORATION, OF MIDDLEFIELD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SIGHT FOR FIREARMS.

997,726.

Specification of Letters Patent. Patented July 11, 1911.

Application filed February 8, 1910. Serial No. 542,751.

To all whom it may concern:

Be it known that I, JAMES WINDRIDGE, of Middlefield, in the county of Middlesex and in the State of Connecticut, have invented a certain new and useful Improvement in Sights for Firearms, and do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to sights for firearms, and my object is to provide a gun sight in which will be embodied the desirable qualities of capacity for both rapid and fine, or close, adjustment; secure locking of the sight in the desired position of adjustment; simplicity and rigidity of construction; and parts of plain and easy construction that may be readily assembled and taken apart.

My invention consists in the combination, arrangement and construction of parts substantially as hereinafter described and claimed.

In the accompanying drawings forming a part of this specification—Figure 1 is a side elevation of my improved sight, shown mounted upon the receiver of a rifle; Fig. 2 is an end elevation of Fig. 1 viewed from the rear end of the receiver, and showing the sight as it is presented to the eye in the act of aiming a point blank position; Fig. 3 is a horizontal section on the central plane of the locking bolt with the parts in locked position; Fig. 4 is a similar section with the parts in unlocked position; Fig. 5 is an end view of the locking bolt; Fig. 6 is a front end view of the sight, or the reverse of Fig. 2, with the slide in elevated position; Fig. 7 is a plan view of the sight; Fig. 8 is a horizontal section of the sight base on the central plane of the locking bolt, as in Figs. 3 and 4; Fig. 9 is a vertical lengthwise section on the line 9—9 of Fig. 6; Fig. 10 is a cross section of the locking bolt on the plane 10—10 of Fig. 3; Fig. 11 is an end view of the clamping nut of the locking bolt; and Fig. 12 is a horizontal section through the sight and attached part of the receiver on the line 12—12 of the holding screws of Fig. 1.

My invention in the embodiment thereof illustrated in the drawings, is a receiver sight, or one mounted directly upon and attached to the receiver or frame of the arm, and in Figs. 1 and 2 of the drawings I show

such sight mounted upon the receiver of a Springfield rifle of the 1903 model. It is to be understood, however, that I do not restrict myself to the embodiment of my invention in a sight adapted to any particular model or make of firearm. The receiver A of the rifle shown is substantially cylindrical in its main cross section, and it is to such main section that the sight is attached, on the right hand side thereof, which is the most feasible position for the particular model of receiver here shown, but on most of the usual types of firearms it will be mounted on the left side, and without material alteration of its construction.

The base 1 of the sight is a simple block being of cubical configuration with square corners and plane surfaces throughout except that on the side which engages the receiver it is concavely curved to conform to the cylindrical shape thereof. In the face of the base, or side opposite the receiver, is a vertical guideway 2 of uniform dovetailed cross section having its least width at the surface of the block, as shown particularly in Fig. 8. The base is secured to the receiver in the present instance by two screws 3, inserted on the horizontal plane of the axis thereof, one of them passing through the block forward of the guideway 2, and the other being within the vertical plane of the guideway as shown in Fig. 12.

Fitted to move freely in the guideway 2 of the base is the vertical slide or sight limb 1 of similarly dovetailed cross section, and having the horizontal sight carrying arm 5 at its upper end, at right angles to the vertical part and overhanging the receiver. Journaled in an opening in said arm, and one in a lug 6 near the lower end of the slide on the inner side thereof is a vertical adjusting screw 7, arranged parallel with the slide, and held in place by the knurled head 8 on its upper end, bearing on the arm, and the nut 9 and washer *e* on its lower end, bearing on the lug 6. The adjusting screw is placed close to the slide, and the base is provided with a suitable groove 10 for its reception. The sight arm carries the peep sight 11 mounted thereon, in a groove 12 and adapted for wind gage adjustment laterally of the gun barrel by the screw 13 journaled in the arm, and engaging the sight, operated by the head *f* pinned there-

on, but said features are old and form no part of my present invention, nor require further description.

In the upper part of the base is a horizontal cylindrical chamber 14 parallel with the outer face thereof, and with the axis of the barrel, and extending entirely through the base from its rear to its forward side. It is of uniform diameter for the greater part of its length, but reduced to a smaller bore 15 at its forward end, which bore opens into a larger circular recess at the front face of the base to form an annular shoulder 16 at the bottom thereof. The chamber 14 intersects the guideway 2 as fully shown in Fig. 8, said intersection being of the shape of a segment, the chord of the arc of which coincides with the plane of the inner side of the groove.

