(No Model.) 2 Sheets—Sheet 1.

P. T. GODSAL.

BREECH LOADING FIRE ARM.

No. 297,784. Patented Apr. 29, 1884.

Fig: 1.

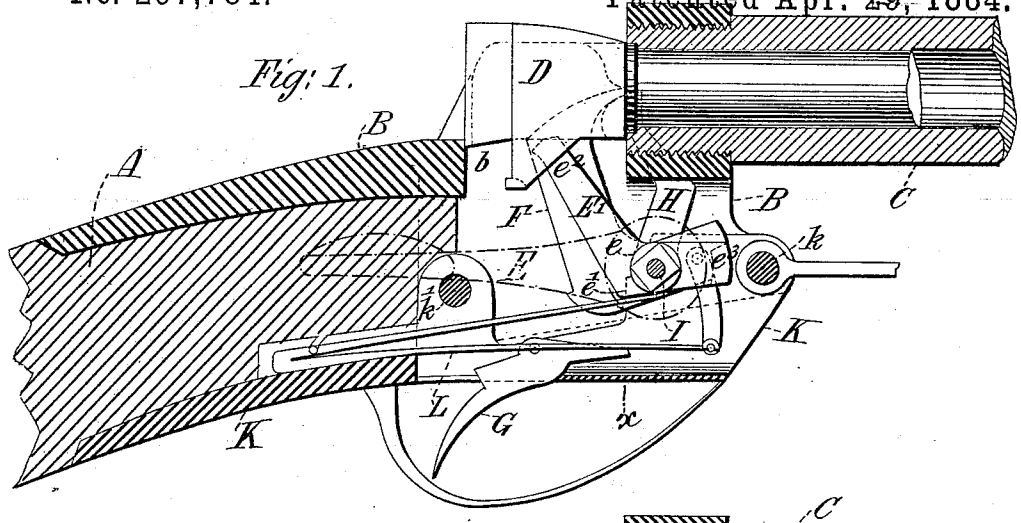


Fig: 2.

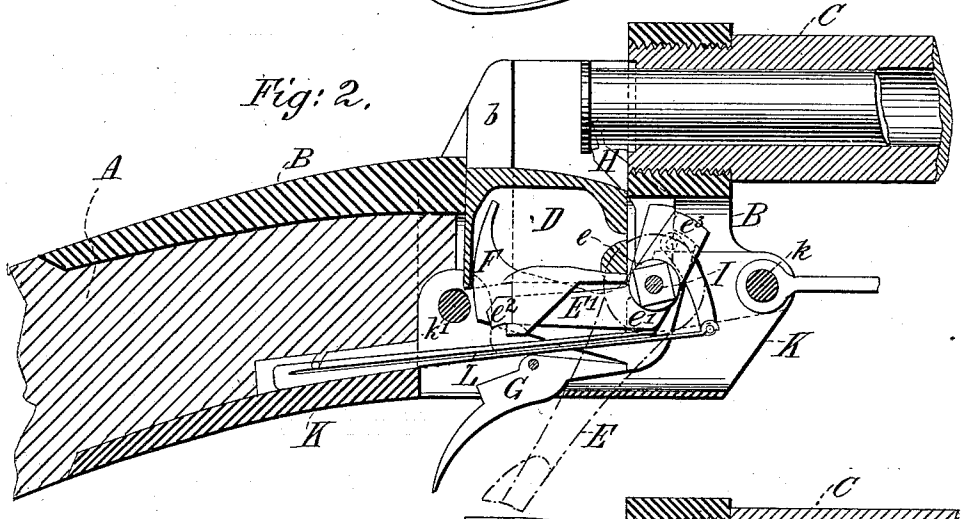
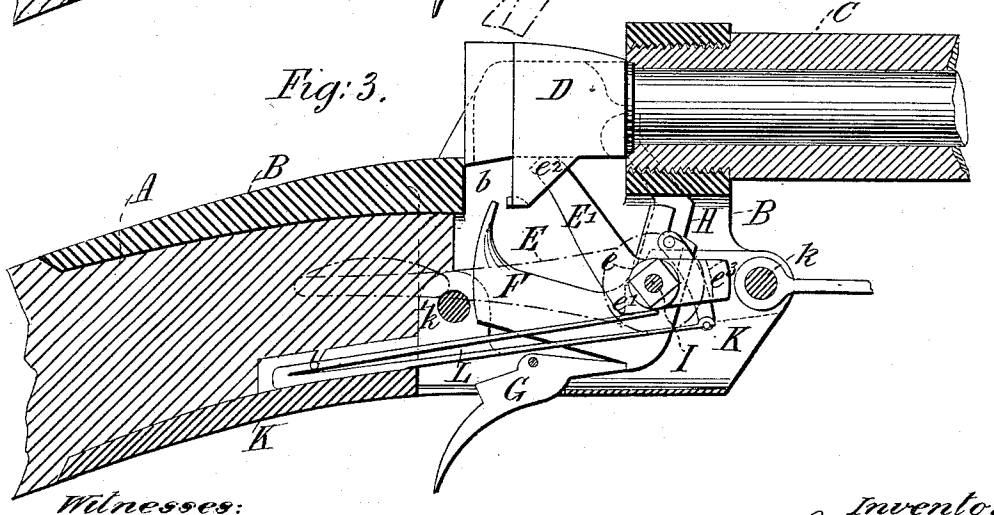


