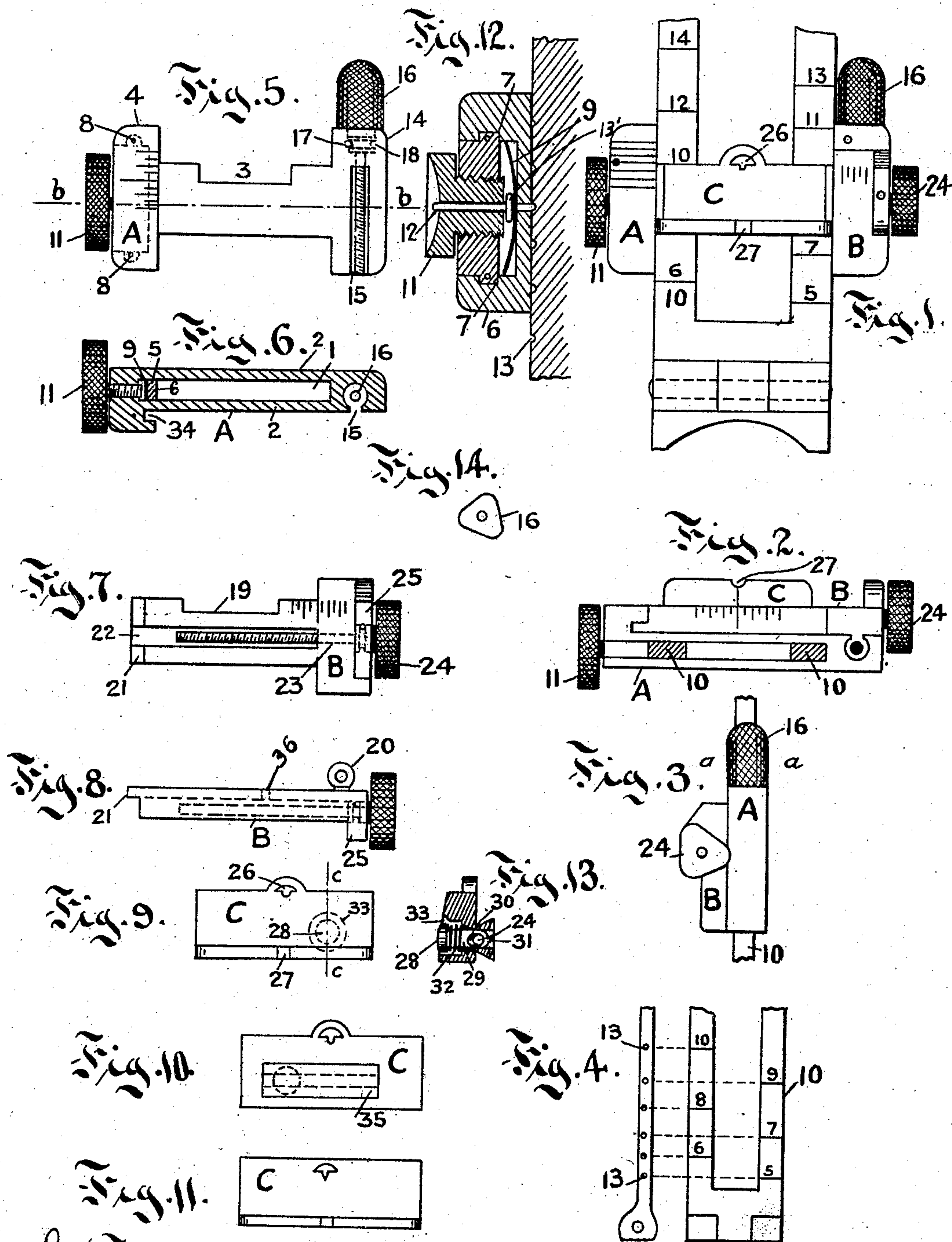


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R. E. REARDON.  
SIGHT FOR FIREARMS.  
APPLICATION FILED MAY 4, 1906.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## SIGHT FOR FIREARMS.

