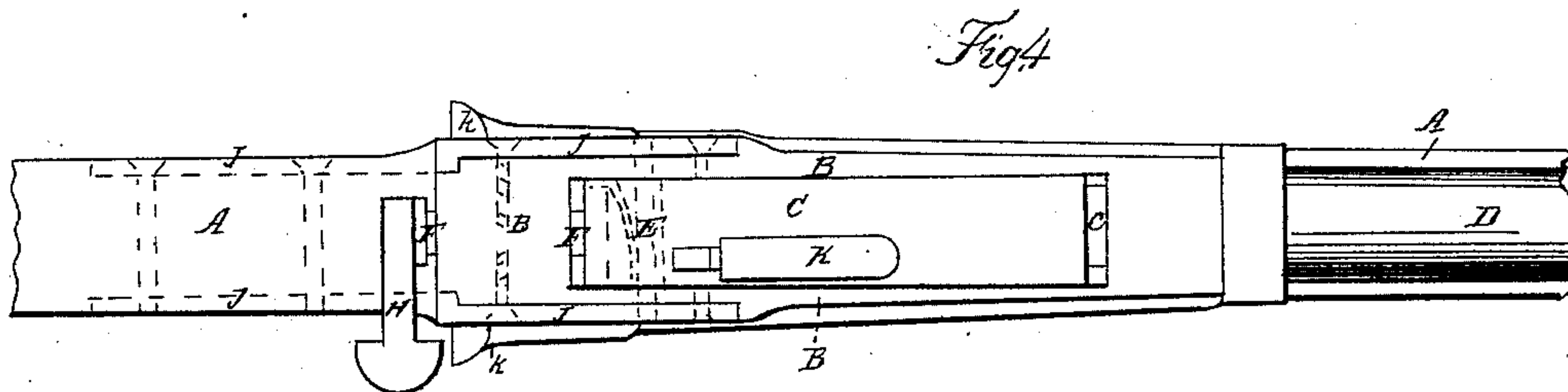
