

E. S. HOLMES.

Cap-Setting and Extracting Devices.

No. 139,674.

Patented June 10, 1873.

Fig. 1.

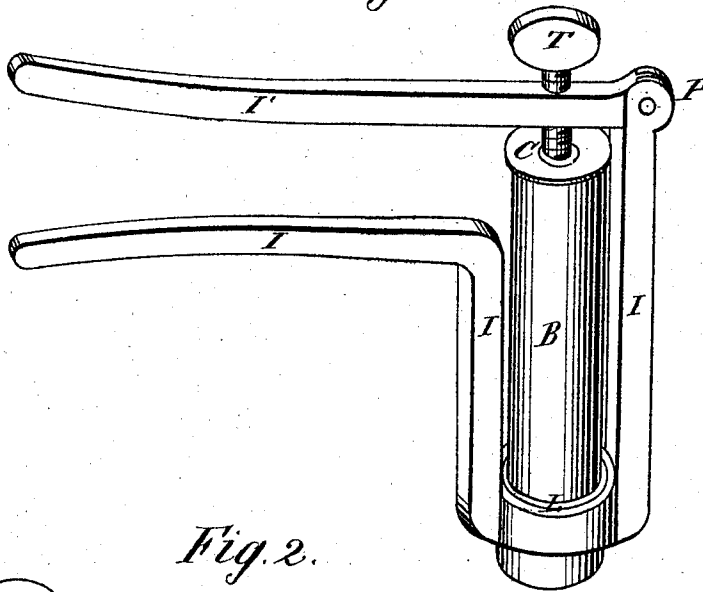


Fig. 2.

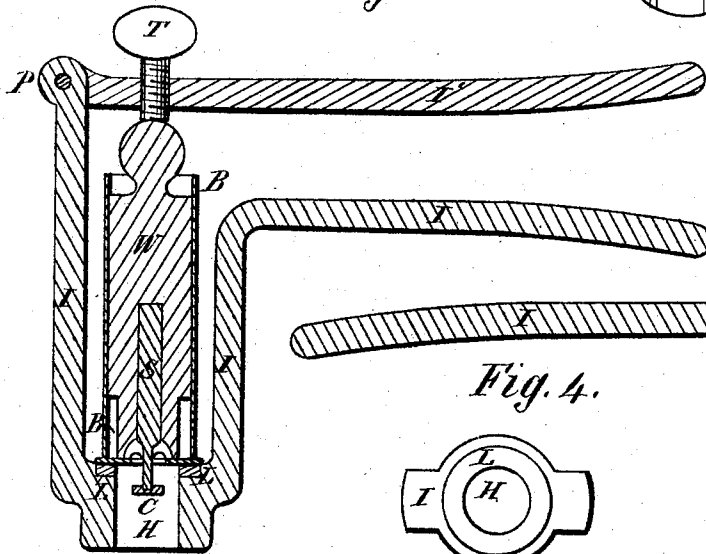


Fig. 3.

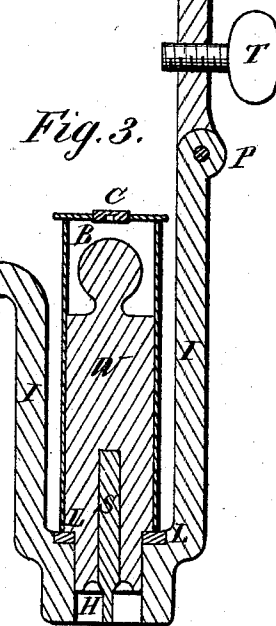
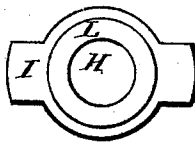


Fig. 4.



Witnesses
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EZRA S. HOLMES, OF GRAND RAPIDS, MICHIGAN.

IMPROVEMENT IN CAP SETTING AND EXTRACTING DEVICES.

Specification forming part of Letters Patent No. **139,674**, dated June 10, 1873; application filed March 24, 1873.

