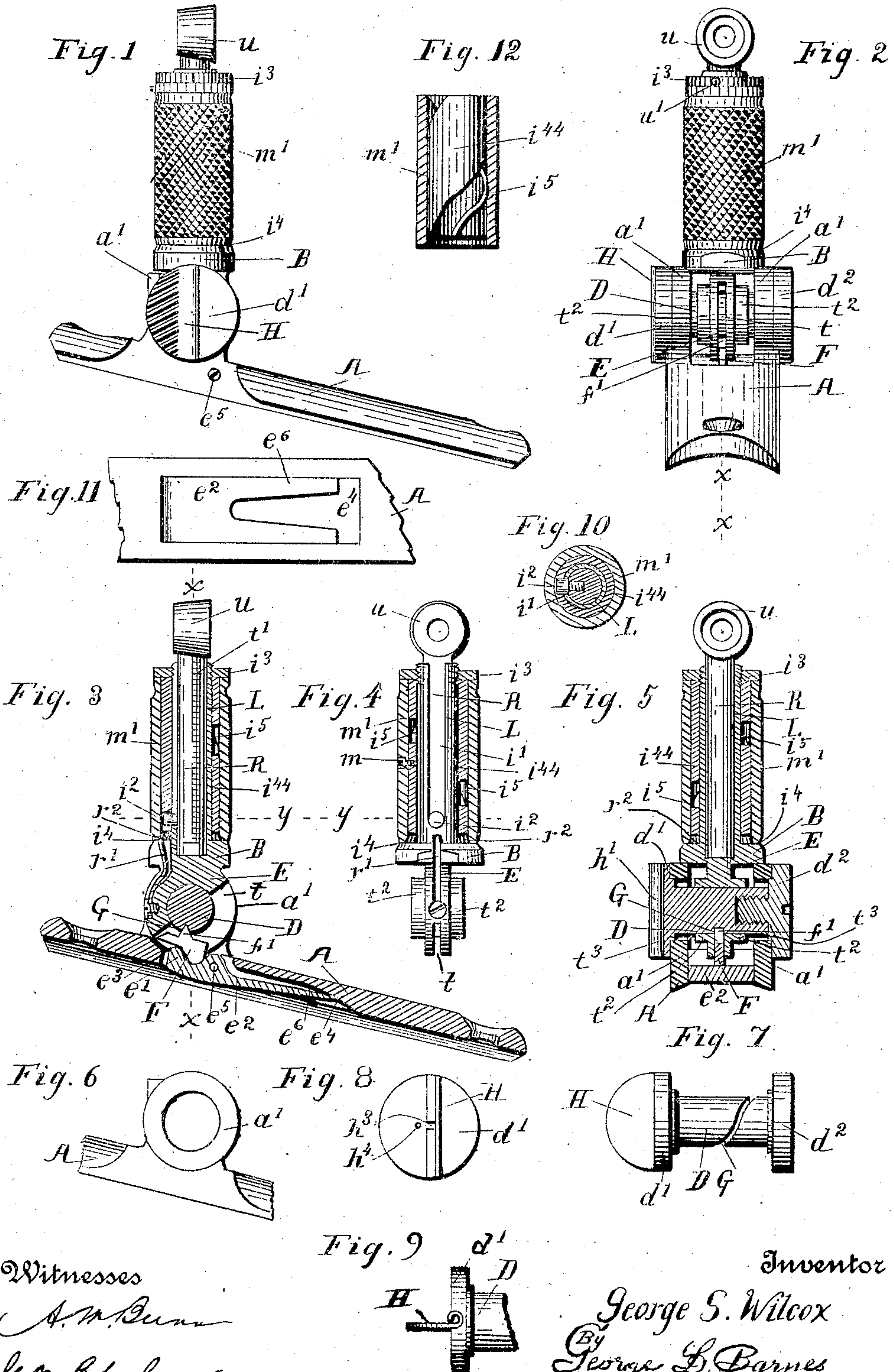


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G. S. WILCOX.
SIGHT FOR FIREARMS.
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SIGHT FOR FIREARMS.

