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GUN SIGHTING MEANS

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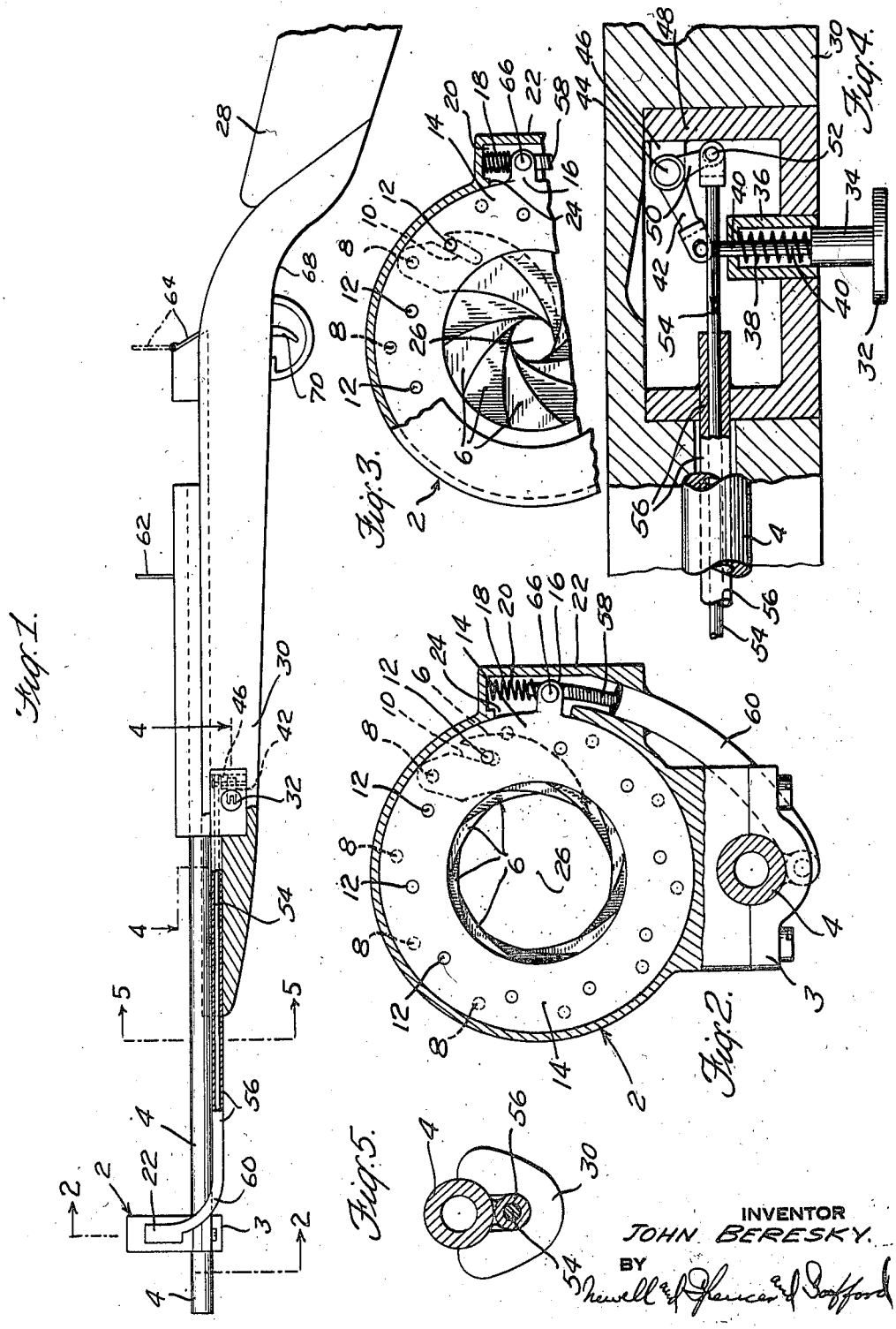


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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33. GEOMETRICAL INSTRUMENTS.
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GUN SIGHTING MEANS

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7 Claims. (Cl. 33—53)

This invention relates to gun sighting means and particularly to sighting means which are constructed and arranged to facilitate, first, a quick location of the target through the gun sights and then an accurate aiming operation.