The chamber 14 of the base receives the slide locking bolt or bar 17 having its forward end 18 of reduced diameter to fit the bore 15 and threaded to receive the locking nut 19, having its hub 20 bearing in the recess 16. In its construction, said locking bolt is drilled through transversely and screw threaded to fit and engage the adjusting screw 7, after which a clearance space 21 is milled away on the side toward the reduced part 18 leaving the threaded half bearing 22 for engagement of the screw, and the locking bolt is also milled away on the side away from the receiver to correspond to the guideway 2 and receive the slide 4.

The portion of the head of the bolt left intact thus provides a lip or abutment 23 as shown in Figs. 3, 4, 5 and 10, adapted to overhang and engage the slide when the threaded screw bearing 22 of the bolt is engaged with the adjusting screw 7 as shown in Fig. 3, and the clearance space 21 enables the locking bolt to be moved in its bearings sufficiently to disengage said lip from the slide, and also to disengage the threaded half bearing of the bolt from the adjusting screw, as shown in Fig. 4. The range of movement of which the bolt is capable is determined by adjustment of the locking nut 19, which when screwed up to bring its hub into contact with the shoulder 16 and draw the threaded half bearing 22 into engagement with the screw 7 and the lip 23 of the bolt into engagement with the slide, will rigidly lock all the parts in place, as shown in Fig. 8, or when screwed back from such position, as shown in Fig. 9 will permit the locking bolt to be pushed rearwardly to disengage the parts, as shown in Fig. 4. The locking nut is limited in its backward travel by a stop screw 24 screwed into the end of the locking bolt into the seat *b* therein. The locking bolt is normally held in engagement with the slide 4 and adjusting screw 7 by a leaf spring 25 situated in a groove 26 on the rear side of the base, se-

cured thereto at its lower end by the screw 27, and having its upper end engaging a slot 28 in the locking bolt, a certain amount of clearance space being provided under the spring for its movement. The tension of the spring is exerted in the direction of the base, and therefore will push the bolt toward the adjusting screw, but will yield under pressure in the reverse direction, and thus permit the disengagement of the parts.

The sight carrying arm 5 is shown as provided with a point blank screw *m*, and the sight is equipped with the usual indicator 29 and accompanying graduations 30 for registering the elevation, and the graduations 31 for wind gage, but these require no further description.

Constructed as above described and the function of the locking bolt having been hereinbefore set forth, the operation of this improved sight mechanism is as follows: Assuming the parts of the device to be adjusted and secured in a given position, as, for instance, at point blank, which position is determined by contact of the point blank screw *m* with the upper surface of the base, as shown in Fig. 2, in order to adjust the slide and its sight to a different position it will first be necessary to loosen the locking nut 19 sufficiently to relieve the slide in the guideway 2, for the lip 23 of the locking bolt is so placed that it will firmly clamp the slide in its bearings when the screw bearing 22 is pressed tightly into engagement with the thread of the adjusting screw. After the slide is thus slightly loosened in its bearings it may be raised or moved to any height by turning the adjusting screw 7. Such movement of the slide will be relatively slow, and is therefore calculated for fine and careful adjustment, or for adjustment through short distances only, though it may be moved by this method the whole length of the screw. In changing the position of the slide through a considerable space, or with more rapidity, the locking nut may be screwed back until there is sufficient space under it to permit the locking bolt to be moved entirely out of engagement with the adjusting screw 7, or to the dotted line in Fig. 3, and as shown in Fig. 9, when by pressing the nut against the tension of the spring the locking bolt will be entirely disengaged from the adjusting screw, and the slide will be free to be moved independently of the screw, by being pushed bodily in the required direction. By this method the slide may be instantaneously elevated or depressed approximately to the desired position, after which, by relieving the pressure on the locking nut 19, the locking bolt will be returned to engagement with the adjusting screw 7 by the force of the spring, and the required fine and exact adjustment can be obtained by use of the adjusting screw. The spring

will normally hold the locking bolt in engagement with the screw at all times, and it will not be necessary to lock the parts in engagement by means of the locking nut except when it is desired to guard against any possible change of elevation of the sight. Usually, when it is expected to make frequent or sudden change of the sight elevation, the locking nut will be left unused and in its retracted position, but it can be employed at will and readily thrown into use or disuse, as may become expedient. The advantage of the above features, combining instantaneous action and minute adjustment of the sight and the capacity of being quickly locked in position when required is of great importance in connection with the use of a gun sight. A construction which permits the ready removal of the slide from the base and replacement therein is also highly desirable. The simplicity of the mechanism throughout, consisting as it does of few parts of plain construction, which may be easily made, assembled, and cleaned, and are not liable to become deranged or worn, renders the sight highly advantageous. My sight is applicable to various classes of arm and style of model.

