

J. S. BLANKMAN.
ADJUSTABLE TUBULAR GUN SIGHT.

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UNITED STATES PATENT OFFICE.

JOHN S. BLANKMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

ADJUSTABLE TUBULAR GUN-SIGHT.

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To all whom it may concern:

Be it known that I, JOHN S. BLANKMAN, a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Gun-Sights; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of the invention is to provide simple and efficient means for adapting a tube-sight to different ranges and for securing such a tube or its base or other device to a gun-barrel; and it consists in the constructions and combinations hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a gun with the improvement attached. Fig. 2 is a similar view, on an enlarged scale, and includes a removable plate provided with sight-pins. Fig. 3 is a perspective of a tube, showing modified form of movable device for elevating the same. Fig. 4 is a side elevation of a modification; Fig. 5, a cross-section of a tube and a modified form of movable sight device, looking toward the rear, said tube being in elevated position and the gun-barrel shown in dotted lines. Fig. 6 is a side elevation of another modification. Fig. 7 is a side elevation of a modification, and Fig. 8 is an enlarged view of a hinged sight.

The reference-numeral 1 indicates the muzzle-sight of a fire-arm, and 2 a sight-tube, which is hinged to a plate 3, attached to the barrel of the gun by a key 4. This key is made with a double bevel, as shown, one of the beveled sides being adapted to fit a transverse seat in the gun-barrel and the other to fit a similar seat in a base-plate, all substantially as illustrated in the drawings. The base-plate is further held in position by flanges (or flanged sliding plate) 5, of which one, two, or more may be employed, as found desirable, the object of the same being to guard against any lateral deflection of the base-plate and of the tube held therein. If desired, these flanges may be made as long as the base-plate, or be shorter, and in such case they may have a sliding connection with the base-plate, and they may also be made curved or arched in cross-section, or otherwise shaped and formed

of elastic material, to adapt them to variations in the width of gun-barrels. A hinge-connection of the sight-tube to a base-plate is indicated at 6. It is not material at what point in the length of the tube it is hinged to the base, other parts being suitably arranged to correspond; but it will of course be obvious that if the tube is hinged near its middle the base must be higher at the hinge-point to provide for the same extent of movement in a vertical plane.

7 indicates a notched or other sight on the base-plate, which sight may, if desired, be hinged, as indicated in Fig. 2, to said plate. This is preferably made with a horizontal part, under which an extension 9 of a slide may be made to engage, for a purpose hereinafter stated.

This sight and lock, or either of them, may be formed by turning up the end of the base-plate. The notched sight and the lock may, if preferred, be formed on the end of a flanged plate 5, as shown in Fig. 1.

As shown in Figs. 1 and 2, the base-plate or like holder is provided with inclined sides 11, upon which the slide rests, said slide embracing the hinged tube in such manner that it can be moved along the tube and up or down the incline of the base-plate, with the effect to raise or lower the tube about its hinge. In Fig. 1 the slide is shown at the upper part of the incline and the sight-tube raised. In Fig. 2 the lowered position of the parts is shown in full lines and an elevated one in dotted lines. In the position shown in full lines in Fig. 2 the extension 9 of the slide is engaged under the horizontal part 8 of the sight attached to the base-plate, thereby locking the tube to the plate. Inside the tube sight-pins 15 may be provided. Preferably a movable plate 13, having one or more sights, is fitted to be pushed into place and held by friction, and one or more bearing wings or extensions 14 may be provided to increase the friction.

In Fig. 5 a slotted tube 12 is represented within the main tube. Its slot being made narrow, it operates when tilted or raised, as represented with respect to other forms, to confine the vision, and acts as a sight, the edges of the slot having in this respect a function similar to that of the notched sight

in Fig. 3. It is obvious that if both the plate 13, above mentioned, and the inner tube were omitted, and also their equivalent—the single notched sight in the main tube—yet the slot 16 in said tube would narrow the marksman's field of vision, and thus aid him in guiding his sight across the muzzle-point toward a mark. In such case, however, the slot is preferably narrower than where either notched sight-pins or an inner slotted tube are employed. The slot may thus serve as a sighting device for long ranges. When, however, the tube is depressed for short ranges, the notched or otherwise-shaped sight-pins located either in the tube, as shown in Fig. 3, or at its end, as shown in Fig. 2, are brought into use.

The operation of the device is as follows: The tube having been hinged to a part secured to the gun, as set forth, (or as hereinafter specified,) it is placed parallel with the barrel for short ranges and may be locked, as stated. To adjust it for a long range, the slide 10 (or equivalent) is moved up the incline 11, thereby raising the tube and moving it about the pivot. When in such raised position, a ray of light from a remote object will reach the eye by passing over the top of the muzzle-sight and entering the slot 16 in the top of the sight-tube, and will pass through the notch of the sight-pin at the rear of the tube and thence to the eye, the gun-barrel meanwhile pointing above said object, as it should under such circumstances. If the tube were hinged at the rear, the ray of light would enter its front end and pass through the notch of the sight-pin there situated, and thence out through the top of the slotted tube to the eye, as indicated in Fig. 6. The side of the tube may be marked with a scale, as indicated, to denote the proper position of the slide corresponding to a desired elevation of the tube suitable for a given range.

