

UNITED STATES PATENT OFFICE.

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BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 295,437, dated March 18, 1884.

Application filed October 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANZ SCHRAUD, of San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

This invention has reference to certain improvements in breech-loading fire-arms, which are based on the construction of the Werder-Martini gun, said improvements being designed with a view to obtain the more effective working of the breech-block, so that the same is rigidly locked to the breech, can be set into a position of safety, in which the accidental discharge of the gun is prevented, and by which the throwing out of the cartridge-shells is facilitated when the breech-block is lowered, in which position a new cartridge is inserted; and the invention consists of certain details of construction, which will be more fully described hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, which fully illustrate my invention, Figure 1 represents a side elevation of my improved breech-loading fire-arm. Fig. 2 is a vertical longitudinal section, showing the breech-block in position to close the breech and the hammer ready for firing. Fig. 3 is a detail inside view of one of the side walls of the inclosing-casing. Figs. 4 and 5 are vertical longitudinal sections, showing, respectively, the breech-block in a lowered position ready for the insertion of a new cartridge, and partly lowered, so as to be in a position of safety; and Fig. 6 is a horizontal section on line *x x*, Fig. 4, showing a plan of the breech-block and hammer.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the inclosing-casing of my improved breech-loading fire-arm, which casing is composed of a main plate, A¹, that is provided at its front end with the screw-socket for the breech of the barrel, and of a covering-plate, A², which is securely attached to the main plate A¹ by suitable fastening-screws, so as to inclose thereby the actuating mechanisms of the arm. The main plate A¹ and covering-plate A² are provided at their upper parts with round openings *a a*, which form the bearings for the

gudgeons *e e* of the breech-block B. Back of the openings *a a* the side plates of the casing A are arranged with depressions *a' a'*, the front edges of which are concentric to the openings *a a*, while the lower edges are of arc shape. The concentric edges of the depressions *a'* serve to guide laterally-projecting abutments *b b* at the tail end of the breech-block B, while the arc-shaped edges serve to guide the T-shaped upper portion or head, C, of the hammer C, the shank of which extends through a central recess of the tail end of the breech-block B. The upper part of the hammer C extends upward and laterally over the main plate A¹ of the casing A, and is taken hold of by the thumb in setting the hammer. The breech-block B is square at its front part, and provided with a longitudinal perforation for the firing-pin B', which is thicker at its rear end, and guided in the correspondingly enlarged rear part of the central perforation of the breech-block B. Between the thicker rear end of the firing-pin and a shoulder formed by the contracted front end of the perforation of the breech-block is interposed a spiral spring, *d*, that cushions the firing-pin B' and forces the same in backward direction, so as to project into the recessed tail of the breech-bolt when the hammer does not act upon the same. The thicker rear end of the firing-pin B' has a recess, *d'*, into which projects a stop-pin, *d''*, of the breech-block, said recess and stop-pin serving to control the extent of forward and backward motion of the firing-pin.

From the front end of the breech-block B extend two downwardly-projecting lugs, *f f'*, the front lug being shorter and rounded off and adapted to engage the lower arm of the fulcrumed and spring-acted extractor-lever D, while the longer and beveled lug *f'* engages the hook-shaped end *f''* of a bell-crank shaped locking-lever E, that is fulcrumed to the pivot-pin of the trigger F, and actuated by a spring, *g*, that presses upon a backwardly-projecting heel, *g'*, of the locking-lever E, as shown clearly in Figs. 2, 4, and 5. The trigger F is acted upon by a spring, *h*, and engages in the usual manner notches *h'* at the lower part of the fulcrumed hammer C. A strong hammer-actuating spring, G, is connected by pivot-links G' to the lower rear part of the hammer, and serves to throw the same in for-

ward direction whenever the trigger is released from the lower notch of the same. A second strong spring, H, acts upon the tail end of the breech-block B and tends to throw its front end in downward direction whenever the locking-lever E is released from the lug f' .

In front of the trigger-guard is arranged at the lower part of the casing A a spring-actuated push-button, I, the shank of which extends through an opening in the bottom of the casing to the inside of the same, so as to engage the lower arm of the bell-crank-shaped locking-lever E whenever the button is pressed in upward direction. A spiral spring, i , is interposed between the button I and the bottom of the casing A, and serves to return the button into its normal position until a stop-shoulder, i' , at the inner end of its shank, abuts against a seat or recess in the bottom of the casing A, as shown in Fig. 2. The push-button I is guided by fixed lugs i^2 , one end of the button being recessed for one of the lugs i^2 , so as to prevent the lateral play of the push-button. When the push-button is raised, the upper hook-shaped end, f^2 , of the locking-lever E is released from the lug f' of the breech-block B, whereby the front end of the same is moved downward by the spring H.

Whenever it is desired to have the fire-arm ready for firing at a moment's notice, but in such a condition that it cannot be accidentally discharged, the hammer is drawn back to its full extent, and thereby the breech-block raised and locked. The push-button I is, in this position of the hammer pushed in, so as to withdraw the locking-lever E from the lug f' of the breech-block B. By the action of the spring H the tail of the breech-block B is pressed tightly against the head of the hammer, while its front end is lowered for about one-eighth of an inch, as shown in Fig. 5. In this position the firing-pin can under no circumstances strike the priming at the center of the cartridge and cause its discharge, even when the hammer is released from the trigger or otherwise brought in contact with the firing-pin, as the end of the firing-pin will always strike near the circumference of the cartridge, and consequently not explode the priming of the same. When the breech-block and hammer are in the positions described, the fire-arm is in a position of rest, but instantly ready for firing by simply pulling the hammer back sufficiently that the locking-lever E can re-engage the lug f' , whereby the breech-block is raised again at its front end, so that it closes again the breech of the barrel and brings the firing-pin into axial line with the cartridge.

