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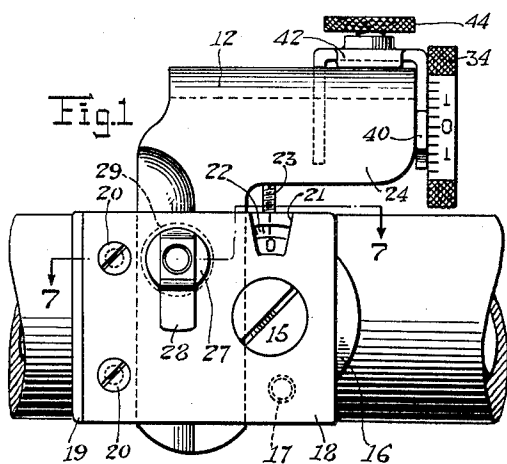
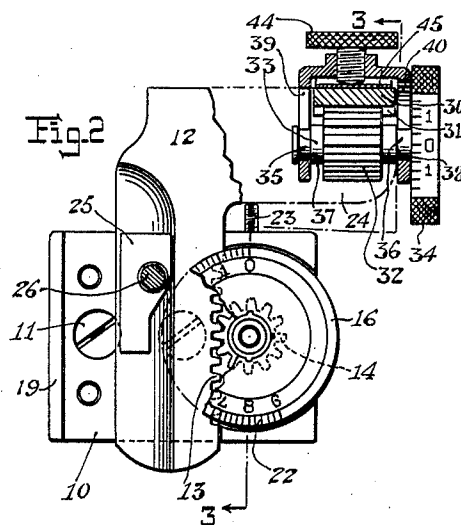
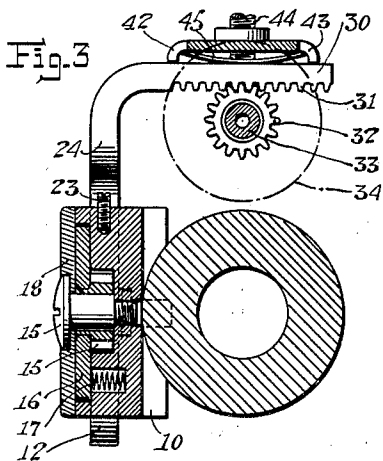
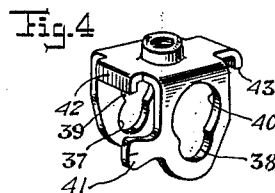
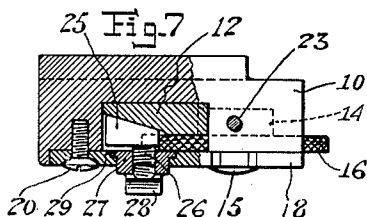
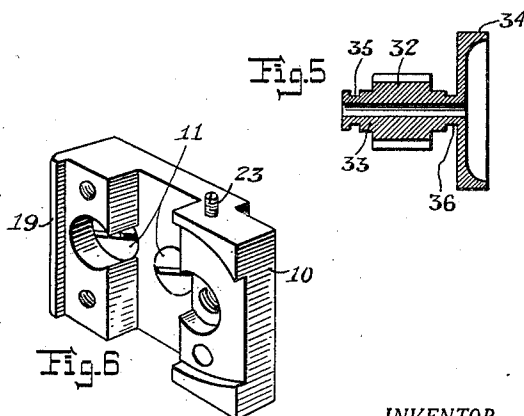
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GUN SIGHT

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GUN SIGHT

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8 Claims. (Cl. 33—56)

This invention relates to gun sights of the type commonly referred to as "wind gauge sights", in which provision is made for both a range adjustment and a windage adjustment.

5 It is the object of the invention to provide a sight of this type which shall be of particularly rugged and simple construction, the number of parts being reduced to a minimum with no sacrifice of the accuracy necessary for ordinary target work.

In the drawing:

10 Fig. 1 is a left side elevation of the improved sight.

15 Fig. 2 is a left side elevation, the mounting block cover plate being removed and certain other parts being broken away for showing the moving elements with greater clearness.

Fig. 3 is a rear elevation, partly in section.

20 Fig. 4 is a perspective of the sight disk supporting yoke.

Fig. 5 is a side elevation of the sight disk and pinion associated therewith.

Fig. 6 is a perspective of the mounting block.

