

J. WINDRIDGE.  
SIGHT FOR FIREARMS.  
APPLICATION FILED MAY 13, 1905.

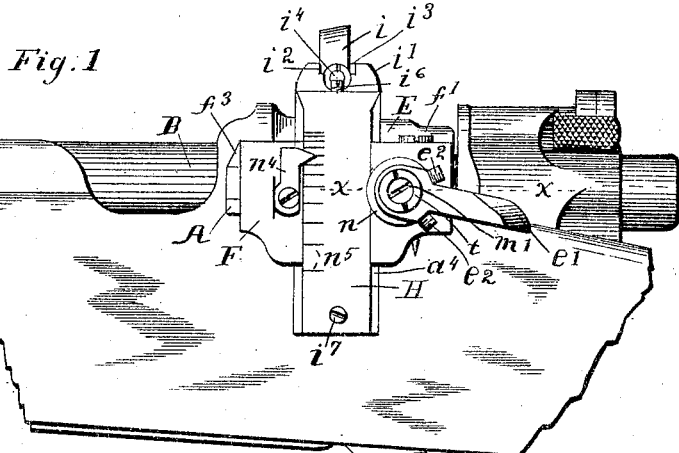


Fig. 2

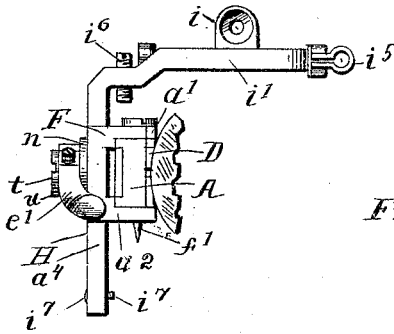


Fig. 3

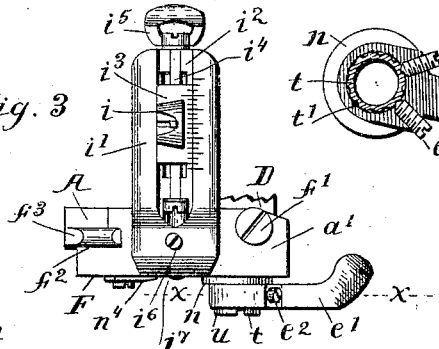


Fig. 6

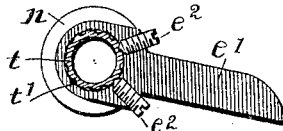


Fig. 4

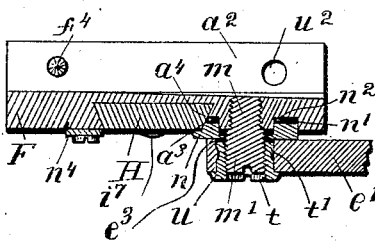


Fig. 5

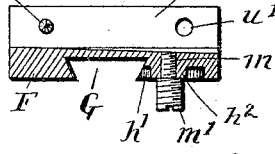


Fig. 7

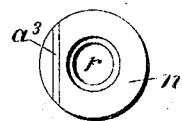
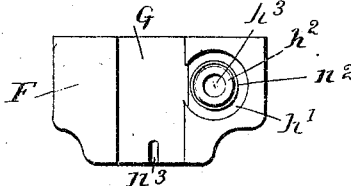


Fig. 8



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# UNITED STATES PATENT OFFICE.

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## SIGHT FOR FIREARMS.

No. 798,474.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed May 13, 1905. Serial No. 260,343.

*To all whom it may concern:*

Be it known that I, JAMES WINDRIDGE, a citizen of the United States, and a resident of Middlefield, in the county of Middlesex 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 sights for firearms, and has for its object to provide improved clamping mechanism for adjusting the elevation of rear sights of the class in which the sight-base is adapted for application to the side of the breech, with the sight-carrying limb or element overhanging the axis of the gun-barrel—as, for instance, the form of sight which is particularly designed for use in connection with the Mauser type of bolt-action firearm and is mounted upon the bolt-stop of the gun.

The invention consists in the novel combination, with the base and sight-carrying limb, of a novel clamping-wedge and screw mechanism for forcing it into contact with the sight-limb and in the arrangement and construction of parts, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of the section of a firearm of the Mauser type embodying the bolt mechanism and having my improved sight mounted upon the bolt-stop thereof. Fig. 2 is a rear end elevation of the bolt-stop and sight or view lengthwise of the axis of the gun-barrel as presented to the eye in taking aim. Fig. 3 is a plan view of Fig. 2. Fig. 4 is an enlarged horizontal longitudinal section on the line  $x-x$ , Fig. 1. Fig. 5 is a similar section through the sight-base. Fig. 6 is a vertical section of the clamping mechanism, enlarged, on the line  $x-x$ , Fig. 3. Fig. 7 is a view of the inner side or face of the clamping-wedge. Fig. 8 is a side elevation of the base.

