No. 629,670. Patented July 25, 1899.

G. DURRENBERGER.

SIGHT FOR FIREARMS.

(Application filed Jan. 16, 1899.)

(No Model.)

Fig. 1

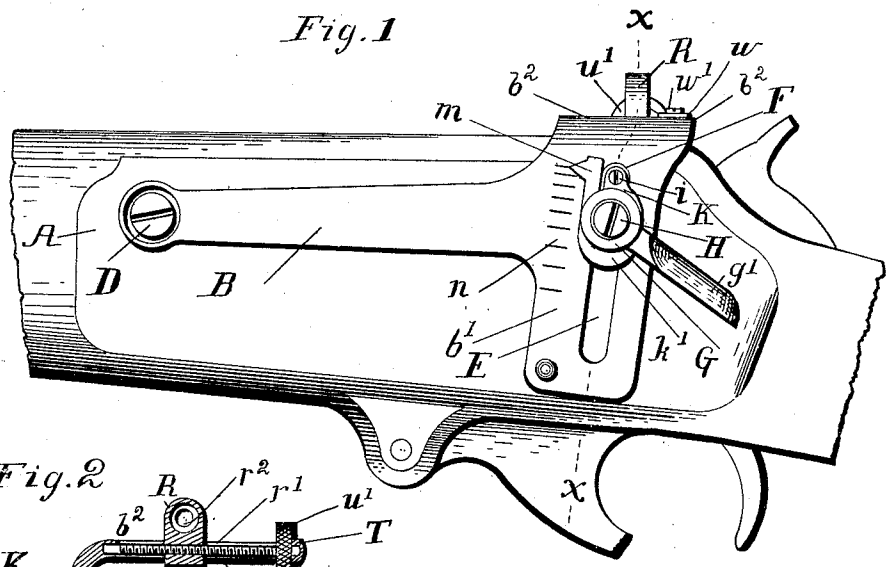



Fig. 2

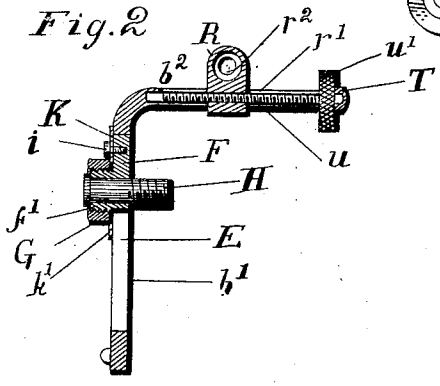



Fig. 3

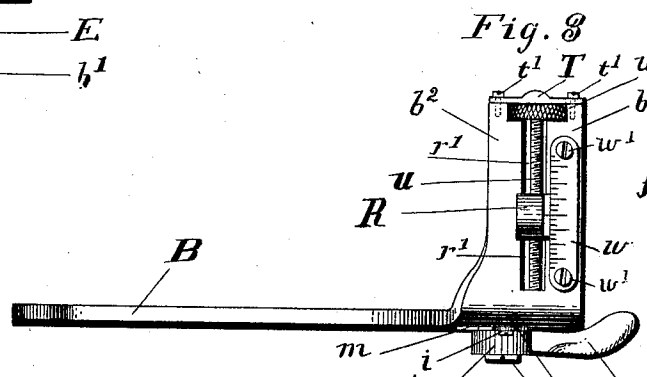



Fig. 5

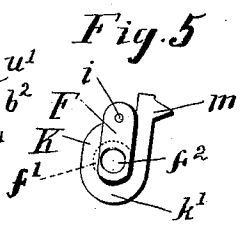



Fig. 7

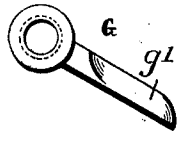



Fig. 4

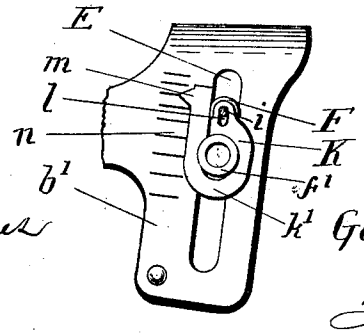
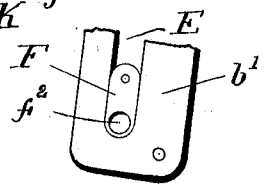



Fig. 6




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

GEORGE DURRENBERGER, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO LYMAN A. MILLS, OF SAME PLACE, EXECUTOR OF WILLIAM LYMAN, DECEASED.

## SIGHT FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 629,670, dated July 25, 1899.

Application filed January 16, 1899. Serial No. 702,204. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE DURRENBERGER, a citizen of the United States, residing in the town of Middlefield, in the county of Middlesex, in the State of Connecticut, have invented certain new and useful Improvements in Sights for Firearms, of which the following is a specification.

My invention relates to a rear sight for firearms, and has for its object to provide improved clamping means for securing the sight at various elevations and which shall admit of ready adjustment for wear and to insure the proper position of the operating-handle.

