No. 621,941. Patented Mar. 28, 1899.

E. S. PARMENTER.

CARTRIDGE RELOADING TOOL.

(No Model.) 2 Sheets—Sheet 1.

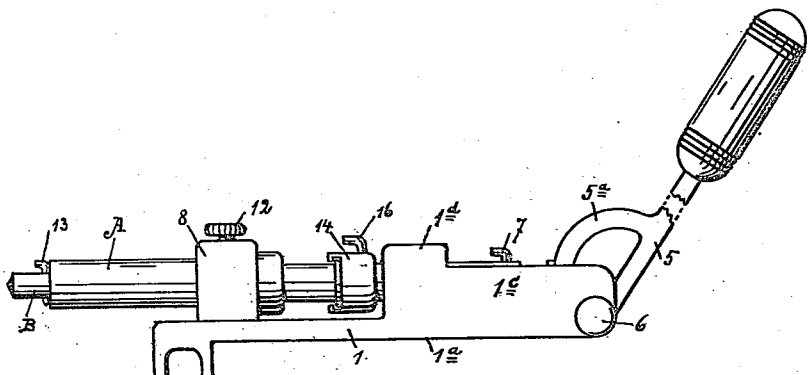


Fig. 1.

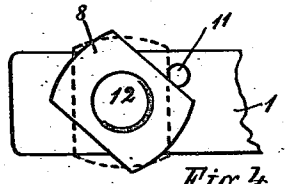


Fig. 4.

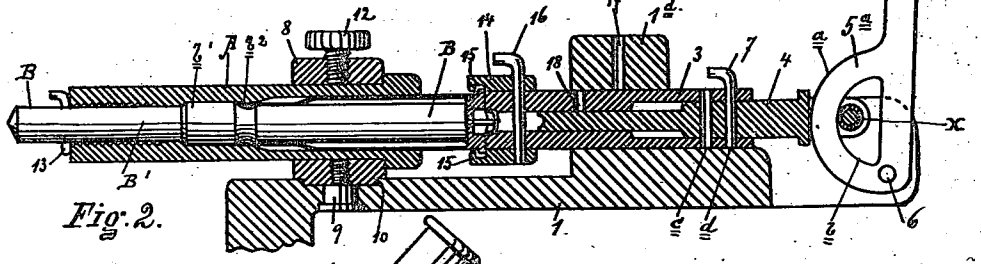


Fig. 2.

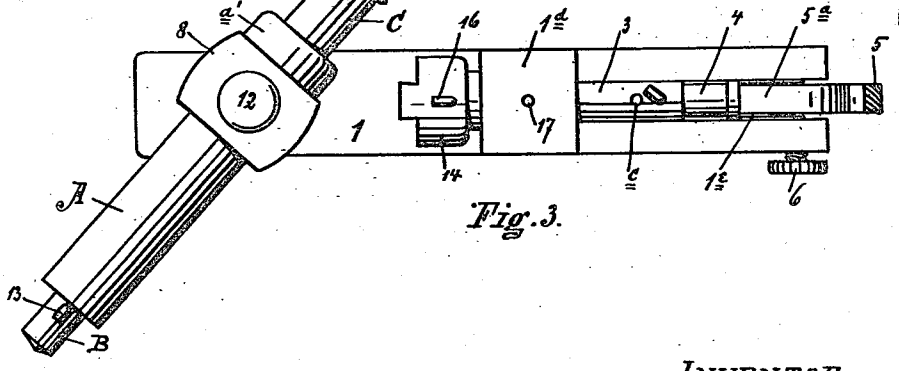


Fig. 3.

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CARTRIDGE RELOADING TOOL.

(No Model.) 2 Sheets—Sheet 2.

