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Jan. 29, 1935. W. C. REDFIELD 1,989,245

INTERCHANGEABLE DISK GUN SIGHT

Filed May 27, 1933

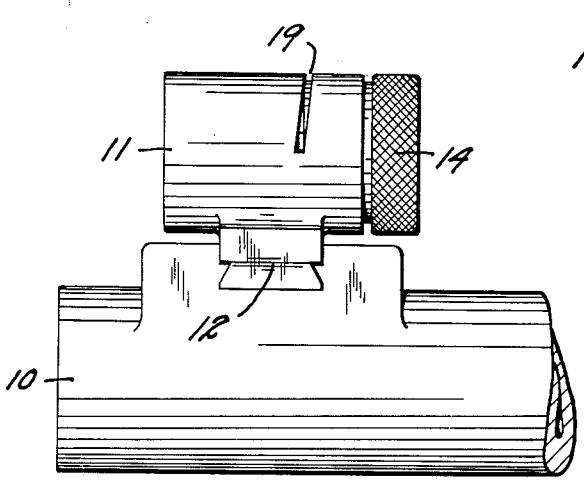


Fig 1

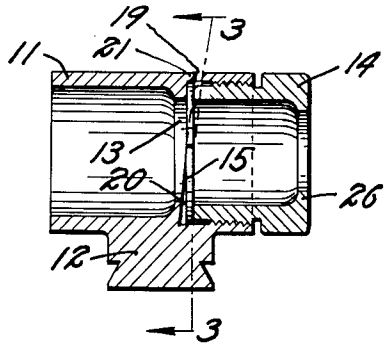


Fig 2

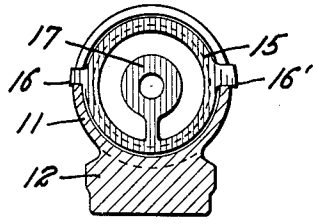


Fig 3

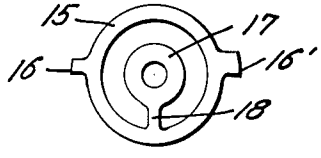


Fig 4

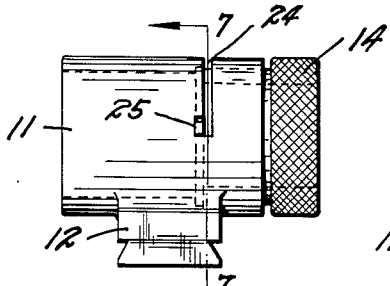


Fig 5

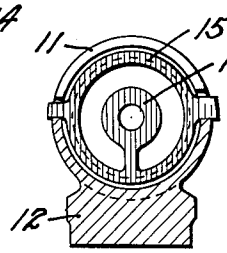


Fig 6

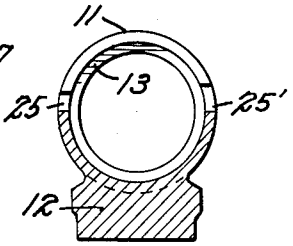


Fig 7

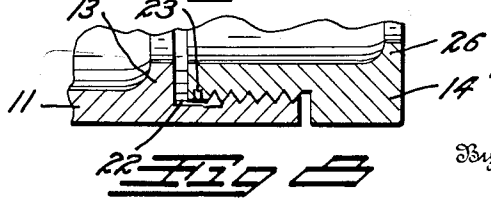


Fig 8

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INTERCHANGEABLE DISK GUN SIGHT

Watrous Clinton Redfield, Denver, Colo.

Application May 27, 1933, Serial No. 673,205

10 Claims. (Cl. 33—47)

This invention relates to a gun sight, more particularly to a front gun sight and still more particularly to a front gun sight of the type known as a "globe sight". The principal object is to provide a sight of this type in which any desired one of a series of interchangeable disks carrying different sizes and types of sights may be quickly and easily interchanged.

Another object of the invention is to so construct the sight that the disks will be firmly and accurately locked in position.

Still another object is to so construct the sight that the face of the disks toward the shooter will be thrown into deep shadow and in which the interior surfaces of the globe or cylinder of the sight will be absolutely concealed from the eye of the shooter, and all light leakage eliminated, so as to throw the sighting member into a sharp and easily visible silhouette without distracting reflections.

A further object of the invention is to so construct the device that the sighting disk clamping member need not be removed from the sight in order to remove the sighting disk so as to eliminate the possibility of loosing the clamping member.

A still further object is to provide means for limiting the amount the clamping member may be unscrewed so that it cannot be separated from the remainder of the sight.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 illustrates one form of the improved sight in place on the extremity of a rifle barrel.

Fig. 2 is a longitudinal section through the form of Fig. 1 taken on the line 2—2. In this section, the sighting disk is not cut.

Fig. 3 is a cross section taken on the line 3—3, Fig. 2.

Fig. 4 is a detail face view of a typical sighting disk.

Fig. 5 is a side elevation of an alternate form of the improved sight.

Fig. 6 is a rear elevation of the sight of Fig. 5.

Fig. 7 is a cross section taken on the line 7—7, Fig. 5, with the sighting disk removed.

