2 Sheets—Sheet 1.

H. J. ALTMAN.

BREECH-LOADING FIRE-ARMS.

No. 181,301. Patented Aug. 22, 1876.

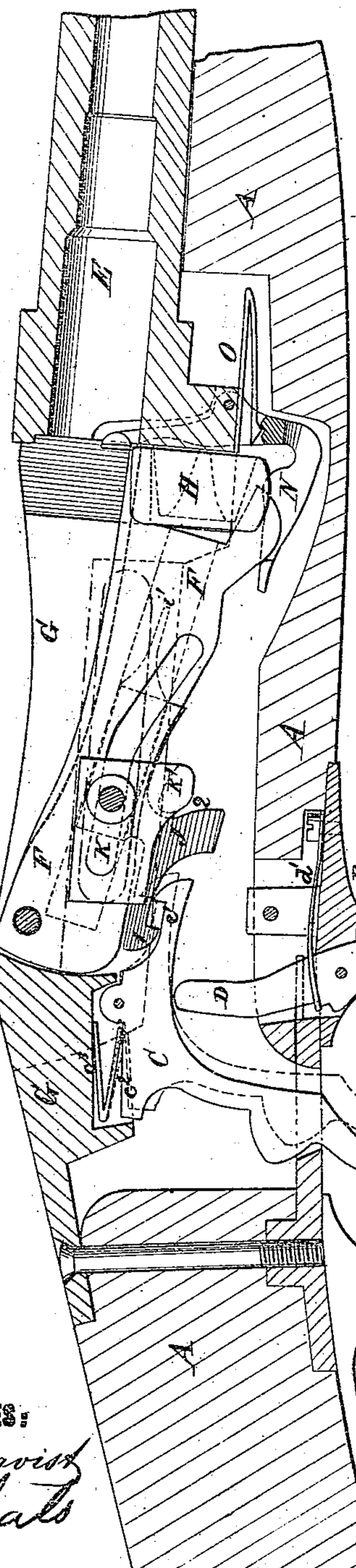
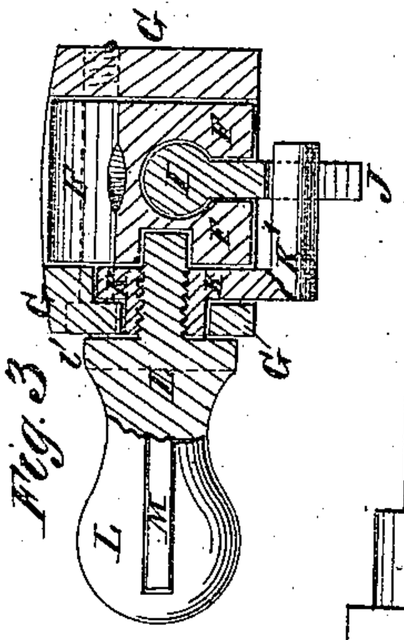


Fig. 1.



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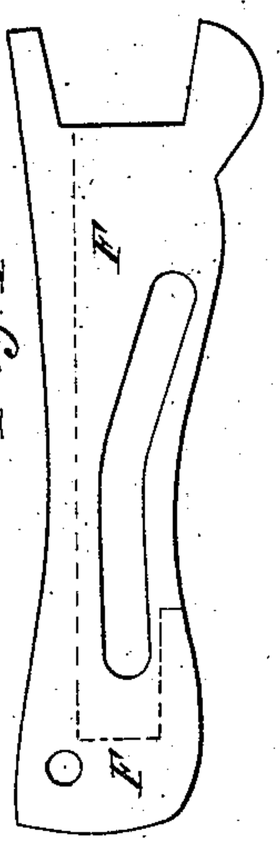

