

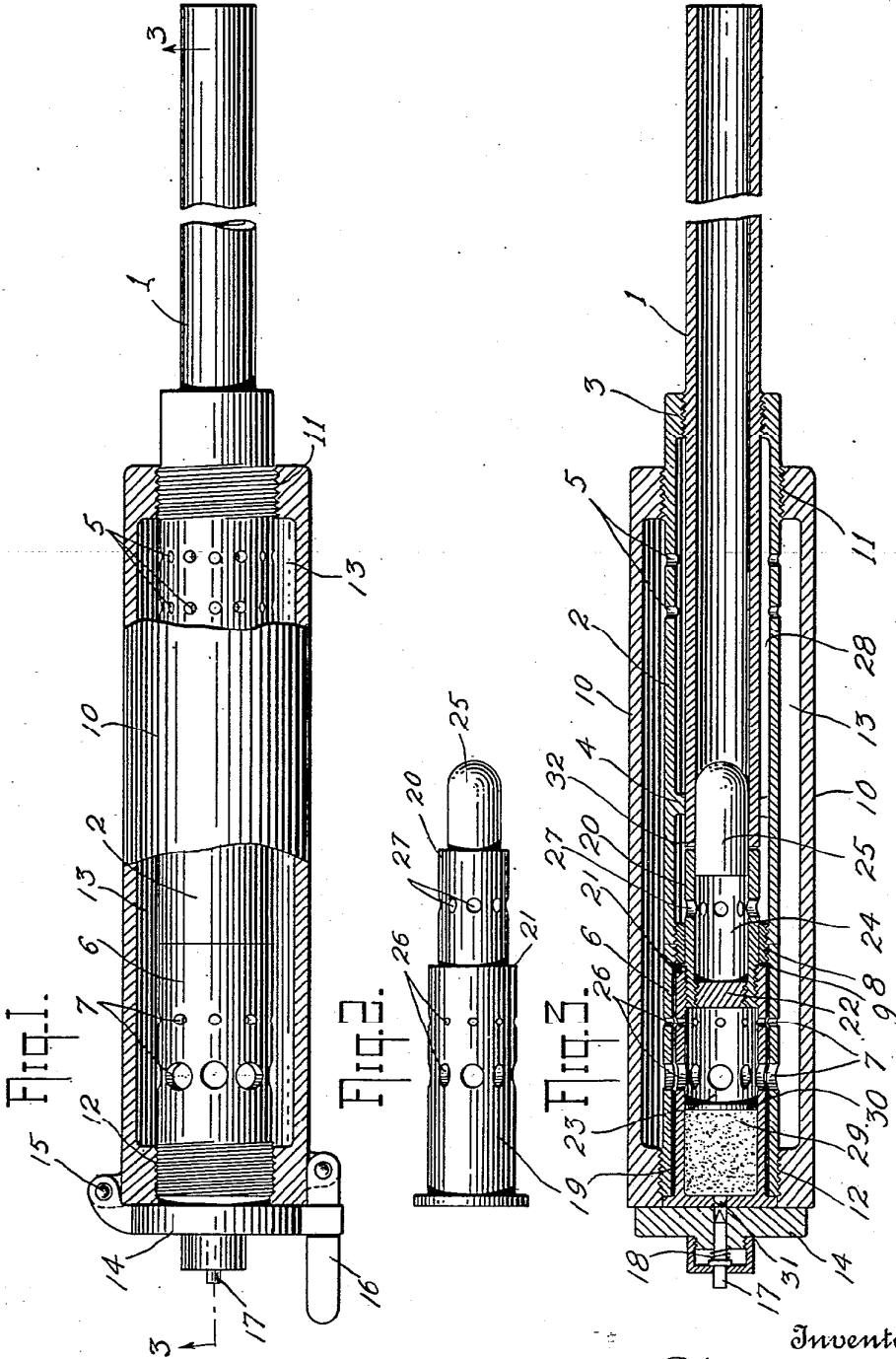
March 18, 1924.

