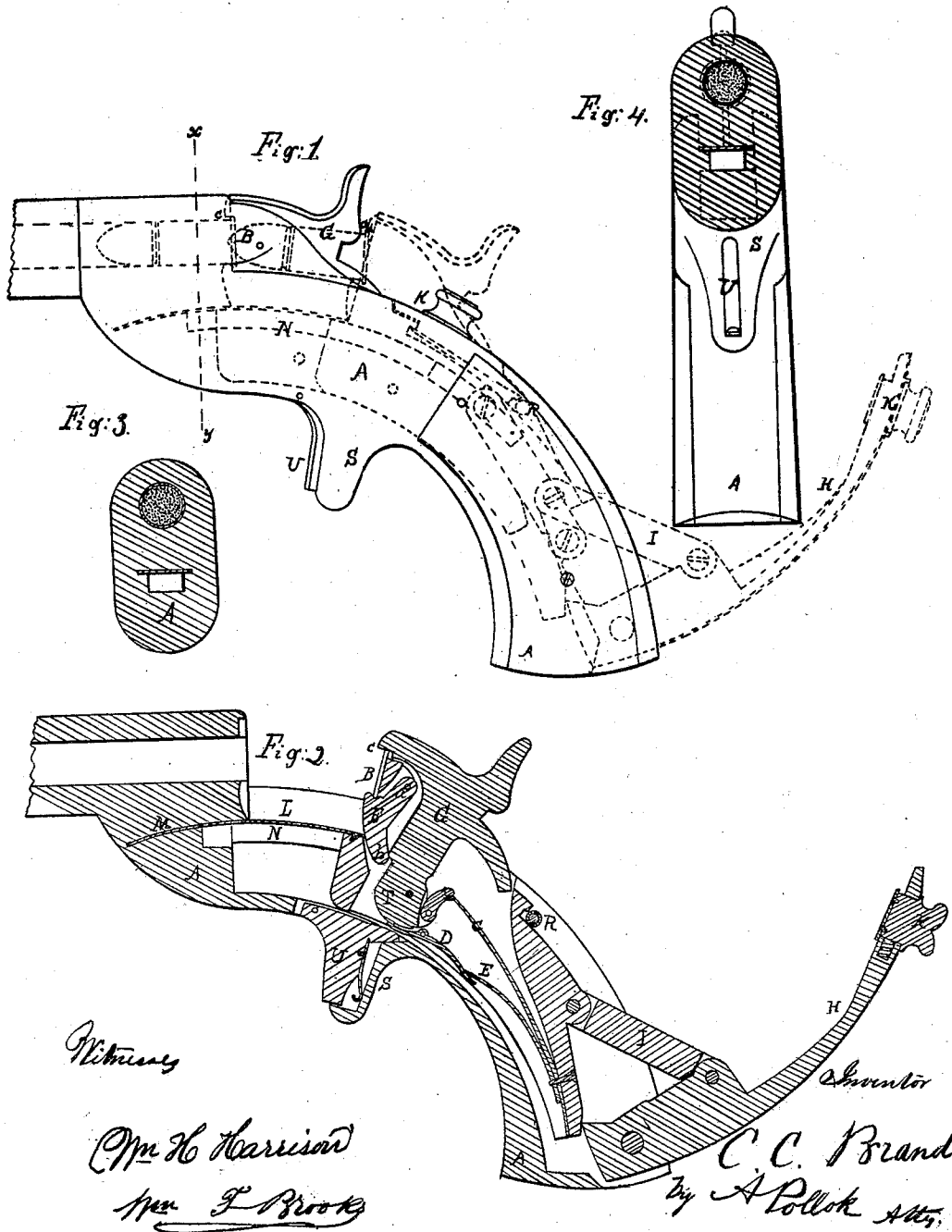


C. C. BRAND.
Breech-loading Fire-arm.

No. 38,943.

Patented June 23, 1863.



UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BRAND, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **38,943**, dated June 23, 1861.

To all whom it may concern:

Beit known that I, CHRISTOPHER C. BRAND, of Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a breech-loading pistol embodying my improvements, and showing the breech in its extreme position—*i. e.*, when closed and when open—in black and blue lines, respectively. Fig. 2 is a section of the same according to a vertical plane passing through the axis of the barrel; and Figs. 3 and 4 are transverse sections at the line *xy* of Fig. 2, the former looking toward the barrel, the latter toward the stock.

My invention relates to that class of breech-loading fire-arms in which metallic cartridges are used—*i. e.*, cartridges composed of one or more projectiles held by and of powder contained in a flanged metallic case, the flange being filled with the explosive compound; and my invention is in part more particularly adapted to pistols and such other fire-arms whose stocks are curved as they recede from the barrel; and the object of the first part of my invention is to automatically grasp and hold the cartridge in the breech-pin, so that on withdrawing the breech-pin from the butt of the barrel the cartridge, whether exploded or not, shall be withdrawn from the barrel. I effect this by combining with a sliding breech-pin a hammer and pendent hook, the arrangement being such as that the hook is actuated by the hammer in connection therewith to grasp and hold the cartridge.

The second part of my invention has for its object the withdrawal of the cartridge from the barrel by means of jaws or their equivalent on the breech-pin when the latter is sliding in curved guides conformably with the shape of the stock. To this end this part of my invention consists in the combination, with a breech-pin sliding in curved guides conformably with the shape of the stock, of a hook clasping the flange of the cartridge and moving with the said breech-pin on the inner curve, and a hammer arranged on the breech-

pin diametrically opposite to the said hook, and so constructed as to bear upon the cartridge-flange with a yielding pressure, to allow of the cartridge having motion on the said hook as fulcrum as the said breech-pin moves to and from the butt of the barrel.

