Aug. 18, 1959 J. L. BOUDREAU 2,899,767

PISTOL WITH GRIP FORMING AN ANGLE OF 31° WITH FRAME

Filed Feb. 29, 1956 2 Sheets-Sheet 1

Fig. 2

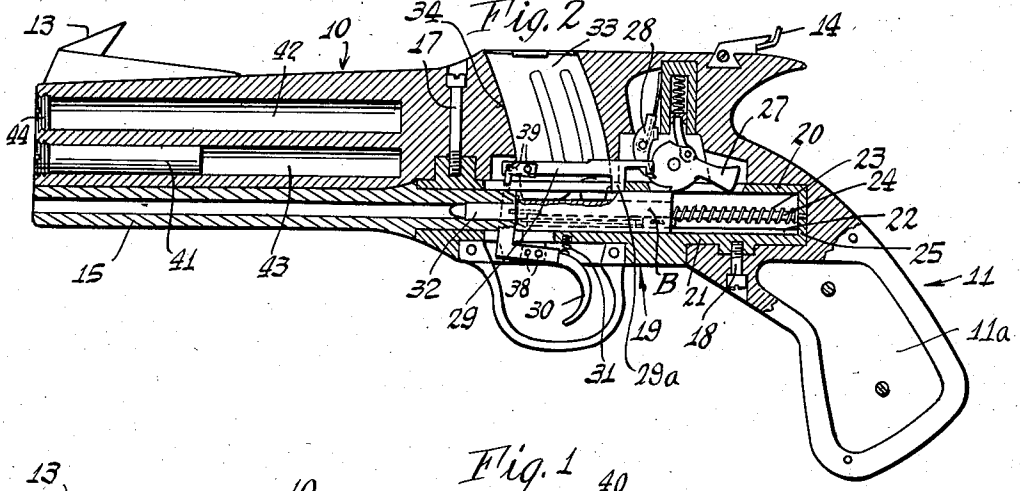


Fig. 1

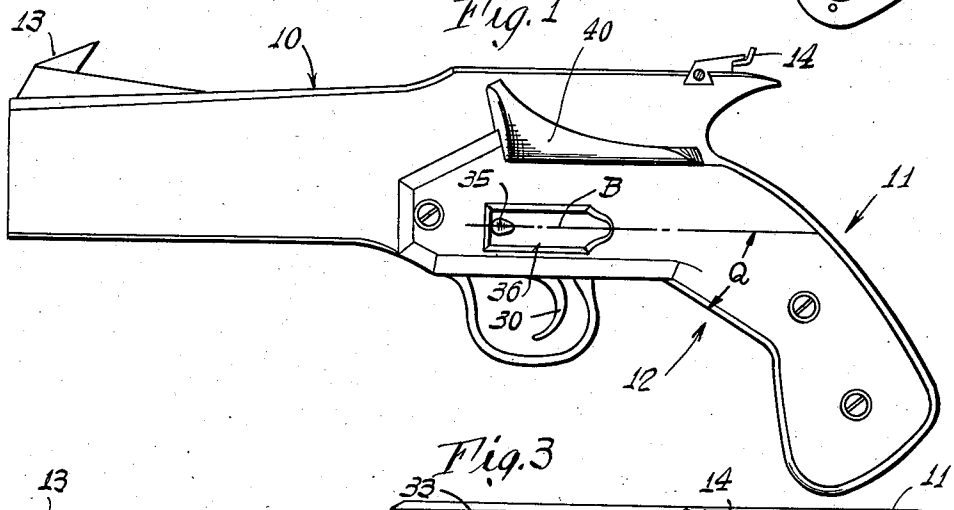


Fig. 3

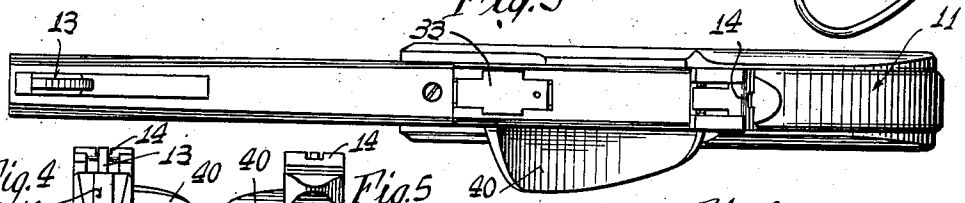


Fig. 4

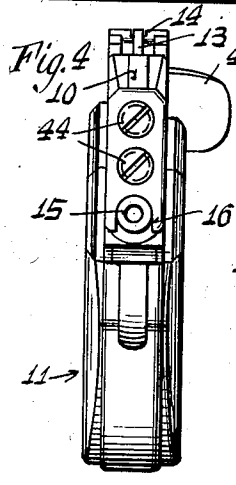


Fig. 5

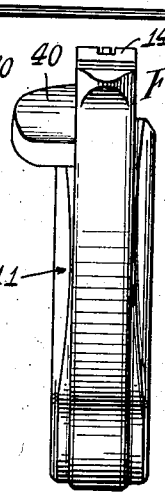


Fig. 6

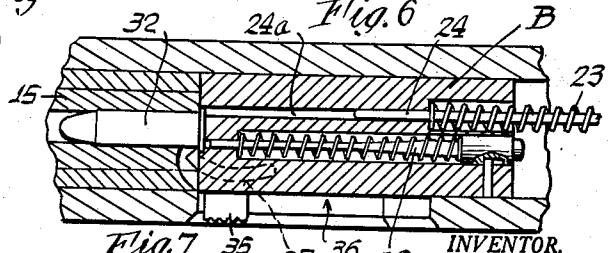
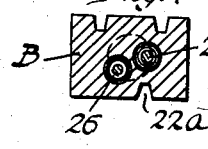


Fig. 7



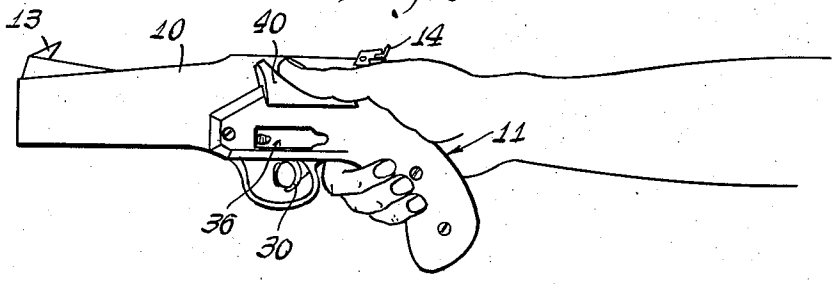
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Aug. 18, 1959 J. L. BOUDREAU 2,899,767

PISTOL WITH GRIP FORMING AN ANGLE OF 31° WITH FRAME

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Fig. 8



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United States Patent Office 2,899,767 Patented Aug. 18, 1959

2,899,767

PISTOL WITH GRIP FORMING AN ANGLE OF 31° WITH FRAME

John L. Boudreau, Stratford, Conn.

Application February 29, 1956, Serial No. 568,521

8 Claims. (Cl. 42—75)

The present invention relates to an improved pistol design, and more specifically to a construction and arrangement which facilitates the shooting and aiming of the pistol, particularly where a plurality of shots are to be fired in succession.

Heretofore, pistols of the automatic or semi-automatic type have been constructed with the barrel disposed at the top of the frame and a grip depending from the frame at the rear thereof and forming an angle of approximately 55° to the axis of the frame. With this construction the barrel is disposed entirely above the grip and it has been found necessary in sighting and firing the pistol to slightly cock the wrist upwardly. When the pistol is fired in this position the recoil provides a rearward force spaced above the wrist which causes the hand and pistol held therein to rotate upwardly and rearwardly about the wrist, resulting in the lifting of the muzzle. It is, therefore, necessary to return the muzzle to position to aim before firing the next shot. This is time-consuming and certainly a handicap in certain types of target shooting.