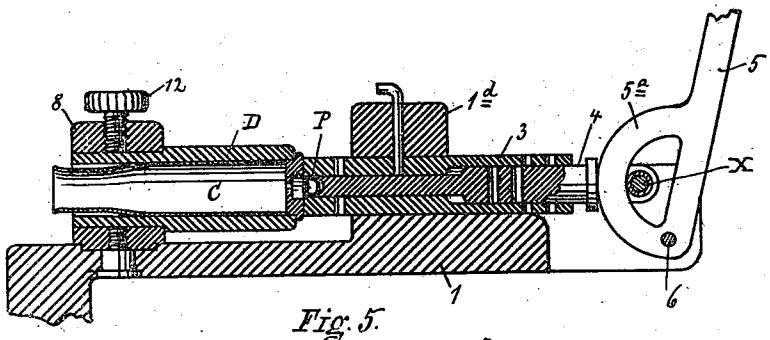


Fig. 5.

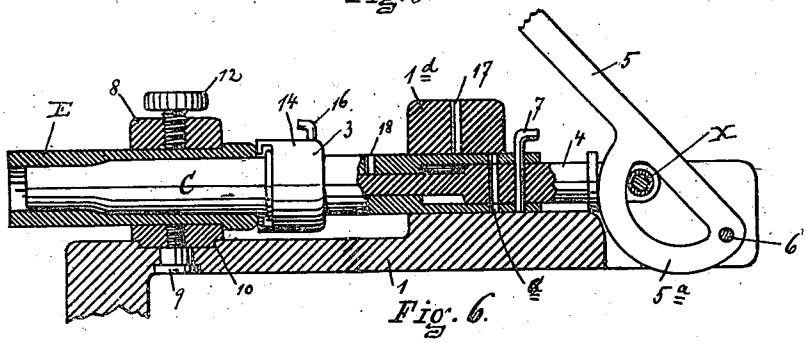


Fig. 6.

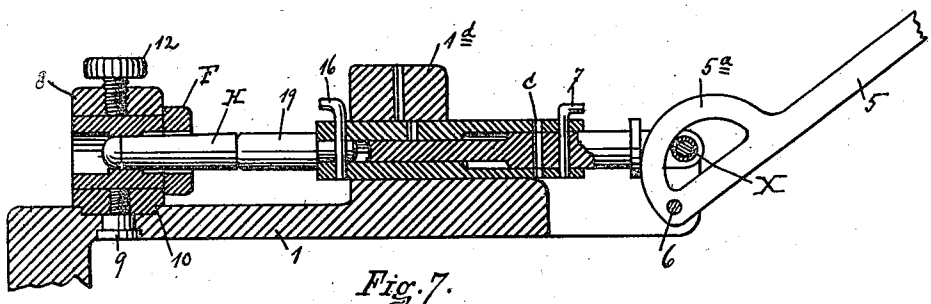


Fig. 7.

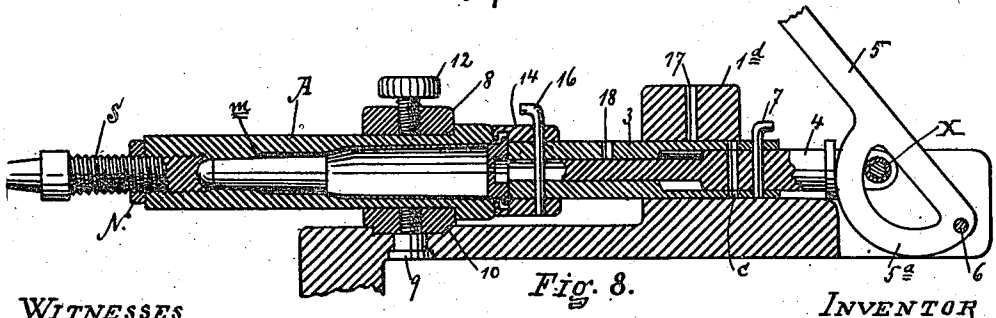


Fig. 8.

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UNITED STATES PATENT OFFICE.

EDWARD S. PARMENTER, OF UTICA, NEW YORK.

CARTRIDGE-RELOADING TOOL.

SPECIFICATION forming part of Letters Patent No. 621,941, dated March 28, 1899.

