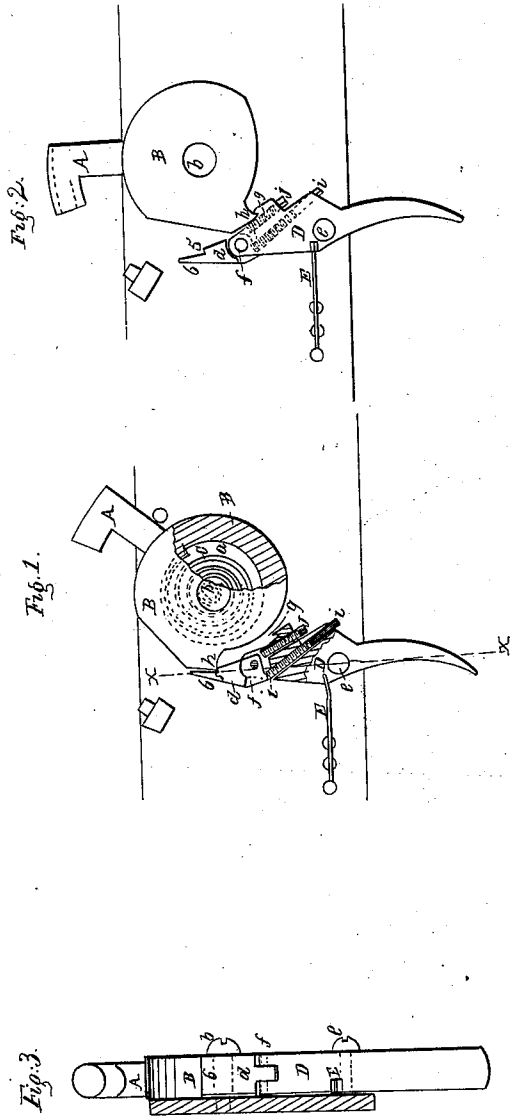


J. H. SMITH.
Lock for Fire-Arms.

No. { 2,367, }
 { 33,371. }

Patented Sept. 24, 1861.



Witnesses

J. W. Coombs
W. Tusch

Inventor

J. H. Smith
by J. H. Smith
Attys

UNITED STATES PATENT OFFICE.

J. HOMER SMITH, OF BREWSTER'S STATION, NEW YORK.

IMPROVEMENT IN GUN-LOCKS.

Specification forming part of Letters Patent No. 33,371, dated September 24, 1861.

To all whom it may concern:

Be it known that I, J. HOMER SMITH, of Brewster's Station, in the county of Putnam and State of New York, have invented certain new and useful Improvements in the Locks of 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 side view, partly in section, of a lock with my improvements, exhibiting it full cocked. Fig. 2 is a side view of the same, exhibiting it at half-cock. Fig. 3 is a front view corresponding with Fig. 1.

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

This invention consists in a hair-trigger of improved construction, which affords facility for its adjustment to operate with a more or less delicate touch, and which renders it less liable than an ordinary hair-trigger to let the hammer escape by an accidental blow or fall.

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

A B is the hammer, whose butt B constitutes the tumbler of the lock, and *b* is the fixed pin on which the hammer works. The butt B is made with a circular cavity, *a*, on one side, for the reception of the coiled main-spring C, which may be composed of one or more coils, and one end of which is secured to the pin *b*, or to a fixed boss provided in the lock, for the hammer to work upon by entering a notch in the said pin or boss, and the other end is secured to the tumbler B by entering a notch in the cavity *a*. This spring is coiled up by the act of cocking the hammer, and when the tumbler is liberated by the trigger it uncoils itself and throws down the hammer. The said spring C may be applied in the same way within the tumbler when a separate tumbler is used in connection with an outside hammer.

D *d* is the trigger, made in two pieces, the lower piece, D, of which is applied, like an ordinary trigger, to work upon a fixed pin, *e*, and the upper piece, *d*, constituting the sear, is jointed by a pin, *f*, to the part D. This trigger has provided in it two notches, *g* and 5, to receive a tooth, *h*, on the tumbler, the notch *g* in the lower part, D, being of suitable

form to hold the tooth *h*, as shown in Fig. 2, for half-cock, and the notch 5 in the upper part, *d*, being for full-cock. The piece *d* is extended some distance above the notch 5, as shown at 6 in Figs. 1 and 2.

E is the trigger-spring, applied in any convenient manner to the piece D of the trigger, to operate in the manner common to the trigger-spring of fire-arms.

i is a screw screwing through the piece D of the trigger to act against the bottom of the piece *d* in front of the pin *f*, for the purpose of adjusting the delicacy of touch.

j is a screw screwing through the piece D to act upon the bottom of the piece *d* in rear of the pin *f*, to fix the piece *d* relatively to the piece D and make the trigger act as a common trigger. This screw *j* is screwed down to prevent it from interfering with the piece *d* when it is desired to use the trigger as a hair-trigger. The screws *i* and *j* are so arranged that they may be reached by a screw-driver inserted through a slot in the trigger-plate or bottom of the lock-frame.

The operation of the hair-trigger is as follows: When the hammer is cocked, the spring E keeps the upper portion, 6, of the piece *d* of the trigger in contact with the tumbler, and the pressure of the said portion 6 against the tumbler keeps the piece *d* resting upon the screw *i*, as shown in Fig. 1, and the tooth *h* engages less or more deeply in the notch 5, according as the screw *i* is adjusted higher or lower. The axis of the pin *f* is then behind a line, *x*, passing through the axis of the pin *e*, and the pressure of the tooth *h* on the notch 5 tends to keep the piece *d* upon the screw *i*, and keeps the trigger in a rigid condition, from which it is not likely to be disturbed by an accidental blow or fall; but a light pull on the finger-piece of the trigger throws forward the pin *f*, the tooth *h* still remaining in the notch and preventing the upper part of *d* from moving forward, and as soon as the axis of the pin *f* passes to the front of the line *x* the effect of the pressure of the tooth *h* in the notch 5 is reversed and throws back the upper part of *d* and causes the upward extension 6 to press against the part of the tumbler above the tooth *h*, and so force the pin *f* suddenly forward and make it draw the notch 5 from under the tooth and liberate the hammer. A greater or less movement of the trigger is re-

quired to liberate the hammer, according as the screw *i* is set to allow the tooth *h* to engage less or more deeply in the notch 5.

The screw *i* may be dispensed with by providing a suitable shoulder in the piece *D* to form a resting-place for the portion of the bottom of the piece *d* in front of the pin *f*; but in that case there will be no adjustment for greater or less delicacy of touch; or, in other words, to produce the escape of the hammer with a greater or less movement of the trigger.

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

1. The trigger constructed of two pieces, *D* and *d*, united with a pin-joint, *f*, the said piece *d* having an upward extension above the rest-

ing-place of the tumbler, substantially as herein specified.

2. The combination of the two notches *g* and 5 in the separate pieces *D* and *d* of the trigger, and the single tooth *h* on the tumbler, substantially as herein specified, whereby the hammer is allowed to be held cocked by a portion of the hair-trigger.

3. The screws *i* and *j*, applied and operating substantially as herein described, for the purpose set forth.

J. HOMER SMITH.

Witnesses:

M. M. LIVINGSTON,
JAMES LAIRD.