No. 846,637.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE S. WILCOX, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Sights for Firearms, of which the following is a full, clear, and exact specification.

My invention relates to a wind-gage folding rear sight for firearms of the class in which a vertically-adjustable sight-post is mounted and carried in a folding joint or part hinged to the base and adapted for lateral or wind-gage adjustment on the pivotal part or axis of the hinge and yieldingly held in sighting position by means of a spring-actuated holding-tooth or detent.

The object of the invention is to provide mechanism for effecting the rapid accomplishment of the adjustments aforesaid; and it consists in the novel arrangement, combination, and construction of devices to that end, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of my improved sight with the folding part in the positions assumed in sighting. Fig. 2 is a front elevation of Fig. 1 as viewed from the rear end of the firearm. Fig. 3 is a central vertical lengthwise section on the line $x x$, Fig. 2. Fig. 4 shows the joint detached with the sight-elevating mechanism in central vertical transverse section on line $x x$ of Fig. 3 and viewed from the front end of the firearm. Fig. 5 is a central vertical transverse section on line $x x$ of Fig. 3 viewed from the rear end of the firearm. Fig. 6 is a side view of the hinge-ears of the base. Fig. 7 is a view of the hinge-pivot and showing the operating-handle in operating position. Fig. 8 is an end view of Fig. 7, and Fig. 9 is a plan view of the same. Fig. 10 is a horizontal section through Figs. 3 and 4 on the line $y y$. Fig. 11 is a plan view of a part of the lower side of the base, showing the detent-spring. Fig. 12 is a view of the spirally-grooved sleeve with its enveloping knurled sleeve shown in vertical central section.

Referring to the drawings, the form or external appearance of my improved sight is of general resemblance to that of the well-known class of sights alluded to, consisting

of a base A, adapted to be secured to the tang of the firearm and having vertical hinge-ears a' at the sides, near its forward end, and a folding member or joint B hinged between said ears by suitable pivotal devices and carrying a sight-post and adjusting mechanism for elevating the sight in the joint.

In the construction herein described the hinge-ears a' of the base are perforated to receive a transverse pivot D, journaled therein and held in place by a head d' at one end and a cap-screw d^2 at the other, screwed into the end of the pivot, as shown, each engaging the outer face of the corresponding ear and forming thrust-collars to prevent endwise movement of the pivot in its bearings. The lower part of the joint B consists of a hinge-eye E, analogous to the ears of the base and journaled upon the pivot D in the space between them, but not filling said space, whereby it is adapted to an oscillating movement upon the pivot and transverse motion between the hinge-ears lengthwise of the pivot, as hereinafter described. The joint is held in the vertical or sighting position by a detent e' on the short end of a spring-lever e^2 , which engages a suitable notch e^3 in the eye E of such depth and shape that the detent will be readily cammed out of the notch and disengaged therefrom by a moderate amount of force applied to the joint to fold it down rearwardly flat upon the base. The spring-lever is hinged in the recess e^4 on the lower side of the base by a transverse pin e^5 , and its resiliency resides in its long end e^6 , which is made thin and tapering from the pivotal point and bears upon the base at its tip or rear end, as shown in Fig. 3. The hinge-eye of the joint has a central slot t to receive a shoe F, which is seated in the depression between the detent e' and the pivotal part e^2 of the lever, as shown in Fig. 3. The upper part of the shoe comprises a projection f' , which engages a spiral groove G, milled in the pivot D. In operation as the pivot is rotated in its bearings the shoe F will be carried transversely of the base by its engagement with said spiral groove G, thus moving the joint lengthwise of the pivot for wind-gage, the shoe engaging the side of the slot t into which it projects. There is thus a loose or free connection so far as rotary movement is concerned between the joint and the arbor or pivot D, so that no

transverse movement of the joint takes place when the joint is swung into and out of position, and thus the joint is always in the adjustment for wind-gage at which it is set by the rotation of the pivot or arbor. By this construction the folding movement of the joint is rendered wholly independent of the transverse action on the pivot, which would not be the case if the engaging pin of the slot were an integral part of the joint.

