E. I. FISHER.

GUN.

APPLICATION FILED APR. 23, 1915.

1,174,840.

Patented Mar. 7, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

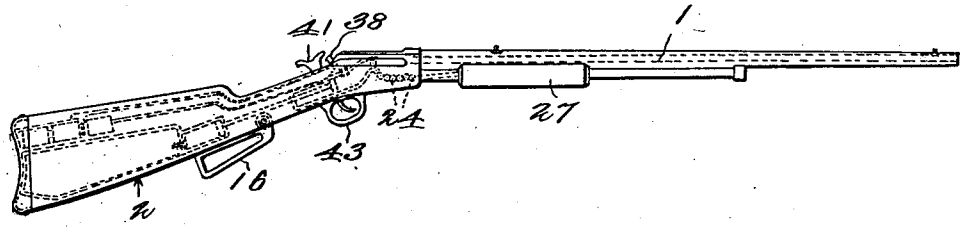


Fig. 3.

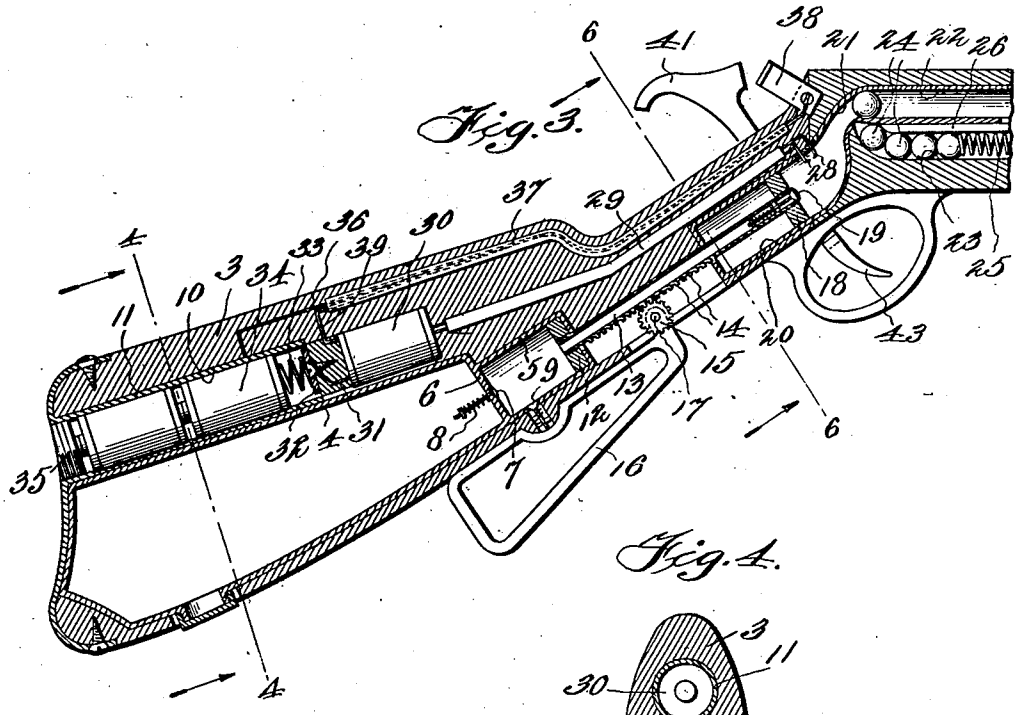
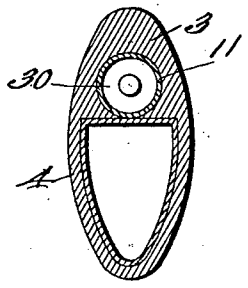