To all whom it may concern:

Be it known that I, EZRA S. HOLMES, of Grand Rapids, Michigan, have invented certain improvements in machines for setting caps or primers in center-fire shells for breech-loading guns, and for extracting the same after they have been exploded, of which the following is a specification:

It is important that the caps or primers should be set or inserted so tight in the shells or cartridges of breech-loading guns that the gas formed by their explosion cannot escape back toward the breech, and thus prevent injury to the working parts of the guns and locks; also, to secure all the explosive force of the fulminate and powder in the barrels.

My invention relates to pinchers so constructed as to facilitate the operation of setting caps thus tightly in shells; also, in the arrangement of the parts of the same implement so as to facilitate the extraction or pushing out of the exploded caps, so that the shells may be recapped and used again.

Figure 1 is a view of the pinchers, with a shell or cartridge, B, in place, and a cap or primer, C, pressed home in the chamber over the nipple in the breech end of the shell by the thumb-screw T.

Fig. 2 is a vertical section of the pinchers, showing the arrangement of the parts for the extraction of caps. It represents a cap, C, as having just been pushed out of the reversed shell B and ready to drop through the hole H in the base of the lower lever or handle I I I.

Fig. 3 is also a vertical section, showing the upper handle or hinged lever I' thrown back, so as to allow the shell B to be slipped onto the guiding-plug W and the cap C to be placed over the nipple-chamber in the shell, ready to be pushed home by bringing down the handle I'.

Fig. 4 is a horizontal section of the base of the lower handle or bent lever I I I at L L, Figs. 2 and 3, showing the hole H and the leather packing L.

I usually make the bent lever I I I, the hinged lever I', and the thumb-screw T of malleable or wrought iron, the packing L of

leather, the guide-plug W of wood, and the extracting-pin S of steel, to secure lightness with strength and convenience. The shell B, shown in the drawings, is metallic. The two levers or handles are united by the ordinary pin-joint P. The hinged lever I' is armed with a thumb-screw, T, for the purpose of adjusting the pinchers to any variation in the length of shells to be capped; also, for convenience when using the instrument as a cap-extractor. The packing L is to prevent injury to the shells B when the caps C are being pressed home. The plug W should be nearly of the same size as the diameter of the inside of the shells to be capped or uncapped, on one end of which is made a tenon to fit snugly into the hole H in the base of the bent lever I I I, but not so tightly as to prevent its being taken out when necessary. This tenon end of the plug should be armed with the steel extracting-point S. On the other end should be turned a knob, for convenience in handling. If the pinchers are to be used for capping paper shells, the plug W should be the full length of the shells.

To use my cap-setting and cap-extracting pinchers for inserting caps, I take the base of the bent handle I I I in my left hand, with the ends of the handles pointing to the right; see that the thumb-screw T is properly adjusted; then throw up the handle I', place the shell B over the plug W, and put a cap, C, into the chamber in the breech end of the shell, as shown in Fig. 3; then bring the lever I' down so that the point of the thumb-screw T will be exactly over the cap C; then press it home by pinching the handles or levers together, as shown in Fig. 1.

To use it for extracting exploded caps, I throw the handle I' up, as in Fig. 3; then take the plug W out of the hole H, and place the discharged shell, breech end down, on the base L L of the bent handle I I I; put the plug W into the shell B; bring the lever I' down; adjust the thumb-screw, and pinch the handles together, which will force the point of S through the hole in the nipple of the shell and extract the cap C, as seen at Fig. 2.

I do not claim the handle or hinged lever I', nor the thumb-screw T, nor the pin S, nor a guide-plug, as such, for they are not new; but

I claim—

The bent handle or lever III and the movable guide-plug W, in combination with the hinged handle or lever I' and the extracting-

point S, forming a portable cap-setting and cap-extracting pinchers, for the purpose and substantially in the manner described.

EZRA S. HOLMES.

In presence of—

JOHN T. HOLMES,
CHASE GODWIN.