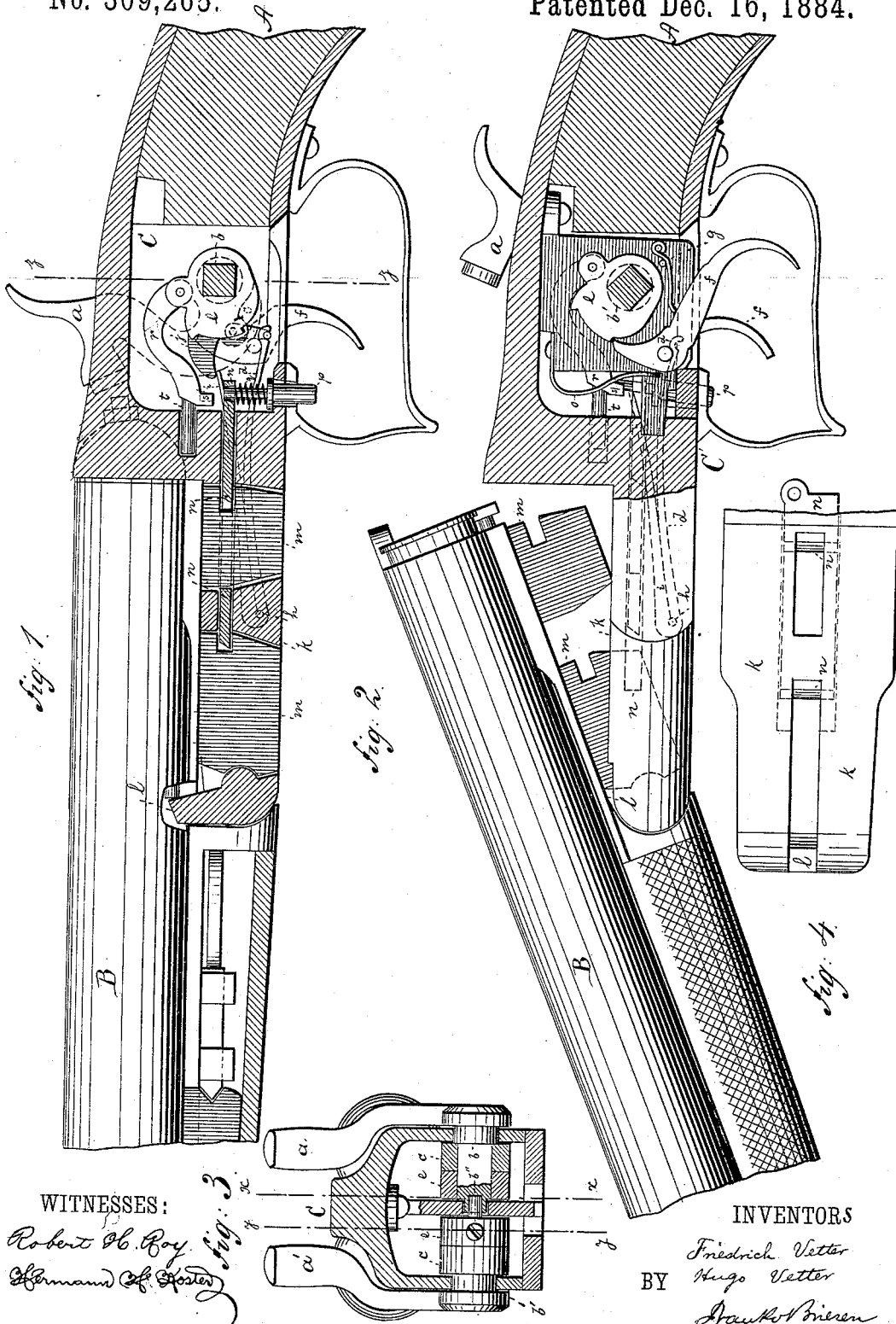


(No Model.)

F. & H. VETTER.
BREECH LOADING FIRE ARM.

No. 309,265.

Patented Dec. 16, 1884.



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FRIEDRICH VETTER AND HUGO VETTER, OF BROOKLYN, NEW YORK.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 309,265, dated December 16, 1884.

Application filed September 3, 1884. (No model.)

To all whom it may concern:

Be it known that we, FRIEDRICH VETTER and HUGO VETTER, both residents of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Gun-Lock, of which the following specification is a full, clear, and exact description.

This invention relates to various improvements in gun-locks adapted for breech-loading fowling-pieces and other guns, and also to the mechanism for securing the lock-case to the barrel.

The invention consists in the various elements of improvement, hereinafter more fully pointed out.

In the accompanying drawings, Figure 1 is a longitudinal section of our improved gun on the line *x x*, Fig. 3. Fig. 2 is a similar section, with the barrels tilted, on the line *y y*, Fig. 3. Fig. 3 is a vertical cross-section on the line *z z*, Fig. 1, and Fig. 4 a top view of the arm on the gun-case beneath the barrels.

The letter A represents the stock of a gun. B are the barrels, and C is the lock-case, made in one piece of metal and without any separate side plates.

