L. C. RODIER & F. G. BATES.

Magazine Fire-Arms.

No. 138,439. Patented April 29, 1873

fig. 1

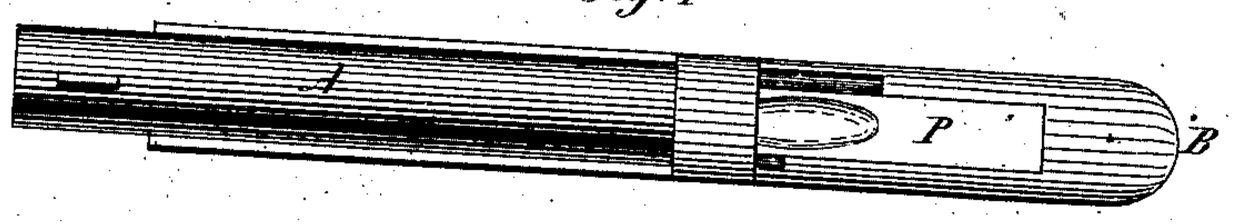

fig. 2.

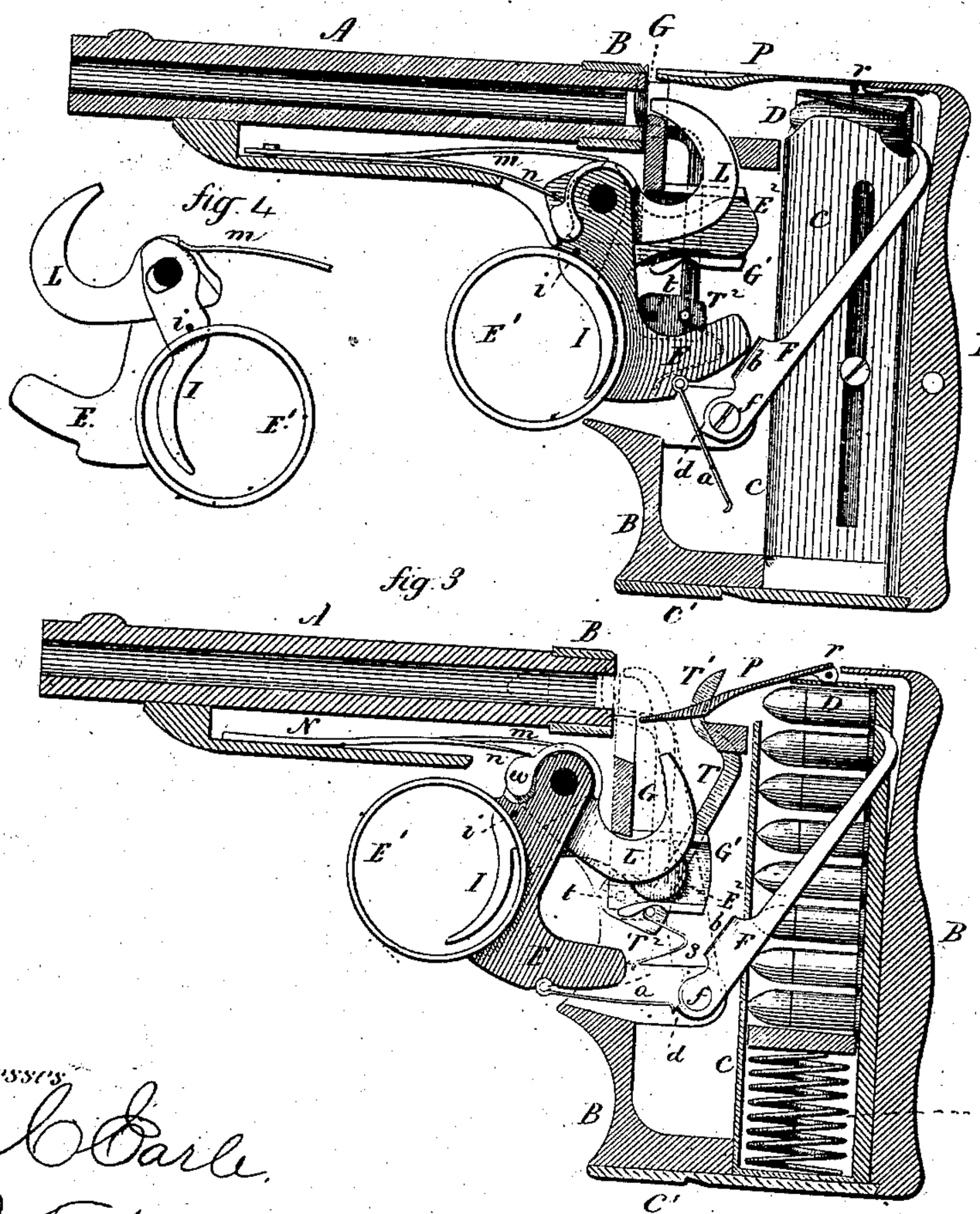

fig. 4

fig. 3

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IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **138,439**, dated April 29, 1873; application filed March 27, 1873.

To all whom it may concern:

Be it known that we, LOUIS C. RODIER and FRANCIS G. BATES, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new Improvement in Magazine Fire-Arms; and we do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a top view; Fig. 2, a longitudinal central section; Fig. 3, the same, illustrating the operations of the parts; Fig. 4, a detached view.

This invention relates to an improvement in that class of fire-arms commonly termed volcanic or repeating fire-arms—that is to say, such as contain several charges in a magazine, within the arm, from which the charges are successively taken and inserted into the arm automatically, or by the movement of the mechanism of the arm; and it consists, first, in the arrangement of the magazine in the rear of and at right angles with the barrel and in the rear of the mechanism of the arm, combined with a lever in connection with a finger-lever, whereby the cartridges are transferred from the magazine directly to the barrel, as more fully hereinafter described; and, secondly, in the arrangement of the hammer upon the same pivot with the operating finger-lever, combined with and having its main spring arranged longitudinally beneath the barrel of the arm; also, in combining with the operative lever a vertically-moving breech-block and the hammer, whereby the descent of breech-block cocks the hammer, all as more fully hereinafter described.

A is the barrel attached to the frame B, which said frame incloses the mechanism of the arm. Vertically, or nearly so, at the rear of the said frame a magazine, C, is arranged, inserted preferably from the lower end of the frame, and inclosed by a slide, C^1, in the bottom. The magazine is provided with a spring, C^2, upon which the several cartridges are placed and bears them up, the upper cartridge D being in line with the bore of the barrel. E is the actuating lever, which is pivoted to the