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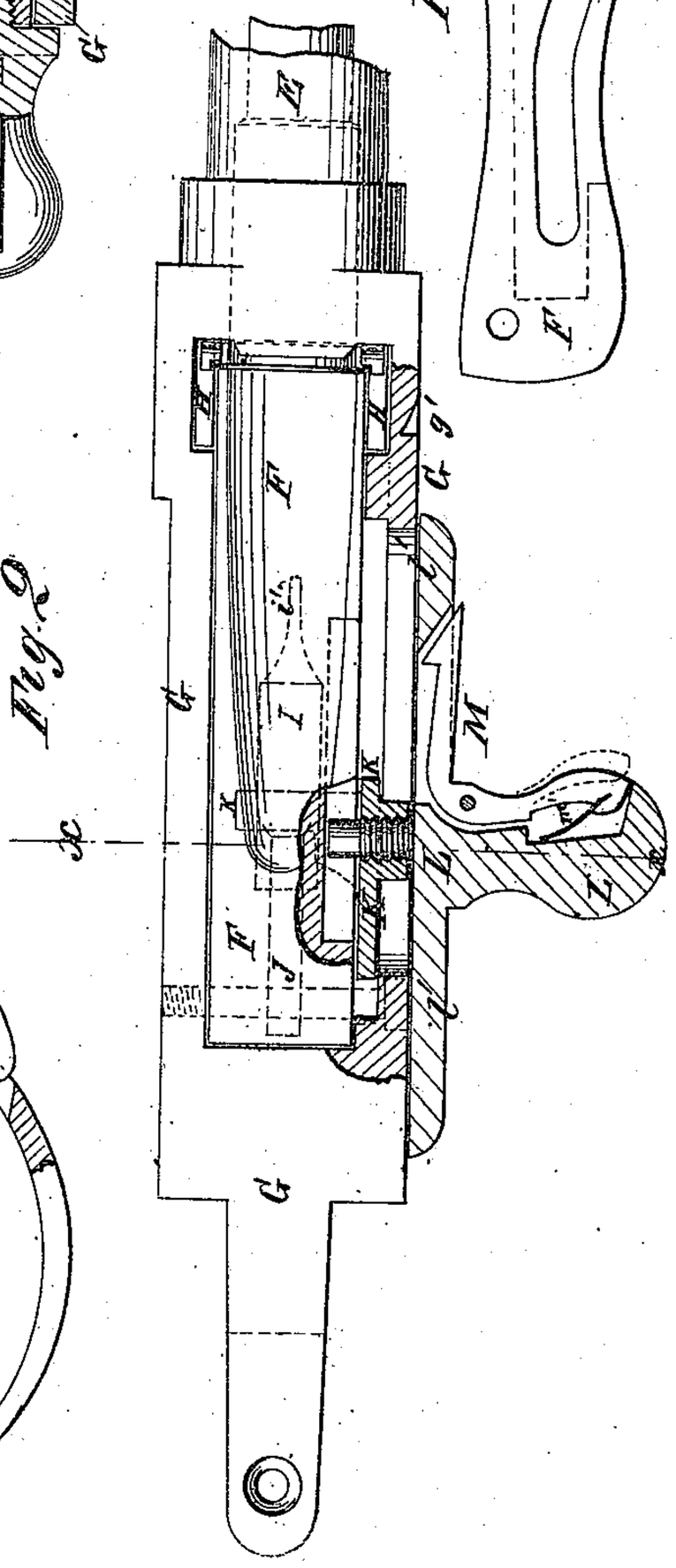

Fig. 2.

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2 Sheets—Sheet 2.

H. J. ALTMAN.

BREECH-LOADING FIRE-ARMS.

No. 181,301. Patented Aug. 22, 1876.