No. 849,498.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed May 4, 1906. Serial No. 315,212.

*To all whom it may concern:*

Be it known that I, ROBERT EDWIN REARDON, a citizen of the Dominion of Canada, residing in the city of Ottawa, in the county of Carleton, Province of Ontario, Canada, have invented Improvements in Sights for Firearms; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in rifle-sights, and more particularly to mechanism by which a very fine adjustment of the various gages may be had.

My invention relates also to the sighting-aperture which gives a clear definition and perfect alinement of the fore-sight.

Another feature is that my new sight may be applied to a great majority of the sight-leaves now in use without alterations to the same.

My invention consists, broadly, in a bar to be applied to the leaf or standard of various types of rifle-sights; and it comprises, first, a wind-gage having an adjusting device consisting of a screw having a head so shaped that upon the turning of the same an adjustment equal to degrees or fraction of degrees may be indicated by the sense of touch; second, a vertical adjustment of the eyepiece, also by means of a screw having the same features as that of the wind-gage, the range of adjustment being made to extend to a maximum of one hundred yards or more above or below the point to which it has been set; third, a sighting-piece carrying two sighting-apertures so positioned that one of the apertures may be used when the sight is in either the vertical or horizontal position; fourth, a sighting-aperture of a U or V shaped form, centrally positioned on the diameter or chord of a half-circle or segment.

The invention comprises also certain other features of construction and arrangement of parts, that will be hereinafter described and claimed.

In the drawings, Figure 1 is a rear view of the sight as turned up, the leaf being shown in section only. Fig. 2 represents a rear view of the complete sighting-bar as it appears when the leaf is in a horizontal position. Fig. 3 represents a side view of the sighting-bar on the side where the adjusting-screws are mounted. Fig. 4 represents a face and edge view of a part of the sight-leaf. Fig. 5 represents a face view of the sighting-bar with the sighting-piece removed. Fig.

6 represents a transverse section view of the same along the line *b b*, Fig. 5. Fig. 7 represents a face view of the eyepiece-carrier with the eyepiece removed. Fig. 8 is a top view of the same. Fig. 9 represents a rear view of the eyepiece. Fig. 10 represents a front view of the same. Fig. 11 represents a modification of the sighting-aperture. Fig. 12 represents a modification of the adjusting device of the sighting-bar. Fig. 13 represents a modification for the rapid adjustment of the eyepiece when using the wind-gage. Fig. 14 represents a section of the vertical adjusting-screw along the line *a a*, Fig. 3.

The device is composed of three main parts, which will be designated throughout this specification as, first, the sighting-bar, (denoted by the letter A;) second, the eyepiece-carrier, (denoted by the letter B;) third, the eyepiece, (denoted by the letter C.)

The sighting-bar (illustrated by Figs. 5 and 6) is preferably cut out from a single piece of metal. 1 is the central slot for the rifle-leaf. The walls 2 2 of the slot 1 are centrally notched, as at 3. This notch is intended to give clearance to the sighting-aperture. The end 4 of the notch 1 is shaped as shown. It is slotted lengthwise, as shown at Fig. 6 by 5, and endwise, as shown in dotted lines, Fig. 5. These slots serve as a recess for the friction-piece 6, Fig. 6. The shape of that piece 6 is shown in Fig. 12. The notches 7 7 are the means to retain the same in the recess 5 when pins 8 8 are in position. A spring 9 keeps the piece 6 in frictional contact with the rifle-leaf 10, and to fix the sighting-bar on the rifle-leaf a thumb-screw 11 is threaded through the end 4, as shown. Its inner end presses against the center of spring 9 and tightens the friction-piece 6 against the rifle-leaf 10.

