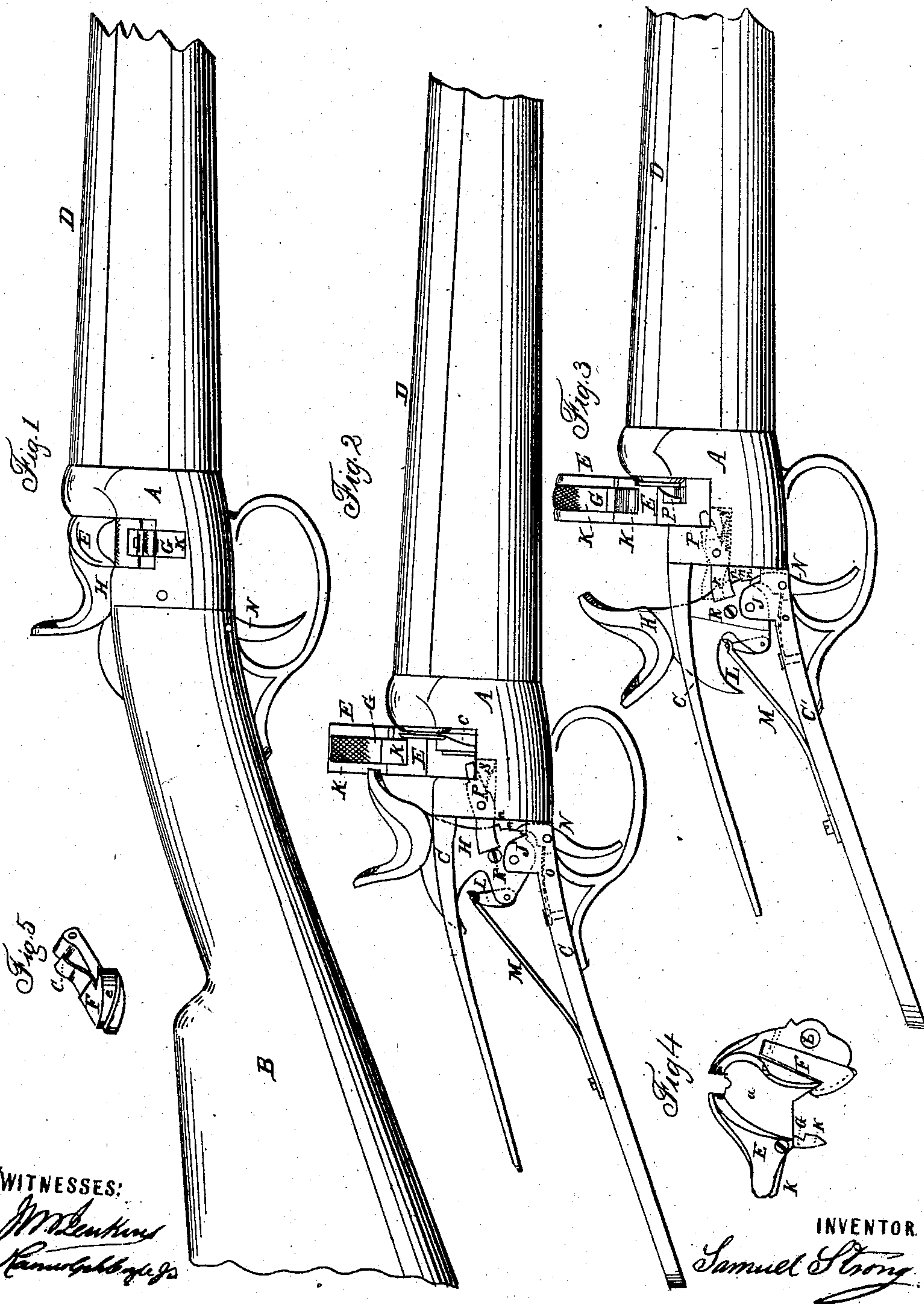


S STRONG.

Breech-Loading Fire-Arm.

No. 38,644

Patented May 19, 1863.



WITNESSES:

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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 38,644, dated May 19, 1863.

To all whom it may concern:

Be it known that I, SAMUEL STRONG, of Washington city, District of Columbia, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved fire-arm with its hammer down. Fig. 2 is a side view of the gun with the stock removed, the recoil-block E partially elevated, and the hammer H arrested by the guard-lever P. Fig. 3 is a similar view of the gun, representing, however, the hammer cocked. Fig. 4 is a perspective view of the recoil-block E of my improved gun, and Fig. 5 is a perspective view of the catch which withdraws the cartridge when the recoil-block E is elevated.

The breech-piece A is attached to the stock B of my improved fire-arm in the usual mode by means of the straps or tangs C and C', projecting from said breech-piece. A loading-recess or cavity is formed transversely in this breech-piece A immediately in the rear of the open end of the barrel D, screwed therein. This cavity is closed by a movable recoil-block, E, (see Fig. 4,) which is hinged to the lower left-hand side of the breech-piece A, so as to shut over into the loading-recess and form a solid recoil-base for the cartridge placed in the gun. A recess, *a*, Fig. 4, is formed upon the forward side or face of the vibrating recoil-block E of a depth corresponding to the thickness of the flanged base of the metallic cartridges to be used with the gun, and upon the lower portion of this forward face of the block E, just above the aperture *b*, through which its pivot or hinge-pin passes, a spring-catch, F, Figs. 4 and 5, is fitted in a recess formed for the purpose. The front vibrating end of this spring-catch F projects inwardly over the open rear end of the gun-barrel D, against which it is pressed by means of a flat spring, *c*, Fig. 5, fitted between its inner face and the inner surface of the recess *a* in the recoil-block which receives the fixed end of the catch. The front edge, *e*, Figs. 2 and 5, of the vibrating hooked end of the catch F is notched, so as to present a wedge shape, the narrow point terminating at the upper front edge of the end of the catch, and enlarging gradually

