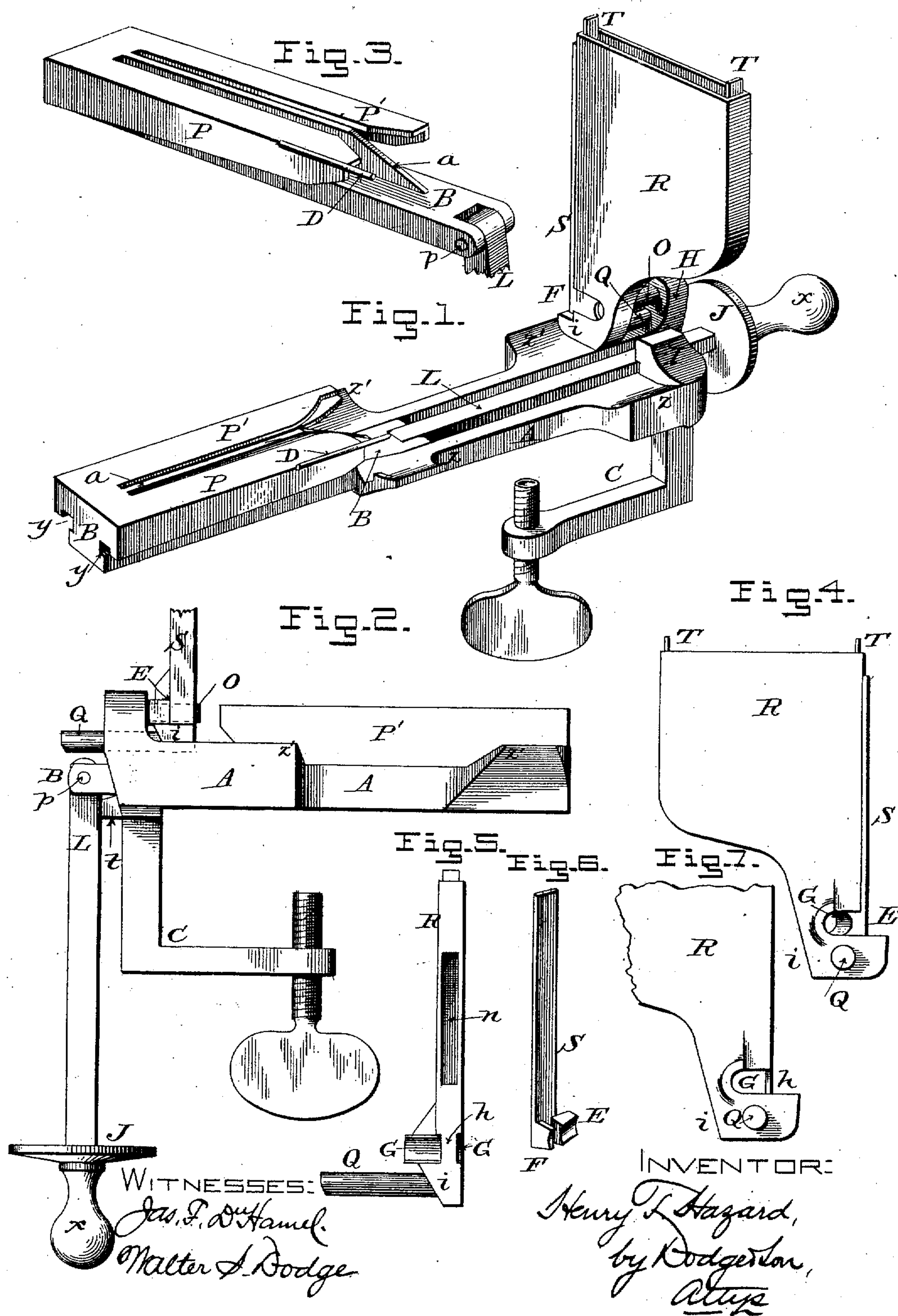


(No Model.)

H. T. HAZARD.  
CARTRIDGE IMPLEMENT.

No. 301,887.

Patented July 15, 1884.





# UNITED STATES PATENT OFFICE.

HENRY T. HAZARD, OF LOS ANGELES, CALIFORNIA.

## CARTRIDGE IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 301,887, dated July 15, 1884.

Application filed March 29, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY T. HAZARD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Deprimers and Reprimers for Gun-Cartridge Shells, of which the following is a specification.

My invention relates to that class of implements adapted to remove exploded primers from gun-cartridge shells and replace them with new primers.

The object of my invention is to provide a simple and inexpensive implement by means of which one can deprime and reprime exploded gun-cartridge shells with great rapidity and accuracy and without handling the shells or primers except in placing them in the machine. This I accomplish by means of the device described herein and illustrated in the accompanying drawings, in which—

Figure 1 is perspective view of my device, showing the plungers P P' retracted to allow the shells to be placed in the frame. Fig. 2 is a side elevation of the same in a reverse position, showing the plunger advanced to seat the primer. Fig. 3 is a perspective view of the depriming and repriming plungers P P', mounted on the slide B, a portion of the lever L being broken away. Fig. 4 is a rear elevation of the primer-magazine R. Fig. 5 is a side elevation of the same with the spring S removed. Fig. 6 is an inner elevation of the spring S. Fig. 7 is a rear elevation of a portion of the magazine R with the spring S removed.