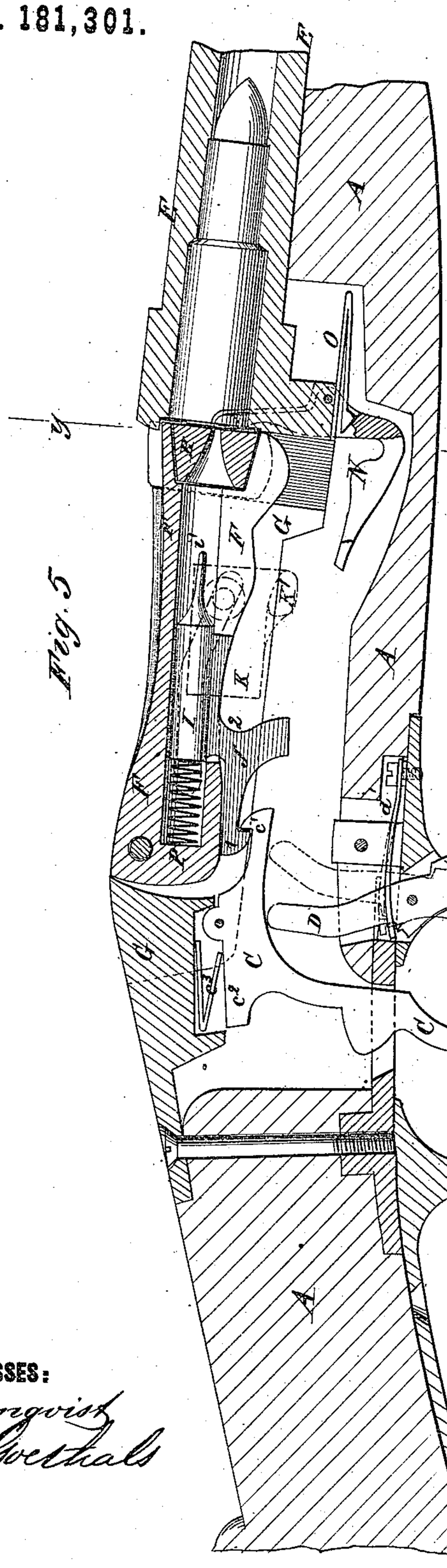

Fig. 5.

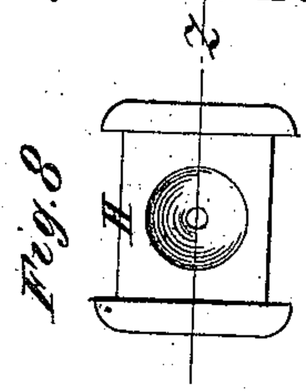

Fig. 8.

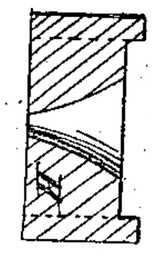

Fig. 9.

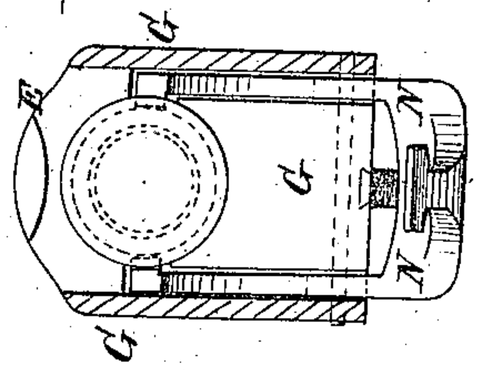

Fig. 6.

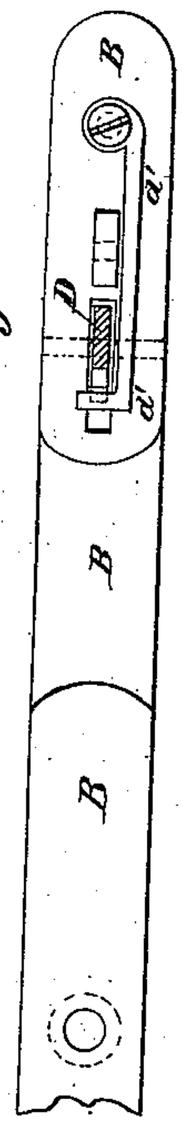

Fig. 7

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UNITED STATES PATENT OFFICE.