Referring to the drawings, A designates the pawl or bolt-stop of a firearm of the well-known Mauser type, here shown to illustrate the class of sights to which my improvement applies; but it will be understood that the invention is adapted to other sights which are mounted at the side of the breech mechanism and to various guns having sights in such positions. The bolt-stop requires no description further than a reference to its function,

which is to prevent the withdrawal of the bolt B from its guiding way or chamber, and the mode of its attachment, which is by means of a pivotal connection or hinge-joint to a lug D, projecting from the side of the housing E, wherein the bolt slides, all of which is old and common to the art.

Upon the bolt-stop A the base F of the sight is fitted or saddled by means of the upper and lower flanges  $a' a''$  through the perforations  $u' u''$ , in the rear ends of which is passed the pivotal stud or hinge-bolt  $f'$  of the stop and in the front end of which, respectively, is the notch  $f''$ , forming a seat for engaging the thumb-piece or handle projection  $f'''$  of the stop, and a set-screw  $f''''$ , adapted to engage the lower side thereof. The base is thus firmly secured on the bolt-stop at the side of the firearm, as shown in Figs. 1, 2, and 3. The base is formed with a vertical dovetailed groove G in its outer side or face, in which is fitted the vertical limb H of the sight-carrying part. Said limb H is adapted for vertical adjustment in the groove to secure the required elevation of the sight  $i$ , which is mounted on the lateral arm  $i'$  of the vertical limb H, overhanging the axis of the gun-barrel.

In the face or side of the base rearwardly from the groove G is an annular seat  $h'$ , slightly cutting into or merging with the groove—that is, the outer circumferential line of said seat lacks a small arc of being a complete circle—and joins or merges with the vertical line forming the side of the groove G, as shown in Fig. 8. In the center of the circular hub  $h''$ , formed by said annular seat, is a screw-threaded perforation  $h'''$ , in which is inserted a screw-stud  $m$ , having a screw-threaded body  $m'$  of larger diameter than the part received in said perforation, thus providing a shoulder at the junction of the two diameters, bearing and screwed firmly against the surface of the base to secure the stud rigidly therein, as shown in Figs. 4 and 5.

Fitted in the annular seat  $h'$  is an annular wedge  $n$ , comprising the major portion of a cylinder and having a straight beveled edge  $a''$  on one side conforming to the side of the groove G and adapted to engage the correspondingly-beveled edge  $a'$  of the vertical limb H of the sight-carrying part. The depth of the wedge is such that when engaged with

the limb H a clearance-space  $n'$  is provided beneath it, and in said clearance-space a coil-spring  $n^2$  is arranged around the hub  $h^2$  and adapted to act against the wedge to press it  
 5 outwardly from its seat. The central perforation  $r$  of the wedge is of the same diameter as the hub  $h^2$  for a distance corresponding to the depth thereof, and the remaining part of the perforation is of the size of the body  $m'$   
 10 of the screw-stud  $m$ , as shown in Figs. 4 and 7.

A circular nut or bushing  $t$  is mounted on the body  $m'$  of the screw-stud  $m$ , having a series of indentations or depressions  $t'$  in its periphery and provided with a flange  $u$  around  
 15 its outer end or face. Mounted on said bushing, between its flange  $u$  and the face of the base F, is a lever or handle  $l'$ , with two set-screws  $e^2$  fitted radially through the part or eye received upon the bushing. Said screws  
 20 engage the depression  $t'$  of the bushing and hold the bushing secure from turning in the eye of the lever and adapt it to move as if formed integral therewith. The outer end of the bushing is screw-slotted for the applica-  
 25 tion of a screw-driver, and it is of less length than the axial distance through the eye of the lever, whereby a slight clearance-space  $e^3$  is provided between it and the cap  $n$  when the parts are assembled in place on the body  $m'$   
 30 of the screw-stud  $m$ .

Constructed as above described and shown the operation of my improved clamping mechanism is as follows: The lever  $l'$  being first  
 35 adjusted in the position which it is designed to normally occupy, the nut or bushing  $t$ , which can be rotated independently of the lever, is screwed up until the lateral wedging effect of the beveled edge of the wedge  $n$  upon  
 40 the corresponding edge of the vertical limb of the sight-carrying part through axial pressure of the flange  $u$  of the bushing upon the lever and the wedge is sufficient to hold the sight-carrying part rigidly stationary in the  
 45 groove G of the base. The bushing is then fastened in said position in the lever by means of the set-screws  $e^2$ , and a slight motion of the lever in the direction to unscrew the nut or bushing will release the wedge from its  
 50 engagement with the limb, the wedge being actuated outwardly in its seat by the action of the spring  $n^2$ . The limb H will then be free to be adjusted to a change of elevation, and a slight movement of the lever in the direction to screw the nut on the body  $m'$  of the stud  $m$   
 55 will clamp the parts in position.

