

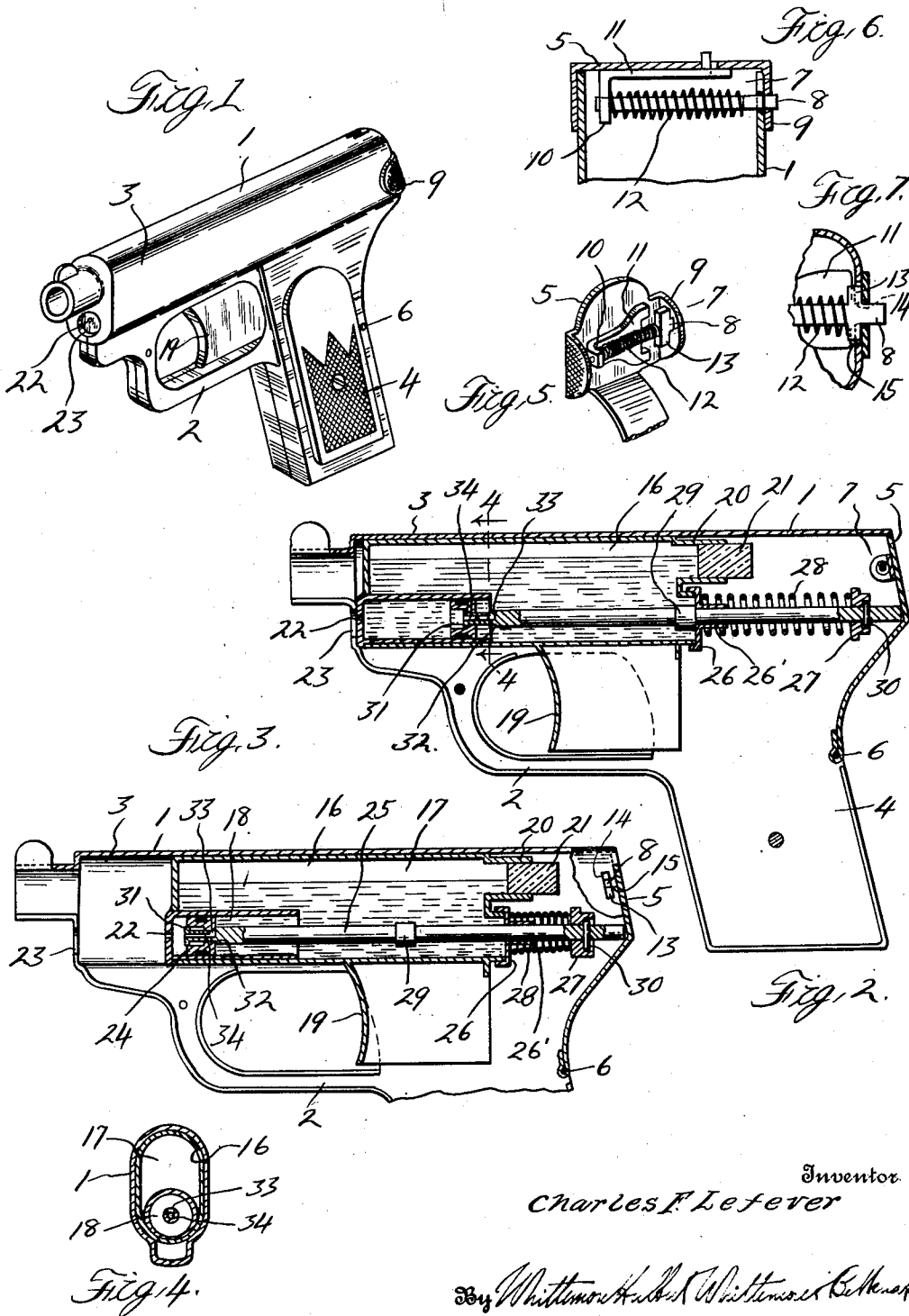
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LIQUID GUN

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LIQUID GUN.

