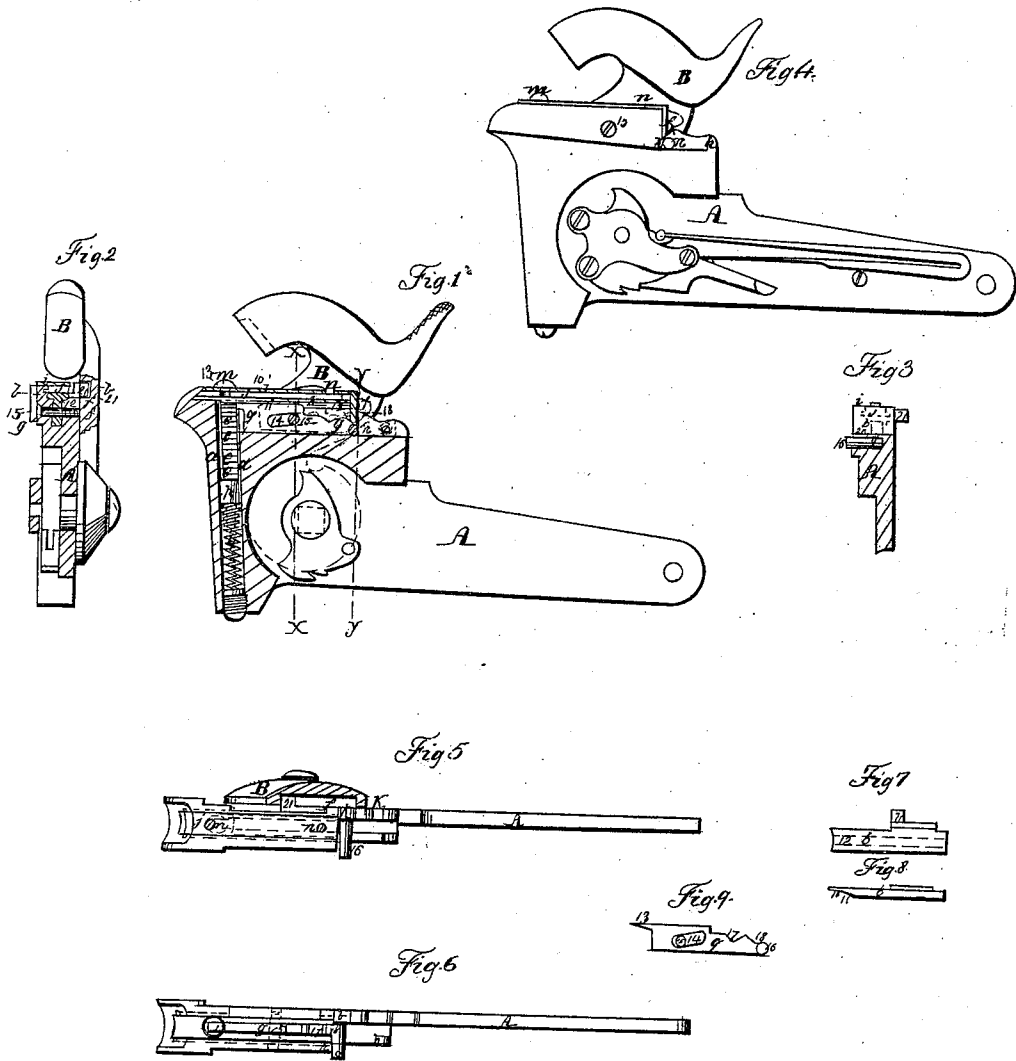


R. S. LAWRENCE.
Primer for Fire-Arms

No. 23,590.

Patented Apr. 12, 1859.



Witnesses:

James M. Green
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UNITED STATES PATENT OFFICE.

RICHARD S. LAWRENCE, OF HARTFORD, CONNECTICUT.

SELF-PRIMING GUN-LOCK.

Specification of Letters Patent No. 23,590, dated April 12, 1859.

To all whom it may concern:

Be it known that I, RICHARD S. LAWRENCE, of the city of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Automatic Primers for Firearms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a vertical section of a primer with my improvements parallel with the face of the lock plate. Fig. 2, is a transverse section of the same, in the plane indicated by the line *x, x*, in Fig. 1. Fig. 3, is a partial transverse section of the same in the plane indicated by the line *y, y*, in Fig. 1. Fig. 4, is an inside face view of the lock plate. Fig. 5, is a top view of the primer with the cover spring removed. Fig. 6, is a plan of the same with the cover and driver removed. Fig. 7, is a plan of the priming driver. Fig. 8, is a side view of the same. Fig. 9, is a side view of the "shut-off."