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

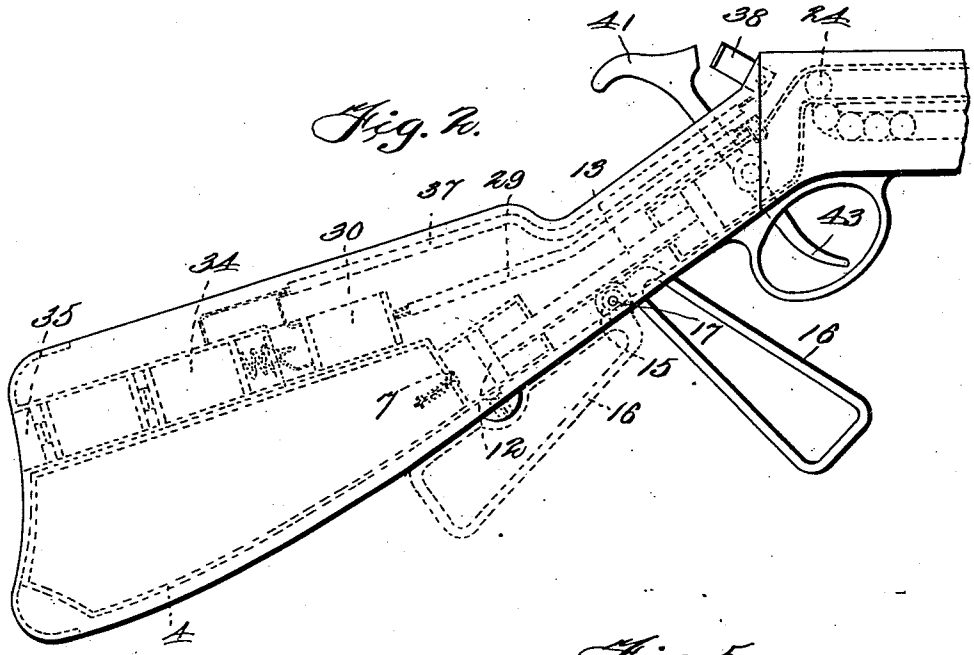


Fig. 6.

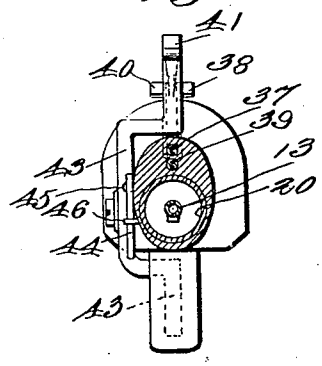
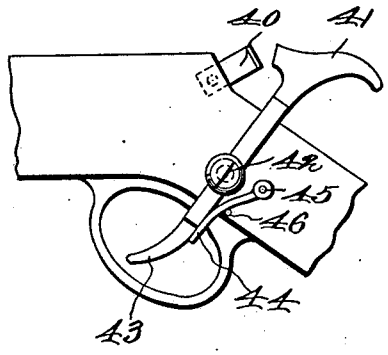


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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GUN.

1,174,840. Specification of Letters Patent. Patented Mar. 7, 1916.

Application filed April 23, 1915. Serial No. 23,408.

To all whom it may concern:

Be it known that I, EARNEST I. FISHER, a citizen of the United States, residing at Wewoka, in the county of Seminole and State of Oklahoma, have invented certain new and useful Improvements in Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in guns and the principle object of the invention is to provide a gun in which gas is used in place of powder as the propelling means for the projectile.

Another object of the invention is to provide a device which is electrically controlled by the pulling of a trigger.

A further object of the invention is to provide a magazine gun in which the charge is compressed before it is fired.

With these and other objects in view, the invention consists in the novel combination and arrangement of parts which will be fully set forth in the following specification and accompanying drawings, in which:—

Figure 1 is a side view in elevation of a gun constructed in accordance with this invention. Fig. 2 is a fragmentary side elevation of the stock on an enlarged scale. Fig. 3 is a longitudinal sectional view through the stock. Fig. 4 is a sectional view on line 4—4 of Fig. 3. Fig. 5 is a detail fragmentary side elevation of a portion of the gun showing the hammer and trigger arrangement, and Fig. 6 is a sectional view on line 6—6 of Fig. 3.