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R. L. DEZENDORF

FIREARM AND AMMUNITION THEREFOR

Original Filed March 18, 1921 2 Sheets-Sheet 1



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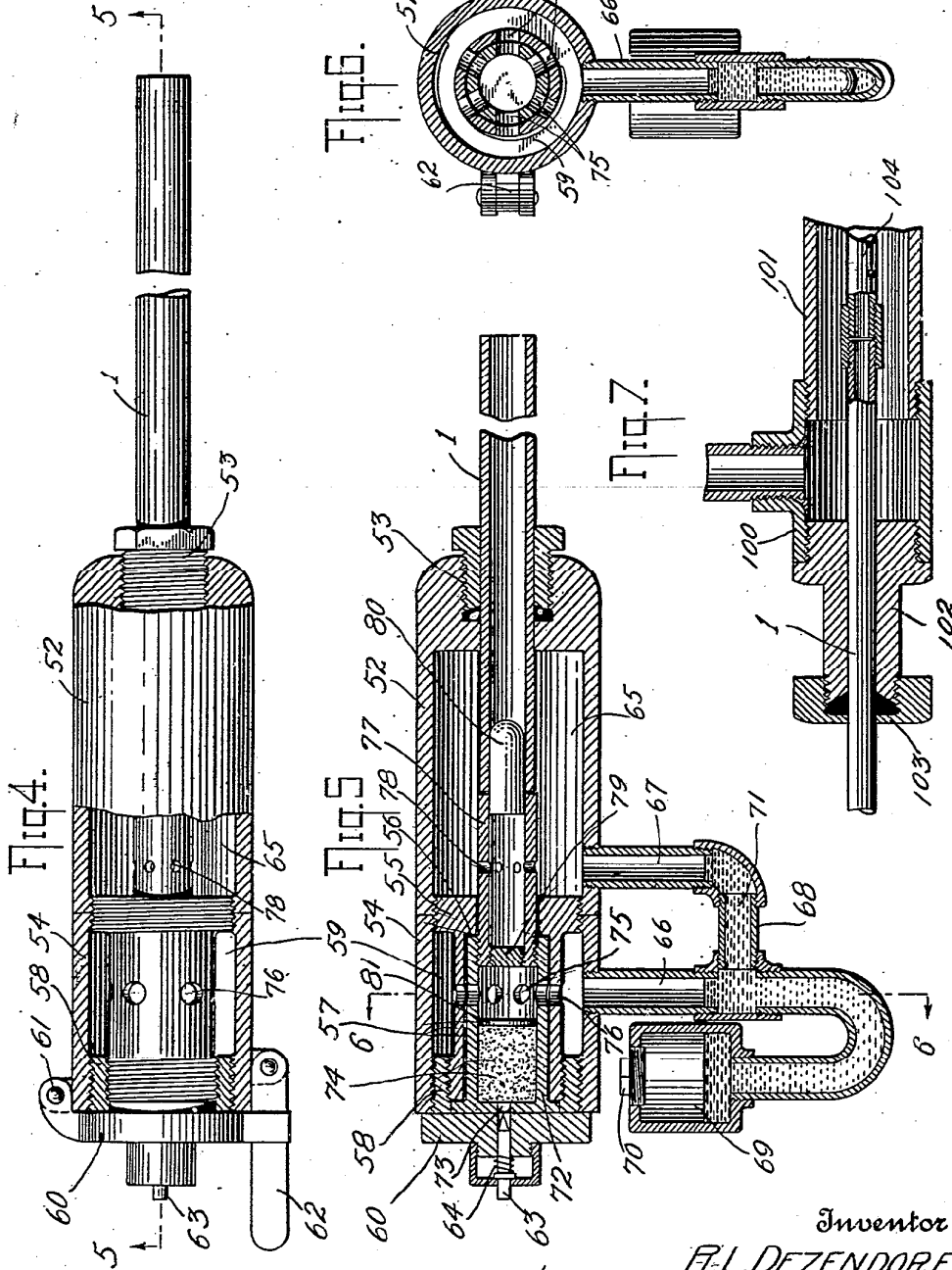
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UNITED STATES PATENT OFFICE.

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FIREARM AND AMMUNITION THEREFOR.

Application filed March 18, 1921, Serial No. 453,334. Renewed June 12, 1923.

