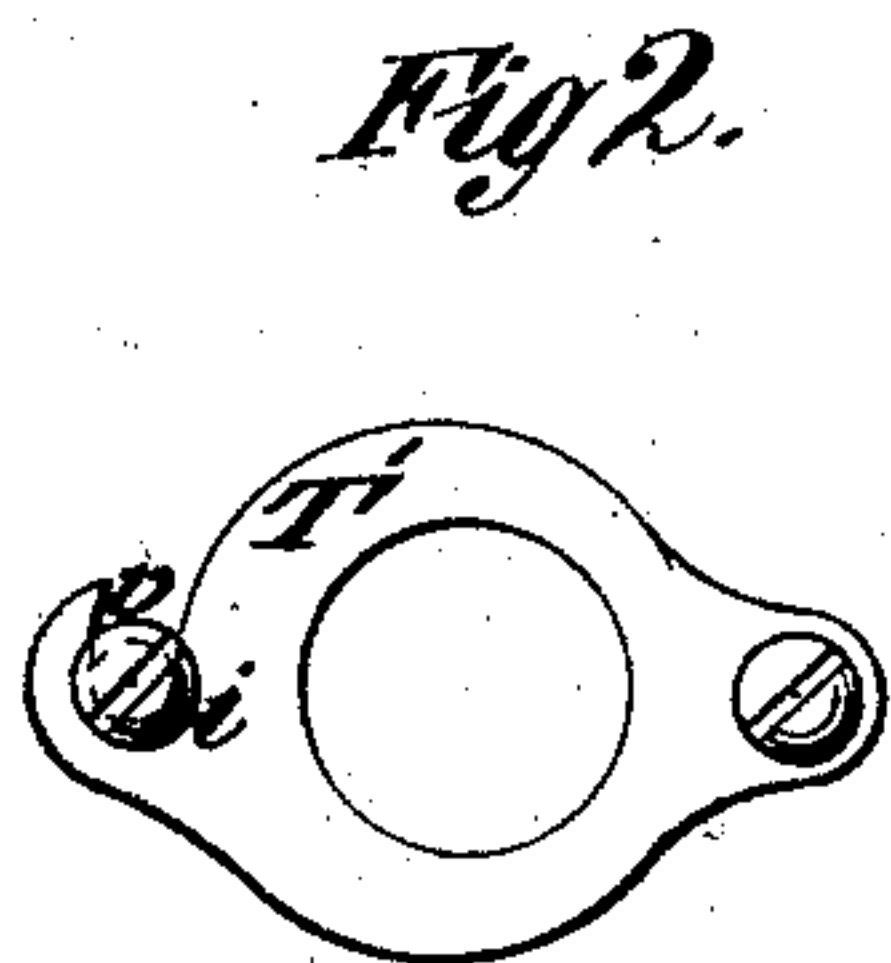
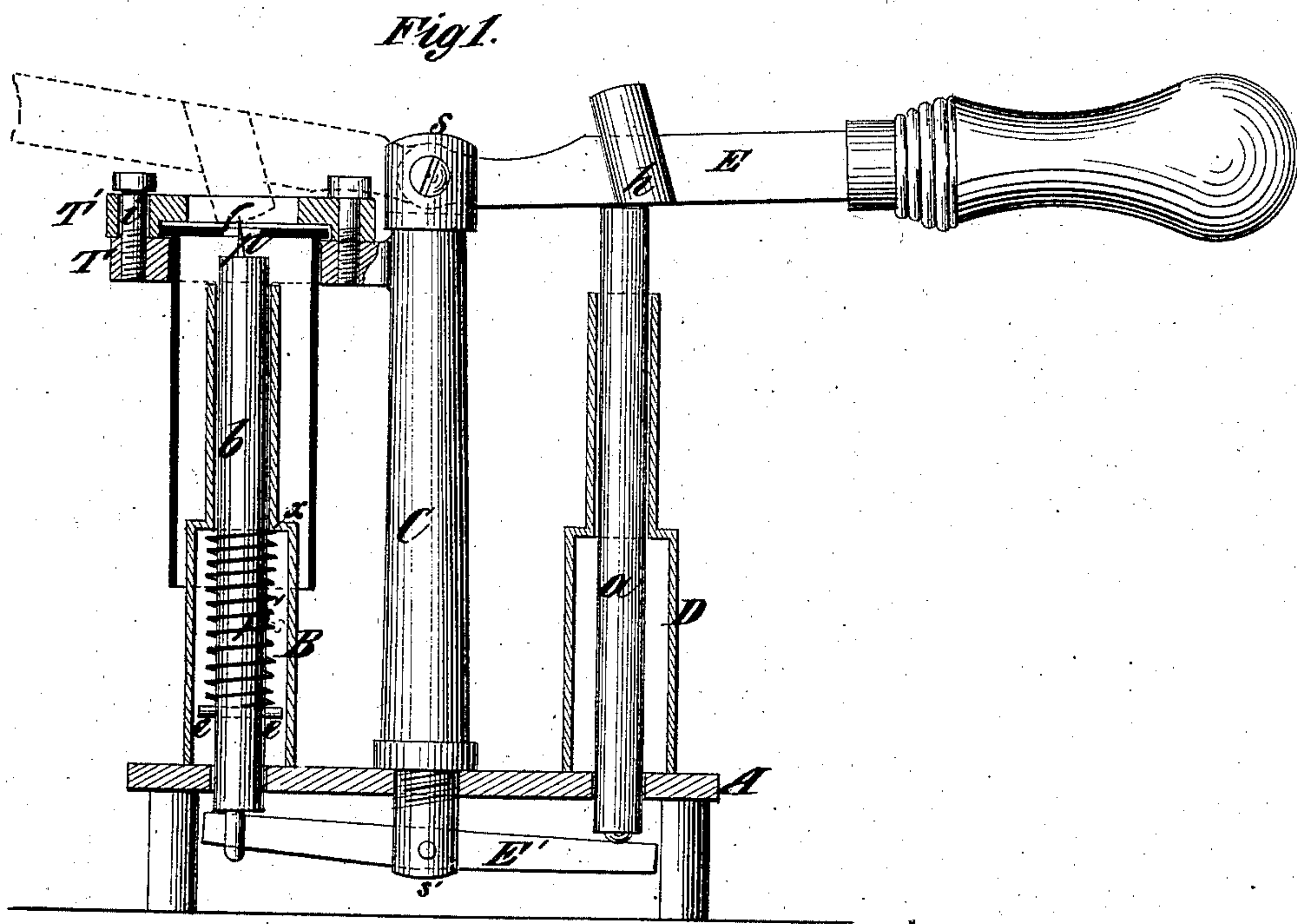


