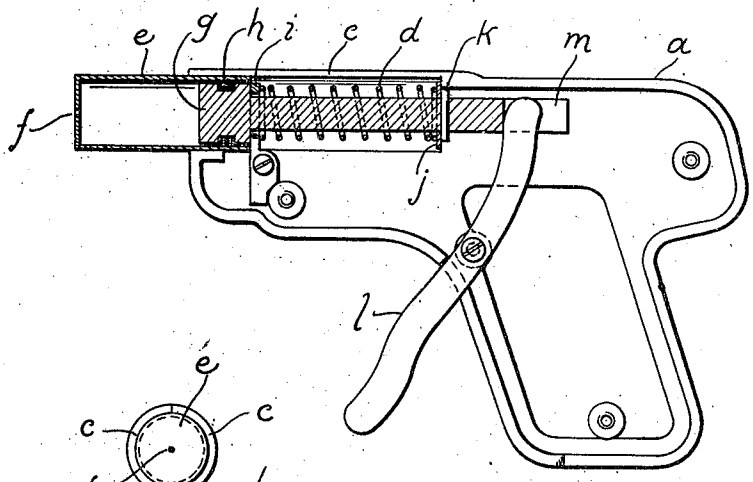
W. F. SCHMIDT.

LIQUID THROWING GUN.

APPLICATION FILED DEC. 13, 1915.

1,178,269. Patented Apr. 4, 1916.

Fig. 1



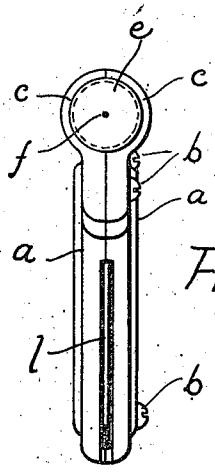


Fig. 2

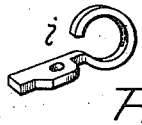


Fig. 5

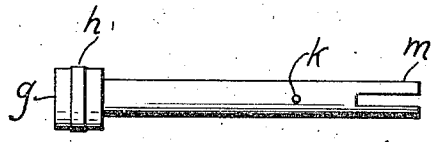


Fig. 4

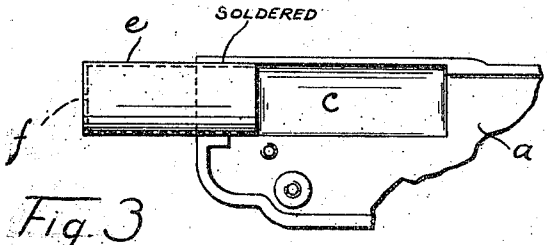


Fig. 3

INVENTOR

William F. Schmidt

BY Rabenold & Parker

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM F. SCHMIDT, OF DETROIT, MICHIGAN, ASSIGNOR TO MOYER-SHAW MANUFACTURING COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

LIQUID-THROWING GUN.

1,178,269. Specification of Letters Patent. Patented Apr. 4, 1916.

Application filed December 13, 1915. Serial No. 66,421.

To all whom it may concern:

Be it known that I, WILLIAM F. SCHMIDT, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Liquid-Throwing Guns, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to liquid-throwing guns intended as toys for children.

It comprises a simple, cheap gun construction which can very effectively suck in a charge of water or liquid and discharge it in a fine stream.

In the drawings,—Figure 1 is a view of the gun with one of the housing parts removed and some of the parts shown in section. Fig. 2 is a front end elevation. Fig. 3 is a detail showing a part of the housing and the barrel fastened thereinto. Fig. 4 is a top elevation of the plunger and plunger-rod. Fig. 5 is a perspective of the plunger-stop and spring abutment.

The gun housing incloses the larger part of the operating mechanism of the gun and also forms a handle. It comprises a pair of half shells *a*, *a* which are screwed together by screws *b*. The forward ends of these half shells are provided with a pair of cylindrical socket portions *c*, *c* which form a complete cylindrical socket for housing the coiled spring *d*.

The barrel *e* is tightly fitted into the end of the socket formed by the two half rings and is preferably soldered therein, although of course, it might be otherwise fastened. The end of the barrel is sealed up except for a small central aperture *f* through which the stream of water is delivered when the plunger *g* travels forward in the barrel. This plunger is provided with a packing ring *h* to prevent the escape of the liquid to the rear. Now, ordinarily the plunger is held in retracted position by the action of the coiled spring *d* which at the forward end bears against the plunger-stop and spring abutment *i* (shown in perspective in Fig. 5) and which at its rear end bears against the collar *j*, the latter of which is held upon the shaft by the spring itself and the pin *k*. Consequently the expansion of this spring *d* normally tends to drive the collar *j* against the shoulder at the rear of the cylindrical socket formed by the two half shells. This consequently keeps the plunger in the retracted position shown in Fig. 1.

When it is desired to send the plunger forward to expel the liquid, this is easily accomplished by means of the trigger *l* which is pivoted in the housing near the forward under side, and which is provided with a resistance arm that engages in the recess of the bifurcated end *m* of the plunger-rod. Hence when the trigger is drawn back, the resistance arm of this trigger lever travels forward and pushes the plunger-rod forward against the expansive force of the spring *d*, thereby propelling the plunger *g* forward in the barrel *e* and expelling the liquid through the small orifice *f*.

To fill the barrel with liquid, the plunger is projected to its forward position by retraction of the trigger, the barrel end of the gun is plunged into the liquid and the trigger allowed to gradually resume its forward position. This sucks the liquid into the barrel and the same is filled ready for discharge.

What I claim is:

1. A liquid-throwing gun, comprising a barrel provided with a small aperture at its forward end, a housing secured thereto, a plunger working in liquid-tight relation in said barrel, a spring tending to keep the plunger retracted, and a trigger for forcing the plunger forward in the barrel to expel the contents.

2. A liquid-throwing gun, having in combination, a barrel provided with a small aperture at its forward end, a housing secured to the barrel, a plunger working in liquid-tight relation in said barrel, a spring for normally keeping said plunger retracted and carried in said housing, a plunger-rod attached to said plunger and extending in the said housing, and a trigger pivoted in said housing and provided with a resistance arm which engages with the end of the plunger-rod so that by retraction of the trigger the plunger may be forced forward in the barrel against the force of said spring.

3. A liquid-throwing gun, having in com-

bination, a barrel provided with a small aperture at its forward end, a housing secured to the barrel and provided with a cylindrical socket alined with said barrel, a plunger working in liquid-tight relation in said barrel, a coiled spring contained in said cylindrical socket of the housing, a plunger-rod attached to the plunger and passing through the coils of the coiled spring, and a trigger pivoted in said housing and provided with a resistance arm which engages with the plunger-rod to compress the coiled spring and force the plunger forward when the trigger is retracted.

4. A liquid-throwing gun, having in combination, a barrel provided at its forward end with a small aperture, a housing secured to the barrel and carrying a spring, a plunger working in liquid-tight relation in said barrel and normally retracted by the influence of the said spring, a plunger-rod secured to the plunger and extending into the said housing and having a bifurcated end, and a trigger pivoted in said housing and having a resistance arm engaging in the recess of the bifurcated end of the plunger-rod, the said trigger upon retraction serving to force the plunger-rod forward against the influence of the spring.

In testimony whereof, I sign this specification.

WILLIAM F. SCHMIDT.