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W. BAXTER ET AL

2,085,732

AUTOMATIC NIGHT SIGHTING DEVICE FOR FIREARMS

Filed Sept. 21, 1934

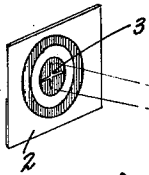


Fig. 1.

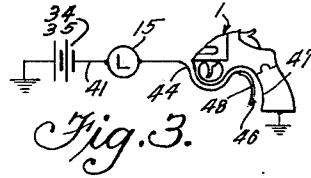


Fig. 3.

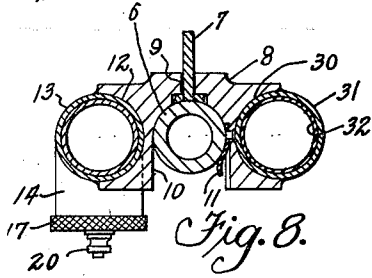


Fig. 8.

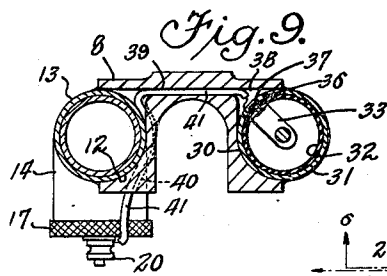


Fig. 9.

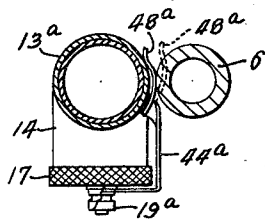


Fig. 10.

Fig. 11.

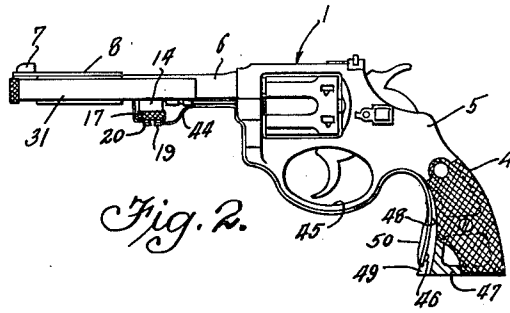
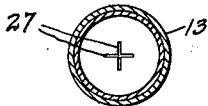


Fig. 2.

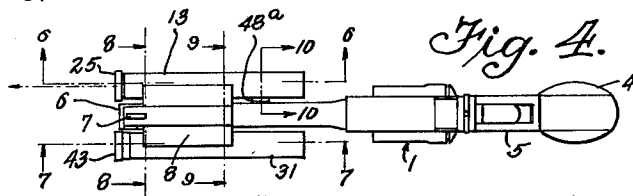


Fig. 4.

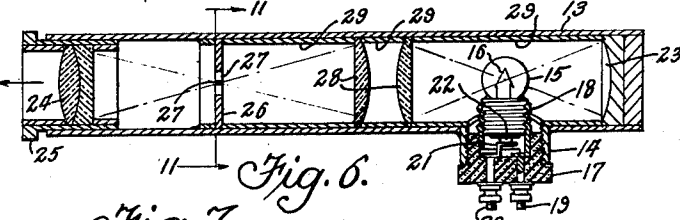


Fig. 6.

Fig. 7.

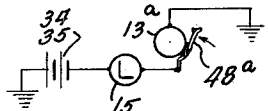
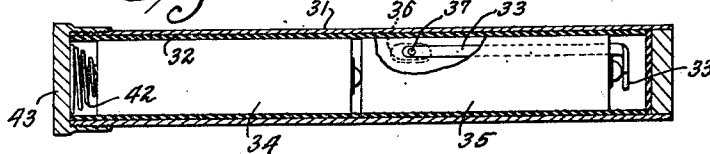


Fig. 5.