25 Fig. 7 is a horizontal section on the line 7—7 of Fig. 2.

The sight is attached to the receiver of a firearm by means of a mounting block or base plate 10 which may comprise an arcuate face, clearly seen in Fig. 3, conforming to the curvature of the receiver of a firearm to which the block is to be attached by suitable means, such as screws 11. The mounting block is vertically slotted or recessed to receive a vertically extending arm 12 of the sight base or bracket to be hereinafter more fully described. Rack teeth 13 are formed on one edge of the arm 12 and adapted to mesh with the teeth of a pinion 14 supported on an arbor 15, which arbor may also serve as an assembly screw, its threaded end being received in a threaded aperture in the mounting block 10. The extending hub of the pinion 14 is staked, or otherwise suitably secured, to an index wheel 16, the margin of which projects slightly beyond the margin of the mounting block 10 and is knurled for easy manipulation. The mounting block is recessed to receive the index wheel and pinion assembly. A suitable friction device may be provided, such as a coil spring 17 located in a well in the mounting block 10 and bearing against the index wheel 16.

50 The foregoing parts are covered by a cover plate 18 which supports the outer end of the arbor 15. One edge of the cover plate 18 preferably abuts a shoulder 19 on the mounting block 10, to which the cover plate may be additionally

secured by suitable means, such as screws 20. Said cover plate 18 is notched at 21 to expose a section of the index wheel 16 and of the mounting block, and a reference mark 22 is placed upon the mounting block for co-operation with the markings upon the index wheel 16 in determining the proper sight elevation. The reference mark 22 preferably coincides with the "zero" on the index wheel at "point blank" range, and the notch 21 is made of sufficient width to expose two numerals on index wheel 16, thus indicating the direction of rotation necessary for a desired sight adjustment. An adjustable screw 23 in the upper edge of the mounting block 10 may be set to engage the rearwardly extending bar 24 of the sight base and prevent lowering of the sight below its "zero" or "point blank" position. To firmly secure the sight base in the position to which it is adjusted by manipulation of the index wheel 16, the outer face of the arm 12 opposite the teeth 13 is beveled, as seen in Fig. 7, and a beveled clamping piece 25 co-operates with said beveled portion of the arm 12. The clamping piece 25 is provided with an outwardly extending screw 26 which is received in the apertured and threaded hub 27 of a clamp controlling finger piece 28. Said hub 27 extends through an aperture in cover plate 18, which aperture is counter-bored from the inside of the plate to receive a flange 29 integral with the hub 27 and finger piece 28. Thus rotating the finger piece to the left will force the clamping piece 25 inwardly into clamping engagement with the arm 12.

Above the arm 12, the sight base comprises a rearwardly extending and preferably cylindrically curved bar 24. From the rear portion of bar 24, an arm 30 extends transversely and horizontally. The underside of said arm 30 is provided with rack teeth 31 adapted to mesh with the teeth of a pinion 32 which is fixed to or integral with an elongated and centrally apertured stud or boss 33 fixed to sight disk 34. The aperture in boss 33 is in alignment with the sight disk aperture, and the boss is provided with two peripheral bearing grooves 35 and 36. Said bearings are received in bearing apertures 37 and 38 in the sight disk supporting yoke illustrated in Fig. 4. The rearmost flange of said yoke is provided with an aperture 40 of sufficient diameter to admit pinion 32, while an aperture 39 in the opposite flange of the yoke need only be of sufficient diameter to pass the end of the boss 33 adjacent the bearing groove 36. Said apertures 39 and 40 communicate with the

bearing apertures so that the yoke may be assembled with the sight disk and its pinion by passing the boss and pinion through the aperture 40 and into the aperture 39 and subsequently depressing the sight assembly to place the bearings correctly in the bearing apertures. The rearmost flange of the yoke is likewise provided with a lateral extension 41 upon which is placed a reference mark for co-operation with an index upon the periphery of the sight disk 34. The piece 41 is of sufficient width to provide for aligning the reference mark with the "zero" of the index for a "no cross wind" adjustment. The sight disk supporting yoke is further provided with two short flanges or fingers 42 and 43, downturned from the web of the yoke and adapted to bear upon the upper surface of the sight base arm 30. The fingers 42 and 43 are of such length as to hold the pinion 32 in proper operative engagement with the rack 31. It will be seen that by rotating the sight disk, said disk with its supporting yoke will be moved transversely upon the sight base arm 30. To prevent accidental displacement of the sight from the position in which it is thus located, a clamping screw 44 extends through a hub in the web of the yoke into clamping relation with the sight base arm 30. A leaf spring 45 may be interposed between the yoke and the arm 30 to prevent any such downward displacement of the sight disk when the screw 44 is loosened as might occur if, due to permissible manufacturing tolerance, the fingers 42 and 43 do not entirely prevent such movement.