therefrom to its lower rear edge, as represented in Fig. 5. When the recoil-block E is shut down into the loading-recess formed in the breech-piece A, the catch F, passing below the open end of the barrel D, is pressed forward by its spring *c*, so that the point of its wedge-shaped or inclined face *e* catches or engages with the inner side of the flange upon the base of the cartridge used. When, therefore, the recoil-block is thrown back, this face *e*, operating as a wedge between the flange of the cartridge and the end of the gun-barrel, forces out the cartridge-case far enough to enable it to be easily caught and removed by the finger and thumb.

The upper or vibrating end of the recoil-block E is made to project over the breech-piece A, when closed down within the loading-cavity therein, and is secured by a suitable angular spring-actuated catch, G, Fig. 4, whose lower notched arm passes into a suitably-formed recess in the side of the breech-piece A. This angular catch G is pivoted within a recess formed for its reception in the lower side of the projecting vibrating end of the recoil-block E.

The hammer H of my improved gun is shaped as clearly illustrated in Figs. 2 and 3 of the accompanying drawings. It is pivoted between ears J, rising from opposite sides of the tang *c'*, immediately in the rear of the breech-piece A, and is actuated through the medium of a bridle-piece, L, by the mainspring M, secured to the inner surface of the tang *c'*, Figs. 2 and 3. The inner end of the trigger N, which is also pivoted immediately in the rear of the breech-piece A, is hooked, and made to engage with the ratchet-teeth *n n n* (formed upon the curved lower side of the hammer H) by means of the sear-spring *o*. A guard-lever, P, is pivoted within a slot formed for its reception in the rear end of the breech-piece A, upon the right-hand side of the hammer. The inner face of the inner arm of this lever vibrates against the right-hand flat surface of the hammer, while its outer arm projects outwardly into the loading-cavity, as represented in Figs. 2 and 3. A spring, S, is placed beneath this outer arm, pressing it up against the upper edge of the slot in which it vibrates. When in this position, the end of its inner arm engages with a stop, R, upon the right-hand face of the hammer H when-

ever the trigger is disengaged from the ratchet-teeth *n n n* thereon, as shown in Fig. 2. Thus while the recoil-block is thrown up and the loading-cavity left open, the hammer is prevented from falling, even when disengaged from the control of the trigger. When, however, the loading-aperture is closed by shutting down the recoil-block E, the outer end of the lever P is forced down, the resistance of its spring S overcome by the weight of the recoil-block, and the inner end of the lever thereby thrown up, so as to be free and clear of the stop R; hence when the recoil-block E is closed, the hammer is controlled by the action of the trigger N alone, and is left free to discharge the gun. A slot is cut in the upper surface of the recoil-block E, through which the hammer falls and explodes the primed cartridge used by striking its edge.

In loading my improved arm the hammer is first drawn back at half-cock, and the catch G being disengaged from its notch in the breech-piece by pressure of the finger, the recoil-block is released from its fastening and thrown back, opening the loading-cavity. Through this cavity a primed metallic cartridge is inserted into the chamber in the open rear end of the gun-barrel. In raising the recoil-block E out of the loading-cavity the spring S is left free to operate upon the lever P, and at once throws it into a position (shown in Fig. 2) in which it will engage the stop R on the hammer H. By this device all possibility of the premature discharge of the cartridge by a blow from the hammer is prevented while the loading-chamber remains open. The cartridge being properly inserted and pushed into the chamber of the barrel, the recoil-block is closed and the lever P thereby thrown free and clear of the stop R, leaving the hammer entirely under the control of the trigger N. The automatic action of the spring-catch G of itself fastens and secures the recoil-block and prevents it from flying back. While the

recoil-block remains shut down, the catch F upon its forward face is pressed against the rear end of the gun-barrel with its upper point below the flange of the cartridge; hence when the recoil-block is raised the point of the wedge-shaped projection formed upon the front edge, *e*, of the catch is forced between the flange of the cartridge and the end of the gun-barrel, as shown in Fig. 2, and its gradually-increasing width gradually draws the cartridge back out of the barrel. By this means, when the recoil-block is thrown back entirely out of the cavity, the cartridge has been drawn or wedged out sufficiently to permit it to be readily seized.

The advantages incident to this simple and effective arrangement of the breech of my improved fire-arm are evident, and need no enumeration here.

What I claim therein as new, and desire to secure by Letters Patent, is—

1. The cartridge-catch F, Fig. 5, with its lateral spring *c*, operating and arranged in combination with a recoil-block, E, and a flanged metallic cartridge, substantially in the manner and for the purpose herein set forth.

2. The arrangement and combination of a vibrating lever, P, or its equivalent, with the recoil-block E and hammer H of a breech-loading gun, substantially in the manner and for the purpose herein set forth.

3. The arrangement and combination, with each other, of the cartridge-retractor F, (with its lateral spring *c*), recoil-block E, angular catch G, vibrating lever P, breech-piece A, and hammer H of my improved breech-loading fire-arm, as herein described, for the purposes herein set forth.

The above specification of my improved fire-arm signed by me this 2d day of May, 1863.

SAMUEL STRONG.

In presence of—

J. W. JENKINS,

RANDOLPH COYLE, Jr.