The rotation of the pivot is effected by means of a folding operating-handle H, hinged in the head d' in the following novel manner: The head is formed with a diametral cylindrical seat h' cutting through its face and of such proportion that it comprises somewhat more than half of a hollow cylinder. The thumb-piece is made of sheet metal bent over at one edge in cylindrical configuration slightly larger than the seat h' , into which it is then forced, contracting by springing sufficiently to enter. A hinge is thus formed which enables the thumb-piece to be folded from the operating position in axial alinement with the pivot, as shown in Figs. 7 and 9, down flat upon the head and out of the way, as shown in Fig. 1. The thumb-piece is of semicircular outline to conform to the shape of the pivot-head. The frictional contact of the parts will ordinarily keep the thumb-piece in position; but, if desired, the folded part of the thumb-piece may be bifurcated by a slot h^3 , and a slight prick-punch indentation h^4 made in the head to upset the material slightly into said slot, as shown in Fig. 8, will key the thumb-piece securely in place.

The upper part of the joint comprises a cylindrical shell L, slotted to furnish a way i' , through which a radial pin i^2 may project from a sight-post R, fitted within the shell, and vertically in which it may travel as the sight-post is raised and lowered. The upper end of the shell is threaded to receive a nut i^3 , and a shoulder i^4 corresponding to the nut is provided at the base of the shell at its junction with the hinge-eye. Fitted upon the shell between these shoulders is a sleeve i^4 , having a slot i^5 extending spirally along it from one end to the other and engaged by the pin i^2 . The said slotted sleeve is received within and fastened by a screw m or other means to a knurled sleeve m' , by which it can be turned on the shell L as a bearing to elevate and depress the sight-post in operation by the camming action of the spiral surface of the slot i^5 upon the pin i^2 of the sight-post. The sight-post is graduated, as shown at t' in Fig. 3, to measure the height of its elevation, and a spring-detent r' is secured to the hinge-eye E and adapted to engage suitable indentations r^2 at the lower end of the knurled sleeve m' to hold the sleeve stationary and determine by the clicking sound as the indentations pass over it the extent to which

the sleeve is turned. The sight-post carries the sight u , which may be of any form or style required. The nut i^3 is held in place by a suitable screw u' or any other desired means.

In operation the sight-post may be elevated and depressed by turning the knurled sleeve m' , and the sight may be moved laterally between the ears of the base by turning the pivot D by means of the operating-handle H. The sight may also readily be folded from the vertical position shown in the figures down flat upon the base and out of the line of sight by rearward pressure upon it sufficient to disengage the detent e' from the notch of the hinge-eye E. The sleeve i^4 is made separate from the knurled sleeve m' to facilitate cutting the spiral slot i^5 therein; otherwise they might be made integral. The sleeve i^4 is made shorter than its enveloping sleeve m' to provide a space at the bottom for the indentations r^2 , and into which the point of the detent-spring r' enters to engage said indentations.

To provide sufficient length of bearing of the eye E on the pivot-arbor D, the eye is formed with an annular hub t^2 on each side, and the ears d' of the base are recessed to receive the said hubs, as shown in Fig. 5. The ears are bored throughout of the size to receive said hubs, and the head d' of the arbor and the cap-bolt d^2 are provided with short tenons t^3 , adapted to fit the said perforations and centralize the pivot-arbor therein. The movement of the sight-post when actuated by the camming action of the spiral groove G is very great in proportion to the motion of the sleeve m' , and its adjustment can therefore be made with great rapidity. This is also the case with reference to the pivot-arbor and lateral adjustment of the sight for wind-gage.

I claim as my invention and desire to secure by Letters Patent—

1. In a sight for firearms, the combination of a base, a sight mounted in the base for swinging and transverse movements, means for imparting transverse movement to the sight, and a loose or free connection between the sight and said means as to rotary motion whereby the sight may be swung without producing transverse movement thereof.