Front and rear gun sights having openings therethrough which are adjustable to different dimensions have been designed and tried out but the use of such sights has involved a presetting operation and then usually an interruption of the manipulation of the gun in order to effect a new adjustment if the first adjustment is found not to be satisfactory.

The object of the present invention is to provide an improved arrangement for aiming guns, and particularly for aiming hand-held and hand-pointed fire arms, which will permit the quick location of the target through the sighting means and then a controlled and gradual adjustment of the sighting means, while the target is constantly maintained in view through said means, in order to permit the drawing of an accurate bead on the desired part of the target area.

More particularly the invention aims to provide a front sight for guns or fire arms which has a sight opening therethrouh that can be adjusted, or "stopped" down or up, to use the expression commonly employed in photography, by operating connections within convenient reach of one of the hands of the gun pointer, thus permitting the gun pointer first to locate the target through a relatively large front sight opening and then, while holding the gun pointed at the target, gradually to reduce the front sight opening to insure direction of the projectile at the desired part of the target area.

Other objects and important features of the invention will appear from the following description and claims when considered in connection with the accompanying drawing, in which:

Figure 1 is a side elevation of a rifle having sighting means embodying the present invention associated therewith;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a sectional detail showing the parts of the iris shutter illustrated in Figure 2 in a more nearly closed position;

Figure 4 is a section on the line 4—4 of Figure 1, and

Figure 5 is a section on the line 5—5 of Figure 1.

Referring to Figure 1, in which the rifle in which the gun sight of the present invention is incorporated is shown only so far as is necessary to illustrate the combination of the gun sight therewith, it will be seen that the casing or housing 2, in which the front sight and its adjustable stop are located, is constructed and arranged to be clamped, by a clamp bar 3, near the front end of the rifle barrel 4 in the usual location of the front sight of a gun, this casing or housing 2 being preferably formed of some light material, such as aluminum, and comprising a cylindrical compartment in which are located somewhat crescent-shaped iris shutter segments 6. Each of the segments 6 is arranged to swing on a pivot 8 carried by the housing 2 and each is provided with a slot 10 which receives a pin 12 on an annular slide 14 arranged to oscillate in said housing 2, said slide 14 being provided with an arm 16 to which the operating mechanism for oscillating said slide 14 is connected.

A spring 18 bearing at one end against the upper end of a socket 20 in a lateral enlargement 22 of the housing 2 and bearing at its other end against the arm 16 tends to move the arm 16 to the lower end of the slot 24, the ends of which limit its movement. It will be seen that the slots 10 in the segments 6 are so inclined with respect to the movement of the segments 6 about their pivots 8 that when the slide 14 is turned in a counter-clockwise direction in Figure 2 of the drawing, the pins 12 carried thereby tend to swing all of the segments 6 toward the center of the opening 26 and thus effect a concentric reduction of the size of this opening.

In order to permit adjustment of the sight opening in the front sight of the gun between a wide open dimension in which the target can readily be located and a peep sight dimension in which a bead can readily be drawn on the part of the target that it is desired to hit, while the aiming of the gun takes place, operating connections between the arm 16 of the annular slide 14 and actuating means within convenient reach of one of the hands of the gun pointer are provided. As herein illustrated, the rifle is provided with the usual shoulder stock 28, of wood or other suitable insulating material, and this stock, as usual, extends forward to provide a forward hand hold 30. It will be understood that the manipulation of the adjustable stop part of the sight might be effected by either the trigger hand or the aiming hand of the gun pointer, but it is found to be preferable to arrange the manually operated part of the means for effecting the adjustment of the sight opening in the front sight in position to be actuated either by one of the fingers or by the thumb of the aiming hand of

the gun pointer or, in other words, the hand which engages the forward hand hold 30.

As herein shown, a push button 32 has been so arranged that it may conveniently be engaged by the thumb of the aiming hand of the gun pointer, this push button 32 having a cylindrical portion 34 guided in a spring socket 36 in which is located a spring 38 surrounding the push rod or stem 40 and tending to hold the push button 32 in its outermost position. The stem or rod 40 is pivotally connected to one arm 42 of a bellcrank lever fulcrumed at 44 on a bracket 46 carried by a housing 48 inset into the gun stock adjacent to the hand hold portion 30 thereof. The other arm 50 of the bellcrank has a pin and slot connection 52 with a rod 54 slidable lengthwise of the rifle barrel 4 in a guide 56 provided on the under side of the rifle barrel 4.

