No. 676,255. Patented June 11, 1901.

# N. D. HOLBROOK.

## CRIMPING TOOL FOR CARTRIDGE SHELLS.

(Application filed Feb. 28, 1901.)

(No Model.) 2 Sheets—Sheet 1.

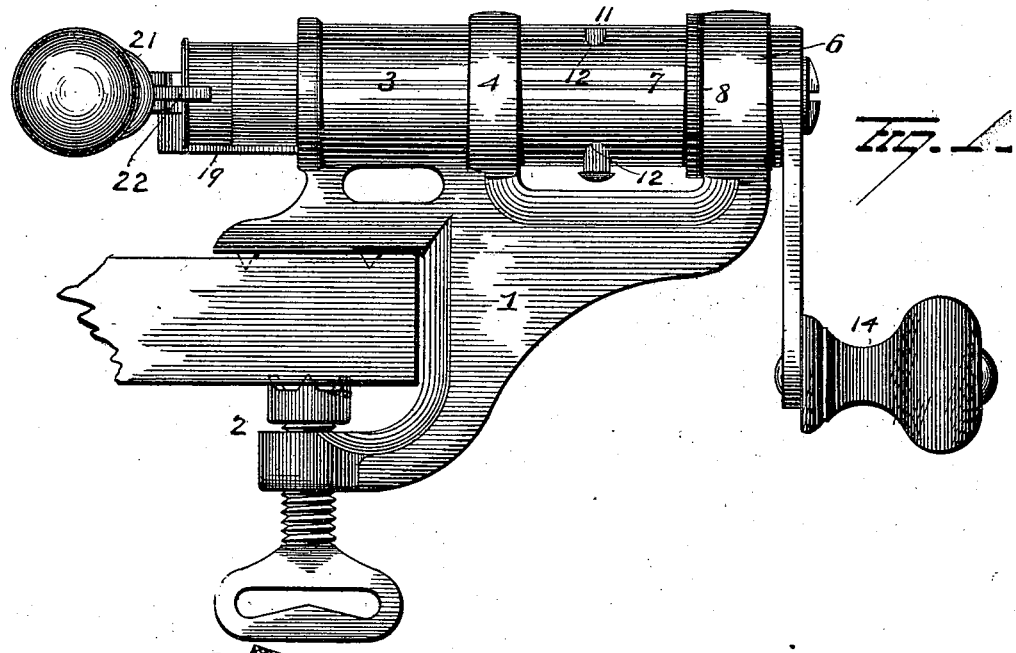


FIG. 1.

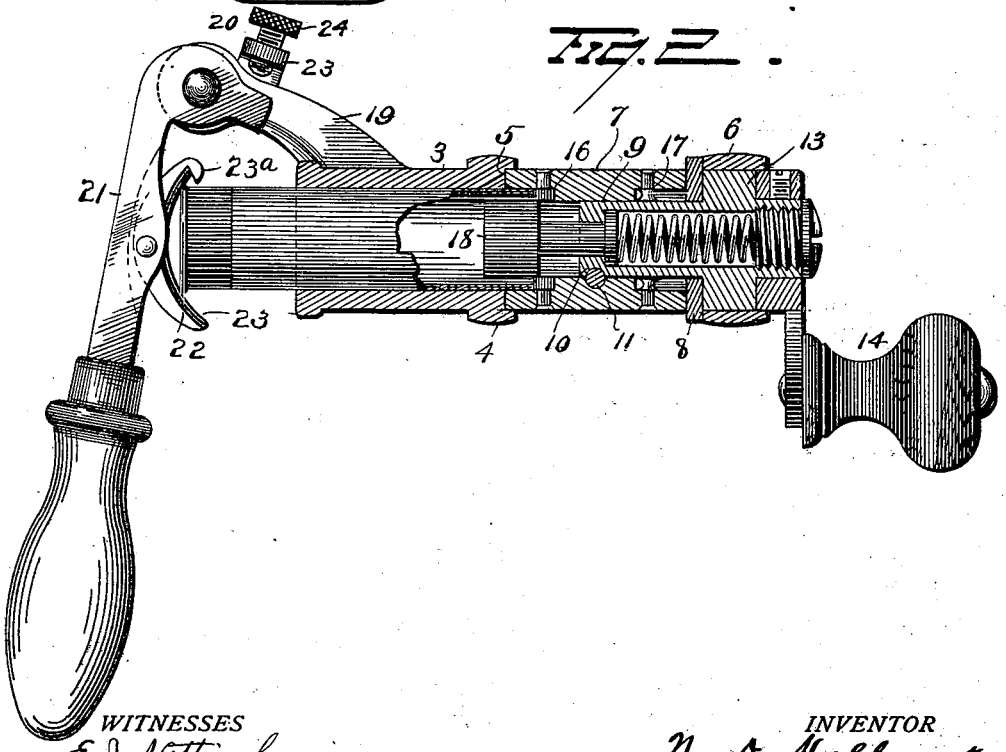


FIG. 2.

