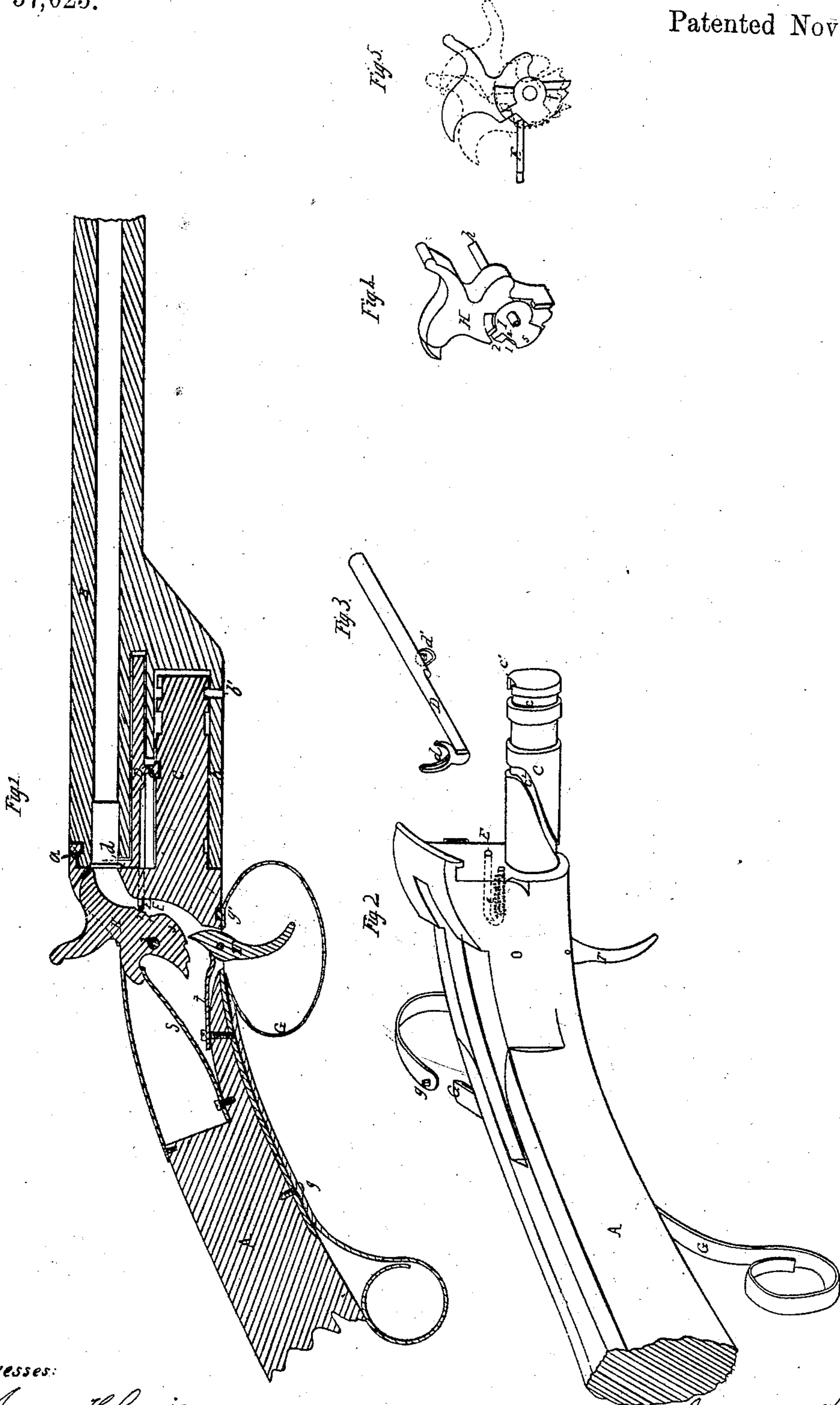


ARMSTRONG & TAYLOR.  
Breech-Loading Fire-Arm.

No. 37,025.

Patented Nov. 25, 1862.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JAS. W. ARMSTRONG AND JOHN TAYLOR, OF AUGUSTA, KENTUCKY.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 37,025, dated November 25, 1862.

To all whom it may concern:

Be it known that we, JAMES W. ARMSTRONG and JOHN TAYLOR, both of Augusta, in the county of Bracken and State of Kentucky, have invented a certain new and useful Improvement in Breech-Loading Guns; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical longitudinal section of a gun illustrating our invention. Fig. 2 is a perspective view of the breech with the barrel removed. Fig. 3 is a perspective view of the clearer, hereinafter described. Fig. 4 is a perspective view of the hammer. Fig. 5 is a diagram illustrating the various positions of the same and its action upon the locking device, hereinafter described.

Similar letters indicate corresponding parts in the several figures.

Our invention relates to that class of breech-loading fire-arms in which the barrel is partially revolved upon a stationary eccentric breech-pin in order to open the rear end of the barrel for the reception of a metallic cartridge.

Our improvements consist, first, in the use of a clearer carried by the barrel in its revolution and advanced or retracted by a cam groove or rib upon the breech-pin, as hereinafter explained; second, in a new and improved device for locking the barrel when in position for firing, and releasing it by the action of the hammer; third, in an improved mode of connecting and disconnecting the barrel and stock.

To enable others skilled in the art to which our invention appertains to fully understand and use the same, we will proceed to describe its construction and operation.

A is the stock.

B is the barrel, formed on its lower side with a socket, *b*, fitting a breech-pin, C, by which the barrel is pivoted eccentrically to the stock. When in position for firing, the barrel is secured to the breech longitudinally by a dove-tail or rabbet, *a*.

