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# UNITED STATES PATENT OFFICE.

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APPARATUS FOR CAPPING, UNCAPPING, AND LOADING CARTRIDGE-SHELLS.

SPECIFICATION forming part of Letters Patent No. 264,204, dated September 12, 1882.

Application filed January 16, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, LINCOLN SONNTAG, of the city and county of San Francisco, State of California, have invented an Improved Apparatus for Crimping, Capping, Loading, and Decapping Cartridge-Shells; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an apparatus for performing the work of crimping, capping, loading, and decapping cartridge-shells.

It consists of a holder for the cap and shell, a lever by which the cap is seated, a block for seating the bullet after the powder has been introduced into the shell, a movable post with a pin which may be brought beneath the lever after the discharged shell has been placed upon it, so that by pressing down upon the lever the cap will be forced off and a device for crimping the open ends of the shells, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the apparatus. Fig. 2 is a plan view of top of machine, showing the shell-case open. Fig. 3 is a vertical section through line 1 2, Fig. 2. Fig. 4 is a transverse section of lever and its operating spring, taken through 3 4, Fig. 5. Fig. 5 is a plan of spring-case, Fig. 4. Fig. 6 is a vertical section of crimper.

A is a bed of metal or wood, and of sufficient size to receive the attachments to be used. From the ends of this bed standards B extend up to a sufficient height to support a table, C, which extends above the bed the entire length. The central portion of this table is cut away for a considerable part of its length to admit the long arm D of a lever, which is bent at right angles just at the fulcrum, so that the short arm D' extends beneath that part of the table which is not cut away. This portion of the lever operates the capper, as follows: Upon the table the two halves E of a cylindrical case are placed, being hinged or fitted to open from one side to admit a cartridge-shell, F, with the flange or head downward. A groove is formed around the bottom of these semi-cylinders, into which the flange of the shell fits when the halves are closed together. The case E is high enough to inclose a shell, the top being open so as to allow the powder and bullet to be introduced

at the proper time. Below the center of this hinged case a hole is made through the table, and below this is a block of sufficient depth having a corresponding hole, so as to receive a plunger, G. The lower post is contracted at H, and the stem I of the plunger passes out through this contracted opening, which is too small to allow the plunger-head to pass. The head J of the plunger is acted upon by the lever-arm D', so as to force the plunger up when desired.

When a cartridge is to be capped and loaded the segmental case E is opened, a cap is dropped into the hole in the table, so as to lie upon the plunger. The case is then closed and secured by a hook, K, or other fastening, when the rim or flange of the shell will be held in the grooves before described. The outer end, D, of the lever is then pressed down, and the arm D' presses the plunger up and forces the cap to its seat, the flange preventing the shell from being forced up. The powder is measured in the usual manner and poured into the shell through the opening at the top of the case E. The bullet may then be introduced, and is seated by means of the block L. This block moves loosely up and down upon two guides, M, which may also serve as hinge-pins for the halves E of the cylinder. A knob or head, N, at the top of one of these guides prevents the block from being slipped off. The other guide-rod is shorter, and the top of the block has an inclined surface, or is otherwise adapted to receive a stop-plate, O, which is so hinged that it will stand at one side of the guide-rod until the block has been raised above its end. This plate then turns or slides upon the incline, so as to lie above the end of the rod, and thus prevent the block from slipping down until it is required. When the bullet has been introduced into the shell the stop-plate is turned to one side or withdrawn, so as to permit the block to slide down and rest upon the end of the bullet. The block has a concavity in its lower surface to fit the end of the bullet, and when it rests upon the bullet a blow with a mallet will seat the bullet to the proper depth, after which the block L may be raised, the case E opened, and the cartridge removed. The lever-arm D is elevated after each depression by a spiral spring,

P; working within a case, Q, beneath the lever and guided by the rods R, which move vertically in corresponding holes in the case on each side of the spring. After a cartridge has been discharged and cleaned its open end is crimped by forcing it into the crimping-cylinder S, the bottom of which is contracted for the purpose, as shown.

The cap is removed from the shell by inverting the shell upon the post T, so that the pin U which projects up from the post will force the cap out when the shell is pressed down. The crimping-cylinder S and this decapping-post T are both mounted upon a slide, V, which is fitted to move transversely upon the base-plate A, so that either the cylinder or the post may be brought under the lever-arm D. This arm has a hole, W, in it, which corresponds with the center of the head of the shell, when the latter is upon the post T, and when the lever is pressed down the cap will be forced out through the hole W.

By moving the slide V the crimper is brought beneath the lever, and pressure upon the latter forces the shell into the crimper, so as to contract its mouth to suit.

By this construction I provide a neat, compact, single apparatus, which will do all the work hitherto accomplished by a number of tools.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The cylinder composed of the two halves E E, opening upon the hinges or pin M, and grooved at the bottom to receive the flange of a shell, in combination with the plunger G, stem I, and head J, and the lever D D', all mounted and operating together substantially as herein described.

2. The shell-holding cylinder composed of the halves E E, hinged as shown, in combination with the block L, fitted upon the vertical guides M, and having the swinging or sliding stop-plate O, substantially as and for the purpose herein described.

3. The base A and the table C, having the bent lever D pivoted to it, and the spring P, as shown, in combination with the transverse slide V, having the cylinder S, and the post or standard T, with its pin U, mounted upon the slide, so that either the cylinder or the post may be brought beneath the lever, substantially as herein described.

4. In a cartridge apparatus, the cylinder E, the cylinder S, and the post T, with its pin U, in combination with the single bent lever having the arms D D', the table C, and base A, all combined and operating substantially as herein described.

In witness whereof I hereunto set my hand.

LINCOLN SONNTAG.

Witnesses:

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