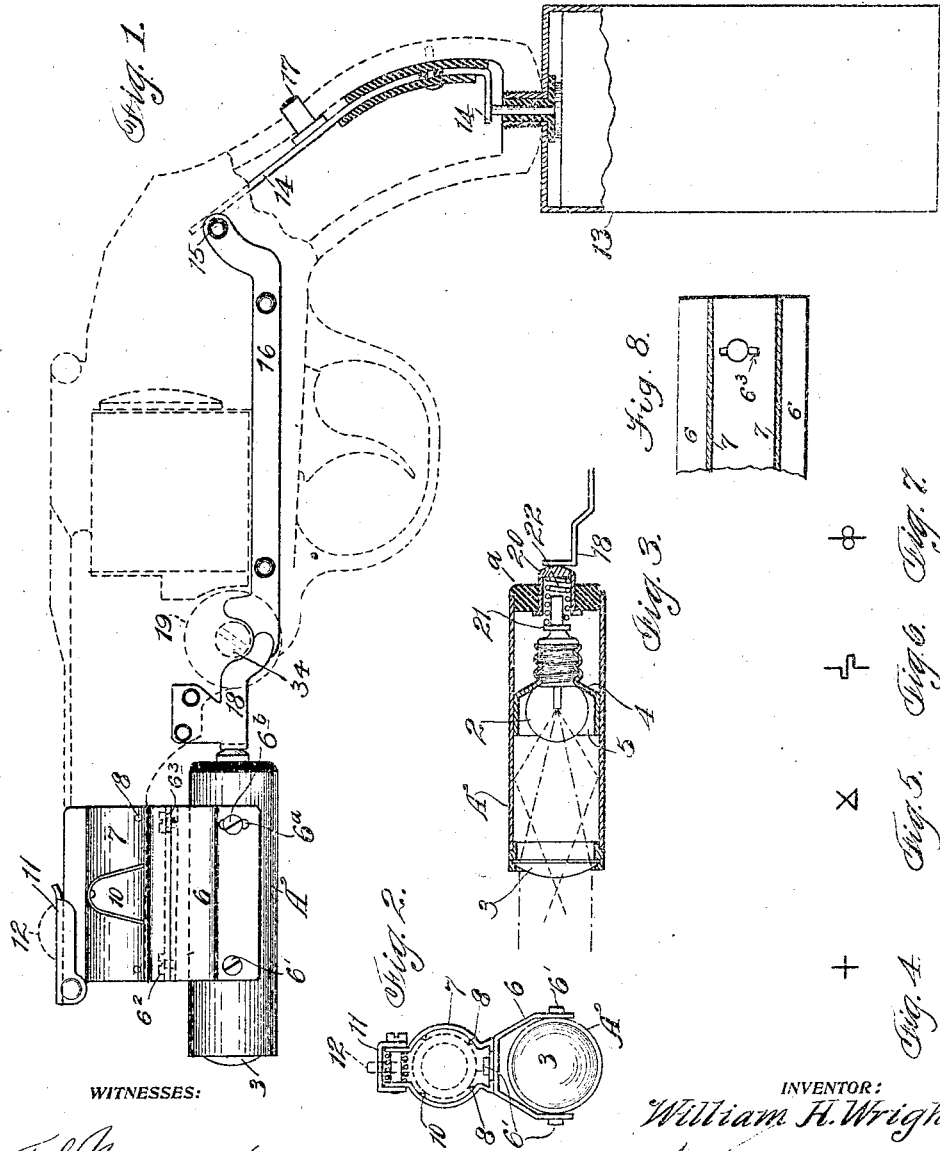


W. H. WRIGHT.  
ILLUMINATING SIGHTING APPLIANCE.  
APPLICATION FILED MAY 18, 1907.



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# UNITED STATES PATENT OFFICE.

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## ILLUMINATING SIGHTING APPLIANCE.

No. 894,306.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, WILLIAM H. WRIGHT, a citizen of the United States, residing at Lick Observatory, in the county of Santa Clara and State of California, have invented new and useful Improvements in Illuminating Sighting Appliances, of which the following is a specification.

My invention relates to an illuminating sighting appliance for fire-arms to facilitate the aiming of the piece in the dark.

The object of the invention has been to evolve an attachment of this sort which is eminently practical, and which can be used on guns, arms and ordnance of all kinds and descriptions; the present invention being the result of long experiment and based on scientific principles.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the device as applied to a revolver. Fig. 2 is an end view of the same. Fig. 3 is a longitudinal section of the lamp tube. Figs. 4 to 7 inclusive, illustrate shapes of filaments. Fig. 8 is a plan view of a portion of the plates 6 and a horizontal section of a portion of the sleeve member 7, showing means affording horizontal adjustment of the device.

