

E. T. STARR.

Gun Lock.

No 42,697.

Patented May 10, 1864.

Fig. 2.

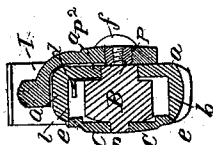


Fig. 3.

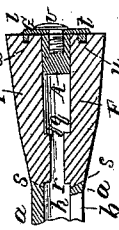


Fig. 1.

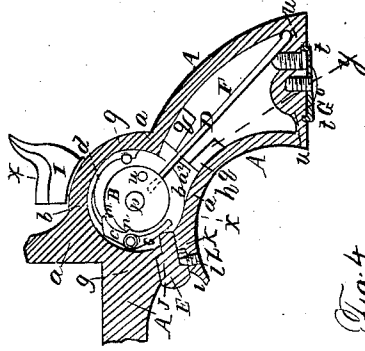
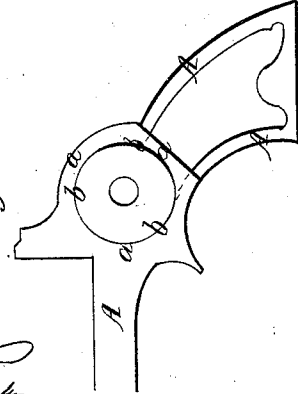


Fig. 4.



Fig. 5.



Witnesses.

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EBEN T. STARR, OF NEW YORK, N. Y.

IMPROVEMENT IN LOCKS OF FIRE-ARMS.

Specification forming part of Letters Patent No 42,697, dated May 10, 1864.

To all whom it may concern:

Be it known that I, EBEN T. STARR, of the city, county, and State of New York, have invented certain new and useful Improvements in Fire-Arms; 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 longitudinal vertical section of the frame of a fire-arm, exhibiting a side view of the lock. 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 section of the stock in the plane indicated by the line *y y* in Fig. 1. Fig. 4 is a side view of the trigger. Fig. 5 is a left-hand-side view of the frame.

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

This invention consists in a novel construction of the frame of a fire-arm, and mode of applying the tumbler and main spindle or arbor of the lock in combination therewith, whereby I obtain a very strong lock without weakening the frame; and it further consists in a novel mode of securing to the frame the cheek-pieces, or those parts of the stock which are made of wood or other light material.

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

A *a* is the metal frame, the portion *a* of which behind the breech is first made solid, of the entire width and depth of the stock, for a sufficient distance back to enable a circular cavity to be bored in it from the side for the reception of the tumbler B of the lock. This cavity *b b* is represented in Fig. 1 as of sufficiently large diameter to contain the sear *c* and sear-spring *d*; but with the ordinary arrangements of the sear and spring the diameter of the said cavity need not be more than large enough to contain the tumbler and permit its free operation. The best way to form this cavity is first to bore transversely through the frame a hole of sufficient size to receive and form a bearing for the right-hand journal, *p*, of the main spindle or arbor of the lock, to which the hammer and tumbler are secured, and then to counterbore cylindrically from the left side of the frame of the diameter required for the cavity and about three-fourths of the way through the frame. This

cavity is closed upon the left side of the frame by a cap-piece, C, which fits into it up to a shoulder, *e*, formed on the said piece, and this cap-piece is bored centrally to form a bearing for the left-hand journal, *p'*, of the spindle or arbor of the lock. This spindle or arbor may be made of a separate piece and have the tumbler secured upon it; but I prefer to make the said spindle or arbor and the tumbler in one piece, as shown in Fig. 2, for greater strength. The hammer I is arranged outside of the frame, where it is fitted to a square, *p''*, on the main spindle or arbor, and secured by a screw, *f*. The cap C is secured in place by two screws, *g g'*, which pass through holes bored in it, and screw into tapped holes provided in the right side of the frame; and I make these screws serve for the attachment of the sear *c* and sear-spring *d*, as will be presently explained.