S. GLOVER.
 Cartridge Capping and Uncapping Implement.
 No. 231,162. Patented Aug. 17, 1880.



Witnesses:
 Chandler Hall.
 John Becker

Inventor.
 Samuel Glover
 by *Emmet C. Webb.*
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UNITED STATES PATENT OFFICE.

SAMUEL GLOVER, OF FAIRFIELD, CONNECTICUT, ASSIGNOR TO MARCELLUS HARTLEY, OF NEW YORK, N. Y.

CARTRIDGE CAPPING AND UNCAPPING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 231,162, dated August 17, 1880.

Application filed December 1, 1879.

To all whom it may concern:

Be it known that I, SAMUEL GLOVER, of Fairfield, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Capping and Uncapping Cartridges, of which the following specification is a description.

The object of this invention is the production of an apparatus for applying to and removing caps from an ordinary cartridge-shell in a simple and practical manner; and in my invention I employ a shell-tube or throat-piece, or both, for holding a cartridge-shell against the action of a presser arranged on a lever, whereby the caps are inserted, and I employ, in lieu of or in addition to the shell-tube, a throat-piece for holding the cartridge-shell against the action of the ejector. I actuate the ejector by the lever aforesaid impinging upon a push-pin, transmitting motion to a second lever, impelling the ejector suitably to enable it to perform its function.

I am thus enabled to make a simple apparatus, in comparison with other devices for the same purpose, by means of which I can uncapping and cap a cartridge-shell quickly and readily, both operations being performed by one and the same lever from a stationary shell-tube.