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in certain improvements in that description of automatic primer known as "Sharp's primer", whereby greater facility is afforded for the introduction of the pellets into the tube or magazine provided for them in the lock plate, and provision is made for shutting them off to permit the use of common percussion caps in the ordinary manner when desired, and generally to prevent the pellets from interfering with or being interfered with by the movements of the hammer, when desired to operate the hammer without delivering the pellets, and whereby, also, the delivery of more than one pellet at a time by the movement of the hammer is effectually prevented.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, is the lock plate having the pellet hole or magazine *a*, in the usual position, and having its upper side grooved out to receive the priming driver *b*, the cover *j*, and what I call the "shut-off," *g*. The driver *b*, instead of being made of about the thickness of the pellets *e, e*, as has heretofore been customary is made of a little more than double that thickness, but has its front portion for about one-eighth ($\frac{1}{8}$) of an inch in

length reduced on the underside to a thickness but very slightly greater than the thickness of the pellets, as shown at 10, in Fig. 8, and from the so-reduced portion it is beveled as shown at 11, in a wedge-like form, but this bevel only extends so far back that when the driver is thrown forward to its full extent by the action of the hammer or by other means, the full thickness of the driver will lay over the pellet hole or magazine *a, a*. This wedge like portion, as the driver advances to push out the upper pellet, by its action on the next pellet below, forces down all the other pellets into the magazine *a*, about the thickness of one pellet, and thus prevents more than one pellet at a time being forced out. The driver has also a groove 12, in its under side extending the whole length of the thicker portion and leaving a thickness of metal at the top of the groove equal to the thickness of the reduced portion 10, as shown in the section, Fig. 1, said groove being to receive what I term the "shut-off" which I will presently describe. The front extremity of the driver is slightly beveled on its under side in the usual manner, and has a projection 21, of the usual form, on one side to enter the groove, *f*, in the hammer B, to enable the latter to operate the driver in the usual manner.

g, is the shut-off, consisting of a plate of a thickness to slide in the groove 12, of the driver, and arranged under the driver in a groove provided in the lock plate, as shown in Fig. 2. This plate has a wedge-like projection 13, on the upper part of its front end, as shown in Figs. 1 and 9, whose duty it is to pass between the driver and the top pellet within the magazine to shut off the pellets from the driver. It has also a slot 14, which works on a pin 15, inserted through the lock plate, said slot being so inclined that as the shut off advances between the driver and the pellet it also descends slightly and thus while forcing down the pellets frees itself from the driver and leaves the latter free of the pressure of the feeding piston *p*, and spring *q*, so that it may be operated with very little friction when the pellets are shut off. On one side the "shut-off" *g*, has formed upon or secured to it a pin 16, which projects from a recess *h, h*, on the upper edge of the lock plate. This pin 16, serves to enable the operator to move the shut-off back and forth to shut off and liberate the

pellets, and the length of the recess *h*, *h*, limits said pin to a proper movement.

In the back part of the upper edge of the shut-off there are two beveled notches 17, 18, into either of which a tooth 20, on the rear end of the primer cover *i* is capable when the cover *j*, is closed, of engaging; in the former notch to lock the shut-off closed, and in the latter to lock it open. The shut off is shown in Fig. 1, in both positions, viz., closed in red outline and open in black.

The primer cover *j*, is fitted to slide in the lock plate in the usual manner, over the driver, but its spring *i*, instead of being simply a straight piece of steel is turned down at its rear end to form the tooth 20. The said spring is secured to the cover *j*, by a screw *m*, and kept from getting out of place by a guide pin *n*, secured in the cover. The tooth 20, besides serving to lock the shut off when the cover *j*, is closed, serves to lock the cover in a closed position by entering a beveled notch *k*, in a portion *l*, of the lock plate. This notch *k*, coincides exactly with the notch 17, of the shut off when the latter is open, and with the notch 18, when it is closed. Owing to the rounded form of the edge of the tooth 20, it slips out of the notches 17, 18, and *k*, when force is applied to open or close either the shut-off or the cover.

The shut off can only be moved forward to shut off the pellets when the driver is in its most forward position, and its thicker portion covers the pellets, for it is only in that position of the driver, that any provision is made for the entry of the point of the shut off, between it and the pellets, and in that position there is the open groove 12, above the pellets.

The shut-off *g*, besides serving to shut off the pellets when desired, and permit the use of percussion caps or other priming while the pellets remain in their magazine *a*,

is of great service in the operation of placing the pellets in the magazine, which with "Sharp's primer" as ordinarily constructed, is an operation of some difficulty, or, at least, requiring some manual dexterity. The pellets for these primers, as is well known, are sold in small tubes which have a slit all down one side, and are usually inserted in the magazine by placing the mouth of the tube therein and forcing down the feeding piston *p*, and then, by means of the point of a nail, or some sharp point inserted through the slit in the tube, holding the caps while the tube is drawn out and the cover closed. In my improved primer the piston is pushed down as far as desired by the tube full of pellets, in the usual manner, but care is taken to place the slit of the tube opposite the shut-off. The shut off is then pushed forward and the point of its wedge-like front portion, 13, entering the tube above the caps, retains them in the magazine while the tube is being drawn out and after it has been drawn out, without any trouble to the operator.

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

1. The "shut-off" *g*, constructed, applied, and operating substantially as and for the purposes herein specified.

2. Constructing the driver with its rear portion of about double the thickness of the pellets, and with the wedge-like bevel 11, and the groove 12, substantially as and for the purpose herein described.

3. The combination of the downwardly extended tooth 20, of the cover spring and the notches 17, 18, in the shut-off, and *k*, in the lock plate, substantially as and for the purpose herein set forth.

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Witnesses:

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