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LIGHT PROJECTING UNIT FOR CONVERTING AN AUTOMATIC PISTOL FOR PRACTICE FIRING

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FIG. 1.

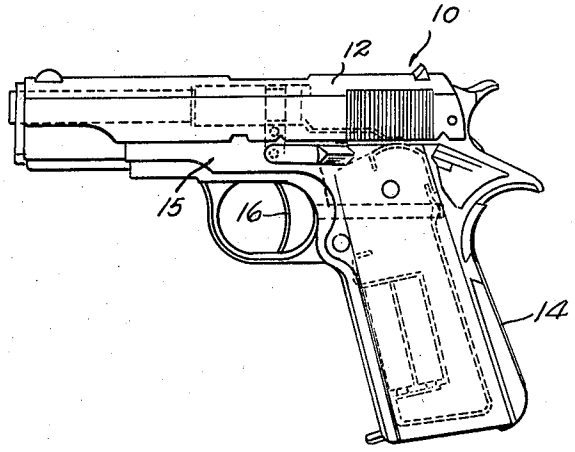


FIG. 2.

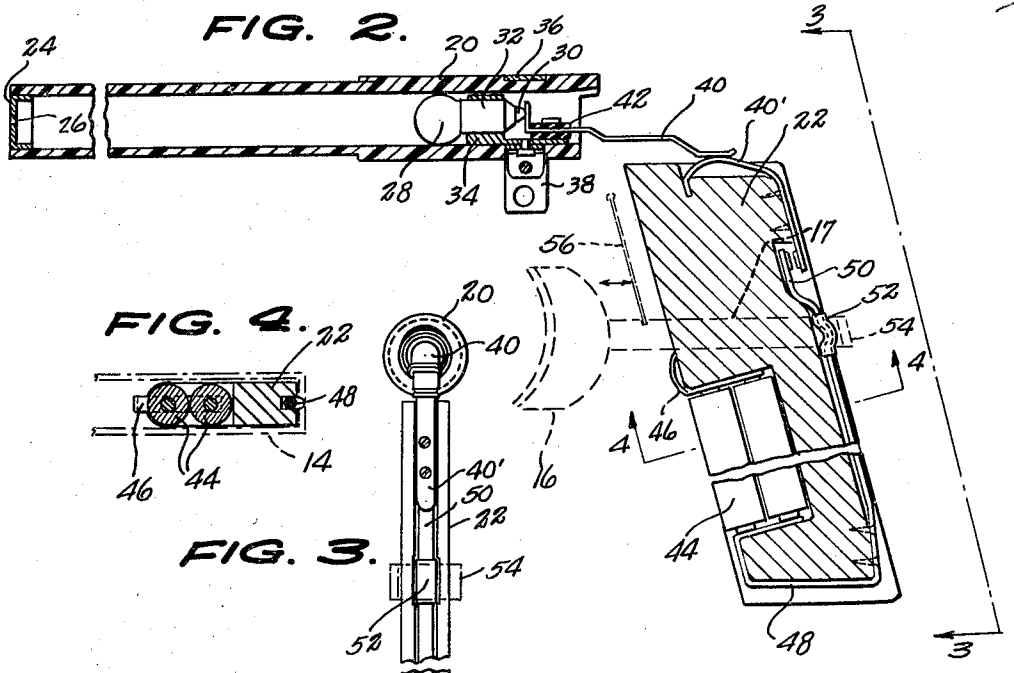


FIG. 4.

FIG. 3.

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LIGHT PROJECTING UNIT FOR CONVERTING AN AUTOMATIC PISTOL FOR PRACTICE FIRING

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3 Claims. (Cl. 240—6.41)

The present invention relates to a device for projecting a spot of light upon a target.

An object of the present invention is to provide a light projecting device which lends itself to incorporation in an automatic type of hand-held firearm.

Another object of the present invention is to provide a light projecting device which enables a user thereof to practice shooting a firearm without the expenditure of ammunition, enabling such user to obtain dexterity and skill in the aiming of such firearm.

