Feb. 28, 1928. 1,660,581

W. F. SCHMIDT

TOY GUN

Filed May 26, 1926 3 Sheets-Sheet 1

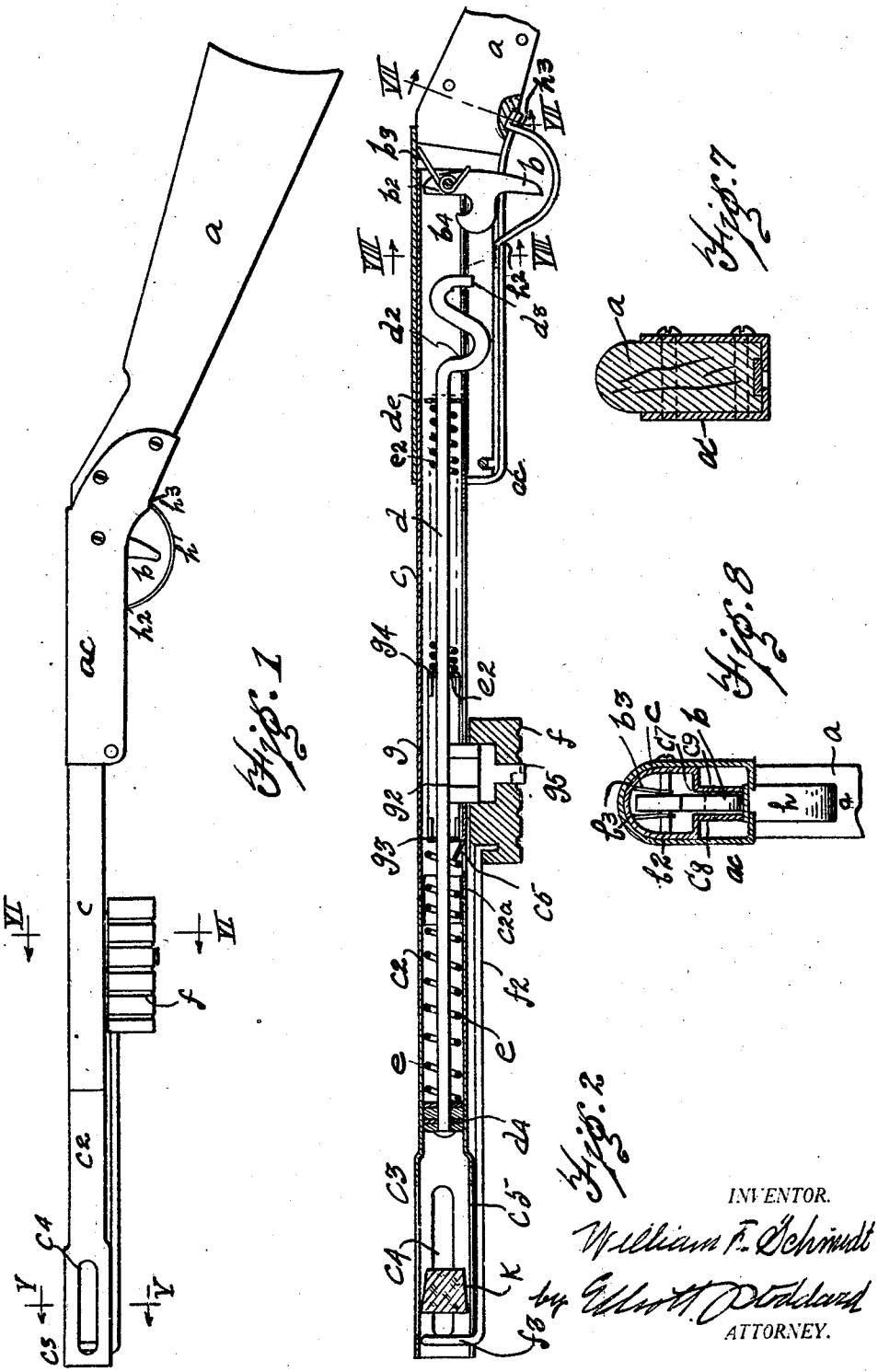


Fig. 1

Fig. 2

Fig. 7

Fig. 8

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Feb. 28, 1928.