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FIG. 3.

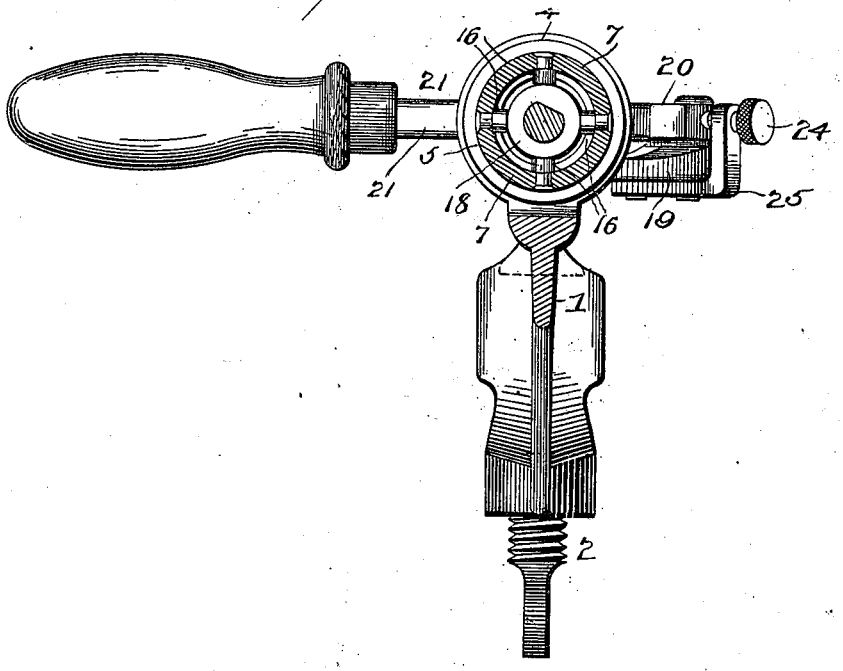



FIG. 4.

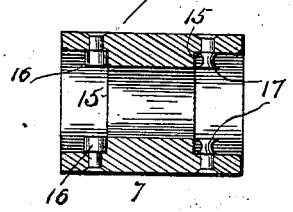
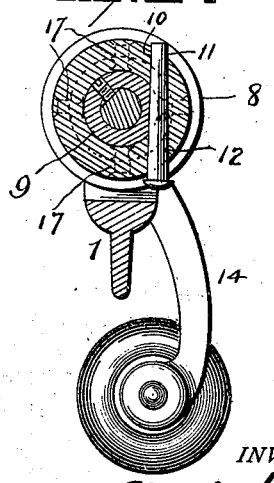



FIG. 5.

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# UNITED STATES PATENT OFFICE.

NEWTON D. HOLBROOK, OF TORRINGTON, CONNECTICUT, ASSIGNOR TO UNION HARDWARE COMPANY, OF SAME PLACE.

## CRIMPING-TOOL FOR CARTRIDGE-SHELLS.

SPECIFICATION forming part of Letters Patent No. 676,255, dated June 11, 1901.

Application filed February 28, 1901. Serial No. 49,344. (No model.)

*To all whom it may concern:*

Be it known that I, NEWTON D. HOLBROOK, of Torrington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Crimping-Tools for Cartridge-Shells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in tools for crimping cartridge-shells, one object of the invention being to provide such a tool with a reversible device by means of which the end of the shell can be finished flat or rounded at the discretion of the user, and to so construct and arrange said device that it can be easily and quickly reversed.

A further object is to provide a tool of the class above specified with simple and efficient means for pressing the end of the shell against the ironing-pins, for controlling and adjusting the extent of the crimping, so as to control and render uniform the length of the crimped shells, and for ejecting the crimped shell.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a crimping-tool embodying my invention. Fig. 2 is a plan view. Figs. 3 and 5 are transverse sectional views, and Fig. 4 is an enlarged detail sectional view of the barrel containing the ironing-pins.