In order to reduce the muzzle lifting tendency of the pistol, it has been proposed to make the pistol as heavy as possible and to provide muzzle brakes so as to resist movement to recoil. In some target pistols, for example, weights have been added to hang from the barrel to achieve this result. The weight of such a pistol when held at arm's length in shooting soon fatigues the shooter and renders it more difficult for him to control the pistol during shooting.

The present invention overcomes these difficulties by providing a lightweight pistol so constructed and arranged that it minimizes any tendency for the muzzle to lift and facilitates the handling and shooting of the pistol, particularly where a plurality of shots are fired in succession. This is accomplished by providing a lightweight frame having a depending grip at the rear end thereof having a gripping portion which forms an angle to the axis which is preferably 31°, but it may vary within 10° either side depending upon the type of pistol and the person using it, and by placing the barrel along the lower part of the frame so that the axis of the barrel when extended will pass through the grip intermediate the ends thereof. With this construction it is not necessary to cock the wrist during firing so that a comfortable position is maintained and at the same time the recoil will be along a line passing through the palm of the hand and in line with the forearm of the shooter, thus minimizing any tendency of the recoil to cause rotation of the wrist and lift the muzzle. Since the tendency to lift the muzzle is substantially reduced, the frame and pistol can be made of relatively lightweight material so that the shooter is not fatigued by holding it at extended position and rapid fire can be achieved without the necessity of bringing the muzzle back on the target as was heretofore the case.

A feature of the invention resides in the fact that the magazine is located above the barrel and disposed in the

frame of the pistol rendering it more accessible than heretofore when the magazine was included in the grip.

Other features and advantages of the invention will be apparent from the specification and claims when considered in connection with the drawings in which:

Figure 1 is a side elevational view of the pistol.

Fig. 2 is a longitudinal sectional view taken through Fig. 1.

Fig. 3 is a top view of Fig. 1.

Fig. 4 is a front view of Fig. 1.

Fig. 5 is a rear view of Fig. 1.

Fig. 6 is an enlarged detailed sectional view through the breechblock.

Fig. 7 is a transverse sectional view through the breechblock.

Fig. 8 is a view of the pistol held in aiming position.

As shown in the drawings, the present invention comprises an elongate frame **10** having at the rear end thereof a depending grip **11**. As illustrated in Fig. 1, the gripping portion **12** of the grip forms an angle with the longitudinal axis of the grip which permits the pistol to be gripped and sighted on a target by means of sights **13**, **14**, without the necessity of cocking the wrist as is clear from Fig. 8. The angle of the portion **12** is indicated by the inner surface thereof and forms an angle Q with the longitudinal axis of the frame which is preferably 31°. However, this can under some circumstances be varied between 21° and 41°.

Disposed along the undersurface of the frame is the barrel **15** which can be secured to the frame in any suitable manner. As shown, the barrel is disposed in a groove **16** in the frame and is connected to the forward end of the firing mechanism which is secured to the frame by screws **17**, **18** or any other suitable means. Any suitable firing mechanism may be employed. As herein illustrated it comprises a housing **19**, preferably of steel having lower and upper walls **20**, **21** provided with guiding surfaces for slidably receiving a longitudinally movable breechblock B. A key **22** mounted in the keyway **22***a* of the block B maintains it against lateral movement. The breechblock is normally urged to its forward firing position by spring **23** carried by a pin **24** having one end secured to the end **25** of the housing and the other end slidable in a bore **24***a* in the breechblock. The breechblock also carries a firing pin **26** in position to be struck by the spring actuated hammer **27** when the sear **28** is released by the trigger link **29** upon movement of the trigger **30** against the spring **31**.