Referring now to the drawings by characters of reference, the numeral 1 designates the gun barrel while the numeral 2 designates as an entirety the stock. This stock comprises the body 3 having formed therein an opening for the reception of the tank 4 which is designed to hold the gasolene, gas or other fuel for forming the charge. A suitable measuring cylinder 5 is connected to the forward end of the tank 4 and separated therefrom by the wall 6 having formed therein, an opening which is arranged to be closed by the valve 7, which valve is spring pressed as at 8 and is only actuated to draw the fuel from the tank into the measuring chamber. This measuring chamber may also be known as a mixing chamber for the reason that it is provided with an air inlet valve 9 through which air passes and this air may be mixed with the charge as the same is drawn into the chamber. Formed adjacent the opening for the reception of the tank 4 in the butt or stock of the gun is the bore 10 for the reception of the metallic shell 11 in which the batteries are disposed. These batteries form the power source for the spark forming means by which the gun is discharged.

Slidable in the chamber 5 is the piston 12 provided with the hollow piston rod 13, one side of which is formed with a plurality of teeth 14 forming a rack with which the pinion 15 coöperates in operating the piston 12. This pinion is connected to the lever 16 and is mounted to revolve on the shaft 17 as clearly shown in Fig. 3. Carried by the forward end of the hollow piston rod 13 is the compression piston 18 and closing the end of the rod is the spring pressed valve 19 which is normally closed.

The piston 18 is operable in the compression chamber 20 which terminates at its forward end in the reduced neck 21 which communicates with the interior 22 of the barrel 1 of the gun. A suitable magazine opening 23 is provided and communicates with the barrel to feed the shot 24 thereinto and form a closure for the forward end of the compression chamber 20 as clearly shown in Fig. 3. These shot are fed upwardly into the barrel by means of the spring 25 and the opening through which they pass into the barrel is closed by the slide 26 part of which is shown in cross section and full line in Fig. 3 and is operated by the manually controlled magazine feeder 27. The ball or shot 24 after being forced up through the opening is frictionally held over said opening when engaging the upper inner wall of the barrel and forming an air-tight compression chamber.

Disposed within the chamber 20 are the sparking points 28 which are connected by means of suitable wires contained within the cable 29 to the secondary of the spark coil designated by the numeral 30. This spark coil is fed by means of the wire 31, plate 32 and spring 33 from the batteries 34, the opposite terminals of which bear against the plug 35 which is threaded into the open end of the cylinder 11. A suitable wire 36 is connected to the cylinder and

passes through the cable 37 to the sparking contact 38, and the opposite wire in the cable designated by the numeral 39 is connected to the coöperating contact 40 and to the terminal of the primary of the spark coil opposite the one to which the wire 31 is connected.

In order to provide a means for firing the gun upon pulling the trigger, the hammer 41 is pivoted as at 42 to the stock and is provided with the offset portion 43 so that the hammer and trigger will come in proper position with relation to the stock of the gun.

The trigger is designated by the numeral 43 and is carried at the lower end of the offset portion. In order to hold the hammer 41 normally out of engagement with the contact 38, the spring 44 is provided and is secured as at 45 to the stock and held in engagement with the lower end of the offset portion by means of the pins 46.