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The invention relates to liquid discharging guns and refers more particularly to that type known as magazine guns or repeaters. The invention has for one of its objects the provision of a gun which will discharge the same amount of liquid each time it is operated. The invention has for another of its objects to so construct the gun that its parts may be readily assembled. The invention further consists in the novel features of construction and combinations and arrangements of parts as more fully hereinafter set forth.

In the drawings:—

Figure 1 is a perspective view of a liquid pistol embodying my invention;

Figure 2 is a central section therethrough;

Figure 3 is a similar view, partly in elevation;

Figure 4 is a cross section on the line 4—4 of Figure 2;

Figure 5 is a perspective view of a portion of the closure of the gun frame member;

Figures 6 and 7 are sectional views at right angles to each other, showing the means for securing the closure in closed position.

The gun illustrated in the present instance is a liquid pistol in which 1 is a frame member formed of a sheet metal stamping having complementary sections abutting against each other and forming a casing and a trigger guard 2, the casing comprising the false barrel 3, the handle 4 and the closure 5 for the rear end of the false barrel and the upper portion of the rear side of the handle. This closure is connected to the handle by the pivot 6 and is adapted to be secured to the false barrel by the latch mechanism 7. This mechanism comprises the transversely movable bolt 8 which is slidably mounted in the ear 9 upon the closure and the ear 10 upon the bracket 11, which latter is secured to the closure. 12 is a coil spring encircling the bolt and abutting the ear 10 and the transverse arms 13 upon the bolt. The false barrel at one side of its rear end portion has the opening 14 for engagement with the arms and the slot 15 extends from the rear end of the false barrel to the opening, this slot having a width sufficient for the passage of the bolt.

16 is an assembly insertable into and removable from the frame member when the closure 5 is in open position. This assembly, in fact, comprises two units. One unit is formed of the liquid reservoir 17, which is engageable in the false barrel 3, the discharge chamber 18 within the front lower portion of the reservoir 17 and the trigger 19 which depends from the rear end portion of the reservoir and is adapted to extend into the space formed by the trigger guard 2. The reservoir 17 has at its rear end the filler neck 20 through which the liquid, such as water, may be poured, this neck being closed as by means of the cork 21. The discharge chamber has its front end provided with the restricted discharge opening 22 and its rear end opening into the reservoir, the frame member 1 being provided with an opening 23 to permit water being discharged through the restricted opening 22 from the pistol.

The second unit of the assembly comprises the plunger 24 within the discharge chamber 18 and the plunger rod 25 extending rearwardly through the reservoir 17 and adapted to abut at its rear end the closure 5. This second unit also includes the closure 26 surrounding the rod and adapted to tightly close the opening in the rear end of the reservoir through which the rod passes, the collar 27 encircling the rod near its rear end and the coil spring 28 encircling the rod and abutting the closure 26 and the collar 27. 29 is an enlargement upon the rod for engaging the closure and 30 is a pin extending through the rod and engaging the collar 27 for holding the parts from disengagement. The closure 26 has the cylindrical flange 26' surrounding the rod and preventing the liquid from escaping along the rod. The plunger 24 is slidably mounted upon the front end of the rod and has a limited longitudinal movement relative thereto, the forward movement being limited by the turned collar 31 and the rearward movement being limited by the shoulder 32. The front end of this rod has a passage for liquid from the reservoir to the discharge chamber in advance of the plunger, this passage including the transverse passageway 33 and the axial passageway 34 in the rod and connecting into each other.

With this construction the plunger and plunger rod unit is first secured to the reser-

voir and discharge chamber unit with the plunger located in the discharge chamber, the rod extending rearwardly through the reservoir and the closure upon the rod tightly fitting the flange surrounding the opening upon the reservoir through which the rod passes. Liquid, such as water, is then poured through the filler neck of the reservoir to fill the latter, after which the cork is inserted into the filler neck. This unit assembly is then inserted into the frame member and the frame member closure is locked in closed position, at which time the pistol is ready for use. By pulling the trigger rearwardly any liquid which may have entered the discharge chamber in advance of the plunger rod will be forced through the restricted opening in the front end of the discharge chamber. Then upon relieving the pressure exerted upon the trigger the coil spring encircling the rear end portion of the plunger rod will force the reservoir and discharge chamber unit forwardly, at which time the plunger moves forwardly relative to the plunger rod to uncover the passage in the plunger rod and allow liquid to be drawn from the reservoir into the discharge chamber in advance of the plunger. Then upon again pulling the trigger, the liquid is forced through the discharge opening, the plunger during the initial rearward movement of the trigger having been moved back upon the plunger rod to close the passage therein. The construction is such that substantially the same amount of liquid is drawn into and discharged from the discharge chamber in advance of the plunger, each time the reservoir and discharge chamber unit is reciprocated.

