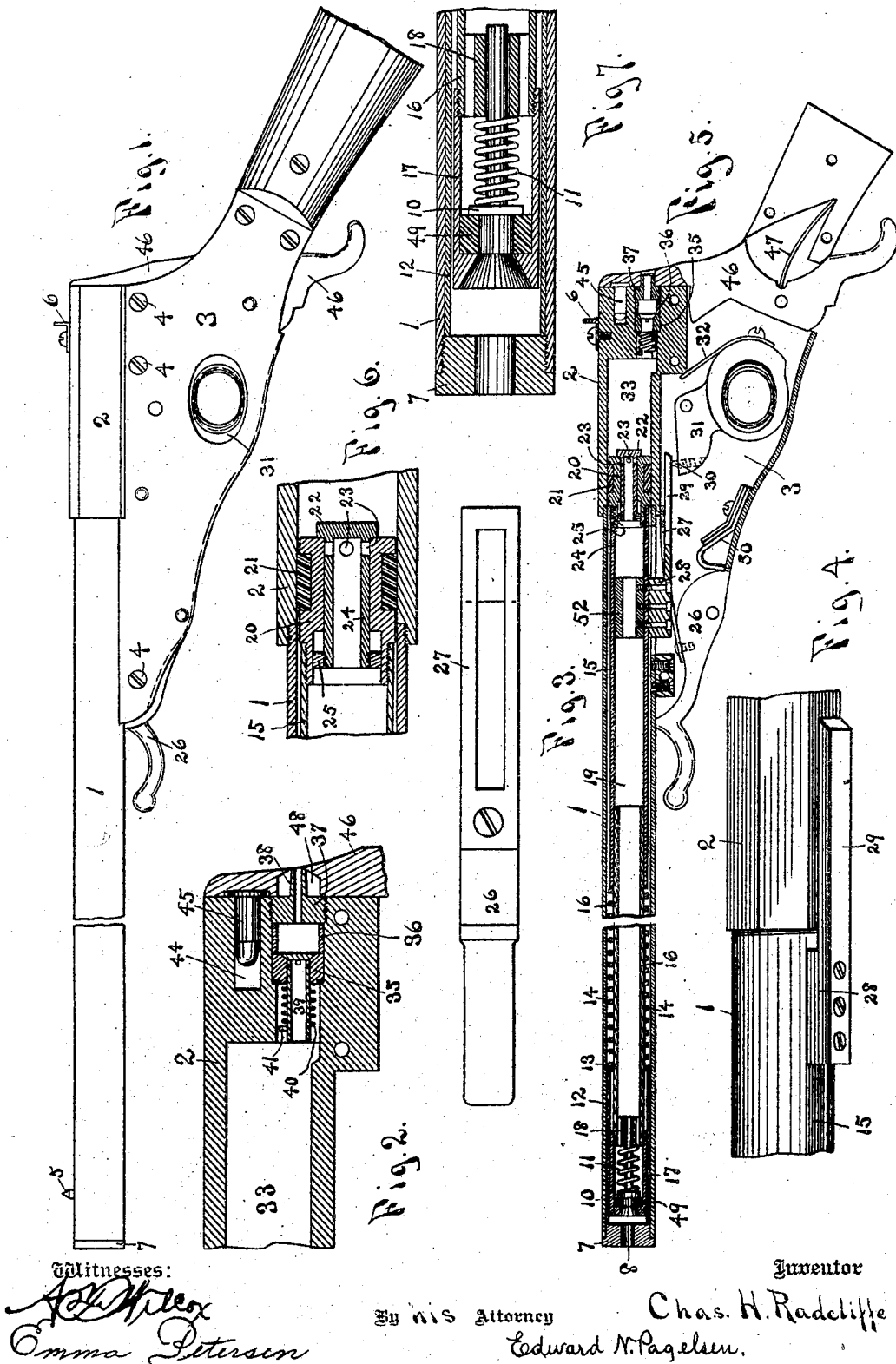


C. H. RADCLIFFE.
WATER GUN.

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Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES H. RADCLIFFE, OF CHICAGO, ILLINOIS.