The mechanism may also be set into a position of safety without being discharged by accident or otherwise when the breech-block B is in raised and locked position, as shown in Fig. 2. In this case the trigger is pulled and the hammer allowed to move slowly forward until the trigger takes into the upper notch, h' , of the same. The hammer is then in con-

tact with the rear end of the firing-pin, and its spring G in contact with a fixed transverse screw-bolt, G^2 , which latter neutralizes the effect of the hammer-spring and prevents the hammer from moving forward. By pulling back the hammer into cocked position and then pulling the trigger the rear end of the firing-pin is struck by the abutment l of the hammer and forcibly thrown forward, so as to cause the discharge of the cartridge and the firing of the gun.

For the purpose of extracting the shell and inserting a new cartridge, the push-button I is pressed up, whereby the hook-shaped projection f^2 of the locking-lever E is released from contact with the lug f' of the breech-block, and the latter thrown, by the pressure of the spring H, on its tail end in downward direction. The lug f strikes the lower arm of the extractor D, as shown in Fig. 4, so that the laterally-projecting forked lips at the upper end of the extractor engage the rim of the cartridge at diametrically-opposite points and throw it quickly in backward direction and along the concave top part of the breech-block to the outside. The upper part of the extractor D is guided in depressions a^2 at the front ends of the main and covering plates A' A^2 , as shown in Figs. 4 and 6. A new cartridge is then inserted into the breech of the barrel along the concave top of the breech-block B, and the breech-block then raised by the backward motion of the hammer, which is thereby placed at the same time into cocked position. The head of the hammer depresses the tail end of the breech-block, raises the front end of the same against the tension of the spring H, and causes the locking of the breech-bolt by the locking-lever E.

On the lower end of the covering-plate A^2 is arranged a tapering abutment-piece, m , which serves as a rest for the trigger, so as to prevent it from being moved in forward direction.

A dust-guard, L, extends across the open part of the casing A, back of the hammer C. It is pivoted by a downwardly-extending side plate, L' , to the outer wall of the casing A, where it is pressed in forward direction by a spring, n , and stopped in backward position by a stop, n' , as shown clearly in Fig. 1. The dust-guard moves with the hammer along the top of the casing and keeps the greater part of the opening required for the motion of the hammer closed, so as to prevent the entrance of dust or other obstructions.

To the outside of the casing A are screwed side plates, A^3 , which impart a better finish to the casing, as they cover the different connecting-screws and pivot-bearings of the mechanism.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—
1. The combination, with the fulcrumed breech-block B, having a centrally-recessed tail end and its spring H, of a hammer, C, guided in the recessed tail end, and provided,

with a laterally-projecting head above the tail end, whereby the breech-block is moved by the setting of the hammer, substantially as set forth.

5 2. The combination, with the main and covering plates $A^1 A^2$ of the casing, having depressions $a^1 a^2$, of a fulcrumed breech-block, B, having a recessed tail end and laterally-projecting abutments $b b$, a spring, H, pressing
10 upon the tail end, and a pivoted hammer, C, having a laterally-projecting head, C' , above the tail end, substantially as set forth.

3. The combination of the fulcrumed and spring-actuated breech-block B, having a
15 downwardly-extending front lug, f' , a fulcrumed and spring-pressed locking-lever, E, and a guided and spring-pressed push-button, I, below the lower arm of the locking-lever, whereby the same is released from the breech-
20 block, substantially as set forth.

4. The combination of the fulcrumed and spring-pressed breech-block B, having downwardly-extending front lugs, $f f'$, a fulcrumed and spring-pressed locking-lever, E, a guided
25 and spring-cushioned push-button, I, located below the lower arm of the locking-lever, and a fulcrumed elbow-shaped extractor, D, the lower arm of which is engaged by the lug f of the breech-block, substantially as set forth.

30 5. The combination of the fulcrumed and

spring-pressed breech-block B, having an interior firing-pin, B' , pivoted and spring-pressed hammer C, having laterally-projecting head C' above the tail end of the breech-
35 block, locking-piece E, trigger F, and spring-cushioned push-button I, whereby the breech-bolt can be set into a partly-lowered position of safety, substantially as set forth.

6. The combination of the fulcrumed and spring-pressed breech-block B, having a recessed tail end, a pivoted hammer, C, a hammer-spring, G, links G' , connecting the hammer-spring and hammer-tumbler, a transverse
40 stop-bolt with which the hammer-spring comes in connection when the hammer is at half-cock, 45 and from which it is drawn away by means of the links when the hammer is at full-cock, and a trigger, F, substantially as described.

7. The combination, with the casing A, having stop n' , of a hammer, C, and a pivoted and
50 spring-actuated dust-guard, $L L'$, that extends across the casing back of the hammer, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in the
55 presence of two subscribing witnesses.

FRANZ SCHRAUD.

Witnesses:

GEO. C. ALTGELT,
JOHN ROSENHEIMER.