Fig. 8 is a detail magnified section of the joint between the retaining ring and the cylinder.

The forward extremity or muzzle of a typical gun barrel is indicated at 10.

The invention comprises: a globe or cylindrical hood 11 formed with a dove-tailed base block 12 which fits into the usual sight dovetail in the gun barrel 10. The hood 11 is provided with the internal, annular shoulder 13 adjacent its rearward extremity. Internal threads are formed between the shoulder 13 and the rear extremity of the hood.

A hollow clamping bushing 14 is externally threaded to engage the internal threads of the hood 11. The bushing 14 is sufficiently long so that it may thread into the hood up to the shoulder 13 and is preferably provided with a knurled periphery to provide a secure finger grip.

The hood 11 is designed to receive interchangeable inserts or sight disks such as illustrated at 15. A typical sighting disk is shown in detail in Fig. 4 and comprises an annular rim portion from which two clamping ears 16 and 16' oppositely project. The rim portion is of a diameter to fit snugly within the hood against the shoulder 13. A sight 17 is supported within the outline of the rim upon a suitable stem 18. The sight 17 may have any desired design such as the peep sight illustrated (which may be of any desired size), or a post sight, or a horn sight, etc. In fact, a series of different sighting disks 15 are furnished with each cylinder 11, each member of the series differing from the other members thereof. An inclined lateral slot 19 is cut in the upper half of the hood 11 for the insertion and withdrawal of the sighting disks. The slot 19 preferably enters the hood a distance to the rear of the face of the shoulder 13 equal to the thickness of the disk 15, so as to form a visor-like projection 21 in the rear of the shoulder. It then inclines downwardly and forwardly to intersect the face of the shoulder approximately on the horizontal center line of the cylinder. Below the center line, the shoulder 13 is cut away on a line coinciding with the incline of the slot 19, as shown at 20.

The result of the above construction is that the sighting disk 15 will enter the hood on an angle corresponding to the incline of the slot 19 and the cut away 20. When the bushing 14 is tightened, however, the disk will be brought to a vertical position with its upper edge covered by the visor-like projection 21 and with its rim tightly clamped between the bushing and the upper portion of the shoulder 13.

Thus when in use the disks will be in an absolutely vertical position; will be absolutely locked against removal by the visor 21 and will be absolutely sealed from the entrance of light. The slot 19 is of sufficient width to allow the disk to freely enter and to allow the ears 16 and 16' to turn from an inclined to a vertical position therein. These ears project slightly beyond the cylinder 11 so as to allow them to be gripped by the fingers for insertion or removal from the slot 19.

It is desirable to prevent separation of the bushing 14 from the hood 11. This is done by cutting away an annular band of the innermost internal threads, as indicated at 22, to leave an annular unthreaded channel about the inner extremity of the bushing 14. After the bushing 14 is in place, its inner extremity is pressed or spun so as to close the end threads and provide an unthreaded extremity as shown at 23. This allows the nut to be backed out only a sufficient distance to release the disk 15 and to open the slot 19. With this construction the front face of the bushing 14 serves to align the disk with the slot to permit easy withdrawal of the disk.

An alternate method for accomplishing the same results is shown in Figs. 5, 6, and 7. In this form the hood 11 and the bushing 14 are substantially similar to the previously described form. A vertical insertion slot 24 is employed, however, in place of the inclined slot 19. This slot preferably enters the upper half of the hood at the same point the slot 19 entered, that is, a distance in the rear of the shoulder 13 substantially equal to the thickness of the sighting disk. It extends downwardly in a vertical plane to substantially the middle of the hood, thence extends forwardly to provide two notches 25 and 25' for the reception of the ears 16 and 16' respectively.

In use, the bushing 14 is loosened to open the slot 24. The disk 15 is then dropped into the slot and the bushing is tightened to force the disk forwardly against the shoulder 13 with the ears in the notches 25. This form absolutely locks the disk from removal or rotation and closes out all light about the disk as does the previous form.

If desired, one of the ears such as 16' may be made of greater width than the other ear, and one of the notches 25 may be similarly enlarged as indicated at 25'. This construction requires the user to always insert the sighting disk with the same face forward so as to eliminate any inaccuracies due to the placement of the sight 17 on the disk.

It is desired to call particular attention to another advantage of this sight which is accomplished by placing an inwardly extending, annular, shielding flange 26 in the bushing 14. This flange extends inwardly sufficiently far to cut off the shooter's line of sight to all interior surfaces except the sight 18. It also shields the rear face of the sight from direct light so that there can be no reflections therefrom and so that the sighting member presents a sharp, solid black silhouette against the target. This black silhouette effect is heightened by the fact the forward extremity of the hood is wide open and unobstructed by flanges of any nature. This allows a maximum amount of light to enter the front of the hood in contrast to the shaded rear face.