The present invention comprehends especially the mechanism for mounting a lighting apparatus on the piece; also to polishing or whitening the interior of the lighting tube so that none of the light rays will be completely absorbed; and providing a lamp in said tube with crossed or intersecting filaments, with a lens or other suitable means for projecting an image of said filaments forward along the line of fire, in such a manner that the image of the intersection of the filaments will indicate the vicinity of the point lying in the actual line of fire.

Although I have shown and shall herein describe the application of the invention to a small arm like a pistol, it will be manifest that the same idea is applicable to fire-arms of any description including heavy ordnance.

A represents a tube, polished or white on the inside surface, and carrying an incandescent electric lamp 2 which is arranged proximate to the principal focus of the lens

3, which latter is carried by the front end of the tube. Behind the lens, and if space permits, extending around and forward of the lamp, is a suitable reflector 4. As shown in Fig. 3 this reflector is made integral with a socket 5 which holds the lamp. The object of the lens 3 is to project an image of the filaments of the lamp on an object at which the arm is directed. This condition will be practically realized if the filament is in the immediate vicinity of the principal focus of the lens. Light from the lamp striking the reflector 4 or the white or polished interior of the tube A is reflected and diffused and goes to make up the illuminating beam. The lens collects rays proceeding directly from the filaments and projects an image of the filament on the object at which the apparatus is directed. As the filament of an ordinary incandescent lamp however is not a point but a thread, the resulting image thrown on the object aimed at, would not be a small spot of light but a bright line of considerable length. It is therefore a matter of importance to have some way of distinguishing the part of the line which marks the vicinity of the point actually aimed at.

In the preferred form of the device two filaments are employed, crossing each other at right angles and clearing each other by such a small amount of space that both are in the immediate vicinity of the focus of the lens. These filaments lie at right angles to the axis of the lens. A front view of the filament, or a view of the image of such a filament projected by the lens, is indicated in Fig. 4. The point of intersection of the two lines of light indicate the immediate vicinity where the bullet will strike. Instead of having two filaments as above described, I may employ a filament crossed on itself as in Fig. 5, or the filament may be distorted at some point of its length to indicate the point lying on the line of fire, as shown in Figs. 6 and 7.

The size and character of the reflector will depend more or less on the length and diameter of the tube A.

In the form of construction here shown the tube is adjustably connected to the side plates 6 which are secured to or form part of the sleeve member 7. This sleeve is adapted to slip over the end of the piece. In order to make it adjustable to arms of different sizes and to cause it to fit properly thereon, it is provided with the bosses or lugs 8 near each

end, adapted to rest against the barrel and with the spring-side-clips 10 which embrace the barrel and hold the piece firmly.

Where the device is to fit a pistol or other arm having a front sight, the sleeve is provided with a spring-actuated-hinged-cap 11 foldable downward over the sight and having a slot up through which the sight 12 of the piece projects. This slotted cap acts to lock the device on the gun and prevents the shock of the recoil from jarring the attachment loose from the barrel. The lugs 8 fix the alinement of the device with regard to the barrel.

The device as thus constructed is quickly put on or taken off of the fire-arm. The barrel is preferably pivotally attached to the side plates 6 by means of the screws 6' adjacent to one end of the plates 6; the other end of these plates having the segmental slots 6<sup>a</sup> in which the adjusting screws 6<sup>b</sup> fit. The slotted screw holes 6<sup>a</sup> allow for the necessary vertical adjustment of the device with respect to the line of fire. Horizontal adjustment is also allowed for by a pivotal screw 6<sup>c</sup> and segmental slot 6<sup>c</sup> which allows piece 6 to be pointed to the right or left.

Any suitable means may be employed to operate the electric lamp 2. With a firearm of this description I prefer to attach a small battery to the arm and provide a switch mechanism under control of the hand in which the gun is supported for effecting the illumination. As shown in Fig. 1 the battery 13 is screwed into the butt of the piece and has one terminal grounded to the metal parts of the gun and has the other terminal in electrical contact with the spring member 14 in the stock. This spring-member 14 is normally out of contact with a cross-pin 15 connected with a side-plate 16. The movements of the contact member 14 may be controlled by the button 17. The plate 16 is in sliding electrical contact with the plate 18 which is secured to the barrel portion of the gun. The adjacent ends of the plates 16-18 overlap and slide on each other to permit the piece to be broken for the purpose of loading or of extracting the shells, and of the movement of the barrel about the pivot 19 in the usual extracting and loading of the piece.