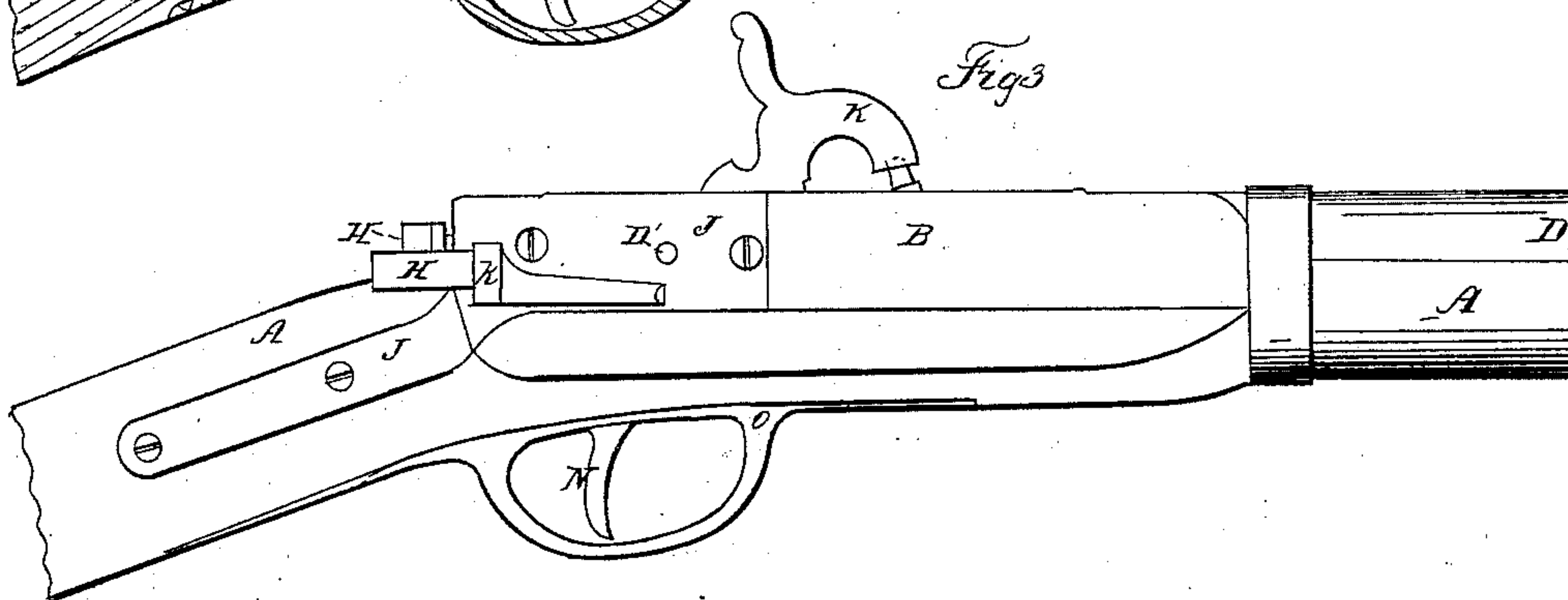
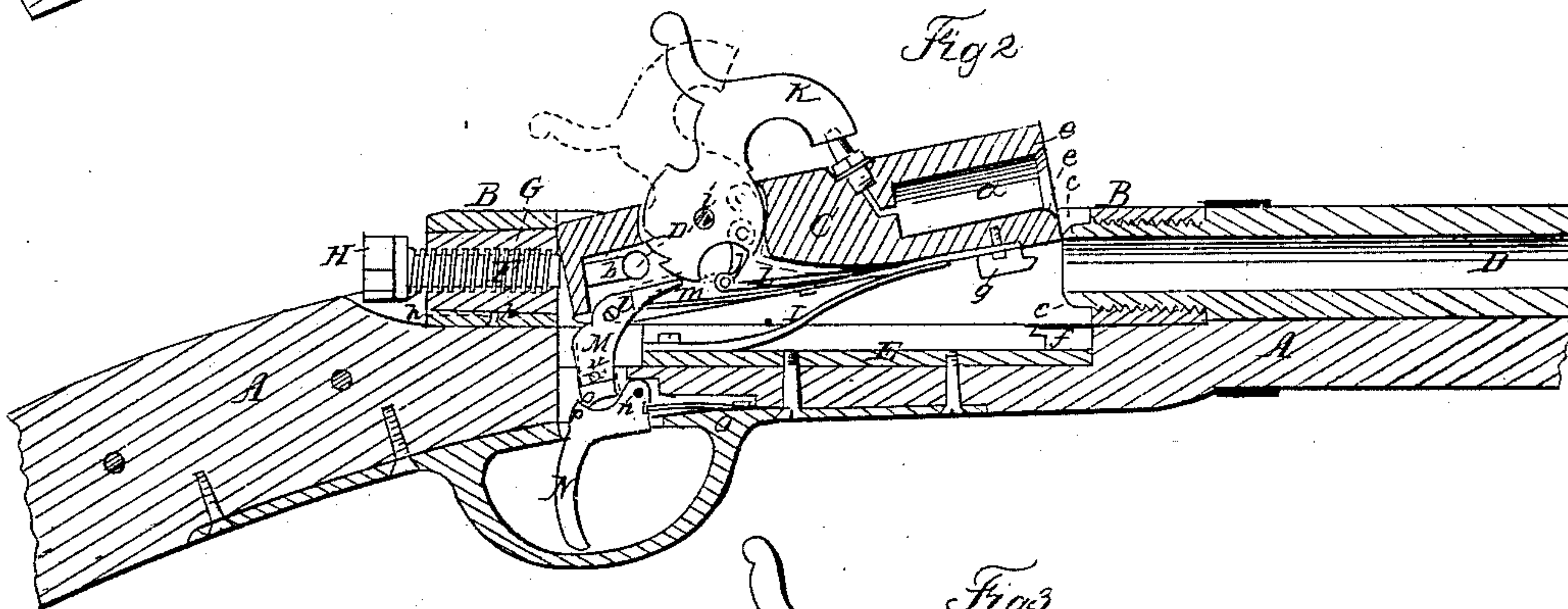