WATER-GUN.

SPECIFICATION forming part of Letters Patent No. 794,743, dated July 18, 1905.

Application filed October 6, 1904. Serial No. 227,407.

To all whom it may concern:

Be it known that I, CHARLES H. RADCLIFFE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improved Water-Gun, of which the following is a specification.

My invention relates to improvements in guns adapted to discharge a stream of water or other liquids from the rear end of the barrel into the face of the operator when the trigger is pulled. Guns of this kind are toys and are used in playing practical jokes, especially in the initiation ceremonies of secret societies. The gun is of ordinary appearance and causes no suspicion in the mind of the candidate. Instead of the expected usual report the candidate upon pulling the trigger receives a spray of water full in the face, to his own surprise and to the amusement of the spectators.

The objects of the improvements hereinafter set forth are to provide a simple, efficient, and highly-improved gun of this character; to provide a gun of this character that may be discharged several times without reloading; to provide efficient means to prevent the escape of water except at the proper moment, and then freely permit such discharge, and to provide simple and effective means for placing the mechanism in discharging position. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a general view of the gun. Fig. 2 is a central vertical section of the breech. Figs. 3, 4, 6, and 7 are enlarged views of details. Fig. 5 is a view of the barrel in central longitudinal section and of the stock, with one side removed, showing the position of the interior mechanism just after the trigger has been pulled.

Similar reference characters refer to like parts throughout the several views.

The construction shown in the accompanying drawings is an improvement over that shown in the drawings of my Letters Patent of the United States No. 740,371.

The barrel 1 screws into the breech-piece 2, and both are secured to the stock 3 by means of the screws 4. The gun is provided with

the sights 5 and 6. The front end of the barrel is closed by the screw-cap 7, having an opening 8 to receive the end of a funnel for charging the gun with water. Tight within the outer end of the barrel and contacting with the cap 7 is a sleeve 12, at the end of which is the collar 13, which forms a shoulder for the spring 14 to bear against. The rear end of the spring acts against the front end of the tube 15, which is the plunger of the pump for forcing the water out of the rear end of the gun. The plunger is secured at its front end on the tube 16, which forms the guide for the spring 14. These two tubes 15 and 16 form the reservoir 19. The tube 16 screws into the valve-socket 17, which is slidable in the sleeve 12. In the end of the tube 16 is a perforated collar 18, which acts as a guide for the stem of the valve 10 and through whose perforations water is admitted to the reservoir 19. The spring 11 forces the valve 10 against the packing-ring 49, which may be of rubber or of similar substance, which ring rests against the shoulders of the valve-socket 17, thus preventing any water escaping from the front end of the reservoir.

A valve-casing 20 screws into the rear end of the tube 15 and is grooved to receive the packing-ring 21, which forms a water-tight joint between the casing and the inner wall of the breech-piece 2. The valve 22 is slidable in this casing and is provided with a series of openings 23 in the stem portion 24, which are opened by the valve moving to the rear each time the gun-barrel is held vertical with the muzzle up. The ring 25 screws onto the front end of the stem portion 24, and thus limits the movement of the valve in the casing and keeps it from falling out.

In the stock 3 is pivoted the lever 26, having a flexible slotted strap 27 secured thereto. This strap fits over the projecting lug 28, having a tongue 29, which lug is secured to the plunger 15 by means of screws, as shown, which engage in the strengthening-bushing 52. By swinging the front end of the lever 26 downward the strap is caused to pull the lug forward, in which position it is held by the pin 30 on the trigger 31, also pivoted in the stock, which pin is forced upward by the

spring 32. It will be seen, therefore, that when the plunger is pulled forward until the end of the tongue 29 is engaged by the pin 30 the pin will hold all the connected parts in their forward position, the valve 22 permitting water in the reservoir 19 to pass into the space 33 of the breech, the water being prevented from escaping by the packing-ring 21 and by the valve in the rear of the breech. 5 This rear valve will open outward under the pressure caused by the spring 14 whenever the plunger is released upon the pulling of the trigger. The beginning of the movement of the plunger to the rear permits the pressure of the water held in by the spring 40 to force the valve 22 to its seat, thus closing openings 23 and forcing the water to escape through the valve in the breech.

