C. F. PAYNE.

Breech-Loading Fire-Arm.

No 42,685.

Patented May 10, 1864.

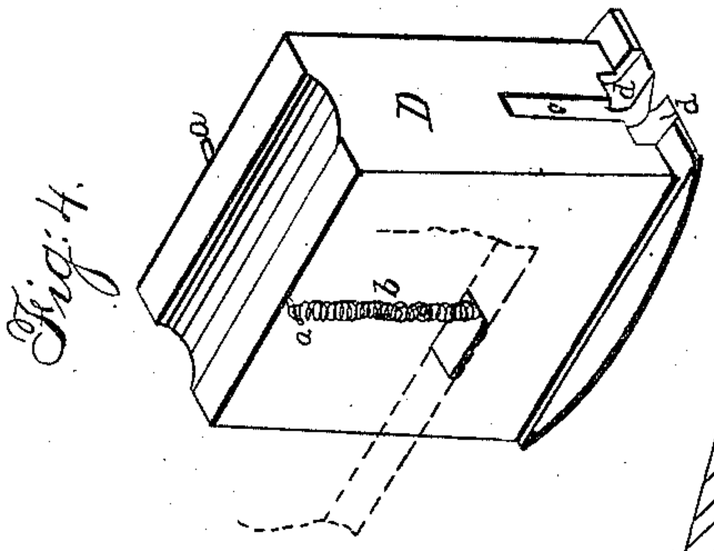
Fig: 4.

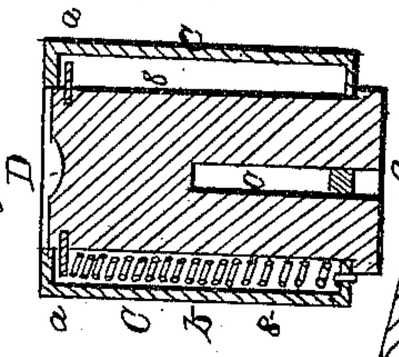
Fig: 2.

Fig: 1.

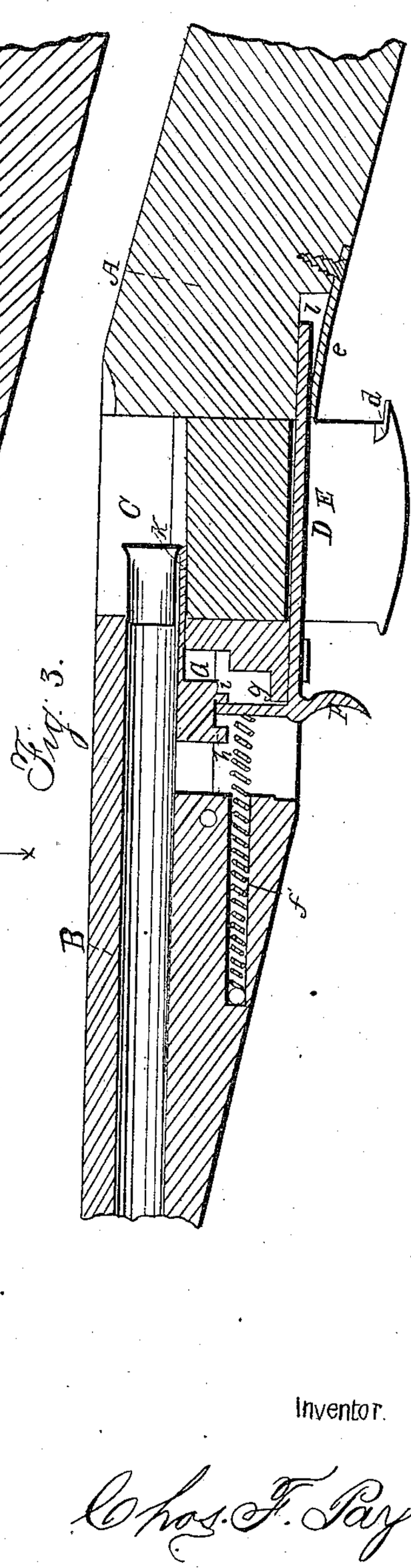
Fig: 3.

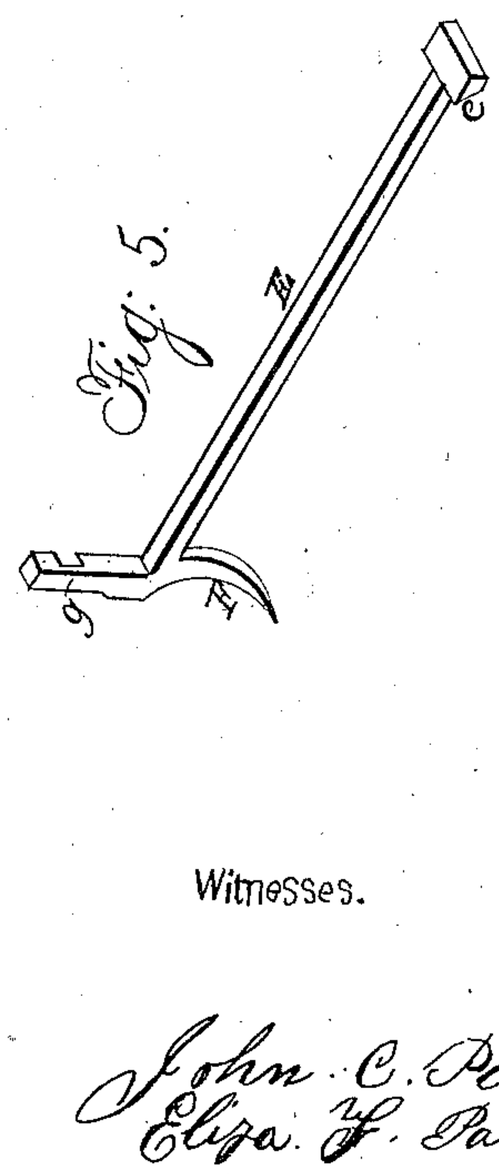
Fig: 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES F. PAYNE, OF GARDNER, MASSACHUSETTS.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **42,685**, dated May 10, 1864.

