

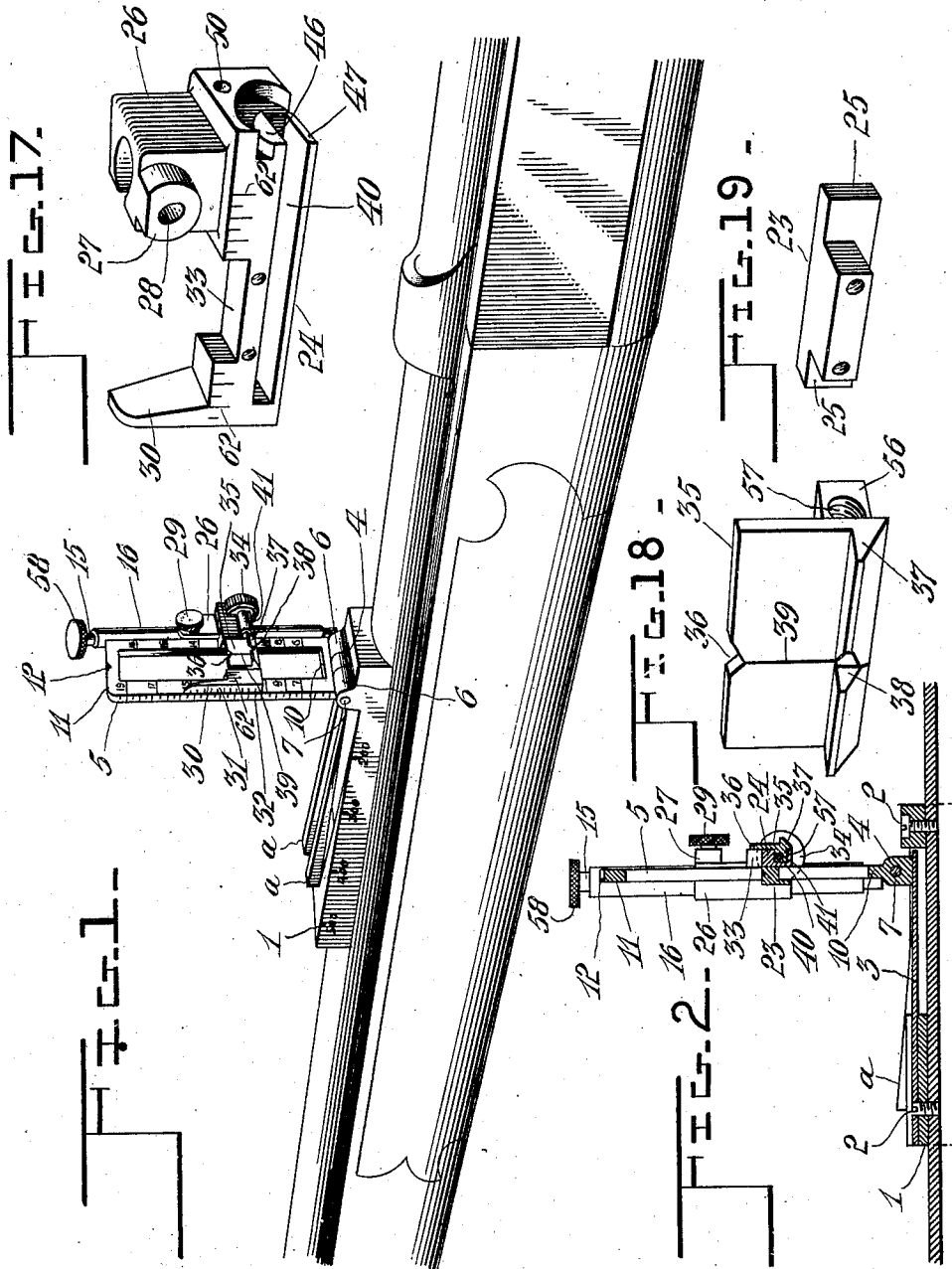
No. 824,960.

PATENTED JULY 3, 1906.

