

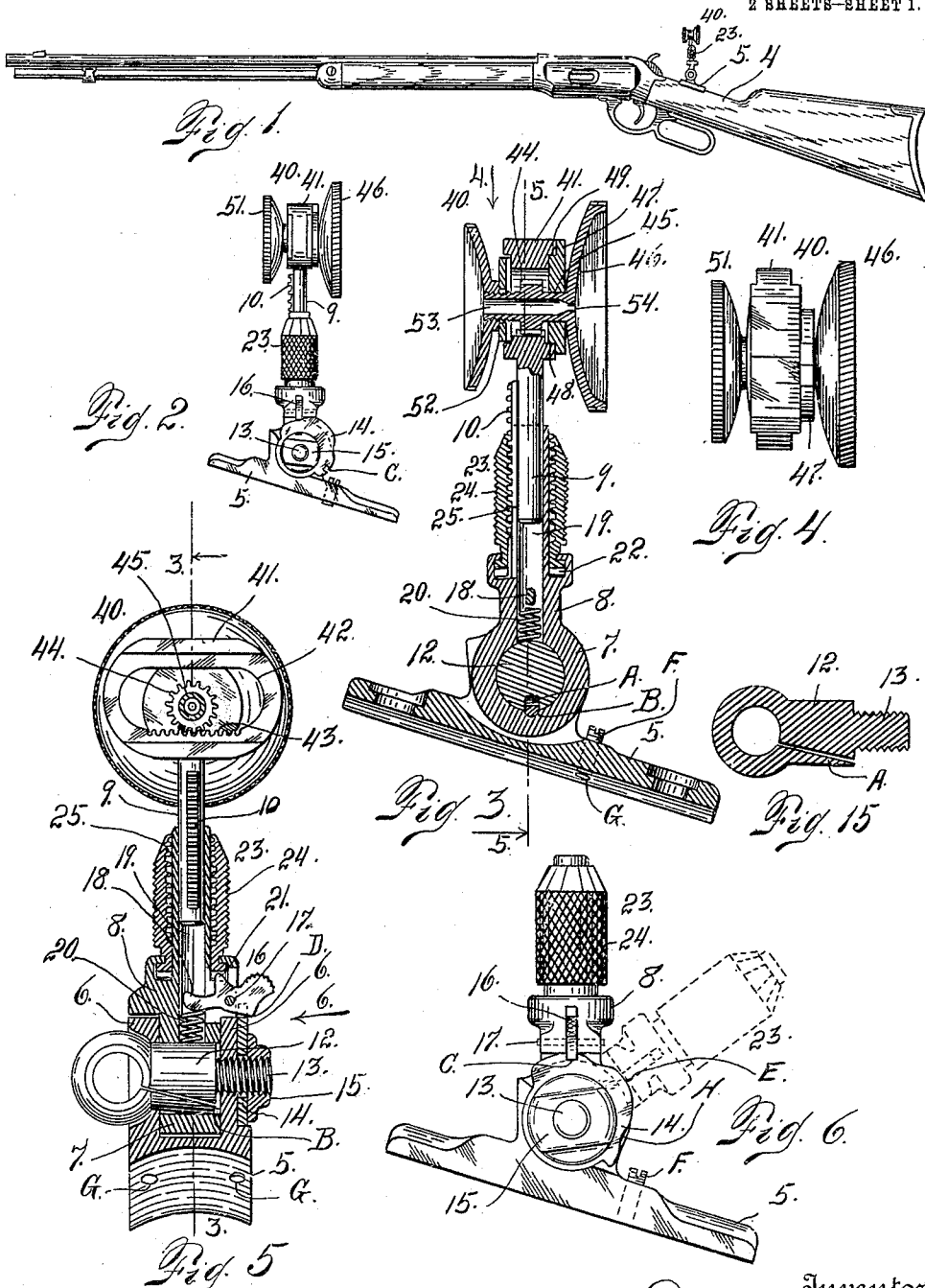
D. W. KING.
REAR GUN SIGHT.

APPLICATION FILED MAR. 18, 1909.

978,382.

Patented Dec. 13, 1910.

2 SHEETS-SHEET 1.



Witnesses
Otto E. Hoddick.
Hattie C. Bright.