Fig. 12 shows a modified form of the device previously described. This modification affords a means by which the sighting-bar may be adjusted to one hundred yards, or thereabout, by the sense of touch. The screw 11 is centrally perforated. A pin 12 passes through the same. This pin has an enlargement 13' resting against the spring 9. It will be seen that the pin 12 passes through the friction-piece 6 and engages the rifle-leaf 10 by means of small indentations 13 on said leaf. The pin 12 has a free movement in the screw 11 and friction-piece 6. The part of the pin engaging the indentation is rounded off, and, the indentations being shallow, it will be



evident that if the finger be applied on the end of the screw 11 and the sighting-bar made to slide up or down the leaf 10 every time the pin 11 coincides with an indentation it will fall therein, causing a depression of said pin sufficient to be felt by the finger.

Referring again to Fig. 5, the right end 14 of the sighting-bar notch 1 is shaped as shown. It is provided with a slot 15, shaped as shown in Fig. 6. A screw 16 extends the whole length of the slot and is fixed as to its longitudinal movement in the end piece 14 by means of a pin 17 engaging a circular groove 18, which groove is integral with the screw 16. The screw 16 is hereinafter called the "vertical adjusting-screw". The head of this screw is triangular in cross-section—*i. e.*, an equilateral triangle with the corners rounded off, as shown by Fig. 14. This shape will enable the fingers to detect each face of the screw-head when the same is being rotated. It will be evident, therefore, that if one complete turn of the screw causes a nut engaging the same to be moved one degree three faces of the screw-head will have been presented to the finger, while if one-third degree adjustment is required one face only will have been presented.

Referring now to Figs. 7 and 8, representing what has been hereinbefore called the "eyepiece-carrier" B, 19 is a notch corresponding to the notch 3 and intended also to clear the sighting-aperture of the eyepiece. 20 is a nut made integral with the eyepiece-carrier and intended to engage the adjusting-screw 16 of the sighting-bar. 21 is a tongue made to slidably engage the groove 34 of the sighting-bar. This eyepiece-carrier when connected to the sighting-bar by the two parts above mentioned will on the turning of the screw 16 cause the piece B to move up or down the sighting-bar, the movements corresponding to the direction the screw 16 is being turned. The piece B has a longitudinal groove 22 and a perforation 23, (shown in dotted lines,) adapted to receive the adjusting-screw 24. The head of this screw is shaped as shown in Fig. 3—*i. e.*, an equilateral triangle with the head rounded off. This shape serves the same purpose as explained heretofore with regard to the screw 16. The piece B has a projection 25 standing at right angles to the face of the piece B and is shaped to protect the head of the screw 24.

Referring now to Figs. 9 and 10, representing the eyepiece C, 26 is the eye-aperture, made U-shaped in this case and positioned, as heretofore explained, underneath the diameter or chord of a half-circle or sector. 27 is the eye-aperture used when the sight is in a horizontal position. This aperture is positioned at right angles with regard to aperture 26. 35 is a nut made to engage groove 22 of the eyepiece-carrier and to thread on the screw 24 of the same piece. It will be

evident, therefore, that since the thread of screw 24 is cut so that one turn represents one degree of adjustment the eyepiece C will be moved exactly as previously explained with regard to the adjusting-screw 16. This screw 24 is the wind-gage screw.

Fig. 13 represents an attachment that may be used in connection with the adjustment of the wind-gage. This figure is a section cross-wise on *c c*, Fig. 9. 28 is a button carrying a stem 29, having an elongated perforation 30, said perforation being threaded at its lower end. The threads correspond to that on screw 24. A short lug 31 terminates the stem. A spring 32 keeps the threaded part of the perforation 30 into engagement with the screw 24. This button is placed in a recess 33 practiced in the eyepiece C. The operation of this device is as follows: When the button is depressed, the thread on the stem disengages the screw 24, and the eyepiece may then be moved freely from right to left, or vice versa, on the eyepiece-carrier; but whenever in these movements the eye-aperture passes centrally of the sight the lug 31 on the end of the stem will drop in a perforation 36 on the eyepiece-carrier, thereby indicating the central position of the eye-aperture.