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3 Sheets-Sheet 2

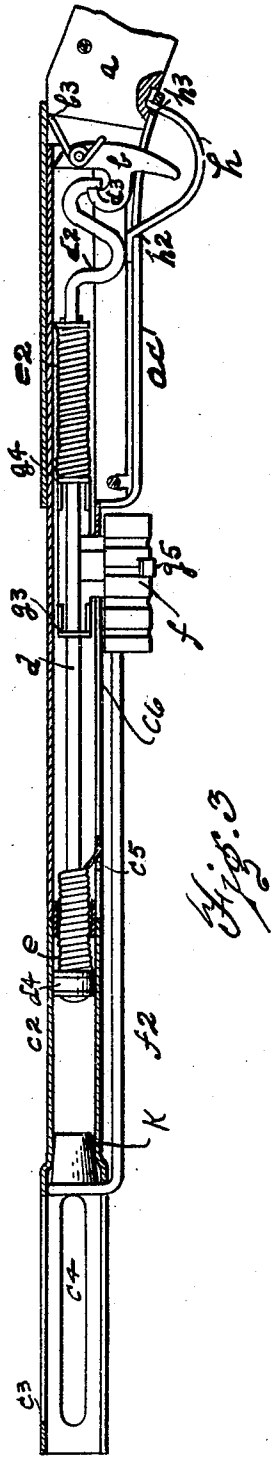


Fig. 3

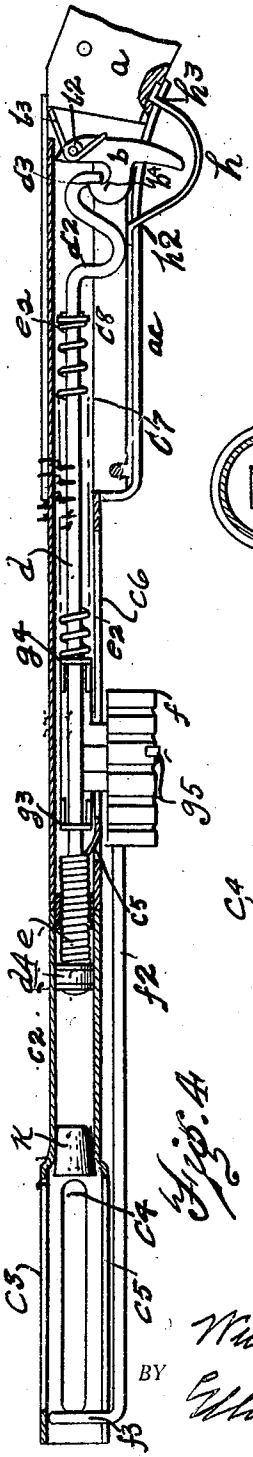


Fig. 4

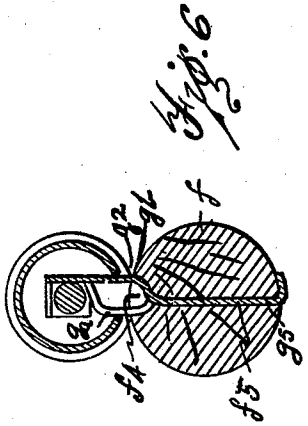


Fig. 6

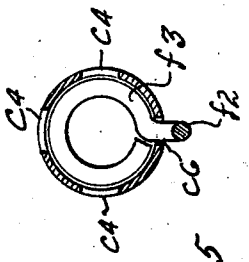


Fig. 5

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W. F. SCHMIDT

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Filed May 26. 1926 3 Sheets-Sheet 3

