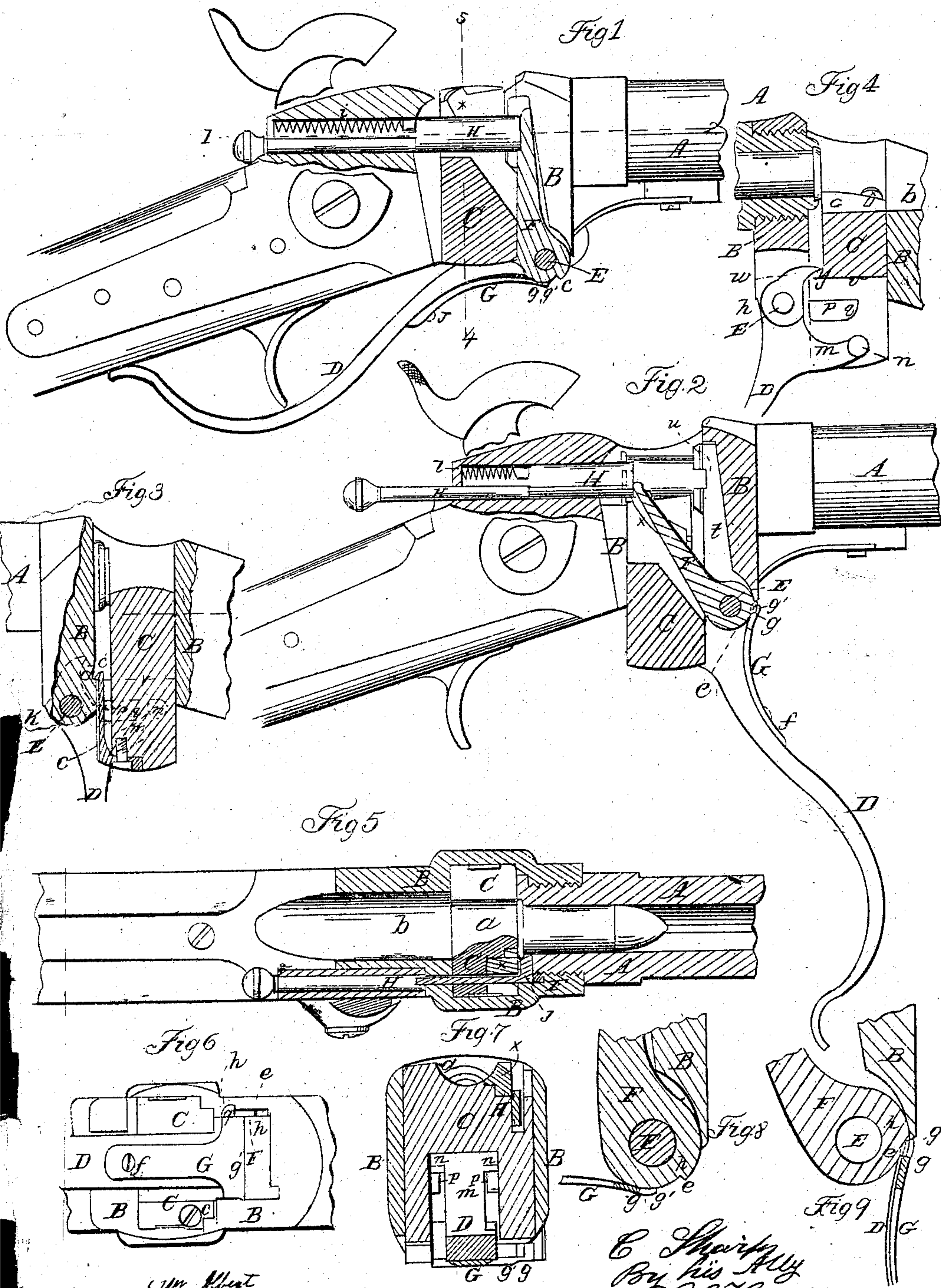


C. SHARPS.

Breech-Loading Fire-Arm.

No. 62,077.

Patented Feb. 12, 1867.



Witnesses { Mr. Albert
John

C. Sharps
By his Atty
R. H. Howden

United States Patent Office.

CHRISTIAN SHARPS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 62,077, dated February 12, 1867.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHRISTIAN SHARPS, of Philadelphia, Pennsylvania, have invented certain Improvements in Breech-Loading Fire-Arms; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to certain improvements fully described hereafter in the breech-loading fire-arm well known as Sharps' rifle, for which Letters Patent of the United States were granted to me on the 12th day of September, A. D. 1848, and extended August 30, 1862, and reissued July 5, A. D. 1864, my improvement, having been made with the view of rendering the said arm serviceable in the use of metallic cartridges, parts of my present invention being also improvements in the fire-arm for which Letters Patent were granted to me on the 29th of October, 1861.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation. On reference to the accompanying drawing, which forms a part of this specification—

Figure 1 is a side view partly in section, of my improved breech-loading fire-arm.

Figure 2, the same, with the operating parts in a position differing from that shown in fig. 1.

Figure 3, a section of part of the fire-arm in a position the reverse of that seen in figs. 1 and 2, showing the breech-piece lowered.

Figure 4, another sectional view.

Figure 5, a sectional plan on the line 1-2, fig. 1.

Figure 6, an inverted plan view of part of the fire-arm.

Figure 7, a transverse section on the line 3-4, fig. 1; and

Figures 8 and 9, enlarged views illustrating one feature of my improvement.