To all whom it may concern:

Be it known that I, RICHARD L. DEZENDORF, a citizen of the United States, residing at 9121 112th Street, Richmond Hill, county of Queens, State of New York, have invented a certain new and useful Improvement in Firearms and Ammunition Therefor, of which the following is a full, clear, and exact description.

My invention relates to improvements in firearms and ammunition therefor and has for its object to produce a flashless and noiseless firearm. It further has for its object to produce such a firearm adapted to either discharge a projectile or to clear obstructions from gas service pipes. It further has for its object to produce a noiseless and flashless firearm adapted to discharge a projectile and having a single breach.

The following is a description of an embodiment of my invention, reference being had to the following drawings, in which:

Fig. 1 shows an embodiment of my invention partly in plan and partly in section;

Fig. 2 shows a side elevation of the cartridge for use in said firearm and embodying some features of my invention;

Fig. 3 shows a section on the line 3—3, Fig. 1 of the firearm with the cartridge in place;

Fig. 4 shows partly in plan and partly in section a modification of my firearm;

Fig. 5 is a section of the firearm and cartridge on the line 5—5, Fig. 4;

Fig. 6 is a transverse section on the line 6—6, Fig. 5; and

Fig. 7 shows a section of a service pipe with the muzzle of the firearm inserted therein for use in clearing the service pipe of obstructions.

Referring more particularly to the drawings, 1 is the barrel of my improved firearm, through which the discharge takes place. 2 is a shell surrounding the same, having a tight screw thread connection at 3 and having a spider 4 supporting the rear end of the barrel. The shell 2 is provided with openings 5 for the purpose hereinafter described. 6 is an extension of the shell 2, having perforations 7 and connected to the shell 2 by a screw threaded collar 8 having a shoulder 9 formed at its rear surface,

this construction being adapted to assist in assembly of parts. 10 is an outer shell screw threaded to the shell 2 at 11 and to the extension 6 at 12 and forming a chamber 13. 14 is a breech block pivoted to the shell 10 at 15 and provided with a latch 16 and a firing pin 17 which is normally retracted by a spring 18.

Within the extension 6 and shell 2 is a cartridge composed of a casing 19 into which is screwed an extension 20 so as to form a shoulder 21 adapted to engage the shoulder 9. 22 is a screw plug in the rear of the extension 20, forming a partition between an explosion chamber 23 and a chamber 24 formed between the rear end of the projectile 25 and the partition 22. The walls of the explosion chamber 23 are provided with openings 26 which are adapted to register with the openings 7 in the extension 6. The walls of the chamber formed between the rear end of the projectile 25 and the partition 22 are provided with openings 27 which open into the chamber 28 at points between the shell 2 and the barrel 1.

The explosive chamber contains an explosive charge 29 which is preferably before ignition confined to the rear end of that chamber by a wad 30. 31 is a fulminate cap in the base of the cartridge adapted to receive the impact of the firing pin 17.

The forward end of the projection 20 engages the rear end of the barrel 1 as shown at 32.

In the operation of this firearm and cartridge, the cartridge is inserted as shown in Fig. 3 and the explosive 29 is ignited by causing the pin 17 to make impact with the fulminate cap 31. This ignites the explosive charge and the gases pass through the openings 7 and 26 into the chamber 13 and then through the openings 5 into chamber 28 and through the openings 27 to the chamber behind the projectile 25. This causes the projectile to be discharged through the barrel 1. On account of the tortuous path through which the gases have to pass in going from the explosive chamber 23 to the chamber 24, the discharge of the gun is flashless and comparatively noiseless.

In the modification shown on Sheet 2, the barrel 1 is surrounded by a shell 52 between whose forward end and the barrel a tight

connection is made by the packing box 53. The casing 52 has an extension 54 secured thereto by a screw threaded member 55 which has a shoulder 56. This screw threaded member has a rearwardly projecting tubular wall 57 which is screw threaded to a collar 58, which collar 58 is also screw threaded to the rear of the projection 54, forming a chamber 59 between the member 55 and its projecting wall 57 and the rearward extension 54. 60 is a breech block pivoted to the casing 52 at 61 and provided with a latch 62 and a firing pin 63 normally retracted by a spring 64. 65 is a chamber located within the shell 52 surrounding the rear end of the barrel 1. Connecting the chambers 59 and 65 is a tortuous passage formed by the pipes 66, 67, 68. Connected to the lower portion of this passage is a reservoir 69 provided with a tight fitting plug 70. The pipes 66, 67 and 68 form a trap which is adapted to contain a liquid 71 supplied from the reservoir 69.