Cartridges **32** may be supplied to the firing chamber in any suitable manner. Preferably they are fed from a magazine carried by the frame and located above the barrel. While the magazine may be of the tubular type carried by the frame in spaced relation to the barrel, it is herein illustrated as a clip **33** removably mounted in a slot **34** opening at the top of the frame and held therein by any suitable means (not shown). Cartridges are fed downwardly into the firing chamber by the usual spring pressed plate (not shown) when the breechblock moves to the rear when the shot is fired. In order to move the breechblock to permit loading of the first cartridge, the breechblock has a fingerpiece **35** projecting laterally through a slot **36** in the side of the pistol. By manually moving the breechblock rearwardly, the space under the magazine is cleared to permit a cartridge to drop into position to be moved by the breechblock under the action of spring **23** into firing position. Also, it will be noticed that movement of the breechblock to the rear will cock the hammer if it is not in cocked position. When the trigger is pulled, the link **29** will move the end of sear forwardly releasing the hammer **27** which will move under the action of its spring and strike the firing pin **26** resulting in the firing of the cartridge. The firing of

the cartridge causes the breechblock to be forced rearwardly against the spring **23** and move the hammer to cocked position. The disconnect cam **29***a* on the trigger link prevents release of the sear until the trigger has been returned to normal position.

As shown in Fig. 6 the breechblock has an extractor link **37** which engages the rim of the cartridge and as the breechblock moves rearwardly causes the spent cartridge case to be withdrawn or remove a live cartridge in the barrel as desired. When the block has moved a sufficient distance to withdraw the casing, the casing will engage the end of pin **24** which becomes the ejector means to cause the casing to be ejected, upon continued movement of the block through the aperture or slot **36** so that a new cartridge can be fed from the clip and into position to be fired.

It will be noted from Fig. 2 that the extension of the axis of the barrel passes through the grip between the ends thereof and, as indicated in Fig. 8, is located above the three gripping fingers and passes through the palm of the hand and is in line with the forearm. I have found that with the barrel mounted on the frame and the frame elements so arranged as to provide the angular relationship between the grip and frame the tendency for the muzzle to lift is greatly reduced and hence it is unnecessary to make the gun heavy to counteract the tendency toward muzzle lifting. For this reason the frame and grip can be made from magnesium, aluminum, wood, plastic or other lightweight materials or combinations thereof resulting in an overall saving of approximately one-half of the weight normally found in pistols of this type.

A feature of the invention resides in the provision of an adjustable mounting for the trigger whereby its position with respect to the grip can be adjusted to conform to different finger reaches. This is accomplished, as shown in Fig. 2, by providing a plurality of mounting holes **38** in the trigger and similar adjusting apertures **39** connecting the trigger to the trigger link.

If desired, a thumb rest **40** can be positioned on the side of the frame. While this may be adjustably mounted it is herein illustrated as being fixed to the frame.

The pistol of the present invention is normally so balanced and arranged that there is no substantial tendency for the muzzle to lift during the firing. However, under some circumstances it might be desired to provide weights for the barrel. This can be accomplished by inserting one or more weights **41** in the frame-lightening bores **42**, **43** formed in the frame. Preferably, this is done by removing one or both of the threaded closure plugs **44** and replacing it with the weight having a threaded end adapted to be threaded into the bore. Also, weights can be placed in the hollow **11***a* of the grip, if necessary, to secure proper balance of the pistol.

It will be seen that the present invention provides a lightweight pistol which has increased accuracy due to the substantial elimination of any tendency for the muzzle to lift, is more comfortable to grip and fire since the wrist is in a substantially uncocked position and, due to its light weight, can be more easily handled and does not tire the shooter. Further, it can be fired more quickly and accurately when a plurality of shots are to be in succession since it is unnecessary to return the muzzle to the target because of the elimination of the muzzle lift. While the present invention is extremely effective for target shooting, it is also highly desirable for use in all types of pistols.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. A pistol comprising a lightweight, elongate frame having a trigger, a grip depending from the frame at the rear thereof with the gripping surface of the grip adjacent the trigger forming an angle of between 21° to 41° with the longitudinal axis of the frame, a barrel carried by the lower part of the frame and disposed above the trigger, and a breechblock carrying a firing pin and recoil means mounted on the frame in line with said barrel, said barrel and breechblock being disposed on an axis passing through the grip intermediate the ends thereof, said axis being adapted to be located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm.