Fig: 3.



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N. PETERS, Photo-Lithographer, Washington, D. C.

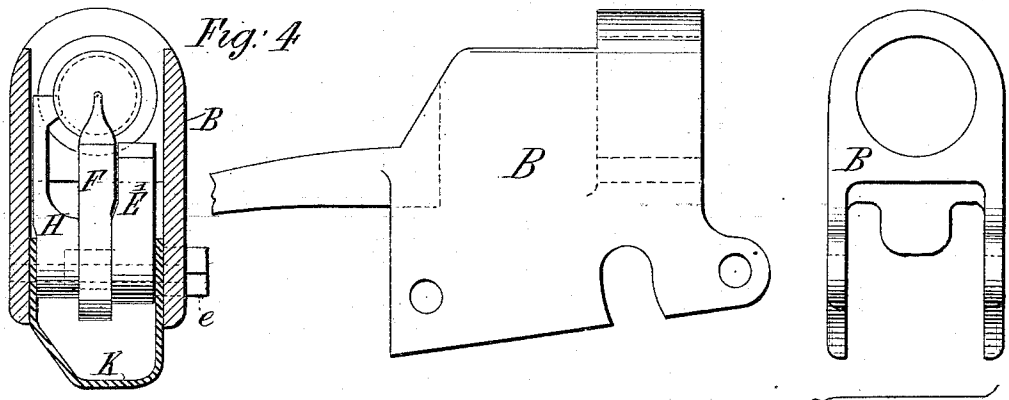
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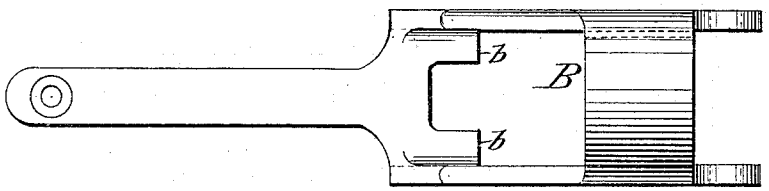
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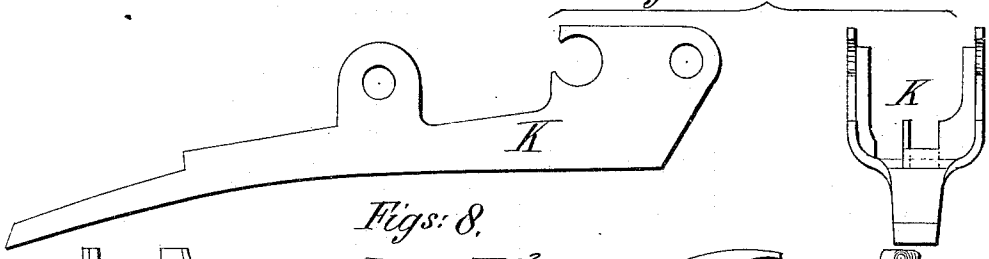
Fig: 4





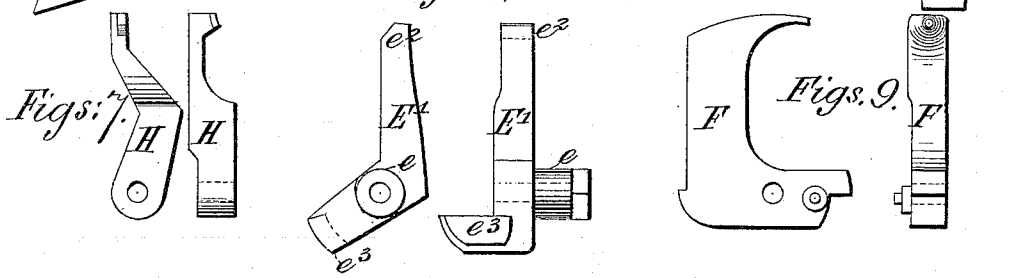
Figs: 5.