A represents the barrel and B the frame of the fire-arm, which is provided with a breech-piece, C, arranged to slide vertically in an opening formed in the frame for its reception. In the upper end of the sliding breech-piece is a semicircular groove, *a*, which, under the circumstances described hereafter, forms a continuation of the channel *b* of the frame, (see figs. 4 and 5.) Secured to the under side of the breech, and projecting upward into the opening in the frame B, is a spring catch, *c*, the end of which is adapted to a notch, *d*, in the frame, (see fig. 3.) A lever, D, which also serves as a trigger-guard, is hung to a pin, E, which passes through the frame, and on this pin is hung loosely an arm, F, having a shoulder, *e*, for a purpose rendered apparent hereafter. To the lever D, at the point *f*, is secured a spring plate, G, which is cut away so as to form a projection, *g*, arranged to bear against the arm F, (see fig. 6.) It will be seen, on reference to the dotted lines in figs. 8 and 9, that the part of the frame B through which the pin E passes is rounded and forms a segment of a circle described from the centre of the pin; the said segment meeting a hollow curve, *h*, the purpose of which will be explained hereafter. To a chamber formed in the frame is adapted a sliding-bar, H, the front end of which, owing to the spiral spring *i*, is always in contact with the arm F, and which has a projection, *j*, adapted to a recess cut in the rear of the barrel, the said projection having a notch to receive a portion of the flange of the metallic cartridge. Supposing a cartridge to have been discharged and its metal case to be still in the barrel, the lever D is depressed from the position shown in fig. 1, and moved forward towards that shown in fig. 2, thereby drawing down the breech-piece C until the end of the spring catch *c* enters the notch *d* of the frame (see fig. 3) and prevents the further descent of the breech-piece, the semicircular groove or concavity *a* in the top of the breech-piece now coinciding with and forming a continuation of the groove *b* in the frame. It will be observed, on reference to figs. 3 and 4, that there is on the lever D an arm, *m*, which projects into an opening in the breech-piece, the arm having at its outer end and on each side a pin, *n*. During the above-described movement of the lever D the two pins *n* bore on shoulders, *p*, formed in the opening of the breech-piece, hence the descent of the latter until arrested by a spring catch, *c*, at which point (see fig. 3) the pins *n* pass the ends *q* of the said shoulders *p*. The breech-piece being now stationary, the lever is moved forward the projection *g* of the spring plate G catches against the notch *e* of the arm F and moves the latter, and with it the spring-bar H back, thereby withdrawing the cartridge case from the rear of the barrel, as seen in fig. 2, along the channel formed by the groove *a* in the top of the breech-piece and that in the frame. As the lever D approaches the limit of its forward movement, the portion *g'* (fig. 6) of the spring plate G comes

in contact with that portion of the frame where the hollow curve *h* previously alluded to occurs. As the edge *g'* of the plate traverses this curve, the latter is the means of moving the outer end of the said spring plate away from the lever, and the projection *g* of the plate away from the notch *e* of the arm *F*, which, owing to the action of the spring *i* against the bar *H*, is moved forward into a recess, *t*, formed in the frame, (see fig. 2,) while the notched projection *j* of the bar *H* takes its place in the recess *u* at the rear of the barrel. It will be seen, on reference to fig. 4, that when the lever has been moved forward to its utmost extent the hooked projection *w* overlaps the lip *y* on the breech-piece and prevents the latter from being accidentally raised. A new cartridge having now been inserted into the rear of the barrel, the lever *D* is drawn back toward its former position, the sliding breech remaining stationary until the outer end of the arm *m* reaches the top *v* of the opening in the breech-piece, when, on the further movement of the lever *D*, the breech, released from the control of the hooked projection *w* of the said lever, will be elevated until it reaches the position illustrated in fig. 1; the outer end of the lever being now in contact with the under side of the stock and serving as a trigger-guard. After the cartridge has been discharged the lever is again depressed and moved forward, the pins *n* of the arm *m* bearing on the shoulders *p* and consequently depressing the sliding breech as before.

It has not been deemed necessary to illustrate the mechanism of the lock or to describe the operation of the hammer and trigger, as these parts may be similar to those of other fire-arms. A movable block, *x*, arranged in the sliding breech affords a communication between the hammer and the metal cartridge for the purpose of discharging the latter, as described in my aforesaid patent of October 29, 1861, in which are also described and claimed the recessed rear of the barrel for the reception of the flange of the cartridge, in combination with the vertical sliding breech, and the bar *H*, with its notched projection, for withdrawing the cartridge, the bar, as described in the said patent, being operated by hand only, whereas, by the present improvement, it is operated by the lever *D*, but may, when desired, be manipulated by the aid of its projecting rod, figs. 1, 2, and 5. It will be seen that the arrangement of the sliding breech and frame is based upon that described in my said original patent of September 12, 1848, reissued July 5, 1864, and extended August 30, 1864.

Without confining myself to the specific arrangement and construction of the several parts herein described, I claim as my invention, and desire to secure by Letters Patent—

1. The combination of the hooked projection *w*, or its equivalent, on the lever *D*, with the lip *y*, or its equivalent, on the sliding breech, for the purpose specified.
2. The spring-bar *H*, arranged to slide in the frame *B*, and having a notched projection *j*, in combination with the lever *D* and its arm *F*, the whole being arranged substantially as described, so that the cartridge may be extracted either by the manipulation of the lever *D* or sliding-rod *H*.
3. The combination of the spring plate *G* on the lever *D*, the notch *e* on the arm *F*, and the portion *h* of the frame, by which the said spring plate is released from the notch on moving forward the said lever *D*.

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

Witnesses:

H. HOWSON,
JOHN WHITE.

CHRISTIAN SHARPS.