The operation of my device is as follows: The rifle-leaf having been raised in the vertical position, the sighting-bar is adjusted to approximately the range required by releasing the friction-piece 6 from the friction-leaf, which is done by unscrewing the said screw 11, by sliding the bar to the graduation indicating the range sought, and rescrewing the said screw 11 tight and the friction-piece 6. Should it then be found that the range is short, the adjusting-screw 16 may be turned from right to left, when the finger will detect the degrees or fraction of a degree every time one of the surfaces of the screw-head comes forward. It will be understood that the reverse action of this screw will shorten the range. Should it now be found that the wind deflects the projectile, the wind-gage screw 24 may be brought into action, and as the head of this screw is also provided with a plurality of surfaces the degrees or fraction of a degree may be counted by the sensation on the fingers as each face is presented.

I lay great stress on this perception by the sense of feeling of the minute variations invariably required to be corrected in accurate sighting. This is a great advantage, as the eye need not leave the shooting-point when making corrections in the sighting. This feature is also desirable when shooting in dark or noisy surroundings.

I am aware that attempts have been made to adjust rifle-sights by the sense of hearing; but one has only to take into consideration the noise occasioned by the reports of firearms to disregard this means.



In the foregoing description and in the drawings I have limited my invention to one form of construction; but it must be understood that various changes in the form, construction, and disposition of the parts may be made without departing from the spirit of my invention.

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

1. In a sight for firearms, means for definitely varying the range of fire, comprising a screw having a head integral therewith, said head presenting a number of distinct faces disposed at an angle to each other and capable of being counted by the sense of feeling on the fingers.

2. In a sight for firearms, means for compensating for the wind deflection of the projectile, comprising an adjusting-screw having a head integral therewith, said head presenting a number of distinct faces disposed at an angle to each other and capable of being counted by the sense of feeling on the fingers.

3. In a sight for firearms, a sight-leaf, a sighting-bar freely mounted thereon, means for fixing said bar on said leaf, an eyepiece movably mounted on said sighting-bar, vertical eyepiece-adjusting means carried by said sighting-bar positioned to clear said sight-leaf and adjacent thereto.

4. In a sight for firearms, a sighting-bar-adjusting screw, having a head integral therewith, presenting a plurality of distinct surfaces disposed at an angle to each other and capable of being counted by the fingers when said head is rotated.

5. In a sight for firearms, a sight-leaf, a sighting-bar slidably mounted thereon, a screw having a head with a plurality of surfaces capable of being counted by the fingers when rotated mounted on said sighting-bar, a thread on said screw corresponding to a multiple of said surfaces, and an eyepiece mounted on said sighting-bar and adjustable by said screw.

6. In a sight for firearms, a sight-leaf, a sighting-bar slidably mounted thereon, means for fixing said sighting-bar on the leaf, a screw having a head made with a plurality of surfaces capable of being counted by the fingers when rotated mounted on said sighting-bar, a thread on said screw corresponding to a multiple of said surfaces, a scale on said sighting-bar, and an eyepiece-carrier mounted on said sighting-bar, said eyepiece-carrier being adjusted by said screw, and an eyepiece mounted on said eyepiece-carrier.

7. In a sight for firearms, a sight-leaf, a sighting-bar slidably mounted thereon, means for fixing said sighting-bar on said leaf, a trajectory adjusting-screw having a head made with a plurality of surfaces capable of being

counted by the fingers when rotated mounted on said sighting-bar, a thread thereon corresponding to a scale, a multiple of said surfaces on the nut-head carried by the sighting-bar, an eyepiece-carrier movably mounted on said sighting-bar, a wind-gage screw mounted on said eyepiece-carrier, and an eyepiece mounted on said eyepiece-carrier and adjustable horizontally by said wind-gage screw.