M. E. SUTHERLAND.
RIFLE SIGHT.

APPLICATION FILED FEB. 14, 1906.

3 SHEETS—SHEET 1.



Witnesses:

John T. Deufferwin
E. Wright

Murdock E. Sutherland, Inventor,

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Frederick H. Gibbs Attorney

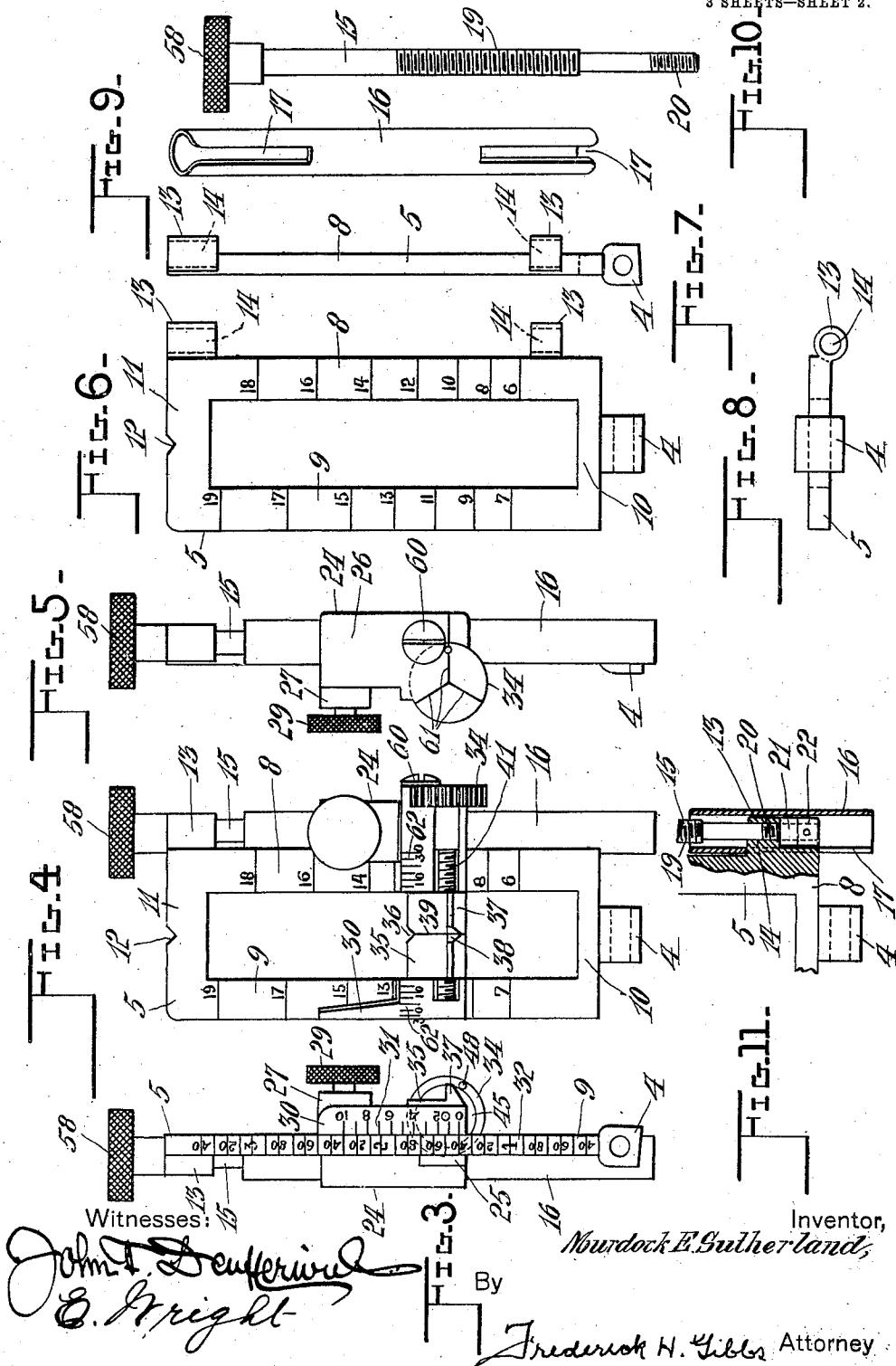
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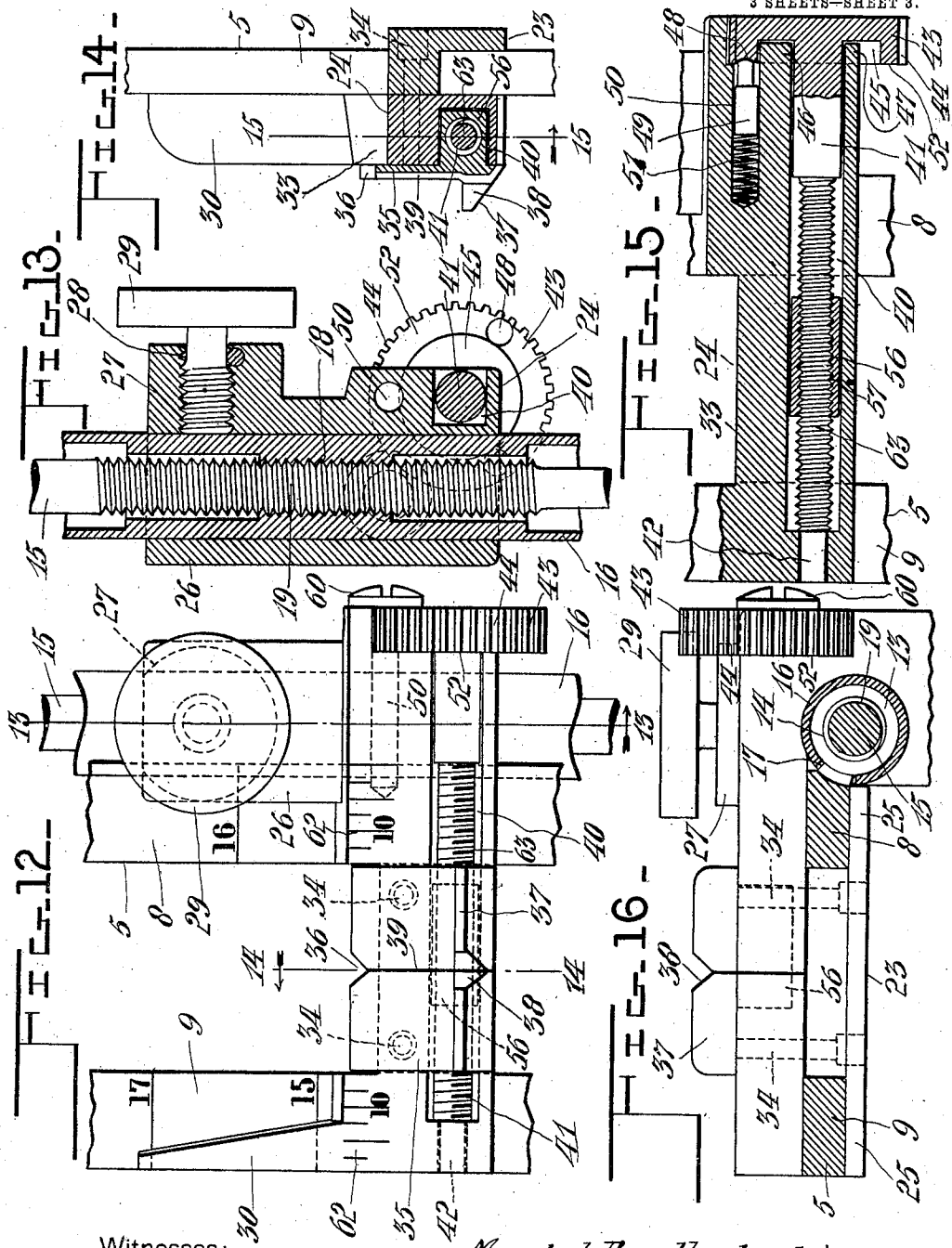


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UNITED STATES PATENT OFFICE.