In the accompanying drawings, Figure 1 is a sectional side view of my improved apparatus, showing the levers in position to uncapping a shell, and, by dotted lines, in position to cap a shell; and Fig. 2 is a plan view of the pivoted throat-piece.

Similar letters of reference indicate corresponding parts in both figures.

A designates, in the drawings, the base-piece of my improved apparatus, carrying the hollow shell case or tube B, for receiving the cartridge-shells, the standard C, and tube D, wherein is arranged a push-pin, *a*. This standard C has pivoted to its upper part a lever, E, in this instance by having the end of the lever inserted in a slot, *s*, in the upper end of the standard and connected by a cross-pin. This lever E, when moved toward the tube D and forced down, bears against the push-pin *a*, and the push-pin *a* bears down on one end of a lever, E'. This lever E' is pivoted, at or near its center, below the base-piece A, in this instance by

being fitted in a slot, *s'*, in the standard C, and by means of a cross-pin passing through the same. It has attached to its other end the stock *b* of an ejector, *p*, and is inclosed in the shell case or tube B. This ejector consists of a pin, *p*, of suitable size for pressing against the inner side of the cap without coming in contact with the shell, so that when the push-pin *a*, impelled downward by the lever E, bears against the lever E' the ejector *p* is forced upward until it strikes and removes the cap, the cartridge-shell being precluded from being moved by the ejector.

The lever E has rigidly affixed to one edge a presser, *h*, which, when the lever E is moved toward the shell-tube B and forced down, bears against the head of the shell and forces the cap in place.

The ejector-stock *b* has near its lower end two or more lateral projections, *e e*, formed, as here shown, by inserting a pin crosswise through it, which serve as a seat for a spring, S, which coils around the ejector-stock *b*, the upper end of the spring bearing against the under side of a shoulder, *x*, in the shell-tube B.

I will here remark that the shell-tube B is composed of a lower chamber, receiving the stock of the ejector and the spring, whereby it is impelled downward when not otherwise actuated, and an upper portion, fitting snugly around and forming a guide for the said stock-piece. Thus, when the lever E forces the push-pin *b* upward the spring S is contracted by means of the lateral projections *e e*, and when the lever E is released the spring S expands and pushes the ejector-stock *b* down until both the lever E' and the lever E regain their normal positions.

The lower half of the shell-tube B is made of a size to correspond with the size of the smaller-sized shells, so that such shells will fit snugly when adjusted to the tube and be held in position during the operations of capping or uncapping. The larger-sized shells, although loose on the tube, will be held in position by means of a stationary throat-piece, T, as the circumferential flange at the head of the shell will just lap over the throat-piece T, and when the lever E is moved in the position shown by dotted lines in Fig. 1 the presser *h* on said

lever will bear down on the shell in the operation of capping, causing the flange of the shell to bear against the upper side of the throat-piece T, and thus, during this operation, the shell will be firmly held in place.

In order to hold the shell in position during the operation of uncapping either size of shell, I have devised a pivoted throat-piece, (designated by T' in the drawings,) which may be smaller than the throat-piece T, and is arranged and operates as hereinafter described.

The throat-piece T projects from the standard C, directly over the shell-tube B, so that the upper end or mouth of the shell-tube B is about in the center of said throat-piece. The throat-piece T' is pivoted on top of the throat-piece T, near the standard C, and needs only to have an opening large enough to admit of the passage of the presser *h* through it, and must be small enough to preclude the possibility of the head of a shell passing through its opening. It is of peculiar shape, and has a hook or open-ended slot, *v*, formed on its outer edge, so as to engage with a pin, *i*, on the outer edge of the throat-piece T, and thus be firmly locked on top of the shell, so as to resist the upward pressure of the shell when the ejector *p* is forced against the cap during the operation of uncapping.

In practice my apparatus is operated as follows: After a shell has been fired it is placed in position on the shell-tube B and the throat-piece T' locked. The lever E is then pressed down on the push-pin *a*, which transmits motion to the lever E', forcing the ejector-stock *b* upward until the ejector *p* strikes and ejects the exploded cap. A new cap is then placed in position, and the lever E is moved to the position shown by dotted lines in the drawings, and the cap is forced into the position necessary for firing the shell.