The contact between the lamp and the plate 18 is made yielding by the following means for the purpose of insuring a proper connection for the lamp when the device is placed on the fire-arm: The back of the tube A is closed as shown at *a* and a metal flange cap 20 is slidable in this closed end *a*. The central terminal of the lamp presses a stem 21 fitting in a coil spring 22 which is seated in the cap 20. Whenever the device is put on the piece the cap 20 comes in contact with the plate 18, and as the device is pushed back into position to be locked over the sight 12, the cap 20 is pushed inward against the force

of the spring 22 so as to insure a proper electrical contact and allow sufficient latitude for self-adjustment.

If desired the lighting of the lamp could be effected by other means as a cord connected to the lamp and not necessary here to be shown.

It will be understood that the various parts before referred to will be properly insulated whenever required. For instance the cap, 20, is insulated by insulating plug *a*. The plates 16 and 18 are carried on the frame and barrel piece respectively and are on the outside of the arm, and are separated from the arm by strips of insulating material, and the screws holding the plates which are provided with insulating bushings as shown. The spring member 14 is also secured by a properly insulating screw.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is—

1. The combination with a fire-arm, of a tube, a reflector at one end, a lens at the other, and a lamp with crossed filaments between the lens and reflector and disposed proximate to the principal focus of the lens whereby an image of the crossed filaments is projected forward on an object in the line of fire, said crossed filaments lying so close together as to allow distinct images of each filament to be projected by the same lens upon the object in the line of fire.

2. The combination with a fire-arm, of a tube, a reflector at one end, a lens at the other, a lamp with crossed filaments between the lens and reflector and disposed proximate to the principal focus of the lens whereby an image of the crossed filaments is projected forward on an object in the line of fire, and means for adjusting the tube so that the image of the intersection of the filaments will mark the vicinity in which the bullet will strike, said crossed filaments lying each proximate to the focus of the lens so that a distinct image of each filament is projected forward on to the object.

3. The combination with a fire-arm, of a lens, and a lamp with crossed filaments behind the lens and close to the focus thereof, the lens adapted to throw an image of the crossed filaments forward on an object in the line of fire, said filaments lying substantially in a plane at right angles to the axis of the barrel of the arm, with the filaments lying so close together that a distinct image of each filament is projected forward on to the object to indicate by the intersection of the images the point at which the projectile will strike.

4. The combination with a firearm, of a spring-clip fitting the fire-arm, said clip having a spring-actuated-slotted-cap engaging the sight on the arm, and an illuminating device carried by the clip.

5 5. The combination with a fire-arm, of a spring-clip to fit the barrel of the arm, said clip having a cap-member engageable with the sight, a tube pivotally supported on the clip and vertically and horizontally adjustable with respect to the line of fire, and a lamp in said tube.

10 6. The combination with a fire-arm, of a tube inclosing an electric lamp, means for attaching the tube to the fire-arm, and yieldable electrical connections of the tube with the fire-arm and conductor sections carried by the arm, said sections being in electrical contact and having their adjacent ends slidable relative to each other to permit the piece to be broken for the purpose of loading, a battery connected with one of said sections, and the other section being connected with said yieldable connections on the tube.

15 7. The combination with a fire-arm, of a tube inclosing an electric lamp, means for attaching the tube to the fire-arm, yieldable electrical connections of the tube with the fire-arm, said connections including a conducting cap slidably mounted in the tube, and a spring-member seating in the cap and electrically connected with the lamp and conductor sections carried by the arm, said sections being in electrical contact and having their adjacent ends overlapping and sliding on each side to permit the piece to be broken for the purpose of loading, a battery

connected with one of said sections and the other section connected with said yieldable connections on the tube. 35

8. The combination with a fire-arm, of a tube carried by the arm, means including a spring-actuated cap on the tube engageable with the sight to hold the tube in place, an electric lamp in the tube, and electrical connections between the lamp and the arm, said connections including a spring-switch-member located in the stock of the piece, a push-button in the stock for operating said switch-member. 40 45

9. The combination with a fire-arm, of a tube carried by the arm, an electric lamp in the tube, and electrical connections between the lamp and the arm, said connections including a spring-switch-member located in the stock of the piece, a push-button in the stock for operating said switch-member, and a sectional conductor having its sections slidably connected and interposed between said switch-member and the lamp, said sections permitting the piece to be broken for the purpose of loading. 50 55

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. WRIGHT.

Witnesses:

L. E. PETREE,  
C. M. LORIGAN.