W. R. FINCH.

Breech-Loading Fire-Arm.

No. 215,445. Patented May 20, 1879.

Fig. 1

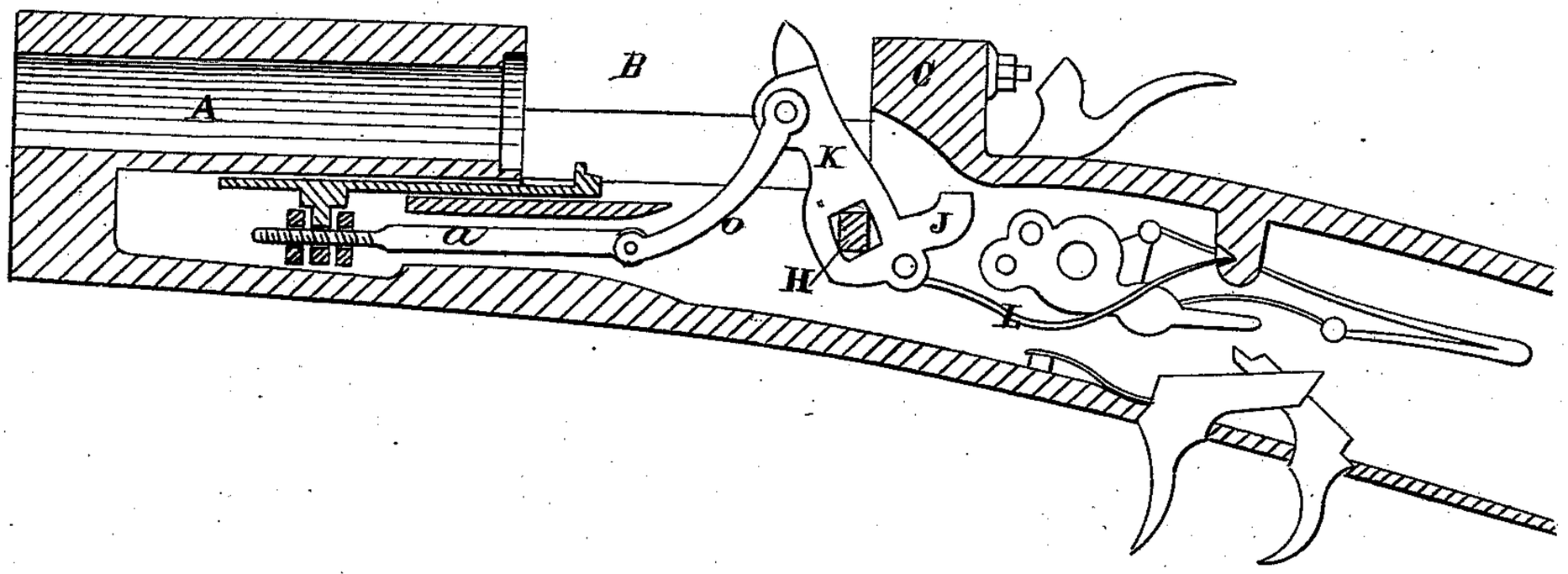


Fig. 2.

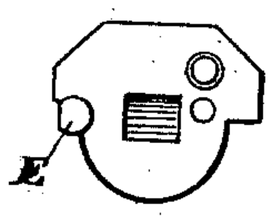


Fig. 3.

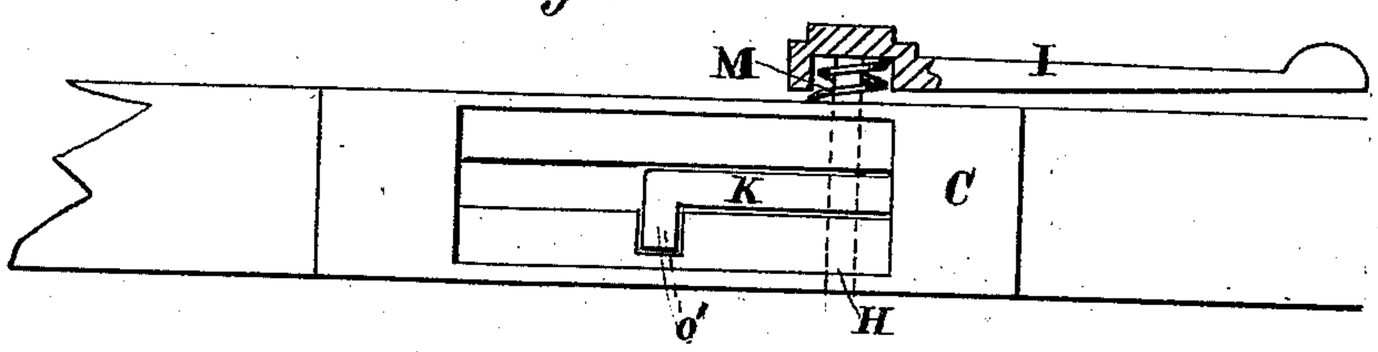


Fig. 4.

