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OR 873,591

Draftsman

No. 873,591. PATENTED DEC. 10, 1907.

C. R. PENFIELD.

LIGHT PROJECTING ATTACHMENT FOR FIREARMS.

APPLICATION FILED SEPT. 17, 1906.

Fig. 1.

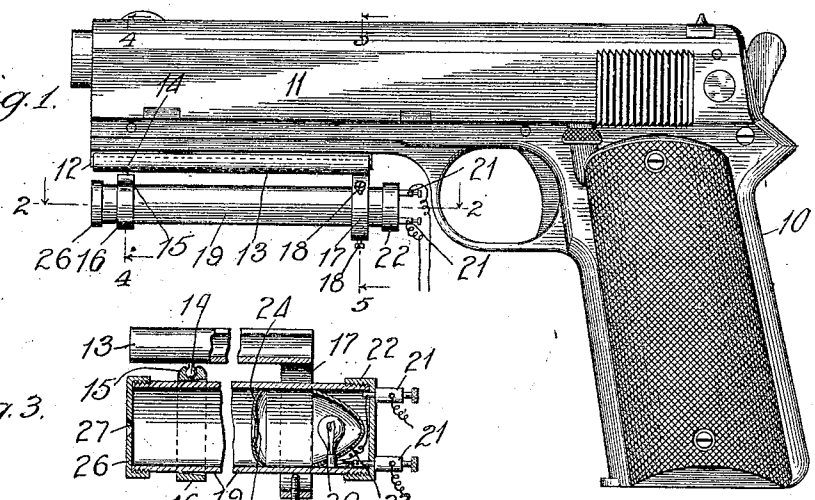


Fig. 3.

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Fig. 2.

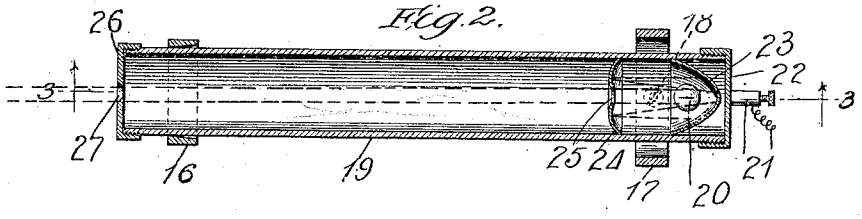


Fig. 4.

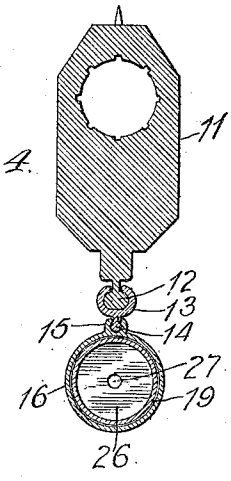
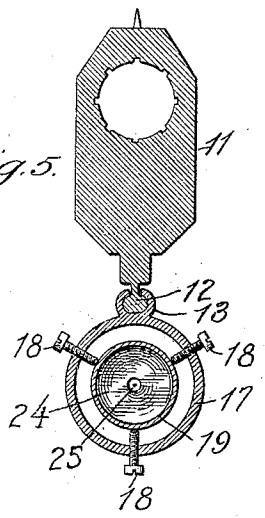


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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LIGHT-PROJECTING ATTACHMENT FOR FIREARMS.

No. 873,591. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed September 17, 1906. Serial No. 335,002.

To all whom it may concern:

Be it known that I, CHARLES R. PENFIELD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Light-Projecting Attachments for Firearms, of which the following is a specification.

My invention relates to improvements in light projecting attachment, for fire arms, and has for its primary object to provide a range finder which will enable the user of the arm to shoot accurately at night or in dark places.

Another object of my invention is to provide a device of the character described of generally improved construction. And with a view to attaining these and other ends which will become apparent to those skilled in the art from the following description, my invention consists in the combinations and arrangements of parts hereinafter more fully described and specified in the claims.