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## UNITED STATES PATENT OFFICE

2,085,732

## AUTOMATIC NIGHT SIGHTING DEVICE FOR FIREARMS

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Hollywood, Los Angeles, Calif.; said Baxter as-  
signor to said Scott

Application September 21, 1934, Serial No. 744,920

2 Claims. (Cl. 240—6.1)

This invention relates to firearms, and the general object of the invention is to provide a firearm with simple means for automatically sighting the same in the dark. We are aware that attachments have been employed in connection with firearms for casting a beam of light in the nature of a spotlight to illuminate the target or figure at which the firearm is to be pointed; but the objection to the use of such a spotlight by an officer in the dark, is that the light is plainly visible to the criminal, and he can readily see the source of the light, thereby endangering the officer carrying the spotlight on his firearm or pistol.

One of the objects of this invention is to provide means for casting a beam of light along a line substantially coinciding with the axis of the barrel of the firearm, but having a cross section which is relatively minute, so that the beam is hardly visible from a lateral position, and so that the actual light cast on the target or body of the criminal is relatively small and inconspicuous, and yet at the same time, indicating clearly to the officer carrying the firearm, the path that will be taken by the bullet discharged from his firearm.

A further object of the invention is to provide means for this purpose, which can readily be constructed as an attachment to be secured when needed, to the firearm, with which it is to be used; also to provide a construction for the firearm, which will enable an electric circuit for casting the beam, to be automatically closed when the handle of the firearm is grasped.

A further object of the invention is to provide a construction for a device of this kind, which will be particularly useful for a night watchman, and which can be snapped into place on the firearm or pistol on short notice, and without necessitating the making of any electrical connections except such as are made automatically by attaching the device to the pistol barrel.

When a firearm of relatively large bore is discharged, there is a considerable recoil developed, and such a recoil might be the means of breaking the filament of the lamp which we employ for casting the point of light.

One of the objects of the invention is to provide means for supporting the electric light in such a way as to substantially prevent the breaking of the lamp filament from this means.

Further objects of the invention will appear hereinafter.

The invention consists in the novel parts and combination of parts to be described hereinafter,

all of which contribute to produce an efficient automatic sighting device for firearms.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Figure 1 is a perspective illustrating a new regulation military and police pistol to which our invention has been applied, and representing the manner in which the point of light cast by the attachment facilitates the alignment of the pistol on the target.

Fig. 2 is a side elevation of a pistol provided with our invention, and in which the circuit through the electric lamp is closed automatically by the act of grasping the handle of the pistol.

Fig. 3 is a diagrammatic view indicating the electric circuit which is closed through the battery and lamp of the pistol illustrated in Fig. 2.

Fig. 4 is a plan of the pistol illustrated in Fig. 2, but illustrating a modification.

Fig. 5 is a diagrammatic view illustrating the circuit which is established automatically when the device is attached to the pistol barrel, and is particularly related to Fig. 10, which will be described hereinafter.

Fig. 6 is a longitudinal section on the line 6—6 of Fig. 4 upon an enlarged scale, and passing through the lamp casing and illustrating the means for mounting the lamp, and for casting a point of light on any object on which the pistol barrel is aligned.

Fig. 7 is a vertical section taken on the line 7—7 of Fig. 4, upon an enlarged scale passing through the battery housing. This view illustrates the battery cells and the means for connecting the live terminal of the battery to the exterior of the battery housing.

Fig. 8 is a vertical section on the line 8—8 of Fig. 4, upon an enlarged scale and particularly illustrating the mechanical construction of the saddle that carries the lamp casing and the battery housing, and also illustrating the manner in which the saddle cooperates with the sight, and means carried by the saddle for yieldingly holding the same on the pistol barrel.

Fig. 9 is a cross section similar to Fig. 8, but taken on the line 9—9 of Fig. 4, and particularly illustrating means which is associated with the battery connection illustrated in Fig. 7, for carrying an insulated conductor across the barrel of the pistol to effect connection with the electric lamp.

Fig. 10 is a vertical section on the line 10—10

of Fig. 4, and particularly illustrating the automatic switch which is closed by the act of attaching the device to the gun barrel for closing and maintaining the electric circuit through the electric lamp.

Fig. 11 is a cross section on the line II—II of Fig. 6, and illustrating the preferred form of light stop which is employed to indicate the path of the bullet, without making any substantial illumination of the spot where the bullet will strike.