8. In a sight for firearms, a sight-leaf, a sighting-bar slidably mounted thereon, means for fixing said sighting-bar on said leaf, a trajectory adjusting-screw on said sighting-bar having a head with a plurality of surfaces capable of being counted by the fingers when rotated, a thread corresponding to a multiple of said surfaces cut on said screw, a scale on said sighting-bar, an eyepiece-carrier movably mounted on said sighting-bar, a wind-gage screw on said eyepiece-carrier having a head with a plurality of surfaces capable of being counted by the fingers when rotated, a thread corresponding to a multiple of said surfaces cut on said wind-gage screw, a scale on said eyepiece-carrier and an eyepiece mounted to slide horizontally on said eyepiece-carrier and adjustable by said wind-gage screw.

9. In a sight for firearms, a sight-leaf, a sighting-bar freely mounted thereon, means for fixing said bar on said leaf, an eyepiece movably mounted on said bar, means for adjusting said eyepiece laterally, a vertical eyepiece-adjusting screw carried by said sighting-bar positioned to clear said sight-leaf and adjacent thereto.

10. In a rifle-sight, a sighting-bar mounted to engage the sight-leaf, a slot cut on said sighting-bar, a slot also cut on said sighting-bar, a screw rotatively mounted in said slot, a sight-piece B having tongues and 20 made to respectively engage slots and 15 of said sighting-bar, a perforation longitudinally of tongue 20 and a thread in said perforation made to engage the said screw 16 as and for the purpose set forth.

11. In a rifle-sight, a sighting-bar mounted to engage the sight-leaf, a slot cut on said sighting-bar, a slot also cut on said sighting-bar, a screw rotatively mounted in said slot, a sight-piece B having tongues and 20 made to respectively engage slots and 15 of said sighting-bar, a perforation longitudinally of tongue 20 and a thread in said perforation made to engage the said screw 16, a groove cut transversely of said sight-piece, a screw rotatively mounted in said groove and an eyepiece C having a nut engaging screw 24 of the sight as and for the purpose set forth.

12. In a sight for firearms, a sight-leaf, a scale on said leaf, a depression on the edge of said leaf opposite each scale graduation, a



sighting-bars slidably mounted thereon, means carried by said sighting-bar to indicate by the sense of feeling the range-scale on said leaf, and means for fixing said sighting-bar on said leaf.

13. In a sight for firearms, a sight-leaf, a scale on said leaf, a depression on the edge of said leaf opposite each scale graduation, a sighting-bar slidably mounted on said sight-leaf, means carried by said sighting-bar to indicate by the sense of feeling the range-scale on said leaf and means for fixing said sighting-bar on said leaf, a screw having a head made with a plurality of surfaces capable of being counted by the fingers when rotated mounted on said sighting-bar, a thread corresponding to a multiple of said surfaces on said screw, a scale on said sighting-bar, an eyepiece-carrier mounted on said sighting-bar, said eyepiece-carrier being adjusted by said screw, and an eyepiece mounted on said eyepiece-carrier.

14. In a rifle-sight, a wind-gage, means for setting the same, and supplementary means to accurately center the eye-aperture by the sense of feeling.

15. In a rifle-sight, a wind-gage, a screw to set the same, a disengaging nut mounted on said screw, means for disengaging said nut,

and means integral with said nut to indicate the central position of the eye-aperture.

16. In a sight for firearms, a wind-gage, a screw to set the same, a stem having an oblong aperture inclosing said screw, a thread on the bottom of said oblong aperture, a press-button on said stem, a spring to maintain said thread in engagement with the screw, whereby when the spring is depressed the nut disengages the screw.

17. In a wind-gage for the sights of firearms, an eyepiece-carrier, an adjusting-screw mounted thereon, an eyepiece slidably mounted on said eyepiece-carrier, a stem having an oblong aperture inclosing said screw, a thread on the bottom of said oblong aperture, a press-button on said stem, a lug on the bottom of said stem, a center-indicating perforation in said eyepiece-carrier underneath said screw wherein said lug will drop, when the eye-aperture reaches the center position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT EDWIN REARDON.

Witnesses:

A. E. CARON,

JNO. KILGALLIN.