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H. O. EIANE

2,367,762

OFFSET GUN SIGHT

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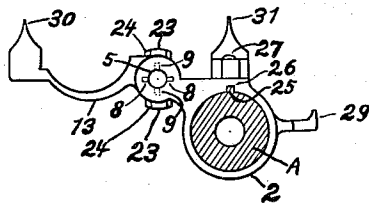


Fig. 1.

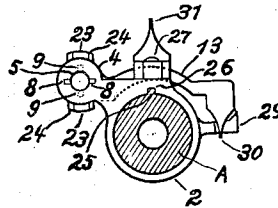


Fig. 2.

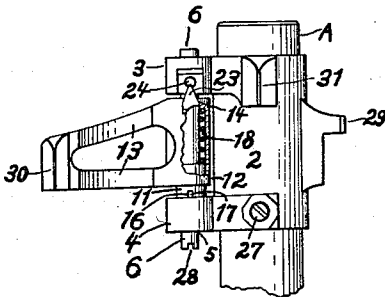


Fig. 3.

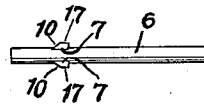


Fig. 4.

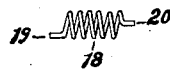


Fig. 5.

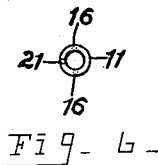


Fig. 6.

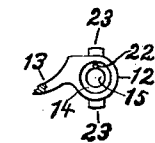


Fig. 7.

Witnesses:

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OFFSET GUN SIGHT

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3 Claims. (Cl. 33-47)

My invention relates to improvements in offset gun sight, and is particularly intended for use with applicant's earlier invention of an Automatic rifle, Patent No. 2,144,241, issued Jan. 17, 1939, and for use in combination with applicant's "Offset gun sights," illustrated and described in an application for patent, filed April 20, 1942, Serial No. 439,616.

The objects of the present improvements are: First, to provide full resiliency of the hinged sight carrying arm; second, to provide a more efficient locking system for the hinged sight carrying arm by means of an increased diameter at the locking points without any undue addition in weight.

I attain these objects by the use of a simple construction and arrangements of parts hereinafter more fully described and claimed, having reference to the accompanying drawing, in which Fig. 1 represents a rear view of a complete front sight, with its hinged sight carrying arm extended and in normal locked position. Fig. 2 is also a rear view of the same sight as shown in Fig. 1, but with the hinged sight carrying arm in folded position. Fig. 3 is a top view of the complete sight, with a portion of a cylindrical hub on the sight carrying arm broken away to show location of a spiral spring on the inside of the hub. Fig. 4 is a side view of a hinge-pin, on which the sight carrying arm is hinged. Fig. 5 represents a top view of the spiral spring shown in broken view in Fig. 3, and which furnish the power for resiliency of the hinged sight carrying arm and maintain it in normal locked position. Fig. 6 is a front end view of a bearing bushing carried partly within the cylindrical hub of the sight carrying arm. Fig. 7 represents a rear view of the interior of the cylindrical hub on the sight carrying arm.

Similar numerals indicate similar parts throughout the several views. A, in Figs. 1, 2 and 3, is a front or muzzle end of a gun barrel. 2, in Figs. 1, 2 and 3, is a base sleeve mounted on the gun barrel A. The base sleeve 2, is provided with a pair of lugs 3 and 4 projecting from its left side, and through which a passage 5 runs parallel to the barrel A. A hinge-pin 6 provided with a pair of opposite projecting lugs 7 near its rear end, fits snugly into the passage 5.

Referring to Figs. 1 and 2, it will be noted that the lug 4 is provided with two lug-races or grooves 8 at opposite sides of the passage 5 through which the lugs 7 on the hinge-pin 6 can pass, and when clear of the front face of the lug 4, can be given a quarter turn to either right or left and allowed to slide back into a pair of lock-seats 9 which are

complementarily formed to fit the tapered portions 10 of the lugs 7. A bearing bushing 11 fits snugly upon the hinge-pin 6 and likewise fits the inside walls of a bored out hub 12 which is integral with a sight carrying arm 13, and thus forms a bearing for the rear portion of the hub 12 upon which the sight carrying arm swings.

An internal shoulder 14 is located near the front end of the hub 12, (shown in Figs. 3 and 7) and from the shoulder 14 to the front end of the hub 12 is a passage 15, bored out to fit the hinge-pin 6, and serves as a bearing for the front end of the hub 12.

Referring to Fig. 3, it will be seen that a slot 16 is cut in the rear end of the bearing bushing 11 (there being two such slots, as is indicated by dotted lines 16 in Fig. 6) which are occupied by the parallel portions 17 of the lugs 7, (shown in Fig. 4), and thus effectively lock the bearing bushing 11 against turning to right or to left, by reason of the tapered portions 10 of the lugs 7 occupying the lock-seats 9.

A spiral spring 18 is provided with two straight axiswise terminal points 19 and 20—the terminal point 19 fits into an axiswise hole 21 drilled into the front face of the bearing bushing 11, while the terminal point 20 fits into an axiswise hole 22 drilled into the shoulder 14 (shown in Fig. 7), and thus gives the hinged sight carrying arm 13 full resiliency to swing either up or down as a colliding force may chance, and return to normal position.

