

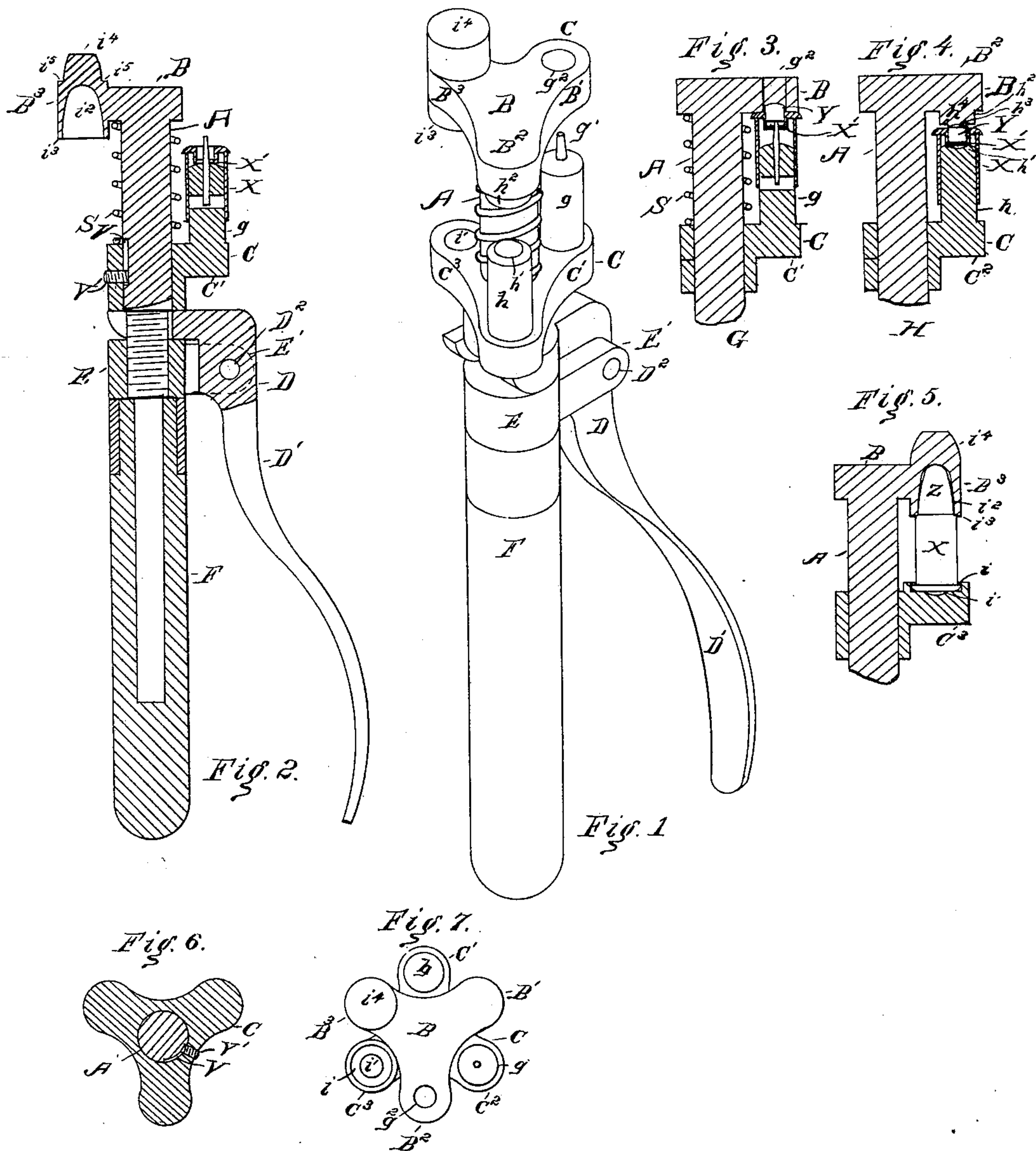
(No Model.)

T. H. LOGAN.

CARTRIDGE RELOADING TOOL.

No. 281,636.

Patented July 17, 1883.



Witnesses.

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Edward H. Thompson.

Inventor-

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UNITED STATES PATENT OFFICE.

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CARTRIDGE-RELOADING TOOL.

SPECIFICATION forming part of Letters Patent No. 281,636, dated July 17, 1883.

Application filed May 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. LOGAN, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Reloading-Tools, of which the following is a specification.

My invention relates to a tool for reloading central-fire cartridge-shells by removing the exploded primer, inserting a new primer, and fastening the ball in the shell.

In the accompanying drawings, Figure 1 is an isometric view of my improved reloading-tool. Fig. 2 is a vertical section through the cap-extracting mechanism, the spider being turned to remove the shell. Fig. 3 is a vertical section of the extracting mechanism and a shell placed over the plug for the purpose of removing the primer. Fig. 4 is a vertical section through the capper; Fig. 5, a vertical section of the crimper. Fig. 6 is a horizontal section of the spindle and slide or movable spider. Fig. 7 is a top view of the spider turned to remove a shell.