A further object of the present invention is to provide a light projecting device which is readily attached to and detached from a firearm of the automatic type without damaging or altering such firearm.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawing, in which:

Figure 1 is an elevational view of an automatic firearm with the device of the present invention installed therein and indicated in dotted lines;

Figure 2 is a view partially in section of the device of the present invention, removed from the firearm shown in Figure 1;

Figure 3 is an elevational view taken on the line 3—3 of Figure 2; and

Figure 4 is a partial view in section taken on the line 4—4 of Figure 2.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views, an automatic is shown in Figure 1 and designated by the reference numeral **10**. The automatic **10** includes a slide **12** and a hand grip or handle portion **14** projecting from the portion of the frame **15** adjacent one end. A trigger **16** is arranged forwardly of and exteriorly of the hand grip or handle portion **14** and has a rearwardly extending trigger bar **17**. The trigger bar is slidably disposed in the handle portion or hand grip and is adapted to be connected to the hammer of the automatic.

The above described automatic is of conventional construction and includes a removable barrel within the slide **12**. The present invention provides an auxiliary barrel **20** which is of a size to fit within the slide **12** when the conventional barrel has been removed and to be mounted on the frame and handle portion in the same way as the conventional barrel is mounted. The automatic also includes a magazine chamber within the hand grip **14** into which is insertable a magazine or clip carrying the cartridges to be fired through the barrel. The present invention provides an auxiliary magazine member **22**, which is of a shape and size substantially equivalent to the shape and size of the chamber and is insertable into and withdrawable from the magazine chamber in the hand grip **14**, such auxiliary magazine being shown in Figure 2 and designated by the reference numeral **22**.

The auxiliary barrel **20** has a cap **24** closing the end of the barrel **20** remote from the magazine **22**. The cap **24** is provided with a sight opening **26**. An incandescent

lamp bulb **28** having a base contact **30** and a shell contact **32** is positioned within the auxiliary barrel **20** so that the bulb **28** is rearwardly of and faces toward the sight opening **26** with the base contact **30** remote from the sight opening **26**. The auxiliary barrel **20** is fabricated of an insulating material such as plastic or the like and the shell contact **32** is supported in a socket member **34**, of electrically conductive material, in circuit with a band **36** which surrounds the adjacent portion of the auxiliary barrel **20** and has a depending portion **38** grounded to the frame of the automatic **10** when the auxiliary barrel **20** is positioned within the slide **12** of the automatic **10**.

A fixed contact member or element **40** extends from the auxiliary barrel **20** to the interior of the magazine chamber within the hand grip **14** and has one end in contact with the base contact **30** and supported in an insulation member **42** which is rearwardly of the socket member **34**, the other end of the contact member **40** bearing against a subsidiary contact member or conductive element **40'** mounted on the upper end of the auxiliary magazine **22** and, with the contact member **40**, providing a fixed contact extending from the barrel **20** to the hand grip **14**.

A pair of flashlight batteries, of the pen type, designated by the reference numeral **44** and constituting a source of electric current, are supported within a recess or cavity provided in the auxiliary magazine member **22** and have their shell terminals connected by a grounding member **46** to the frame of the automatic **10** when the auxiliary magazine **22** is in position within the hand grip **14**. The center terminals of the batteries **44** are connected by a bar or first conductive element **48** extending around the magazine **22** in a groove provided for the same and terminating in a movable contact member **50** supported on the magazine **22** when the latter is within the hand grip **14**, such movable contact member **50** facing toward the terminating or contact end of the subsidiary contact member or first conductive element **40'**. The movable contact member **50** is resilient and is normally biased outwardly into contact with the fixed contact member or conductive element **40'**. A part of the movable contact member **50** is covered with an insulation element **52** electrically isolating the same from a tab **54** carried on the rearward end of the trigger bar **17** within the hand grip **14** and of conventional construction, the trigger bar **17** and tab **54** being shown in dotted lines in Figure 2. Of conventional construction is a spring means embodying a leaf spring **56** operatively connected to the trigger bar and biasing the latter and the trigger for movement away from the hand grip **14**, this leaf spring **56** being shown schematically in Figure 2 and in dotted lines. The actual construction of the leaf spring **56** is not important to the present invention as it is a part of the operating mechanism of the automatic **10** and is employed in the present instance to bias the movable contact member **50** out of electrical contact with the adjacent portion of the contact end of the conductive element **40'**. The tab **54** constitutes means carried by the trigger **16** engageable with the movable contact member **50** when the trigger **16** is in the position away from the stand grip to hold the movable contact member **50** in the out of engagement position relative to the fixed contact member **40'**, this means being releasable from the movable contact member upon execution of movement of the trigger **16** toward the hand grip **14** to permit the end of the movable contact member to contact electrically with the adjacent end of the fixed contact member **40'**.