40 What I claim as my invention is:

1. In a liquid gun, the combination with a liquid reservoir, of a discharge chamber, a plunger within said chamber, said plunger and chamber being relatively movable to force from said chamber liquid in advance of said plunger, and a plunger rod having a passage from said reservoir to said chamber in advance of said plunger, said plunger and rod being relatively movable to control the passage.

2. In a liquid gun, the combination with a liquid reservoir, of a chamber having its front end provided with a restricted discharge opening and its rear end opening into said reservoir, a plunger within said chamber, said plunger and chamber being relatively movable to force from said chamber liquid in advance of said plunger, a plunger rod extending through the rear end of said chamber and provided at its front end with a passage for the liquid from said reservoir to said chamber in advance of said plunger, said plunger being movable longitudinally of said rod to control the passage.

3. In a liquid gun, the combination with a

casing, of a unit carried by said casing and movable relative thereto, said unit including a reservoir and a discharge chamber, and means including a plunger within said chamber for controlling the flow of the liquid from said reservoir to said chamber in advance of said plunger and forcing from said chamber the liquid in advance of said plunger.

4. In a liquid gun, the combination with a casing, of a unit movable relative thereto, said unit including a reservoir and a discharge chamber, a plunger within said chamber, and a plunger rod stationary relative to said casing and providing a passage for the liquid from said reservoir to said chamber in advance of said plunger, said plunger having a limited longitudinal movement relative to said rod to control the passage and to force from said chamber liquid in advance of said plunger upon movement of said unit.

5. In a liquid gun, the combination with a casing, of an assembly insertable into and removable from said casing, said assembly including a reservoir, and a discharge chamber forming a unit, a plunger within said chamber and a plunger rod extending through said reservoir and connected to said plunger, said plunger and rod being removable from said unit.

6. In a liquid gun, the combination with a member forming a casing and a trigger guard, said casing including a movable closure at the rear end of said member, of a unit assembly insertable through the rear end of said member when said closure is in open position, said unit assembly including a unit comprising a reservoir, a discharge chamber within said reservoir, and a trigger depending from said reservoir, and also a second unit comprising a plunger within said chamber, and a plunger rod connected to said plunger and extending rearwardly through said reservoir and adapted to abut said closure when in closed position.

7. In a liquid gun, the combination with a casing, of a unit movable relative to said casing and including a reservoir and a discharge chamber, and a second unit removable from said first mentioned unit and including a plunger within said chamber, a plunger rod connected to said plunger and extending rearwardly through said reservoir and adapted to abut the rear end of said casing, a closure for the opening in said reservoir through which said rod extends, a coil spring encircling said rod in rear of said closure, and a collar upon said rod for engaging the rear end of said spring.

8. In a liquid gun, the combination with a casing having a movable closure, of an assembly slidably mounted in said casing including a second casing having a portion constituting a reservoir for a liquid and having another portion forming a discharge

chamber, and means for actuating said assembly to discharge the liquid in said chamber, said assembly being insertable in and removable from said first mentioned casing through said closure as a unit.

9. In a liquid gun, the combination with a casing, of a reservoir and a discharge chamber associated with said casing, a rod adapted to extend into said chamber having a passage therein establishing communication between said reservoir and chamber, and a plunger arranged upon said rod operable to discharge fluid from said chamber

and to control the flow of fluid through said passage.

10. In a liquid gun, the combination with a casing, of a discharge chamber slidably mounted within said casing, a reservoir communicating with said chamber and a plunger arranged within and movable relative to said chamber operable to discharge liquid therefrom and to control communication between the reservoir and chamber.

In testimony whereof I affix my signature.

CHARLES F. LEFEVER.