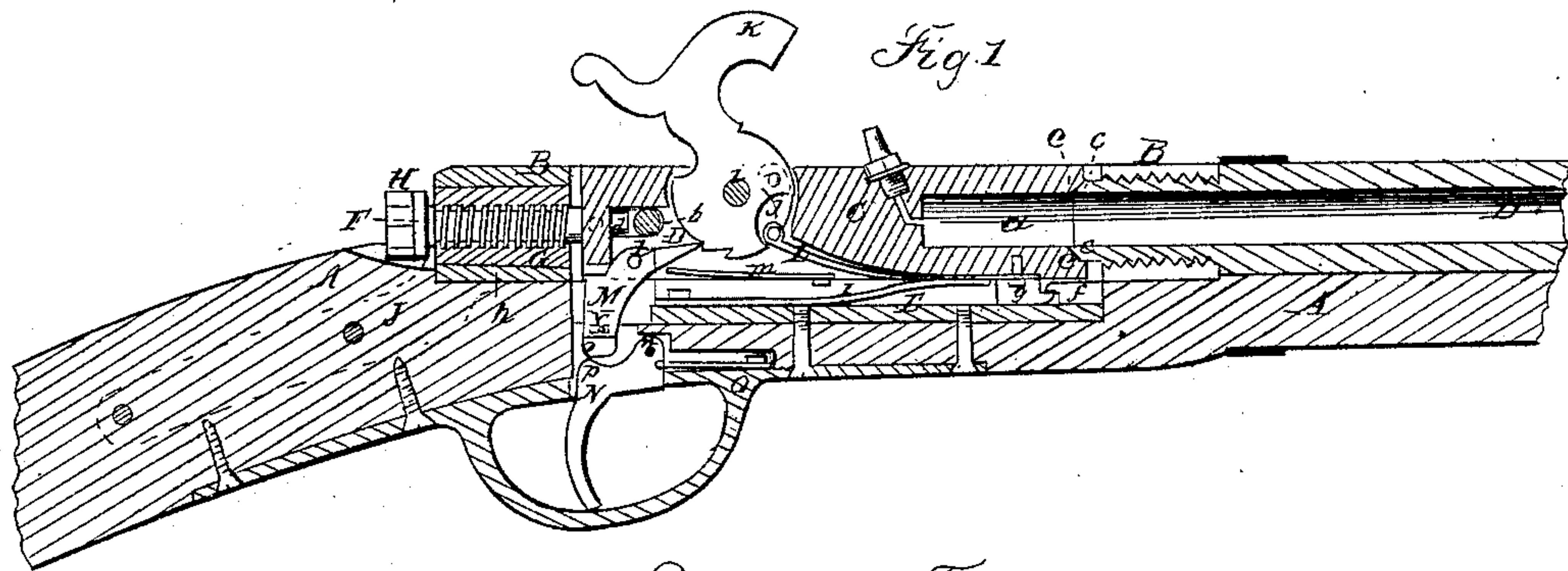