A is a shank, cylindrical in its upper portion, and firmly secured at its upper end to the upper spider, B, at right angles to said spider. Another spider, C, has a central opening large enough to allow said spider to slide and turn on said shank. The spiders B C are preferably, but not necessarily, of the shape shown, being each provided with three radial arms, B¹ B² B³ C¹ C² C³, placed about equidistant from each other. These spiders are pressed apart by a spiral spring, S, surrounding the shank A between said spiders, and are caused to approach each other by pressing toward the shank A the long arm D¹ of a bent lever, D, pivoted at D² to an arm, E¹, of a nut, E, which turns around the shank below the lower spider or slide, C, the shank being provided with a screw below said spider. A handle of wood, F, may be attached to the shank A by driving or screwing said shank into said handle. The spiders, when in use, have an arm of each spider lying in the same plane with each other and with the axis of the shank, and the lower spider is prevented from turning more than sixty degrees by a screw or stud, V¹, which passes through said spider at right angles to the shank and into a longitudinal groove, V,

in the shank sixty degrees wide. The stud and groove, while preventing the spider from turning round too far, allow the lower slide to be turned about sixty degrees. The groove extends along the shank far enough to allow the lower spider to slide as required. In order to introduce the shells, the slide is turned into the position shown in Fig. 7, and before performing any one of the operations herein- after described the slide is turned back again until the arms in the slide are directly under the corresponding arms of the spider B.

To one of the arms, C¹, of one of the spiders is rigidly attached, parallel to said shank, a plug, g, made to fit the shell X, and having a pin, g¹, projecting centrally from the free end thereof, and the corresponding arm, B¹, of the other spider has an opening, g², large enough to allow the cap or primer Y to pass up through, so that a shell, after firing, being placed around and over the plug g, if the long arm of the lever D is brought toward the handle, the pin g¹ will be pushed up against the primer and crowd the primer out through the hole g², the parts g g¹ g² forming an uncapper. The arm C² also has secured to it a plug, h, parallel to the shank and long enough to allow of an empty shell being placed over it, the free end of the plug having a depression or socket, h¹, to support the bottom of the pocket X¹, which holds the primer in the shell.

The arm B² has a shorter plug, h², its lower end, being just large enough to enter the pocket X¹, and having a depression, h³, to fit the tap of the primer. Slightly above its lower end the plug h² is enlarged to form a shoulder, h⁴, to prevent the lower end of the plug from entering the pocket too far, the central reduced part of the plug being only long enough to force the primer barely below the surface of the head, as compressing the cap too much might explode it. The shell being placed over the plug h, and the primer being placed in the entrance of the pocket, and the lever being used as before, the primer will be forced into place by the plug h being crowded toward the plug h², the two plugs last named forming a capper, H.

The arm C³ has a depression, i, or shell-socket on its upper surface of a shape and size to receive the head of the shell, and a cen-

tral depression, i' , within the depression i to prevent the primer from touching the arm C^3 and being thereby exploded.

The arm B^3 has a die, i^2 , on its under side of the proper shape and size to receive the bullet Z and the open mouth of the shell X . The die i^2 may be formed wholly in a plug, i^3 , projecting from the under side of the arm B^3 ; but inasmuch as the setting of the bullet and the crimping of the shell require a greater distance between the spiders than the other operations above described, it is thought better to thicken the arm B^3 by a boss, i^4 , on its upper surface, and allow the die i^2 to extend into the arm B^3 . The shell having been capped or reprimed, as above described, a sufficient quantity of powder is placed therein, and the bullet is placed loosely in the shell above the powder, and the bullet and the shell are inserted in the die, the lever is brought toward the handle, the head of the shell resting in the depression i^2 , and the slide C approaches the spider B , crowding the bullet into the shell against the powder, and the die, being tapering, finally crimping or forcing inward the edges of the mouth of the shell, and embedding them slightly in the bullet to retain the bullet in place. The arm B^3 , provided with the die i^2 , and the arm C^3 , provided with the depression i , constitute the bullet-setter and shell-crimper. The spiders are parallel to each other and the axes of all the plugs, holes, and depressions in and on the arms of said spiders are at right angles to such spiders, and when in use the axes of all the parts above named are in the same straight line with the axes of their corresponding parts.

It will be seen from the foregoing description that the parts approach each other in straight lines. In reloading-tools where the corresponding parts approach each other in arcs of the same circle the uncapper works at a disadvantage and the capper at a still greater disadvantage, because the sides of the pocket and of the primer are straight, while the motion is in a curve, making it more difficult to remove the primer and more difficult to set the primer flush with the head of the shell, as the primer is liable to cramp by its

upper or outer surface lying against the surface, which crowds it into the pocket, and this surface in a reloader is constantly changing its angle with the sides of the pocket. The same difficulty is found in attempting to drive the straight sides of the larger parts of the bullet into a straight shell by a force moving in a curve, the axes of the bullet and of the shell being likely to be thereby inclined to each other. To uncrimp the shell, crowd the boss i^4 into it up to the shoulder i^5 .

I claim as my invention—

1. The combined tool provided with a capper and uncapper, bullet-setter, and shell-crimper, and means of operating all of the same in parallel straight lines by the operation of a single lever.

2. The combination of the bullet-setting and shell-crimping die and the shell-socket, and means of causing said die and socket to approach each other with their axes in the same straight line.

3. The combination of the cap-setter and capping-plug, the nut, the lever pivoted thereto, and the shank provided with a screw-thread to engage with the thread of said nut, the spider secured to said shank, and the slide movable upon said shank toward and from said spider, as and for the purpose specified.

4. The combination of the uncapping plug and pin, the nut, the lever pivoted thereto, and the shank provided with a screw-thread to engage with the thread of said nut, the spider secured to said shank, and the slide movable upon said shank toward and from said spider, as and for the purpose specified.

5. The combination of the bullet-setting and shell-crimping die and the shell-socket, the nut, the lever pivoted thereto, and the shank provided with a screw-thread to engage with the thread of said nut, the spider secured to said shank, and the slide movable upon said shank toward and from said spider, as and for the purpose specified.

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Witnesses:

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