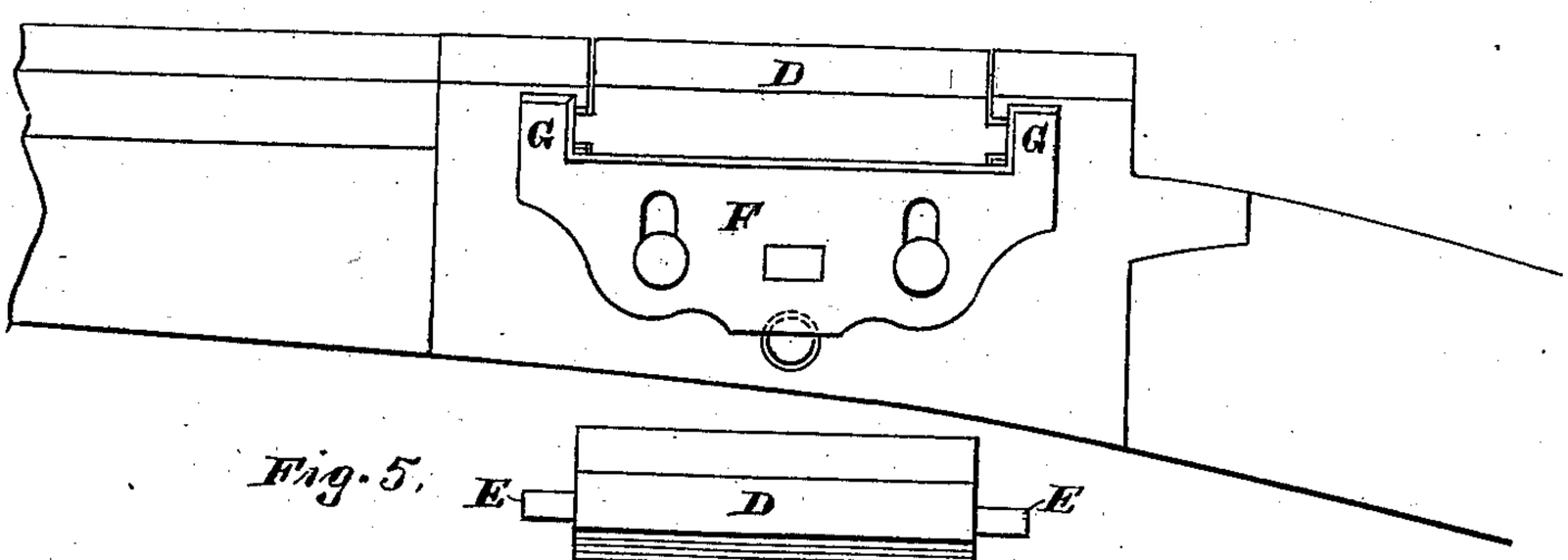
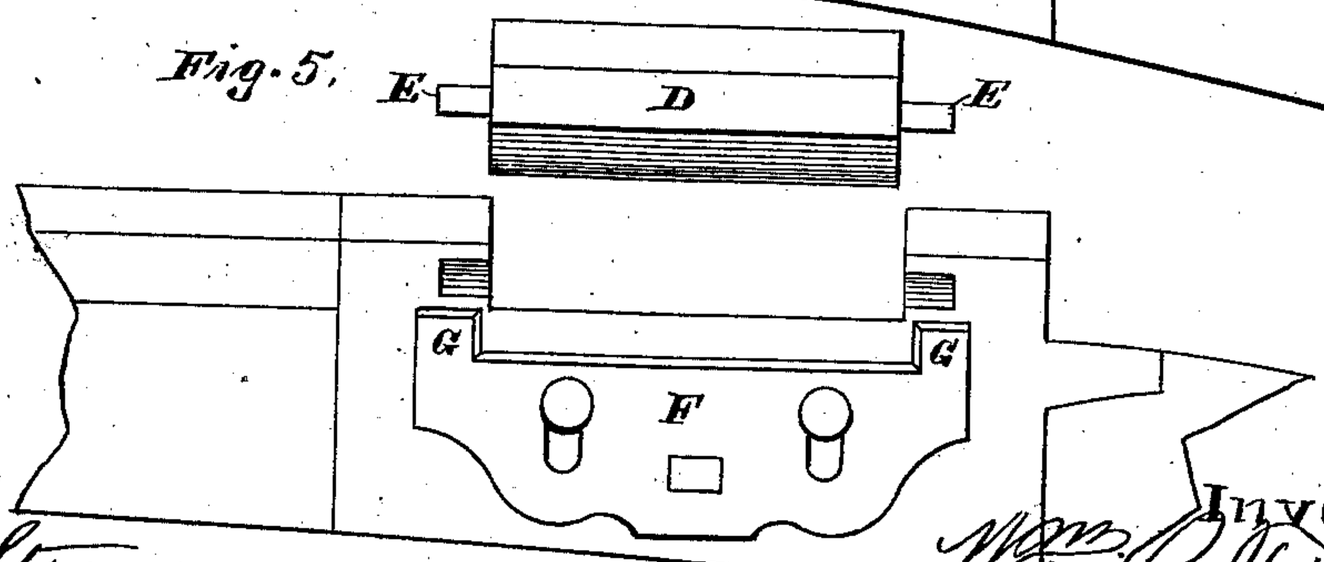