Any suitable means may be provided for converting the horizontal movement of the rod 54 into a vertical or substantially vertical movement for operating the arm 16 of the oscillating annular slide 14. The illustrative means comprises a flexible wire connection 58 between the end of the rod 54 and the arm 16, such for example as a Bowden wire sliding through a gradually curved extension 60 of the guide 56. By this arrangement a substantially dust and water tight operating connection can be provided between the push button 32 and the iris shutter in the front sight housing 2.

Any suitable rear sight may be provided such, for example, as the usual notch sight, merely shown in side elevation at 62, or a foldable rear peep sight, merely shown in side elevation at 64.

From the foregoing description it will be seen that when the gun pointer raises the gun to his shoulder to sight it at the target the sight opening 26 in the front sight will have its greatest dimension by reason of the action of the springs 18 and 38, the spring 18 bearing at one end against the upper end of the lateral enlargement 22 of the housing 2 and surrounding an extension of the Bowden wire 58 beyond its swivel connection 66 with the arm 16, thus tending to maintain the arm at the lower end of the slot 24. As the usual right-handed gun pointer holds a rifle, his left hand will engage the stock at the hand hold portion 30 thereof, with the thumb of the hand on the side of the stock where the push button 32 is located. His right hand will usually engage the stock in the region of the hand hold 68 so that his trigger finger may conveniently engage the trigger 70. Aiming, as usual, is done principally with the left hand of a right-handed gun pointer, and, therefore, as he swings the rifle barrel 4 to bring the opening 26 in the front sight, as viewed through the notch in the sight 62 or through the peep hole in the sight 64, into line with the target, which can readily be done by reason of the facility of viewing the target through the large opening 26, he can, as soon as he has sighted the target, press lightly with the thumb of his left hand upon the push button 32 and reduce the size of the opening 26, while gradually pressing the trigger 70, so that when he is ready to fire he will have drawn a fine bead on the part of the target that he desires to hit.

It will be understood that the particular means shown for effecting the adjustment of the stop in the front sight between its wide open dimension and its peep sight dimension is shown merely for illustrative purposes and that the invention is not restricted either to the particular type of stop shown or to the particular operating connections between the manually manipulated operating means and the stop.

What is claimed as new is:

1. Gun sighting means for use with a gun having a rear sight, said means comprising a front sight having a circular opening therein of substantial diameter, the center of said opening, when said front sight is in position on the gun, being located in the "bead" line from the rear sight to a target, an adjustable stop mounted on said front sight and arranged to provide a graduated succession of concentric sight openings between full open and peep sight dimensions, and means, constructed and arranged to be carried by said gun in manually operative proximity to a hand hold of the gun pointer when sighting the gun on the target, for operating said adjustable stop to effect the gradual reduction of said front sight opening, during the aiming operation, from any desired initial approximation to wide open position to the desired peep sight dimension, or vice versa.

2. Gun sighting means according to claim 1 in which the adjustable stop is an iris shutter, spring-pressed toward full open position.

3. Gun sighting means according to claim 1 in which the stop operating means is adapted to be so located on the gun as to be within convenient operative reach of the aiming hand of the gun pointer.

4. Gun sighting means according to claim 1 for use with a gun which has a barrel-supporting shoulder stock, and in which the stop manipulating means is adapted to be mounted on the usual forward hand grip portion of said stock.

5. Gun sighting means according to claim 1 in which the stop operating means is so constructed and arranged that when mounted on the gun it is operable by a single digit of the aiming hand of the gun pointer.

6. Gun sighting means according to claim 1 in which the stop is normally spring-pressed to wide open position and in which a push button, operatively connected thereto and arranged to be pressed by a digit of one of the gun pointer's hands while aiming and firing the gun, serves to move said stop against said spring toward its peep sight adjustment.

7. Gun sighting means for use with a gun having a rear sight, said means comprising a front sight having an opening therein of substantial size, a point in said opening being in the "bead" line from the rear sight to a target when said front sight is in position on the gun, a stop on said front sight adjustable to reduce said opening to a peep sight about said point, and means, constructed and arranged to be carried by said gun in manually operative proximity to a hand hold of the gun pointer when sighting the gun on the target, for operating said adjustable stop to effect the gradual reduction of said front sight opening, during the aiming operation, from any desired initial approximation to wide open position to the desired peep sight dimension, or vice versa.

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