SKINNER & TRYON.
Breech-Loading Fire-Arm.

No. 18,472.

Patented Oct. 20, 1857.



UNITED STATES PATENT OFFICE.

CHAUNCEY D. SKINNER, OF HADDAM, AND DENNIS TRYON, OF MIDDLETOWN,
CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 18,472, dated October 20, 1857.

To all whom it may concern:

Be it known that we, CHAUNCEY D. SKINNER, of Haddam, in the county of Middlesex, and DENNIS TRYON, of Middletown, in the county of Middlesex, and State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and we 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 central section of the breech and chamber, the lock, and part of the stock and barrel of a gun having our improvements applied, representing it in a condition for firing. Fig. 2 is a similar section, but representing it in a condition to receive a new charge. Fig. 3 is a side view of the same in the condition after firing and before preparing to reload. Fig. 4 is a top view of the same.

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

This invention relates to that description of breech-loading fire-arms in which the whole chamber is made movable both in a direction parallel with the bore of the barrel, and also upwardly on an axis arranged transversely to the bore, for the purposes of disconnecting it from the barrel, and of bringing its mouth above the barrel to a convenient position to receive the charge.

This invention consists in a novel combination of means for bringing up and securing the chamber in close connection with and liberating it from the barrel and guiding the same.

It also consists in certain means of preventing the possibility of the fall of the hammer and consequent discharge of the weapon while the chamber is raised up and out of line with the barrel.

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

A is the stock.

B is a metal frame secured to the stock and containing a parallel-sided opening to receive the square block of metal, C, in which is bored the chamber *a*, and whose rear portion constitutes the breech, and contains the whole of the

lock with the exception of the trigger. The frame B is secured to the stock by screws passing through two straps of metal, J J, which are made separate from the said frame and screwed to it.

D is the barrel, screwing into the front of the frame B, and finished at its rear end with a conical or valve-like face, *c c*, corresponding with a seat, *e e*, made round the front of the chamber *a*.

D' is the pin constituting the axis on which the chambered breech-piece C swings up for the purpose of exposing its mouth to receive the charge, said pin being inserted tightly through the sides of the frame B, but passing through a short slot, *b*, in the chambered breech-piece, which permits the said piece to move longitudinally to a limited extent, as well as swing.

d is a spring fitted into the back of the slot *b* to bear against the back of the pin D' in such a manner as to exert a tendency to draw back the chambered breech-piece in the frame B.

F is a screw working in a stationary nut, G, secured in the back of the frame B, said screw being furnished with a handle, H, by which to turn it to screw up the chambered breech-piece C to the barrel, or to allow the said piece D to come back clear of the barrel.

f is a lipped projection on a plate, E, which lines the stock at the bottom of the interior of the frame B, and *g* is another lipped projection on the bottom of the chambered breech-piece. These two lipped projections *f* and *g* are so formed and arranged that when the chambered breech-piece is drawn back from the barrel a trifle farther than is necessary for the front of the chamber to clear the rear of the barrel the lips of the said projections will clear each other and allow the front end of the chambered breech-piece C to swing up, but that when the said piece C is pushed down into its frame B so far that its projection *g* rests on the plate E, and afterward moved forward by the screw F, the edge of the lip *g* will pass under the edge of the lip *f* before the front of the chamber arrives quite as far forward as the end of the valve-like face *c c* of the barrel, and thus prevent the rising of the piece C, and the projection *f* and plate E then serve as guides to the projection *g*, and cause

the seat *e e* in the chamber to be guided straight toward the valve-like face *c c*, so that the surfaces of the valve and seat may come in contact with each other without abrasion on either side, and their wearing out of truth, which would be productive of leakage, is thereby prevented.

I is a spring secured to the plate *E* and serving to throw up the chamber to the position shown in Fig. 2, ready for loading either with a cartridge or with loose powder and ball, as soon as the screw *F* has been drawn back far enough for the lips of the projections *g* and *f* to clear each other. The screw *F* merely bears against the rear end of the chambered breech-piece *C*; but as it is turned back the spring *d* in the slot *b*, by its pressure between the back of the pin *D'* and the back of the slot *b*, draws back the said piece *C* till the lips of *f* and *g* will clear each other, and then the spring *I* throws up the front end of the piece *C*. The lipped projections *f g* serve to prevent abrasion of the valve *c* and seat *e* when the chambered breech-piece is moving back as well as when moving forward. When the chamber has been loaded, it requires to be pressed down before the screw is turned to drive it forward. This pressing down can be effected conveniently by the thumb of the left hand while the gun is held in the two hands, with the thumb of the right hand upon the screw-handle *H*, ready to turn the screw.