To all whom it may concern:

Be it known that I, CHARLES F. PAYNE, of Gardner, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a central longitudinal section through a gun with my improvements applied thereto, and showing the position of the various parts when the gun is ready to be discharged. Fig. 2 is a transverse section through the gun in the direction of the line *x x* of Fig. 1; Fig. 3, a central longitudinal section through the gun, showing the breech-block down and the manner of removing the empty case; Fig. 4, a view of the breech-block, and Fig. 5 a view of the sliding rod which liberates the breech-block and operates the discharger.

The object of my improvements is to produce a breech-loading fire-arm of a simple construction and capable of being loaded and fired with facility, and is intended for breech-loaders in which the ordinary metallic cartridge is used; and the important features of my invention consist, first, in throwing down the breech-block by means of a spring or springs released by a trigger, and, secondly, in removing the empty cartridge-case by the continuous pressure upon said trigger.

To enable others skilled in the art to make and use my invention, I will now proceed to describe the manner of carrying it out.

In the accompanying drawings, A is the stock, which is connected with the barrel B by a metallic breech, C, through which is cut a vertical slot or recess for the breech-block D to move in. The breech-block is of steel, and is provided with pins *a*, one on each side. One end of a spring, *b*, is secured to one of the pins *a*, while the other end is secured to the lower edge of the side of the breech-plate C, in which are cut slots 8 for the pins and spring to move in. (See Fig. 2.) When the breech-block is in the position represented in Figs. 1 and 2, the spring *b* is distended, and on its release the breech-block is thrown down sufficiently low for the insertion of the cartridge and removal of the empty case; and to facilitate this end the upper surface of the block and that of the breech immediately in its rear are grooved out, the groove being deeper at the forward end of the block and inclining upward to the surface of the breech a short distance in the rear of the block. In the under side of the breech-block, and longitudinally through its center, is cut a narrow slot, *c*, extending about one-half of the depth of the block, and a notch or recess, *d*, is cut in the rear lower end of this block, in which the beveled end *e* of the sliding rod E falls when the breech-block is raised, the straight part of the sliding rod fitting and moving in the slot *c*, its movement backward (which releases the breech-block) being controlled by pressure on the trigger F, attached to the other extremity of the rod. A recess, *l*, is also formed in the stock A, so as to admit of the rod E being drawn back as required. A spring, *f*, is secured to the bent arm *g* of the sliding rod, and by its retraction returns the rod to the position shown in Fig. 1. The end of the bent arm *g* moves between two projections, *h i*, on the butt-end of a discharger, G, which slides in an aperture in the barrel, and after the breech-block is thrown down, by releasing the spring *b* in the manner before described, the end of the bent arm *g* strikes against the projection *i*, causing the smaller end *k* of the discharger to push against the lip of the cartridge-case (see Fig. 3) and eject it. The hammer and lock being of common construction, it will be unnecessary to describe them here. I will, however, state that the piece is discharged by the hammer striking against a rod which passes longitudinally through the breech-block D and rests against the rear end of the cartridge.

Operation: The cartridge being inserted at the breech end of the barrel, and the breech-block raised by the upward pressure of the hand, the hammer (not shown in the drawings) is cocked and the gun is ready to be discharged, the position of the parts being represented in Fig. 1. After the discharge, the finger is pressed against the trigger F of the sliding rod E and the spring *f* yields, so as to admit of the rod being slid backward through the slot *c* in the breech-block until the beveled end *e* falls out of the curved recess *d*, when the breech-block is thrown down sufficiently so as not to obstruct the removal of the empty case, which is accomplished in the following manner: After the breech-block has fallen to

the position represented in Fig. 3, a continued pressure on the trigger F brings the end of the bent arm *g* against the projection *i*, which moves the discharger G backward through the aperture provided for it, and the end *k* presses against the shoulder on the rear end of the cartridge-case, thus ejecting it. When the firing is rapid, as in action, the removal of the empty case is greatly facilitated by slightly elevating the muzzle while the pressure is being applied to the trigger F.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Throwing down the breech-block D by means of a spring or springs released by a trigger, in the manner herein substantially described.

2. Operating the discharger F by the trigger which releases the breech-block D, substantially in the manner set forth.

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Witnesses:
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