HENRY J. ALTMAN, OF BIRMINGHAM, GREAT BRITAIN.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **181,301**, dated August 22, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, HENRY JOSEPH ALTMAN, of Birmingham, in the county of Warwick and Kingdom of Great Britain and Ireland, have invented a new and useful Improvement in Breech-Loading Fire-Arms, of which the following is a specification:

Figure 1, Sheet 1, is a side view of my improved lock mechanism shown in position to receive a cartridge, the stock, barrel, and breech-piece of the gun being shown in section. Fig. 2, Sheet 1, is a top view of the breech and its contents, part being broken away to show the construction. Fig. 3, Sheet 1, is a cross-section of the same taken through the line *x x*, Fig. 2. Fig. 4, Sheet 1, is a detail side view of the breech-block holder. Fig. 5, Sheet 2, is a longitudinal section of the stock, barrel, and lock, shown in position to be discharged. Fig. 6, Sheet 2, is a cross-section of the same taken through the line *y y*, Fig. 5. Fig. 7, Sheet 2, is a detail view of the inner side of the trigger-guard, the trigger-lock being shown in setion. Fig. 8, Sheet 2, is a detail view of the rear side of the breech-block. Fig. 9, Sheet 2, is a detail section of the same taken through the line *z z*, Fig. 8.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of breech-loading fire-arms, so as to make them simple in construction, while being convenient in use, reliable in operation, and not liable to get out of order.

The invention consists in the breech-block, arranged to slide in grooves in the solid sides of the breech-piece at right angles with the bore of the barrel, as it is carried up and down by the breech-block holder; in the combination of the knob or handle and the sliding plate provided with an arm, with the slotted breech-piece, the grooved breech-block holder, and the hammer; and in the combination of the lock-lever with the trigger, the hammer, and the slotted trigger-guard.

A represents a stock, to which a trigger-guard, B, is secured in the usual way. C is the trigger, which passes up into the cavity of the breech-piece G, and is pivoted at its upper end to said breech-piece. Upon the forward side of the upper end of the trigger C is formed a projecting hook, c^1, to catch upon a shoulder, 1, of the hammer I J to cock the arm.

Upon the rear side of the upper end of the trigger C is formed a shoulder, c^2, for the trigger-spring c^3 to press against to hold the hook c^2 up in position to catch upon the shoulder 1 of the hammer I J, when said hammer is drawn back.

D is a lever, which is pivoted to the trigger-guard plate, with its lower end in a slot in the forward part of the trigger-guard B, and with its upper end beneath the hook c^1 of the trigger C. When the lower end of the lever D is pushed forward into the position shown in Fig. 1, and in full lines in Fig. 5, its upper end is directly beneath the pivot of the trigger C, and does not interfere with the movements of said trigger. When the lower end of the lever D is pushed back into the position shown in dotted lines in Fig. 5, its upper end comes beneath the forward end of the hook c^1, so that the said hook cannot be withdrawn from the shoulder 1 of the hammer I J.

With this construction the arrangement of the lock-lever D is such that an accidental blow that might discharge the gun only pushes the lower end of the lock-lever D back and locks the trigger. Another advantage of this construction is that, when the trigger is locked and the finger is placed upon it to discharge the arm the said finger comes in contact with the lock-lever, and can push it forward to unlock the trigger without being removed from the position required for firing the arm.

The lock-lever D is held in either position by a spring, *d'*, the forward end of which is secured to the forward part of the inner side of the trigger guard-plate. The spring *d'* passes back along the said guard-plate, across the side of the lever D, and has a lug upon its rear end, which crosses the rear edge of the said lever D and rests upon one or the other of the two shoulders formed in the rear edge of the said lever, according to the position in which the lever may be.

G is the breech-piece, the rear end of which

is secured to the stock A by a bolt, and to its forward end is attached the breech of the barrel E. The breech-piece G is chambered out or slotted to receive the breech-block holder or falling block F, the rear end of which, at its upper part, is pivoted to the breech-piece G by a transverse bolt.

The lower part of the rear end of the breech-block-holder F is beveled or rounded off, so that its forward end may be lowered. The forward end of the holder F is notched transversely to receive the breech-block H, the sides of which rest and slide in transverse grooves in the inner surface of the sides of the breech-piece G, so that the force of the recoil may be received upon, and may be sustained by, the solid breech-piece G, and not by the breech-block holder F.