*b'* is a segment-collar or transverse tongue or stud projecting within the box *b*, and adapted to play within a groove, *c*, near the end of the pin C, so as to confine the pin within the

box, excepting when the barrel is placed in an inverted position. When in this position, the tongue *b'*, passing through or over a longitudinal groove or flat surface, *c'*, upon the pin, permits it to be withdrawn.

D is a clearer, the stem of which works in a cavity between the bore of the gun and the socket *b*. The forked head *d* of the said clearer is countersunk into the rear of the bore beneath and in front of the cavity or depression which receives the flange of the customary copper cartridge.

*d'* is a stud or projection upon the stem of the clearer which fits and works within a cam-groove, *c''*, upon the pin C. The said groove may extend obliquely backward and around the pin in both directions from its apex, at the upper side of the latter.

H is the hammer pivoted upon the pin *h*.

T is the trigger.

S is the hammer-spring, and *t* the trigger-spring, which parts operate in customary manner.

E is a spring-catch, consisting of a U-shaped rod with legs of unequal length provided with a spiral spring encircling the shorter leg and pressing the catch backward against the front of the hammer-butt. The said catch slides in two parallel holes in the front of the breech, the longer leg projecting from the said breech into a small hole in the rear of the barrel, so as to hold the latter from turning while the hammer is in certain positions, and at another time retracted within the breech by means of the spring *e*, as will be presently explained. The front of the hammer-butt is formed with a depression, 1, into which the back of the catch E sinks when the hammer is at half-cock, and with more prominent surfaces 2 3, upon which it rests when the hammer is down and at full-cock, respectively.

I is a segmental plate pivoted upon the hammer-shaft *h*, and so fitted within the hammer-butt as to have a limited play in relation to the hammer. The periphery of the said segment is formed with a depression, 4, and with a prominent surface, 5, the latter projecting somewhat beyond the surface 3 of the hammer-butt.

G is the trigger-guard, which is pivoted at *g*, so as to be capable of rotation in a horizontal plane. In the position shown in Fig. 1

the said guard is locked by a pin,  $g'$ , projecting upward from it into a notch or hole in the under side of the breech; but by pressing down the forward end of the guard the said pin is withdrawn, and the guard may then be turned into the position shown in Fig. 2.

The operation is as follows: A shot having been fired, the parts remain in the position shown in Fig. 1, the back of the catch E resting against the prominence 2 of the hammer, but above the upper corner of the prominence 5 of the segment I. In this position the barrel cannot be turned. To release the barrel the hammer is elevated to half-cock, in which motion the catch E, being within the cavity 4 of the segment I, keeps the said segment from turning with the hammer, and is pressed backward by the spring  $e$  into the cavity 1 of the hammer-butt, in which position the forward end of the said catch is retracted completely within the breech and the barrel thereby released. For the purpose of loading the piece the barrel is now turned around upon the axis-pin C—a motion which is limited by its coming in contact with the trigger-guard G. This turning of the barrel, carrying the stud  $d'$  upon the clearer through the cam-groove  $c'$ , advances the head  $d$ , thereby throwing out the empty shell of the cartridge. The barrel is then turned backward far enough to retract the clearer within the barrel, when a new charge may be inserted and the barrel returned to its closed position. As the hammer is raised to full-cock the segment I, having now reached the limit of its play within the hammer-butt, is carried round with it, causing the catch E to pass onto the prominence 5 of the said segment. If, now, the hammer be gently lowered to half-cock, the catch, resting against the segment I, will hold the latter stationary while the hammer-butt turns, and the catch is thereby prevented from entering the cavity 1, and thus the barrel remains locked while the gun is at half-cock; but if the hammer be let completely down the segment I, reaching the limit of its motion within the hammer-butt in the other direction, turns with the hammer, causing the catch E to pass off the prominence 5 of the segment onto the surface 2 of the hammer-butt, still keeping the barrel locked, but ready, on the hammer being again raised to half-cock, to throw the cavities 1 and 4 into coincidence and pass within them, so as to release the barrel, as before explained.

When it is desired to take the gun apart for cleaning or any other purpose, the trigger-guard is first placed in a transverse position, as shown in Fig. 2. The barrel may then be turned one-half round, in which position the collar or tongue  $b'$ , coming over the longitudinal groove or flat surface  $c'$ , permits the pin C to be withdrawn from the socket  $b$ , thereby detaching the barrel from the stock.

In Fig. 5 the red lines show the hammer in its lowest position. The black lines show the hammer raised to half-cock and the spring-catch retracted. The blue lines show the hammer at full-cock and the catch again advanced.

It will be manifest that by a slight modification in the form of the segment I the barrel may be locked when the hammer is raised to half-cock and released when it is lowered, instead of the reverse.

We are aware that forked rods of form analogous to ours have been operated by the tilting of the barrel to withdraw the empty shell, but know of no previous instance in which such a clearer has been operated in the manner we have described by the rotary motion of the barrel upon an eccentric breech-pin.

Having thus described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

1. A clearer, D, of any suitable form, working within or upon a cam groove or rib on the axis-pin, and advanced or retracted by a rotary motion of the barrel, substantially as set forth.

2. The segment I 4 5, employed to govern the motion of the spring-catch E, substantially in the manner explained.

3. The combination of the stud  $b'$  and grooves  $c c'$  with the axis-pin C and socket  $b$ , to secure the barrel to the stock and permit their ready detachment, as explained.

The above specification of our improvements in breech-loading fire-arms signed this 30th day of June, 1862.

JAMES W. ARMSTRONG.

JOHN TAYLOR.

Witnesses as to signature of James W. Armstrong:

JAMES H. GRIDLEY,

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T. F. MARSHALL,

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