2. A pistol comprising a frame having a trigger, a grip depending from the rear portion of the frame and having the gripping surface of the grip adjacent the trigger forming an angle of 31° with the longitudinal axis of the frame, a barrel carried by the lower part of the frame and disposed above the trigger and located on an axis passing through the grip intermediate the ends thereof, said axis being adapted to be located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm, and means on the frame forwardly of the grip and above the barrel for top loading cartridges to the barrel to be fired therethrough.

3. A pistol comprising a frame having a trigger, a grip depending from the rear portion of the frame and having the gripping surface of the grip adjacent the trigger forming an angle of between 21° to 41° with the longitudinal axis of the frame, a barrel carried by the lower part of the frame and disposed above the trigger and located on an axis passing through the grip intermediate the ends thereof, said axis being adapted to be located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm, and a magazine carried by the frame forwardly of the grip and above the barrel to carry and supply a plurality of cartridges to the barrel to be fired therethrough.

4. The invention as defined in claim 3 wherein said magazine comprises a cartridge clip removably mounted in an opening in the top of the frame.

5. A pistol comprising a frame having a trigger, a grip depending from the rear portion of the frame and having the gripping surface of the grip adjacent the trigger forming an angle of between 21° to 41° with the longitudinal axis of the frame, a barrel carried by the lower part of the frame and disposed above the trigger and located on an axis passing through the grip intermediate the ends thereof, said axis being adapted to be located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm, a magazine carried by the frame forwardly of the grip and above the barrel to carry and supply a plurality of cartridges to the barrel to be fired therethrough, and an aperture on the side of the frame through which a spent cartridge case may be ejected.

6. A pistol comprising a lightweight, elongate frame having a trigger, a grip depending therefrom at the rear thereof with the gripping surface of the grip adjacent the trigger forming an angle of 31° with the longitudinal axis of the frame, a barrel carried by the lower part of the frame and disposed above the trigger, a breechblock carrying a firing pin and recoil means mounted on the frame in line with said barrel, said barrel and breechblock being disposed on an axis passing through the grip intermediate the ends thereof and located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm, a cartridge clip removably mounted in the frame above the firing mechanism and adapted to automatically feed cartridges to said mechanism, and an ejection opening on the side of the pistol to pass the spent cartridge case after the cartridge has been fired.

7. A pistol comprising a frame having a trigger, a grip depending from the rear portion of the frame and having the gripping surface of the grip adjacent the trig-

ger forming an angle of between 21° to 41° with the longitudinal axis of the frame, and a barrel carried by the lower part of the frame, said frame being substantially as long as the barrel and of a height substantially greater than the diameter of the barrel, the upper end of the grip being disposed above the barrel and the barrel being disposed above the trigger and on an axis passing through the grip intermediate the ends thereof, and located immediately above the bottom three fingers and passing through the palm of the hand grasping the grip and in line with the forearm.

8. A pistol comprising a frame having a trigger, a grip depending from the rear portion of the frame and having the gripping surface of the grip adjacent the trigger forming an angle of 31° with the longitudinal axis of the frame, and a barrel carried by the lower part of the frame, said frame being substantially as long as the barrel and of a height substantially greater than the diameter of the barrel, the upper end of the grip being disposed above the barrel and the barrel being disposed above the trigger and on an axis passing through the grip intermediate the ends thereof, and located immediately above the bottom three fingers and passing through

the palm of the hand grasping the grip and in line with the forearm.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,899,767 August 18, 1959

John L. Boudreau

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 69, before "sear" insert -- the --; column 3, line 62, after "be" insert -- fired --.

Signed and sealed this 8th day of March 1960.

(SEAL)
Attest:
KARL H. AXLINE

Attesting Officer

ROBERT C. WATSON
Commissioner of Patents

UNITED STATES PATENT OFFICE

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