MURDOCK EVETT SUTHERLAND, OF WESTVILLE, CANADA, ASSIGNOR TO
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RIFLE-SIGHT.

No. 824,960.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed February 14, 1905. Serial No. 245,562.

To all whom it may concern:

Be it known that I, MURDOCK EVETT SUTHERLAND, a subject of the King of Great Britain, residing at Westville, Pictou county, in the Province of Nova Scotia, Canada, have invented certain new and useful Improvements in Rifle-Sights; and I do hereby declare that the following is 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.

This invention relates to an improved back sight or rifle-sight especially adapted for military rifles.

The object of the invention is to provide a sight of the leaf pattern which is capable of great accuracy in adjustment and which dispenses with the use of all detachable sighting appurtenances, the entire structure being so connected as to its parts that there is no possibility of accidental displacement.

The improved sight is adapted to be set in position for any range whatever by the use of a finely-graduated vernier and has connected with it a wind-gage which is so graduated as to be adjustable to any strength of wind and over any desirable range.

The sight may be readily attached to any rifle now in use without alterations therein and will occupy no more space on the rifle-barrel than is ordinarily required for the sights now in use, which are not capable of the fine adjustment of which this device is capable.

A special object of the invention in connection with the foregoing is to provide means not only for setting the sight to an extreme degree of accuracy as to range and windage by means hereinafter specified, but also to permit the instrument to be quickly set by hand independently of the vernier and tangent-screw in cases where there is not time enough to permit of greater adjustment of accuracy.

To these and other ends the invention consists in the main in a rectangular plate which has a substantially central rectangular slot, the plate being pivoted to a sight-bed of an ordinary form, except as hereinafter described, and the whole being formed in a simple, durable, and economical manner best adapted for military uses, as well as for sporting-rifles, &c.

The invention further resides in the particular combination and construction of parts hereinafter described, and more particularly pointed out in the claims.

In the drawings accompanying this specification is illustrated the most improved form of the new rifle-sight, and Figure 1 is a perspective view of the sight as mounted in position for use on a gun-barrel. Fig. 2 is a longitudinal vertical sectional view through the sight and gun-barrel. Fig. 3 is a side elevational view of the sight detached from its bed-plate. Fig. 4 is an elevational view. Fig. 5 is an edge view looking toward the right of Fig. 4. Fig. 6 is a detached elevational view of the leaf-plate. Fig. 7 is an edge view of the leaf-plate looking toward the left side thereof. Fig. 8 is a bottom plan view of the leaf-plate. Fig. 9 is a detail view of the screw-threaded sleeve hereinafter referred to, in which the tangent-screw is held. Fig. 10 is an elevational view of the tangent-screw. Fig. 11 is a fragmentary view illustrating, partly in full lines and partly in sections, the lower right-hand corner portion of the sight shown in Fig. 4. Fig. 12 is an enlarged detail view of a fragment of the sight, showing the wind-gage and its appurtenant connections mounted upon the sighting-bar. Fig. 13 is a sectional view taken approximately on line 13 13 of Fig. 12. Fig. 14 is a sectional view taken on line 14 14 of Fig. 12. Fig. 15 is a fragmentary view, chiefly in section, taken approximately on line 15 15 of Fig. 14, showing details of construction relating to the means for operating the wind-gage. Fig. 16 is a bottom plan view of the parts shown in Fig. 12. Figs. 17, 18, and 19 are enlarged details of the sighting-bar and wind-gage hereinafter referred to.

Referring to the parts and commencing with the bed-plate, 1 is the bed-plate, which is secured to the barrel of the rifle by means of screws 2 2 passing through said bed-plate into the rifle-barrel, as best shown in the sectional view Fig. 2. Mounted on the bed-plate, as shown in said Fig. 2, is a leaf-spring 3, which is secured to the bed-plate at its forward end by one of the screws 2 and bears at its rear end against the rectangular perforated lug 4 of the leaf-plate 5.

