(No Model.)

J. TONKS.

BREECH LOADING GUN.

No. 435,334. Patented Aug. 26, 1890.

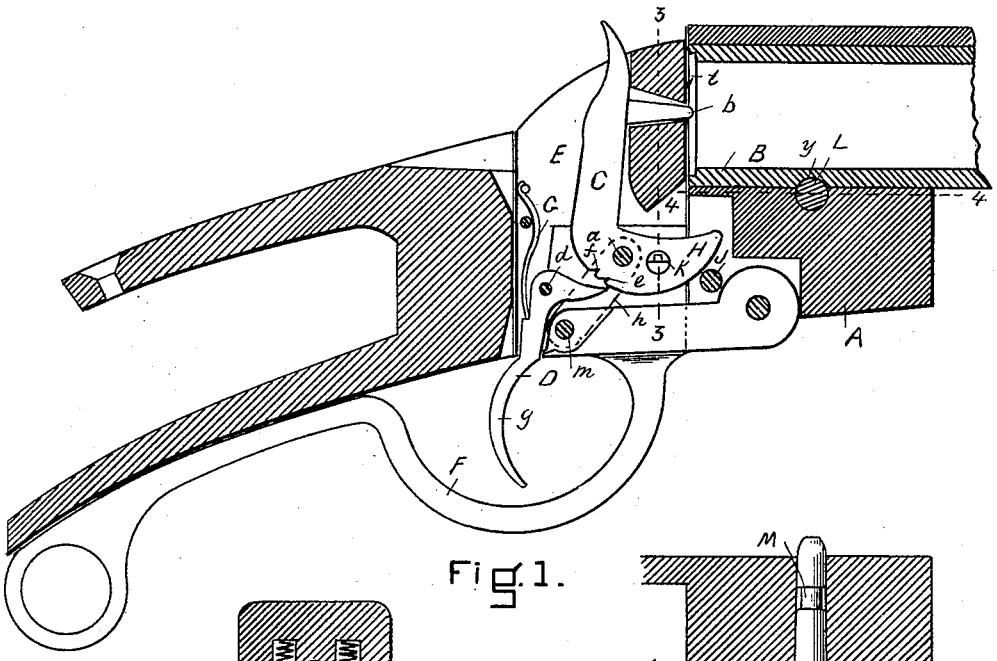

Fig. 1.

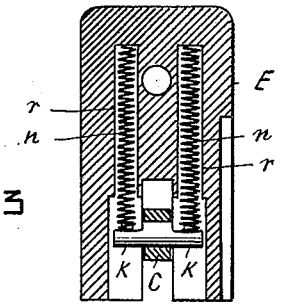

Fig. 3

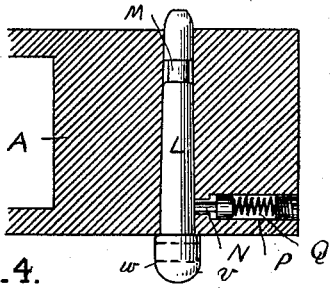

Fig. 4.

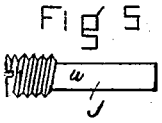

Fig 5

Fig. 2.

WITNESSES

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JOSEPH TONKS, OF MALDEN, MASSACHUSETTS.

BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 435,334, dated August 26, 1890.

Application filed May 8, 1889. Serial No. 309,989. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH TONKS, of Malden, in the county of Middlesex 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.

This invention relates to a breech-loading gun, and one in which the breech-block moves vertically; and the invention consists, in a breech-loading gun, of the combination, with the frame or body of the gun, of a breech-block adapted to move up and down in a socket and carrying the hammer and trigger, and means connected to the breech-block and pivoted to the frame for operating said breech-block and cocking said hammer, all substantially as hereinafter fully described, reference being had to the accompanying sheet of drawings.

Figures 1 and 2 represent in detail in longitudinal section a breech-loading gun constructed and arranged for operation in accordance with this invention; Fig. 3, a detail vertical cross-section on line 3 3, Fig. 1; and Fig. 4, a detail horizontal section on line 4 4, Fig. 1. Fig. 5 is a detail side view of one of the parts.

In the drawings, A represents the frame or body of a gun, in which B is the end of the barrel connected therewith.

C is the hammer.

D is the trigger, G its spring, E the breech-block, and F the lever, all constructed as usual in breech-loading guns, and needing no particular description herein, except as to the present invention.

The breech-block is adapted to move up and down in a socket in the frame at the rear end of the barrel, as usual. The hammer C is pivoted at *a* to the block, and is arranged to swing thereon in a proper opening in the block in position for its striking end *b* to hit the cartridge-cap when placed in the barrel, and also in position for the trigger pivoted to the block at *d* to engage with the notches *e f* when the hammer is swung, respectively, to half-cock and full-cock, and for its end *g* to be in position below the frame for operation thereof, it extending up through the opening and above the breech-block, making the thumb-piece for operation by hand, if desired.