The cartridge employed is similar to the cartridge heretofore described, having a shell 72 provided with a fulminate cap 73 and having an explosive chamber containing an explosive 74. This shell is provided with perforations 75 which line up with perforations 76 in the wall 57. Into the forward end of the shell is screwed a tubular extension 77 provided with perforations 78 and having in its rear end a plug 79 forming a chamber between it and the end of the projectile 80, this partition 79 being located between the perforations 75 and 78. Preferably the explosive charge 74 is confined to the rear portion of the explosive chamber by a wad 81.

In the operation of this gun when the fulminate is discharged the explosive in the explosive chamber is ignited, the gases passing through the perforations 75 and 76 and the connections 66, 67, and 68 to the chamber 65 which constitutes an expansion chamber. Therefrom the gases pass through the perforation 78 to the chamber behind the projectile 80, forcing the projectile through the barrel. On account of the tortuous connection, the discharge as the projectile leaves the barrel is both noiseless and flashless, the liquid 71 trapped in the connection between the chambers 59 and 65 contributing toward this result. Upon each discharge only a portion of the liquid 71 is dissipated and thereafter a portion of the liquid from the reservoir 69 goes into the connection so as to practically restore the original conditions. The plug 70 makes a tight fit and the pressure in the pipe 66 upon the discharge forces part of the liquid 71 back into the reservoir and thus reduces the amount which would be dissipated if the reservoir were not present.

In using my firearm for clearing service pipes a cartridge is made which has no projectile and the forward end of the firearm barrel is inserted in the header 100 of the

service pipe 101, a tight joint being made by the nipple 102 and the packing box 103. Preferably an extension 104 is screwed to the forward end of the barrel and extended to a point adjacent to the obstruction. Upon the discharge of the firearm the high pressure gases are thus discharged into the service pipe at a point adjacent to the obstruction and in most instances will dislodge the obstruction so as to open the service pipe. Either form of firearm can be used for this purpose.

The tortuous passages and chambers forming parts thereof constitute expansion chambers which enable the gases to expand somewhat before they are discharged and assist in securing the comparatively noiseless discharge when the gun is used for discharging projectiles or for service pipe work.

As will be evident to those skilled in the art, my invention permits of various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. The combination of a cartridge casing having a chamber for explosive, a projectile, and a partition between said chamber and projectile and so located as to leave a chamber between it and said projectile, the walls of said chambers being perforated.

2. The combination of a cartridge having a chamber for explosive, a projectile, a partition between said chamber and projectile and so located as to leave a chamber between it and said projectile, the walls of said chambers being perforated, and a firearm having a portion engaging said cartridge between said perforations, and having a tortuous passage around said portion connecting the perforations in said respective walls.

3. The combination of a cartridge having a chamber for explosive, a projectile, a partition between said chamber and projectile and so located as to leave a chamber between it and said projectile, the walls of said chambers being perforated, and a firearm having a portion engaging said cartridge between said perforations, and having a tortuous passage around said portion connecting the perforations in said respective walls, said cartridge and portion having shoulders abutting one another.

4. The combination of a cartridge having a chamber for explosive, a projectile, a partition between said chamber and projectile and so located as to leave a chamber between it and said projectile, the walls of said chambers being perforated, and a firearm having a portion engaging said cartridge between said perforations, and having a tortuous passage around said portion connecting the perforations in said respective walls, said passage forming a trap adapted to contain a liquid.

5. The combination of a cartridge having

a chamber for explosive, a projectile, a partition between said chamber and projectile and so located as to leave a chamber between it and said projectile, the walls of said chambers being perforated, and a firearm having a portion engaging said cartridge between said perforations, and having a tortuous passage around said portion connecting the perforations in said respective walls, said passage forming a trap adapted to contain a liquid and a supply reservoir connected to said trap. 10

RICHARD L. DEZENDORF.