The horizontal limb  $i'$  of the sight-carrying part is formed with a longitudinal groove or  
 60 way  $i^2$ , and a slide  $i^3$  is fitted in said way, upon which the peep-sight  $i$  is mounted. The sight is adjusted laterally for wind-gage in said way by means of a screw-arbor  $i^4$ , journaled in the part  $i'$  and engaged with a threaded bearing in the slide, said arbor being provided with a suitable thumb-piece or head  $i^5$ ,  
 65 by which it may readily be turned. The

amount of said wind-gage adjustment is designated by suitable coincident graduation upon the slide and limb  $i'$ . This mechanism, however, is common in the art and need not  
 here be more specifically described. A vertical  
 70 screw  $i^6$  through the horizontal limb  $i'$  is provided for adjusting the elevation of the sight at point-blank by acting as a stop against the upper flange of the base. A horizontal  
 75 screw  $i^7$  through the vertical limb H is adapted to engage the upper end of a slot  $n^3$  in the lower edge of the base to limit the upward movement of the sight-carrying part and prevent its withdrawal from the groove G. The amount of adjustment for elevation is design-  
 80 nated by means of a pointed indicator  $n^4$ , screwed to the base, and suitable graduated lines  $n^5$  on the vertical limb H.

It will be perceived that with the construction hereinbefore set forth the adjustment of  
 85 my improved sight-clamping mechanism is entirely independent of the position of the threads on the body of the stud  $m$ . Said stud can be rigidly screwed up and shouldered against the face of the hub  $h^2$  regardless of the relation of its threads with reference to the clamping-nut  $t$ , and the nut can then be readily adjusted in position to exert the required pressure of the wedge  $n$  against the  
 90 beveled edge  $a^2$  of the sight-carrying limb H. The lever  $l'$  can also be easily placed in the exact position it should occupy when said limb is so clamped in its guiding-way. The parts are not liable to become disadjusted after being properly set nor subject to much  
 100 wear in use.

I claim and desire to secure by Letters Patent—

1. In sight mechanism the combination of a base adapted for attachment to a firearm and  
 105 having a vertical dovetailed groove, a sight-carrying limb fitted and guided in said dovetailed groove of the base, a wedge guided laterally in the base to engage the beveled edge of the sight-carrying limb, a screw-threaded  
 110 stud mounted at the side of the base, and a clamping-lever nut screwed on the stud and adapted to actuate the cap into wedging engagement with the sight-carrying limb, substantially as and for the purpose specified. 115

2. In sight mechanism the combination of a base adapted for attachment to the side of a  
 120 firearm, a beveled-edged sight-carrying limb guided vertically in the base, a cylindrical wedge guided laterally in the base and having a straight beveled edge on one side for engagement with the beveled edge of the sight-carrying limb, a screw-threaded stud projecting through said wedge and a clamping-lever  
 125 nut screwed on the stud and adapted to actuate the wedge into wedging engagement with the sight-carrying limb, substantially in the manner and for the purpose specified.

3. In a sight for firearms the combination of a base adapted for attachment to the side  
 130

of the breech and having a vertical dovetailed groove and a seat comprising the major portion of a circle joining the groove, a sight-carrying limb fitted and guided in said groove, a screw-threaded stud projecting laterally from the base within the area of said seat, a cylindrical wedge guided in said seat having a straight beveled edge for engagement with the beveled edge of the sight-carrying limb and a perforation through which the screw-threaded stud is extended, a clamping-nut received on the stud and adapted to force the wedge into binding contact with the sight-carrying limb, a spring adapted to actuate the wedge in the reverse direction, and a lever or handle adjustably secured on the nut to operate the clamping mechanism substantially in the manner and for the purpose specified.

4. In sight mechanism the combination of a base adapted to be secured to the side of the firearm, and having a vertical dovetailed groove, and an annular seat having its outer circumferential line intersecting the groove, a sight-carrying limb mounted and guided in said groove, a screw-threaded stud fixed in the central limb of said annular seat, an annular wedge seated in said annular seat, having a straight beveled edge for engagement with the beveled edge of the sight-carrying limb, a spring received in said seat under and adapted to act against said annular wedge, a nut received on said screw-threaded stud, having a flange on its outer end, and a lever or

handle fitted and adjustably secured on said nut between the flange thereof and the annular wedge, for clamping the wedge upon the sight-carrying limb, substantially in the manner and for the purpose specified.

5. The herein-described sight for firearms comprising in combination a base having the vertical dovetailed groove *G* and an annular seat *h'* having its outer circumferential line intersecting the groove, a sight-carrying part, adjustably mounted in said groove, and a screw-threaded stud *m* screwed into and shouldered against the central hub of the annular seat, an annular wedge *n* fitted in said annular seat having a beveled edge *a'* for engagement with the beveled edge of the sight-carrying limb, a coil-spring received in said seat and acting between the base and wedge to force the wedge outwardly, the nut *t* received on said screw-threaded stud provided with the flange *u* upon its outer end, and having a series of indentations in its periphery, and the lever or handle *e'* fitted on the nut between the flange thereof and the annular wedge and adjustably held thereon by set-screw engagement with the said indentations, substantially as and for the purpose specified.

Signed by me at Middlefield, Connecticut, this 8th day of May, 1905.

JAMES WINDRIDGE.

Witnesses:

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GEORGE L. BARNES.