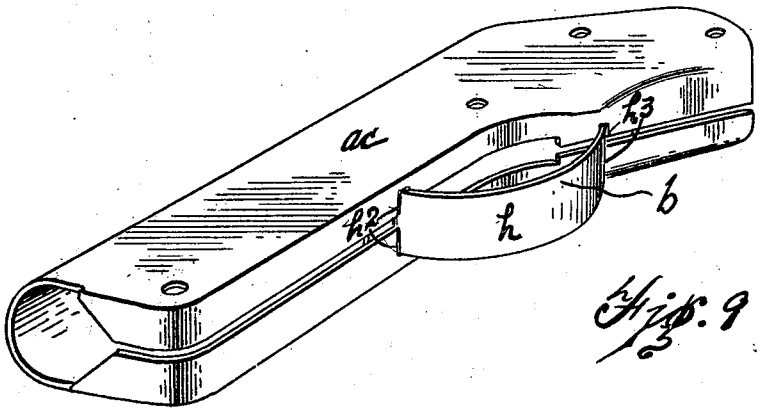


Fig. 9



Fig. 11

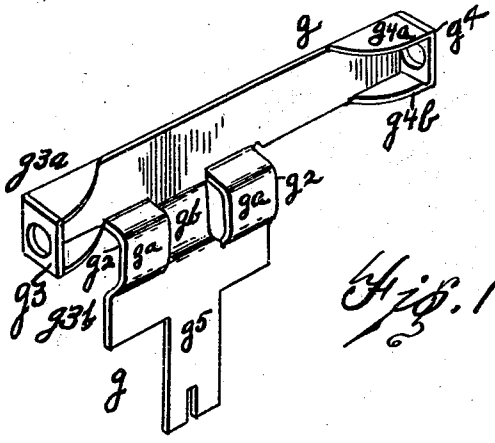


Fig. 10

INVENTOR.

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Patented Feb. 28, 1928. 1,660,581

UNITED STATES PATENT OFFICE.

WILLIAM F. SCHMIDT, OF WYANDOTTE, MICHIGAN, ASSIGNOR TO ALL METAL PRODUCTS CO., OF WYANDOTTE, MICHIGAN, A CORPORATION OF MICHIGAN.

TOY GUN.

Application filed May 26, 1926. Serial No. 111,691.

My invention relates to toy guns, and an object of my improvements is to provide an improved toy gun having the action and appearance of a magazine firearm. I secure this object in the device illustrated in the accompanying drawings, in which:

Figure 1, is a side elevation of a toy gun embodying my invention.

Figure 2, is a vertical section to an enlarged scale of the barrel and casing and showing an adjacent portion of the stock.

Figure 3, is a view similar to Figure 2, the parts being in a different position.

Figure 4, is a view similar to Figures 2 and 3 and with the parts in a third position.

Figure 5, is a section on the line V, V, Figure 1.

Figure 6, is a section on the line VI, VI, Figure 1.

Figure 7, is a section on the line VII, VII, Figure 2.

Figure 8, is a section on the line VIII, VIII, Fig. 2.

Figure 9, is a perspective view of the casing joining the barrel to the stock.

Figure 10, is a perspective view of the carrying frame for the handle, and

Figure 11, is a perspective view of the trigger.

a, is the stock, b the trigger, c the barrel, c^2 an extension of the barrel, c^3 a slight enlargement of the barrel extension c^2 at its outer end. c^4 indicates slots cut through the walls of the enlargement c^3. ac is the casing securing the barrel c to the stock a.

d, is a wire, or small rod, extending axially through the barrel c, c^2. d^2, is a downwardly bent portion of the rod d adapted to strike against a stationary part of the gun to limit the forward motion of the rod d. Beyond the downwardly bent portion of the rod d said rod is again bent upward and then again downward to a vertical position forming the trigger-engaging part d^3. d^4 is a piston on the outer end of the rod d adapted to fit and reciprocate in the extension c^2 of the barrel c, c^2.