A is the frame, having a clamp, C, by which it may be secured to any suitable support. A groove, V, extends along it from end to end to form a guideway for the slide B, which has two plungers, P P', mounted upon its rear end and extending forward in line with the frame A. One of these plungers is shorter than the other, and is provided with a depriming-pin, D. A partition,  $\alpha$ , extends along the slide between the plungers. At the front end of the frame a shoulder, I, projects upward in line with the plunger P, but not extending high enough to intercept the depriming-pin D. A standard, H, is mounted upon the opposite side and farther to the front

of the frame. A stationary die, O, projects rearward from this standard in line with the plunger P' and in line with a passage, G G, through the bottom of the primer-magazine R. The magazine R has a smooth-bottomed base,  $\iota$ , which rests upon the floor of the frame A, and is held in an upright position by a rod, Q, which projects forward through a hole in the standard H, thus allowing the magazine to slide back and forth along the frame.

A lever, L, is pivoted to the slide B at such a point in front of the plungers P P' that when the plunger P' is brought into contact with the magazine R the joint at  $p$  will coincide with the end of the frame and allow the lever to be depressed. A lug,  $t$ , projects from the front of the frame and forms a fulcrum for the lever, so that when the lever is depressed great force may be exerted to advance the plungers while ejecting and seating the primers.

The magazine R is broad and flat, the cavity within it being somewhat wider from front to rear than the length of a primer, so as to admit a single column of primers placed with their faces to the sides of the magazine, and allow the primers to fall downward by their own weight. One edge of the magazine is perpendicular, and the front and rear walls of the magazine at that edge are cut away at the bottom, leaving two apertures, G G, of sufficient size to permit the passage of a primer through them. The bottom of the magazine slopes from the other side toward the top of the openings G G, at which point it becomes perpendicular, forming, in connection with the perpendicular wall of the edge of the magazine, a tube just large enough to contain a single primer.

A spring, S, having two lugs or jaws, E F, coinciding in width with the apertures G G, is mounted upon the perpendicular edge of the magazine, so that the jaws E F project across the openings G G and retain the primer in the tube at the bottom of the magazine as long as the spring is free. The rear jaw, F, is of the same thickness as the rear wall of the magazine, so as to present a smooth surface to receive the head of the shell when it is forced forward by the plunger P'. The front jaw, E, is much thicker and is beveled upon its front



side, so that when the magazine R is forced forward the die O, which is in line with the passage G G, will engage with the beveled jaw E and force it outward, pressing the spring S from the edge of the magazine and leaving the passage at the bottom of the magazine unobstructed.

The rod Q, which extends forward from the base of the magazine through the standard H, is of such a length as to be flush with the front side of the standard when the magazine is thrown back far enough to free the jaw E from contact with the die O. When the magazine is pushed forward, the rod Q projects from the standard, as shown in Fig. 2. The lever L is provided with a projecting rim, J, which comes in contact with the rod Q when the plungers are retracted to their fullest extent, and forces it backward, thus retracting the magazine and freeing the jaw E from contact with the die O and relieving the spring S, which advances the jaws E F across the openings G G, as shown in Fig. 1. The knob x and rim J are movably attached to the end of the lever, so that they may be removed when it is desired to withdraw the slide from the frame. The frame A is slightly elevated at the sides z' z' z z, and is just wide enough to hold two shells side by side in line with the plungers P P'. A slot, n, is cut in the wall of the magazine beneath the spring S, so as to allow the primers in the magazine to project against the spring, which, by its motion to and from the magazine, agitates the primers and prevents them from clogging. The end of the die O is concave to fit the closed end of the primer, so that the primers will not be pressed out of shape while being forced into the pocket in the shell.

The operation of the machine is as follows:  
 40 The frame is first clamped to a table. The primer-magazine is then removed by slipping it back until the rod Q is withdrawn from the standard H. A box of primers is emptied upon the table, a part falling upon one side and part upon the other. The primers lying upon their open ends are separated from the others. The magazine is then placed against the edge of the table, with its rear side uppermost, and resting upon the teats T T, which causes the lower side of the cavity to coincide with the top of the table. All the primers lying with their open ends uppermost are then shoved into the magazine, which is then turned over and held against the table, as before, with the front side up, when the remainder of the primers may be shoved into it. This manner of filling the magazine is described in applications for Letters Patent on cartridge implements filed by me in the United States Patent Office, respectively, April 26, 1883, and August 11, 1883, and is not claimed herein. By this means the magazine is filled with primers, all of which have their open ends pointing toward the rear of the machine. The magazine is now replaced in the frame and the machine is ready for operation. The operator grasps the lever by the handle x and pushes it back-