In the drawings; Figure 1 is a side elevation of an automatic pistol equipped with a light projecting attachment embodying my invention. Fig. 2 is a central, longitudinal section through the light projecting attachment. Fig. 3 is a central section of the light projecting attachment and supporting device, with the central portion broken away. Figs. 4 and 5 are transverse sections on lines 4—4 and 5—5 respectively of Fig. 1.

Throughout the drawing like numerals of reference refer always to like parts.

In the drawing, 10 indicates in general a fire arm, herein illustrated as a magazine pistol, whereof the barrel portion is shown at 11. To the barrel, or some associated part, my light projecting attachment is secured, and to this end I prefer that the barrel structure should be provided along its lower edge with a headed bead 12, running longitudinally of the arm.

13 indicates a split shell, or support, adapted to embrace the enlarged head of the bead 12, so that it may be readily slid thereon or removed therefrom, said shell having adjacent its front end a projecting pin 14 having a ball-shaped end, surrounded by a socket 15, which carries a supporting ring 16, so that the supporting ring 16 may have universal movement with respect to its point of attachment to the shell 13. At some point adjacent its rear end the shell 13 has rigidly secured thereto or formed integral therewith a ring 17 somewhat larger than the ring 16, through which are threaded at suitable points radial adjusting screws 18.

19 indicates an elongated tube, constituting the shell of the range finder proper, at its forward end supported in the ring 16 in which it snugly fits, and at its rear end supported by the adjusting screws 18, so that by adjustment of said screws the rear end may be moved in any direction, such movement being permitted by the universal joint between the rings 16 and the shell 12.

At the rear end of the tube is provided a lighting device 20, preferably a small incandescent lamp, from which wires run to suitable binding posts 21, carried by a cap 22, closing the rear end of the tube 19. The binding posts 21 may be connected to any suitable source of current supply, such as a small battery, secured to any part of the frame of the arm or carried in the pocket of the user.

For directing the light from the lamp 20 as fully as possible in a small beam, I preferably provide in rear of the lamp a parabolic reflector 23, and in front of said lamp a reflector 24 provided with a central aperture 25, and of such configuration that all light from the lamp directly falling thereon is reflected back upon the parabolic reflector to be again reflected or projected along a line substantially axial of the tube 19. Thus I practically insure the emanation through the tube of a straight, small beam of light, having its rays substantially parallel, which at a considerable distance will throw a round spot of light of small diameter upon an object whereon the light may be directed. To further insure the light projected shall be only a ray of small diameter, I provide at the front end of the tube 19 a cap 26 centrally perforated as at 27.

It will be apparent that by the proper adjustment of my light projecting attachment the spot of light projected therefrom when the lamp is energized may be caused to center exactly upon the spot to which the bullet will be directed by the barrel, and in shooting in the dark it is only necessary that the spot of light projected by the light projecting attachment be centered upon the object to be struck, in order to shoot accurately. No sighting along the ordinary sights of the arm is of course necessary.

It will further be apparent that for work

in the dark my improved light projecting attachment supplies means for discovering the object to be shot at by illumination, as well as means for directing the shot as heretofore described.

It will now be apparent that my invention provides a device of the character described which is simple in construction, readily applicable to or removable from the arm, and which may be accurately adjusted to spot the light at the exact point to be struck by the bullet at any desired range within the capacity of the beam of light.

Having thus described my invention, what I claim and desire to secure by Letters Patent, of the United States, is:

1. In combination with a fire arm, a light projecting attachment, comprising a tube, a source of light in the axis of the tube, a parabolic projector in the rear of said light adapted to project said light in substantially parallel lines, and an apertured reflector in front of said light adapted to reflect the light-rays which strike its reflecting surface back to the projector.

2. In combination with a fire arm, a light projecting attachment, comprising a source of light, a light projector and a centrally perforated light reflector, all coaxially arranged upon a suitable support, and a means for securing said attachment to said fire arm.

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

CHARLES R. PENFIELD.

In the presence of—
FORÉE BAIN,
MARY F. ALLEN.