Figs: 6.



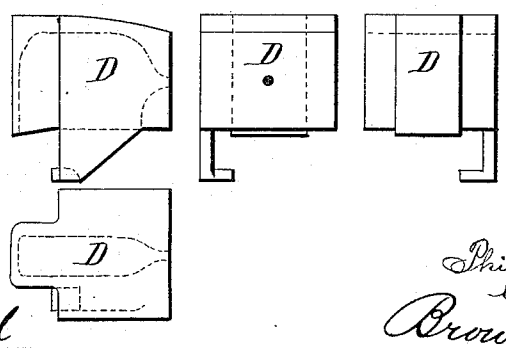
Figs: 8.

Figs: 7.



Figs. 9.

Figs. 10.



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UNITED STATES PATENT OFFICE.

PHILIP THOMAS GODSAL, OF ETON, COUNTY OF BUCKINGHAM, ENGLAND.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 297,784, dated April 29, 1884.

Application filed December 19, 1883. (No model.) Patented in England March 6, 1880, No. 979.

To all whom it may concern:

Be it known that I, PHILIP THOMAS GODSAL, of Eton, in the county of Buckingham, England, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

This invention relates to that class of breech-loading fire-arms in which the sliding breech-block is actuated by a lever, the objects being to simplify the construction of such arms and to increase their efficiency. The breech-block, which covers the breech end of the barrel, slides in guides formed for it by the sides or cheeks of the breech-case, and it is held in place against the back-pressure of the ignited charge by the metal facings at the rear end of the breech-case. In order to raise and lower this breech-block, a lever external of the breech-case is made to connect with the block, and thus serve, as the lever is rocked, to draw down the block in its guides, so as to expose the breech end of the barrel, or to force up the block into the closed position. The fulcrum-pin of the breech-lever serves to carry the hammer, and also the cartridge-extractor, which latter is so arranged that when thrust forward by the act of inserting a cartridge it will effect the rocking of the breech-lever, and thereby enable the mainspring to complete the closing of the gun.

In the accompanying drawings I have shown my improved fire-arm in three positions and several parts of the action in detached views.

Figure 1 is a longitudinal section of the gun in the fixed position. Fig. 2 is a longitudinal section of the gun open. Fig. 3 represents the gun loaded and in the position for firing. Fig. 4 is a cross-section of the gun on the line *x x* of Fig. 1. Figs. 5 represent plan, side, and end views of the breech-case. Figs. 6 represent side and end views of the trigger-plate forming the bottom of the breech-case. Figs. 7 are side and back views of the extractor. Figs. 8 are side and back views of the inner portion of the compound breech-lever. Figs. 9 are side and front views of the hammer; and Figs. 10 are plan, side, back, and front views of the breech-block.

A is the stock, secured, as usual, to the wrought-metal body or breech-case B, into the front of which the barrel C is screwed.

D is the breech-block, which closes the breech end of the barrel. This block slides between the sides of the breech-case B, and is held in place against the back-pressure of the ignited charge by the vertical metal facings *b*.

E is a side lever from which the motion is derived for raising and lowering the breech-block D, and E′ is a virtual extension of this lever, connecting the same with the breech-block D. This piece E′ is formed with a sleeve, *e*, which projects outward beyond the breech-case, and is squared to receive the detachable hand-lever E, the breech-case being slotted to provide for the insertion of the sleeve. F is the hammer, G the trigger, and H the cartridge-extractor. The three pieces E′, F, and H all work on a common fulcrum, I, which is carried by the trigger-plate K, which forms the closed bottom of the breech-case B.

L is the mainspring for actuating the hammer and for holding the breech-lever in its opening and in its closing positions, its "stand" side being utilized for retaining the block in its set positions.

The piece E′ is bell-cranked, and its sleeve-extension *e* receives the fulcrum-pin I, on which the hammer and extractor are loosely mounted. The angle *e′* is slightly rounded, to allow of its rocking or moving freely over the stand side of the spring L, to present the straight portion of the arms of the bell-crank alternately to the spring, which, by its pressure thereon, maintains the lever in its set positions. The extremity e^2 of the crank-lever or piece E′ underlies the breech-block D, and a bracket projection from the under side of this block underlies the end e^2. As, therefore, the breech-lever is rocked, its end e^2 will raise or lower the breech-block, and thereby close or open the gun. The tail of the crank-lever has a lateral extension, e^3, which underlies the tumbler of the hammer, and extends beyond it into the range of motion of the extractor. This is for the double purpose of actuating the extractor to throw out the exploded cartridge, and to receive from the extractor a movement for starting the breech-block from its depressed

condition, and for presenting to the so-called "stand" side of the spring L an inclined surface that will enable that spring, by its pressure thereon, to complete the upward movement of the breech-lever, and consequently of the breech-block. The mainspring L, it will be thus seen, is used to perform a double duty. It is connected, as usual, by a link to the tumbler; and to enable what is known as the "stand" side to act as a spring, the connection is made with the trigger-plate at the bend of the spring.