ward until the plungers P P' are retracted to their utmost extent. An exploded shell is placed in front of the plunger P. The lever L is drawn forward, advancing the plunger until the depriming-pin D comes into contact with the exploded primer in the head of the shell. The joint between the lever and slide B now coincides with the front of the frame, allowing the lever to be depressed and brought in contact with the fulcrum t, whereupon a further depression of the lever advances the plungers with great force. The pin D enters the vent in the head of the shell and ejects the primer from the shell, which is held stationary by the shoulder I. The lever is now elevated and pushed back to retract the plungers. Another exploded shell is placed in the frame, thus rolling the deprimed shell to the other side of the frame, where it is stopped by the elevations z' z' and held in line with the plunger P'. The plungers are now advanced, and the depriming of the second shell proceeds, as before described. In the meantime the end of the plunger P' comes into contact with the head of the deprimed shell and forces it against the magazine R, which recedes toward the front of the frame and brings the beveled face of the jaw E into contact with the die O, thus withdrawing the jaws E F from the apertures G G and leaving a free passage through the bottom of the magazine. Upon the further advance of the plunger the primer in the tube between the openings G G comes into contact with the die O, which holds it stationary, while the shell advances and receives it into the pocket therefor in the head of the shell. The plungers are now retracted as before, the lever being pushed back until the rim J strikes upon the rod Q, and throws the magazine forward from the die O, leaving the spring S free to advance the jaws E F across the apertures G G and retain the primer, which falls to the bottom of the tube as soon as the die is withdrawn.

This invention is an improvement upon depriming and repriming implements heretofore invented by me, and fully described in applications for Letters Patent on cartridge implements, filed by me in the United States Patent Office, respectively, April 26, 1883, and August 11, 1883, and no claim is hereby made to any part or feature of the implement described herein which appears in said applications.

What I claim as new, and desire to secure by Letters Patent, is—

1. The device for depriming and repriming cartridge-shells, consisting, substantially as shown, of a frame forming a guideway for a slide, carrying two parallel plungers arranged side by side horizontally, one of such plungers being provided with a depriming-pin, as shown, the frame being provided upon its forward end with a shoulder and a die, the shoulder projecting upward in line with the depriming-plunger, and the die projecting backward in line with the repriming-plunger, and being, in combination, substantially as shown,



with a primer-feeding apparatus, whereby a shell, when moved horizontally across the frame from the depriming mechanism, will be brought into line with the repriming mechanism, substantially as set forth.

2. In a cartridge implement, and in combination, respectively, with a depriming and a repriming mechanism, substantially as shown, two horizontal plungers arranged side by side, and having a horizontal reciprocating motion, whereby a shell, in passing laterally through the implement, may be acted upon first by one of the plungers, and then by the other, substantially as and for the purpose shown and described.

3. In a cartridge implement, the combination of a frame, a decapping or recapping plunger movable in said frame, and a lever pivoted to the plunger, and arranged to bear upon the edge of the frame as a fulcrum, when the lever and plunger are drawn forward nearly to the limit of their movement, whereby great power is secured to advance the plunger through the remainder of the movement.

4. In a cartridge implement, a primer-magazine terminating at the bottom in a narrow tube, having an aperture across it closed by movable jaws, and being mounted upon a base having an arm projecting from it into a suitable guideway in the frame of the implement, whereby the magazine is held erect and allowed to move to and fro, for the purpose set forth.

5. In a cartridge implement, the combination of a frame having a plane face, a primer-magazine having its lower end provided with a plane face to rest and travel upon said face of the frame, a guide-piece serving to retain said faces in contact, a repriming-plunger

movable to and from the magazine, and a lever for moving said plunger, all constructed and arranged to operate substantially as shown and described, whereby the magazine is caused to move horizontally upon the frame as the plunger travels back and forth.

6. In a cartridge implement, substantially such as described and shown, the combination of a frame provided with two shallow concave seats, arranged side by side, to receive and hold two shells, one in position for being primed and the other for being deprimed, and a slide carrying depriming and repriming plungers, movable over said shallow seats, substantially as and for the purpose explained.

7. In a cartridge-priming implement, a magazine having an outlet-opening of a size to permit primers to escape facewise one at a time, a movable jaw forming one side of said outlet, and a spring carrying said jaw, and forming one wall of the magazine, whereby it is adapted also to agitate the primers contained therein, substantially as explained.

8. In an implement for repriming cartridge-shells, a flat primer-magazine having an aperture in one of its edge walls large enough to permit the primers to project through the wall, such aperture being closed by a spring, against which the primers projecting through the aperture may rest, such spring being adapted to be alternately sprung from and allowed to recoil against the wall of the magazine, as described, whereby the primers in the magazine are agitated and prevented from clogging.

H. T. HAZARD.

Witnesses:

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F. M. TOWNSEND.