Inventor
Dean W. King
By *[Signature]* Attorney

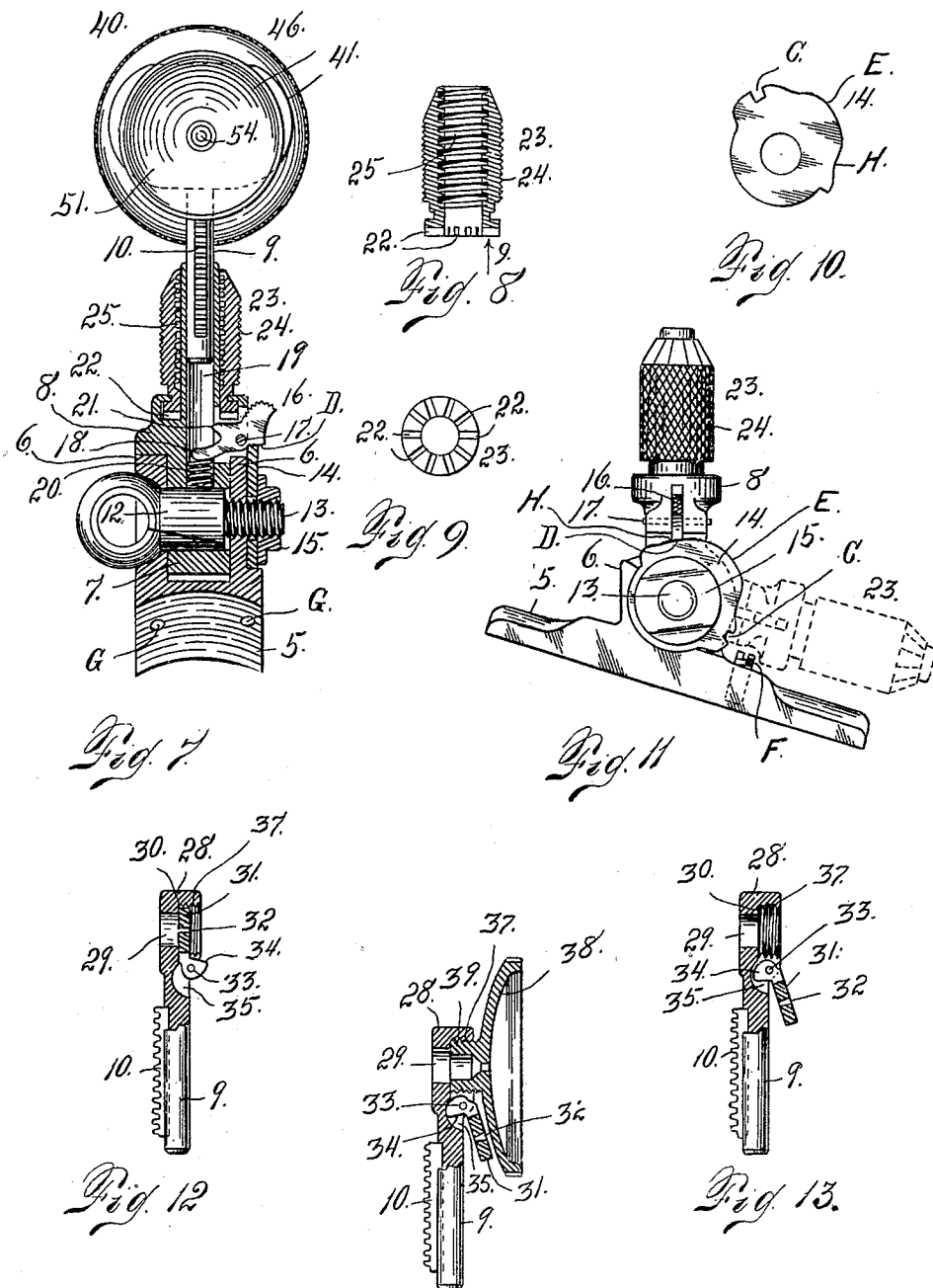
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UNITED STATES PATENT OFFICE

DEAN W. KING, OF SAN JOSE, CALIFORNIA.

REAR GUN-SIGHT.

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Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed March 18, 1909. Serial No. 484,238.

To all whom it may concern:

Be it known that I, DEAN W. KING, a citizen of the United States, residing at San Jose, county of Santa Clara, and State of California, have invented certain new and useful Improvements in Rear Gun-Sights; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in rear gun sights adapted for use with a cup disk or wind gage as may be required.