Referring more particularly to the parts, and especially to Fig. 1, 1 indicates a firearm such as a pistol, with which our improvement is embodied, and in this view 2 indicates a target, the center of which is illuminated by a point 3 of light of relatively small dimensions, and which is preferably in the form of a small cross.

In Fig. 2, we illustrate an embodiment of the invention in which the circuit through the electric lamp is closed when the handle 4 of the firearm such as a pistol 5, is grasped. In this embodiment of the invention, the circuit through the electric lamp is normally open, but as soon as the handle 4 is grasped as in firing the pistol, the lighted point 3 will appear.

In case it is desired to have the lamp circuit maintained closed while the attachment is on the pistol, this can be accomplished by means that will be described hereinafter, in which case there will be no switch on the handle of the pistol.

While the invention may be incorporated in a firearm or pistol as a permanent part of the same, we prefer to construct it as an attachment or device which can be readily attached to the barrel 6 of the pistol. In doing this, we prefer to make the attachment at the sight 7, and construct the device in the form of a saddle 8, which may be cast as a metal block with a socket preferably in the form of a slot 9 to receive the sight from below, when the device is put in place. This socket fits to the sight so as to prevent longitudinal movement of the saddle on the barrel. The under side of the saddle 8 is formed with a channel 10, (see Fig. 8), that fits down over the upper side of the barrel, and at one side this channel is provided with a recessed spring 11, which enables the device to be snapped into place. This spring, of course, yieldingly holds the device on the pistol barrel, and enables it to be removed readily when desired, by merely pulling the saddle up off of the barrel.

On one side of the saddle 8, a half-round socket 12 is formed to receive a lamp casing 13 preferably of tubular form, which may be permanently secured in the socket. The lamp casing is illustrated more in detail in Fig. 6. Near its rear end and preferably on its under side, it is provided with a neck 14 having an opening through which an electric lamp 15 may be inserted. This lamp is preferably supported in such a way that the shock from the discharge of the firearm, will be absorbed somewhat, so as to relieve the filament 16 of the lamp of a considerable amount of the shock. For this purpose we prefer to employ a plug 17 of soft rubber, which may be screwed into the neck 14. The inner end of this plug 17 carries a threaded shell 18, which operates as a lamp socket for the lamp, and which is in metallic connection with the threaded base of the lamp which screws into it. This metallic shell or socket 18, is connected with

a terminal 19, and a second terminal 20 is provided that is connected to a central contact 21 to engage the central terminal 22 of the lamp.

The rear end of the lamp casing is provided with a reflector 23, and the forward end of the casing is provided with lens means preferably in the form of a lens 24, which is mounted in an adjustable sleeve 25 for focusing purposes.

Between the filament 16 and the lens 24, we provide a light stop 26, which is preferably formed of a disc of opaque material, and formed at its center with two very narrow intersecting slots or slits 27. These slits should be very narrow, so that the small cross 3 will not be capable of radiating a great amount of light, while at the same time, giving sufficient illumination to enable the small cross to be readily seen from the position of the man carrying the firearm.

Between the filament 16 and the light stop 26, condensing lenses 28 are provided. In order to assist in mounting the reflector 23, the light stop 26 and the lenses 28 in position, we prefer to provide liner sections 29 within the lamp casing, substantially as illustrated in Fig. 6.

Any suitable means may be provided for establishing a controlled circuit through the lamp. In the present instance the opposite side of the saddle 8 is provided with a half-round socket 30 (see Fig. 8), in which the battery housing 31 is permanently secured, said battery housing preferably consisting of a metal tube with an insulating liner 32. At the rear end of the battery housing we provide a contact 33 for one end of the battery, which battery may include two aligned cells 34 and 35 connected up end to end so that the current flows through these cells in series. The insulated contact 33 extends along the inside of the battery housing to a point near the middle of the housing, and at this point this contact is connected through an opening 36 in the wall of the housing to a terminal 37, and at this point the saddle 8 is provided with a recess 38 connecting with a conduit 39 that extends across through the saddle above the position of the barrel 6 (see Fig. 9), and on the other side a recess is formed at the point 40 communicating with the conduit 39. This enables an insulated conductor 41 to be passed through the conduit 39, connected to the terminal 37 and extended down and connected to the lamp terminal 20 (see Fig. 2). The forward battery cell 34 is backed up by a coil spring 42, which grounds this side of the battery through the metal head 43 that is attached as a screw cap on the forward end of the battery housing.