1 represents a frame provided with a clamp 2 for securing the tool to a suitable support. The frame 1 is provided over the clamp with an integral horizontally-disposed cylinder 3 for the reception of the cartridge-shell to be crimped. The cylinder 3 is provided at one end with a collar 4, the end of the cylinder forming a shoulder 5 within said collar. The frame 1 is provided with a collar 6, separated some distance from the collar 4, and in the space between these collars a revoluble barrel 7 is disposed. One end of the barrel enters the collar 4 and has a thrust bearing against the shoulder 5. The barrel can be placed in position by first passing it into the space between the collars 4 6 and then moving it longitudinally so that one end will enter the collar 4, as above described. When thus disposed, there will be a space between the end of the barrel and the collar 6, and in this space a ring 8 is loosely inserted. A plunger 9 is passed through the collar 6 and ring 8 and into the barrel 7 and is provided with a groove 10, through which a pin 11 passes, said pin being inserted through holes 12, arranged tangentially in the barrel, and thus the barrel and plunger are locked so as to rotate together. The plunger is provided at its outer end with an enlarged head 13, mounted to rotate in the collar 6, and to said head a crank-arm 14 is secured for turning it. The bore of the barrel 7 is larger near its respective ends than in its intermediate portion, the latter having a diameter about equal to the internal diameter of the crimped portion of a cartridge-shell, and the diameter of the larger portions of the barrel is approximately equal to the greatest diameter of a shell. At the juncture of the smaller with the larger portions of the bore of the barrel shoulders 15 are formed, and adjacent to said shoulders fixed ironing-pins 16 17 are located. The pins 16 of one set have uniform diameter, so as to iron the end of a cartridge-shell flat, and the pins 17 of the other set are made with concave walls, so as to give a rounded or curved form to the end wall of the cartridge. Either set of ironing-pins may be used at the pleasure of the user by placing the barrel in one position or the other, and when the barrel is set for the use of one set of ironing-pins it may be readily adjusted for the other set by merely reversing the barrel, and this can readily be accomplished by removing the locking-pin 11 and barrel, turning the latter end for end, replacing it, and inserting the locking-pin. The cartridge-shell will be pressed against the ironing-pins and prevented from rotating by means hereinafter to be described, and the action of the said pins (when the barrel is rotated) will be to turn the end wall of the shell inwardly, so as to fold it upon itself, and the turned-in portion will be pressed closely against the main wall of the shell by means of a yielding cylindrical

ironer 18, carried by and rotating with the plunger 9.

An arm 19 projects from one end of the cylinder 3, and to the end of said arm a laterally-projecting arm 20 at one end of a lever 21 is pivotally connected. The lever 21 is provided in its side wall with a groove or recess in which a crescent-shaped shell-holder 22 is pivotally supported. The holder 22 is made with a knife-edge 23 to engage the head of the shell to prevent the latter from turning, and one end of said holder is made with a hook $23^a$ to engage under the flanged head of the shell, and thus constitute an ejector for the shell when the lever is moved backwardly.

The shell after having been charged with powder, shot, and a wad is inserted into the cylinder 3, pressed against the ironing-pins by means of the lever 21, and as the barrel 7 is rotated, as before explained, the end of the shell will be turned in and made to abut against the wad. At the same time the wad will be pressed by the yielding ironer, and the latter being solid and having a flat smooth end will not abrade or in any way injure the wad.

In order that the shells shall all be crimped to the same extent, so as to preserve a uniformity in the length of a batch of shells and to enable the user to regulate the length of the shell as desired, a set-screw 24 is passed through a lug 25, projecting from the arm 19 and disposed in the path of the arm 20 of lever 21. By adjusting screw 24 the throw of the lever, and consequently the extent of movement of the shell and its length, can be regulated.

My improvements are simple in construction, easy to manipulate, and accurate and effective in the performance of their functions.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details herein set forth.

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

1. In a crimping-tool, the combination with a frame and means for holding and feeding a shell, of a reversible barrel mounted in said frame, straight-wall ironing-pins in one end of said barrel and concave-wall ironing-pins in the other end of said barrel and means for rotating the barrel.

2. In a crimping-tool, the combination with a frame, of a cylinder, a collar spaced therefrom, a reversible crimping-barrel disposed between the collar and cylinder, a ring between the barrel and collar, a plunger, means for removably locking the barrel to the plunger, means for rotating the plunger and means for feeding a shell to the crimping-barrel.

3. In a crimping-tool, the combination with a frame, of a cylinder for the reception of a shell, a crimping-barrel, a pivoted lever, a curved holder pivoted to the lever and having a knife-edge to engage the head of the shell, a hook at one end of the holder to engage the shell for ejecting it and means for rotating the crimping-barrel.

4. In a crimping-tool, the combination with a frame, a cylinder for the reception of a shell, a crimping-barrel and means for rotating said barrel, of a lever for feeding a shell to the crimping-barrel, an arm projecting from the lever and an adjustable screw in the line of travel of said arm for adjusting the throw of said lever.

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

NEWTON D. HOLBROOK.

Witnesses:
WILLIAM H. BRONSON,
CHRISTIAN G. HOERLE.