My improved construction embodies certain novel features of adjustment as well as means for locking the parts in the adjusted position, which greatly enhance the value of a sight of this character, all of which will be fully understood by reference to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a side elevation of a gun equipped with my improved sight showing the wind gage in place. Fig. 2 is a side elevation of the sight shown in detail and on a larger scale. Fig. 3 is a vertical section taken through the sight on the line 3—3, Fig. 5. Fig. 4 is a top plan view of the wind gage shown in detail. Fig. 5 is a section taken on the line 5—5, Fig. 3 parts being shown in elevation and viewed in the direction of the arrow. Figs. 3 and 5 are shown on a still larger scale than Fig. 2, while in Fig. 4 the wind gage is shown on the same scale as in Figs. 3 and 5. Fig. 6 is a side elevation of the device with the sight shank removed, the body member being shown in two positions, one in full lines and the other in dotted lines. Fig. 7 is a section similar to Fig. 5 showing the locking pawl in a different position or in the reverse of that shown in Fig. 5. Fig. 8 is a longitudinal section of the adjustable screw sleeve shown in detail. Fig. 9 is an underneath end view of the same. Fig. 10 is a detail view of the cam washer. Fig. 11 is a view similar to Fig. 6, the body of the device, however, being shown by the dotted lines at its limit of downward movement. Fig. 12 is a detail view of the sight proper and its shank showing the folding or hinged leaf or auxiliary sight disk having the small aperture. Fig.

13 is a similar view showing the auxiliary disk thrown downwardly. Fig. 14 is a similar view with the cup disk in place. Fig. 15 is a sectional view in detail of the bolt which connects the shank of the sight with the base.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the base of the sight which may be secured to the stock of the gun in any suitable manner. Formed integrally with the base, are ears 6 which are separated to receive a knuckle 7 formed upon the hollow shank 8 adapted to receive the sight stem 9, the latter having a toothed or cogged rack 10 forming one side thereof. The knuckle 7 and the ears 6 are provided with registering openings adapted to receive an axial bolt 12, having a reduced threaded extremity 13 to which is applied a cam washer 14 held in place by a nut 15. The shank 8 is slotted on one side to receive a pawl 16 pivoted upon a transverse pin 17. The inner extremity 18 of this pawl protrudes into the longitudinal perforation 19 of the shank and is engaged by the upper extremity of a spiral spring 20 seated in the bottom of the perforation 19.

The upper edge of the pawl is provided with a tooth 21 adapted to engage recesses 22 formed in the lower end of the vertically disposed screw sleeve 23 whose exterior surface is milled as shown at 24 for convenience of adjustment. The sleeve 23 is interiorly threaded as shown at 25 to engage the teeth of the rack 10 formed upon the stem 9 whose upper extremity is provided with a sight orifice. For ordinary use, the sight stem is of the construction shown in Figs. 12 and 13, the upper extremity of the stem being enlarged as shown at 28 and provided with a relatively large orifice 29 whose forward portion is counterbored as shown at 30 to receive a leaf or disk 31 having a relatively small orifice 32, this disk being pivoted to the stem as shown at 33 and having a projection 34 to facilitate adjustment. The stem below the pivot is provided with a recess 35 adapted to receive the projection 34, when the disk is thrown downwardly. (See Fig. 13). The recess 30 formed in the sight extremity of the stem, is interiorly threaded as shown at 37 to receive a cup disk 38 having an exteriorly threaded stem 39 adapted to enter the said recess when the disk or leaf 31 is thrown downwardly. (See Fig. 14).

When the wind is blowing to such an extent as to deflect the projectile, the ordinary sight stem just described is removed and a similar stem inserted in the perforation of the body or shank of the device. This stem below its upper extremity is of the same construction as heretofore described and is, therefore, given the same reference character, namely 9, but its upper extremity is equipped with a wind gage, which I will designate in its entirety by the numeral 40, the same being shown in detail in Fig. 4. In this form of construction the upper extremity of the stem 27 is equipped with a member 41 having a transverse slot 42 whose lower edge is toothed or cogged as shown at 43 to engage a pinion 44 fast on the shank 45 of a cup disk 46. Loosely mounted upon this shank is a washer 47, which slidably engages the rear face of the slotted member 41 which is provided with shoulders 48 and 49. To the forward extremity of the shank 45 is applied a nut 50 upon which is formed a cup disk 51 of less diameter than the disk 46. Between the nut and the slotted member 41 is a leaf spring 52 which when the nut is tightened upon the shank, is placed under tension to prevent the rotation of the cup disk 46 after the latter has been properly adjusted.