In the embodiment of the invention illustrated in Fig. 2, an insulated conductor 44 extends back from the lamp terminal 19, being carried along the frame of the pistol and under the trigger guard 45, so that the rear end of this conductor terminates in a contact point 46 which is located near the metal frame 47 of the pistol butt. In other words, the rear end of the insulated conductor 44 consists of a recess spring 48 carrying the contact 46, and normally held by its own resiliency so that the contact 46 does not touch the metal frame 47. The spring 48 is preferably received in a shell or groove 49 formed in the forward face of the handle or grip of the pistol, and the forward side of the spring is preferably provided with an insulating face plate 50. With this arrangement of the parts it will be evident that whenever the contact 46 touches the metal frame 47, the circuit will be closed through the lamp.

This circuit is indicated diagrammatically in Fig. 3.

Some users of the invention may prefer to have the device operate so that as soon as it is attached to the barrel 6, the circuit through the lamp will be closed and maintained closed until the device is removed from the pistol barrel. This mode of operation seems to be more suitable for the use of a watchman or an officer who must go to investigate a noise or other irregular conditions. For this purpose the device is constructed so that when it is snapped onto the barrel, a switch automatically affected by making the attachment, closes the circuit through the battery and lamp. This circuit may also be a grounded circuit, and is illustrated diagrammatically in Fig. 5, which should be read in connection with Fig. 10. The circuit arrangement is substantially the same as illustrated in Fig. 3, except that the lamp terminal 19a is connected to an insulated conductor 44a that extends upwardly on the inner side of the lamp casing 13a, where it is attached to an insulated spring contact 48a. This contact 48a tends by its resiliency, to assume the position in which it is indicated by the dotted lines in Fig. 10, but when it is engaged by the barrel 6 of the pistol, the barrel shoves the contact over against the lamp casing 13a. Of course, a ground is established as soon as the contact 48a touches the barrel, but by having it in contact with the barrel and also in contact with the casing 13a, a good ground is assured.

The liner sections 29 are preferably formed of bright metal, polished or silvered on the inside. This greatly increases the illumination coming from the lamp filament 16. By adjusting the focusing lens 24, the device may be adapted for throwing the light point 3 at any distance desired, for example, fifty feet from the pistol.

In practice, it is preferable to have the beam that forms the light cross 3, substantially parallel with the extended axis of the barrel.

One of the advantages of our improvement is that it is not necessary to sight the firearm in the regular way, for it will be evident that even if the gun barrel is not in alignment with the eye of the person holding it, if the illuminated cross is on the target, it is merely necessary to pull the trigger in order to have the bullet find its mark at, or alongside the intersection points of the lighted lines which form the cross.

Another advantage of the construction for the lamp casing, is that the beam of light as it emerges through the forward lens, is so condensed in cross section that it does not illuminate the interior of the movable sleeve that carries this lens, and for this reason it is not possible for a person at a distance from the firearm, to see any illuminated point on the firearm unless his eye is exactly in line with the light beam. In other words, the position of an officer carrying a pistol equipped with this improvement, could not be indicated to an escaping criminal pursued by the officer in the dark, unless the officer held the pistol in position to cast the lighted point directly into the eye of the criminal. Hence, if the point of light were cast on the criminal's breast, he might observe it, but would not know from what direction the lighted point was being projected.

We claim:

1. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a socket for receiving, and fitting to, the sight so that the sight prevents longitudinal movement of the saddle in either direction, said saddle having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel with means therein for casting a light on an object in alignment with the barrel.

2. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a slot closed at its ends for receiving and fitting to the sight so as to prevent longitudinal movement of the saddle on the barrel and having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, and means for casting an illuminated cross from the casing onto an object in alignment with the barrel.

3. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a socket for receiving the sight and fitting to the sight so as to prevent longitudinal movement of the saddle on the barrel, said saddle having means for securing the same at the under side of the barrel, an elongated casing carried by the saddle at the side of the barrel, and substantially parallel with the barrel, an electric light mounted at the rear of the casing, and means cooperating with the light for projecting a ray of light from the casing and substantially parallel with the barrel.

4. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle to rest on the upper side of the barrel, and having a socket for receiving the sight and fitting to the sight, said saddle having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, an electric lamp mounted in the casing, an elongated battery housing carried by the saddle on the opposite side of the barrel from the casing, a source of electric current mounted in the said housing, a switch, an electric circuit closed by the said switch and connecting the electric lamp and the said battery to light the lamp, and means for casting a beam of light from the said casing.

5. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a slot for receiving the sight and having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, an electric lamp mounted in the casing, an elongated battery housing carried by the saddle on the opposite side of the barrel from the casing and balancing the same, a source of electric current mounted in the said housing, a switch, an electric circuit closed by the said switch and connecting the electric lamp and the said battery to light the lamp, means for casting a beam of light from the casing substantially parallel with the barrel, and means on the handle of the firearm for closing the said switch.

6. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a channel on its under side to receive the said barrel, and having a socket for receiving, and fitting to, the sight, said saddle having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, an electric lamp mounted

7. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a channel on its under side to receive the said barrel, and having a socket for receiving, and fitting to, the sight, said saddle having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, an electric lamp mounted

ed in the casing, a source of electric current, a switch, an electric circuit closed by the said switch and connecting the electric lamp with the source of current, means for casting a beam of light from the casing substantially parallel with the barrel, and means for automatically closing the said switch when the saddle is applied to the barrel.

7. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a channel on its under side to receive the said barrel, said saddle having a socket for receiving, and fitting to, the sight, and also having means for securing the saddle to the barrel, an elongated casing carried by the saddle at the side of the barrel, said casing having an opening in the side thereof toward the rear, an electric lamp, means mounted in the said opening for yieldingly supporting the lamp, an elongated battery housing carried by the saddle on the opposite side of the barrel from the casing, an electric battery carried in the said housing, an electric circuit including a conductor connecting the electric lamp with the battery and extending across the upper side of the barrel, said electric circuit passing through the said electric lamp and including a switch for closing the same, and means for casting a beam of light rays from the casing and substantially parallel with the barrel.

8. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle with a channel on its under side to receive the said barrel, said saddle having a socket for receiving, and fitting to, the sight, and having means for securing the saddle to the barrel, an elongated casing carried by the saddle at the side of the barrel, said casing having an opening in the side thereof toward the rear, an electric lamp, means mounted in the said open-

ing for yieldingly supporting the lamp, an elongated battery housing carried by the saddle on the opposite side of the barrel from the casing, an electric battery carried in the said housing, said saddle having a transverse conduit for an electric conductor passing through the same above the barrel, an insulated electric conductor connected with one of the lamp terminals, passing through the said conduit and connected to the battery, a switch for closing an electric circuit through the battery, the lamp, and the said insulated conductor, and means for casting a beam of light from the casing and substantially parallel with the barrel.

9. In automatic sighting means for sighting a firearm having a barrel and a sight projecting upwardly at the forward end of the barrel, a saddle having a slot for receiving the sight and having means for securing the same to the barrel, an elongated casing carried by the saddle at the side of the barrel, said casing having an opening in the side thereof toward the rear, an electric lamp, means mounted in the said opening for yieldingly supporting the lamp, an elongated battery housing carried by the saddle on the opposite side of the barrel from the casing, an electric battery carried in the said housing, said saddle having a transverse conduit for an electric conductor passing through the same above the barrel, an insulated electric conductor connected with one of the lamp terminals, passing through the said conduit and connected to the battery, an insulated conductor connected to the other lamp terminal and passing to the handle of the firearm, a ground connection for the battery passing to the metal frame of the firearm, and a yielding switch connected with the rear end of the second named insulated conductor for closing the circuit through the lamp when the handle of the firearm is grasped.

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