The trigger-plate K is formed with vertically-extending sides, which serve to receive near the front end of the plate a hinge-pin, *k*, which connects it with the breech-case B. These sides also carry the fulcrum-pin I and the parts connected therewith; and to secure the plate in place, a transverse screw-pin, *k'*, is used, the same being passed through the breech-case and the sides of the trigger-plate. The trigger is pivoted to the plate by means of a transverse pin, as usual. This plate and also the breech-case terminate rearward in tangs, which serve to embrace the stock A, and are secured thereto by screws.

The breech-block D is hollowed out and pierced to allow the hammer striking through it to explode the cartridge.

Supposing, now, the gun to have been fixed, as indicated in Fig. 1, and that it is desired to prepare it for a second discharge, the lever E is depressed, as in Fig. 2, in order to bring down the breech-block and expose the head of the cartridge. In doing this the hammer is first tipped back clear of the breech-block, its tumbler being pressed upon by the lateral extension e^3 of the cranked lever E', and as the downward movement of the lever is continued the breech-block begins to descend. Meanwhile the cocking of the hammer proceeds, and it is completed simultaneously with the descent of the breech-block to its lowest position. So soon as the head of the cartridge is completely exposed to view, the part e^3 of the crank-lever will strike against the front of the extractor H and cause it to throw out the empty cartridge-case. On applying a fresh cartridge to the gun, the extractor will be caught by the flanged head of the cartridge, and as the cartridge is thrust home the extractor will be forced against the extension e^3 of the rock-lever, thereby thrusting it back into its place and bringing the crank-lever into a position to lift the breech-block. This rocking motion of the lever will cause the stand side of the spring L to yield to the pressure of the elbow of the lever, and the elbow having passed, the spring will resume its position, pressing on the lever and causing it to effect the lifting of the breech-block, at which time the position of the parts will be as represented at Fig. 3. By this automatic action of closing the gun, one movement of the hand of the operator is saved—a matter of considerable importance when rapid firing is required.

By hinging the trigger-plate as above explained, facility of access to the working parts is provided without the risk of their being detached from the gun.

Having explained the nature of my invention and the means of carrying the same into effect, I wish it to be understood that I claim—

1. In a breech-loading fire-arm, the combination of a sliding breech-block, a cranked piece, E', one arm of which engages with said breech-block, and the other arm of which is provided with a lateral extension, e^3, a side lever connected with said cranked piece for operating it, and a pivoted extractor, against which said lateral extension e^3 acts to eject a shell, all substantially as herein described.

2. In a breech-loading fire-arm, the combination of a sliding breech-block, a cranked piece, E', one arm of which engages with said breech-block, and the other arm of which is provided with a lateral extension, e^3, a side lever connected with said piece E', for operating it, a pivoted hammer, on the tumbler of which said lateral extension e^3 acts to force back the hammer, and a pivoted extractor, on which said lateral extension e^3 acts to eject a shell, substantially as herein described.

3. In a breech-loading fire-arm, the combination, with a sliding breech-block, of a cranked piece, E', one arm of which engages with said breech-block, and the other arm of which has a lateral extension, e^3, the two said arms being joined at an angle, e', the pivoted extractor H, against which said lateral extension e^3 acts to eject a shell, and a spring bearing upon said angle e' of the piece E', and serving to actuate said piece to close the breech-block after said piece E' has been started forward by the operation of inserting a cartridge, substantially as herein described.

4. In a breech-loading fire-arm, the combination of a sliding breech-block, a cranked piece, E', for actuating the same, a side lever for operating said piece E', and a spring arranged to bear on one or other of the arms of said cranked piece E', and thereby serving to hold the breech-block open or closed, substantially as herein described.

5. In a breech-loading fire-arm, the combination of a sliding breech-block, a cranked piece, E', one arm of which engages with the breech-block, and the other arm of which has a lateral extension, e^3, a side lever connected with said piece E', a pivoted extractor, H, against which said lateral extension e^3 acts, a pivoted hammer, and a mainspring, L, the stand side of which bears upon said cranked piece E' to hold the breech-block in an open or closed position, and the other side of which is connected with the tumbler of said hammer, substantially as herein described.

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