The trigger b is pivoted in the barrel c at b^2 and is provided with a spring b^3 which throws it forward. b^4 is a hook on the trigger b adapted to engage the portion d^3 of the rod d to hold said rod in its retracted position.

e, is a coil spring surrounding the rod d, its forward end engaging against the inner surface of the piston d^4, and its rear end engaging against a lug c^5 struck inward from the wall of the barrel c.

f, is a wooden handle. g, is a frame for carrying the handle f, said frame has lugs g^3, g^4 turned at right angles from the main portion of said carrier and having apertures axially in line with each other fitting over and adapted to reciprocate upon the rod d.

g^2, is a downwardly extending portion of the carrier g pressed out into oppositely bending portions, or straps, ga, gb. g^5, is a narrow strip extending downward from the portion g^2 of the carrier.

The handle f is cut away at the top to form a slot f^4 and an aperture f^5 is formed in the handle f extending downward from the slot f^4, through said handle. The handle f is secured to the carrier g by pressing the strip, or tongue g^5, down through the aperture f^5, the portion g^2 coming within the slot f^4, the straps, or bent out portions of the lug g^2 resiliently engaging against the walls of the slot f^4. The strip, or tongue, g^5 is bent over below the handle f so as to secure the same rigidly in position.

e^2 is a coil spring much lighter than the spring e and interposed between the lug washer, or stop, de on the rod d and the lug g^4 on the handle carrier g.

f^2 is a wire, or small rod, one end of which is fastened to the forward end of the handle f, the other end of said rod being bent upward and passing through a slot c^5 in the outer enlargement of the barrel c, c^2. f^3 is a coil in a vertical plane formed in the rod f^2 within the barrel c, c^2, c^3.

k is a cork located in the enlargement c^3 and adapted to reciprocate therein, guided by the walls of said enlargement. The cork k is located between the loop f^3 and the outer end of the smaller portion of the barrel c, c^2, c^3.

c^7 is a slot formed in the barrel c at the rear end thereof within the casing ac. The sheet metal of which the barrel is composed is turned down on each side of the slot c^7 to form the flanges c^8, c^9.

h is the trigger guard made consisting of a plane strip of steel. This is passed through slots h^2, h^3, in the casing ac, its ends being turned so as to fit against the inside surface of the casing ac.

The flanges c^8, c^9 fit closely over one end

of the guard h, and the stock a over the other end to hold said guard firmly in position. The parts are assembled as shown most distinctly in Figure 10. The carrier g is made of sheet metal and has the lugs g^3, g^4, turned up from the metal of the carrier itself, and properly shaped parts g^{3a}, g^{3b}, and g^{4a}, g^{4b}, are turned over from said metal to form braces for said lugs.

The operation of the above described device is as follows:

The operator grasps the handle f and draws backward thereon, compressing the spring e^2 until the coils thereof are in contact with each other. A further backward movement of the handle f forces the rod d backward until the portions d^3 of the rod d engages over the hook b^4 on the trigger b. When the rod d is thus drawn backward it draws the piston d^4 against the pressure of the spring e and the loop f^3 of the rod, or wire, f^2 engages the cork k and presses said cork into the contracted portion of the barrel between the parts c^2, c^3, thereof, as shown in Figure 3.

The parts are now in their position, as shown in Figure 3. The operator now releases the handle f which immediately flies back to its initial position because of the pressure of the spring e^2, as shown in Figure 4. Now, if the trigger b is drawn upon, the rod d will be released and driven forward by the spring e, compressing the air between it and the cork k and ultimately displacing the cork allowing the air compressed in front of the piston d^4 to escape with a report like that of a gun.

The cork is retained by the cage like structure of the barrel enlargement c^3 and is ready to be again engaged in position, as shown in Figures 3 and 4 and above described.