frame, and provided with a ring, E′, or its equivalent, so that a person holding the frame or stock in the hand, may actuate the said lever by inserting his finger within the ring to throw it forward, as in Fig. 3, or draw it back, as in Fig. 2. Within the frame a lever, F, is pivoted at *f*, or below the lever E. This lever extends up to and in the rear of the upper end of the magazine C. In the upper end of the magazine a slot is formed, as seen in Fig. 2, so that the upper end or nose of the lever E may swing forward, passing transversely across the magazine to the position denoted by broken lines, Fig. 3. The nose of the lever extends so far inward that in thus passing forward it will take the upper cartridge and force it into the barrel, as denoted in broken lines, Fig. 3. The lever F is thus actuated by means of the lever E in the following manner: To the lever E a finger, *a*, is hung, and, as the lever E is forced forward to the position denoted in Fig. 3, this finger *a* rises and strikes the shoulder *d* on the lever F below the pivot *f*; then, as the lever E is drawn back, this finger forces the upper end of the lever F forward and with it the cartridge; and when it has reached its extreme forward movement, the finger *a* escapes from the notch *d*, and this occurs before the lever E has been fully drawn back. The nose of the lever E then strikes the cheek *b* on the lever F above the pivot, and in completing its movement, the lever E forces the lever F back to the position denoted in Fig. 2, the elasticity of the lever F allowing it to pass the then upper cartridge, and fall behind it preparatory to throwing it (the second cartridge) into the barrel. The spring C^2 forces the cartridges up so soon as the upper one is removed. G is a breech-block, arranged to move vertically, so as to close the breech-end, as seen in Fig. 2, or drop down to open the breech, as seen in Fig. 3. To thus move the breech-block, an arm, E^2, extends from the lever E inward, and works in a groove, G^1, in the said breech-block, so that as the lever E is thrown forward, the arm E^2 draws down the breech-block, and, when the lever is drawn back, the said arm throws up the breech-block. L is the hammer, hung upon the same pivot as the lever E, the pivot being denoted in solid blank in

