

UNITED STATES PATENT OFFICE.

JOHN F. THOMAS, OF ILION, NEW YORK.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 127,386, dated May 28, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOHN F. THOMAS, of Ilion, in the county of Herkimer and State of New York, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification, reference being had to the accompanying drawing.

My invention consists in a novel construction of the hammer, whereby it is caused to automatically lock the breech fast, and also the trigger in place, when the breech is closed, as hereinafter more fully described.

Figure 1 is a side elevation of the breech mechanism of my improved gun, with the breech opened ready for loading the gun. Fig. 2 is a similar view, showing the breech locked in position, a portion of the frame or receiver being broken away in both figures to more fully show the internal arrangement of the parts; and Figs. 3, 4, and 5 are portions shown detached.

My present invention is an improvement upon the so-called Remington gun; and has for its object to make the gun more secure, by automatically locking the breech when closed.

The frame or receiver F, the barrel O, and the breech-block I is made as usual, there being nothing new in these parts. The hammer A I construct with its swinging locking-shoulder *b* the same as heretofore; but, instead of making the hammer in a single piece, as formerly, I make it of two parts, A and B, the upper part A having on it the thumb-piece *p*, nose *h*, and locking-shoulder *b*, and extending down far enough to be pivoted on the bolt E; its lower portion, however, being mortised or cut out centrally from front to rear, thus affording room for the upper end of the part B to extend up into it, as shown in Fig. 3, far enough to be pivoted on the same bolt. The part B is made of the usual form, with the notches for the trigger *f* at its lower end, and has an arm, B', extending backward from its upper end, as shown in Figs. 1 and 2. In this arm B' is pivoted a plate or lever, C, the upper end of which bears against a shoulder, *n*, on the part A, its lower end being made broad to afford a bearing for the end of the main spring *m*, the end of the spring *m* being arranged to bear against the lever C in front of its pivot *t*, thereby throwing the nose or up-

per end of plate C up against the shoulder *n* of part A, as shown in Figs. 1 and 2, thus tending to force the part A over forward independent of the part B until the lower part of lever C strikes against the under side of arm B, after which the spring *m* exerts its force upon the two parts together the same as though they were one solid piece. In the top of the part B I cut a transverse notch, *r*; and in the front portion of the mortise or recess in the part A I pivot a supplemental trigger, *l*, having a hook, *o*, on its rear end to engage in the notch *r* when the hammer is drawn back. This trigger *l* I pivot by a pin, *e*, to the part A, and arrange over its rear arm a spiral spring, *a*, to cause it to engage in the notch *r* when the upper part A is drawn back. This trigger *l* has its front end so formed that, when the parts A and B are locked together by it, its front face will project slightly from the front of the part A, as represented in Fig. 2, so that as the breech-block I is swung back its rear face will strike against this projecting part, and thus disengage the hook *o* from the notch *r*, thereby disengaging the parts A and B, and leaving the part A free to move forward a short distance, and causing the shoulder *b* to lock under the breech, as represented in Fig. 2. In the side of the part B I cut an inclined flat groove, and fit therein a sliding piece, *t*, the motion of which is limited by a pin, *i*, as shown in Figs. 1 and 2. At its upper end this slide *t* has formed on its outer face a laterally-projecting shoulder, *u*, which engages in a recess cut for it in the lower end of one of the legs of the part A, near the bolt E, this connection being shown more clearly in Fig. 3, which is a front view of the hammer complete, with the parts all in position. The lower end of this slide *t* is brought down exactly opposite the rear or full-cock notch of the part B, so that when shoved down the point of the trigger *d* will engage in a notch cut in its lower end, as shown in Fig. 2, this notch being made like the ordinary half-cock notch, so that when the trigger is engaged in it the hammer cannot be released by pulling on the trigger; this slide thus forming a safety arrangement to prevent the gun from being fired while in the position shown in Fig. 1, which is the position in which the loaded arm is intended to be when ready for use. When the part A is drawn back so

that the supplemental or upper trigger *l* falls into the notch *r*, and thus locks the parts A and B together, the slide *t* is drawn up to the position represented in Fig. 1, whereby the trigger *d* is left free to be pulled and release the hammer in the usual manner.

The operation of my improved gun is as follows: Supposing the gun to have been fired, or to be empty, the hammer is first drawn back to full cock, as in Fig. 1. The breech *I* is then thrown back, and in its backward motion strikes against the front projecting arm of the supplemental trigger *l*, thereby raising its hook *o* out of the notch *r*, and leaving the part disengaged from the part B, and of course free to swing forward as far as it will be forced by the turning of the lever C on its pivot. Then, after inserting a cartridge, the breech *I* is closed, and, as it passes out of the way of shoulder *b*, the part A swings forward, from the pressure of the spring *m* upon it, through the medium of lever C, thereby forcing the shoulder *b* under the rear face of the breech *I*, as shown in Fig. 2; this movement of the part A at the same time forcing down the safety-slide *t*, and thereby locking the trigger *d* safely in the full-cock notch. In this way it will be seen that as the breech *I* is closed it is automatically locked in position, so that if by any means the charge should be accidentally exploded the breech cannot be blown open, thus rendering the gun perfectly safe in that respect. When it is desired to fire the gun, the part A is drawn back clear of the breech, when the supplemental trigger *l* engages in the notch *r* and locks the parts A and B together, at the same time drawing the safety-slide up out of the way of the trigger *d*, after which the gun

is fired by simply pulling on the trigger *d* in the usual manner.

For the purpose of locking the breech-block before it is entirely closed, the front corner of the locking-shoulder *b* of the hammer may be cut away or notched, as shown at *w*, Fig. 1, whereby the hammer is permitted to lock forward under the breech-block before the face of the latter closes against the barrel. This arrangement prevents the breech from being blown open, in case the breech-block should strike and explode a cartridge which was not shoved entirely home into the barrel.

It is obvious that the supplemental trigger or catch *l*, instead of being pivoted to the part A and arranged to engage with part B of the hammer, as shown, may be pivoted to part B and arranged to engage with part A, the operation being the same in either instance.

Having thus described my invention, what I claim is—

1. The compound hammer, consisting of the parts A and B, in combination with the supplemental trigger *l* and pivoted lever C, all constructed and arranged to operate substantially as and for the purpose set forth.
2. In combination with the parts A and B, the safety-slide *t*, arranged to operate substantially as described, whereby the trigger is locked in the full-cock notch, as set forth.
3. The combination of the swinging breech *I* and the compound locking-hammer, all constructed and arranged to operate as set forth.

JOHN F. THOMAS.

Witnesses:

CHRIS. CRITCHLEY,
HARRISON BRAND.