What I claim is:

1. In combination with a toy gun, having a barrel, the outer end of which is formed to receive a cork and allow the same to freely reciprocate therein, a cork in the outer end of said gun, a resetting handle adapted to slide longitudinally of the barrel beneath and at the rear portion of the same, a rod extending forward from said handle and adapted to loosely engage said cork to force the same into engagement in the barrel when the handle is retracted, said rod being free to move away from said cork in the other direction.

2. In a toy gun, a barrel, a piston adapted to reciprocate therein, a spring acting to throw said piston outward, a handle adapted to reciprocate in the direction of the motion of said piston and to retract said piston, said handle having a limited motion independent of said piston, and a second spring interposed between said handle and said piston acting to restore said handle to its initial position when said limited motion has been taken up and the handle released.

3. In a toy gun, a piston adapted to fit and reciprocate in the barrel of said gun, a rod secured to said piston, a spring surrounding said rod adapted to throw said piston outward, a resetting handle adapted to reciprocate on said rod, a second spring weaker than the first named spring interposed between said handle and said rod and acting upon said rod in the opposite direction to the first named spring and upon said handle to restore it to its first position.

4. In a toy gun, a piston adapted to fit and reciprocate in the barrel of said gun, a rod secured to said piston, a spring adapted to throw said piston outward, a second spring surrounding said rod weaker than the first named spring acting upon said rod in the opposite direction to the first named spring, a resetting handle adapted to reciprocate on said rod between said springs, a cork, means for limiting the motion of said cork, and guide the same to a position closing said barrel in front of said piston, means connected with said handle adapted to loosely engage said cork and force it to its closing position in said barrel when said handle is retracted but to permit free relative motion in the other direction.

5. In a toy gun, a piston adapted to fit and reciprocate in the barrel of said gun, a rod secured to said piston, a spring surrounding said rod adapted to throw said piston outward, a second spring surrounding said rod weaker than the first named spring interposed between said handle and said rod and acting upon said rod in the opposite direction to the first named spring, a resetting handle adapted to reciprocate on said rod between said springs, means for limiting the motion of said cork and adapted to guide the same to a position closing said barrel in front of said piston, a rod fixed to said handle and extending to a point beyond said cork in position to engage said cork and force the same to its closing position when said handle is retracted.

6. In an apparatus of the kind described, the combination with a stock, barrel and casing connecting the same, a trigger guard having one end extending through said casing and held in place by being engaged between said barrel and a wall of said casing.

7. The combination of a handle, a groove in said handle, a carrier for said handle made of sheet metal, said metal being cut to form straps bowed in opposite directions and fitting into said groove to secure the carrier and handle together.

8. The combination of a handle, a groove in said handle, a carrier for said handle made of sheet metal, said metal being cut to form straps bowed in opposite directions and fitting into said groove to secure the

carrier and handle together, said groove being extended in an apperture, said metal being provided with a portion extending into said aperture and engaging therein.

9. The combination of a handle, a groove in said handle, a carrier for said handle made of sheet metal, said metal being cut to form straps bowed in opposite directions and fitting into said groove to secure the carrier and handle together, said groove being extended in an aperture passing through said handle, said metal being provided with a portion extending through said aperture and having its protruding end bent over to engage said handle.

10. The combination in a toy gun having a stock and a barrel, a reloading apparatus located at the outer end of said barrel, a resetting handle adapted to reciprocate longitudinally of said barrel at the rear portion of the same, and means connected with said handle so as to move therewith, said means extending to said reloading means and forming the actuating part of the same.

11. In a toy gun, a barrel, a piston adapted to reciprocate therein, a spring acting to throw said piston outward, a resetting handle adapted to reciprocate in the direction of the motion of said piston, said handle having a limited motion independent of said piston, and a spring acting to restore said handle to its normal position when said limited motion has been taken up and the handle released.

In testimony whereof, I sign this specification.

WILLIAM F. SCHMIDT.