Figs. 2, 3, and 4. The hammer extends rearward and is of hooked form, passing through the breech-block G and turning upward, so that when the breech-block is up the nose of the hammer will extend through a slot in the breech-block, as seen in Fig. 2, to strike the cartridge-head. When the lever E is thrown forward, as before described, it strikes the hammer forward of the pivot upon a shoulder and carries the hammer with it to full-cock, if desirable; but we prefer that the completion of the movement of the hammer should be made by the descending breech-block, which is done by the block striking the hammer before its movement is completed, and the movement of the block, being more rapid than the lever, forces the hammer a little in advance of the lever, as seen in Fig. 3, and in which position the hammer is caught by the spring *m*. The mainspring *n* extends forward beneath the barrel in a chamber, N, formed in the frame, inclosing the mainspring beneath the barrel. The trigger I is pivoted to the lever E at *i*, and swings with it. The upper end of the trigger extends up above the pivot on which the hammer and lever are hung, and so as to strike the spring *m*. When the lever is drawn down to throw back the breech-block, leaving the hammer cocked, the finger-piece of the trigger will be thrown forward, as denoted in Figs. 3 and 4, by coming in contact with the hammer at full-cock; then, by drawing the trigger back, as denoted in Fig. 6, the spring *m* is raised from, and so as to free, the hammer; the mainspring *n* then acts to throw the hammer from the position in Fig. 3 to that in Fig. 2, striking the cartridge-head with sufficient force to cause explosion.

In order to withdraw the exploded shell and throw it from the arm, a plate or chute, P, is hung in the rear of the barrel, at *r*, and which rests on the breech-block when it is up, as seen in Fig. 2; but when the breech-block moves downward this plate P falls to the position denoted in Fig. 3, exposing the rear end of the barrel. Below the breech-block, and upon a pivot, *t*, in the frame, a retractor-lever, T, is hung. This extends up, and is constructed with a nose, T^1, which, when the breech-block is up, lies forward of the rear end of the barrel and the rim of the cartridge, as denoted in broken lines, Fig. 3. When the breech-block descends, and immediately after it has opened the rear end of the barrel and allowed the plate P to drop, the lower end of the breech-block strikes an arm, T^2, on the lever T, and in the rear of the pivot I, so that the further descent of the breech-block causes the retractor to be thrown quickly back, as shown in Fig. 3, and in its backward movement it takes the exploded shell, (or cartridge, if it be not exploded,) the movement of the lever being sufficiently quick to cause the shell to run up the inclined plate P and eject it from the arm. A suitable spring, S, returns the retractor when the breech-block rises, and in advance of the cartridge which is being inserted.

If at any time it be desirable to introduce a cartridge at the rear end of the barrel and hold in reserve those in the magazine, it is only necessary to arrest the forward movement of the lever E so soon as the breech-block and plate P have dropped and the hammer is cocked, and before the finger *a* engages the lever F. In that condition a cartridge may be inserted from above the inclined plate P into the barrel. Then the parts return, as before described, the lever F not being moved, because the lever E is not thrown sufficiently far forward to have the finger *a* engage the lever F. Thus this arm possesses all the advantages of a breech-loader combined with those of the magazine.

We claim as our invention—

1. The barrel A and a magazine or chamber in rear of the said barrel for supplying cartridges, in combination with the lever F, actuated by the finger-lever to transfer the cartridges from the magazine to the barrel, substantially as described.

2. In combination with the subject-matter of the first clause of the claim, the vertically-moving breech-block G, also actuated by the said finger-lever, substantially as described.

3. In combination with the vertically-moving breech-block G and lever E, the hammer L, hung forward of the said breech-block and adapted to be cocked by the successive operation of the lever and breech-block, substantially as described.

4. In combination with the barrel A, vertically-moving breech-block G, and lever F, the plate P, hinged to the frame in the rear of the barrel to cover and close the passage from the magazine to the arm, form a chute for the ejection, and guide for the insertion of a cartridge from the magazine, or by hand, substantially as set forth.

5. In an arm having the hammer hung forward of the breech-block, the double spring N, one part thereof operating as the mainspring and the other as a spring-sear, the combination being substantially as described.

6. In combination with the finger-lever and hammer, hung upon the same pivot, the trigger I, pivoted to the finger-lever, and extending up so as to release the hammer for discharge, substantially as specified.

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