Application filed December 6, 1897. Serial No. 660,856. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. PARMENTER, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Cartridge-Reloading Tools; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

Figure 1 shows a side elevation of my combined cartridge-reloading tool with a cartridge in position therein and the parts in position for extracting the primer from the shell and expanding the mouth of the shell, the parts being shown in the position substantially at the beginning of the movement. Fig. 2 shows a longitudinal section of the device as shown in Fig. 1, on a larger scale, with the parts in the position which they assume at the completion of the movement. Fig. 3 shows a plan view of the parts as shown in Figs. 1 and 2. Fig. 4 shows a plan view of a portion of the frame in connection with a swinging head or die-holder and a stop for limiting the swinging movement thereof. Fig. 5 shows a longitudinal section of the device with parts arranged to seat the primer in the shell, the parts being shown at the beginning of the operation. Fig. 6 shows a partial longitudinal section of the device arranged to resize the neck portion of the shell, the parts being shown in the position at the completion of the operation. Fig. 7 shows a longitudinal section of the device with parts arranged to resize the bullet, parts being shown in the position at the beginning of the operation. Fig. 8 shows a longitudinal section of the device with its parts and attachments arranged to seat the bullet and crimp the shell, the parts being shown in the position at the completion of the operation.

Referring more particularly to the reference letters and numbers in a more particular description, 1 indicates the body or base of the device, which is provided with a plain under surface 1^a, adapted to rest on a table or support and having a depending curved arm 1^b and a thumb clamping-screw 2, by means of which the device may be secured to a table or other suitable support. One end of the body is enlarged and raised, as shown at 1^c, providing a groove or longitudinal way 1^e for the compound plunger, consisting of an outer part 3 and the inner part 4, and the guide or way is partially inclosed by a surrounding portion 1^d of the body—that is, under the portion 1^d the compound plunger extends through a hole, whereby it is held in position in the guide or ways and from displacement. One end of the body is forked to receive the operating-lever 5, pivoted to the body by a removable screw 6. The lever 5 is provided with a cam projection 5^a, the outer surface *a* of which cam is adapted to act against the head of the inner plunger 4, while the inner surface *b* of the cam is adapted to act on the cross pin or roller *x*, provided in the forked end of the inner plunger 4. The inner plunger 4 and the outer plunger 3 are provided with a set of holes *c d*, adapted to receive a pin 7 in either set, the pin being shown in position in the hole *d* in Fig. 2 of the drawings. When the pin 7 is in the position as shown in Fig. 2, the inner and outer plungers are coupled together and act as one plunger. The purposes of the hole *c* will be hereinafter explained.

Adjacent to the opposite end of the body of the device from the pivotal point 6 of the lever there is located a swinging turret-head or die-holder 8, secured to the body by a pivot-screw 9, which allows the head to swing freely within its limits of movement. The base portion of the head 8 is preferably countersunk into the body 1, as shown at 10, whereby extra strength and stiffness are secured. The turret-head or die-holder 8 is adapted to receive any of several forms of dies, as hereinafter pointed out, and there is provided on the base 1 a stop 11, adapted to limit the swinging movement of the head in either direction, but particularly when the dies or chambers contained in the head are in direct line with the plungers, heretofore described. In the device as shown in Figs. 1, 2, and 3 a chamber or die A is shown in position for use. This chamber A is provided with a head or enlargement *a'*, affording a shoulder abutting against one side of the head 8, and the die or chamber A or other substitutes is secured in position in the head

by a thumb or set screw 12. As shown further in Figs. 1, 2, and 3, there is employed in connection with the chamber A a cap-extractor B, provided at one end with a projecting pin or point (as shown) and secured in the chamber or die A by having its cylindrical end B′ fitting closely within the chamber and provided with a shoulder b', which prevents the extractor from being moved toward the left, as shown in Fig. 2, when properly secured in the die or chamber by the pin 13. The extractor-pin B is also provided with a conical portion b^2, adapted to expand the mouth of the shell.