The shank 45 is perforated as shown at 53, the said perforation being reduced at its rear extremity as shown at 54 forming a relatively small sight orifice. By virtue of this construction the sight orifice may be thrown laterally out of alinement with the axis of the stem in either direction according to the direction of the wind. As the function of a wind gage in connection with firearms is understood, it is not thought necessary to explain this feature more in detail. It will be understood, however, that by the use of the cup disk 46 whose outer edge is milled as shown at 24, the shank of the wind gage may be thrown to one side or the other of the axis of the stem, by simply loosening the nut 50 and turning the disk 46 in the proper direction. After this adjustment has been effected, the nut is tightened and the sight is ready for use.

The bolt 12 is provided with an integral spring finger or catch A adapted to engage a groove B formed in the knuckle 7, when the sight shank is in the vertical position. The bolt is originally so adjusted that when the spring finger A engages the groove B, the device is in the desired position for sighting purposes, namely, the vertical. The nut 15 is tightened upon the bolt, whereby the latter is held in the adjusted position. The knuckle 7, however, may then be turned upon the bolt to any desired angle from the vertical position to the lowermost position or that shown in Fig. 11. When, however, the sight is in the

vertical position, the spring finger A engages the groove B and locks the sight in the said position against accidental displacement. As this feature is not novel, it need not be described more in detail.

From the foregoing description, the use and operation of my improved sight will be readily understood. Assuming that the sight is in the vertical position, if it is desired to raise or lower the sight stem 27, the protruding extremity of the pawl 16 is raised, whereby the tooth 21 is disengaged from its recess 22 in the lower end of the sleeve 23, thus permitting the sleeve to be turned at will for purposes of adjustment. The outer edge of the cam washer 14 is provided with a notch C adapted to receive the lower edge D of the outer portion of the pawl 16, when the pawl is in position to lock the sleeve 23 against turning. When, however, the extremity of the pawl is lifted to disengage its tooth 21 from the sleeve 23, the pawl is also lifted out of the notch C. Then by turning the shank of the sight slightly, the outer portion of the pawl will be caused to engage the outer edge of the cam washer, whereby the pawl will be held in the position to allow the sleeve 23 to turn and the latter may then be adjusted at will to raise or lower the sight stem as may be desired. Then by returning the sight to its normal or vertical position, the pawl will resume its normal position under the influence of the spiral spring 20, which raises the inner extremity 18 of the pawl causing its tooth 21 to reengage a recess 22 of the sleeve and its outer portion to engage the notch C of the cam washer 14.

In further explanation of my improved construction, it may be stated that the cam washer 14 may occupy either of two positions. In one of these positions, the sight is locked in the vertical position or that shown in Fig. 1, by virtue of the engagement of the locking pawl 16 with the recess C of the washer, the adjusting sleeve 23 being locked against rotary movement by the pawl 16; while when the said washer is in the reverse position, a shallow recess D formed in the edge of the washer is in position to be engaged by the pawl which also locks the sleeve against rotary movement by virtue of the engagement of the outer end of the pawl with the shallow recess D. However, when the washer is in this position being that illustrated in Fig. 2, the sight is not positively locked against movement, since it may be turned, to cause the outer end of the pawl to engage the cam portion E of the disk, without lifting the outer extremity of the pawl. More power, however, is required to move the sight, since the edge of the cam washer contains the shallow recess aforesaid, than if no recess were used. It will thus be understood that the adjusting sleeve 23 may be locked against rotary movement, when

the gun sight is either positively locked against movement when in the vertical position for use, or temporarily restrained.

5 Whichever position the washer is in, the cam portion E of the washer occupies a position between the recesses C and D, so that when the sight is moved to any intermediate position between the two recesses, the outer extremity of the pawl is acted upon to disengage its tooth 21 from a recess 22 of the sleeve 23, thus allowing the sleeve to be freely rotated. It will thus be observed that by virtue of my improved construction, the sleeve 23 is always locked against movement 10 when the gun sight is in position for use, thus preventing the accidental rotation of the sleeve and the consequent change of vertical position of the sight stem, due to such rotation of the sleeve, after the sight has been properly adjusted. This feature of my improved construction is very important since after the proper vertical position of the sight stem has been determined and the adjustment is made accordingly, it is every way desirable that the sleeve 23 should be locked against accidental rotary movement for obvious reasons. Another important feature of my improved construction, consists in applying two screws F to the base 5 of the sight, one on each side, the said screws passing through openings G formed in the said base, the said openings being threaded to receive the screws. The inner extremities of these screws bear against the stock of the gun, but do not enter the same. By adjusting these screws, the base of the sight may be properly leveled.

