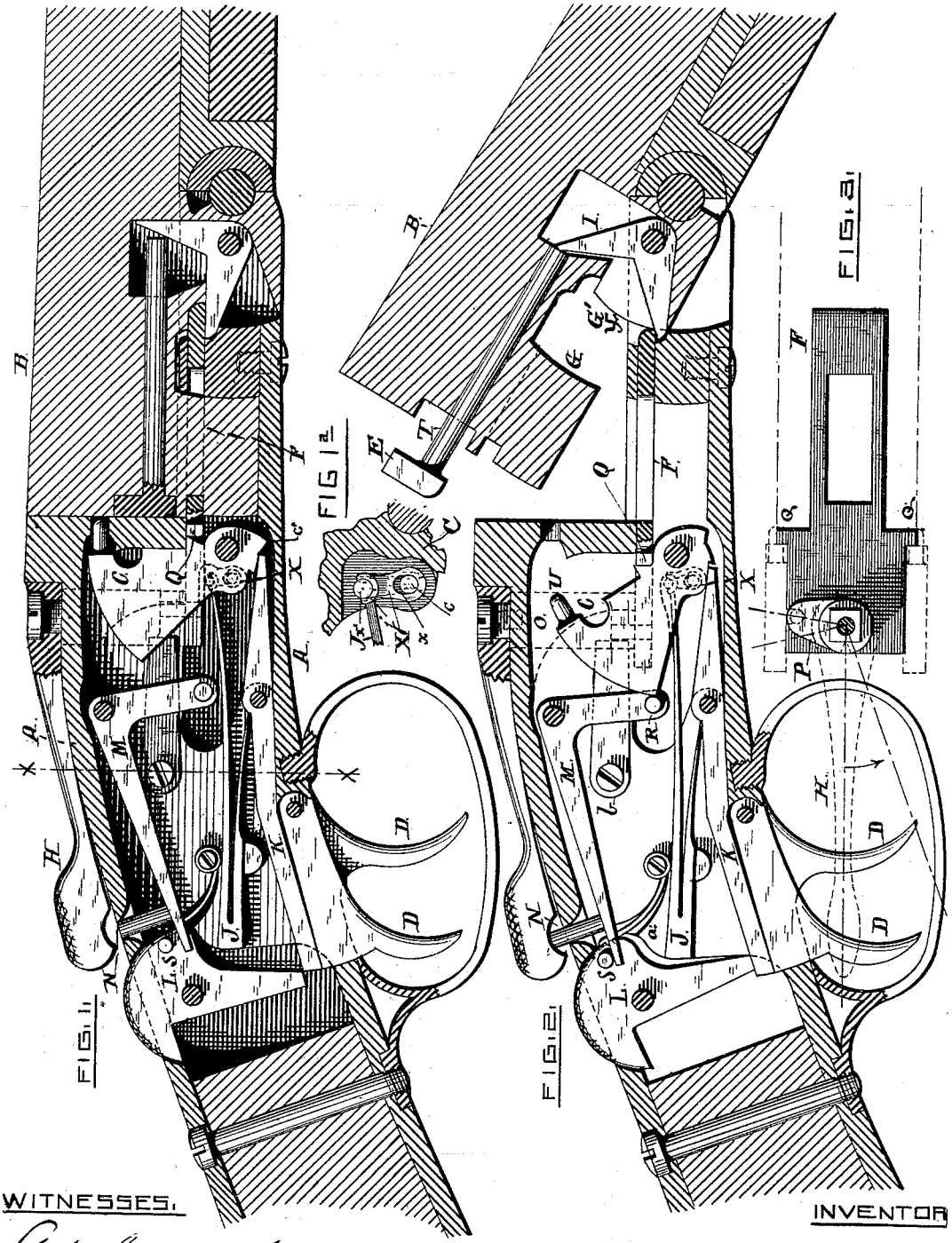
(No Model.) 2 Sheets—Sheet 1.

A. E. WHITMORE.

LOCK FOR FIRE ARMS.

No. 266,245. Patented Oct. 17, 1882.



WITNESSES.

G. M. Carpenter Jr.

Charles A. Titus

INVENTOR

Andrew E. Whitmore

By Walter B. Vincent Atty.

(No Model.) 2 Sheets—Sheet 2.