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM R. FINCH, OF EUREKA, CALIFORNIA.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **215,445,** dated May 20, 1879; application filed August 9, 1878.

To all whom it may concern:

Be it known that I, WILLIAM R. FINCH, of Eureka, county of Humboldt, and State of California, have invented Improvements in Breech-Loading Fire-Arms; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in that class of breech-loading fire-arms in which a laterally-swinging breech-block is made to turn upon longitudinal trunnions at one side, so as to open and close the breech, and it is more particularly applicable to a gun for which Letters Patent were issued to me February 5, 1878.

My improvements consist in so mounting the double locking and actuating lever upon its shaft that it shall have a certain motion independent of that of the shaft, in order that the spring which actuates it may move it suddenly at the last portion of its movement in either direction.

It further consists in forming the trunnions upon which the breech-block turns with certain flat sides and angles, which are acted upon by the spring-plate, holding them in place, so as to prevent the block from wabbling or working loosely; and, lastly, in the employment of a spring to take up lost motion between the exterior operating-lever and the double levers upon the shaft, all of which will be more fully described by referring to the accompanying drawings, in which—

Figure 1 is a longitudinal section of the breech portion of my gun, showing the double lever and shaft. Fig. 2 is an end view of the breech-block, showing the form of the trunnions. Fig. 3 shows the take-up spring. Fig. 4 is a side view. Fig. 5 is a side elevation with the breech-block removed.

A is the barrel of my gun. B is the breech, and C the "standing breech," as it is termed, between which and the rear end of the barrel is the chamber into which the breech-block D closes. This breech-block is mounted upon trunnions E E, as shown in my former patent, and these trunnions are retained in the sockets made for them by means of the sliding plate F and its arms G. The plate or arms are of elastic steel, so as to press upon the trunnions.

The back parts of the trunnions, which lie against the plates G, are flattened, so as to form angles; and when the breech-block is opened or closed these angles will press against the elastic plate, so as to prevent looseness or wabbling of the breech-block in its movements.

The shaft H extends across the gun below the breech-block chamber, and has the exterior lever, I, secured to its outer end, as described in my previous patent.

The double or bell-crank lever, with its two arms, J K, is mounted loosely upon this shaft, which is flattened upon the sides, while a square opening in the lever, somewhat larger in size, fits upon this flattened portion of the shaft.

The spring L, which connects with the rear of the locking-arm J of the lever, is so fitted that it tends to actuate the lever both above and below a central point in its movements; and it will be seen that when the lever I is pressed down to open the breech of the gun the arm J will be first withdrawn, so as to unlock the breech, and the arm K will then strike the breech-block and open it. The spring L will then act, and will finish the movement of the lever with a sudden snap, which retracts the shell-extractor with a quick movement and throws out the shell. The loose joint between the lever and the shaft allows this movement to be completed independently of the movement of the shaft and lever I. In closing the breech the parts are returned to their places with the same sudden motion or snap without influencing the exterior lever. The lost motion between these parts is taken up by means of a coiled spring, M, which is fitted into a recess in the lever I, and has one end secured to the lever, while the other end is secured to the side of the gun. By this construction the efficiency of my gun is much increased.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The lever J K, operating as herein shown, and mounted loosely upon the flattened shaft H, so that the spring L may complete the movement of the levers in either direction independently of the movement of the shaft, and

thus eject the shell or return the levers to place suddenly, substantially as herein described.

2. The shaft H, having the double lever J K mounted upon it, as shown, and provided with the exterior operating-lever, I, in combination with the coiled take-up spring M, substantially as and for the purpose herein described.

3. The laterally-swinging breech-block D, turning upon the longitudinal trunnions E E, said trunnions having a flattened portion, as shown, in combination with the sliding plate F, having the elastic covering-arms G, said arms acting upon the angle of the trunnions, so as to steady the block and assist in closing it, substantially as herein described.

4. The horizontally-moving extractor *a*, in combination with the lifting-lever K and the link O, said link being raised to an incline as the shell is withdrawn, so as to serve as a guide to eject the shell, substantially as set forth.

In witness whereof I hereunto set my hand and seal.

WILLIAM ROSE FINCH. [L. S.]

Witnesses:
JOHN MILLER,
W. C. STEWART.