Having thus described my invention, what I claim is:

40 1. In a rear gun sight the combination with a shank, the sight stem longitudinally movable in the shank and a screw sleeve having an operative connection with the stem for purposes of adjustment, of a pawl pivotally mounted on the shank which is slotted to receive the pawl, a spring seated in the shank and engaging the inner extremity of the pawl to hold the latter in locking engagement with the sleeve, the pawl protruding 45 exteriorly beyond the shank to permit adjustment to unlock the sleeve, substantially as described.

2. In a rear gun sight, the combination with a shank, a stem longitudinally adjustable in the shank, and an adjusting sleeve having an operative connection with the stem, of a pawl pivotally mounted on the shank and engaging a slot with which the shank is provided, the inner extremity of the pawl projecting into a central perforation 50 formed in the shank, a spring acting upon the inner extremity of the pawl causing it to interlock with the adjusting sleeve and a washer mounted on the shank and provided with a notch which the pawl enters, the shank 55 being mounted to oscillate from a given center whereby the pawl when disengaged from the adjusting sleeve may be caused to engage the outer edge of the washer which holds the pawl in the unlocked position with reference to the sleeve.

3. In a rear gun sight the combination with a shank, an axial bolt upon which the shank is mounted to turn, a sight stem longitudinally movable in a perforation formed in the shank, a sleeve journaled on the shank and having an interlocking connection with the stem, a pawl mounted on the shank and engaging a slot formed therein, the inner extremity of the pawl protruding into the perforation of the shank and being spring actuated to cause the pawl to normally engage the sleeve to lock the latter against movement, and a cam washer mounted on the axial bolt and having a notch adapted to receive the pawl when the latter is in the locked position with reference to the sleeve.

4. A gun sight including a vertically adjustable stem, a rotary sleeve for regulating the position of said stem, and means for locking the sleeve against movement when the sight is in the position for use, said means including a cam washer provided with a recess, and a pawl engaging said recess and having a part simultaneously engaging the sleeve to lock the latter as aforesaid.

5. A gun sight including a sight stem and a rotary sleeve for the vertical adjustment of the stem and means for locking the said sleeve against rotary movement including a device having a recess which the locking means engages when in the locked position and a cam which the locking means engages when the sight is adjusted to disengage said means from the rotary sleeve.

6. A gun sight mounted to swing on an axis, passing through the lower extremity of the device, the sight comprising a vertically adjustable stem, a sleeve mounted to rotate for the vertical adjustment of the stem, and means for simultaneously locking the sight against swinging movement, and the sleeve against rotation, substantially as described.

7. The combination with a rear gun sight, with a sight stem, of a wind gage mounted thereon, and comprising a slotted member having a toothed edge, a stem passing through the said slot, and equipped with a pinion engaging the teeth of the slotted member, a guide washer on one side of the pinion, and a leaf spring on the other side, shoulders formed on the slotted member on which the guide washer and leaf spring are adapted to travel, the stem having a sight perforation and mounted to rotate, whereby the said perforation is carried laterally in either direction beyond the longitudinal axis of the stem, substantially as described.

8. The combination with a gun sight, having a sight stem, of a wind gage mounted

thereon, the said stem having a slotted member provided with a toothed edge, shoulders formed on opposite sides of the slotted member, a perforated sight stem passing through
5 the said slot, a pinion carried by the stem and engaging the teeth of the slotted member, whereby the same is carried laterally in either direction, and means for holding the pinion in engagement with the teeth, comprising a guide washer engaging the shoulder of the slotted member on one side thereof,
10 and a leaf spring engaging the shoulder on the opposite side, substantially as described.

9. A gun sight mounted to swing laterally, including a sight stem, a rotary sleeve for
15 regulating the position of the stem, and means for simultaneously locking the stem against rotation, and the sight stem against movement, substantially as described.

In testimony whereof I affix my signature
20 in presence of two witnesses.

DEAN W. KING.

Witnesses:

A. J. O'BRIEN,

A. EBERT O'BRIEN.