The bed-plate is provided with lugs 6 6 and a pintle 7 passes through the lugs 6 and

central lug 4, thereby locking the leaf-plate in position upon the bed-plate, as best shown in Figs. 1 and 2.

The leaf-plate, as shown in Figs. 6, 7, and 8, comprises a rectangular frame, preferably in one piece, having the limbs 8 and 9 connected by the transversely-extending portions 10 and 11, the lug 4 extending downwardly from the portion 10 and the cross-bar 11 being provided with the V-shaped sighting-notch 12 for well-understood purposes.

The limbs 8 and 9 of the leaf-plate are provided with the coarse scale-marks shown in the drawings as a gage for the sighting-bar hereinafter referred to, and the scale is preferably arranged for adjustment at ranges of from six hundred yards upwardly.

Extending laterally from the leaf-plate 5 are lugs 13, which are provided with vertical coaxial perforations 14, through which perforations is projected the tangent-screw 15, hereinafter referred to in detail.

Coöperating with the lugs 13 is a longitudinally-slotted sleeve 16, provided with slots 17, whereby said sleeve 16 is adapted to be placed in position so as to approximately surround said lugs 13; but the slots 17 in said sleeve 16 permit the sleeve to be moved longitudinally of the leaf-plate, as may be necessary in the adjustment of the sighting-bar by said tangent-screw.

As will be seen in Fig. 13, the sleeve 16 in addition to the longitudinal slot 17 is provided with an internally-screw-threaded portion 18, the screw-thread of which engages with the screw-threaded portion 19 of the tangent-screw 15. This tangent-screw is provided at its lower end with another screw-threaded portion 20, upon which nuts 21 and 22 are secured below the lower lug 13 to lock the tangent-screw in position upon the leaf-plate.

The sighting-bar, which is shown in detail in Figs. 17 and 19, is formed of two parts, indicated generally by the reference-numerals 23 and 24, the part 23 being provided with the lateral extensions 25, adapted to bear against the ramps *a* when leaf-plate is down and against the face of the leaf-plate which lies next to the bed-plate, and the part 24 being adapted to slide upon the face of the leaf-plate which lies uppermost when said leaf-plate is in lowered position—that is, the side which is nearer the person using the rifle. The member 24 of the sighting-bar is provided with a lug 26, which is perforated and through which passes the sleeve 16, having within it the tangent-screw 15. The lug 26 has a boss 27, which is perforated at 28 for the passage of the set-screw 29, said set-screw being adapted to bear upon the sleeve 16 when set to its innermost position, whereby the sighting-bar may be locked in position upon said sleeve 16 when desired.

When a quick adjustment of the sighting-

bar is desired, the set-screw 29 may be loosened and the sighting-bar may be quickly adjusted along the face of the leaf-plate, and when placed in the desired position the set-screw 29 may be turned home and lock the sighting-bar in position.

The sighting-bar is provided at its left-hand portion with the lug 30, which lug is provided upon its edge portion with a vernier-scale 31, which coöperates with the fine graduations 32 upon the edge of the limb 9 of the leaf-plate for fine adjustments of the sighting-bar under the influence of the tangent-screw. The sighting-bar is also provided with the recess 33, which is preferably rectangular in form, and the pins 34 pass through the sighting-bar in proximity to said recess 33, as shown in Figs. 12 and 14, for the purpose of locking the members 24 and 25 of the sighting-bar upon the leaf-plate.

Coöperating with the sighting-bar is a wind-gage 35, which wind-gage is provided with the V-shaped notch 36 and also provided with the lateral projection 37, which has formed therein the V-shaped notch 38 in alinement with the notch 36, while a platinum or other non-corrodible material 39 is inserted to form a line extending from the notch 36 to 38 to assist in sighting the rifle. The sighting-bar is also provided with the transversely-extending recess 40, in which rests the adjusting-screw 41, which screw is provided with a reduced end portion 42, resting in a corresponding recess in the left-hand portion, as shown, of the sighting-bar.