On the head of the compound plunger is adapted to be secured by a pin 16 a cartridge-head clutch 14, having hooks 15 15 on its upper and lower sides adapted to engage with the rim of the cartridge-head.

The operation of the device, as shown in Figs. 1 to 3, inclusive, with the chamber or die A in the die-head 8 and the extractor B secured in the chamber, is as follows: The chamber A is swung to an angle with the body of the device, as shown in Fig. 3, and a cartridge C is placed in position therein, also as shown in Fig. 3. The cartridge-head 8, with the chamber and cartridge, is then swung around into line with the body of the tool, as shown in Figs. 1 and 2, the rim on the head of the cartridge taking its position within the hooks of the cartridge-clutch 14, as shown in these two figures. By means of the lever 5, moved substantially from the position shown in Fig. 1 to that shown in Fig. 2, the shell C is forced into the chamber A, and the projecting pin on the end of the extractor B, entering the primer-socket in the shell from the inner side, forces out the old primer in the shell. The same movement also causes the mouth of the shell to be forced onto the incline or conical portion b^2 of the extractor-body, whereby the mouth of the shell is slightly expanded to permit it to readily receive a new bullet in reloading. After the completion of the movement in expelling the primer and expanding the mouth of the shell, as set forth, the motion of the lever 5 is reversed and the cartridge is partially withdrawn from the die or chamber A, the clutch 14, with its hooks 15, engaging with the cartridge during this operation. After the cartridge-shell has been partially withdrawn it is free, and the die and die-head are swung to an angle and the shell removed by hand, and it may be replaced with another, when the operation may be repeated. The extracted primer drops out of the end of the plunger when the shell is swung out of alinement.

In Fig. 3 the tool is shown arranged to seat a new primer. In this case the chamber or die D is substituted in the die-head 8 for the chamber A, heretofore mentioned. The cartridge-head clutch 14 is removed from the end of the compound plunger by removing the pin 16, and the pin 16 or a similar one may be used to secure the outer portion 3 of the compound plunger by being inserted through the hole 17 in the enlargement 1^d of the body and into a hole 18 in the shell of the outer plunger 3, when the two holes are made to register, as shown in Fig. 5. The pin 7, which as the device was previously arranged secured the two parts of the plunger together, is removed, so that the inner plunger is free to move within the outer one. When the die D is swung out of alinement with the body of the device, as heretofore explained with reference to the die A, the shell is placed within the die. The inner plunger 4 being somewhat drawn back by the position of the lever 5, the primer P is placed in the open end of the outer plunger 3, as shown in Fig. 5. The die D, with its cartridge-shell, is then swung into alinement with the plunger and the lever 5 is operated, forcing in the plunger 4, as the parts are shown in Fig. 5, forcing the primer into the primer-chamber in the head of the cartridge. The plunger 4 is then withdrawn by the reversing movement of the lever 5 and the die swung to its angular position, when the shell may be removed, another shell substituted, and the operation repeated.

As the device is shown in Fig. 6 it is arranged to resize the muzzle of the shell. To this end there is secured in the die-holder 8 the muzzle-resizing die E, and the two plungers are secured together by the pin 7, as heretofore described, and the cartridge-head clutch 14 is secured in position on the end of the plunger also, as heretofore described. The shells are placed in the die E when swung to an angle, as heretofore described, but when so placed project a considerable distance from the mouth of the die. They are then swung into line with the plunger and the head of the shell engaged with the cartridge-head clutch 14. In swinging the die and shell into line the lever 5 may be adjusted to the proper position to cause the head of the shell to properly come into engagement with the clutch. When in line, the shell is forced into the resizing-die by the operation of the lever 5. The parts are shown in Fig. 6 at the completion of the movement of resizing.

The device as shown in Fig. 7 is arranged to resize bullets. For this purpose the two plungers are secured together by the pin 7, as heretofore described, and there is secured on the working end of the plunger by the pin 16 a punch 19. In the die-holder 8 is secured the bullet-resizing die F. The bullets H are entered in the resizing-die when the same is swung out of alinement, and when swung into alinement the plunger is operated by means of the lever 5, heretofore described, from the position shown in Fig. 7 to force the bullets H through the die F, where they are removed or fall out on the rear of the end die.