In use, the automatic **10** is dismantled to the extent necessary to expose the interior of the slide **12** for removal of the conventional barrel and permit the insertion therein of the auxiliary barrel **20**. The conventional magazine is removed from the chamber within the hand grip

14 and the auxiliary magazine member 22 inserted therein. Upon squeezing of the trigger 16 in a manner which normally would fire the automatic if bullets were within the barrel and fed thereinto from the magazine, the filament of the bulb 28 is energized and a beam of light is emitted through the sight opening 26. This enables the user thereof to practice target shooting with his firearm in the usual manner without the expenditure of ammunition. The user of the automatic when employing the device of the present invention accustoms himself to the feel of the weight of the gun and may rapidly and efficiently convert the firearm from the normal cartridge firing condition to the light emitting condition without in any way damaging or changing the mechanism of the firearm.

While only a single embodiment of the present invention has been shown and described, other embodiments are contemplated and numerous changes and modifications may be made without departing from the spirit of the invention as set forth in the appended claims.

What is claimed is:

1. For use with an automatic pistol having a handle portion and frame adapted to support a barrel and the handle portion being provided with a chamber adapted to receive a removable clip and the pistol having a trigger mechanism including a trigger and a trigger bar extending rearwardly from the trigger into the handle portion and adapted to be operatively connected to a hammer of the pistol; a light projecting unit for converting said pistol for practice firing, said unit comprising a member of a shape and size substantially equivalent to the shape and size of the chamber and removably fitted in the chamber, said member having a top wall and a rear wall and having a cavity formed therein to releasably receive a dry cell battery assembly, and the member having a grounding means extending from the cavity for contact with the battery assembly to ground the battery assembly to the frame, a first conductive element extending from the cavity and carried by the member, said first conductive element having a contact end disposed at the rear wall and being normally urged outwardly from the rear wall, a second conductive element carried by the member and having a contact end overlying the contact end of the

first conductive element, means cooperatively provided between the trigger bar and the first conductive element for retaining the said contact end of the first conductive element out of engagement with the contact end of the second conductive element when the trigger is in its normal forward position and said means releasing the contact end of the first conductive element for automatic rearward movement into engagement with the contact end of the second conductive element when the trigger is pulled and the trigger bar is moved rearwardly, said second conductive element overlying the top wall of the member, a barrel mounted on the frame and handle portion, an illumination means mounted in the barrel and including a bulb having a contact element extending into the top of the chamber and engaged with the second conductive element and an imperforate member fitted in the barrel forwardly of the bulb and formed with a center opening to expose the illuminating rays from the bulb when the said contacts of the conductive elements are in engagement.

2. A light projecting unit as claimed in claim 1, wherein said means includes a lateral tab on the rearward end of the trigger bar disposed in confronting relation to the rear wall of the member and an insulation element carried by the first conductive element and interposed between the tab and the rear wall of the member and engaged by the tab.

3. A light projecting unit as claimed in claim 1, wherein said barrel is formed from insulating material and has a front and rear end and said bulb is fixedly mounted in the barrel adjacent the rear end and said imperforate member includes a cap closing off the front end of the barrel.

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