The opposite end of the adjusting-screw 41 is provided with the head portion 43, which head is provided with the milled edge 44, as shown in Fig. 13, and is also provided on its inner face with the annular channel 45, which is adapted to coöperate with the projections 46 and 47 of the sighting-bar.

In addition to the annular channel 45 the head 43 is provided with recesses 48, provided at regular distances apart, and coöperating with said recesses 48 is a spring-actuated pin 49, held in the recess 50 in the sighting-bar and normally influenced by the stress of the spring 51 in said recess or pocket 50, whereby said pin 49 will ride in contact with the face 52 of the head 43 on said adjusting-screw 41, and in consequence of the rounded head portion 54 on said pin the pin will pass into and out of the recesses 48 as the head 43 is being rotated, but will cause a slight clicking noise each time the pin enters a recess 48, thereby giving warning to the operator of the progress being made in the adjustment by means of said screw 41.

Coöperating with the screw 41 is said wind-gage 35, which has the screw-threaded lug 56 formed preferably integral therewith, the screw-thread 57 engaging with the screw-thread formed on the member 41, so that the

wind-gage may be shifted transversely of the leaf-plate by means of said screw-threaded member 41, as may be desired to provide against side drift or windage.

5 It will be noted that the rear face of the lug 26 is preferably roughened to provide a better grip for adjusting the sighting-bar vertically by hand for quick adjustments; but after the rough adjustment of the sighting-
10 bar has been made the set-screw 29 may be locked, and the final adjustments of the sighting-bar are thus preferably made by means of the tangent-screw 15, which is provided with the milled head 58.

15 Coöperating with the head 43 of the member 41 is the screw 60, which is let into the sighting-bar and overlaps said head 43, as best shown in Fig. 5, thereby locking said member 41 in position. As will be noted in
20 said Fig. 5, the head 43 is provided with three radial lines 61, which correspond to the positions relatively of the recesses 48, into which the pin 49 is projected, as before described.

Coöperating with the wind-gage 35 are the
25 graduations 62 on the sighting-bar, which graduations are extremely fine and are so arranged with relation to the pitch of the screw-thread 63 of the member 41 and the "click"
30 formed by the pin 49 and recesses 48 that more than a complete rotation of the head 41 is required to move the gage one point on the scale 62. Thus it is evident that a very close
35 adjustment of the wind-gage is possible, and the adjustment is always within control of the operator.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

40 1. In a leaf-sight for firearms, a pivoted plate having a central slot, laterally-projecting perforated lugs on said plate, a sighting-bar transversely mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw
45 mounted in the lugs on said plate, a sleeve slidable in the lug of the sighting-bar and engaging said tangent-screw, and means for locking the sighting-bar on said sleeve.

2. In a leaf-sight for firearms, a pivoted
50 plate having a central slot, laterally-projecting perforated lugs on said plate, a sighting-bar transversely mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw
55 mounted in the lugs on said plate, a sleeve slidable in the lug of the sighting-bar and engaging said tangent-screw, and means for locking the sighting-bar on said sleeve, in combination with a transversely-extending
60 screw, a wind-gage in screw-threaded engagement with said screw, and a spring-actuated pin.

3. In a leaf-sight for firearms, a pivoted plate having a central slot, perforated lugs

on said plate, a sighting-bar transversely 65 mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw mounted in the lugs on said plate, an internally-threaded and longitudinally-slotted sleeve mounted on said
70 screw and slidable on the lug of the sighting-bar, said sighting-bar having a pair of recesses therein, an adjusting-screw in one of said recesses, a wind-gage in screw-threaded engagement with said screw, an enlarged
75 head on said screw, and a spring-actuated pin in the other of said recesses bearing against said enlarged head.

4. In a leaf-sight for firearms, a pivoted leaf-plate having a central slot, a sleeve extending longitudinally of said plate, a recessed sighting-bar slidably mounted on said plate, means for adjusting said sighting-bar longitudinally of said plate, a wind-gage having a screw-threaded portion which is movable longitudinally of the sighting-bar, a screw-threaded member engaging said screw-threaded portion of the wind-gage, said member being mounted in said sighting-bar, and means for locking said sighting-bar in position on said sleeve.