The relation of the bearing surfaces of the locking bolt respectively upon the adjusting screw and the slide to each other is such that the contact pressure of the threaded bearing upon the screw is practically the same as that of the lip of the locking bolt upon the slide but it is preferable that the bolt should bear slightly harder upon the slide than upon the adjusting screw. The particular model shown calls for the mounting of the sight upon the right hand side of the receiver, while most models of firearms are the reverse. The adaptation of the sight for right or left hand use, however, requires only corresponding change of construction.

While I have illustrated and described in particularity certain details of construction, it is to be understood that I do not restrict my invention to a sight having the particular details of construction set forth.

I claim—

1. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, and a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw.

2. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, and a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw and with the slide.

3. In a sight for firearms, the combination

of a base, a sight carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw, and locking means for fastening the locking member in such engagement with the adjusting screw and with the slide.

4. In a sight for firearms, the combination of a base, a sight carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw, and a spring for yieldingly holding the locking members in such engagement with the screw.

5. In a sight for firearms, the combination of a base, a sight carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw and an abutment engageable with the slide, and a spring for yieldingly holding the locking member in such engagement with the screw and slide.

6. In a sight for firearms, the combination of a base, a sight carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, a locking member movable in the base provided with a threaded bearing engageable with the adjusting screw, and an abutment engageable with the slide, and a screw for drawing the locking member into such engagement with the adjusting screw and slide.

7. In a sight for firearms, the combination of a base, a sight carrying slide vertically movable in the base, a vertical adjusting screw mounted upon and movable with the slide, a locking bar movable in the base transversely to the slide, having a threaded half bearing engageable with the adjusting screw and a lip or abutment engageable with the slide, and a spring acting between the base and locking bar to yieldingly hold the bearing parts thereof in engagement with the adjusting screw and slide.

8. In a sight for firearms, the combination of a base, a sight-carrying slide vertically movable in the base, a vertical adjusting screw mounted upon and movable with the slide, a locking bar movable in the base transversely to the slide, having a threaded half bearing engageable with the adjusting screw and a lip or abutment engageable with the slide, and a spring acting between the base and locking bar to yieldingly hold the bearing parts thereof in engagement with the adjusting screw, and slide and screw mechanism for drawing and holding the locking bar in engagement with the adjusting screw and slide.

9. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw, and means for drawing the bearing into contact with the screw and locking it in such engaged position.

10. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, an adjusting screw mounted upon and movable with the slide, and a locking member movable in the base and provided with a threaded bearing engageable with the adjusting screw and with the slide, and screw mechanism for drawing the locking member into and securing it in engagement with the screw.

11. In a sight for firearms, the combination of a base, a sight-carrying slide vertically movable in the base, a vertical adjusting screw mounted upon and movable with the slide, a locking bar movable in the base transversely to the slide, having a threaded half bearing engageable with the adjusting screw and a lip or abutment engageable with the slide, a spring acting between the base and locking bar to yieldingly hold the bearing parts thereof in engagement with the adjusting screw and slide, and a locking nut mounted on the locking bar for drawing the bar into engagement with the screw and locking it in such engaged position.

12. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, a slide-adjusting screw, and a bar having thread to cooperate with the screw, said bar being movable into and out of screw-engaging position, and said bar having a lip adapted to engage the slide when the bar is in screw engaging position.

13. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, a slide adjusting screw, a bar having thread to cooperate with the screw, said bar being movable into and out of screw engaging position, said bar having a lip adapted to engage the slide when the bar is in screw engaging position, and a locking nut engaging thread on the bar.

14. In a sight for firearms, the combination of a base, a sight-carrying slide movable in the base, a slide adjusting screw, a bar situated in an opening extending through the base from side to side thereof and having thread to cooperate with the screw, and said bar being movable to place its thread into and out of engagement with the screw, a spring engaging said bar on one side of the base, and a locking member upon the end of said bar on the other side of the base.

In testimony that I claim the foregoing, I have hereunto set my hand.

JAMES WINDRIDGE.

Witnesses:

ISADELL L. COOK,
ALFRED H. AUGUR.