Thus it will be seen that the shell can be uncapped and capped by this apparatus without necessitating its removal from its supports by the operator. Nor is it necessary to reverse or shift the shell-tube, or move the shell from one position to another, nor, in fact, to handle it in any way, as all the operator does is to move the lever E first one way and then another to complete both operations.

The great advantage of this invention is its simplicity of operation as compared with other capping and uncapping devices now in use, both operations being performed quickly and with facility by one and the same lever without removing the shell from a stationary shell-tube.

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

1. In a device for capping and uncapping cartridge-shells, a base-piece carrying the stationary shell case or tube and the standard supporting a pivoted lever carrying a rigid presser, combined with a push-pin arranged in a tube on said base-piece and adapted to bear against and depress one end of a lever pivoted at about its center below the base-

piece, so as to force the other end of said lever up against the lower end of an ejector-stock arranged to operate in the shell-case and carrying at its upper end an ejector, whereby a shell can be capped and uncapped without necessitating the removal of the shell from said stationary shell-case, substantially as specified.

2. In an apparatus for capping and uncapping cartridge-shells, an ejector arranged in a hollow stationary shell-case for holding a cartridge-shell, a pivoted lever for actuating the ejector, a push-pin for transmitting motion to the said lever, and a lever pivoted so that it may be swung over into a position above said push-pin for imparting motion to the push-pin, substantially as specified.

3. The combination, in a device for capping and uncapping cartridge-shells, of a base-piece carrying a hollow stationary shell-case, a standard and tube arranged as shown, with an ejector inclosed in said shell-case and a lever for actuating the ejector against the action of a spring by means of a push-pin arranged in said tube so as to bear against a second lever pivoted below said base-piece for expelling a cap, and serving also to actuate a presser for inserting a cap, substantially as specified.

4. In a device for uncapping cartridge-shells, a stationary shell case or tube for holding a cartridge-shell, an ejector and a lever pivoted below and connected at one end to the stock of said ejector, a push-pin acting on the other end of said lever, and a lever for acting on the push-pin to operate said ejector, substantially as specified.

5. In a device for uncapping cartridge-shells, a stationary shell case or tube for holding a cartridge-shell, an ejector and a lever pivoted below and connected at one end to the stock of said ejector, a push-pin acting on the other end of said lever, and a lever for actuating said push-pin to operate the ejector against the action of a spring, substantially as specified.

6. In an apparatus for capping and uncapping cartridge shells, the base-piece A, carrying the shell-case B and standard C, said shell-case being rigidly attached to said base-piece and inclosing the ejector-pin and upwardly-acting ejector-stock, combined with a stationary throat-piece attached to the upper end of said standard and a movable throat-piece pivoted on top of said stationary throat-piece and adapted to bear, when closed, on the rim of the shell-head for the purpose of holding a shell firmly in position during the uncapping operation, substantially as specified.

7. The combination of the levers E and E', arranged and pivoted in the standard C, as shown, said standard carrying at its upper end the stationary throat-piece T, having the movable throat-piece T' pivoted thereon, with the push-pin *a*, for imparting motion to the ejector-stock, arranged in the shell-case B, and carrying the ejector for expelling a cap, substantially as specified.

8. The combination, with the base-piece A, supporting the shell-case B, inclosing the

ejector-stock *b*, carrying the ejector *p*, the standard *C*, and tube *D*, inclosing the push-pin *a*, for transmitting motion from the lever *E* to the lever *E'*, of the throat-piece *T*, having the pin *i*, with the throat-piece *T'*, having the hook or open-ended slot *v* for holding a shell firmly in position during the uncapping operation, substantially as specified.

9. In an apparatus for capping and uncapping cartridge-shells, having the base-piece *A*, supporting the shell-case *B*, inclosing the ejector-stock *b*, carrying the ejector *p*, and the tube *D*, inclosing the push-pin *a*, the standard

C, slotted at both ends for securing and carrying the lever *E* at its upper end and the lever *E'* at its lower end, substantially as and for the purposes hereinabove specified.

10. The combination of the standard *C*, having the slots *s* and *s'*, with the lever *E*, push-pin *a*, lever *E'*, ejector-pin *b*, having the spring *S*, and carrying the ejector *p*, for uncapping a cartridge-shell, substantially as specified.

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Witnesses:

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