2. In a sight for firearms, the combination of a base, a rotatable arbor journaled in the base and having a spiral groove or way, a sight mounted upon and rotatable about and independently of the arbor, and means connecting the sight and arbor for lengthwise movement of the sight thereon by the camming action of said groove the engagement between the sight and said means being a free one as to rotary motion, whereby the sight may rotate about the arbor.

3. In a sight for firearms, the combination of a base, a rotatable arbor journaled in the

base and having a spiral groove or way, a sight mounted on the arbor and rotatable thereon independently of the arbor, a part engaging said groove or way and the sight, the engagement of the sight and said part permitting the swinging of the sight independently of said part, and means whereby the arbor may be rotated.

4. In a sight for firearms, the combination of a base, a rotatable arbor journaled in the base and having a spiral groove or way, a sight mounted on the arbor and rotatable independently thereof, and a shoe situated in a slot in a member of the sight and engaging said groove or way, whereby rotation of the arbor acts to shift the sight lengthwise of the arbor.

5. In a sight for firearms the combination of a base, a rotatable arbor horizontally journaled in the base and having a spiral groove or way, a sight mounted and adapted to be swung upon the arbor, means for actuating the sight lengthwise of the arbor by the camming action of the groove, and a spring-actuated detent for engaging and holding the sight in sighting position, substantially as and for the purpose specified.

6. In a sight for firearms the combination of a base provided with vertical ears, a rotatable arbor horizontally journaled in the ears of the base transversely of the line of sight, and having a spiral groove or way, a sight-joint mounted and adapted to be swung upon the arbor, a shoe carried by the sight-joint in engagement with the spiral groove of the arbor, for actuating the sight lengthwise of the arbor by the camming action of the groove, and a spring-actuated detent for engaging and holding the sight-joint in sighting position, substantially as and for the purpose specified.

7. In a sight for firearms the combination of a base, a part mounted on the base comprising a tubular shell having a longitudinal way or slot, a sight-post fitted within the shell and provided with a pin projecting through said way, sleeve fitted upon the shell having a spiral slot engaging the pin of the sight-post, and means for retaining the sleeve in position on the shell substantially in the manner and for the purpose specified.

8. In a sight for firearms the combination of a base, a part mounted on the base com-

prising a tubular shell having a longitudinal way or slot, a sight-post fitted within the shell and provided with a pin projecting through said way, a sleeve fitted upon the shell having a spiral slot engaging the pin of the sight-post, a knurled sleeve, fitted over the spirally-slotted sleeve and rigidly secured thereon, and means for retaining the sleeve in position on the shell, substantially in the manner and for the purpose specified.

9. In a sight for firearms the combination of a base, a rotatable arbor horizontally journaled in the base and having a spiral groove or way, a sight-joint comprising an eye mounted and adapted to be swung upon the arbor, and a tubular shell having a longitudinal way or slot, a sight-post fitted within the shell and provided with a pin projecting through said way, a sleeve fitted upon the shell having a spiral camming-slot engaging the pin of the sight-post, a knurled sleeve fitted and received over the camming-sleeve and rigidly secured thereon, a collar and a nut on said shell for retaining the knurled sleeve in place thereon, and a spring-detent for holding the knurled sleeve stationary, substantially as and for the purpose specified.

10. In a sight for firearms the combination of a base, a sight hinged to the base, and a spring-actuated detent comprising a lever fulcrumed in the base and having its long arm resilient and bearing at its terminal point upon the base, and the short arm terminating in a spur for engaging the sight and locking it in sighting position, substantially in the manner and for the purpose specified.

11. In a sight for firearms the combination of a base, a rotatable arbor journaled in the base, a sight, means for actuating the sight transversely of the arm for wind-gage, by rotation of the arbor, the folding operating-handle H having a cylindrical part fitting a cylindrical seat h' in the head of the arbor and adapted for being folded from the vertical to the horizontal position with respect to the arbor-head, substantially in the manner and for the purpose specified.

Signed by me at Middletown, Connecticut, this 20th day of January, 1906.

GEORGE S. WILCOX.

Witnesses:

W. C. HOWARD,
M. C. MURPHY.