The invention consists in the novel construction, arrangement, and combination of the parts of the clamping mechanism, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of my improvement in its adaptation to a vertically-swinging rear sight as applied to an ordinary firearm. Fig. 2 is a vertical cross-section on the line $x\,x$ of Fig. 1. Fig. 3 is a plan view of the rear sight and clamping mechanism shown in Fig. 1. Fig. 4 is a view similar to Fig. 1 of that part of the sight having the clamping mechanism arranged thereon, the clamping operating-nut being removed from the subjacent parts. Fig. 5 is the reverse view of the parts of the clamping mechanism shown in Fig. 4. Fig. 6 is a reverse view of the parts of Fig. 4 as arranged in the slot of the sight. Fig. 7 is a view of the operating-handle of the clamping mechanism.

Referring to the drawings, A denotes a portion of the frame of a firearm, having the rear sight B attached thereto by the screw D, the sight being adapted to be swung vertically on said screw as a pivotal center to accomplish the elevation of the sight.

The sight comprises a lever having the vertical part $b'$ at its rear end and the horizontal part $b^2\,b^2$ overhanging the gun-barrel, as shown. In said part $b'$ is a vertical slot E, which may be curved in an arc struck from the pivotal center of the sight, or the slot may be rectilinear, as shown, in which case the bearing or perforation in the end of the lever for the reception of the screw D should be slightly elongated lengthwise of the lever to permit the lengthwise movement of the sight, which will take place if the slot be moved upon a stud fixed in the side of the firearm through said slot. Such part of the mechanism is old and shown and described in Letters Patent of the United States No. 591,559, dated June 25, 1895.

The clamping mechanism for securing the sight at any elevation as here improved comprises the following parts:

In said slot E is fitted a flat guide-block F and adapted for free movement therein. The guide-block is of less thickness than the metal of the sight and at its outer lower end is a hub $f'$, projecting on the outer side of the sight and threaded to receive the clamping-nut G, having the operating-handle $g'$ integral therewith. Through the hub $f'$ and the guide-block is a cylindrical perforation $f^2$, adapting the part to be received upon the smooth cylindrical portion of a screw H, which when screwed into the side of the firearm forms with the guide-block a fixture upon which the rear end of the sight is adapted to travel and be guided.

K designates an indicator, comprising a leaf spring of the form and configuration shown, which is secured upon the outer side of the guide-block by means of the screw $i$, screwed into the upper end of the guide-block F. From the attached end the spring extends down at the rear side of the hub $f'$ and, forming a loop $k'$ underneath the same, passes upward at the front side thereof, terminating in an arm $m$, which is pointed on its forward side for the purpose of indicating the elevation of the sight by its position on a suitable graduated scale $n$, engraved on the face of the sight, as shown.

The screw $i$ for securing the indicator to the guide-block passes through a slot $l$ in the indicator, which permits vertical adjustment of the indicator to its true position with reference to the scale—that is, to coincide with the zero-mark thereon at point blank. The indicator is spring-tempered and slightly bent at the loop to distort its respective limbs out of a true plane when not subject to tension and in normal position. With such bend at

the loop the indicator when secured to the guide-block and in place on the sight, but without the clamping-nut screwed down upon it, as shown in Fig. 4, should normally stand with the arm $m$ slightly off from the face of the sight—that is, having a slight space between the arm and sight—whereby the spring will be subjected to a slight tension when the clamping-nut is screwed against it to bring it in intimate contact with the face of the sight.

Constructed as above described and shown the operation of the clamping mechanism is as follows: With the operating-nut screwed to place upon the hub $f'$ of the guide-block F and with its operating-handle $g'$ turned to the position desired when the sight is clamped in place, then if the screw H be inserted into the side of the firearm and screwed in until its head is firmly seated upon the outer side of the hub $f'$ the sight will thereby be clamped securely against the frame with a pressure proportionate to the force with which the screw is set up. The screw H when thus properly adjusted will remain in such position, and the clamping mechanism may be released by simply turning the operating-handle $g'$ slightly in the direction adapted to remove the nut from the hub $f'$ or upward from the position shown in Fig. 1. Such motion of the handle will have no tendency to disturb the screw H in its seat, which, if properly fitted, will remain where set until the necessity arises for readjusting the clamping mechanism for wear, which may be readily accomplished by simply setting up the screw H as required. When the nut is released, the tension of the spring-indicator serves to hold the sight in frictional contact with the frame and prevent the parts from becoming loose and shaking about. To remove the clamping mechanism for any purpose, it is only necessary to unscrew and remove the screw H from its seat. A movement of the operating-handle through an arc of twenty to thirty degrees is sufficient to tighten or release the clamping mechanism, and the sight may be freely elevated or depressed and readily and quickly secured at any required position. It is important that the operating-handle shall occupy a certain position on the firearm when the mechanism is clamped—as, for instance, that shown in Fig. 1, which is the position most convenient. As the mechanism wears, the handle will when tightened continually assume a more and more depressed position; but with my improved device this action may be readily counteracted and the original position of the handle restored by simply slightly screwing up the screw H as required.