The above-described devices furnish very simple and efficient means for adjusting sights to different ranges, the details of which may be variously modified without departing from the invention. Thus the slide may be modified as indicated in Fig. 3, and be made to embrace a dovetail or otherwise formed flange 17 on the tube. Said tube, being hinged to a base by a pivot passing through one of the holes 18, could be elevated, as above set forth, by moving said slide up an incline such as indicated at 11. The inclines 11 can, if desired, be formed on the tube and the slide be made movable lengthwise thereon, as indicated in Fig. 6, and the inclines may be provided by forming an inclined slot in the side either of a tube or its base, as is obvious.

It will be observed that the gist of the main part of the improvement consists in a hinged sight-tube having a slot in its upper side and provided with means for raising and lowering said tube upon its hinge, whereby it can be adjusted for long ranges, so that a ray of

light from a distant object, which passes just over the muzzle-sight, may pass diagonally through said slot, the edge of which serves as a sighting device either with or without the aid of a notched or other-shaped sight-pin.

Any convenient mode of forming a sliding connection of the part or slide 10 with the base or with the tube in such manner that its movement will raise or lower the tube about its hinge may be adopted. A simple modification might consist of a slide 10, made movable between a hinged tube and the base, (or, if the latter be dispensed with, between the hinged tube and the gun-barrel,) as shown in Fig. 7. I prefer, however, to use the incline, as described, as less longitudinal movement of the slide is required to raise the sight-tube.

In Fig. 3 is indicated a slide 10', provided with tips embracing beveled flanges on the bottom of the tube and movable thereon. Such tube and sliding piece, if hinged and arranged substantially as indicated in Fig. 7, could be operated according to the invention by moving the piece 10' lengthwise of the tube. Other means of attaching a sliding part having the effect to raise or depress the tube can be supplied by mechanical skill.

I am aware that a spring-leaf sight has been combined with a bed-piece having flanges provided with steps and with a sliding cross-bar, the construction being such that the spring-leaf could be bent to raise or lower it. In such device the cross-bar was subsequently moved to engage a step to hold the spring after the latter had been manipulated by the direct action of the hand.

I am also aware that such spring-leaf had a sight formed in its turned-up end.

I am further aware that neither hinged nor slotted sight-tubes are new. In my prior slotted sight-tube no means were provided for changing the relative position of the tube and the barrel of the gun in a vertical plane. It was provided with notches, which are dispensed with in the present construction.

It is further characteristic of the present invention that the sight-tube can be adjusted for long or short ranges by simply sliding a piece that acts like a wedge and operates both to turn the tube on its hinge and support it when adjusted, and this adjustment can be made indefinitely—that is, for any distance—and is not limited to gradations of considerable extent, as in the spring-leaf or hinged devices above referred to. My sliding wedge-like piece always supports the tube, and it can be moved to any desired point irrespective of steps or notches, which would not only interfere with a wedge-like action, but also prevent nice adjustment.

I am further aware that two tubes have been attached to a long bar extending from near the breech of the gun-barrel to the muzzle, and that the bar was made adjustable. Such device is, however, capable of comparatively small adjustment, for as the two tubes are in range and act as one tube it is obvious

that it is impracticable to raise the rear tube sufficiently high to obtain sight for a range such as can be obtained by a slight adjustment of my hinged slotted tube.

5 Having thus described my invention, what I desire to secure is—

1. The combination, with a gun-barrel, of a muzzle-sight, a hinged sight-tube having a slot in its side, and a sight within and movable with the tube, substantially as described.

2. The combination, with a gun-barrel, of a hinged sight-tube having a slot in its side and a sliding device, and an inclined plane for moving said tube on its hinge, substantially as described.

3. A sight-tube for a fire-arm, provided with a sight-pin and with a slot in its side and hinged to a part attached to said arm, in combination with a sliding device and an inclined plane for moving the tube upon its hinge, substantially as described.

4. A sight-tube for a fire-arm, provided with a slot in its side and hinged to a base attached to said arm and having an incline, in combination with a slide movably connected to the tube and adapted to be slid up and down the incline, and a catch on the base to receive the slide and lock the tube to the base, substantially as described.

5. In a sighting device, the combination of a sight-tube and the base-plate for holding said tube, having a sight-pin formed of the end of said plate bent upwardly into line with the interior of the tube, substantially as described.

6. In a sighting device, the combination of a sight-tube and the base-plate for holding the same, having a sight-pin formed of the bent end of said plate, and an elevating device adapted to be slid under said bent end to lock the tube to the base, substantially as described.

7. In a sighting device, the combination of a hinged sight-tube having a scale marked on its side with a sliding device and an incline, said slide being adapted to elevate the tube by sliding on the incline, and at the same time indicate marks on the scale corresponding to the elevation of the tube, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN S. BLANKMAN.

Witnesses:

N. DUMONT,

BENJ. R. CATLIN.