The hammer has a forwardly-projecting arm H, which, when the hammer is in the position shown in Fig. 1, lies just over a cross bar or pin J screwed through or into the frame. The breech-block has two links *h*—one each side of the hammer—connected to the block at one end by the pivot *a*, and in turn connected by pivots *m* to the breech-block lever F, or one on each side thereof. The hammer has projecting from each side horizontally an arm or bar K, against which rests and bears a spiral spring *n*, each disposed in a separate socket *r* in the block and bearing against the inner end of the socket, their tension serving to act upon the hammer to cause it to strike the cartridge in the firing of the gun.

The operation of the parts is as follows: To load the barrel and to put the hammer in its cocked position, pull down the block-lever F from its position shown in Fig. 1 into its position shown in Fig. 2, which carries down with it the breech-block, by reason of its link-connection *h*, away from the breech end of the barrel, as shown in Fig. 2, when the cartridge can be inserted therein, its shoulder on the end of the cartridge resting in the recess *t* of the barrel, all as usual in breech-loading guns. As the breech-block moves down, it carries with it the hammer and trigger; and the projecting arm of the trigger, as soon as the block commences to move, will bear against the cross-arm J, so that in its continued movement the hammer will be consequently swung on its pivot into the position of cock, as shown in Fig. 2, being held by the trigger D and its spring G, as usual. After the cartridge has been placed in the barrel the lever is swung up, which moves up the breech-block into proper position, covering up the end of the cartridge and bringing the hammer and trigger into proper position to discharge the gun, when it can be discharged, as usual. The lever is then swung down again for the purpose of removing the cartridge, putting in another one, and cocking the gun, all of which is very simple, can be made cheaply, and is practical and satisfactory in its operation. The bar J at its operating part *u* is made smaller than its part where the screw-thread is, in order that pins of different diameters at such portions may be used, the same screw-thread, however, being

on all, so that in adjusting the moving parts of the gun any slight variation of the parts or relative arrangement one to another can be offset by the insertion of a proper-sized pin to insure its proper action on the hammer, it not being intended that the hammer shall touch the pin in discharging the gun, so as not to interfere with the full effect of the striking of the hammer on the cartridge; but the pin is to be located in such position in reference to the hammer that the hammer will be acted upon by it to move it away from the cartridge and swing it into its cocked position immediately the block begins to move down. It is in position also to cause the hammer to move a slight distance beyond the cocking of the same to insure that any slight variation of the parts will not prevent its cocking.

The barrel is secured in place by a tapering pin or bolt L, having a head *v*, with a transverse opening *w* through it, which pin passes through the frame, about one-half of its circumference being in a transverse groove *y* in the barrel, and to remove the barrel the bolt is pulled out sufficient to clear the barrel, when it can be moved out of its socket in the frame. The inner end of the bolt has a circumferential groove M, in which rests a pin N, disposed in a socket P, acted upon by a spring Q in said socket in the frame, so that when the pin is moved out sufficient to allow the barrel to be removed the pin N will enter the groove and hold the bolt from its accidental escape from the frame. The transverse opening *w* in the head of the bolt is for the insertion of a wire or pin or nail, &c., when desirous of moving the bolt to remove the barrel.

The hammer projects above the top of the breech-block, so that it can be cocked by hand, if desired, or if fully cocked by the operation of the gun for it to be lowered to half-cock by hand, if desired, and recock the same by hand without opening or operating the gun, and also as an indicator to show the position of the hammer, whether at full or half cock or down.

Having thus described my invention, what I claim is—

1. In a gun, a vertical breech-block opening in the frame, a vertically-sliding breech-block playing in said opening, an L-shaped hammer, springs therefor, a trigger and trigger-spring, all located in and partaking of the movements of the breech-block, a pivot passing through said hammer at its angle, a link on each side of the hammer and hung on the same pivot as the hammer and pivotally connected at their lower ends to an operating-lever, which is in turn pivotally attached to the frame of the gun in front of the breech-block opening, and a removable pin in a recess in the frame of the gun in front of the breech-block, said pin lying in the path of the forwardly-projecting lower arm of the hammer in its downward movement, all substantially as described.

2. The combination, with the frame of a gun having a vertical breech-block opening therein, of a breech-block sliding vertically in said opening, a lever pivoted to said frame in front of the breech-block and connected to the breech-block by two links attached to the breech-block, one on each side of an L-shaped hammer which is pivoted at its angle, the said links and hammer turning on a common pivot *a*, the lower arm of the hammer projecting forward into a recess in the fore-stock of the gun, and a removable pin located in the path of said arm in its downward movement, whereby the hammer is cocked in the act of lowering the breech-block, all substantially as described.

3. The combination, with the frame of a gun, a breech-block connected to an operating-lever by a link or links and adapted to move up and down and be guided by and in a vertical socket in the frame, of a hammer pivoted thereto and provided with an arm K on each side, and a spring *n* to each arm, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH TONKS.

Witnesses:
EDWIN W. BROWN,
CARRIE E. NICHOLS.