The object of the third part of my invention is to prevent the accidental explosion of the cartridge before the breech is closed against the butt of the barrel. To this end I use, in combination with a breech-pin grasping and holding the cartridge and moving together with the lock in a recess in the stock, a trigger hung on a fixed pin in the stock in such manner that when the breech-pin is withdrawn from the barrel the trigger shall become disconnected from the lock and out of action therewith.

The accompanying drawings represent that portion of a pistol which embodies the several features hereinbefore referred to.

In said drawings, A is the stock of the pistol. Externally it is shaped like most pistol stocks or hilts, being curved downward, as it recedes from the barrel augmenting in thickness, so as to afford easy grasp by the hand. This stock or hilt is recessed on top to a sufficient depth to contain a sliding breech-pin, with which are connected its appurtenances, consisting of the lock-hammer, movable jaws, and a mechanism for opening and closing the breech. The breech-pin B is recessed in front to contain and fit within it the butt of the flanged cartridge when the breech is closed. It is hollow in rear, containing within its cavity part of the hammer, with its actuating-mainspring C, tumbler T, sear D, and sear-spring E, also a hook or jaw, F, hung upon a traverse-pin, *a*. This hook projects out of the face of the breech-pin, and is provided with a tail-piece, *b*, which is arranged in relation to and actuated by the hammer or a cam on the hammer G in such manner that when the hammer is let down the hook is pressed out and held in position, performing the function of a fixed jaw, supporting the cartridge by its flange; but when the hammer is raised or cocked the pressure on the tail-piece *b* is removed and the hook is free to recede or swing back on its suspension-pin, according to its gravity. Thus if the breech-pin be with-

drawn, the hammer half-cocked to throw off the case of the exploded cartridge, and a new cartridge inserted in the barrel, and if the breech be then closed the operation attending the last movement would be as follows: As the breech-pin closes against the butt of the barrel, the protruding portion of the hook comes in contact with the butt of the cartridge. The hook at this moment is free to recede, and being suspended on a traverse-pin located in line with the axis of the breech, or thereabout, the hook will, in receding, describe an arc of a circle, and thus clear the flange of cartridge. When the breech is brought home and closed, the flanged butt of the cartridge will snugly fit the recessed front of the breech-pin. The pistol then is loaded and ready to be fired at any time. The hammer for this purpose is brought to a full-cock, and released in the usual manner by pulling the trigger. The hammer in striking the flange of the cartridge presses on the tail-piece *b* and moves the hook up to clasp the flange of the cartridge. The cartridge is now firmly held in the recessed breech-pin by the hook and the beak of the hammer, the latter both maintaining the hook and pressing the cartridge down onto the said hook. If the breech-pin be now withdrawn, the cartridge, whether exploded or not, will also be withdrawn from the barrel. From this it will be understood that it is not necessary to fire the cartridge in order to withdraw it, for if the hammer be let down gently it will grasp the cartridge without indenting the flange, and consequently without exploding its contents. To allow of the withdrawal of a cylindrical cartridge-case from a cylindrical barrel when the breech-pin moves out of line of the axis in a curvilinear path, I provide the hammer with a beak, *c*, sufficiently extended to permit the cartridge-case to move on the jaw as center of rotation without coming out of contact therewith. This beak may have its under surface formed concentrically with the jaw; or the hammer may be caused to bear with yielding pressure on the flange, so as to adjust itself to the different positions of the cartridge-case in relation thereto.

The breech-pin, with its appurtenances, is moved in the recess of the stock by means of a lever, *H*, which is connected with the breech-pin by a link, *I*. When depressed, the lever *H* is firmly held in place by a spring-catch, *K*, which is operated by a button or otherwise to release its hold. The breech-pin

is properly guided in its motion to and from the butt of the barrel by a curved guide-bar, *L*, fast to the front end of the breech-pin and sliding in curved slot *M*, also by means of side grooves, *N*, fitting corresponding studs or tongues on the side of the recessed stock. A pin, *R*, is provided to limit the extent of the motion of the breech-pin.

The trigger-guard *S* is made fast to the stock and incloses the trigger *U*, so that but so much of it will protrude therefrom as will give it the play necessary to operate the sear. The trigger is entirely disconnected from the breech-pin and its appurtenances, so that the latter may be moved to and fro in the recess of the stock without moving or operating the trigger, and its arrangement in relation to the stock and the sliding breech-pin and appurtenances is such that the sear which actuates the hammer cannot be operated thereby unless the breech-pin is closed. By this arrangement the danger attending the operation of sliding breech-pins when moving together with their triggers is effectually avoided.

Having thus fully described my invention, I shall state my claims as follows:

1. The combination of a sliding breech-block with a hammer and pendent hook to seize and hold the cartridge by its flanged butt, the arrangement being such that the hook is actuated by the hammer to operate in connection therewith, substantially as herein set forth.

2. The combination of a breech-pin sliding to and from the barrel, but out of line of its axis, with a hook and hammer to seize and hold the cartridge by its flanged butt, the arrangement being such as to allow the cartridge to move on the hook as fulcrum as the breech-pin recedes from or approaches to the butt of the barrel, substantially as herein set forth.

3. In combination with a sliding breech-pin provided with hooks or their equivalent to receive and hold the cartridge, and moving together with the lock in a recess in the stock, a trigger directly connected with the stock, and operating the lock only when the breech is closed, substantially as herein set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

C. C. BRAND,

Witnesses:

A. POLLAK,
WM. H. HARRISON.