We shall first describe the firing mechanism, and next the mechanism for attaching and tilting the barrels so as to allow a new charge to be inserted.

a is the right and *a'* the left hammer. Each hammer is made in one piece with the arbors of the tumblers. These arbors are plainly shown in Fig. 3. The arbor *b* of the right hammer is made with a notch at its end, circular in cross-section, into which fits a circular pin, *b''*, at the end of arbor *b'* of the left hammer. In this way the arbors are free to turn independently, and at the same time support themselves mutually. Upon each arbor there is mounted a tumbler. Each tumbler is made of two pieces, placed side by side. The outer piece, *c*, is the tumbler proper, being connected to the mainspring *d* by a swivel in the ordinary manner. The inner piece or disk, *e*, contains the usual cock-notches, which are engaged directly by the triggers *f*.

g are the trigger-springs for throwing the noses of the triggers into the notches when the gun is cocked. The mainspring *d* is placed in front of the hammer and secured by pin *h*

to the lock-case. This spring is made with an upwardly-extending arm, *i*, the end of which engages beneath a nose, *j*, on the front of the tumbler *c*, for throwing the hammer a slight distance back after it has exploded the cap.

The operation of the gun as thus far described is as follows: Either of the hammers *a a'*, being drawn back, rotates its tumbler *c* and disk *e*, so as to allow the nose of the trigger to be thrown into one of the notches of the disk *e* by means of spring *g*. The end of the mainspring *d* is of course at the same time drawn up. The trigger *f*, when pressed, is disengaged from the cock-notch, and the tumbler *c* is by spring *d* revolved forward, carrying the hammer around with it. Immediately after the hammer has exploded the cap or cartridge the arm *i* of spring *d* presses against the under side of nose *j* of tumbler *c*, and thereby causes the hammer to be thrown back to a slight extent, so that there is always a small space between cap and hammer, even if the gun is not cocked.

The mechanism for securing the barrel B to the lock-case and for permitting the tilting of the barrel is as follows: The case C is provided beneath the barrel B with an arm, *k*, upon which the rear portion of the barrel rests. At its end the arm *k* has a nose, *l*, which engages a notch of the barrel, and upon which the barrel is tilted. The arm *k* is provided with two slots, into which fit two projections, *m*, of the barrel. These projections are notched at their rear edge, and these notches are engaged by a sliding bolt, *n*. This bolt can reciprocate longitudinally in a longitudinal groove of arm *k*, and is normally thrown forward by a spring, *o*. In this position it enters the notches of the projections *m*, thus properly holding the barrel in place.

For withdrawing the bolt in order to tilt the barrel, the following mechanism is employed: Through a perforation in the bottom plate of case C extends a pin, *p*, which passes through an eye at the end of bolt *n*. The shank of the pin is surrounded beneath the bolt by a spiral spring, *q*. To one of the disks *e*, preferably the right disk, there is pivoted an arm, *r*, having a downward projection, *s*. This projection extends directly in front of the end of pin *p*. *t* is a guide-rod, made in one piece with arm

r and sliding in a corresponding slot in case C, to properly guide the motion of arm *r*. When the barrel B is to be tilted, the pin *p* is pressed into the case by a finger. The pin passes through the eye in bolt *n* and enters behind the projection *s* of arm *r*. Next the hammer *a* is revolved backward to a slight extent—less than half-cock. This will cause the tumbler *c* and disk *e* to be revolved correspondingly, and the arm *r* is thereby swung backward, carrying the end of pin *p* with it. In this way the pin is oscillated and draws the bolt *n* out. As soon as the projections *m* of the barrel are released the barrel will tilt on nose *l*. After the barrel has tilted, the pin *p* and hammer are released. The hammer will fly back into its original position, and the pin *p* will be forced down by its spring *q*. The rear edges of the projections *m* and the front edges of the bolt *n* are beveled in opposite directions, Fig. 1, so that as the barrel is leveled after being loaded the bolt will automatically enter the notches in the projections *m*. The spring *o*, throwing the bolt forward, will lock the barrel to the case as soon as the bolt is opposite the notches in projections *m*.

We claim as our invention—

1. The combination of hammer *a*, in one piece with arbor *b*, with hammer *a'*, in one piece with arbor *b'*, the arbor *b* having a notch circular in cross-section, and the arbor *b'* a circular pin, *b''*, to engage said notch, substantially as specified.

2. The combination of hammers *a a'*, arbors *b b'*, and tumblers *c*, having noses *j* in front of tumblers, with mainsprings *d*, having arms

i in front of tumblers, and with notched disks *e*, adapted to engage triggers *f*, substantially as specified.

3. In a breech-loading fire-arm, and in combination with the barrel-locking bolt *n*, the pin *p*, passing through and loosely supported in the lock-case and engaging the bolt, the hammer-arbor *b*, and the reciprocating arm *r*, borne thereby, and engaging the pin *p* when the latter is pressed inward, substantially as set forth.

4. In a breech-loading fire-arm, and in combination with the barrel-locking bolt, the pin *p*, loosely supported in the lock-case, through which it passes, and engaging the bolt, the hammer-arbor *b*, carrying the tumbler *c* and disk *e*, and the reciprocating arm *r*, borne by the latter, and engaging the inner end of the pin *p* when in its inner position, to oscillate the same and unlock the barrels, substantially as set forth.

5. In a breech-loading fire-arm, and in combination with the barrel-locking bolt, the pin *p*, loosely supported in the lock-case and engaging the bolt, the pin-actuating spring, the reciprocating arm *r*, operated by the hammer-arbor and provided with a guide-rod, *t*, and the arm *r*, engaging the pin *p* when pressed inward, to oscillate the same and thereby unlock the barrels, substantially as set forth.

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Witnesses:

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