The device as shown in Fig. 8 is arranged to seat the bullet and crimp the muzzle end of the shell firmly on the bullet. For this purpose the same die A heretofore used is employed, secured in the die-head 8. The

extractor-core B, however, is removed therefrom, and there is provided in the end of the die a screw S, preferably provided with a lock-nut N. The shells after being loaded with powder and the bullet entered in the mouth of the shell are placed in the die A when swung out of alinement and are then swung into position in alinement with the plunger. In this operation it should be noted that the plungers are secured to work together and the cartridge-head clutch 14 is employed. When in position, the shell is forced into the die A by the operation of the lever 5, as heretofore described. The movement is limited by the clutch 14 coming against the head of the die A, and the screw S is adjusted to a position to force the bullet into the mouth of the shell the desired depth. The chamber A is provided with an inner inclined shoulder *m*, on which the mouth end of the shell engages at or nearly at the completion of the movement, crimping the mouth of the shell firmly on the bullet. In case it is desired to seat the bullets without any crimp at the mouth of the shell the pin 7 is removed from the openings in which it is shown in Fig. 8 and placed in the hole or openings *c*. In this position it secures the two parts of the plunger together, as heretofore described, but the head of the pin strikes against the side of the projecting portion 1^a of the body and limits the movement of the plunger at this point. When used in this manner, the screw S is preferably adjusted a little farther into the chamber A, whereby the total length of the cartridge is maintained the same.

It is evident that various other dies and attachments in varying kind and size may be employed in this tool without departing from the spirit of my invention.

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

1. The combination in a reloading-tool of a relatively-fixed body or frame, a sliding plunger therein, a swinging turret-head or die-holder 8 located in line with the plunger and removable dies, substantially as set forth.

2. The combination in a reloading-tool of a body having a compound plunger having means for receiving and holding fixtures applied thereto and a swinging turret-head or die-holder 8 located in line with the plunger and removable dies therefor, substantially as set forth.

3. In a reloading-tool, the combination of the relatively-fixed body, the plunger mounted in the bearing in the body, the swinging die-holder located in line with the plunger and a stop for limiting the swinging movement of the die-holder at a point in line with the plunger, substantially as set forth.

4. The combination in a reloading-tool of a body, a reciprocating plunger having means for attaching fixtures thereto mounted in the body in guides, a pivoted turret and dies therefor operating in connection with the plunger, and a cam-lever pivoted to the body and connected with the plunger to operate it in both directions, substantially as set forth.

5. In a reloading-tool the combination of the body, a reciprocating plunger, the die-holder and die and the plunger-operating lever pivoted at 6 to the body and having the cam-surfaces *a* and *b* springing from points adjacent to the pivot as shown, substantially as set forth.

6. The combination in a reloading-tool of the body, the outer sliding plunger, means for securing the outer plunger immovably in the body, an inner sliding plunger, means for securing the inner plunger to the outer plunger, and means for actuating one or both plungers, substantially as set forth.

7. The combination in a reloading-tool of a body, a plunger, a cam-lever for operating the plunger, a cartridge-head clutch 14 adapted to be secured on the end of the plunger and a cartridge-die substantially as set forth.

8. The combination in a reloading-tool of a body, a compound reciprocating plunger, a cam-lever operating the plunger, means for securing the two parts of the plunger together or securing the outer part of the plunger to the body, a swinging die-holder and a die, substantially as set forth.

9. The combination in a reloading-tool of the body, a reciprocating plunger mounted thereon, a cam-lever for operating the plunger, a removable punch adapted to be secured to the plunger and pivoted die-holder and die combined, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 2d day of December, 1897.

EDWARD S. PARMENTER.

Witnesses:
GEO. E. CAMP,
PHEBE A. TANNER.