The spiral spring 18, which is housed within the cylindrical hub 12, exerts pressure against the shoulder 14 and against the bearing bushing 11, and thus urges the hub 12 forward against the base lug 3.

At the front end of the hub 12 are located two V-shaped locking points 23, at diametrical opposite sides of the hub, and in the rear face of the base lug 3 are two V-shaped lock-seats 24 which maintain the sight carrying arm 13 in normal position when occupied by the locking points 23.

In assembling of the the various parts of this front sight, the following operations take place: First, the base sleeve 2 is pushed in over the muzzle end of the gun barrel A where a longitudinal key-ridge 25 on the gun barrel fits into a key-groove 26 in the base sleeve 2, and when in position, a set-screw 27 is screwed tight, which keeps the base sleeve 2 in fixed position; next, the spiral spring 18 is placed inside the hub 12 in such position that the terminal point 20 enters into the hole 22, and is followed by the bearing bushing 11, so placed that the hole 21 slips

over the terminal point 19, and the hub 12 is then placed between the two side projecting base lugs 3 and 4, and the hinge-pin 6 pushed in from the rear through the passage 5 and arranged that the lugs 7 will enter and pass through the lug-races 8 until the lugs 7 are clear of the front face of the lug 4, after which the hinge-pin 6 can be given a quarter turn to either right or left and the tapered portions 10 of the lugs 7 allowed to slide back and occupy the lock-seats 9 under pressure of the spiral spring 18 pressing against the bearing bushing 11 in front of the lugs 7, and finally, by means of rocking the sight carrying arm 13, the slots 16 in the rear end of the bearing bushing 11 can be brought into alignment and locked with the parallel portions 17 of the lugs 7, and the front sight is complete.

A slot 28 in the rear end of the hinge-pin 6 is provided, so that a screw-driver may be used in pushing and turning of the hinge-pin.

Referring again to Figs. 1, 2, 3 and 7, it will be noted that the V-shaped locking points 23, and the locking seats 24 are extended beyond the partly circular contour of the hub 12 and the base lug 3, so as to give a wider and more efficient locking area, with very little addition in weight.

A lug 29 on the right side of the base sleeve 2 is provided to give protection to the sight point 30 when in folded position.

As this hinged offset sight is intended for use with the aforementioned automatic rifle, when operated as an automatic—this same rifle is also suitable for hand operation of the breech bolt, and when so operated, a centerline sight point 31 is provided to give that firearm the most accurate aiming possible.

When the hinged sight carrying arm 13 is in locked and extended normal position, the spiral spring 18 is then neutral with respect to torsional force.

I do not intend to limit my invention to the exact description and drawing as herein given, as many changes can be made without departing from the principles involved.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In an offset sighting system for use on automatic bolt action rifles, a front sight comprising a base sleeve attached to a gun barrel, a rear lug and a front lug projecting from the left side of said base sleeve, said lugs having aligned openings to form a longitudinal passage therethrough in parallel relation to said barrel, there being a pair of lug-grooves at diametrically opposite sides along said passage in said rear lug, a pair of diametrically opposite facing lock-seats in the front face of said rear lug angularly spaced from

said grooves, a hinge-pin seated and supported in said passage, a pair of integrally formed lugs on opposite sides of said hinge-pin adapted to pass through said lug-grooves and occupy said lock-seats, a sight carrying arm pivotally mounted on said hinge-pin between the lugs, a hub slidably and pivotally mounted on said pin and fitting an aperture in said arm to form a front bearing therefor, means for locking said arm in sighting position of rotation on said pin and means urging said arm into said position.

2. In an offset sighting system, a front sight comprising a base sleeve provided with a rear and a front lug, a hinge-pin supported in said lugs, a pair of lugs on said hinge-pin, a sight carrying arm provided with a cylindrical hub slidably and pivotally mounted on said hinge-pin and between said rear and front lugs, a bearing bushing slidably mounted on said hinge-pin, a pair of slots in the rear end of said bearing bushing adapted to mesh and lock with said lugs on said hinge-pin, an annular shoulder on the inside of said cylindrical hub, there being a pair of V-shaped points projecting from the front end of said cylindrical hub and a pair of V-shaped lock-seats in the rear face of said front lug, a spiral spring mounted on said hinge-pin and adapted to press against said annular shoulder and said bearing bushing to urge said V-shaped points into locking engagement with said V-shaped lock-seats and means for producing resiliency to said sight carrying arm through said spiral spring.

3. In an offset sighting system, a front sight comprising a base sleeve having a pair of projecting base-lugs, a hinge-pin provided with a pair of lugs supported and locked in said base-lugs, a bearing bushing supported and locked to said hinge-pin, a sight carrying arm provided with a cylindrical hub slidably and pivotally mounted on said hinge-pin, a bored out aperture in the front end of said cylindrical hub forming a front bearing upon said hinge-pin and a concentric bushing upon said pin forming a rear bearing for said hub, an internal shoulder in said hub, a spiral spring provided with axiswise formed terminal points at its rear and front ends mounted on said hinge-pin and adapted to press against said shoulder and said bearing bushing, an axiswise forward pointed hole in said shoulder and an axiswise rearward pointed hole in said bearing bushing for receiving said terminal points in fixed relation and impart resilient power to said arm and to maintain said hub and arm in locked normal sighting position and to yieldingly give way to superior force when encountered, and means for locking said arm in a folded inoperative position in reverse order to its normal position.

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