5. In a leaf-sight for firearms, a pivoted plate having a central slot, lugs projecting laterally from said plate, a sleeve slidably mounted on said lugs, a sighting-bar slidably
95 mounted on said plate, and a set-screw carried by said sighting-bar, said set-screw being adapted to engage said sleeve to lock the sighting-bar in position.

6. In a leaf-sight for firearms, a pivoted 100 plate having a central slot, perforated lugs on said plate, a sighting-bar transversely mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw mounted in the lugs on said
105 plate, an internally-threaded and longitudinally-slotted sleeve mounted on said screw, said sleeve being guided by said lugs on the plate, in combination with a wind-gage having an internally-screw-threaded lug connected therewith, a screw-threaded adjusting member rotatably mounted in a recess in
110 said sighting-bar, and a spring-actuated pin adapted to bear against said screw-threaded member.

7. In a leaf-sight for firearms, a pivoted 115 plate having a central slot, a sighting-bar transversely mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw mounted in said lug, an internally-threaded and longitudinally-slotted sleeve guided by said lug and mounted on said screw, in combination with means for locking said sighting-bar upon said sleeve, a wind-gage mounted upon
120 said sighting-bar, a lateral screw-threaded projection formed upon said wind-gage, a mill-headed adjusting-screw extending lon-

gitudinally within a recess in said sighting-bar, means for locking said adjusting-screw in position in said sighting-bar, and spring-actuated means for giving an audible signal when said adjusting-screw is rotated to shift the wind-gage.

8. In a leaf-sight for firearms, a pivoted plate, having a central slot, perforated lugs on said plate, a sighting-bar transversely mounted across said slot, a laterally-extending perforated lug integral with said sighting-bar, a tangent-screw mounted in said lug, an internally-threaded and longitudinally-slotted sleeve mounted on said screw, a lug on the plate engaging a slot in said sleeve, in combination with means for locking said sighting-bar upon said sleeve, a wind-gage having a screw-threaded lug connected therewith, said lug being adapted to travel in a recess in said sighting-bar, and means for shifting said wind-gage longitudinally of the sighting-bar and transversely of the central slot.

9. In a leaf-sight for firearms, a pivoted plate having a central slot and integral laterally-projecting perforated lugs, a recessed and perforated sighting-bar slidably mounted on said plate, an internally-screw-threaded longitudinally-slotted sleeve projecting through a perforation in said sighting-bar, said sleeve being guided on said lugs, a tangent-screw mounted in the said perforated lugs and engaging said sleeve, in combination with a wind-gage having a screw-threaded lug portion, an adjusting-screw passing through said lug portion of the wind-gage, and a spring-

actuated pin cooperating with recesses in the head of said adjusting-screw.

10. In a leaf-sight for firearms, a pivoted plate having a central slot, lugs projecting laterally from said plate, an internally-screw-threaded sleeve slidably mounted on said lugs, a sighting-bar slidably mounted on said plate, a set-screw carried by said sighting-bar, said set-screw being adapted to engage said sleeve to lock the sighting-bar in position, and a screw-threaded stem passing through said lugs in engagement with said sleeve.

11. In a rifle-sight, a sighting-bar having a perforated lug projecting therefrom, in combination with a wind-gage slidably mounted on said sighting-bar, a screw-threaded lug on said wind-gage, and a screw-threaded member rotatably mounted in said sighting-bar, in engagement with said wind-gage, in such manner that it is closely surrounded on three sides by the material of said sighting-bar for substantially the entire length of said screw-threaded member.

12. In a rifle-sight, a leaf-plate, a screw-threaded sleeve carried by said plate, means for moving said sleeve longitudinally of the plate, a sighting-bar slidable on said leaf-plate independently of the movement of said sleeve, and means for locking said sighting-bar to said sleeve.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

MURDOCK EVETT SUTHERLAND.

Witnesses:

FREDERICK H. GIBBS,
JOHN F. DEUFFERWIEL.