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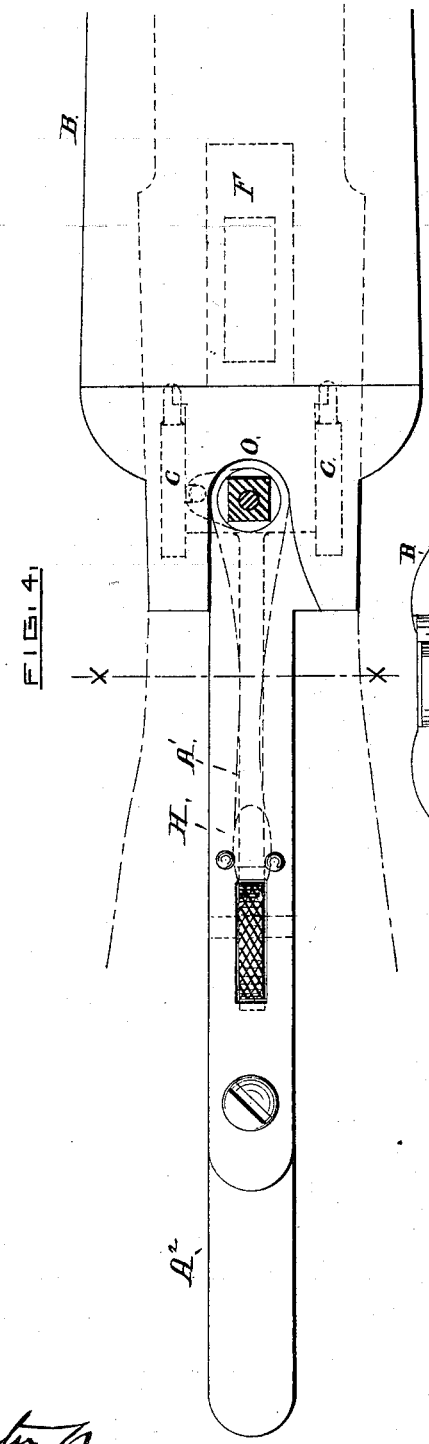

FIG. 4.

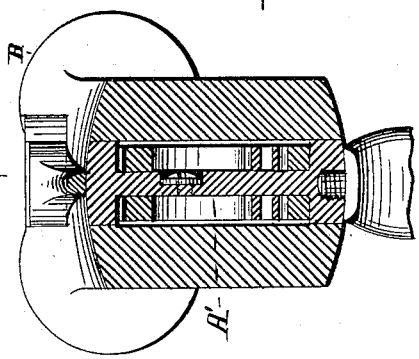

FIG. 5.

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UNITED STATES PATENT OFFICE

ANDREW E. WHITMORE, OF SPRINGFIELD, MASSACHUSETTS.

LOCK FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 266,245, dated October 17, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, ANDREW E. WHITMORE, of Springfield, county of Hampden, in the Commonwealth of Massachusetts, have made certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a longitudinal vertical section, showing the mechanism for cocking and firing the piece, expelling the shell, and regulating the tip of the barrels, and the position of the parts after a discharge. Fig. 1ª is a side elevation of a portion of the hammer with my improved slotted stirrup attached. Fig. 2 is a view of the same, showing the barrels tipped and the position of the lock mechanism previous to discharge. Fig. 3 shows the locking-bolt and device for withdrawing the same and the manner of cocking the piece. Fig. 4, Sheet 2, is a top view of the breech and tang. Fig. 5, Sheet 2, is a cross-section of tang, stock, and lock mechanism on line *x x* of Figs. 1 and 4.

My improvements are more especially designed to be used in the construction of double-barreled breakdown guns, in connection with which I shall describe them, although they may be used in the manufacture of single-barreled guns, if desired. They relate to what is known as a "hammerless" gun, and consist in the construction of the frame or body part, and the construction and arrangement of the mechanism for cocking, locking, indicating the position of the hammers, firing the piece, and regulating the tip of the barrels.

In the drawings, A is the frame, constructed with a web, A′, which projects downward from the tang A^2, and to which are attached the small parts of the locking mechanism; B, the barrels; C, the hammers, each of which is provided with a pin, *c*, which passes through a slot, *x*, formed in the stirrup X, and also with an inclined lower face, *c′*, with which the front end of the sear K engages, for a purpose hereinafter described; D D, the triggers; E, the cartridge-extractor; F, the locking-bolt working in horizontal grooves and engaging lugs G G′ upon the under side of the barrels. H is a thumb-lever for withdrawing the bolt F. I is a lever for operating the extractor, and is constructed with two arms at an angle to each other of about one hundred and thirty degrees. J is the mainspring, formed in two parts, the lower of which rests upon the forward part of the sear K, while the upper part is formed with a curved end, *j*, which rests against the under side of the T end *x* of stirrup X; K, a sear; L, a locking-lever, with a spring, *a*, to govern its forward and backward motion; M, a lever operating the locking-lever L and indicator N; and X, a slotted stirrup, formed with a slot, *x*, at its lower portion, through which the pin *c* of the hammer C passes, and an upper T-shaped end, *x′*, beneath which the curved end *j* of spring J engages.

In a double gun there would be duplicate hammers, triggers, sears, mainsprings, indicator-levers, and indicators, and a single locking-lever, while in a single gun there would be but one of each of the parts named.