It is desired to call particular attention to the fact, that as the sighting disk 15 rocks or swings into position under the visor 21, the latter firmly forces the insert downwardly so that the ears are brought into firm contact with the bottoms of the slot 19. This insures the bringing of the sight uniformly to the correct height at each insertion and prevents the recoil of the gun from loosening or moving the sighting disk. It will be noted that both slots 19 and 24 terminate on the horizontal center plane of the hood 11, and that the bottom edges of both ears 16 and 16' are positioned on the horizontal center line of the sighting disk 15. This positioning absolutely prevents accidental insertion of the sighting disks in an upside-down position since they would not enter the slots sufficiently far in the latter position.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:—

1. A gun sight comprising: a cylindrical hood member; an internal shoulder formed in said member; a sighting disk; there being a slot in said member lateral to the axis thereof to allow said sighting disk to be inserted adjacent said shoulder; and an annular bushing threaded into said member to clamp said disk against said shoulder, said shoulder being set back from said slot so that said disk will be moved out of alignment with said slot when in the clamped position.

2. A gun sight comprising: a cylindrical hood member; an internal shoulder in said member in a plane at right angles to the axis thereof; a sighting disk; there being a slot formed in said member laterally of the axis thereof to allow said sighting disk to be inserted adjacent said shoulder; and an annular bushing threaded into said member to clamp said disk against said shoulder, said slot entering said member in axially spaced relation to said shoulder and terminating in said member adjacent said shoulder so as to allow said sighting disk to enter away from and then be moved toward said shoulder.

3. In a gun sight, a hollow cylindrical hood; a shoulder in said hood in a plane at right angles to the axis thereof; a clamping member in said hood movable towards and from said shoulder; and a sight disk adapted to fit snugly within said hood and be clamped against said shoulder, there being a laterally extending slot formed in the wall of said hood between said shoulder and said clamping member to allow insertion and removal of said disk when the member is in retracted position.

4. In a gun sight, a hollow cylindrical hood; a shoulder formed in said hood; a clamping member in said hood movable towards and from said shoulder; a sight disk adapted to fit snugly within said hood and be clamped against said shoulder, there being a slot extending across said hood and downwardly at each side thereof between said shoulder and said clamping member to allow insertion and removal of said disk when the member is in retracted position, and outwardly extending differently-dimensioned ears formed on said disk so as to project from the opposite extremities of said slot to prevent rotation of said disk.

5. A gun sight comprising; a hollow cylindrical hood; an annular internal shoulder formed

in said hood; threads formed in said hood between one extremity thereof and said shoulder; a bushing threaded into said threads so as to approach said shoulder when rotated; and a sight carrying disk clamped between said bushing and said shoulder, there being a slot in the upper portion of said hood lateral to the axis thereof for the insertion and removal of said disk, said slot entering said hood in axially spaced relation to said shoulder and terminating adjacent said shoulder substantially on the horizontal center line of said hood.

6. A gun sight comprising: a hollow cylindrical hood; an annular internal shoulder formed in said hood; threads formed in said hood between one extremity thereof and said shoulder; a bushing threaded into said threads so as to approach said shoulder when rotated; and a sight carrying disk clamped between said bushing and said shoulder, there being a laterally extending slot in the upper portion of said hood for the insertion and removal of said disk, said slot entering said hood in axially spaced relation to said shoulder and inclining toward said shoulder to a termination adjacent the latter, said shoulder being cut away below the point of termination of said slot to allow said disk to enter on an incline.

7. A gun sight comprising: a hollow cylindrical hood; an annular internal shoulder formed in said hood; threads formed in said hood between one extremity thereof and said shoulder; a bushing threaded into said threads so as to approach said shoulder when rotated; and a sight carrying disk clamped between said bushing and said shoulder, there being a laterally extending slot in the upper portion of said hood for the insertion and removal of said disk, said slot being spaced from said shoulder and there being a notch extending from said slot to said shoulder; and an ear projecting from said disk into said notch to prevent rotation of said disk.

8. A gun sight comprising: a hollow cylindrical hood; an annular internal shoulder formed in said hood; threads formed in said hood between one extremity thereof and said shoulder; a bushing threaded into said threads so as to approach said shoulder when rotated; a sight carrying disk clamped between said bushing and said shoulder, there being a laterally extending slot in the upper portion of said hood for the insertion and removal of said disk; and means for limiting the distance said bushing may move away from said shoulder.

9. A gun sight comprising: a hollow cylindrical hood; an annular internal shoulder formed in said hood; threads formed in said hood between one extremity thereof and said shoulder; a bushing threaded into said threads so as to approach said shoulder when rotated; a sight carrying disk clamped between said bushing and said shoulder, there being a laterally extending slot in the upper portion of said hood for the insertion and removal of said disk, said slot being spaced from said shoulder and there being a notch at each extremity of said slot extending to said shoulder, one of said notches being relatively wider than the other; and ears formed on said disk and projecting into said notches, said ears being relatively different corresponding to the difference in said notches.

10. In a gun sight of the type having a hollow cylindrical hood and a sighting disk of generally circular contour arranged to fit into said hood, means for preventing incorrect insertion of said sighting disc comprising: projections extending beyond the periphery of said disk and notches formed in said hood for receiving said projections, said projections differing from each other, said notches being correspondingly different.

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