When it is desired to use the gun, the magazine controlling slide 27 is operated to allow one of the shots 24 to pass into the barrel. The lever 16 is then thrown downwardly into the position illustrated in Fig. 2 and it will be apparent that the plunger 12 will slide rearwardly thus forcing the gas within the chamber 5 through the hollow piston rod 13 and into the chamber 20. Upon swinging the lever 16 back into its normal position as illustrated in Fig. 2, it will be apparent that the plunger 18 will compress the gas in the chamber 20 and force the same into the reduced neck 21 and against the ball or shot 24, which is positioned within the barrel. This action will simultaneously draw additional gas through the valve 7 and into the chamber 5 by the movement of the plunger 12, thereby mixing the gas with the air entering through the valve 9 and preparing a second charge. Upon pulling the trigger 43, it will be apparent that the hammer will contact with the contact plates 38 and 40, thereby allowing the current to flow from the battery through the wire 36 to the contact 40, thence back through the contact 38 to the wire 39 and to the primary winding of the spark coil 30, the current passing through the wire 31 and plates 32 and spring 33 back to the battery. It will thus be seen that the circuit will be complete through the primary of the induction coil, thereby exciting the secondary and causing the current to flow through the wires contained within the cable 29 to the sparking points 28 across which a spark jumps, thus firing a charge within the chamber or neck 21 and causing the ball or shot 24 to be projected through the barrel. Upon again manipulating the magazine controlling member, it will be apparent that the gas can again be placed in condition to be fired, thereby eliminating the necessity of removing and replacing clips of cartridges and the like.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that such changes may be made in the combination and arrangement of parts as will fall within the spirit and scope of the appended claims.

What is claimed is:—

1. In a gas gun, the combination with a barrel and stock thereof, of means for holding a shot in said barrel, means for supplying the barrel with a charge of explosive gas or other fluid, mechanism movable within the stock of the gun for compressing the charge between it and the shot, and means for exploding the charge.

2. In a gun, the combination with a barrel and stock thereof, of a magazine secured in the under surface of said barrel, and means for forcing shot out of the magazine into the inner end of the barrel and frictionally holding the same therein, and means for supplying the barrel with a charge of explosive mixture, a piston operating in the stock of said barrel, means whereby said mixture will be compressed between one end of the piston head and the shot, and means for exploding the same.

3. In a gas gun, the combination with a barrel and stock thereof, of a tank positioned in the stock of said gun, batteries arranged in said stock above said tank, said batteries being connected in circuit with a trigger and sparking points, a mixing or measuring chamber arranged at the forward end of said tank, a valve connecting the mixing chamber with the tank, a hollow piston rod, piston heads on said piston rod, one end of said piston rod positioned in the measuring tank, the opposite end disposed within a compression chamber, means for frictionally holding the shot in the inner end of the bore of the barrel, said shot closing the end of a barrel and enabling the piston head to compress the air in the compression chamber, and upon operation of the trigger the charge will be exploded.

4. A gun of the character described including a barrel and a stock, the stock being formed with an opening a fuel tank within the opening, a mixing chamber connected to the fuel tank and arranged to produce an explosive mixture when the fuel from the tank is admitted and mixed with air, a compression and explosion chamber in the stock near the point where it joins the barrel, said explosion chamber communicating with the barrel, a shot in the rear end of the barrel forming the front wall of the explosion chamber, a piston operable in the mixing chamber, a piston operable in the explosion chamber to compress the charge

and a hollow piston rod connecting the piston to provide a passage for the gas from the mixing chamber into the explosion chamber, and means to ignite the mixture in the explosion chamber after the same has been compressed.

5. A gun of the character described including a barrel and a stock, a fuel chamber within the stock, a mixing chamber communicating with the fuel chamber and mixing air with the fuel, a piston slidable in the mixing chamber, a hollow piston rod connected to the piston, a compression chamber, an explosion chamber communicating with the compression chamber and with the barrel, a shot in the barrel forming the front wall of the explosion chamber, a piston operable in the compression chamber, said piston being operated by the hollow piston rod, means to move both pistons simultaneously, a magazine to feed the bullets into the barrel, and electric means to ignite the charge in the explosion chamber to propel the projectile through the barrel and from the mouth thereof.

In testimony whereof I affix my signature in presence of two witnesses.

EARNEST I. FISHER.

Witnesses:
C. H. PAMUNTER,
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