The rear valve is shown in Figs. 2 and 5 and comprises a valve-seat 35, a sleeve 36, pressing against the same, and a screw-plug 37 to hold the parts in position. The plug is provided with a nozzle 38 to direct the discharge of the water. The valve comprises a hollow tube 39, having an enlarged closed end. 25 The tube is perforated near the closed end to permit the escape of the water in chamber 33 whenever the pressure becomes great enough to overcome the tension of the spring 40, which spring presses against the pin 41, and thus holds the valve forward against its seat.

In order that the gun may have the appearance of an ordinary firearm, the rear end of the gun-barrel is preferably provided with a socket 44, adapted to receive the cartridge 45. Covering the socket is a hammer 46, held in open or closed positions by the spring 47. The nozzle 38 passes through to the rear face of this hammer through the opening 48. The cartridge is inserted in plain view of the candidate and the hammer closed down, rendering the deception complete. 40

The lever 26 is frictionally held in its upper position by the spring 50, secured to the inside of the stock. To load the gun with water, the plunger is forced forward, thus permitting the valve 23 to open when the gun is held in vertical position. The valve 10 is thus forced downward by means of any suitable instrument and water poured into the opening 8 until the reservoir 19 and the chamber 33 are filled. Upon the pulling of the trigger the chamber 33 will be discharged by the rearward movement of the plunger. Upon 55 again forcing the plunger forward the opening of the valve 22 will permit the chamber 33 to fill with water from the reservoir 19, so that the gun may be "fired" a number of times without reloading.

60 Having now explained my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a water-gun, the combination of a gun-stock, a gun-barrel mounted in said stock,

an inlet-valve mounted in the front end of said barrel, a hollow plunger slidable in said barrel, an outlet-valve mounted in the rear end of said plunger, a spring for forcing said plunger rearward, a ring secured in said plunger, a lug secured to said plunger and ring and having a rearwardly-extending tongue, a lever pivoted in the front end of said stock having a forwardly-extending arm and an upwardly-curved surface, a flexible slotted strap secured to the curved surface of said lever and extending rearwardly, the rear end resting on said tongue and adapted to engage the lug to move it forward, and a trigger to engage the rear end of the tongue to hold it in its forward position. 65 70 75 80

2. In a water-gun, the combination of a gun-stock, a gun-barrel mounted upon said stock and adapted to contain a fluid and having a rear discharge-opening, a plunger slidable within said barrel for ejecting said fluid through said opening, a lug secured to the plunger and projecting through a longitudinal slot in the barrel, a lever pivoted in the front end of the stock and having a forwardly-extending arm and a curved rear portion, a flexible strap attached to the upper side of said lever and extending rearwardly for connecting said lug and lever, said strap adapted to bend around the curved rear portion of said lever when said lever is actuated to slide said plunger to its forward position, and a trigger adapted to engage said lug and hold said plunger in its forward position. 85 90 95

3. In a water-gun, the combination of a gun-stock, a gun-barrel mounted upon said stock, said barrel adapted to contain a fluid and having a rear discharge-opening, a valve-seat in said opening, a valve for said seat, a spring to hold said valve in position, a sleeve engaging said seat, and a screw-plug having a projecting nozzle for holding said sleeve and valve-seat in position. 100 105

4. In a water-gun, the combination of the gun-stock, a gun-barrel mounted upon said stock, said barrel adapted to contain a fluid and having a rear discharge-opening, a slidable plunger for ejecting said fluid, a lug secured to said plunger, a lever for sliding said plunger to discharging position, a flat spring secured to the lower edge of the stock for frictionally engaging the rear end of said lever when the same is in normal position, a trigger for holding said plunger in discharging position, and a flat spring secured to said trigger for returning the same to normal position. 110 115 120

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. RADCLIFFE.

Witnesses:

GRACE R. HAWKINS,

ALBERTA H. RADCLIFFE.