Upon the top, rear, and bottom edges of the sides of the breech-block H are formed flanges to overlap the sides of the notched forward end of the breech-block holder F, to keep said parts in place while they move upon each other when the lock is being manipulated.

I J is the hammer, the upper part I of which is cylindrical, and slides in a longitudinal hole in the holder F. To the forward end of cylindrical part I, of the hammer I J, is attached the needle i', which, in discharging the arm, passes through a conical hole in the center of the breech-block H, and thus comes in contact with the center of the cartridge-shell. The rear end of the cylindrical part I of the hammer rests against the end of a spiral spring, P, placed in the bottom of the hole in which the said part I works, and by the action of which the hammer I J is thrown forward to discharge the arm. Upon the lower side of the cylindrical part of the hammer I J is formed a web or flange, J, which passes down through a slot in the lower side of the holder F, and the rear part of which projects, and has a shoulder, 1, formed upon it to receive the hook c^1 of the trigger C when the said hammer is drawn back, and thus hold the said hammer drawn back or cocked. The lower forward part of the web or flange J is cut away, forming a recess, 2, to receive the arm K′ formed upon the plate K placed between the side of the holder F and the side of the breech-piece G.

L is a knob or handle, the shank of which passes through a longitudinal slot in the side of the breech-piece G, through a hole in the plate K, and into a curved or inclined groove in the side of the breech-block holder F, so that as the said knob or handle L is drawn back from its forward position, it may force down the breech-block holder F, and the breech-block H, uncovering the breech of the barrel.

As the plate K is drawn back its arm K′ moves along the under side of the holder F, enters the recess 2 of the hammer I J, and and pushes the said hammer I J back, until the shoulder 1 of said hammer passes the hook c^1 of the trigger C. The knob or handle L is then pushed forward, carrying the plate K and its arm K′ out of the way of the hammer I J when the arm is discharged, and at the same time raising the forward end of the breech-block holder F and the breech-block H into line with the barrel E.

To the knob or handle L is attached a plate, l', to cover the slot through the side of the breech-piece.

In a groove in the forward side of the knob L, and in a slot in the forward part of the plate l', is pivoted a bent lever, M, upon the end of the forward arm of which is formed a shoulder, which projects upon the inner side of the plate l', to catch in a notch, G′, in the side of the breech-piece G, to hold the breech-block holder in place when raised. The bent lever M is held forward by a spring, m', connected with its outer end.

The forward part of the upper side of the breech-block holder F is concaved, to serve as a way and guide to the cartridge when being inserted in the breech of the barrel.

N is the cartridge-shell extractor, the upper part of which is forked, and its arms pass up through slots formed in the forward parts of the sides of the breech-piece G, and the lugs formed upon the upper ends of said arms enter notches in the end of the barrel E, for the flange of the cartridge-shell to rest against, so that the rearward movement of said arms may withdraw the said cartridge-shell from the said barrel.

The lower part of the extractor projects to the rearward beneath the forward end of the breech-block holder F, so that the downward movement of said holder may strike it, and push it downward, loosening the cartridge-shell, and partially withdrawing it from the barrel.

O is a spring placed in a recess in the stock A, projecting into the forward end of the breech-piece F, and resting in the fork of the extractor N. The part of the spring O that rests upon the extractor N is beveled off in front and rear, so that it will hold the said extractor in place when the cartridge is in the barrel, so that it will allow the extractor to be moved back and forward, and so that when the extractor has been moved back by the downward movement of the breech-block holder F, it may give a sudden impulse to said extractor, projecting the shell from the barrel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The breech-block H, arranged to slide in grooves in the solid sides of the breech-piece G, at right angles with the bore of the barrel E, as it is carried up and down by the holder F, substantially as herein shown and described.

2. The combination of the knob or handle

L and the sliding plate K, provided with an arm, K′, with the slotted breech-piece G, the grooved breech-block holder F, and the hammer I J, substantially as herein shown and described.

3. The combination of the lock-lever D, with the trigger C, the hammer I J, and the slotted trigger-guard B, substantially as herein shown and described.

HENRY J. ALTMAN.

Witnesses:
THOMAS H. LEE,
C. D. WARREN.