The operation of the sight may be summarized as follows:

The sight is attached to the receiver of a firearm with the pinion 14 loosely but not permanently attached to the index wheel 16, and the position of the sight elevating mechanism for "point blank" range is determined experimentally. The index wheel is then adjusted on pinion 14 to bring the "zero" of the index opposite the reference mark 22 and in this position pinion 14 is securely staked to the index wheel. The screw 23 is then adjusted to such a position that it engages the underside of the bar 24 of the sight base and prevents further depression of the sight. The sight elevating mechanism may then be secured by manipulating the finger piece 28 to advance the clamp 25 into engagement with the arm 12 of the sight base. To elevate the sight from "zero" position, the clamping finger piece 28 is first rotated to the right to withdraw the clamp 25 from the arm 12 of the sight base. The sight is then adjusted to the desired elevation by manipulation of the index wheel 16, the elevation being indicated by the relation of the scale on the index wheel to the reference mark 22 upon the mounting block. When the desired elevation has been secured, the finger piece 28 is rotated to the left to thrust the clamp 25 into engagement with the arm 12 of the sight base.

The position of zero windage is also determined experimentally, and with the sight disk 34 in this position, a reference mark is made on plate 41 opposite the "zero" of the index on the periphery of the sight disk. The screw 44 may then be tightened to prevent accidental lateral displacement of the sight. When a windage adjustment becomes necessary the screw 44 is loosened and the sight disk rotated, its rotation likewise effecting its transverse movement by reason of the engagement of the sight disk pin-

ion 32 with the teeth 31 on the sight base arm 30. The amount of lateral adjustment of the sight is indicated by the relation of the scale upon the periphery of the sight disk with the reference mark on the plate 41. When the desired lateral adjustment has been secured the set screw 44 is again tightened to securely hold the sight in its adjusted position.

What is claimed is:

1. A sight for firearms comprising a sight base having a depending arm provided with a rack, a pinion adapted to engage said rack, an indexed manipulative device secured to said pinion; a mounting block adapted for attachment to a firearm receiver and channeled and recessed to receive said arm, said pinion and said manipulative device; a cover plate for said mounting block having an aperture exposing a part only of said manipulative device and said block, and a reference mark on the part of said block thus exposed co-operating with the index on said manipulative device.

2. A sight for firearms comprising a sight base having a depending arm provided with a rack, a pinion adapted to engage said rack, an indexed manipulative device secured to said pinion; a mounting block channeled and recessed to receive said arm, said pinion and said manipulative device; a cover plate for said mounting block, means for locking said arm in adjusted position comprising a member engaging said arm and provided with a threaded shank, a nut for receiving said shank comprising a flange adapted to engage an interior surface of said cover plate, and manipulative means for said nut on the outside of said cover plate.

3. A sight for firearms comprising a transversely extending base, a rack on said base, an apertured sighting member provided with an elongated apertured boss, a pinion on said boss adapted to engage said rack; means for maintaining said pinion in engagement with said rack comprising a yoke having a web portion extending above said base, and depending flanges apertured to form bearings for said boss.

4. A sight for firearms comprising a transversely extending base, a rack on said base, an apertured sighting member provided with an elongated apertured boss, a pinion on said boss adapted to engage said rack; means for maintaining said pinion in engagement with said rack comprising a yoke embracing said base, said yoke comprising a web extending above said base and flanges depending from said web; said flanges having bearing apertures adapted to receive bearing portions of said boss, and assembly apertures communicating with said bearing apertures.

5. A sight for firearms comprising a transversely extending base, means for raising and lowering said base; a sighting member; means for supporting said sighting member on said base for transverse adjustment thereon comprising a yoke having a web, two apertured flanges depending from said web, and two short flanges depending from said web and adapted to engage the surface of said transversely extending base and to guide said sighting member supporting means in its movement along said base.

6. A sight for firearms comprising a transversely extending base, means for raising and lowering said base; means for supporting a sighting member on said base for transverse adjustment thereon comprising rack teeth on said base, a yoke having a web, a pair of short flanges depending from said web and adapted to contact

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with said base, a pair of apertured flanges depending from said web, and a sighting member provided with a pinion adapted to be received in said apertured flanges and held by them with its pinion in engagement with said rack.

7. A sight for firearms comprising a transversely extending base, means for raising and lowering said base; means for supporting a sighting member on said base for transverse adjustment thereon comprising a yoke having a web, a pair of short flanges extending from said web and adapted to engage one side of said base, a pair of apertured flanges extending from said web adapted to receive and hold a sighting member with a portion thereof in adjustable operative engagement with the opposite side of said base,

and means associated with said web for holding said yoke in adjusted position on said base.

8. A sight for firearms comprising a vertically adjustable sight base having a rack formed thereon, a sighting member provided with bearings and a pinion, means comprising a yoke embracing said rack and apertured to receive said bearings for supporting said sighting member with its pinion in engagement with said rack, whereby rotation of said sighting member in said supporting means effects transverse adjustment thereof relative to said base, and means for securing said sighting member in adjusted position on said base.

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