To permit the mainspring D to enter the cavity *b b* and operate upon the tumbler, a mortise, *h h*, is cut through the solid metal in rear of the said cavity, and a hole is bored or otherwise made into the said cavity in a suitable position to admit the trigger. This mode of applying the tumbler and main spindle or arbor preserves the strength of the frame, which is only cut away internally sufficiently to contain the tumbler, the sear, and the sear-spring. Its advantage is much greater for muskets and rifles than for pistols, as a less proportion of the metal is required to be cut out in those arms, and it is in them that the greatest strength is required in that part of the frame. The tumbler is fitted with an anti-friction roller, *w*, against which the mainspring acts.

E is the trigger, consisting simply of a sliding pin inserted into a hole bored in the frame for its reception, and presenting outside of the frame only a short rounded projection, which is not very liable to be accidentally pushed in to liberate the tumbler, and therefore requires only for a guard a slight projection of the frame, as shown at *i* in Fig. 1. The said trigger and the hole which receives it are made with shoulders *j* and *k*, to prevent the former from being pushed in farther than is necessary. The said trigger is prevented from turning or dropping out by having a flat notch, *l*, cut in its under side to receive the end of a short screw, *z*, which screws through the frame, the said notch being wide enough to

permit the necessary movement of the trigger. This trigger is more easily applied than the ordinary kind. The sear *c*, made in the form of a bent lever, works in the cavity *b b* in front of the tumbler, the screw *g* serving as its fulcrum. Its point, which engages the notches *m n* in the tumbler, is at its upper end, and its lower part is situated opposite to the trigger. The sear-spring *d* is in the form of a bow passing over the tumbler and pressing upon the upper part of the sear, and it is kept in place by the screw *g'* entering a notch provided in it, and holding it firmly against the back of the cavity *b b*.

F F are the cheek-pieces of the stock, having projections *q q* on their upper parts to fit within the upper part of the open portion of the frame at the back of the solid portion *a*, as shown in Fig. 1, and having their upper ends beveled, as shown at *r r* in Fig. 3, to enter half-dovetail recesses *s s*, cut in the solid part *a* of the frame.

G is a plate applied to the butt of the stock to secure the cheek-pieces in place. This plate is of circular form, and has on its inner face an annular projection, *t*, which fits a circular groove, *u*, provided for its reception partly in the butt of the frame and partly in the butt-ends of the cheek-pieces. The said plate has a central hole for the reception of a screw, *v*, which screws into the butt of the frame. This screw presses the said plate against the cheek-pieces, and so forces the upper beveled ends of the latter into the recesses *s s* of the frame; and the said plate, by its projection *t* entering the portions of

the groove *u* in the cheek-pieces, holds the lower parts of the said pieces against the sides of the frame, while the upper ends are held thereto by entering the recesses *s s*. The plate *G* is thus made the sole means of holding the cheek-pieces in place, which it does most effectually.

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

1. The frame having a circular cavity, *b b*, for the reception of the tumbler *B*, and a concentric bearing for one of the journals of the main spindle or arbor of the lock, bored out of the solid metal, and having the said cavity fitted with a cap, *C*, to receive the other journal of the said spindle or arbor, and secured by screws *g g'*, which also serve to secure the sear and sear-spring within the circular cavity, as herein specified.

2. The trigger composed of a straight sliding pin, *E*, held in place and having its movement limited by a screw, *z*, entering a groove, *l*, in combination with the sear *c* and spring *d*, when arranged to operate in the manner herein specified.

3. The employment, for securing the cheek-pieces *F F* to the stock, of a plate, *G*, having an annular projection, *t*, on its face, fitted into an annular groove in the frame and cheek-pieces, and held in place by a screw, *v*, or its equivalent, substantially as herein specified.

EBEN T. STARR.

Witnesses:

M. S. PARTRIDGE,
DANIEL ROBERTSON.