R designates the sight piece or part wherein the sight-aperture $r^2$ is carried. For the purpose of adjusting the sight for wind-gage the said part is fitted to slide in a slot or guideway $r'$, formed by the two parallel limbs $b^2$, which comprise the horizontal portion of the sight overhanging the gun-barrel. The limbs are connected at their outer ends by a cap T, which is made of spring metal for the purpose hereinafter set forth. The part R is mounted upon an adjusting-screw $u$, provided with a suitable operating-head $u'$ and having its ends journaled, respectively, in the sight and the spring-cap T at the ends of the slot, as shown in Fig. 2. The length of the adjusting-screw is proportioned to bring a slight tension on the cap T when the cap is clamped firmly to place by means of its holding-screws $t'$. This tension on the ends of the screw serves to secure it against accidental movement by jarring on transportation of the firearm and insures reliability of the sight when adjusted. In this construction the spring-cap also serves as a guard for protecting the adjusting-screw and its operating-head from injury by accidental blows, which would be liable to bend the screw and render it inoperative.

A removable graduated scale $w$ is secured upon the rear limb $b^2$, by means of which the position of the post R with reference to zero or amount of the wind-gage may be determined. As the scale is independent of the sight, it may be adjusted thereon by actual test of the firearm and its zero brought to the zero of the part R with perfect accuracy, after which the scale may be fastened in place by its holding-screws $w'$. Said adjustment may easily be provided for by slightly elongating the holes in the scale through which the screws $w'$ pass, which screws after the plate is adjusted may be firmly screwed to place.

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

1. In sights for firearms the combination of a sight guided and adapted for vertical movement at the side of the firearm, a guide-block whereon the sight is adapted to travel provided with an exteriorly-threaded hub projecting at the side of the sight and having a perforation through the hub and block, a clamping-nut engaging said hub and adapted to bind the sight against the side of the firearm, and a screw secured in the firearm through said hub and block and forming the thrust-shoulder of the hub, substantially as and for the purpose specified.

2. In sights for firearms the combination of a sight guided and adapted for vertical movement at the side of the firearm and having a vertical slot, a guide-block fitting said slot, provided with an exteriorly-threaded hub projecting at the side of the sight and having a perforation through the hub and block, a clamping-nut engaging said hub and adapted to bind the sight against the side of the firearm, and a screw secured in the firearm through said hub and block with its head engaging and forming the thrust-shoulder of said hub, substantially in the manner and for the purpose specified.

3. In sights for firearms the combination of a lever pivoted to the side of the firearm and having a vertical slot, a guide-block fitting

said slot, provided with an indicator and an exteriorly-threaded hub projecting at the side of the sight and having a perforation through the hub and block, a clamping-nut engaging said hub and adapted to bind the sight against the side of the firearm, and a screw secured in the firearm through said hub and block with its head engaging and forming the thrust-shoulder of said hub, substantially in the manner and for the purpose specified.

4. In sights for firearms the combination of a lever pivoted to the side of the firearm and having a vertical slot, a guide-block fitting said slot and provided with an exteriorly-threaded hub projecting at the side of the sight and having a perforation through the hub and block, a looped spring secured to the block, and surrounding the hub at the base thereof, having its free end serving as an indicator-pointer, a clamping-nut engaging said hub above the spring, and adapted to bind the sight against the side of the firearm, and a screw secured in the firearm through said hub and block with its head engaging and forming the thrust-shoulder of said hub, substantially in the manner and for the purpose specified.

5. In sights for firearms the combination of an oscillating lever-sight pivoted to the side of the firearm having a vertical slot and a graduated scale alongside said slot and provided with a horizontal part overhanging the gun-barrel and bearing the sight-piece, the guide-block fitting and adapted for movement in the slot and provided with an externally-threaded hub projecting at the face of the sight, and perforated throughout, the spring-indicator adjustably secured to the guide-block and extending over said scale, the adjusting-nut screwed upon said hub above the spring-indicator and provided with the operating-handle $g'$, and the adjusting-screw H fitted through the guide-block, and screwed into the side of the firearm with its head engaging said hub and forming the thrust-shoulder of the clamping mechanism, substantially in the manner and for the purpose specified.

6. In sights for firearms the combination of an oscillating lever-sight pivoted to the side of the firearm and provided with a forked horizontal part overhanging the gun-barrel, the branches of the fork being parallel and forming an intervening slot, a sight-piece fitted and adapted to slide in said slot, a bearing in the sight at the end of the slot, a spring-cap secured to and bridging the branches of the fork at the ends thereof and containing a central bearing, and an adjusting-screw journaled in said bearings and engaging the sight-piece, and provided with an operating-head, the spring being adapted to exert its tension endwise of the screw to hold it against accidental displacement, substantially in the manner and for the purpose specified.

In testimony whereof I have hereunto set my signature this 30th day of December, A. D. 1898.

GEORGE DURRENBERGER.

Witnesses:
ISADELL L. COOK,
ALFRED H. AUGUR.