

UNITED STATES PATENT OFFICE.

JOHN P. SCHENKL, OF BOSTON, MASSACHUSETTS.

IMPROVED BREECH-LOADING FIRE-ARM.

Specification forming part of Letters Patent No. 17,642, dated June 23, 1857.

To all whom it may concern:

Be it known that I, JOHN P. SCHENKL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of a breech-loading gun with my improvements attached. Fig. 2 is a plan of the same, the stock being removed and the parts corresponding in position with the parts in black in Fig. 1; Fig. 3, a plan corresponding with the parts seen in red, Fig. 1; Figs. 4, 5, and 6, details.

In the accompanying drawings, A is the barrel, which is pivoted to the stock at *a*, the screw which secures it passing through a slot, *b*, in the loop, which projects from the under side of the barrel. This slot allows the barrel a slight longitudinal movement at the same time that it oscillates a short distance vertically around the pin *a*.

B is a breech-piece, through a hole in which plays the needle *c*, Figs. 2 and 4, by which the percussion-pellet in the cartridge is exploded. Attached to this piece B is a conical hollow thimble, C, which fits into a corresponding groove, *e*, Figs. 3 and 4, in the lower end of the barrel. When the barrel is in position for firing, this thimble C is forced into the groove *e*, as in Fig. 4. The inner edge of the groove *e* is turned down, so as to form a thin ring or cylinder, *i'*, that may expand against the inner surface of the thimble C by the force of the explosion, thus forming a tight joint and preventing the escape of gas.

D is the hammer, (a view of the inner side of which is seen at Fig. 5.)

E is the tumbler, which is secured to the pin *d*, to which is also attached the hammer D. These parts move together. In the upper part of the tumbler E is formed a notch, *f*, which embraces a pin, *g*, attached to the needle-bar *m'*, Fig. 4. The needle and its bar slide in a hollow guide-bar, F, which is attached at one end to the breech-piece B. This bar F is slit lengthwise to accommodate the end of the tumbler E, which moves in this slit, the rear end of the needle-bar *m'* having a slit in it to accommodate the end of the tumbler, and the pin *g* passing through said bar across the slit

and fitting in the notch *f* in the tumbler. Thus as the tumbler is thrown forward by the main-spring G when the trigger H is pulled, and its upper part moves in a segment of a circle of which the pin *d* is the center, it drives the needle-bar *m'* in its guide-bar F in a line coincident with the axis of the barrel, the pin *g* moving in the slot *f*.

The arrangement by which the rear end of the barrel is raised for the purpose of loading, and by which it is returned to its place and there secured, and by which the gun is cocked, will now be described.

I is a lever, also serving as a trigger-guard, which is pivoted to the stock on the under side at *h*, and may be swung out laterally into the position seen in red in Fig. 1. To the end of this lever at *h* is attached a pin, *i*, which passes up through the stock beneath the barrel. On the end of this pin is secured the disk or head *k*. On one side of the upper surface of this disk, and eccentric to the pin, is a cam, *l*, and opposite to it on the same surface of the disk is a pin, *m*, Fig. 2. This pin rises through a slot, O, in a flat-bar, K, which slides in a suitable recess in the stock beneath the barrel. This bar is curved at *n* to accommodate the cam *l*, and is bent down vertically at *p* to avoid the loop where the barrel is pivoted to the stock. The rear end of this bar passes through a suitable opening in the breech-piece B, and is bent up at right angles at *q*. When the lever I is swung forward, turning the disk *k*, the pin *m* forces back the bar K, the bent portion *q* of which presses against the front edge of the tumbler E, forcing it back against the resistance of the mainspring G into the position seen in red in Fig. 1, cocking the gun. As the movement of the lever I is continued a little farther, the cam *l* strikes against the corner of the notch *t*, which is rounded off a little at *n'*, and forces the barrel forward off from the thimble C, the slot *b* in the loop allowing it to slide on the pin *a*. When thus pushed forward, the weight of the muzzle overbalances that of the breech and throws the barrel into the position seen in red, Figs. 1 and 3, ready for loading. When the cartridge has been inserted in the rear end of the barrel, and the lever I is swung back toward the position seen in black, the outer end of the rod K at *r* strikes against the projection *s* on the loop, and throws up the muzzle of the barrel

and brings the breech down onto the stock. As the movement of the lever is continued, the cam *l* on the disk *k* strikes against the inclined side of the notch *t*, Fig. 6, in the under side of the barrel, and forces the barrel back over the thimble *C* against the breech-piece *B*, as in Fig. 4. When the lever *I* is closed up to the stock, it is held in place by a stop, *w*, attached to the stock, which fits into a notch, *v*, Fig. 3, near the end of the lever, the gun being ready for firing.

That the gun may be safely carried when loaded, I have adopted the following arrangement of half-cock: The hammer *D* is formed of two parts, the body *w*, Fig. 5, which is secured to the pin *d*, Fig. 1, in the customary manner, and the lever *x*, which is pivoted to *w* at *y*. This lever moves in a recess, *z*, in the body of the hammer. (This allows the hammer to be set up close to the lock-plate.) It is held in place by a spring, *a'*, and has at its lower end a pin, *c'*. As the hammer is raised and lowered, this pin moves in one or other of two grooves, *b' e'*, in the face of the lock-plate, the groove *b'* being of such a length as will allow the hammer to fall as far as is requisite in firing off the piece, and the groove *e'* of such a length as will allow it to come down but part way, or not far enough for the needle to reach the

fulminate in the front of the charge. When the hammer *D* is thrown down in the act of firing, the pin *c'*, being in the position seen in black in Fig. 5, enters the long groove *b'*; but when the hammer is let down slowly, the restraint of the hand on the upper end of the lever *x* at *d'* presses the lever against the resistance of its spring *a'* into the position seen in red, Fig. 5, and the pin *c'* enters the groove *e'* and rests against the lower end of it, holding the lock securely in a half-cock position, from which it is necessary to again raise it to full-cock before the gun can be fired.

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

1. The method herein described of stopping the hammer at half-cock by the pressure of the thumb, as set forth.

2. The bar *K*, constructed as described, and operated by the pin *m* and lever *I*, for the purpose of cocking the gun, and of returning the barrel into line with the thimble *C*, and locking it therewith, substantially as herein set forth.

JOHN P. SCHENKL.

Witnesses:

SAM. COOPER,
THOS. R. ROACH.