The screw *F* may be single, double, or triple threaded. It is desirable that the said screw should be moved just as far as but no farther than is necessary to effect the necessary movement of the chambered breech-piece, and hence we make the thread of such a pitch and so form the stock in rear of the frame *B* that the handle *H* comes down on the stock on either side of the screw, and is thereby stopped at either end of the movement of the screw. It is also desirable that the screw shall force the chambered breech-piece close up to the barrel without any jamming or straining of the screw, and this is effected by causing the handle to be stopped by coming down on the right-hand side of the stock, as is shown in Figs. 3 and 4, when the piece *C* is forced far enough up; but so as to insure the piece *C* coming tight up when the movement of the screw is stopped, some nicety of adjustment of the screw is necessary. We fit the screw to the nut *G* instead of into the solid metal of the frame *B*, and fit the nut to the frame *B* so as to be capable of turning therein for the purpose of adjusting the screw to move the piece *C* more or less forward, and employ a set-screw, *h*, at the bottom of the frame, (see Figs. 1 and 2,) to secure the said nut when adjusted. The nut is made conical, and arranged with the largest end in front, or with a conical shoulder to prevent it being forced from its place by the action of the screw, which is thus caused to assist the set-screw *h* in holding it tight. The adjustment of the nut *G* serves also to compensate for any wear of the valve *c* and seat

e. The handle *H* of the screw is protected in either position of the breech-piece by means of one of two guards, *k k*—one upon each of the strap-pieces *J J*. *K* is the hammer working on a pin, *i*, in a slot made in the back part of the chambered breech-piece *C*, in the lower part of which there is a cavity which contains the other parts of the lock.

L is the mainspring, connected with the tumbler of the hammer by a stirrup, *j*.

M is the sear, working on a pin, *l*, on the lower part of the piece *C*. *m* is the sear-spring, attached to the bottom of *C*.

N is the trigger, working on a pin, *n*, inserted through lugs on the guard-plate *O*. The trigger and sear are peculiarly formed to enable the former to be operated upon by the latter when the hammer is cocked, while the chambered breech-piece *C* is forced up into connection with the barrel, as shown in Fig. 1, but inoperative when the said piece *C* is raised, as shown in Fig. 2. These peculiarities of form are fully illustrated in Figs. 1 and 2, and are as follows: The sear has its heel more turned down than usual, and broader at the bottom, which is made slightly concave, and with a blunt edge or tooth, *o*, at the extremity. The trigger is made with a blunt tooth, *p*, at its rear extremity, and a concavity on the top between this tooth and the center of motion *n*. When the chambered breech-piece *C* is in connection with the barrel, as shown in Fig. 1, the tooth *p* of the trigger is situated under the heel of the sear, and when the trigger is pulled its tooth *p* moves freely along the bottom of the heel of the sear and moves it upward and backward, thus throwing down the point of the sear away from the tumbler, so that the hammer, if at full-cock, will be set free; but if the trigger should be at full-cock, as shown in red outline in Fig. 2, when the chambered breech-piece is raised the heel of the sear will be entirely in front of the tooth *p* of the trigger, and any pull on the trigger will cause the tooth *p* to prevent the moving of the heel of the sear in a backward direction, and rather tends to push it forward, and thus hold the point of the sear secure against the tumbler. To provide for the proper adjustment of the sear and trigger, the heel of the sear is made in a separate piece, and attached to the part above by a mortise and tenon, and secured by a screw, *v*, passing through a slot in the tenon, the said slot, which is shown in dotted lines in Fig. 2, allowing the heel to be moved a little backward or forward when the screw *v* is slackened.

We do not claim the use of a chambered breech-piece fitted with a slot to slide and swing upon a stationary pin, nor the employment of springs *b* and *I* to pull back and raise up such breech-piece; but

What we do claim as our invention, and desire to secure by Letters Patent, is—

1. The employment, in combination with the chambered breech-piece operating and controlled by springs and by a screw, as de-

scribed, of the lipped projections *f* and *g*, formed, applied, and operating substantially as set forth, to prevent abrasion of the joint between the barrel and chamber by the act of opening and closing the chamber.

2. Constructing and applying the hammer and sear in the manner herein described, whereby when the chambered breech-piece is in connection with the barrel the tooth or acting-point *p* of the trigger is brought under the heel of the sear, but when the chambered

breech-piece is raised the said tooth or point *p* is brought behind the said heel, so that in the former case the trigger is operative and in the latter can have no other effect than to lock the sear, as herein set forth.

CHAUNCEY D. SKINNER.
DENNIS TRYON.

Witnesses:

WALTER HALL,
JONATHAN BARNES.