Instead of attaching the various parts or any of them composing the locking mechanism to a lock-plate, I attach them to the web A′, which is secured to or made a part of the tang and lock-frame of the gun. The advantage of this construction is that the lock-plates are entirely dispensed with and the stock rendered capable of being disconnected by the removal of a single screw, thus leaving the lock mechanism entirely exposed, to be examined, oiled, or repaired.

Commencing with the parts in the position shown in Fig. 1, the piece just having been discharged, and the hammers rebounded to half-cock notch, the operation of my invention is as follows: I move the thumb-lever H laterally by the pressure of the thumb upon the rear end of the same, which overcomes the resistance of the spring *b* and turns the hub O, to which the said lever H is attached. The rotation of the hub O withdraws the slotted locking-bolt F through the intervention of the link P, which connects the two, and allows the barrels to tip, as shown in Fig. 2. The locking-bolt F is provided upon either side with lugs or arms Q, which, as the bolt begins to recede, come in contact with the hammers C and carry them back to a full-cock, as shown in Fig. 2. The hammers C do not come in contact with the triggers D D, but are operated through the medium of a sear, K, which is

held in place by the pressure of the double spring J. As the hammers C are about completing their backward movement they come in contact with a pin, R, upon one arm of the lever M. The lever M is provided with a long and short arm nearly at right angles with each other, and is attached by a pivot, on which it swings, to the web A′. When the backward movement of the hammers C has been sufficiently completed to reach the full-cock notch the horizontal arm of the lever M will have projected the indicator N and become sufficiently elevated to come in contact with the pin S upon the lever L, and as the pressure is still continued upon the top lever, H, and the hammers carried beyond the full-cock notch—say one or two hundredths of an inch—the pin S is raised and the lever L caused to swing and lock the sear K, as shown in Fig. 2. The pressure being removed from the lever H, the hammers will settle back to the full-cock notch, and the pressure of the horizontal arm of the lever M upon the pin S will be removed, so as to break the dead-lock of the parts.

It will now be readily seen that any pressure exerted upon the triggers must fail to discharge the piece, for the reason that the sear K is held in a fixed position by the locking-lever L and cannot be moved to disengage the hammer.

To insure the swing of the lever L and the locking of the sear K, the lug G′ of the barrel B is made with a cam-shaped end, Y, which, during the upward movement of the barrel, comes in contact with and presses back the bolt F, carrying the hammers beyond the full-cock notch, with the same effect upon the locking-lever L, before described, as resulting from the continued movement of the top lever, H. As the barrels are thrown up, as shown in Fig. 2, to receive a new cartridge, the upper arm of the lever I moves backward the rod T, to which the extractor E is attached, and throws out the old shell. The other arm of the lever I is caught beneath the forward end of the locking-bolt F, and forms a joint-check, and defines the upward movement or tip of the barrels. A new cartridge having been inserted, the barrels are brought back to the position shown in Fig. 1. The locking-bolt F, through the action of the spring *b*, engages the lugs G G′ and holds the barrels securely in place. A portion of the indicator N (shown above the exterior surface of the frame) denotes that the piece is at a full-cock, and that the locking-lever L is in position as shown in Fig. 2, and that the discharge of the piece from any accidental pressure upon the triggers is impossible.

When it is desired to discharge the piece the lower end of the locking-lever L is swung backward out of contact with the sear K by a forward thrust of the thumb or finger upon the upper end thereof, which projects a sufficient distance to admit of such manipulation. The locking-lever L having been thus removed from its contact with the sear K, the latter becomes capable of responding to the pressure upon the triggers D, which raise it at its rear and depress it at the other end and release the hammer. The hammer, being released, is thrown forward by the spring J until it reaches the half-cock notch, when the stirrup X, which is provided with a slot within which a pin upon the hammer C works, comes in contact with the under part of the bolt F and arrests the further action of the spring upon the hammer, which, through its acquired momentum, completes its stroke and brings the firing-pin *u* in contact with and explodes the cartridge. At the completion of the stroke, as described, the end of the sear K will rest upon the inclined surface upon the lower part of the hammer, and by means of the pressure exerted by the double mainspring J will force the hammer back to the half-cock notch, such rebounding being due in the first instance to the arrest of the stirrup in its upward movement by coming in contact with the locking-bolt F. The forward movement of the hammer disengages the lever M and permits the horizontal arm thereof to become depressed, which drops the indicator N and releases the locking-lever L, as shown in Fig. 1. The locking-bolt F is now again withdrawn, the barrels tipped, and the operation described repeated.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a breech-loading fire-arm, the hammer C, L-shaped lever M, with its pin R and indicator N, and the pivoted thumb-lever L, with its pin S, in combination with the sear K, spring J, and trigger D, substantially as herein set forth.

A. E. WHITMORE.

Witnesses:

WALTER B. VINCENT,

JOHN J. COLTON.